File No. 180801 Committee Item No. 3
Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Land Use and Transportation Committee **Date** October 15, 2018

Board of Supervisors Meeting **Date** _____

Cmte	Board	
☐	☐	**Motion**
☐	☐	**Resolution**
☒	☐	**Ordinance**
☒	☐	**Legislative Digest**
☐	☐	**Budget and Legislative Analyst Report**
☐	☐	**Youth Commission Report**
☒	☐	**Introduction Form**
☐	☐	**Department/Agency Cover Letter and/or Report**
☐	☐	**MOU**
☐	☐	**Grant Information Form**
☐	☐	**Grant Budget**
☐	☐	**Subcontract Budget**
☐	☐	**Contract/Agreement**
☐	☐	**Form 126 – Ethics Commission**
☐	☐	**Award Letter**
☐	☐	**Application**
☐	☐	**Public Correspondence**

OTHER **(Use back side if additional space is needed)**

☒	☐	PLN Letter 120915
☒	☐	Transit Ctr District Plan and Transit Tower FEIR1
☒	☐	Transit Ctr District Plan and Transit Tower FEIR2
☒	☐	Transit Ctr District Plan and Transit Tower FEIR3
☒	☐	PW Order 188356 090418
☒	☐	PW File Q-20-1021 082418
☒	☐	
☐	☐	
☐	☐	
☐	☐	
☐	☐	
☐	☐	

Completed by: Erica Major **Date** October 12, 2018
Completed by: Erica Major **Date** _____

[Amending Ordinance No. 1061 - Sidewalk Width Change - Portions of Beale Street, Howard Street, Main Street, and Mission Street]

Ordinance amending Ordinance No. 1061 entitled "Regulating the Width of Sidewalks," to change the official sidewalk width of certain locations fronting Assessor's Parcel Block No. 3718, along the northeasterly side of Beale Street between Mission and Howard Streets, the northwesterly side of Howard Street between Main and Beale Streets, the southwesterly side of Main Street between Howard and Mission Streets, and the southeasterly side of Mission Street between Beale and Main Streets, and to eliminate and reduce portions of the official sidewalk fronting Assessor's Parcel Block No. 3718, Lot Nos. 038 and 039; adopting the Planning Department's determination under the California Environmental Quality Act; and making findings of consistency with the General Plan, and the eight priority policies of Planning Code, Section 101.1.

NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font*~~.
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are in ~~strikethrough Arial font~~.
Asterisks (* * * *) indicate the omission of unchanged Code subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. Findings.

(a) The Planning Department, in a letter dated December 9, 2015, found that the actions contemplated in this ordinance (the "Project") are consistent with the General Plan and in conformance with the eight priority policies of Planning Code Section 101.1. A copy of said letter is on file with the Clerk of the Board of Supervisors in File No. 180801 and is

incorporated herein by reference. The Board of Supervisors adopts as its own the findings in said letter.

(b) In the above-mentioned letter, the Planning Department also determined that the Project is within the scope of the project evaluated pursuant to the Transit Center District Plan and Transit Tower Final Environmental Impact Report, certified on May 24, 2012, Case Nos. 2007.0558E and 2008.0789E ("Transit Center District Plan and Transit Tower FEIR") pursuant to the California Environmental Quality Act ("CEQA," California Public Resources Code sections 21000 et seq.). A copy of the Transit Center District Plan and Transit Tower FEIR is on file with the Clerk of the Board of Supervisors in File No. 180801. The Board of Supervisors further finds that no substantial changes are proposed by the Project or the circumstances under which the Project is undertaken that would cause new significant environmental effects or any increase in the severity of previously identified significant effects. The Board further finds that there is no new information of substantial importance showing that the Project would have any significant effects not discussed in the Transit Center District Plan and Transit Tower FEIR, or that significant effects would be substantially more severe, or that new or different mitigation measures or alternatives would substantially reduce one or more significant effects of the Project. Consequently, the Board hereby adopts the Planning Department's environmental findings in the Transit Center District Plan and Transit Tower FEIR as its own for purposes of this ordinance.

(c) The Public Works Director issued Public Works Order No. 188356, dated September 4, 2018, including sidewalk width change drawing Q-20-1021, regarding the actions in this ordinance. The proposed sidewalk width changes are intended to promote pedestrian safety and comfort, enhance the pedestrian environment, and improve mid-block pedestrian access. A copy of said Order is on file with the Clerk of the Board of Supervisors in File No. 180801, and is incorporated herein by reference.

Section 2. In accordance with Public Works Order No. 188356, Board of Supervisors Ordinance No.1061, titled "Regulating the Width of Sidewalks," a copy of which is in the Clerk of the Board of Supervisors Book of General Ordinances, in effect May 11, 1910, is hereby amended by adding thereto a new section to read as follows:

Section 1619.

(a) Changing the official sidewalk width along portions of the northeasterly side of Beale Street between Mission Street and Howard Street, as shown on Public Works Drawing Q-20-1021, a copy of which is in Clerk of the Board of Supervisors File No. 180801. Starting from the northwesterly corner of AB 3718 Lot 039 and continuing southeasterly for approximately 340.30 feet, the sidewalk width shall increase from 10 feet to 15 feet; thereafter, continuing southeasterly for 10 feet, the sidewalk width shall increase from 10 feet to a new curb line with varied sidewalk widths ranging from 15 feet to 10 feet; thereafter, continuing southeasterly for 20 feet, the sidewalk width shall decrease from 10 feet to 0 feet; thereafter, continuing southeasterly for 8.90 feet (and fronting portions of Assessor's Block 3718 Lots 039 and 038), the sidewalk width shall decrease from 10 feet to 0 feet and then increase from 10 feet to a new curb line with varied sidewalk widths ranging from approximately 10 feet to 16.40 feet; thereafter, continuing southeasterly for 125.10 feet, the sidewalk width shall increase from 10 feet to a new curb line with varied sidewalk widths ranging from 16.40 feet to 30 feet; thereafter, continuing southeasterly for 46 feet, the sidewalk width shall increase from 10 feet to 30 feet.

(b) Changing the official sidewalk width along the northwesterly side of Howard Street between Main Street and Beale Street, as shown on Public Works Drawing Q-20-1021. Starting from the southwesterly corner of AB 3718 Lot 040 and continuing northeasterly for approximately 275 feet, the sidewalk width shall increase from 12 feet to 16 feet.

(c) Changing the official sidewalk width along portions of the southwesterly side of Main Street between Howard Street and Mission Street, as shown on Public Works Drawing Q-20-1021. Starting from the southeast corner of AB 3718 Lot 027 and continuing northwesterly for 160.70 feet, the

sidewalk width shall increase from 15 feet to 22 feet; thereafter, continuing northwesterly for 20 feet, the sidewalk width shall increase from 15 feet to a new curb line with varied sidewalk widths ranging from 22 feet to 15 feet.

(d) Changing the official sidewalk width along portions of the southeasterly side of Mission Street between Beale Street and Main Street, as shown on Public Works Drawing Q-20-1021. Starting from the northwest corner of AB 3718 Lot 039 and continuing northeasterly for 275 feet, the sidewalk width shall decrease from 15 feet to 5.30 feet.

Section 3. The project sponsor, Park Tower Owner LLC, a Delaware limited liability company, as is necessary as a result of this ordinance, shall make arrangements with public utility companies and City Departments for the relocation and/or modification of any affected public facilities. Any necessary relocation, modification, or both, of such facilities shall be at no cost to the City.

Section 4. Effective Date. This ordinance shall become effective 30 days after enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns the ordinance unsigned or does not sign the ordinance within ten days of receiving it, or the Board of Supervisors overrides the Mayor's veto of the ordinance.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: _____
CHRISTOPHER T. TOM
Deputy City Attorney

n:\legana\as2018\1900056\01301491.docx

FILE NO. 180801

REVISED LEGISLATIVE DIGEST

(Substituted, 9/4/2018)

[Amending Ordinance No. 1061 - Sidewalk Width Change - Portions of Beale Street, Howard Street, Main Street, and Mission Street]

Ordinance amending Ordinance No. 1061 titled "Regulating the Width of Sidewalks" to change the official sidewalk width of certain locations fronting Assessor's Parcel Block No. 3718, along the northeasterly side of Beale Street between Mission and Howard Streets, the northwesterly side of Howard Street between Main and Beale Streets, the southwesterly side of Main Street between Howard and Mission Streets, and the southeasterly side of Mission Street between Beale and Main Streets, and to eliminate and reduce portions of the official sidewalk fronting Assessor's Parcel Block No. 3718, Lot Nos. 038 and 039; adopting the Planning Department's determination under the California Environmental Quality Act; and making findings of consistency with the General Plan, and the eight priority policies of Planning Code, Section 101.1.

Existing Law

Board of Supervisors Ordinance No. 1061 established the official sidewalk widths throughout San Francisco. Ordinance No. 1061 is uncodified, but can be located in the Clerk of the Board of Supervisors Book of General Ordinances, in effect May 11, 1910, which is on file with the Clerk of the Board of Supervisors.

Amendments to Current Law

This legislation would amend Ordinance No. 1061 to change the official sidewalk width fronting Assessor's Block 3718, along the northeasterly side of Beale Street between Mission Street and Howard Street, the northwesterly side of Howard Street between Main Street and Beale Street, the southwesterly side of Main Street between Howard Street and Mission Street, and the southeasterly side of Mission Street between Beale and Main Streets, and to eliminate and reduce portions of the official sidewalk fronting Assessor's Block 3718, Lot Nos. 038 and 039. The legislation would also provide for a sidewalk bulb-out at the northeast corner of the intersection of Beale and Howard Streets. The proposed sidewalk changes are associated with the Transit Center District Plan. The proposed changes are intended to promote pedestrian safety and comfort, enhance the pedestrian environment, and improve mid-block pedestrian access.

n:\legana\as2018\1900056\01301492.docx

180801

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Date: December 9, 2015

To: Tony Sanchez-Corea
301 Junipero Serra Blvd, Suite 270
San Francisco, CA 94127

From: David Leong
San Francisco Planning Department

Re: Streamlined Approval Process for Certain Official Sidewalk Width Changes - Bulb-outs and Sidewalk Widening Less than One Linear Block

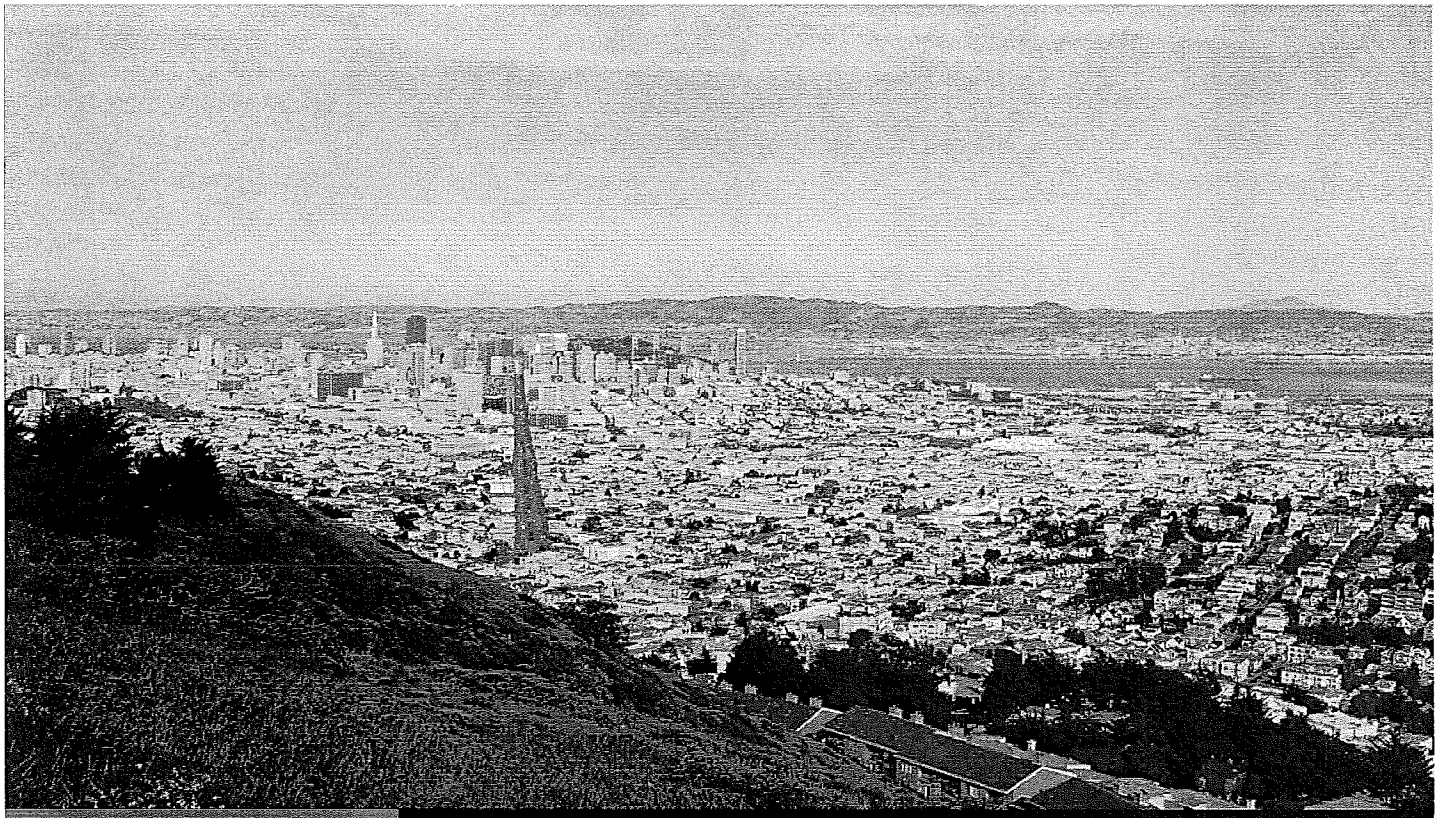
Case No. Case No. 2015-014400GPR
Street and Sidewalk Modifications at Park Tower (250 Howard)

The Department of Public Works (DPW) has established a streamlined process for approval of certain official sidewalk width changes that are supported by the City's General Plan, Better Streets Plan, and approved neighborhood streetscape plans. The proposed project has been forwarded to the Planning Department for review and comment as part of this streamlined process.

The proposed project involves widening the existing sidewalk on Beale, Howard, and Main Streets, as well as adding a new street to intersect with Beale and provide access to the garage ramp.

The Planning Department finds that the proposed sidewalk width changes are supported by the Better Streets Plan which was found to be consistent with the General Plan and the Priority Policies of Planning Code Section 101.1 (b) in Planning Commission Resolution No. 18212 and Board of Supervisors Ordinance 310-10; and incorporates those findings herein by reference. Please refer to the Design Guidelines of the Better Streets Plan, located at http://www.sfbetterstreets.org/design-guidelines, for direction on design, furniture placement, and materials selection within the proposed sidewalk change.

The Environmental Planning Division of the Planning Department determined that the proposed project is cleared under Transit Center District Plan and Transit Tower EIR, certified 5/24/12, Case Nos. 2007.0558E and 2008.0789E.



FINAL ENVIRONMENTAL IMPACT REPORT

Transit Center District Plan and Transit Tower

PLANNING DEPARTMENT
CASE NO. **2007.0558E and 2008.0789E**

STATE CLEARINGHOUSE NO. 2008072073

SAN FRANCISCO
PLANNING
DEPARTMENT

Draft EIR Publication Date:	**SEPTEMBER 28, 2011**
Draft EIR Public Hearing Date:	**NOVEMBER 3, 2011**
Draft EIR Public Comment Period:	**SEPTEMBER 28 THROUGH NOVEMBER 28, 2011**
Final EIR Certified:	**MAY 24, 2012**

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Planning Commission Motion 18628

Hearing Date:	May 24, 2012
Case No.:	**2007.0558E and 2008.0789E**
Project Address:	**Transit Center District Plan and Transit Tower**
Zoning:	P; C-3-O; C-3-O(SD); C-3-S; TB-DTR Various Height and Bulk Districts
Block/Lot:	Multiple; 3720/001(Transit Tower)
Project Sponsor:	San Francisco Planning Department and Transbay Joint Powers Authority
Staff Contact:	Sarah Jones – (415) 575-9034 Sarah.b.jones@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR A PROPOSED AREA PLAN AND ASSOCIATED REZONING OF 145 ACRES ROUGHLY BOUNDED BY MARKET STREET, STEUART STREET, FOLSOM STREET, AND A LINE EAST OF THIRD STREET, AND FOR CONSTRUCTION OF AN OFFICE TOWER UP TO 1,070 FEET TALL ON THE SOUTH SIDE OF MISSION STREET BETWEEN FREMONT STREET AND FIRST STREET.

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the Final Environmental Impact Report identified as Case No. 2007.0558E and 2008.0789E, Transit Center District Plan and Transit Tower (hereinafter "Project") (State Clearinghouse No. 2008072073), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, (hereinafter "CEQA Guidelines") and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").

   A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on July 20, 2008.

   B. On September 28, 2011, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

   C. Notices of availability of the DEIR and of the date and time of the public hearing were posted in the project area by Department staff on September 28, 2011.

D. On September 28, 2011, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies, the latter both directly and through the State Clearinghouse.

E. Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on September 28, 2011.

2. The Commission held a duly advertised public hearing on said DEIR on November 3, 2011 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on November 28, 2011.

3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 61-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, addressed changes to the proposed project, and corrected errors in the DEIR. This material was presented in a Draft Comments and Responses document, published on May 10, 2012, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.

4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Comments and Responses document all as required by law.

5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400, and are part of the record before the Commission.

6. On May 24, 2012, the Commission reviewed and considered the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.

7. The Planning Commission hereby does find that the FEIR concerning File No. 2007.0558E and 2008.0789E, Transit Center District Plan and Transit Tower, reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate and objective, and that the Comments and Responses document contains no significant revisions to the DEIR, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA and the CEQA Guidelines.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the project described in the EIR, including both the Transit Center District Plan and Transit Tower:

A. Will have a significant project-specific effect on the environment by altering public views of the Plan area from key long-range vantage points (visual); changing zoning controls in the Plan area in a manner that could result in adverse impacts to historic resources through demolition or substantial alteration (cultural resources); resulting in traffic growth that would adversely affect

local intersection operation (transportation); causing a substantial increase in transit demand that could not be accommodated by adjacent capacity (transportation); resulting in a substantial increase in transit delays (transportation); creating a volume of pedestrian activity that would cause pedestrian level of service to deteriorate (transportation); resulting in development that would create potentially hazardous conditions for pedestrians and bicyclists (transportation); resulting in a loading demand that could not be accommodated within on-site or on-street loading areas (transportation); resulting in construction activity that would result in disruption of circulation (transportation); creating noise levels in excess of standards and introducing sensitive receptors in areas with high noise levels (noise); exposing sensitive receptors to high levels of particulate matter and toxic air contaminants (air quality); resulting in construction-period emissions of criteria air pollutants and dust (air quality); creating shadow that could adversely affect the use of various parks and open spaces (shadow); and

B. Will have a significant cumulative effect on the environment in that it would, in combination with other reasonably foreseeable probable future projects, alter the visual character of greater Downtown and alter public views of and through Downtown (visual resources); adversely affect historical resources (cultural resources); contribute to congested conditions at the Fourth/Harrison and First/Harrison freeway on-ramps (transportation); result in cumulative noise impacts (noise); result in cumulative air quality impacts (air quality); and create new shadow that would adversely affect the use of various parks and open spaces (shadow).

9. The Planning Commission reviewed and considered the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of May 24, 2012.

Linda Avery
Commission Secretary

AYES: ANTONINI, BORDEN, FONG, WU

NOES: MOORE

ABSENT: MIGUEL

RECUSED: SUGAYA

ADOPTED: May 24, 2012

328246.1

FINAL ENVIRONMENTAL IMPACT REPORT

Transit Center District Plan and Transit Tower

PLANNING DEPARTMENT
CASE NO. **2007.0558E and 2008.0789E**

STATE CLEARINGHOUSE NO. 2008072073

Changes from the Draft EIR text are indicated by a dot (•) in the left margin
(adjacent to page number for added pages and figures; adjacent to table number for tables).

SAN FRANCISCO
PLANNING
DEPARTMENT

	Draft EIR Publication Date:	SEPTEMBER 28, 2011
	Draft EIR Public Hearing Date:	NOVEMBER 3, 2011
	Draft EIR Public Comment Period:	SEPTEMBER 28 THROUGH NOVEMBER 28, 2011
	Final EIR Certified:	MAY 24, 2012

TABLE OF CONTENTS

Transit Center District Plan and Transit Tower Final Environmental Impact Report

		Page
	LIST OF ACRONYMS AND ABBREVIATIONS	**vii**
	SUMMARY	**S-1**
I.	**INTRODUCTION**	**1**
II.	**PROJECT DESCRIPTION**	**5**
	A. Overview	5
	B. Project Objectives	8
	C. Background	9
	D. Project Components	11
	Transit Center District Plan	11
	Transit Tower	38
	E. Intended Uses of the EIR	49
	Approvals Required	49
III.	**COMPATIBILITY WITH EXISTING ZONING AND PLANS**	**51**
IV.	**ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES**	**72**
	Analysis Assumptions	72
	A. Land Use	76
	B. Aesthetics	91
	C. Population and Housing, Business Activity and Employment	176
	D. Cultural Resources	207
	E. Transportation	274
	F. Noise	342
	G. Air Quality	370
	H. Greenhouse Gas Emissions	425
	I. Wind	448
	J. Shadow	466
	K. Recreation and Public Space	528
	L. Utilities and Service Systems	534
	M. Public Services	542
	N. Biological Resources	551
	O. Geology, Soils, and Seismicity	573
	P. Hydrology and Water Quality	596
	Q. Hazards and Hazardous Materials	625
	R. Mineral and Energy Resources	653
	S. Agricultural and Forestry Resources	656

	Page
V. OTHER CEQA CONSIDERATIONS	
A. Growth Inducement	657
B. Significant Environmental Effects That Cannot Be Avoided If the Proposed Project is Implemented	658
C. Significant Irreversible Environmental Changes That Would Result if the Proposed Project is Implemented	660
D. Areas of Known Controversy and Issues to be Resolved	661
VI. ALTERNATIVES TO THE PROPOSED PROJECT	**662**
A. No Project	662
B. Reduced Project	672
C. Reduced Shadow	681
D. Developer Scenario	687
VII. COMMENTS AND RESPONSES	
VIII. APPENDICES	
A. Notice of Preparation	
B. Plan Objectives and Policies	
C. Proposed Public Realm Plan	
D. Air Quality	
E. Transit Tower Wind Tunnel Analysis	
IX. EIR AUTHORS AND CONSULTANTS	

LIST OF FIGURES

1.	Project Location	6
2.	Existing and Proposed Zoning Districts within the TCDP Area	13
3.	Existing and Proposed Height and Bulk Districts within the TCDP Area	14
4.	Curb Cuts and Alleys	23
5.	Proposed Street and Circulation Changes	28
6.	Transit and Bicycle Lanes	29
7.	Existing and Proposed Conservation and National Register Districts	33
8.	Transit Tower Site Plan	39
9.	Transit Tower – Ground Level	41
10.	Transit Tower – Level 2	42
11.	Transit Tower –Typical Floor Plan	43
12.	Transit Tower – Elevation	44
13.	Transit Tower – Garage	45
14.	Potential Development Sites Assumed in Analysis	73
15.	Existing Land Use	79
16.	View Corridors	94
17.	Views of Alleys	96
18.	Views of Freeways	97
19.	Views of Open Spaces and Public Plazas	98
20.	Views of Contemporary Structures Within the Plan Area	100
21.	Views of Historic Districts	101
22.	Views of Parking Lots and Underutilized Spaces 103	
23.	Views of Bay Bridge	105
24.	Views of North Financial District	106

Page

LIST OF FIGURES (cont'd.)

25. Bank of America Building seen from Fisherman's Wharf, as depicted in the San Francisco Urban Design Plan (1971) 110
26. Viewpoint Location Map 118
27. Visual Simulations: Geary and Stockton Streets 121
28. Visual Simulations: Mission Street West of Fourth Street 123
29. Visual Simulations: Post and Leavenworth Streets 125
30. Visual Simulations: Yerba Buena Gardens 127
31. Visual Simulations: Alamo Square 130
32. Visual Simulations: Dolores Park 133
33. Visual Simulations: Portola Drive 135
34. Visual Simulations: Twin Peaks 137
35. Visual Simulations: U.S. 101 Northbound at UPS Building 140
36. Visual Simulations: Interstate 280 and Sixth Street 142
37. Visual Simulations: Potrero Hill 145
38. Visual Simulations: Telegraph Hill 147
39. Visual Simulations: Treasure Island 149
40. Visual Simulations: Bay Bridge 151
41. Visual Simulations: Aquatic Park 154
42. Visual Simulation of Transit Tower from Mission Street west of Fremont Street 158
43. Visual Simulation of Transit Tower from Mission Street east of First Street 160
44. Visual Simulation of Transit Tower from Fremont Street Ramp near Harrison 161
45. Visual Simulation of Transit Tower from Potrero Hill – Missouri and Mariposa 162
46. Visual Simulation of Transit Tower from Post and Jones 164
47. Visual Simulation of Transit Tower from Bay Bridge 165
48. Visual Simulation of Transit Tower from Bay Bridge over Spear Street 166
49. Visual Simulation of Transit Tower from Alamo Square 167
50. Visual Simulation of Transit Tower from Dolores Park 168
51. Visual Simulation of Transit Tower from Columbus and Broadway 169
52. Visual Simulation of Transit Tower from end of Pier 7 170
53. Historic Shoreline 216
54. Study Intersections 285
55. Traffic Noise Levels 346
56. Land Use Compatibility Guidelines 350
57. Cancer Risk Due to Transit Center Bus Operations 400
58. Wind Test Points 455
59. Open Space in the Plan Area 467
60. Shadow Cast by Plan Area Buildings: June 21 471
61. Shadow Cast by Plan Area Buildings: September 21 / March 21 486
62. Shadow Cast by Plan Area Buildings: December 21 499
63. Maximum Extent of New Shadow on Union Square 511
64. Maximum Extent of New Shadow on Portsmouth Square 512
65. Maximum Extent of New Shadow on St. Mary's Square 514
66. Maximum Extent of New Shadow on Justin Herman Plaza 516
67. Maximum Extent of New Shadow on Willie "Woo Woo" Wong Playground and Chinese Recreation Center 517
68. Diffuse Shadow 519
69. Maximum Extent of New Shadow on Maritime Plaza and Boeddeker Park 526
70. Geologic Map 575
71. Geologic Cross Section 576
72. Regional Faults 579

Page

LIST OF FIGURES (cont'd.)

73. Liquefaction Zone 583
74. Area Subject to Article 22A of the San Francisco Health Code 627
75. Developer Alternative 688

LIST OF TABLES

S-1 Summary of Impacts and Mitigation Measures for the Proposed Transit Center District Plan S-9
S-2 Summary of Impacts and Mitigation Measures for the Proposed Transit Tower S-47
S-3 Summary of Impacts by Alternative (Transit Center District Plan) S-74
S-4 Summary of Impacts by Alternative (Transit Tower) S-85
1. Proposed Height Limit Increases 18
2. Transit Tower Project Characteristics 46
3. Plan Area Development Assumptions 74
4. Establishments by Land Use Category, 2009 179
5. Housing Production Targets, 1999-JUNE 2006 and Actual Production, 1999-2006 183
6. Transit Center District Plan Area Population and Housing, 2000 184
7. Transit Center District Plan Area and Downtown San Francisco Population and Households, 2005 185
8. Transit Center District Plan Area, Downtown, and San Francisco Employment by Business Activity, 2005 186
9. Population and Household Projections for San Francisco and the Rest of the Bay Area Region: 2005 and 2030 189
10. Employment Projections for San Francisco and the Rest of the Bay Area Region: 2005 and 2030 189
11. Growth Scenario for Downtown and the Rest of the City, Households and Household Population, 2005 – 2030 190
12. Growth Scenario for Downtown and the Rest of the City, Employment by Business Activity, 2005 – 2030 191
13. Housing Needs Allocation, 2007 – June 2014 194
14. Housing, Population and Employment: 2005 – 2030, Transit Center District Plan Area Compared to Downtown and City Totals 198
15. Subsurface Prehistoric Archeological Potential at the Transit Tower Site 250
16. Expected Historic-Era Property Types and Preliminary Assessment of Research Value at the Transit Tower Site 252
17. Intersection Levels of Service – A.M. Peak Hour 286
18. Intersection Levels of Service – P.M. Peak Hour 287
19. Intersections at which Public Realm Improvements Result in Changed LOS 289
20. Freeway Ramp Levels of Service, P.M. Peak Hour 298
21. Muni Peak-Hour Capacity Utilization 299
22. Regional Transit Peak-Hour Capacity Utilization 301
23. Peak –Hour Intersection Levels of Service (Transit Tower) 327
24. Muni Peak-Hour Capacity Utilization (Transit Tower) 330
25. Regional Transit Peak-Hour Capacity Utilization (Transit Tower) 331
26. Typical Sound Levels Measured in the Environment 343
27. Measures Of Substantial Increase For Transportation Noise Exposure 352
28. Future Peak Hour Noise Levels Along Plan Area Roadway Segments 354
29. Typical Construction Noise Levels 360
30. Vibration Velocities for Construction Equipment 363
31. Summary of San Francisco Air Quality Monitoring Data (2006 – 2010) 371

Page

LIST OF TABLES (cont'd.)

32. State and Federal Ambient Air Quality Standards 380
33. Transportation Control Measures of the *2010 Clean Air Plan* 391
34. Transit Tower Project Construction Exhaust Emissions Estimates 414
35. Transit Tower Estimated Daily Regional Emissions (2016) 420
36. Health Risks from Transit Tower Operational Emissions 422
37. GHG Reduction Measures in ARB Scoping Plan 429
38. City GHG Regulations Applicable to the Proposed Transit Tower Project 443
39. Transit Tower Total CO_2-Equivalent Emissions (Metric Tons/Year) 446
40. Summary of Wind Tunnel Test Results 454
41. Shadow on Section 295 Parks From Development in the Plan Area 508
42. Transit Tower Shadow on Section 295 Parks 523
43. Regional Faults and Seismicity 580
44. Estimates of the 30-Year Probability of a Magnitude 6.7 or Greater Earthquake 581
45. Alternatives to the Draft Plan and their Generalized Shadow Effects 664

List of Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ADA	Americans with Disabilities Act
ADRP	Archeological Data Recovery Plan
AMP	Archeological Monitoring Plan
ARB	California Air Resources Board
ARDTP	Archeological Research Design and Treatment Plan
ATP	Archeological Testing Plan
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit District
BCDC	San Francisco Bay Conservation and Development Commission
BP	Before Present
C&D	Construction and Demolition
CAP	Clean Air Plan
CDMG	California Division of Mines and Geology (now Ca. Geological Survey)
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CHP	Combined Heat and Power (cogeneration)
CIE	Cultural/Institutional/Educational
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2-eq	Carbon Dioxide-equivalent
dB	Decibel
dBA	A-Weighted Decibel
DBI	San Francisco Department of Building Inspection
DEIR	Draft Environmental Impact Report
DPH	San Francisco Department of Public Health
DPM	Diesel Particulate Matter
DPR	California Department of Parks and Recreation
DPW	San Francisco Department of Public Works
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
ERO	Environmental Review Officer (of the Planning Department)
FAR	Floor Area Ratio
FARR	Final Archeological Resources Report
GW	Gigawatt (1 billion watts)
GWh	Gigawatt-Hour
GFA	Gross Floor Area
GHG	Greenhouse Gas
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HCD	California Department of Housing and Community Development
HEPA Filter	High Efficiency Particulate Air Filter
ISCOTT	Interdepartmental Staff Committee on Traffic and Transportation

KW	Kilowatt (1,000 watts)
KWh	Kilowatt-Hour
Ldn	Day-Night Noise Level
LEED®	Leadership in Energy and Environmental Design
LOS	Level of Service (measure of traffic or other transportation operations)
mgd	Million Gallons per Day
MIPS	Management, Information, and Professional Services
MLD	Most Likely Descendant
mph	Miles per Hour
MTA	San Francisco Municipal Transportation Agency
MTC	Metropolitan Transportation Commission
MRZ	Mineral Resource Zone
MW	Megawatt (1 million watts)
NAAQS	National Ambient Air Quality Standards
NAHC	California Native American Heritage Commission
NEPA	National Environmental Policy Act
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
NOP	Notice of Preparation
NWIC	Northwest Information Center
OHP	State of California Office of Historic Preservation
OPR	Governor's Office of Planning and Research
PDA	Priority Development Area
PDR	Production, Distribution, and Repair
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter 2.5 microns or less in diameter
PM_{10}	Particulate Matter 10 microns or less in diameter
ppb	Parts per Billion
ppm	Parts per Million
pphm	Parts per Hundred Million
POPOS	Privately Owned, Publicly Accessible Open Space
RHNA	Regional Housing Needs Assessment
RHNP	Regional Housing Needs Plan
ROG	Reactive Organic Gases
SAAQS	State Ambient Air Quality Standards
SB	Senate Bill
SCH	State Clearinghouse (in the Governor's Office of Planning and Research)
SD	Special Development (zoning sub-district)
SFCTA	San Francisco County Transportation Authority
SFD	San Francisco City Datum
SFPUC	San Francisco Public Utilities Commission
SFUSD	San Francisco Unified School District
SO_2	Sulfur Dioxide
TACs	Toxic Air Contaminants
TB-DTR	Transbay Downtown Residential
TDM	Transportation Demand Management
TDR	Transferrable Development Rights

TIDF	Transit Impact Development Fee
TJPA	Transbay Joint Powers Authority
v/c ratio	Volume-to-Capacity Ratio
YBC	Yerba Buena Center
µg/m3	Micrograms per Cubic Meter

SUMMARY

A. Project Description

This environmental impact report (EIR) analyzes potential environmental effects associated with the November 2009 draft Transit Center District Plan (draft Plan) project at a program level, and analyzes impacts of the proposed Transit Tower at a project-specific level.

Transit Center District Plan

The Plan area comprises approximately 145 acres in the southern portion of the downtown Financial District, roughly bounded by Market Street, Steuart Street, Folsom Street, and a line to the east of Third Street. The Plan area is surrounded by the Financial District, Rincon Hill, the waterfront, and the Yerba Buena Center area; it is centered on the site of the former Transbay Terminal, which was demolished in 2010, to be replaced by the new Transbay Transit Center now under construction. The Plan area includes Zone 2 of the adopted Transbay Redevelopment Area and a portion of Zone 1 (only for streetscape and roadway modifications consistent with that plan).

Existing Land Use and Height Controls

The principal land use in the Plan area is office, although the Plan area also contains retail and mixed-used developments, as well as a limited number of residential buildings, two hotels, and a limited amount of institutional and light industrial or Production, Distribution, and Repair (PDR) uses. Use districts in the Plan area include Downtown Office (C-3-O), Downtown Office (Special Development) (C-3-O (SD)), Downtown Support (C-3-S), Transbay Downtown Residential (TB-DTR), and Public (P), the last one primarily encompassing the site of the former Transbay Terminal and its ramps. Areas zoned TB-DTR comprise Zone 1 of the Transbay Redevelopment Area.

The C-3-O and C-3-O (SD) districts, which make up the majority of the Plan area, permit office as a principal use and include controls that generally encourage concentrated, high density office development. Residential uses and some related retail and service uses are also permitted. The C-3-O (SD) district permits a lower floor area ratio (FAR) as of right but also permits transferrable development rights (TDR) from other sites to be used to increase FAR. Both districts have a maximum FAR of 18:1.

The Plan area contains a mixture of height and bulk districts, with height limits that range from 30 feet to 550 feet. Consistent with the Downtown Plan's direction to expand the traditional downtown to the "South Financial District" around the site of the former Transbay Terminal, the Plan area's 550-foot height limits are the greatest heights currently permitted anywhere in San Francisco, with the exception of a single parcel on Rincon Hill and a single parcel on Folsom Street in Redevelopment Plan Zone 1.

Proposed Policies and Land Use Controls

The draft Plan proposes to rezone the Plan area (except most P Districts, with the exception of the Transit Tower site, and Redevelopment Plan Zone 1) to C-3-O (SD). The Plan also sets forth policies and land use controls in six major categories: Land Use, Urban Form, Public Realm, Moving About, Historic Preservation, and District Sustainability.

The draft Plan also discusses a variety of financing mechanisms for improvements within the Plan area. These mechanisms would not in themselves result in physical impacts, but the physical changes that could occur with the additional financing, such as implementation of the public realm plan, are addressed throughout this EIR.

Land Use

In advance of drafting the Plan, the Planning Department commissioned a study to evaluate future job and housing growth in San Francisco. The study concluded that, particularly with the implementation of "smart growth" policies that encourage jobs near transit, downtown San Francisco would not meet the future demand for office space under existing zoning. On the other hand, downtown has sufficient capacity for future residential development. Accordingly, one of the major goals of the draft Plan is to ensure a sufficient supply of high-density office space in the downtown core, proximate to the region's best transit service. Thus, the Plan proposes to limit the amount of non-office space in major new construction within a portion of the Plan area, to attain an overall ratio of no less than 70 percent office space in the Plan area, as well as elimination of limits on floor area ratio (FAR) in the C-3-O (SD) use district. The limit on non-commercial development would occur within a sub-district of the Plan area, bounded generally by Market, Main, Second-New Montgomery, and Tehama Streets and Zone 1 of the Redevelopment Plan. The Plan proposes that the existing maximum FAR of 18:1 be eliminated within the Plan area and also proposes a minimum level of development—a FAR of at least 9:1—on sites larger than 15,000 square feet. In addition, the draft Plan seeks to encourage continuous consumer retail uses on key street frontages.

Urban Form: Building Heights and Design

The draft Plan seeks to build upon the Downtown Plan and the Urban Design Element of the *General Plan,* which set forth policies by which Downtown has become "a compact, human-scaled, walkable and dynamic urban center and a dramatic concentrated skyline set against the natural backdrop of the city's hills," according to the draft Plan. The Plan further seeks to create an "elegant skyline … with its apex at the Transit Center, and tapering in all directions" so that the Transit Center becomes "the center of downtown, reinforcing the primacy of public transit in organizing the City's development pattern" (November 2009 Draft Plan, Objectives 2.2 and 2.3).

The greatest proposed height limit is a 1,000-foot height district at a site on the south side of Mission Street between First and Fremont Streets, adjacent to the new Transit Center. The site is the location of the proposed Transit Tower, which the Plan envisions as the City's tallest structure, at 1,000 feet to the height to the highest enclosed space. The Plan also calls for a sculptural element atop the tower, provided it does

not cast "significant" shadows (Draft Plan, Policy 2.2). The current proposed height for the Transit Tower is 920 feet to the roof and 1,070 feet in total, including sculptural element. Other height districts that exceed the current maximum of 550 feet would allow for approximately six very tall buildings nearby whose height—up to a maximum of 850 feet—would be less than that of the Transit Tower.

While the Plan proposes the elimination of maximum limits on floor area ratio, existing tower separation rules would remain and be extended to taller buildings, so that a 1,000-foot building would have to be set back 70 feet from the center of a typical major street. Also, where multiple towers are developed on the same property, setbacks of up to 70 feet would apply to these towers, as well to towers on separate lots. The upper portions of tall towers (generally the top one-third, or "upper tower") would be required to have an average floor plate that is at least 25 percent smaller than, and an average diagonal dimension at least 14 percent less than, that of the "lower tower" (the remainder of the building above the base). This is similar to, although less restrictive than, the volume reduction currently required by the *Planning Code*. The draft Plan also proposes to strengthen the Downtown Plan's controls that call for the base of a tower to be differentiated from the tower above, with the intent of enhancing the pedestrian scale of development, and proposes limiting the width of building lobbies, requiring ground-level changes in building plane, and prohibiting parking and loading access from key streets, also to enhance the pedestrian environment.

Public Realm

The draft Plan would build on the Downtown Streetscape Plan of 1995, as well as the 2006 Streetscape and Open Space Plan for the Transbay Redevelopment Area and the citywide Better Streets Plan, adopted in 2010, to improve the public realm, including its streets, alleys, sidewalks, parks, and plazas. Envisioning a sizable increase in pedestrian activity due to both new development and increased transit service to and from the new Transit Center (including the potential future Caltrain extension and high-speed rail service), the draft Plan emphasizes improving the pedestrian environment by widening and making improvements to sidewalks, including landscaping and street furniture installation; eliminating some on-street parking; adding sidewalk bulb-outs; creating "linear plazas" along Beale, Main, and Spear Streets; restricting curb cuts on some streets; and improving mid-block pedestrian access, including the addition of several signalized mid-block pedestrian crossings. The draft Plan proposes a new public open space at the northeast corner of Howard and Second Streets, which would include a connection to the new 5-acre "City Park" that will be built atop the new Transit Center as part of that project. The draft Plan also proposes public access to view stations in the upper stories of the tallest high-rise building(s) in the Plan area.

Moving About

The draft Plan seeks to manage vehicular traffic and to enhance transit, pedestrian, and bicycle travel, attempting, in particular, to discourage traffic—especially regional traffic that passes through the District to and from the Bay Bridge. Vehicle parking would be further restricted, bicycle parking would be increased, and car sharing would be encouraged. Walking between destinations in the District would be made more feasible and attractive. The draft Plan calls for future analysis and consideration of a cap on

the number of parking spaces in the Plan area (with an interim step to reduce the maximum amount of floor area devoted to non-residential parking from the current 7 percent to 3.5 percent), and study of a potential transit-only zone on Mission Street, in front of the Transit Center and proposed Transit Tower.

The draft Plan would also reconfigure many of the existing rights-of-way throughout the Plan area, including extending the two-way segments of Howard and Folsom Streets east to New Montgomery and Second Streets, respectively; moving transit lanes to the center of Mission Street between First and Third Streets; widening sidewalks; selectively removing traffic lanes and parking and loading from various streets; and adding turn pockets. On Howard Street, casual carpool unloading would be moved from the south to north side. Second Street would be reconfigured consistent with the San Francisco Bicycle Plan. Shaw Alley would be closed to vehicle traffic, Minna Street would change to one-way eastbound between First and Second Streets, and Natoma Street from Second Street east to midway between First and Second Streets would be converted to pedestrian access and emergency vehicles only. A new multi-use pedestrian and bicycle path is proposed between Howard and Folsom Streets, near Essex Street and beneath the ramp that links the Transit Center to the Bay Bridge.

The public realm plan would also add signalized mid-block pedestrian crossings at a number of intersections: New Montgomery/Natoma Streets; Second/Natoma Streets; Howard Street/Oscar Alley; Mission Street / Shaw Alley; First/Minna Streets; First/Natoma Streets; First/Clementina Streets; Fremont Street/Transit Center Bus Plaza; Fremont/Natoma Streets; Beale/Natoma Streets; Beale/Clementina Streets; Main/Natoma Streets; Main/Tehama Streets; and, Main/Clementina Streets. Also proposed, as previously approved under the Transbay Redevelopment Plan, are extensions of Clementina Street (First Street to Spear Street) and Natoma and Tehama Streets (Beale Street to Main Street).

Historic Preservation

The Plan area contains two listed historic districts, the New Montgomery-Second Street Conservation District and the Second and Howard National Register District. The former, identified in Article 11 of the *Planning Code*, extends southward from Market Street, generally encompassing both sides of Second and New Montgomery Streets, as far as Howard Street. The draft Plan would expand and rename the "New Montgomery–Mission–Second Street Conservation District," along both sides of Mission Street between New Montgomery and Third Streets, crossing Third Street to include the Aronson Building on the northwest corner of Third and Mission Streets. The expansion would also extend westward on Natoma Street to Hunt Street. Additionally, the Planning Department proposes additional individual resources for Landmark designation under the *Planning Code* and revision of Article 11 ratings of several buildings. The draft Plan also proposes policies and *Planning Code* revisions concerning transferrable development rights (TDR) that would allow increased flexibility in the application of preservation incentives.

District Sustainability

The draft Plan would implement a number of district-wide policies and controls aimed at supporting and, where possible, exceeding the City's existing environmental, sustainability and climate change objectives. The incorporation of sustainability-related objectives and policies into the draft Plan is

intended to achieve lower impact and higher performance development within the Plan area than would otherwise be achievable through project-by-project application of requirements. In the area of **energy efficiency**, the Plan identifies for future consideration the creation of a shared district-wide energy and heating system by establishing a centralized Combined Heat and Power (cogeneration) system within the Plan boundaries that would capture waste heat from buildings and energy generators. In the area of **green building design**, the draft Plan would encourage low environmental impact and high performance (with regard to energy, water, materials, construction) for all proposed buildings. The draft Plan would require that larger new buildings achieve LEED (Leadership in Energy and Environmental Design) standards in the City's Green Building Ordinance without benefit of credits for location, density, and existing City parking controls. In the area of **water conservation**, one of the goals of the proposed Plan is to capture, treat, and reuse, where feasible, stormwater runoff, while at the same time reducing the use of potable water.

Transit Tower

The Transit Tower is proposed by the Transbay Joint Powers Authority (TJPA) as a 61-story, approximately 1,070-foot-tall office building proposed for approximately the northern third of the block bounded by First, Mission, Fremont, and Howard Streets. The Tower would occupy approximately the northern half of Lot 1 on Block 3720, adjacent to the new Transit Center, on the south side of Mission Street between Fremont and First Streets. The project site is approximately 50,000 square feet in size and was most recently used as the passenger waiting and loading and Muni drop-off/layover area for the old Transbay Terminal, which was demolished beginning in August 2010. The TJPA intends to sell the Transit Tower site to a private entity, which would develop the tower, and use the proceeds from the sale to help fund the Transit Center project.

The Transit Tower would encompass approximately 1.3 million square feet of office space and about 16,500 square feet of retail space and would be built on a roughly square footprint of about 26,000 square feet. The building would have retail space and a lobby on the ground floor, additional retail space on a portion of the fourth floor (connected by a footbridge to the planned City Park atop the new Transit Center), and 58 floors of office space, along with two mechanical floors. The Tower would have three basement levels beneath the entire footprint of the building as well as the Mission Square open space along Fremont Street, and a partial fourth basement; excavation would be to a depth of approximately 60 feet below grade, and would involve removal of approximately 110,000 cubic yards of soil. The building would have a concrete slab foundation supported by driven piles anticipated to be founded on bedrock more than 200 feet below grade. The tower's structural system is anticipated to employ the concept of "megacolumns," which are very large structural columns that would be supported by large diameter piles approximately 10 feet in diameter, with additional piles driven to support the building's foundation slab.

The Transit Tower is proposed to have concave curved exterior walls on all four sides, which would taper as the building rises, beginning at a height of about 380 feet. The 172-foot horizontal dimension along each side of the ground floor would be reduced to about 138 feet at the building roof (920 feet). Atop the

building would be a lattice-like steel sculptural element 150 feet tall, which would continue the building's tapering shape up to a total height of about 1,070 feet. The horizontal dimension at the top of this element would be approximately 89 feet.

The current design of the Transit Tower would be consistent with the proposed bulk requirements of the draft Plan, which would amend *Planning Code* Section 132.1 to require a 35-foot setback from the center line of the adjacent street—Mission Street, in this case—and a setback increasing to 70 feet from the center line at a height of 1,000 feet. The draft Plan's streetscape and public realm improvements plan would also require that the base of the Transit Tower be set back at least 10 feet from the property line on Mission Street, to permit widening of the street right-of-way to accommodate transit activity on Mission Street.

Up to approximately 302 independently accessible parking spaces would be provided in the basement, and a total parking supply of about 480 vehicles could be provided with valet operations. Based on the preliminary design of the Transit Tower, the area devoted to parking would exceed 7 percent of gross floor area (and the draft Plan's 3.5 percent maximum), which is the maximum amount of floor area that can be devoted to parking in the C-3-O use districts, and the area in excess of 3.5 percent, if the Plan is adopted (7 percent otherwise) would require Conditional Use authorization as a major parking garage, in accordance with Sections 158 and 223(p) of the *Planning Code*. Bicycle parking (approximately 225 spaces, based on proposed *Planning Code* revisions under the draft Plan) would also be provided. Six off-street freight loading spaces would be provided on the first basement level. Access to the parking garage and loading dock would be from a single, two-way ramp on First Street, near the southwest corner of the building. Pedestrian entrances to the tower lobby would be from both the west and east sides of the building; the latter entrance would open onto Mission Square, a public open space that would be developed with the Tower at the southwest corner of Mission and Fremont Streets.

The TJPA is developing plans to substantially decrease the use of potable water for non-potable use at both the Transit Center and the proposed Transit Tower, including potential collection and reuse, following treatment, of greywater. The proposed Transit Tower is designed to receive a LEED (Leadership in Energy and Environmental Design) Gold rating from the U.S. Green Building Council. The TJPA would require the Transit Tower developer to adopt safety and security measures to maximize the protection of the public from injury due to events including earthquake, flood, wind, precipitation, building movement, terrorist attack, sabotage, civil unrest or civil disturbances, accidents, and crime.

Construction of the Transit Tower would require approximately three years.

The Transit Tower site is in a P (Public) use district. The project's office and retail uses would not be permitted in the P zoning district and an amendment to the zoning map (rezoning) to a Downtown Office (C-3-O (SD)) zoning district would be required as part of the project approval; this change is proposed as part of the draft Plan. The Transit Tower project site is also within a 30-X height and bulk district, which limits height to 30 feet but has no bulk limit. Amendment of the height and bulk districts (rezoning) would also be required for the Transit Tower site as part of the project approval, and is proposed as part of the

draft Plan. Because the draft Plan proposes to eliminate the existing FAR restrictions and to rezone the Transit Tower site to C-3-O (SD), no conflict would exist with respect to the building's proposed 26:1 FAR.

Plan Area Applications on File

This EIR also analyzes a Developer-Proposed Scenario for the Transit Center District Plan to reflect several applications that have been submitted to the Planning Department by private project sponsors proposing individual buildings in the area, some of them deviating from Plan parameters with regard to height or other characteristics. This scenario is primarily addressed in Chapter VI, Alternatives.

Approvals Required

Approval and implementation of the Transit Center District Plan and Transit Tower (tower approvals noted explicitly) would require the following actions, with acting bodies shown in italics:

- Amendment of the *General Plan* [various elements and Downtown area plan] to conform to the concepts of the Transit Center District Plan rezoning program (the project), as outlined above. *Planning Commission recommendation; Board of Supervisors Approval*

- Determination of consistency of the proposed *General Plan* amendments and rezoning with the *General Plan* and *Planning Code* Section 101.1 Priority Policies. *Planning Commission*

- Amendment of the *Planning Code* to create new height and bulk districts greater than the current maximum of 550 feet; establish building setback and separation of towers requirements for buildings taller than 550 feet; eliminate the 18:1 limit on floor area ratio; adopt additional controls on building bulk, massing, and setbacks and façade articulation; modify controls for the use of transferrable development rights; establish a downtown preservation fund; increase bicycle parking and car-share parking requirements; prohibit off-street parking and loading access from Mission, Second, Ecker and portions of Folsom and Natoma Streets in the Plan area, and permit such access on portions of First, Fremont, and Beale streets only with Conditional Use Authorization; prohibit surface parking in the Plan area; allow for greater horizontal projections that emphasize ground floors; and require transportation demand management programs of all projects 25,000 square feet and larger.

- Amendment of the *Planning Code* Zoning Maps to change mapped use districts and height limits throughout the Plan area. *Planning Commission recommendation; Board of Supervisors Approval*

- Modification of Absolute Cumulative Limit for new shadow on certain City parks and a Section 295 shadow finding (Transit Tower).[1] *San Francisco Planning Commission and San Francisco Recreation and Park Commission*

- Permit for boilers and generators (Transit Tower). *Bay Area Air Quality Management District*

- General Construction Activity Stormwater Permit (Transit Tower). *Regional Water Quality Control Board*

---

1 Other buildings that would cast shadow on Recreation and Park Department properties would also require modification of the Absolute Cumulative Limit for one or more parks. However, those subsequent projects would require their own project-specific CEQA analysis and would be considered for approval—including consideration of shadow limits—separately from the Transit Center District Plan and the Transit Tower.

- Approval of Transit Tower under *Planning Code* Section 309 (Permit Review in C-3 Districts) and Section 321 (Office Development: Annual Limit), as well as approval of a Conditional Use under Sections 304, 158, and 223(p) for a Major Parking Garage, for the portion of the Tower's proposed parking in excess of permitted accessory parking. *San Francisco Planning Commission*

- Execution of a purchase and sale agreement with the developer of the Transit Tower, including design approval of tower and pedestrian connection(s) to City Park. *Transbay Joint Powers Authority*

- Building Permits (Transit Tower). *San Francisco Department of Building Inspection*

- Approval for new water, sewer, and street light utility connections (Transit Tower). *San Francisco Public Utilities Commission*

- Approval of stormwater management system and submittal by project sponsor of a Stormwater Control Plan (Transit Tower). *San Francisco Public Utilities Commission*

- Approval of alterations to street rights-of-way, including, for example, the configuration of travel lanes, sidewalks widths, and addition of crosswalks that are part of the draft Plan's modifications to the public realm. *San Francisco Municipal Transportation Agency, Department of Public Works*

- Approval for any proposed curb or street modifications (Transit Tower). *San Francisco Municipal Transportation Agency; Department of Public Works; Board of Supervisors*

B. Environmental Impacts and Mitigation Measures

This EIR analyzes the potential effects of the draft Transit Center District Plan (November 2009) and Transit Tower project, as identified in the Notice of Preparation of an Environmental Impact Report (NOP), issued July 20, 2008 (Appendix A of this EIR).

This EIR contains detailed analyses of topics including land use, aesthetics, population and housing, cultural (historical and archeological resources), transportation, noise, air quality, wind, and shadow. **Table S-1** presents a summary of the significant adverse environmental effects ("significant impacts" or "significant effects") and mitigation measures identified in the EIR for the draft Plan, along with mitigation measures identified to reduce those impacts to a less-than-significant level, where applicable. **Table S-2** provides the same information for the proposed Transit Tower.

There are several items required by law that would serve to avoid potential significant impacts; they are summarized here for informational purposes. These measures include: no use of mirrored glass on the building to reduce glare, as per City Planning Commission Resolution 9212; limitation of construction-related noise levels, pursuant to the San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code, 1972); *Planning Code* Section 139, Standards for Bird-Safe Buildings; compliance with Section 3424 of the San Francisco Building Code, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures; and observance of state and federal OSHA safety requirements related to handling and disposal of other hazardous materials, such as asbestos. Because compliance with existing law would obviate any potential impacts related to the above issues, neither significant impacts nor mitigation measures are identified in connection with these issues.

TABLE S-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
B. Aesthetics			
AE-3: The draft Plan would alter public views of the Plan area from key long-range vantage points.	SU	None available.	SU
C-AE-1: The draft Plan, in combination with the Transit Tower and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not adversely affect scenic resources or substantially increase light and glare.	SU	None available.	SU
D. Cultural and Paleontological Resources			
CP-3: Changes to the zoning controls in the Plan area could result in adverse impacts to historic architectural resources through demolition or substantial alteration.	SU	**M-CP-3a: HABS/HAER Documentation.** Prior to demolition or substantial adverse alteration of historical resource(s), the project sponsor of a development project in the Plan area shall contract with a qualified preservation architect, historic preservation expert, or other qualified individual to fully document the structure(s) to be demolished or altered. Documentation shall be undertaken following consultation with Planning Department preservation staff and the Historic Preservation Commission, and shall at a minimum be performed to HABS Level II documentation standards. According to HABS Standards, Level II documentation consists of the following tasks: • Written data: A brief report documenting the existing conditions and history of the building shall be prepared, focusing on the building's architectural and contextual relationship with the greater Western SoMa neighborhood. • Photographs: Photographs with large-format (4x5-inch) negatives shall be shot of exterior and interior views of all three project site buildings. Historic photos of the buildings, where available, shall be photographically reproduced. All photos shall be printed on archival fiber paper. • Drawings: Existing architectural drawings (elevations and plans) of all three the project site buildings, where available, shall be photographed with large format negatives or photographically reproduced on Mylar. The completed documentation package shall be submitted to local and regional archives, including but not limited to, the San Francisco Public Library History Room, the California Historical Society and the Northwest Information Center at Sonoma State University in Rohnert Park.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-3 (cont.)		**M-CP-3b: Public Interpretative Displays.** Prior to demolition or substantial adverse alteration of historical resource(s) that are significant due to event(s) that occurred in the building at the development site, the project sponsor of a development project in the Plan area shall develop, in consultation with Planning Department preservation staff, a permanent interpretative program/and or display that would commemorate such event(s). The program/display would be installed at a publicly accessible location, either at or near the project site or in another appropriate location (such as a library or other depository). The content and location of the display shall be presented to the Historic Preservation Commission for review and comment. **M-CP-3c: Relocation of Historical Resources.** Prior to demolition or substantial alteration of historical resource(s), the project sponsor of a development project in the Plan area shall make any historical resources that would otherwise be demolished or substantially altered in an adverse manner available for relocation by qualified parties. **M-CP-3d: Salvage of Historical Resources.** Prior to demolition of historical resource(s) that are significant due to architecture (resource(s) that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values), the project sponsor of a development project in the Plan area shall consult with a Planning Department Preservation Technical Specialist and/or other qualified parties regarding salvage of materials from the affected resource(s) for public information or reuse in other locations.	
C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources.	SU	Implement Mitigation Measures M-CP-3a, HABS/HAER Documentation, and M-CP-3b, Public Interpretive Displays, M-CP-3c, Relocation of Historical Resources, and M-CP-3d, Salvage of Historical Resources.	SU
E. Transportation			
TR-1: Traffic growth related to the draft Plan, including the street changes, would adversely affect local intersection operation, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.	SU	**M-TR-1a: Signal Timing Optimization.** The Municipal Transportation Agency (MTA) could optimize signal timing at the following intersections to reduce impacts on intersection LOS to a less-than-significant level, by either improving conditions to LOS D or better or by avoiding the draft Plan's contribution to increased vehicle delay (mitigated LOS in parentheses): ▪ Stockton / Geary Streets (LOS F, p.m.) ▪ Kearny / Sutter Streets (LOS F, p.m.) ▪ Battery and California Streets (LOS D, a.m. and p.m.) ▪ Embarcadero / Washington Streets (LOS F, p.m.) ▪ Third / Folsom Streets (LOS F, p.m. peak) ▪ Beale / Folsom Streets (LOS F, p.m. peak) ▪ Embarcadero / Folsom Streets (LOS F, a.m. and p.m. peak)	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-1 (cont.)		**M-TR-1b: Taxi Left-Turn Prohibition.** At the intersection of Third / Mission Streets, the Municipal Transportation Agency (MTA) could expand existing prohibitions on peak-hour left turn to include taxis, thereby permitting only buses to make left turns.	SU
		M-TR-1c: Beale / Mission Streets Bulbs and Optimization. At the intersection of Beale and Mission Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the north and south crosswalks to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the less-congested eastbound / westbound Mission Street approaches to the southbound Beale Street approach.	SU
		M-TR-1d: Steuart / Howard Streets Restriping. At the intersection of Steuart and Howard Streets, the Municipal Transportation Agency (MTA) could remove two on-street parking spaces on the south side of Howard Street immediately west of the intersection and stripe the eastbound approach as one through lane and one shared through-right lane. The proposed design for eastbound Howard Street after extension of the westbound Howard Street bicycle lane to The Embarcadero calls for one wide curb lane and one parking lane, but a second eastbound travel lane at the intersection could be provided by removing up to two on-street parking spaces.	SU
		M-TR-1e: Beale / Folsom Streets Left-Turn Prohibition and Signal Optimization. At the intersection of Beale and Folsom Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound right turns from Folsom Street in the p.m. peak hour and optimize the signal timing by reallocating green time from the eastbound / westbound Folsom Street approaches to the northbound / southbound Beale Street approaches.	SU
		M-TR-1f: Third / Harrison Streets Restriping. At the intersection of Third and Harrison Streets, the Municipal Transportation Agency (MTA) could convert one of the two eastbound lanes leaving the intersection into an additional westbound through lane by restriping the east (Harrison Street) leg of the intersection. In order to allow sufficient turning radius and clearance for heavy vehicles such as buses and trucks, two on-street parking spaces on the south side of Harrison Street east of the intersection would be removed.	SU
		M-TR-1g: Hawthorne / Harrison Streets Restriping. At the intersection of Hawthorne and Harrison Streets, the Municipal Transportation Agency (MTA) could stripe an additional westbound through lane approaching the intersection by converting one of the two eastbound lanes.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-1 (cont.)		**M-TR-1h: Second / Harrison Streets Turn Prohibition and Optimization.** At the intersection of Second and Harrison Streets, the Municipal Transportation Agency could prohibit eastbound left turns during the p.m. peak hour.	SU
		M-TR-1i: Third / Bryant Streets Bulbs and Optimization. At the intersection of Third and Bryant Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the south crosswalk to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the eastbound Bryant Street approach to the northbound Third Street approach.	SU
		M-TR-1j: Second / Bryant Streets Bulbs and Optimization. At the intersection of Second and Bryant Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the east and west crosswalks to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the northbound / southbound Second Street approaches to the eastbound Bryant Street approach.	SU
		M-TR-1k: Second / Tehama Streets Restriping and Optimization. At the intersection of Second and Tehama Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound and westbound left turns (from Tehama Street) during the a.m. and p.m. peak hours.	SU
		M-TR-1l: Mid-Block Signalized Intersection Improvements. At the signalized intersections proposed in the public realm plan at Second / Natoma Streets; First / Minna Streets; First / Natoma Streets; Fremont / Tehama Streets; and Fremont Street / Transit Center Bus Plaza, the following improvements could improve traffic operations:	SU
		At Second / Natoma Streets, the Municipal Transportation Agency (MTA) could install bulb-outs on the north and south crosswalks to reduce pedestrian crossing distances and times, allowing more green time for through traffic along Second Street. The traffic signal could also be designed to give priority to transit vehicles. However, due to two-way traffic along Second Street and the close proximity of the proposed crossing to the Second / Howard Streets intersection, this measure may not be sufficient to reduce the proposed mid-block crossing's impacts to traffic and transit operations. In addition, while bulb-outs would reduce crossing distance, a sufficiently high volume of pedestrians heading to and from the Transit Center may warrant retaining longer pedestrian phases to ensure adequate crossing times and throughput, so as not to introduce substantial queuing or congestion at the crosswalk or surrounding sidewalk. Accordingly, the feasibility of this measure is uncertain, and this impact is considered **significant and unavoidable**.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-1 (cont.)		At First / Minna Streets and First / Natoma Streets, reducing impacts would require additional lane capacity on First Street, although that would result in increased pedestrian crossing distances that would require longer pedestrian signal phases. This would also preclude the public realm plan's proposed sidewalk widening on First Street adjacent to the Transit Center. Moreover, additional lanes would not alleviate downstream congestion on First Street leading to the Bay Bridge. Eliminating one or both of the mid-block crossings might result in congested sidewalks on First Street. In addition, traffic signals at these two locations may be necessary for freight and passenger loading-related traffic circulation to and from Minna and Natoma Streets, regardless of whether pedestrian crossings are provided. Accordingly, no feasible mitigation was identified and this impact is considered **significant and unavoidable.**	SU
		At Fremont / Natoma Streets and Fremont Street at the Transit Center Bus Plaza, the signal could be designed with two signal phases instead of three. One phase would be for northbound Fremont Street, and the second, for all five bus bays to exit the Bus Plaza, as well as pedestrians crossing Fremont Street at both Natoma Street and at the Bus Plaza. This would increase traffic capacity on Fremont Street and reduce the potential for queues on Fremont Street and the Bay Bridge. However, the Municipal Transportation Agency has determined that a two-phase signal would create operational and safety concerns for transit and pedestrians. Accordingly, no feasible mitigation was identified and this impact is considered **significant and unavoidable.**	SU
		M-TR-1m: Downtown Traffic Signal Study. As part of a Regional Traffic Signalization and Operations Program project, the Municipal Transportation Agency (MTA) could conduct a study of Downtown-area traffic signal systems, with the aim of recalibrating cycle lengths, offsets, and splits at Downtown-area intersections to optimize traffic flow and minimize unnecessary delays (without impacting other modes of travel).	SU
		Mitigation (indicated in parentheses) could reduce average vehicle delay at the following intersections, but not to a less-than-significant level because further mitigation would require increased lane capacity that would preclude one or more proposed sidewalk improvements under the draft Plan's public realm plan, and because further signal timing optimization would require coordination with other signals that could increase overall vehicle delay. Therefore, impacts at the following intersections would be **significant and unavoidable**: ▪ New Montgomery / Mission Streets (Optimize signal timing) ▪ Third / Howard Streets (Optimize signal timing) ▪ New Montgomery / Howard Streets (Optimize signal timing)	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-1 (cont.)		▪ Fremont / Howard Streets (Prohibit eastbound p.m. peak left turns and optimize signal) ▪ Main / Howard Streets (Prohibit eastbound p.m. peak left turns and optimize signal) ▪ Spear / Howard Streets (Add northbound and southbound left-turn pockets, prohibit eastbound p.m. peak left turns and optimize signal)	
		No mitigation is feasible to reduce impacts at the following intersections to a less-than-significant level because, while increased lane capacity and/or signal timing optimization and, in some cases, installation of corner pedestrian bulbs to allow for less green time for pedestrian crossing could improve level of service for one or more approaches, the applicable mitigation strategy would increase delays for transit vehicles on Market and Mission Streets and also cause increased pedestrian delays or, in some instances, precluding proposed sidewalk or transit improvements under the draft Plan's public realm plan. Therefore, impacts at the following intersections would be **significant and unavoidable**: ▪ Third / Kearny / Market / Geary Streets ▪ Montgomery / Market / New Montgomery Streets ▪ First / Market Streets ▪ Fremont / Market / Front Streets ▪ Beale / Market / Davis / Pine Streets ▪ Second / Mission Streets ▪ First / Mission Streets ▪ Fremont / Mission Streets ▪ Second / Howard Streets ▪ First / Howard Streets ▪ Beale / Howard Streets ▪ Hawthorne / Folsom Streets ▪ Second / Folsom Streets ▪ First / Folsom Streets ▪ Spear / Folsom Streets ▪ Fourth / Harrison Streets / I-80 WB On-Ramp ▪ First / Harrison Streets / I-80 EB On-Ramp	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-1 (cont.)		No mitigation is feasible to reduce impacts at the following intersection to a less-than-significant level because additional lane capacity is unavailable and/or signal timing optimization would not improve level of service to an acceptable level. Therefore, impacts at the following intersection would be **significant and unavoidable**: Essex / Harrison Streets / I-80EB On-Ramp.	SU
		No mitigation is required for the following intersections, which would experience significant impacts only in the absence of the public realm improvements that are part of the draft Plan: Spear / Mission Streets (without the public realm improvements, could be mitigated by changing signal phasing and optimizing signal timing).	
TR-2: Traffic growth related to the draft Plan, including the street changes, would result in a considerable contribution to congested operations at the Fourth/Harrison Streets and First/Harrison Streets freeway on-ramps, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.	SU	None available.	SU
TR-3: Transit ridership related to the draft Plan, including the street changes, would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result.	SU	**M-TR-3a: Installation and Operation of Transit-Only and Transit Queue-Jump Lanes.** To reduce or avoid the effects of traffic congestion on Muni service, at such time as the transit-vehicle delay results in the need to add additional vehicle(s) to one or more Muni lines, the Municipal Transportation Agency (MTA) could stripe a portion of the approach lane at applicable intersections to restrict traffic to buses only during the p.m. peak period, thereby allowing Muni vehicles to avoid traffic queues at certain critical intersections and minimizing transit delay. Each queue-jump lane would require the prohibition of parking during the p.m. peak period for the distance of the special lane. For the 41 Union, MTA could install a p.m. peak-hour transit-only lane along Beale Street approaching and leaving the intersection of Beale/Mission Street, for a distance of 150 to 200 feet. Five parking spaces on the west side of Beale Street north of Mission Street could be eliminated when the transit lane is in effect to allow for a right-turn pocket. MTA could also install a p.m. peak-hour queue-jump lane on the eastbound Howard Street approach to the intersection of Beale/Howard Streets, for a distance of 100 feet. If the foregoing were ineffective, MTA could consider re-routing the 41 Union to less-congested streets, if available, or implementing actions such as providing traffic signal priority to Muni buses.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-3 (cont.)		For the 11-Downtown Connector and 12 Folsom Pacific, MTA could install a p.m. peak-hour queue-jump lane on the southbound Second Street approach to the intersection to the intersection of Second/Folsom Streets, for a distance of approximately 150 feet. When the lane is in effect, five on-street parking spaces on the west side of Second Street north of Folsom Street could be eliminated, as well as a portion of the southbound bicycle lane approaching the intersection. If the foregoing were ineffective, MTA could consider re-routing the 11-Downtown Connector and 12 Folsom to less-congested streets, if available, or implementing actions such as providing traffic signal priority to Muni buses. The MTA could also evaluate the effectiveness and feasibility of installing an eastbound transit-only lane along Folsom Street between Second and Third Streets, which would minimize delays incurred at these intersections by transit vehicles. The study would create a monitoring program to determine the implementation extent and schedule, which may include conversion of one eastbound travel lane into a transit-only lane.	
		M-TR-3b: Exclusive Muni Use of Mission Street Boarding Islands. To reduce or avoid conflicts between Muni buses and regional transit service (Golden Gate Transit and SamTrans) using the relocated transit-only center lanes of Mission Street between First and Third Streets, MTA could reserve use of the boarding islands for Muni buses only and provide dedicated curbside bus stops for regional transit operators. Regional transit vehicles would still be allowed to use the transit-only center lanes between stops, but would change lanes to access the curbside bus stops. This configuration would be similar to the existing Muni stop configuration along Market Street, where two different stop patterns are provided, with each route assigned to only one stop pattern.	SU
		M-TR-3c: Transit Improvements on Plan Area Streets. To reduce or avoid the effects of traffic congestion on regional transit service operating on surface streets (primarily Golden Gate Transit and SamTrans), MTA, in coordination with applicable regional operators, could conduct study the effectiveness and feasibility of transit improvements along Mission Street, Howard Street, Folsom Street, First Street, and Fremont Street to reduce delays incurred by transit vehicles when passing through the Plan area. The study would examine a solutions including, but not limited to the following: ▪ Installation of transit-only lanes along Howard Street and Folsom Street, which could serve both Muni buses (e.g., 12 Folsom-Pacific) and Golden Gate Transit buses heading to / from Golden Gate's yard at Eighth and Harrison Streets.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-3 (cont.)		▪ Extension of a transit-only lane on Fremont Street south to Howard Street and installation of transit-actuated queue-jump phasing at the Fremont Street / Mission Street intersection to allow Golden Gate Transit buses to make use of the Fremont Street transit lane (currently only used by Muni vehicles); and ▪ Transit signal priority treatments along Mission, Howard, and Folsom Streets to extend major-street traffic phases or preempt side-street traffic phases to reduce signal delay incurred by SamTrans and Golden Gate Transit vehicles. Golden Gate Transit and SamTrans could consider rerouting their lines onto less-congested streets, if available, in order to improve travel times and reliability. A comprehensive evaluation would need to be conducted before determining candidate alternative streets, considering various operational and service issues such as the cost of any required capital investments, the availability of layover space, and proximity to ridership origins and destinations.	
		M-TR-3d: Increased Funding to Offset Transit Delays. Sponsors of development projects within the Plan area could be subject to a fair share fee that would allow for the purchase of additional transit vehicle(s) to mitigate the impacts on transit travel time. In the case of Muni operations, one additional vehicle would be required. For regional operators, the analysis also determined that on-street delays could require the deployment of additional buses on some Golden Gate Transit and SamTrans routes. Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan, and are projected to be adequate and sufficient to provide for the capital cost to purchase the additional vehicle and facility costs to store and maintain the vehicle.	SU
		M-TR-3e: Increased Funding of Regional Transit. Sponsors of development projects within the Plan area could be subject to one or more fair share fees to assist in service improvements, such as through the purchase of additional transit vehicles and vessels or contributions to operating costs, as necessary to mitigate Plan impacts. These fee(s) could be dedicated to Golden Gate Transit, North Bay ferry operators, AC Transit, BART, and/or additional North Bay and East Bay transit operators. Depending on how the fee(s) were allocated, Caltrain and SamTrans might also benefit, although lesser impacts were identified for these South Bay operators. Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan, and are projected to be adequate and sufficient to provide for the capital cost to purchase the additional vehicle and facility costs to store and maintain the vehicle.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-4: Pedestrian activity resulting from implementation of the draft Plan would cause the level of service at sidewalks, street corners, and crosswalks to deteriorate.	SU	**M-TR-4a: Widen Crosswalks.** To ensure satisfactory pedestrian level of service at affected crosswalks, the Municipal Transportation Agency, Sustainable Streets Division, could conduct periodic counts of pedestrian conditions (annually, for example) and could widen existing crosswalk widths, generally by 1 to 3 feet, at such times as pedestrian LOS is degraded to unacceptable levels.	SU
TR-5: Development of large projects pursuant to the draft Plan would create potentially hazardous conditions for pedestrians and otherwise interfere with pedestrian accessibility.	SU	**M-TR-5 Garage/Loading Dock Attendant.** If warranted by project-specific conditions, the project sponsor of a development project in the Plan area shall ensure that building management employs attendant(s) for the project's parking garage and/or loading dock, as applicable. The attendant would be stationed as determined by the project-specific analysis, typically at the project's driveway to direct vehicles entering and exiting the building and avoid any safety-related conflicts with pedestrians on the sidewalk during the a.m. and p.m. peak periods of traffic and pedestrian activity, with extended hours as dictated by traffic and pedestrian conditions and by activity in the project garage and loading dock. (See also Mitigation Measure M-TR-4b, above.) Each project shall also install audible and/or visible warning devices, or comparably effective warning devices as approved by the Planning Department and/or the Sustainable Streets Division of the Municipal Transportation Agency, to alert pedestrians of the outbound vehicles from the parking garage and/or loading dock, as applicable.	SU
TR-6: Implementation of the draft Plan would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.	SU	Implement Mitigation Measures M-TR-7 and M-TR-7b.	SU
TR-7: Implementation of the draft Plan would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, and pedestrians.	SU	**M-TR-7a: Loading Dock Management:** To ensure that off-street loading facilities are efficiently used and that trucks longer than can be safely accommodated are not permitted to use a building's loading dock, the project sponsor of a development project in the Plan area shall develop a plan for management of the building's loading dock and shall ensure that tenants in the building are informed of limitations and conditions on loading schedules and truck size. Such a management plan could include strategies such as the use of an attendant to direct and guide trucks (see Mitigation Measure M-TR-5), installing a "Full" sign at the garage/loading dock driveway, limiting activity during peak hours, installation of audible and/or visual warning devices, and other features. Additionally, as part of the project application process, the project sponsor shall consult with the Municipal Transportation Agency concerning the design of loading and parking facilities.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-7 (cont.)		Typically, a building property manager dictates the maximum size of trucks that can be accommodated by a building's loading dock, and when trucks may access the project site.	
		M-TR-7b: Augmentation of On-Street Loading Space Supply: To ensure the adequacy of the Plan area's supply of on-street spaces, the Municipal Transportation Agency (MTA) could convert existing on-street parking spaces within the Plan Area to commercial loading use. Candidate streets might include the north side of Mission Street between Second Street and First Street, both sides of Howard Street between Third Street and Fremont Street, and both sides of Second Street between Howard Street and Folsom Street. The MTA and Planning Department could also increase the supply of on-street loading "pockets" that would be created as part of the draft Plan's public realm improvements. Increasing the supply of on-street loading spaces would reduce the potential for disruption of traffic and transit circulation in the Plan Area as a result of loading activities. However, the feasibility of increasing the number of on-street loading spaces is unknown. Locations for additional loading pockets have not been identified, and the feasibility of adding spaces is uncertain, as any such spaces would reduce pedestrian circulation area on adjacent sidewalks. Locations adjacent to transit-only lanes would also not be ideal for loading spaces because they may introduce new conflicts between trucks and transit vehicles. Given these considerations, potential locations for additional on-street loading spaces within the Plan area are limited, and it is unlikely that a sufficient amount of spaces could be provided to completely offset the net loss in supply.	SU
TR-9: Plan area construction, including construction of individual projects and ongoing construction of the Transit Center, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.	SU	**M-TR-9: Construction Coordination.** To minimize potential disruptions to transit, traffic, and pedestrian and bicyclists, the project sponsor and/or construction contractor for any individual development project in the Plan area shall develop a Construction Management Plan that could include, but not necessarily be limited to, the following: ▪ Limit construction truck movements to the hours between 9:00 a.m. and 4:00 p.m. (or other times, if approved by the Municipal Transportation Agency) to minimize disruption of traffic, transit, and pedestrian flow on adjacent streets and sidewalks during the weekday a.m. and p.m. peak periods. ▪ Identify optimal truck routes to and from the site to minimize impacts to traffic, transit, pedestrians, and bicyclists; and, ▪ Encourage construction workers to use transit when commuting to and from the site, reducing the need for parking.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-9 (cont.)		The sponsor shall also coordinate with the Municipal Transportation Agency/Sustainable Streets Division, the Transbay Joint Powers Authority, and construction manager(s)/contractor(s) for the Transit Center project, and with Muni, AC Transit, Golden Gate Transit, and SamTrans, as applicable, to develop construction phasing and operations plans that would result in the least amount of disruption that is feasible to transit operations, pedestrian and bicycle activity, and vehicular traffic.	
F. Noise and Vibration			
NO-1: Implementation of the draft Plan, including the proposed Transit Tower, would not result in a substantial permanent increase in ambient noise or vibration levels, but Plan implementation could result in exposure of persons to noise levels in excess of standards in the *San Francisco General Plan* and could introduce new sensitive uses that would be affected by existing noise levels.	SU	**M-NO-1a: Noise Survey and Measurements for Residential Uses.** For new residential development located along streets with noise levels above 70 dBA Ldn, the Planning Department shall require the preparation of an analysis that includes, at a minimum, a site survey to identify potential noise-generating uses within two blocks of the project site, and including at least one 24-hour noise measurement (with average and maximum noise level readings taken so as to be able to accurately describe maximum levels reached during nighttime hours), prior to completion of the environmental review for each subsequent residential project in the Plan area. The analysis shall be completed by a person(s) qualified in acoustical analysis and shall demonstrate with reasonable certainty that Title 24 standards, where applicable, can be met, and that there are no particular circumstances about the proposed project site that appear to warrant heightened concern about noise levels in the vicinity. Should such concerns be present, the Department may require the completion of a detailed noise assessment by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that acceptable interior noise levels consistent with those in the Title 24 standards can be attained. **M-NO-1b: Noise Minimization for Residential Open Space.** To minimize effects on residential development in the Plan area, the Planning Department, through its building permit review process and in conjunction with the noise analysis set forth in Mitigation Measure M-NO-1a, shall require that open space required under the Planning Code for residential uses be protected, to the maximum feasible extent, from existing ambient noise levels that could prove annoying or disruptive to users of the open space. Implementation of this measure could involve, among other things, site design that uses the building itself to shield on-site open space from the greatest noise sources, construction of noise barriers between noise sources and open space, and appropriate use of both common and private open space in multi-family dwellings, and implementation would also be undertaken consistent with other principles of urban design.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
F. Noise and Vibration (cont.)			
NO-1 (cont.)		**M-NO-1c: Noise Minimization for Non-Residential Uses.** To reduce potential effects on new non-residential sensitive receptors such as child care centers, schools, libraries, and the like, for new development including such noise-sensitive uses, the Planning Department shall require, as part of its building permit review process, the preparation of an acoustical analysis by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that daytime interior noise levels of 50 dBA, based on the *General Plan* Environmental Protection Element, can be attained. **M-NO-1d: Mechanical Equipment Noise Standard.** The Planning Department shall require that, as part of required the noise survey and study for new residential uses (Mitigation Measure M-NO-1a), all reasonable efforts be made to identify the location of existing rooftop mechanical equipment, the predicted noise generated by that equipment, and the elevation at which the predicted noise level would be of potential concern for new residential uses, as well as the necessary noise insulation for the new residential uses, where applicable. **M-NO-1e: Interior Mechanical Equipment.** The Planning Department shall require, as part of subsequent project-specific review under CEQA, that effects of mechanical equipment noise on adjacent and nearby noise-sensitive uses be evaluated by a qualified acoustical consultant and that control of mechanical noise, as specified by the acoustical consultant, be incorporated into the final project design of new buildings to achieve the maximum feasible reduction of building equipment noise, consistent with *Building Code* and Noise Ordinance requirements and CEQA thresholds, such as through the use of fully noise-insulated enclosures around rooftop equipment and/or incorporation of mechanical equipment into intermediate building floor(s).	
NO-3: Construction activities in the Plan area could expose persons to temporary increases in vibration levels substantially in excess of ambient levels.	SU	Implement Mitigation Measure M-NO-2a, Noise Control Measures During Pile Driving. Implement Mitigation Measure M-CP-5a, Construction Best Practices for Historical Resources, and Mitigation Measure and M-CP-5b, Construction Monitoring Program for Historical Resources.	SU
C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts.	SU	Implement Mitigation Measure M-NO-2a, Noise Control Measures for Pile Driving, and Mitigation Measure M-NO-2b, General Construction Noise Control Measures. **M-C-NO: Cumulative Construction Noise Control Measures.** In addition to implementation of Mitigation Measure NO-2a and Mitigation Measure NO-2b (as applicable), prior to the time that construction of the proposed project is completed, the project sponsor of a development project in the Plan area shall	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
F. Noise and Vibration (cont.)			
C-NO (cont.)		cooperate with and participate in any City-sponsored construction noise control program for the Transit Center District Plan area or other City-sponsored areawide program developed to reduce potential effects of construction noise in the project vicinity. Elements of such a program could include a community liaison program to inform residents and building occupants of upcoming construction activities, staggering of construction schedules so that particularly noisy phases of work do not overlap at nearby project sites, and, potentially, noise and/or vibration monitoring during construction activities that are anticipated to be particularly disruptive.	
G. Air Quality			
AQ-2: The draft Plan would expose sensitive receptors to substantial concentrations of $PM_{2.5}$ and toxic air contaminants.	SU	**M-AQ-2: Implementation of Risk and Hazard Overlay Zone and Identification of Health Risk Reduction Policies.** To reduce the potential health risk resulting from exposure of new sensitive receptors to health risks from roadways, and stationary sources, and other non-permitted sources $PM_{2.5}$ and TACs, the Planning Department shall require analysis of potential site-specific health risks for all projects that would include sensitive receptors, based on criteria as established by the Planning Department, as such criteria may be amended from time to time. For purposes of this measure, sensitive receptors are considered to include dwelling units; child-care centers; schools (high school age and below); and inpatient health care facilities, including nursing or retirement homes and similar establishments. Parks and similar spaces are not considered sensitive receptors for purposes of this measure unless it is reasonably shown that a substantial number of persons are likely to spend three hours per day, on a daily basis, at such facilities. Development projects in the Plan area that would include sensitive receptors shall undergo, during the environmental review process and no later than the first project approval action, a screening-level health risk analysis, consistent with methodology approved by the Planning Department, to determine if health risks from pollutant concentrations would exceed BAAQMD thresholds or other applicable criteria as determined by the Environmental Review Officer. If one or more thresholds would be exceeded at the site of the subsequent project where sensitive receptors would be located, the project (or portion of the project containing sensitive receptors, in the case of a mixed-use project) shall be equipped with filtration systems with a Minimum Efficiency Reporting Value (MERV) rating of 13 or higher, as necessary to reduce the outdoor-to-indoor infiltration of air pollutants by 80 percent. The ventilation system shall be	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
G. Air Quality (cont.)			
AQ-2 (cont.)		designed by an engineer certified by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. The project sponsor shall present a plan to ensure ongoing maintenance of ventilation and filtration systems and shall ensure the disclosure to buyers and/or renters regarding the findings of the analysis and inform occupants as to proper use of any installed air filtration.	
AQ-3: The draft Plan would expose existing and future sensitive receptors to substantial levels of $PM_{2.5}$ and toxic air contaminants from new vehicles and equipment.	SU	**M-AQ-3: Siting of Uses that Emit DPM and Other TACs.** To minimize potential exposure of sensitive receptors to diesel particulate matter (DPM), for new development including warehousing and distribution centers, and for new development including commercial, industrial or other uses that would be expected to generate substantial levels of toxic air contaminants (TACs) as part of everyday operations, whether from stationary or mobile sources, the Planning Department shall require, during the environmental review process but no later than the first project approval action, the preparation of an analysis that includes, at a minimum, a site survey to identify residential or other sensitive uses within 1,000 feet of the project site, and an assessment of the health risk from potential stationary and mobile sources of TACs generated by the project. If risks to nearby receptors are found to exceed applicable significance thresholds, then emissions controls would be required prior to project approval to ensure that health risks would not be significant.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
G. Air Quality (cont.)			
AQ-4: Implementation of the draft Plan would result in construction-period emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial levels of construction dust.	SU	**M-AQ-4a Construction Vehicle Emissions Minimization:** To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications: ▪ All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. **M-AQ-4b Dust Control Plan:** To reduce construction-related dust emissions, the project sponsor of each development project in the Plan area and each public infrastructure project (such as improvements to the public realm) in the Plan area on a site of one-half acre or less but that would require more than 5,000 cubic yards of excavation lasting four weeks or longer shall incorporate into construction specifications the requirement for development and implementation of a site-specific Dust Control Plan as set forth in Article 22B of the *San Francisco Health Code*. The Dust Control Plan shall require the project sponsor to: submit a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and secure soils with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.	SU for criteria pollutants; LTS for construction dust
AQ-5: Implementation of the draft Plan could expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.	SU	**M-AQ-5 Construction Vehicle Emissions Evaluation and Minimization:** To reduce the potential health risk resulting from project construction activities, the project sponsor of each development project in the Plan area shall undertake a project-specific health risk analysis, or other appropriate analysis as determined by the Environmental Planning Division of the Planning Department, for diesel-powered and other applicable construction equipment, using the methodology recommended by the Planning Department. If the analysis determines that construction emissions would exceed applicable health risk significance	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
G. Air Quality (cont.)			
AQ-5 (cont.)		threshold(s) identified by the Planning Department, the project sponsor shall include in contract specifications a requirement that the contractor use the cleanest possible construction equipment and exercise best practices for limiting construction exhaust. Measures may include, but are not limited to the following: ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes; ▪ The project shall develop a Construction Emissions Minimization Plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to the maximum extent feasible. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards, the use of other late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available; ▪ All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use; ▪ All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and ▪ The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available. During the environmental review process, the project sponsor shall submit a Construction Emissions Minimization Plan demonstrating compliance with the requirements of this mitigation measure.	
C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts.	SU	Implement Mitigation Measures M-AQ-2, M-AQ-3, M-AQ-4a, M-AQ-4b, M-AQ-5, and M-AQ-7	SU
J. Shadow			
SH-1: The draft Plan would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	None available.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
J. Shadow (cont.)			
C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	None available.	SU

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources			
CP-1: Development projects in the Plan area could cause a substantial adverse change in the significance of archeological resources.	LSM	**M-CP-1: Subsequent Archeological Testing Program.** When a project is to be developed within the Transit Center District Plan Area, it will be subject to preliminary archeological review by the Planning Department archeologist. This in-house review will assess whether there are gaps in the necessary background information needed to make an informed archaeological sensitivity assessment. This assessment will be based upon the information presented in the Transit Center District Plan Archeological Research Design and Treatment Plan (Far Western Anthropological Research Group, Inc., *Archaeological Research Design and Treatment Plan for the Transit Center District Plan Area, San Francisco, California*, February 2010), as well as any more recent investigations that may be relevant. If data gaps are identified, then additional investigations, such as historic archival research or geoarchaeological coring, may be required to provide sufficiently detailed information to make an archaeological sensitivity assessment. If the project site is considered to be archaeologically sensitive and based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archeological consultant from the Planning Department ("Department") pool of qualified archaeological consultants as provided by the Department archaeologist. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-1 (cont.)		in accordance with this measure and with the requirements of the Transit Center District Plan archeological research design and treatment plan at the direction of the ERO. In instances of inconsistency between the requirement of the project archaeological research design and treatment plan and of this archaeological mitigation measure, the requirements of this archaeological mitigation measure shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sections 15064.5 (a) (c). *Archeological Testing Program*. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either: A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-1 (cont.)		*Archeological Monitoring Program.* If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological consultant shall prepare an archeological monitoring plan (AMP): ▪ The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context; ▪ Archeological monitoring shall conform to the requirements of the final AMP reviewed and approved by the ERO; ▪ The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; ▪ The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; ▪ The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; ▪ If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-1 (cont.)		reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO. Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO. *Archeological Data Recovery Program*. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: ▪ Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations. ▪ Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures. ▪ Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies. ▪ Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. ▪ Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. ▪ Final Report. Description of proposed report format and distribution of results.	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-1 (cont.)		▪ Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. *Human Remains and Associated or Unassociated Funerary Objects.* The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. *Final Archeological Resources Report.* The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-5. Construction activity in the Plan area could result in damage to historic architectural resources.	LSM	**M-CP-5a. Construction Best Practices for Historical Resources.** The project sponsor of a development project in the Plan area shall incorporate into construction specifications for the proposed project a requirement that the construction contractor(s) use all feasible means to avoid damage to adjacent and nearby historic buildings, including, but not necessarily limited to, staging of equipment and materials as far as possible from historic buildings to avoid direct impact damage; using techniques in demolition (of the parking lot), excavation, shoring, and construction that create the minimum feasible vibration; maintaining a buffer zone when possible between heavy equipment and historical resource(s) within 125 feet, as identified by the Planning Department; appropriately shoring excavation sidewalls to prevent movement of adjacent structures; design and installation of the new foundation to minimize uplift of adjacent soils; ensuring adequate drainage from adjacent sites; covering the roof of adjacent structures to avoid damage from falling objects; and ensuring appropriate security to minimize risks of vandalism and fire. **M-CP-5b. Construction Monitoring Program for Historical Resources.** The project sponsor shall undertake a monitoring program to minimize damage to adjacent historic buildings and to ensure that any such damage is documented and repaired. The monitoring program would include the following components. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a historic architect or qualified historic preservation professional to undertake a preconstruction survey of historical resource(s) identified by the Planning Department within 125 feet of planned construction to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource(s), the consultant shall also establish a maximum vibration level that shall not be exceeded at each building, based on existing condition, character-defining features, soils conditions, and anticipated construction practices (a common standard is 0.2 inches per second, peak particle velocity). To ensure that vibration levels do not exceed the established standard, the project sponsor shall monitor vibration levels at each structure and shall prohibit vibratory construction activities that generate vibration levels in excess of the standard. Should vibration levels be observed in excess of the standard, construction shall be halted and alternative techniques put in practice, to the extent feasible. The consultant shall conduct regular periodic inspections of each building during ground-disturbing activity on the project site. Should damage to either building occur, the building(s) shall be remediated to its preconstruction condition at the conclusion of ground-disturbing activity on the site.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
F. Noise and Vibration			
NO-2: Construction activities in the Plan area could expose persons to temporary increases in noise levels substantially in excess of ambient levels.	LSM	**M-NO-2a: Noise Control Measures During Pile Driving.** For individual projects that require pile driving, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. These attenuation measures shall include as many of the following control strategies, and any other effective strategies, as feasible: ▪ The project sponsor of a development project in the Plan area shall require the construction contractor to erect temporary plywood noise barriers along the boundaries of the project site to shield potential sensitive receptors and reduce noise levels; ▪ The project sponsor of a development project in the Plan area shall require the construction contractor to implement "quiet" pile-driving technology (such as pre-drilling of piles, sonic pile drivers, and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; ▪ The project sponsor of a development project in the Plan area shall require the construction contractor to monitor the effectiveness of noise attenuation measures by taking noise measurements; and ▪ The project sponsor of a development project in the Plan area shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses. **M-NO-2b:General Construction Noise Control Measures.** To ensure that project noise from construction activities is minimized to the maximum extent feasible, the project sponsor of a development project in the Plan area shall undertake the following: ▪ The project sponsor of a development project in the Plan area shall require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible). ▪ The project sponsor of a development project in the Plan area shall require the general contractor to locate stationary noise sources (such as compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as five dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
F. Noise and Vibration (cont.)			
NO-2 (cont.)		▪ The project sponsor of a development project in the Plan area shall require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA. ▪ The project sponsor of a development project in the Plan area shall include noise control requirements in specifications provided to construction contractors. Such requirements could include, but not be limited to, performing all work in a manner that minimizes noise to the extent feasible; use of equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants, as feasible; and selecting haul routes that avoid residential buildings inasmuch as such routes are otherwise feasible. ▪ Prior to the issuance of each building permit, along with the submission of construction documents, the project sponsor of a development project in the Plan area shall submit to the Planning Department and Department of Building Inspection (DBI) a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include (1) a procedure and phone numbers for notifying DBI, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted on-site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction; (3) designation of an on-site construction complaint and enforcement manager for the project; and (4) notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating noise levels of 90 dBA or greater) about the estimated duration of the activity.	
I. Wind			
WI-2: Implementation of the draft Plan would not cause large increases in pedestrian wind speeds or wind speeds in publicly accessible open spaces over a substantial portion of the Plan area.	LSM	**M-WI-2: Tower Design to Minimize Pedestrian Wind Speeds:** As part of the design development for buildings on Parcel F and at the 524 Howard Street, 50 First Street, 181 Fremont Street and Golden Gate University sites, the project sponsor(s) shall consider the potential effect of these buildings on pedestrian-level winds and on winds in the City Park atop the Transit Center. If wind-tunnel testing identifies adverse impacts, the project sponsor(s) shall conduct additional	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
I. Wind (cont.)			
WI-2 (cont.)		mitigation testing to resolve impacts to the maximum degree possible and to the satisfaction of Planning Department staff. Design features could include, but not be limited to, setting a tower atop a podium, which can interfere with "downwash" of winds from higher elevations toward the ground; the use of setbacks on tower facades, particularly those facades facing into prevailing winds, which can have similar results; using chamfered and/or rounded corners to minimize the acceleration of upper-level winds as they round corners; façade articulation; and avoiding the placement of large, unbroken facades into prevailing winds.	
C-WI: Implementation of the draft Plan and the proposed Transit Tower, along with cumulative development, would neither cause large increases in ground-level wind speeds over a substantial portion of the Plan area, nor result in a new exceedance of the wind hazard criterion.	LSM	Implement Mitigation Measure M-WI-2.	LTS
N. Biological Resources			
BI-1: Development under the draft Plan has the potential to adversely impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LSM	**M-BI-1a: Pre-Construction Bird Surveys.** Conditions of approval for building permits issued for construction within the Plan area shall include a requirement for pre-construction breeding bird surveys when trees or vegetation would be removed or buildings demolished as part of an individual project. Pre-construction nesting bird surveys shall be conducted by a qualified biologist between February 1st and August 15th if vegetation (trees or shrubs) removal or building demolition is scheduled to take place during that period. If special-status bird species are found to be nesting in or near any work area or, for compliance with federal and state law concerning migratory birds, if birds protected under the federal Migratory Bird Treaty Act or the *California Fish and Game Code* are found to be nesting in or near any work area, an appropriate no-work buffer zone (e.g., 100 feet for songbirds) shall be designated by the biologist. Depending on the species involved, input from the California Department of Fish and Game (CDFG) and/or the U.S. Fish and Wildlife Service (USFWS) Division of Migratory Bird Management may be warranted. As recommended by the biologist, no activities shall be conducted within the no-work buffer zone that could disrupt bird breeding. Outside of the breeding season (August 16 – January 31), or after young birds have fledged, as determined by the biologist, work activities may proceed. Birds that establish nests during the construction period are considered habituated to such activity and no buffer shall be required, except as needed to avoid direct destruction of the nest, which would still be prohibited.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
N. Biological Resources			
BI-1 (cont.)		**M-BI-1b: Pre-Construction Bat Surveys.** Conditions of approval for building permits issued for construction within the Plan area shall include a requirement for pre-construction special-status bat surveys when large trees are to be removed or underutilized or vacant buildings are to be demolished. If active day or night roosts are found, the bat biologist shall take actions to make such roosts unsuitable habitat prior to tree removal or building demolition. A no disturbance buffer shall be created around active bat roosts being used for maternity or hibernation purposes at a distance to be determined in consultation with CDFG. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would necessary.	
Q. Hazards and Hazardous Materials			
HZ-2: Excavation in the Transit Center District Plan area would require the handling of potentially contaminated soil and groundwater, potentially exposing workers and the public to hazardous materials, or resulting in a release to the environment during construction.	LSM	**M-HZ-2a: Site Assessment and Corrective Action for Sites Located Bayward of Historic Tide Line.** For any project located bayward of the historic high tide line the project sponsor shall initiate compliance with, and ensure that the project fully complies with, Article 22A of the San Francisco Health Code. In accordance with this article, a site history report shall be prepared, and if appropriate, a soil investigation, soil analysis report, site mitigation plan, and certification report shall also be prepared. If the presence of hazardous materials is indicated, a site health and safety plan shall also be required. The soil analysis report is submitted to DPH. If required on the basis of the soil analysis report, a site mitigation plan shall be prepared to 1) assess potential environmental and health and safety risks; 2) recommend cleanup levels and mitigation measures, if any are necessary, that would be protective of workers and visitors to the property; 3) recommend measures to mitigate the risks identified; 4) identify appropriate waste disposal and handling requirements; and 5) present criteria for on-site reuse of soil. The recommended measures would be completed during construction. Upon completion, a certification report shall be prepared documenting that all mitigation measures recommended in the site mitigation report have been completed and that completion of the mitigation measures has been verified through follow-up soil sampling and analysis, if required. If the approved site mitigation plan includes leaving hazardous materials in soil or the groundwater with containment measures such as landscaping or a cap to prevent exposure to hazardous materials, the project sponsor shall ensure the preparation of a risk management plan, health and safety plan, and possibly a cap maintenance plan in accordance with DPH requirements. These plans shall specify how unsafe exposure to hazardous materials left in place would be prevented, as well as safe procedures for handling hazardous materials should site disturbance be required. DPH could require a deed notice, for example,	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
Q. Hazards and Hazardous Materials (cont.)			
HZ-2 (cont.)		prohibiting or limiting certain future land uses, and the requirements of these plans and the deed restriction would transfer to the new property owners in the event that the property was sold.	
		M-HZ-2b: Site Assessment and Corrective Action for Projects Landward of the Historic High Tide Line. For any project that is not located bayward of the historic high tide line, the project sponsor shall ensure that a site-specific Phase I environmental site assessment is prepared prior to development. The site assessment shall include visual inspection of the property; review of historical documents; and review of environmental databases to assess the potential for contamination from sources such as underground storage tanks, current and historical site operations, and migration from off-site sources. The project sponsor shall ensure that the Phase I assessment and any related documentation is provided to the Planning Department's Environmental Planning (EP) division and, if required by EP, to DPH for review and consideration of potential corrective action. Where the Phase I site assessment indicates evidence of site contamination, additional data shall be gathered during a Phase II investigation, including sampling and laboratory analysis of the soil and groundwater for the suspected chemicals to identify the nature and extent of contamination. If the level(s) of chemical(s) would create an unacceptable risk to human health or the environment, appropriate cleanup levels for each chemical, based on current and planned land use, shall be determined in accordance with accepted procedures adopted by the lead regulatory agency providing oversight (e.g., the DTSC, the RWQCB, or DPH). At sites where there are ecological receptors such as sensitive plant or animal species that could be exposed, cleanup levels shall be determined according to the accepted ecological risk assessment methodology of the lead agency, and shall be protective of ecological receptors known to be present at the site. If agreed-upon cleanup levels were exceeded, a remedial action plan or similar plan for remediation shall be prepared and submitted review and approval by the appropriate regulatory agency. The plan shall include proposed methods to remove or treat identified chemicals to the approved cleanup levels or containment measures to prevent exposure to chemicals left in place at concentrations greater than cleanup levels. Upon determination that a site remediation has been successfully completed, the regulatory agency shall issue a closure letter to the responsible party. For sites that are cleaned to levels that do not allow unrestricted land use, or where containment measures were used to prevent exposure to hazardous materials,	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
Q. Hazards and Hazardous Materials (cont.)			
HZ-2 (cont.)		the DTSC may require a limitation on the future use of the property. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners. A risk management plan, health and safety plan, and possibly a cap maintenance plan could be required. These plans would specify procedures for preventing unsafe exposure to hazardous materials left in place and safe procedures for handling hazardous materials should site disturbance be required. The requirements of these plans and the land use restriction shall transfer to the new property owners in the event that the property is sold.	
		M-HZ-2c: Site Assessment and Corrective Action for All Sites. The project sponsor shall characterize the site, including subsurface features such as utility corridors, and identify whether volatile chemicals are detected at or above risk screening levels in the subsurface. If so, a screening evaluation shall be conducted in accordance with guidance developed by the DTSC to estimate worst case risks to building occupants from vapor intrusion using site specific data and conservative assumptions specified in the guidance. If an unacceptable risk were indicated by this conservative analysis, then additional site data shall be collected and a site specific vapor intrusion evaluation, including fate and transport modeling, shall be required to more accurately evaluate site risks. Should the site specific evaluation identify substantial risks, then additional measures shall be required to reduce risks to acceptable levels. These measures could include remediation of site soil and/or groundwater to remove vapor sources, or, should this be infeasible, use of engineering controls such as a passive or active vent system and a membrane system to control vapor intrusion. Where engineering controls are used, a deed restriction shall be required, and shall include a description of the potential cause of vapors, a prohibition against construction without removal or treatment of contamination to approved risk-based levels, monitoring of the engineering controls to prevent vapor intrusion until risk-based cleanup levels have been met, and notification requirements to utility workers or contractors who may have contact with contaminated soil and groundwater while installing utilities or undertaking construction activities. In addition, if remediation is necessary, the project sponsor shall implement long-term monitoring at the site as needed. The frequency of sampling and the duration of monitoring will depend upon site-specific conditions and the degree of volatile chemical contamination. The screening level and site-specific evaluations shall be conducted under the oversight of DPH and methods for compliance shall be specified in the site mitigation plan prepared in accordance with this measure, and subject to review and approval by the DPH. The deed restriction, if required, shall be recorded at the San Francisco Office of the Assessor-Recorder after approval by the DPH and DTSC.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
Q. Hazards and Hazardous Materials (cont.)			
HZ-3: Demolition and renovation of buildings in the Transit Center District Plan area could potentially expose workers and the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, DEHP, and mercury, or result in a release of these materials to the environment during construction.	LSM	**M-HZ-3: Hazardous Building Materials Abatement.** The project sponsor of any development project in the Plan area shall ensure that any building planned for demolition or renovation is surveyed for hazardous building materials including PCB-containing electrical equipment, fluorescent light ballasts containing PCBs or DEHP, and fluorescent light tubes containing mercury vapors. These materials shall be removed and properly disposed of prior to the start of demolition or renovation. Old light ballasts that are proposed to be removed during renovation shall be evaluated for the presence of PCBs and in the case where the presence of PCBs in the light ballast cannot be verified, they shall be assumed to contain PCBs, and handled and disposed of as such, according to applicable laws and regulations. Any other hazardous building materials identified either before or during demolition or renovation shall be abated according to federal, state, and local laws and regulations.	LTS

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
A. Land Use			
LU-1: Implementation of the draft Plan would not physically divide an existing community.	LTS	None required.	LTS
LU-2: The draft Plan would not substantially alter the existing character of the Plan area.	LTS	None required.	LTS
C-LU: The draft Plan, including the Transit Tower, along with other cumulative development, would neither divide an existing community nor substantially alter the existing character of the Plan area.	LTS	None required.	LTS
B. Aesthetics			
AE-1: The draft Plan would alter the height and bulk limits within the Plan area, allowing for a number of high-rise buildings to be constructed over time. This would alter the visual character of the Plan area but would not adversely affect scenic resources.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
B. Aesthetics (cont.)			
AE-2: The draft Plan would alter the public views of the Plan area from short-range and mid-range vantage points as well as alter views into the surrounding neighborhoods from within the Plan area.	LTS	None required.	LTS
AE-4: The draft Plan would result in increased light and glare in the Plan area.	LTS	None required.	LTS
C. Population and Housing, Business Activity and Employment			
PH-1: The new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would induce growth in population and employment, but the associated physical impact would not be substantial.	LTS	None required.	LTS
PH-2: The new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would not displace a large number of people, involving either housing or employment.	LTS	None required.	LTS
PH-3: Neither the draft Plan nor the proposed Transit Tower would create substantial demand for additional housing beyond projected increases in housing supply in San Francisco, or substantially reduce the housing supply.	LTS	None required.	LTS
C-PH: The draft Plan and proposed Transit Tower would not contribute considerably to a substantial growth in population or employment, to displacement of a large number of people, or to substantial demand for additional housing in San Francisco, nor would they reduce the housing supply.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources			
CP-4: Changes to the height and bulk limits in the Plan area could result in indirect impacts to historic architectural resources.	LTS	None required.	LTS
E. Transportation			
TR-8: Implementation of the draft Plan would not result in inadequate emergency access.	LTS	None required.	LTS
G. Air Quality			
AQ-1: The draft Plan would not conflict with or obstruct implementation of the *2010 Clean Air Plan* or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.	LTS	None required.	LTS
H. Greenhouse Gas Emissions			
GG-1: Implementation of the proposed Plan would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	None required.	LTS
K. Recreation and Public Space			
RE-1: The implementation of the draft Plan would result in an increased use of existing neighborhood parks and recreational facilities, but not to a degree that would lead to or accelerate their physical deterioration or require construction of new facilities.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
L. Utilities and Service Systems			
UT-1: The draft Plan and Transit Tower would not require or result in the construction or substantial new water treatment facilities, and SFPUC would have sufficient water supply available from existing entitlements.	LTS	None required.	LTS
UT-2: The draft Plan and Transit Tower would increase sanitary wastewater flows, but it would not require or result in the construction or substantial new wastewater treatment or stormwater facilities, or exceed the wastewater treatment requirements of the Regional Water Quality Control Board.	LTS	None required.	LTS
UT-3: The draft Plan and Transit Tower would increase demand for electricity and natural gas, but not to an extent that would result in a significant impact.	LTS	None required.	LTS
UT-4: The draft Plan and Transit Tower would be served by a landfill with sufficient permitted capacity to accommodate solid waste generated by projects constructed pursuant to the plan. Individual building owners and tenants would comply with federal, state, and local statutes and regulations related to solid waste.	LTS	None required.	LTS
C-UT: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of utilities and service systems.	LTS	None required.	LTS
M. Public Services			
PS-1: The draft Plan and Transit Tower would not result in the need for new or physically altered police protection facilities.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
M. Public Services (cont.)			
PS-2: The draft Plan and Transit Tower would not result in the need for new or physically altered fire protection facilities, but may delay emergency medical response.	LTS	None required.	LTS
PS-3: The draft Plan and Transit Tower would not result in the need for new or physically altered school facilities.	LTS	None required.	LTS
C-PS: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of public services.	LTS	None required.	LTS
N. Biological Resources			
BI-2: Implementation of the draft Plan could interfere substantially with the movement of native resident wildlife species and with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LTS	**I-BI-2: Night Lighting Minimization.** In compliance with the voluntary San Francisco Lights Out Program, the Planning Department could encourage buildings developed pursuant to the draft Plan to implement bird-safe building operations to prevent and minimize bird strike impacts, including but not limited to the following measures: ▪ Reduce building lighting from exterior sources by: – Minimizing amount and visual impact of perimeter lighting and façade up-lighting and avoid up-lighting of rooftop antennae and other tall equipment, as well as of any decorative features; – Installing motion-sensor lighting; – Utilizing minimum wattage fixtures to achieve required lighting levels. ▪ Reduce building lighting from interior sources by: – Dimming lights in lobbies, perimeter circulation areas, and atria; – Turning off all unnecessary lighting by 11:00 p.m. through sunrise, especially during peak migration periods (mid-March to early June and late August through late October); – Utilizing automatic controls (motion sensors, photo-sensors, etc.) to shut off lights in the evening when no one is present;	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
N. Biological Resources (cont.)			
BI-2 (cont.)		- Encouraging the use of localized task lighting to reduce the need for more extensive overhead lighting; - Scheduling nightly maintenance to conclude by 11:00 p.m.; - Educating building users about the dangers of night lighting to birds.	
C-BI: Implementation of the Transit Center District Plan and the Transit Tower project would not make a considerable contribution to adverse effects on biological resources.	LTS	None required.	LTS
O. Geology, Soils, and Seismicity			
GE-1: The proposed Transit Center District Plan would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides.	LTS	None required.	LTS
GE-2: The proposed Transit Center District Plan would not result in substantial erosion or loss of top soil.	LTS	None required.	LTS
GE-3: Development sites within the proposed Transit Center District Plan area would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project.	LTS	None required.	LTS
GE-4: The proposed Transit Center District Plan would not be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.	LTS	None required.	LTS
GE-8: The draft Plan would not result in development located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
O. Geology, Soils, and Seismicity (cont.)			
C-GE: The proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to geology and soils.	LTS	None required.	LTS
P. Hydrology and Water Quality			
HY-1: The proposed Transit Center District Plan would not violate water quality standards or otherwise substantially degrade water quality.	LTS	None required.	LTS
HY-2: The proposed Transit Center District Plan would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	LTS	None required.	LTS
HY-3: The proposed Transit Center District Plan would implement stormwater control measures that would reduce the quantity and rate of stormwater runoff to the combined sewer system, decreasing the potential for erosion or flooding.	LTS	None required.	LTS
HY-4: The proposed Transit Center District Plan would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LTS	None required.	LTS
HY-5: The proposed Transit Center District Plan would not expose people, housing, or structures, to substantial risk of loss due to flooding.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
P. Hydrology and Water Quality (cont.)			
HY-6: The proposed Transit Center District Plan would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.	LTS	None required.	LTS
C-HY: The proposed Transit Center District Plan and Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to hydrology and water quality.	LTS	None required.	LTS
Q. Hazards and Hazardous Materials			
HZ-1: Implementation of the Transit Center District Plan would not create a significant hazard through routine transport, use, or disposal of hazardous materials.	LTS	None required.	LTS
HZ-4: Implementation of the Transit Center District Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	None required.	LTS
HZ-5: Implementation of the Transit Center District Plan would not expose people or structures to a significant risk of loss, injury or death involving fires.	LTS	None required.	LTS
C-HZ: Implementation of the Transit Center District Plan and construction of the proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to hazards and hazardous materials.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-1 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT CENTER DISTRICT PLAN

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
R. Mineral and Energy Resources			
ME-1: Neither the Transit Center District Plan nor the development of the Transit Tower would encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.	LTS	None required.	LTS
S. Agricultural and Forest Resources			
AG-1: Neither the Transit Center District Plan nor the development of the Transit Tower would convert farmland to non-agricultural use or conflict with existing agricultural zoning or a Williamson Act contract, conflict with zoning for forest land, result in the loss of forest land to non-forest use, or involve any other changes that would convert farmland to non-agricultural use or convert forest land into non-forest use. (No Impact)	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources			
C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources.	SU	Implement Mitigation Measures M-CP-3a, HABS/HAER Documentation, and M-CP-3b, Public Interpretive Displays, M-CP-3c, Relocation of Historical Resources, and M-CP-3d, Salvage of Historical Resources.	SU
E. Transportation			
TR-10: Traffic generated by the proposed Transit Tower would incrementally increase average vehicle delay, but would not degrade level of service at local intersections.	SU	No mitigation is feasible to reduce impacts to a less-than-significant level at any of the four intersections that would be adversely affected by the proposed project. At First and Mission Streets, the Municipal Transportation Agency (MTA) could potentially optimize signal timing, which might reduce impacts to LOS E (and better than under existing conditions). However, this measure would require evaluation by the MTA Agency with respect to signal progression and pedestrian timing requirements. Therefore, the feasibility of the mitigation measure is uncertain and the impact would be significant and unavoidable. At First and Howard Streets, signal optimization would not improve conditions to better than LOS F. At Fremont and Howard Streets, the MTA Municipal Transportation Agency could potentially stripe an additional westbound through lane along Howard Street by reducing the number of eastbound travel lanes from two to one. However, this measure would require detailed evaluation by the MTA Agency with respect to intersection geometry and other factors. Therefore, the feasibility of the mitigation measure is uncertain and the impact would be significant and unavoidable. At First and Folsom Streets, the MTA Municipal Transportation Agency could potentially stripe an exclusive southbound left-turn pocket at the intersection by removing approximately four on-street parking spaces on the east side of First Street, and convert the current shared through-left lane into a through lane. However, this measure would require detailed evaluation by the MTA Agency with respect to intersection geometry and other factors.	SU
TR-12: The proposed Transit Tower would not result in substantial overcrowding on public sidewalks, but would create potentially hazardous conditions for pedestrians or otherwise interfere with pedestrian accessibility to the site and adjoining areas.	SU	**M-TR-12: Widen North Crosswalk at Fremont / Mission Streets:** To ensure adequate pedestrian level of service under Existing plus Project and Cumulative Conditions, the Municipal Transportation Agency could widen the north crosswalk at Fremont and Mission Street by approximately 5 feet.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-14: The proposed project would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and could create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles and pedestrians.	SU	**M-TR-14a: Loading Dock Management.** To ensure adequate off-street loading capacity is provided, the project sponsor shall implement active management of the Transit Tower loading dock, including, but not necessarily limited to, the following: ▪ Establish a Loading Demand Management Plan. All loading activities would be coordinated through an on-site manager, to ensure that loading docks are available when scheduled trucks arrive. Unscheduled deliveries (which would have to park on the street, likely illegally) would be prohibited access to the building freight elevators; ▪ During periods when the building's loading dock is fully utilized, the coordinator would direct trucks to return when there is available capacity at the loading dock. Alternatively, a sign could be provided at or near the driveway to the alert truck drivers that the dock is full; and, ▪ Educate the building's office and retail tenants on the capacity of the loading dock and the loading coordinator's role, and encourage off-peak deliveries or use of smaller van-type vehicles that could be accommodated in standard parking spaces within the building garage.	SU
		M-TR-14b: Garage/Loading Dock Driveway Operations. To ensure that operation of the driveway serving the project's off-street parking garage and off-street loading dock does not result in queues of vehicles that could adversely affect traffic, transit, pedestrians, and bicycles on First Street, the project sponsor shall undertake measures including, but not necessarily limited to, the following: ▪ Redesign the internal layout of the loading dock to allow for easier entrance / exit maneuvers for all provided loading spaces (e.g., limited need for additional reversing movements). This would be evaluated using a truck-turning template assessment to ensure that vehicles of all sizes could adequately access each space; ▪ Restrict the use of the loading dock to trucks 35 feet in length or shorter; ▪ Install a "GARAGE FULL" sign at the garage driveway to alert drivers that the on-site garage is at capacity; ▪ Between the hours of 6:00 a.m. to 10:00 p.m., station a parking garage attendant at the driveway on First Street to direct vehicles entering and exiting the garage to avoid any safety issues with pedestrians in the sidewalk, prevent delays or disruption to traffic and transit operations along First Street, and minimize conflicts between vehicles entering the garage and vehicles exiting the garage;	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-14 (cont.)		▪ Install visible warning devices at the driveway opening to alert pedestrians of approaching vehicles; ▪ Limit hours of operation of the loading dock to avoid peak pedestrian and traffic times. No trucks would be permitted to enter or exit the loading dock between the hours of 7:00 a.m. to 9:00 a.m., 12:00 p.m. to 1:00 p.m., and 4:00 p.m. to 6:00 p.m. on weekdays; ▪ Redesign the garage driveway with the inbound direction (entering the garage) on the north side of the driveway and the outbound direction (exiting the garage) on the south side of the driveway, which would eliminate conflicts between vehicles entering and exiting the garage; ▪ Signalize the driveway intersection at First Street, so that the driveway would function as the east leg of the First Street / Minna Street signalized intersection. Vehicles exiting the driveway would receive a solid red signal during the green signal for southbound First Street. Signage and striping within the driveway would direct exiting vehicles to stop and wait within the driveway during the red signal phase and not block the sidewalk, and indicate that left turns on red exiting the driveway would be prohibited. When southbound First Street has a red signal (and eastbound Minna Street has a green signal), vehicles exiting the driveway would have a flashing red signal, indicating that they are permitted to exit but must yield to pedestrians on the First Street sidewalk (similar to a typical driveway) as well as pedestrians crossing First Street at Minna Street (similar to a typical signalized intersection). These measures would provide exiting vehicles with a designated phase for egress movements, separate from the First Street phase, which would ensure that they do not block the sidewalk while exiting. Vehicles entering the driveway would proceed along with southbound First Street traffic and would also have to yield to pedestrians on the First Street sidewalk (like at a typical driveway), and left turns on red into the driveway would be prohibited, as indicated by signage. Pedestrians movements on the First Street sidewalk would not be signalized, and vehicles entering and exiting the driveway would have to yield to these pedestrians at all times (similar to a typical driveway); ▪ Ensure that vehicular queues do not stretch back to the First Street sidewalk or travel lane at any time; and ▪ As part of the Planning Department project approval process (e.g., Section 309 of the *Planning Code*), the Transit Tower project sponsor shall consult with MTA on the design of the parking garage and access to ensure that it is functional and well-integrated with street operations across all modes.	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-16: Project construction, along with construction of the Transit Center and other nearby projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.	SU	**M-TR-16: Construction Coordination.** To minimize potential disruptions to transit, traffic, and pedestrian and bicyclists, the project sponsor and/or construction contractor shall develop a Construction Management Plan that could include, but not necessarily be limited to, the following: ▪ Limit construction truck movements to the hours between 9:00 a.m. and 4:00 p.m. (or other times, if approved by the Municipal Transportation Agency) to minimize disruption of traffic, transit, and pedestrian flow on adjacent streets and sidewalks during the weekday a.m. and p.m. peak periods. ▪ Identify optimal truck routes to and from the site to minimize impacts to traffic, transit, pedestrians, and bicyclists; and, ▪ Encourage construction workers to use transit when commuting to and from the site, reducing the need for parking. The project sponsor shall also coordinate with the Municipal Transportation Agency/Sustainable Streets Division, the Transbay Joint Powers Authority, and construction manager(s)/contractor(s) for the Transit Center project, and with Muni, AC Transit, Golden Gate Transit, and SamTrans, as applicable, to develop construction phasing and operations plans that will result in the least amount of disruption that is feasible to transit operations, pedestrian and bicycle activity, and vehicular traffic.	SU
F. Noise and Vibration			
C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts.	SU	Implement Mitigation Measure M-NO-2a, Noise Control Measures for Pile Driving, and Mitigation Measure M-NO-2b, General Construction Noise Control Measures. **M-C-NO: Cumulative Construction Noise Control Measures.** In addition to implementation of Mitigation Measure NO-2a and Mitigation Measure NO-2b (as applicable), prior to the time that construction of the proposed project is completed, the project sponsor of a development project in the Plan area shall cooperate with and participate in any City-sponsored construction noise control program for the Transit Center District Plan area or other City-sponsored areawide program developed to reduce potential effects of construction noise in the project vicinity. Elements of such a program could include a community liaison program to inform residents and building occupants of upcoming construction activities, staggering of construction schedules so that particularly noisy phases of work do not overlap at nearby project sites, and, potentially, noise and/or vibration monitoring during construction activities that are anticipated to be particularly disruptive.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
G. Air Quality			
AQ-7: Construction of the Transit Tower would expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.	SU	**M-AQ-7 Construction Vehicle Emissions Minimization:** To reduce the potential health risk resulting from project construction activities, the project sponsor shall include in contract specifications a requirement for the following BAAQMD-recommended measures: ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes; ▪ The project shall develop a Construction Emissions Minimization Plan demonstrating that emissions from the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to a less-than-significant level, if feasible. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards, the use of other late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available; ▪ All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use; ▪ All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and ▪ The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available. All diesel generators used for project construction shall meet Tier 4 emissions standards. For the purposes of this mitigation measure, "feasibility" refers to the availability of newer equipment in the contractor's or a subcontractor's fleet that meets these standards, or the availability of older equipment in the contractor's or a subcontractor's fleet that can be feasibly retrofitted. It should be noted that for specialty equipment types (e.g. drill rigs, shoring rigs and concrete pumps) it may not be feasible for construction contractors to modify their current, older equipment to	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant Unavoidable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
G. Air Quality (cont.)			
AQ-7 (cont.)		accommodate the particulate filters, or for them to provide newer models with these filters pre-installed. Therefore, this mitigation measure may be infeasible. Should it be determined by the construction contractor or its subcontractor(s) that compliance with the emissions control requirements of this mitigation measure is infeasible for any one of the above listed construction equipment, the construction contractor must demonstrate an alternative method of compliance that achieves an equivalent reduction in the project's fleet-wide DPM and other TAC emissions. If alternative means of compliance with the emissions exhaust requirements are further determined to be infeasible, the construction contractor must document, to the satisfaction of the Environmental Review Officer, that the contractor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.	
C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts.	SU	Implement Mitigation Measures M-AQ-2, M-AQ-3, M-AQ-4a, M-AQ-4b, M-AQ-5, and M-AQ-7.	SU
J. Shadow			
SH-2: The proposed Transit Tower would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	None available.	SU
C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	None available.	SU

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources			
CP-2: Development of the proposed Transit Tower could cause a substantial adverse change in the significance of archeological resources.	LSM	**M-CP-2: Archeological Testing Program Specific to Transit Tower.** Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried historical resources. Transit Center District Plan Archeological Research Design and Treatment Plan (Far Western Anthropological Research Group, Inc., *Archaeological Research Design and Treatment Plan for the Transit Center District Plan Area, San Francisco, California*, February 2010) included a sensitivity assessment (based on historic archival investigations and geoarchaeological coring) of Transit Tower parcel and parcel-specific archaeological treatment plan. No formally recorded archaeological sites currently are documented on this parcel, and the parcel is considered moderately sensitive for historic-era resources and as having a low sensitivity for prehistoric resources. The Treatment Plan laid out an approach to mitigation efforts at the Transit Tower site that primarily focus on historic-era resources, with much more limited attention given to potential prehistoric resources. This would include identification efforts, and if an archaeological site is located, evaluation and data recovery mitigation work. The project sponsor shall retain the services of an archeological consultant from the Planning Department ("Department") pool of qualified archaeological consultants as provided by the Department archaeologist. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure and with the requirements of the Transit Center District Plan Archeological Research Design and Treatment Plan at the direction of the Environmental Review Officer (ERO). In instances of inconsistency between the requirement of the project archaeological research design and treatment plan and of this archaeological mitigation measure, the requirements of this archaeological mitigation measure shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sections 15064.5 (a) (c).	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-2 (cont.)		*Archeological Testing Program*. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP) that builds upon the Transit Center District Plan Archeological Research Design and Treatment Plan elements developed for this parcel. The ATP shall identify the testing method to be used and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. The archeological testing program shall be conducted in accordance with the approved ATP. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either: A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible. *Archeological Monitoring Program*. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological consultant shall prepare an archeological monitoring plan (AMP). ▪ The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context;	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-2 (cont.)		▪ Archeological monitoring shall conform to the requirements of the final AMP reviewed and approved by the ERO; ▪ The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; ▪ The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; ▪ The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; ▪ If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO. Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO. *Archeological Data Recovery Program*. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-2 (cont.)		expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: ▪ Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations. ▪ Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures. ▪ Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies. ▪ Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. ▪ Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. ▪ Final Report. Description of proposed report format and distribution of results. ▪ Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. *Human Remains and Associated or Unassociated Funerary Objects.* The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation,	

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
D. Cultural and Paleontological Resources (cont.)			
CP-2 (cont.)		and final disposition of the human remains and associated or unassociated funerary objects. *Final Archeological Resources Report.* The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.	
F. Noise and Vibration			
NO-4: The proposed Transit Tower project would not result in a substantial permanent increase in ambient noise levels in the project vicinity, and it would not expose persons to noise levels in excess of standards established in the local general plan or noise ordinance.	LSM	Implement Mitigation Measure M-NO-1d, Mechanical Equipment Noise Standard, and Mitigation Measure M-NO-1e, Interior Mechanical Equipment.	LTS
NO-5: Construction of the proposed Transit Tower project would result in a temporary and/or periodic increase in ambient noise levels and vibration in the project vicinity above levels existing without the project.	LSM	Pile Driving, and Mitigation Measure M-NO-2b, General Construction Noise Control Measures.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Significant but Mitigable Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
I. Wind			
C-WI: Implementation of the draft Plan and the proposed Transit Tower, along with cumulative development, would neither cause large increases in ground-level wind speeds over a substantial portion of the Plan area, nor result in a new exceedance of the wind hazard criterion.	LSM	Implement Mitigation Measure M-WI-2.	LTS
N. Biological Resources			
BI-3: Development of the Transit Tower has the potential to adversely impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LSM	Implement Mitigation Measure M-BI-1a, Pre-Construction Bird Surveys, for construction of the Transit Tower project.	LTS
Q. Hazards and Hazardous Materials			
HZ-7: Excavation for the proposed Transit Tower would require the handling of potentially contaminated soil and groundwater, potentially exposing workers and the public to hazardous materials, or resulting in a release to the environment during construction.	LSM	Implement Mitigation Measures M-HZ-2a, 2b, and 2c, Site Assessment and Corrective Action, for construction of the Transit Tower project.	LTS

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
A. Land Use			
LU-3: The implementation of the Transit Tower project would neither divide an existing community nor substantially alter the existing character of the Plan area.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
A. Land Use (cont.)			
C-LU: The draft Plan, including the Transit Tower, along with other cumulative development, would neither divide an existing community nor substantially alter the existing character of the Plan area.	LTS	None required.	LTS
B. Aesthetics			
AE-5: The implementation of the Transit Tower project would alter the visual character of the tower site vicinity and alter public views of the site and the surrounding Plan area from key public vantage points as well as alter views into the surrounding neighborhoods from within the Plan area.	LTS	None required.	LTS
AE-6: The proposed Transit Tower would result in increased light and glare.	LTS	None required.	LTS
C-AE-2: The proposed Transit Tower, in combination with the draft Plan and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not contribute considerably to this change, and would not adversely affect scenic resources or substantially increase light and glare.	LTS	None required.	LTS
C. Population and Housing, Business Activity and Employment			
PH-1: The incremental new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would induce growth in population and employment, but the impact would not be substantial.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
C. Population and Housing, Business Activity and Employment (cont.)			
PH-2: The incremental new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would not displace a large number of people (involving either housing or employment)	LTS	None required.	LTS
PH-3: Neither the draft Plan nor the proposed Transit Tower would create substantial demand for additional housing in San Francisco, or substantially reduce the housing supply.	LTS	None required.	LTS
C-PH: The draft Plan and proposed Transit Tower would not contribute considerably to a substantial growth in population or employment, to displacement of a large number of people, or to substantial demand for additional housing in San Francisco, nor would they reduce the housing supply.	LTS	None required.	LTS
D. Cultural and Paleontological Resources			
CP-6: Development of the proposed Transit Tower would not directly or indirectly result in substantial adverse changes in the significance of historical resources.	LTS	None required.	LTS
E. Transportation			
TR-11: Transit ridership generated by the proposed Transit Tower would not result in a substantial increase in transit demand that could not be accommodated by adjacent transit capacity resulting in unacceptable levels of transit service, or cause a substantial increase in delays or operating costs.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
E. Transportation (cont.)			
TR-13: The proposed project would not create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.	LTS	None required.	LTS
TR-15: The proposed project would not result in inadequate emergency access.	LTS	None required.	LTS
F. Noise and Vibration			
NO-6: The proposed Transit Tower project would not be substantially affected by existing noise levels.	LTS	None required.	LTS
G. Air Quality			
AQ-6: Construction of the Transit Tower would result in emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to construction dust.	LTS	**I-AQ-6 Construction Vehicle Emissions Minimization:** To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications: ▪ All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.	LTS
AQ-8: Operation of the proposed Transit Tower would not conflict with *2010 Clean Air Plan*, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment, either individually or cumulatively.	LTS	None required.	LTS
AQ-9: Operation of the proposed Transit Tower would not result in emissions of carbon monoxide that would exceed state or federal standards, either individually or cumulatively.	LTS	None required	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
G. Air Quality (cont.)			
AQ-10: Operation of the proposed Transit Tower would not expose sensitive receptors to substantial levels of toxic air contaminants.	LTS	None required	LTS
G. Greenhouse Gas Emissions			
GG-2: The proposed Transit Tower would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	None required.	LTS
I. Wind			
WI-1: The proposed Transit Tower would not result in a new exceedance of the wind hazard criterion.	LTS	None required.	LTS
K. Recreation and Public Space			
RE-2: The proposed Transit Tower would result in the increased use of existing neighborhood parks and recreational facilities, but not to such a degree that would lead to or accelerate their deterioration, nor require the construction of new facilities.	LTS	None required.	LTS
L. Utilities and Service Systems			
UT-5: The proposed Transit Tower would not result in the need for new or physically altered facilities related to water or wastewater, energy, or solid waste.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
L. Utilities and Service Systems (cont.)			
C-UT: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of utilities and service systems.	LTS	None required.	LTS
M. Public Services			
PS-4: The proposed Transit Tower would not result in the need for new or physically altered facilities related to police, fire protection, or emergency medical services.	LTS	None required.	LTS
C-PS: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of public services.	LTS	None required.	LTS
N. Biological Resources			
BI-4: Implementation of the Transit Tower Project could interfere substantially with the movement of native resident wildlife species and with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LTS	**I-BI-4a: Bird-Safe Standards for City Park.** The Transbay Joint Powers Authority, as sponsor of the Transit Center and City Park, could incorporate, as feasible, into the design of City Park bird-safe standards that are applicable to parks and open spaces, as described in the newly adopted Standards for Bird-Safe Buildings. **I-BI-4b: Night Lighting Minimization.** The Transbay Joint Powers Authority, as sponsor of the Transit Center and City Park and the owner of the Transit Tower site, could incorporate, as feasible, into the design of City Park, and could require incorporation, as feasible, in the design of the proposed Transit Tower, the light minimization features identified in Improvement Measure I-BI-2.	LTS
C-BI: Implementation of the Transit Center District Plan and the Transit Tower project would not make a considerable contribution to adverse effects on biological resources.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
O. Geology, Soils, and Seismicity			
GE-5: The proposed Transit Tower would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides.	LTS	None required.	LTS
GE-6: The proposed Transit Tower would not result in substantial erosion or loss of top soil.	LTS	None required.	LTS
GE-7: The proposed Transit Tower site would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project.	LTS	None required.	LTS
C-GE: The proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to geology and soils.	LTS	None required.	LTS
P. Hydrology and Water Quality			
HY-7: The proposed Transit Tower would not violate water quality standards or otherwise substantially degrade water quality.	LTS	None required.	LTS
HY-8: The proposed Transit Tower would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
P. Hydrology and Water Quality (cont.)			
HY-9: The proposed Transit Tower would implement stormwater control measures that would reduce the quantity and rate of stormwater runoff to the combined sewer system, decreasing the potential for erosion or flooding.	LTS	None required.	LTS
HY-10: The proposed Transit Tower would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LTS	None required.	LTS
HY-11: The proposed Transit Tower would not expose people, housing, or structures, to substantial risk of loss due to flooding.	LTS	None required.	LTS
HY-12: The proposed Transit Tower would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.	LTS	None required.	LTS
C-HY: The proposed Transit Center District Plan and Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to hydrology and water quality.	LTS	None required.	LTS
Q. Hazards and Hazardous Materials			
HZ-6: The proposed Transit Tower would not create a significant hazard through routine transport, use, or disposal of hazardous materials.	LTS	None required.	LTS
HZ-8: Workers and the public would not be exposed to hazardous building materials as a result of construction of the proposed Transit Tower. (No Impact)			

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

TABLE S-2 (Continued)
SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE PROPOSED TRANSIT TOWER

Less than Significant Impact	Level of Significance	Mitigation Measures	Level of Significance with Mitigation
Q. Hazards and Hazardous Materials (cont.)			
HZ-9: The proposed Transit Tower would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	None required.	LTS
HZ-10: The proposed Transit Tower would not expose people or structures to a significant risk of loss, injury or death involving fires.	LTS	None required.	LTS
C-HZ: Implementation of the Transit Center District Plan and construction of the proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to hazards and hazardous materials.	LTS	None required.	LTS
R. Mineral and Energy Resources			
ME-1: Neither the Transit Center District Plan nor the development of the Transit Tower would encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.	LTS	None required.	LTS
S. Agricultural and Forest Resources			
AG-1: Neither the Transit Center District Plan nor the development of the Transit Tower would convert farmland to non-agricultural use or conflict with existing agricultural zoning or a Williamson Act contract, conflict with zoning for forest land, result in the loss of forest land to non-forest use, or involve any other changes that would convert farmland to non-agricultural use or convert forest land into non-forest use. (No Impact)	LTS	None required.	LTS

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant

C. Significant Environmental Impacts That Cannot Be Avoided if the Project Is Implemented

In accordance with Section 21067 of the California Environmental Quality Act (CEQA), and with Sections 15040, 15081 and 15082 of the State CEQA Guidelines, potential impacts that could not be eliminated or reduced to an insignificant level are limited to effects related to aesthetics, cultural (historic architectural) resources, transportation, noise, air quality, and shadow. The following significant and unavoidable impacts are identified in this EIR:

Impact AE-3: The draft Plan would alter public views of the Plan area from key long-range vantage points.

Impact C-AE-1: The draft Plan, in combination with the Transit Tower and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not adversely affect scenic resources or substantially increase light and glare.

Impact CP-3: Changes to the zoning controls in the Plan area could result in adverse impacts to historic architectural resources through demolition or substantial alteration.

Impact C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources.

Impact TR-1: Traffic growth related to the draft Plan, including the street changes, would adversely affect local intersection operation, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.

Impact TR-2: Traffic growth related to the draft Plan, including the street changes, would result in a considerable contribution to congested operations at the Fourth/Harrison Streets and First/Harrison Streets freeway on-ramps, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.

Impact TR-3: Transit ridership related to the draft Plan, including the street changes, would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result.

Impact TR-4: Pedestrian activity resulting from implementation of the draft Plan would cause the level of service at sidewalks, street corners, and crosswalks to deteriorate.

Impact TR-5: Development of large projects pursuant to the draft Plan would create potentially hazardous conditions for pedestrians and otherwise interfere with pedestrian accessibility.

Impact TR-6: Implementation of the draft Plan would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

Impact TR-7: Implementation of the draft Plan would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, and pedestrians.

Impact TR-9: Plan area construction, including construction of individual projects and ongoing construction of the Transit Center, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.

Impact TR-10: Traffic generated by the proposed Transit Tower would increase average vehicle delay and would degrade level of service at local intersections.

Impact TR-12: The proposed Transit Tower would not result in substantial overcrowding on public sidewalks, but would create potentially hazardous conditions for pedestrians or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

Impact TR-14: The proposed project would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and could create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles and pedestrians.

Impact TR-16: Project construction, along with construction of the Transit Center and other nearby projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.

Impact NO-1: Implementation of the draft Plan would not result in a substantial permanent increase in ambient noise or vibration levels, but Plan implementation could result in exposure of persons to noise levels in excess of standards in the San Francisco General Plan and could introduce new sensitive uses that would be affected by existing noise levels.

Impact NO-3: Construction activities in the Plan area could expose persons to temporary increases in vibration levels substantially in excess of ambient levels.

Impact C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts.

Impact AQ-2: The draft Plan would expose sensitive receptors to substantial concentrations of PM2.5 and toxic air contaminants.

Impact AQ-3: The draft Plan would expose sensitive receptors to substantial pollutant concentrations by exposing existing sensitive receptors to potentially elevated levels of PM2.5 and toxic air contaminants from new vehicles and equipment.

Impact AQ-4: Implementation of the draft Plan would result in construction-period emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial levels of construction dust.

Impact AQ-5: Implementation of the draft Plan could expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.

Impact AQ-7: Construction of the Transit Tower would expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.

Impact C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts.

Impact SH-1: The draft Plan would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.

Impact SH-2: The proposed Transit Tower would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.

Impact C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.

D. Significant Irreversible Environmental Changes That Would Result if the Proposed Project Is Implemented

In general, irreversible environmental changes include commitments of resources such as energy consumed and construction materials used in construction of a proposed project, as well as the energy and natural resources (notably water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project. While not all residents, employees, and visitors in the Plan area would be new to the City, the draft Plan would intensify development in the Plan area and at the Transit Tower project site, bringing new residential units, office and other commercial uses, and hotel rooms to the Plan area. It is noted, however, that both the draft Plan and the proposed Transit Tower would be generally consistent with land use and development patterns in the built-out urban environment that characterizes downtown San Francisco. Development pursuant to the draft Plan, including development of the Transit Tower project, would commit future generations to an irreversible commitment of energy, primarily in the form of fossil fuels for heating and cooling of buildings, for automobile and truck fuel, and for energy production for lighting, computers, and other equipment in the Plan area buildings. Implementation of the draft Plan, including the proposed Transit Tower, would also require an ongoing commitment of potable water for building occupants and landscaping, although the draft Plan includes policies intended to reduce potable water consumption, and the Transit Center and proposed Transit Tower would include such features. Fossil fuel would also be consumed during demolition of existing buildings and parking lots where new buildings would be located, and in construction of the proposed new buildings themselves. Construction would also require the commitment of construction materials, as well as water. Because all development in the Plan area would comply with *California Code of Regulations* Title 24 and the City's Green Building Ordinance, this development would be expected to use less energy and water over the lifetime of newly constructed buildings than comparable structure not built to current standards.

E. Areas of Controversy to Be Resolved

On the basis of public comments on the Notice of Preparation, it is believed that areas of controversy with respect to the draft Plan and Transit Tower include the potential for shadow impacts on Recreation and Park Department parks and other open spaces, as well as recreation and park impacts generally; wind effects, including combined effects of wind, shadow, and fog, and shading of sidewalks; aesthetic impacts, including changes in views from entry points to the City and from elevated viewpoints outside downtown; effects on traffic, transit, pedestrians, and bicyclists, along with cumulative impacts associated with potential future high-speed rail service to the new Transit Center; potential contamination of soil and/or groundwater from historical uses and the resulting need for remediation; and seismic impacts, including effects on emergency vehicle access. Each of these issues is analyzed in this EIR.

In addition, comments were received with respect to concerns about the potential for greater development intensity than proposed in the draft Plan, and the use and applicability of the EIR and its analyses in consideration of development projects in the Plan area. With respect to the former, Chapter VI, Alternatives,

includes an alternative identified as the Developer Scenario (Alternative D), under which towers at select sites are assumed to be built to greater heights, as proposed by project sponsors with projects on file at the Planning Department. Any development or subsequent project that is not encompassed within the proposed project or the range of alternatives analyzed in this EIR could be subject to future project-specific CEQA analysis. With respect to the use and applicability of this EIR with respect to subsequent development projects, the Planning Department anticipates, consistent with CEQA Guidelines Section 15183, considering whether subsequent projects require further environmental review, or whether they can rely, in general, on this EIR. Section 15183 provides an exemption from environmental review for projects that are consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site. The Planning Department has prepared such "community plan exemptions" for projects in the Eastern Neighborhoods and Market & Octavia plan areas, and may prepare such documents for projects in the proposed Transit Center District Plan area in the future.

F. Alternatives

Chapter VI of this EIR analyzes the following alternatives to the Transit Center District Plan and the Transit Tower as proposed in November 2009 and March 2011, respectively:

- No Project Alternative (Alternative A);
- Reduced Project Alternative (Alternative B);
- Reduced Shadow Alternative (Alternative C); and
- Developer Scenario (Alternative D).

Alternatives to the Transit Tower are discussed within the each Plan alternative, including No Project (No Build) and Existing Zoning (30-foot height limit) Alternatives, are also analyzed.

Below is a description of each alternative. Effects of each alternative, relative to those of the proposed project, are summarized in **Table S-3** for the Transit Center District Plan and **Table S-4** for the proposed Transit Tower.

Alternative A: No Project

CEQA Guidelines Section 15126.6(e)(3)(A) states that, generally, when a project being analyzed is the revision of an existing land use or regulatory plan—such as the Transit Center District Plan and *Planning Code* and Zoning Map revisions that would implement the plan—the No Project Alternative should be considered to be continuation of the existing plan into the future. Consistent with this guidance, the No Project Alternative considered in this EIR, with respect to the draft Plan, is the maintenance of the existing zoning and height and bulk controls in the Plan area, and no adoption of the draft Plan. This alternative assumes that development in Zone 1 of the approved Transbay Redevelopment Plan area—primarily along the north side of Folsom Street east of Essex Street, and also between Beale and Main Streets south of Mission Street—would proceed as approved. Approved development in the Rincon Hill

Plan area would also proceed, and projects proposed west of the Transit Center District Plan area would also be undertaken, although at generally lesser heights than currently presumed.

Development assumptions for the No Project Alternative include the addition, in the Plan area, of approximately 4.2 million square feet of office space (about one-third less than with the project), approximately 500 dwelling units (about 60 percent fewer), and about 180 hotel rooms (less than one-fifth of the project's total). Ground-floor retail space would be similar to that with the draft Plan. Impacts were assessed with an assumption of a 550-foot tall Transit Tower with approximately 564,000 square feet of office space, consistent with the Transbay Redevelopment Plan, although the No Project Alternative for the Transit Tower itself would involve no development (see below).

Transit Tower

Consistent with the CEQA Guidelines, a project-specific No Project – No Build scenario for the proposed Transit Tower would involve no development on that site. A project-specific No Project – Existing Zoning Alternative for the Transit Tower would include development of a 30-foot-tall building, which is the height of the building that could be built on the Transit Tower site if the property were not rezoned.

Alternative B: Reduced Project

This alternative assumes construction on each of the "soft" development sites identified in this EIR, but at lesser heights and intensity than would be permitted under the draft Plan. The heights are those at which development would cast no additional shadow on parks under the jurisdiction of the Recreation and Park Department, beyond that which could occur from buildings developed to existing height limits. As a result of the lesser heights, it is assumed that development of Plan area sites containing historical resources would proceed in a different manner than would be allowed under the draft Plan, thereby reducing the Plan's impacts on historic architectural resources. In particular, this alternative assumes that development at five sites in the Plan area that contain identified or potential historic architectural resources would generally be undertaken consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (or otherwise determined by Planning Department preservation staff to result in less-than-significant impacts under CEQA, to the maximum extent feasible) in order that historical resources on these sites are minimally affected.

This alternative would include some of the public realm improvements, subject to funding, that are proposed under the draft Plan. However, the Reduced Project Alternative would not convert Howard Street to two-way operations between New Montgomery and Fremont Streets, nor would it convert Folsom Street to two-way operations between Second and Fremont Streets. This alternative also would not include installation of signalized mid-block crosswalks across First Street at Minna and Natoma Streets, north and south of the new Transit Center.

This alternative would entail development of about 308 million square feet of office space (about 39 percent less than with the project), approximately 960 dwelling units (about 26 percent fewer), and about 415 hotel rooms (32 percent of the project's total). Ground-floor retail space would be similar to the

draft Plan, because the sites where development is anticipated would be essentially the same, although shorter, somewhat less bulky buildings would be developed. There would be no change under this alternative in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area.

Under the Reduced Project Alternative, the Transit Tower would be 550 feet tall, with the same development program as under the draft Plan's No Project Alternative.

Alternative C: Reduced Shadow

The Reduced Shadow Alternative is premised on reducing to some degree the new shadow resulting from the Plan while retaining in large measure the draft Plan's fundamental urban design concept that the Transit Tower, which would identify the location of the new Transit Center, be the City's tallest and most prominent building—the "crown" of the downtown core that rises notably above the dense cluster of downtown buildings, as stated in draft Plan Policy 2.1. In contrast to Alternative B, which is based on site-by-site evaluation of building heights to reduce shadow on Section 295 parks, Alternative C would retain the Transit Tower as the tallest building in the Plan area, at a height of 840 feet. (It is assumed that this would entail about 790 feet of enclosed building space and a 50-foot-tall sculptural element.) At a height of 840 feet, the Transit Tower would be about 60 feet taller than the Bank of America Building, and about 15 feet shorter than the tip of the Transamerica Pyramid.

This alternative would also proportionally adjust the proposed height limits on the other sites in the Plan area in relation to the Transit Tower in order to maintain similar massing/height relationships as contemplated under the draft Plan's urban form concepts.

This alternative would include some of the public realm improvements, subject to funding, that area proposed under the draft Plan. There would be no change under this alternative in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area.

This alternative would entail development of about 5.3 million square feet of office space (about 14 percent less than with the project), approximately 1,145 dwelling units (about 12 percent fewer), and about 830 hotel rooms (36 percent less than the project's total), along with comparable ground-floor retail.

The Transit Tower would contain about 1 million square feet of office space (about 20 percent less than under the proposed project), along with approximately the same amount of retail space (16,500 square feet) as under the project.

Alternative D: Developer Scenario

This alternative differs from the draft Plan in that development assumptions for certain specific sites would reflect project applications that are on file at the Planning Department. In up to three instances, this alternative would therefore permit taller buildings than the draft Plan proposes, while for two other

sites, lesser height is assumed. The major difference in height, compared to the draft Plan, is that the proposed residential tower at the Palace Hotel is proposed at a height of 727 feet, whereas the Plan calls for a 600-foot building. The other two projects for which "additional" height is proposed are 50 First Street and 181 Fremont Street. In both of these cases, the developer-proposed height is the same at the roof line as called for in the Plan; the potential difference is that the draft Plan would potentially allow additional height on particular building sites if the form above the roof height does not cast significant shadow on protected open spaces. This determination would have to be made based on a detailed, project-specific shadow analysis of each applicable project, which would be undertaken at a greater level of precision than is feasible or appropriate for this programmatic EIR. In addition to height, some projects proposed are not fully consistent with the ratio of office to non-office development proposed in the draft Plan.

Although this alternative would result in several buildings being taller than proposed with the draft Plan development assumptions for the Developer Scenario Alternative would be similar to those of the Plan with respect to office space, and somewhat less intensive than the Plan with respect to residential units and hotel space. This is because the projects with applications on file at the Planning Department propose a different mix of uses than the Plan forecasts assume for those sites, propose generally larger residential units than the Plan assumes, and because an office project was approved in 2011 at 350 Mission Street at a lesser height than proposed in the draft Plan. For the this alternative, development assumptions include the net addition, in the Plan area, of approximately 6.1 million square feet of office space (about 1 percent less than with the project), approximately 1,125 dwelling units (about 13 percent fewer), and about 665 hotel rooms (50 percent fewer than with the draft Plan). Ground-floor retail space would be similar.

The Transit Tower would be 1,070 feet tall under this alternative, as under the draft Plan.

The Developer Scenario Alternative is assumed to implement the same public realm improvements as would be undertaken with implementation of the draft Plan. Under this alternative, there would be no change in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area.

TABLE S-3
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Significant Unavoidable Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
B. Aesthetics					
AE-3: The draft Plan would alter public views of the Plan area from key long-range vantage points.	SU	**LTS**	**LTS**	SU ⇓	SU ⇑
C-AE-1: The draft Plan, in combination with the Transit Tower and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not adversely affect scenic resources or substantially increase light and glare.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
D. Cultural and Paleontological Resources					
CP-3. Changes to the zoning controls in the Plan area could result in adverse impacts to historic architectural resources through demolition or substantial alteration.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
E. Transportation					
TR-1: Traffic growth related to the draft Plan, including the street changes, would adversely affect local intersection operation, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
TR-2: Traffic growth related to the draft Plan, including the street changes, would result in a considerable contribution to congested operations at the Fourth/Harrison Streets and First/Harrison Streets freeway on-ramps, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
TR-3: Transit ridership related to the draft Plan, including the street changes, would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan. **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Significant Unavoidable Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
E. Transportation (cont.)					
TR-4: Pedestrian activity resulting from implementation of the draft Plan would cause the level of service at sidewalks, street corners, and crosswalks to deteriorate.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
TR-5: Development of large projects pursuant to the draft Plan would create potentially hazardous conditions for pedestrians and otherwise interfere with pedestrian accessibility.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
TR-6: Implementation of the draft Plan would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
TR-7: Implementation of the draft Plan would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, and pedestrians.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
TR-9: Plan area construction, including construction of individual projects and ongoing construction of the Transit Center, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
F. Noise and Vibration					
NO-1: Implementation of the draft Plan, including the proposed Transit Tower, would not result in a substantial permanent increase in ambient noise or vibration levels, but Plan implementation could result in exposure of persons to noise levels in excess of standards in the *San Francisco General Plan* and could introduce new sensitive uses that would be affected by existing noise levels.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Significant Unavoidable Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
F. Noise and Vibration (cont.)					
NO-3: Construction activities in the Plan area could expose persons to temporary increases in vibration levels substantially in excess of ambient levels.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
G. Air Quality					
AQ-2: The draft Plan would expose sensitive receptors to substantial concentrations of $PM_{2.5}$ and toxic air contaminants.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
AQ-3: The draft Plan would expose existing and future sensitive receptors to substantial levels of $PM_{2.5}$ and toxic air contaminants from new vehicles and equipment.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
AQ-4: Implementation of the draft Plan would result in construction-period emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial levels of construction dust.	SU for criteria pollutants; LSM for construction dust	SU ⇓	SU ⇓	SU ⇓	SU ⇔
AQ-5: Implementation of the draft Plan could expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇔
J. Shadow					
SH-1: The draft Plan would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇑
C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	SU ⇓	SU ⇓	SU ⇓	SU ⇑

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Significant but Mitigable Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
D. Cultural and Paleontological Resources					
CP-1. Development projects in the Plan area could cause a substantial adverse change in the significance of archeological resources.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔
CP-5. Construction activity in the Plan area could result in damage to historic architectural resources.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔
F. Noise and Vibration					
NO-2: Construction activities in the Plan area could expose persons to temporary increases in noise levels substantially in excess of ambient levels.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔
I. Wind					
WI-2: Implementation of the draft Plan would not cause large increases in pedestrian wind speeds or wind speeds in publicly accesssible open spaces over a substantial portion of the Plan area.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔
C-WI: Implementation of the draft Plan and the proposed Transit Tower, along with cumulative development, would neither cause large increases in ground-level wind speeds over a substantial portion of the Plan area, nor result in a new exceedance of the wind hazard criterion.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔
N. Biological Resources					
BI-1: Development under the draft Plan has the potential to adversely impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔
Q. Hazards and Hazardous Materials					
HZ-2: Excavation in the Transit Center District Plan area would require the handling of potentially contaminated soil and groundwater, potentially exposing workers and the public to hazardous materials, or resulting in a release to the environment during construction.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Significant but Mitigable Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
Q. Hazards and Hazardous Materials (cont.)					
HZ-3: Demolition and renovation of buildings in the Transit Center District Plan area could potentially expose workers and the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, DEHP, and mercury, or result in a release of these materials to the environment during construction.	LSM	LSM ⇓	LSM ⇓	LSM ⇓	LSM ⇔

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
A. Land Use					
LU-1: Implementation of the draft Plan would not physically divide an existing community.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
LU-2: The draft Plan would not substantially alter the existing character of the Plan area.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
C-LU: The draft Plan, including the Transit Tower, along with other cumulative development, would neither divide an existing community nor substantially alter the existing character of the Plan area.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
B. Aesthetics					
AE-1: The draft Plan would alter the height and bulk limits within the Plan area, allowing for a number of high-rise buildings to be constructed over time. This would alter the visual character of the Plan area but would not adversely affect scenic resources.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
AE-2: The draft Plan would alter the public views of the Plan area from short-range and mid-range vantage points as well as alter views into the surrounding neighborhoods from within the Plan area.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
AE-4: The draft Plan would result in increased light and glare in the Plan area.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
C. Population and Housing, Business Activity and Employment					
PH-1: The new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would induce growth in population and employment, but the associated physical impact would not be substantial.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
PH-2: The new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would not displace a large number of people, involving either housing or employment.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
PH-3: Neither the draft Plan nor the proposed Transit Tower would create substantial demand for additional housing beyond projected increases in housing supply in San Francisco, or substantially reduce the housing supply.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
C-PH: The draft Plan and proposed Transit Tower would not contribute considerably to a substantial growth in population or employment, to displacement of a large number of people, or to substantial demand for additional housing in San Francisco, nor would they reduce the housing supply.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
D. Cultural and Paleontological Resources					
CP-4: Changes to the height and bulk limits in the Plan area could result in indirect impacts to historic architectural resources.	LTS	LTS ⇓	LTS ⇓	LTS ⇔	LTS ⇔
E. Transportation					
TR-8: Implementation of the draft Plan would not result in inadequate emergency access.	LTS	LTS⇔	LTS⇔	LTS⇔	LTS⇔
G. Air Quality					
AQ-1: The draft Plan would not conflict with or obstruct implementation of the *2010 Clean Air Plan* or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
H. Greenhouse Gas Emissions					
GG-1: Implementation of the proposed Plan would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
K. Recreation and Public Space					
RE-1: The implementation of the draft Plan would result in an increased use of existing neighborhood parks and recreational facilities, but not to a degree that would lead to or accelerate their physical deterioration or require construction of new facilities.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
L. Utilities and Service Systems					
UT-1: The draft Plan and Transit Tower would not require or result in the construction or substantial new water treatment facilities, and SFPUC would have sufficient water supply available from existing entitlements.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
UT-2: The draft Plan and Transit Tower would increase sanitary wastewater flows, but it would not require or result in the construction or substantial new wastewater treatment or stormwater facilities, or exceed the wastewater treatment requirements of the Regional Water Quality Control Board.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
UT-3: The draft Plan and Transit Tower would increase demand for electricity and natural gas, but not to an extent that would result in a significant impact.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
UT-4: The draft Plan and Transit Tower would be served by a landfill with sufficient permitted capacity to accommodate solid waste generated by projects constructed pursuant to the plan. Individual building owners and tenants would comply with federal, state, and local statutes and regulations related to solid waste.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-UT: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of utilities and service systems.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
M. Public Services					
PS-1: The draft Plan and Transit Tower would not result in the need for new or physically altered police protection facilities.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
PS-2: The draft Plan and Transit Tower would not result in the need for new or physically altered fire protection facilities, but may delay emergency medical response.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
PS-3: The draft Plan and Transit Tower would not result in the need for new or physically altered school facilities.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-PS: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of public services.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
N. Biological Resources					
BI-2: Implementation of the draft Plan could interfere substantially with the movement of native resident wildlife species and with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
C-BI: Implementation of the Transit Center District Plan and the Transit Tower project would not make a considerable contribution to adverse effects on biological resources.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
O. Geology, Soils, and Seismicity					
GE-1: The proposed Transit Center District Plan would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
GE-2: The proposed Transit Center District Plan would not result in substantial erosion or loss of top soil.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
GE-3: Development sites within the proposed Transit Center District Plan area would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
O. Geology, Soils, and Seismicity (cont.)					
GE-4: The proposed Transit Center District Plan would not be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
GE-8: The draft Plan would not result in development located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
C-GE: The proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to geology and soils.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
P. Hydrology and Water Quality					
HY-1: The proposed Transit Center District Plan would not violate water quality standards or otherwise substantially degrade water quality.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
HY-2: The proposed Transit Center District Plan would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
HY-3: The proposed Transit Center District Plan would implement stormwater control measures that would reduce the quantity and rate of stormwater runoff to the combined sewer system, decreasing the potential for erosion or flooding.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
HY-4: The proposed Transit Center District Plan would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
HY-5: The proposed Transit Center District Plan would not expose people, housing, or structures, to substantial risk of loss due to flooding.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
P. Hydrology and Water Quality (cont.)					
HY-6: The proposed Transit Center District Plan would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
C-HY: The proposed Transit Center District Plan and Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to hydrology and water quality.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
Q. Hazards and Hazardous Materials					
HZ-1: Implementation of the Transit Center District Plan would not create a significant hazard through routine transport, use, or disposal of hazardous materials.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
HZ-4: Implementation of the Transit Center District Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
HZ-5: Implementation of the Transit Center District Plan would not expose people or structures to a significant risk of loss, injury or death involving fires.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
C-HZ: Implementation of the Transit Center District Plan and construction of the proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to hazards and hazardous materials.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔
R. Mineral and Energy Resources					
ME-1: Neither the Transit Center District Plan nor the development of the Transit Tower would encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.	LTS	LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-3 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT CENTER DISTRICT PLAN)

Less than Significant Impact of Plan	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
S. Agricultural and Forest Resources					
AG-1: Neither the Transit Center District Plan nor the development of the Transit Tower would convert farmland to non-agricultural use or conflict with existing agricultural zoning or a Williamson Act contract, conflict with zoning for forest land, result in the loss of forest land to non-forest use, or involve any other changes that would convert farmland to non-agricultural use or convert forest land into non-forest use. (No Impact)		LTS ⇔	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Significant Unavoidable Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
D. Cultural and Paleontological Resources					
C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
E. Transportation					
TR-10: Traffic generated by the proposed Transit Tower would incrementally increase average vehicle delay, but would not degrade level of service at local intersections.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
TR-12: The proposed Transit Tower would not result in substantial overcrowding on public sidewalks, but would create potentially hazardous conditions for pedestrians or otherwise interfere with pedestrian accessibility to the site and adjoining areas.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
TR-14: The proposed project would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and could create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles and pedestrians.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
TR-16: Project construction, along with construction of the Transit Center and other nearby projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
F. Noise and Vibration					
C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
G. Air Quality					
AQ-7: Construction of the Transit Tower would expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan. **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Significant Unavoidable Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
G. Air Quality (cont.)					
C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
J. Shadow					
SH-2: The proposed Transit Tower would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔
C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.	SU	**LTS**	SU ⇓	SU ⇓	SU ⇔

Significant but Mitigable Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
D. Cultural and Paleontological Resources					
CP-2. Development of the proposed Transit Tower could cause a substantial adverse change in the significance of archeological resources.	LSM	**LTS**	LSM ⇓	LSM ⇓	LSM ⇔
F. Noise and Vibration					
NO-4: The proposed Transit Tower project would not result in a substantial permanent increase in ambient noise levels in the project vicinity, and it would not expose persons to noise levels in excess of standards established in the local general plan or noise ordinance.	LSM	**LTS**	LSM ⇓	LSM ⇓	LSM ⇔
NO-5: Construction of the proposed Transit Tower project would result in a temporary and/or periodic increase in ambient noise levels and vibration in the project vicinity above levels existing without the project.	LSM	**LTS**	LSM ⇓	LSM ⇓	LSM ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Significant but Mitigable Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
I. Wind					
C-WI: Implementation of the draft Plan and the proposed Transit Tower, along with cumulative development, would neither cause large increases in ground-level wind speeds over a substantial portion of the Plan area, nor result in a new exceedance of the wind hazard criterion.	LSM	**LTS**	LSM ⇓	LSM ⇓	LSM ⇔
N. Biological Resources					
BI-3: Development of the Transit Tower has the potential to adversely impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LSM	**LTS**	LSM ⇓	LSM ⇓	LSM ⇔
Q. Hazards and Hazardous Materials					
HZ-7: Excavation for the proposed Transit Tower would require the handling of potentially contaminated soil and groundwater, potentially exposing workers and the public to hazardous materials, or resulting in a release to the environment during construction.	LSM	**LTS**	LSM ⇓	LSM ⇓	LSM ⇔

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
A. Land Use					
LU-3: The implementation of the Transit Tower project would neither divide an existing community nor substantially alter the existing character of the Plan area.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-LU: The draft Plan, including the Transit Tower, along with other cumulative development, would neither divide an existing community nor substantially alter the existing character of the Plan area.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
B. Aesthetics					
AE-5: The implementation of the Transit Tower project would alter the visual character of the tower site vicinity and alter public views of the site and the surrounding Plan area from key public vantage points as well as alter views into the surrounding neighborhoods from within the Plan area.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
AE-6: The proposed Transit Tower would result in increased light and glare.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-AE-2: The proposed Transit Tower, in combination with the draft Plan and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not contribute considerably to this change, and would not adversely affect scenic resources or substantially increase light and glare.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C. Population and Housing, Business Activity and Employment					
PH-1: The incremental new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would induce growth in population and employment, but the impact would not be substantial.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
PH-2: The incremental new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would not displace a large number of people (involving either housing or employment)	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
PH-3: Neither the draft Plan nor the proposed Transit Tower would create substantial demand for additional housing in San Francisco, or substantially reduce the housing supply.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-PH: The draft Plan and proposed Transit Tower would not contribute considerably to a substantial growth in population or employment, to displacement of a large number of people, or to substantial demand for additional housing in San Francisco, nor would they reduce the housing supply.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	**No Project**	**Reduced Project**	**Reduced Shadow**	**Developer Alt.**
D. Cultural and Paleontological Resources					
CP-6: Development of the proposed Transit Tower would not directly or indirectly result in substantial adverse changes in the significance of historical resources.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
E. Transportation					
TR-11: Transit ridership generated by the proposed Transit Tower would not result in a substantial increase in transit demand that could not be accommodated by adjacent transit capacity resulting in unacceptable levels of transit service, or cause a substantial increase in delays or operating costs.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
TR-13: The proposed project would not create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
TR-15: The proposed project would not result in inadequate emergency access.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
F. Noise and Vibration					
NO-6: The proposed Transit Tower project would not be substantially affected by existing noise levels.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
G. Air Quality					
AQ-6: Construction of the Transit Tower would result in emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to construction dust.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
AQ-8: Operation of the proposed Transit Tower would not conflict with *2010 Clean Air Plan,* result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment, either individually or cumulatively.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
AQ-9: Operation of the proposed Transit Tower would not result in emissions of carbon monoxide that would exceed state or federal standards, either individually or cumulatively.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
G. Air Quality (cont.)					
AQ-10: Operation of the proposed Transit Tower would not expose sensitive receptors to substantial levels of toxic air contaminants.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
G. Greenhouse Gas Emissions					
GG-2: The proposed Transit Tower would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
I. Wind					
WI-1: The proposed Transit Tower would not result in a new exceedance of the wind hazard criterion.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
K. Recreation and Public Space					
RE-2: The proposed Transit Tower would result in the increased use of existing neighborhood parks and recreational facilities, but not to such a degree that would lead to or accelerate their deterioration, nor require the construction of new facilities.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
L. Utilities and Service Systems					
UT-5: The proposed Transit Tower would not result in the need for new or physically altered facilities related to water or wastewater, energy, or solid waste.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-UT: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of utilities and service systems.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
M. Public Services					
PS-4: The proposed Transit Tower would not result in the need for new or physically altered facilities related to police, fire protection, or emergency medical services.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
M. Public Services (cont.)					
C-PS: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of public services.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
N. Biological Resources					
BI-4: Implementation of the Transit Tower Project could interfere substantially with the movement of native resident wildlife species and with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
C-BI: Implementation of the Transit Center District Plan and the Transit Tower project would not make a considerable contribution to adverse effects on biological resources.	LTS	LTS ⇓	LTS ⇓	LTS ⇓	LTS ⇔
O. Geology, Soils, and Seismicity					
GE-5: The proposed Transit Tower would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
GE-6: The proposed Transit Tower would not result in substantial erosion or loss of top soil.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
GE-7: The proposed Transit Tower site would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
C-GE: The proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to geology and soils.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
P. Hydrology and Water Quality					
HY-7: The proposed Transit Tower would not violate water quality standards or otherwise substantially degrade water quality.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HY-8: The proposed Transit Tower would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HY-9: The proposed Transit Tower would implement stormwater control measures that would reduce the quantity and rate of stormwater runoff to the combined sewer system, decreasing the potential for erosion or flooding.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HY-10: The proposed Transit Tower would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HY-11: The proposed Transit Tower would not expose people, housing, or structures, to substantial risk of loss due to flooding.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HY-12: The proposed Transit Tower would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
C-HY: The proposed Transit Center District Plan and Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to hydrology and water quality.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
Q. Hazards and Hazardous Materials					
HZ-6: The proposed Transit Tower would not create a significant hazard through routine transport, use, or disposal of hazardous materials.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HZ-8: Workers and the public would not be exposed to hazardous building materials as a result of construction of the proposed Transit Tower. (No Impact)		LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

TABLE S-4 (Continued)
SUMMARY OF IMPACTS BY ALTERNATIVE (TRANSIT TOWER)

Less than Significant Impact (Transit Tower)	Level of Significance (with Mitigation)				
	Draft Plan	No Project	Reduced Project	Reduced Shadow	Developer Alt.
Q. Hazards and Hazardous Materials (cont.)					
HZ-9: The proposed Transit Tower would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
HZ-10: The proposed Transit Tower would not expose people or structures to a significant risk of loss, injury or death involving fires.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
C-HZ: Implementation of the Transit Center District Plan and construction of the proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to hazards and hazardous materials.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
R. Mineral and Energy Resources					
ME-1: Neither the Transit Center District Plan nor the development of the Transit Tower would encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.	LTS	LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔
S. Agricultural and Forest Resources					
AG-1: Neither the Transit Center District Plan nor the development of the Transit Tower would convert farmland to non-agricultural use or conflict with existing agricultural zoning or a Williamson Act contract, conflict with zoning for forest land, result in the loss of forest land to non-forest use, or involve any other changes that would convert farmland to non-agricultural use or convert forest land into non-forest use. (No Impact)		LTS ⇓	LTS ⇔	LTS ⇔	LTS ⇔

SU – Significant and Unavoidable LSM – Less than Significant with Mitigation LTS – Less than Significant
⇑ – Greater Impact than with draft Plan ⇓ – Lesser Impact than with draft Plan ⇔ – Impact Comparable to that of draft Plan **Bold** indicates change in degree of impact from that of draft Plan.

CHAPTER I
Introduction

This environmental impact report (EIR) analyzes potential environmental effects associated with the proposed Transit Center District Plan (draft Plan) project at a program level, and analyzes impacts of the proposed Transit Tower at a project-specific level. The 2009 draft Plan proposes new planning policies and controls for land use; urban form, including building height and design; street network modifications/ public realm improvements; historic preservation; and district sustainability, including enhancement of green building standards in the district, among other features. The Plan would allow for height limit increases in subareas composed of multiple parcels or blocks within the Plan area. It also includes one or more financial programs to support the development of the new Transit Center, which is under construction and will replace the former Transbay Terminal as a regional transit hub. The proposed Transit Tower would be a 61-story, 1,070-foot-tall (including sculptural element) building containing approximately 1.3 million square feet of office space and about 16,500 square feet of retail space. Further detail regarding the proposed project components that form the basis for the EIR analysis are discussed in depth in Chapter II, Project Description.

A. Environmental Review

The Environmental Planning Division of the San Francisco Planning Department is serving as Lead Agency responsible for administering the environmental review for the proposed project. CEQA requires that before a decision can be made to approve a project that would pose potential adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, to recommend mitigation measures to lessen or eliminate significant adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR is reviewed and considered by the Lead Agency prior to a decision to approve, disapprove, or modify the proposed project. CEQA requires that the Lead Agency shall neither approve nor implement a project unless the project's significant environmental effects have been reduced to a less-than-significant level, essentially "eliminating, avoiding, or substantially lessening" the expected impact, except when certain findings are made. If the Lead Agency approves a project that will result in the occurrence of significant adverse impacts that cannot be mitigated to less-than-significant levels, the agency must state the reasons for its action in writing, demonstrate that its action is based on the EIR or other information in the record, and adopt a Statement of Overriding Considerations.

On July 20, 2008, the Planning Department sent a Notice of Preparation (NOP) to governmental agencies, including responsible and trustee agencies, and to organizations and persons interested in the project. The NOP is included as Appendix A of this EIR. The NOP requested agencies and interested parties to comment on environmental issues that should be addressed in the EIR. The comment letters received in response to the Initial Study and the NOP are available for review as part of Case File No. 2007.0558E. The Planning Department also conducted a public scoping meeting on August 5, 2008, to receive oral comments on the scope of the EIR. Comments requested that the EIR analyze the following:

- effects on traffic, transit, pedestrians, and bicyclists, potentially including specific standards for non-auto travel modes and financing, scheduling, and monitoring of mitigation, including applicable fees and fair-share contributions;
- cumulative impacts associated with potential future high-speed rail service to the new Transit Center;
- potential contamination of soil and/or groundwater from historical uses and the resulting need for remediation;
- shadow impacts on Recreation and Park Department parks, as well as recreation and park impacts generally;
- wind effects, including combined effects of wind, shadow, and fog, and shading of sidewalks;
- visual impacts, including changes in views from entry points to the City and from elevated viewpoints outside downtown;
- seismic impacts, including effects on emergency vehicle access;
- the potential for greater development intensity than proposed in the draft Plan;
- the use and applicability of the EIR and its analyses in consideration of development projects in the Plan area.

The City has considered the public comments made by the public in preparing the Draft EIR for the proposed project.

B. Purpose of This EIR

This EIR is intended as an informational document, that in and of itself does not determine whether a project will be approved, but aids the planning and decision-making process by disclosing the potential for significant and adverse impacts. In conformance with CEQA, California Public Resources Code, Section 21000 *et. seq.*, this EIR provides objective information addressing the environmental consequences of the project and identifies possible means of reducing or avoiding its potentially significant impacts.

This document is a "program level" Environmental Impact Report (EIR) for the Transit Center District Plan, as proposed by the San Francisco Planning Department, and a "project-level" EIR for the Transit Tower. Pursuant to CEQA Guidelines Section 15168, a program EIR may be prepared for a series of

actions that can be characterized as one large project, related, as in this case, geographically; as logical parts in a chain of contemplated actions; and in connection with the issuance of rules, regulations, plans and other general criteria to govern the conduct of a continuing program.

Specific technical studies prepared for the environmental analysis of the Transit Center District Plan project include a transportation study by AECOM (2011); historical resources background report Kelley & VerPlanck (2009) and Carey & Co. (2010); shadow analysis by CADP (2011); and wind analysis by RWDI Inc. (2011). These technical studies are detailed data reports and are available for review with the San Francisco Planning Department, in Case File No. 2007.0558E. In addition, an Archeological Research Design and Treatment Plan was prepared by Far Western Anthropological Research Group, Inc., Past Forward Inc., and JRP Historical Consulting.

The state CEQA *Guidelines* define the role and expectations of this EIR as follows:

> **Information Document.** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency (Section 15121(a)).
>
> **Degree of Specificity.** An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow (Section 15146(b)).
>
> **Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (Section 15151).

The CEQA *Guidelines*, Section 15382, define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project...." Therefore, in identifying the significant impacts of the project, this EIR concentrates on its substantial physical effects and upon mitigation measures to avoid, reduce, or otherwise alleviate those effects.

C. Organization of the Draft EIR

This Draft EIR has been organized as follows:

Summary. This chapter summarizes the EIR by providing a concise overview of the project, including the project description, the environmental impacts that would result from the project, mitigation measures identified to reduce or eliminate these impacts, and alternatives to the proposed project.

Chapter 1, Introduction. This chapter (above) and the contents herein, including a discussion of Environmental Review, a summary of the comments received on the scope of the EIR, and the organization of the EIR.

Chapter 2, Project Description. This chapter discusses the project objectives, provides background data on the project location, describes the operational and physical characteristics of the Master Plan, and identifies required project approvals.

Chapter 3, Plans and Policies. This chapter provides a summary of the applicable plans, policies, and regulations of the City and County of San Francisco (City), and regional, state, and federal agencies that have policy and regulatory control over the project site and discusses the proposed project's consistency with those policies.

Chapter 4, Environmental Setting and Impacts. This chapter describes the project's existing setting, environmental impacts, and cumulative impacts. Each environmental topic is discussed in a separate section within this chapter.

Chapter 5, Other CEQA Considerations. This chapter presents any growth-inducing impacts that would result from the proposed project, recapitulates the significant environmental effects that cannot be mitigated to a less-than-significant level, presents significant irreversible changes that would result if the project is implemented, and presents any areas of controversy left to be resolved.

Chapter 6, Alternatives. This chapter presents the following alternatives to the proposed project: the required No Project Alternative, the Reduced Project Alternative, and the Reduced Shadow Alternative, as well as an alternative that reflects specific projects proposed and on file with the Planning Department.

Appendices.

D. Public Participation

The state CEQA *Guidelines* and Chapter 31 of the San Francisco Administrative Code encourage public participation in the planning and environmental review processes. The City will provide opportunities for the public to present comments and concerns regarding the CEQA and planning process. These opportunities will occur during a public review and comment period and a public hearing before the San Francisco Planning Commission. Written public comments may be submitted to the Planning Department during the specified public review and comment period (indicated on the cover of this DEIR), and written and oral comments may be presented at public hearings concerning the project.

CHAPTER II
Project Description

A. Overview

The Transit Center District Plan (referred to hereinafter as the "Plan") is a comprehensive plan for the southern portion of San Francisco's downtown Financial District, encompassing approximately 145 acres roughly bounded by Market Street, Steuart Street, Folsom Street, and a line to the east of Third Street (see **Figure 1**). The area includes private properties as well as properties owned or to be acquired by the Transbay Joint Powers Authority (TJPA)[2] in and around the Transbay Redevelopment Project Area (for which a redevelopment plan was adopted in 2005) and the Transbay Terminal/Transbay Transit Center site.[3] The Plan area includes all of Zone 2 of the Transbay Redevelopment Area; the Plan area also includes most of Zone 1 but would not make any use district or height and bulk changes within Zone 1 (see Figure 1).[4] The Transit Tower, a high-rise office tower (up to approximately 1,070 feet tall)[5] would be located on the south side of Mission Street between Fremont Street and First Street, adjacent to the new Transbay Transit Center terminal currently under construction. The Transit Tower would be constructed on land currently owned by the TJPA that is intended to be sold to a private developer for the purpose of building the tower. The Transit Center District Plan and Transit Tower together comprise the proposed project analyzed in this EIR.

The project analyzed in this EIR is the draft Transit Center District Plan published in November 2009, and the Transit Tower based on plans that accompanied a revised Environmental Review Application dated March 18, 2011.

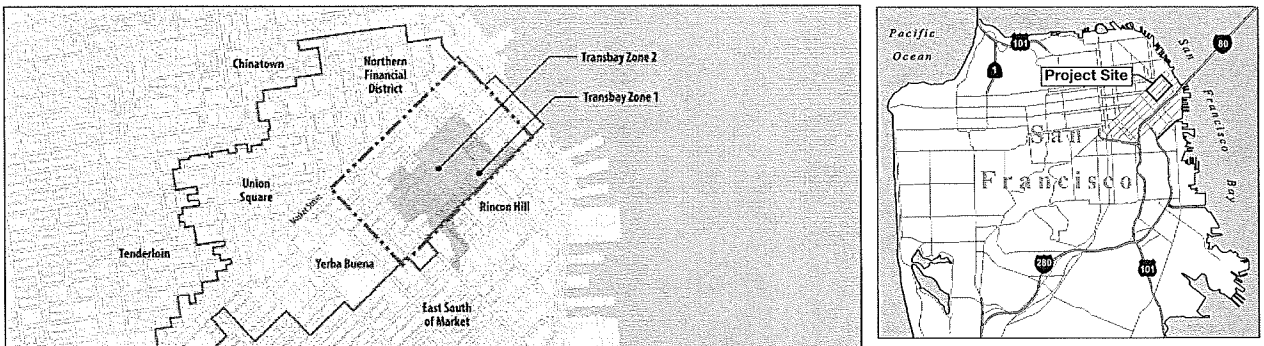
---

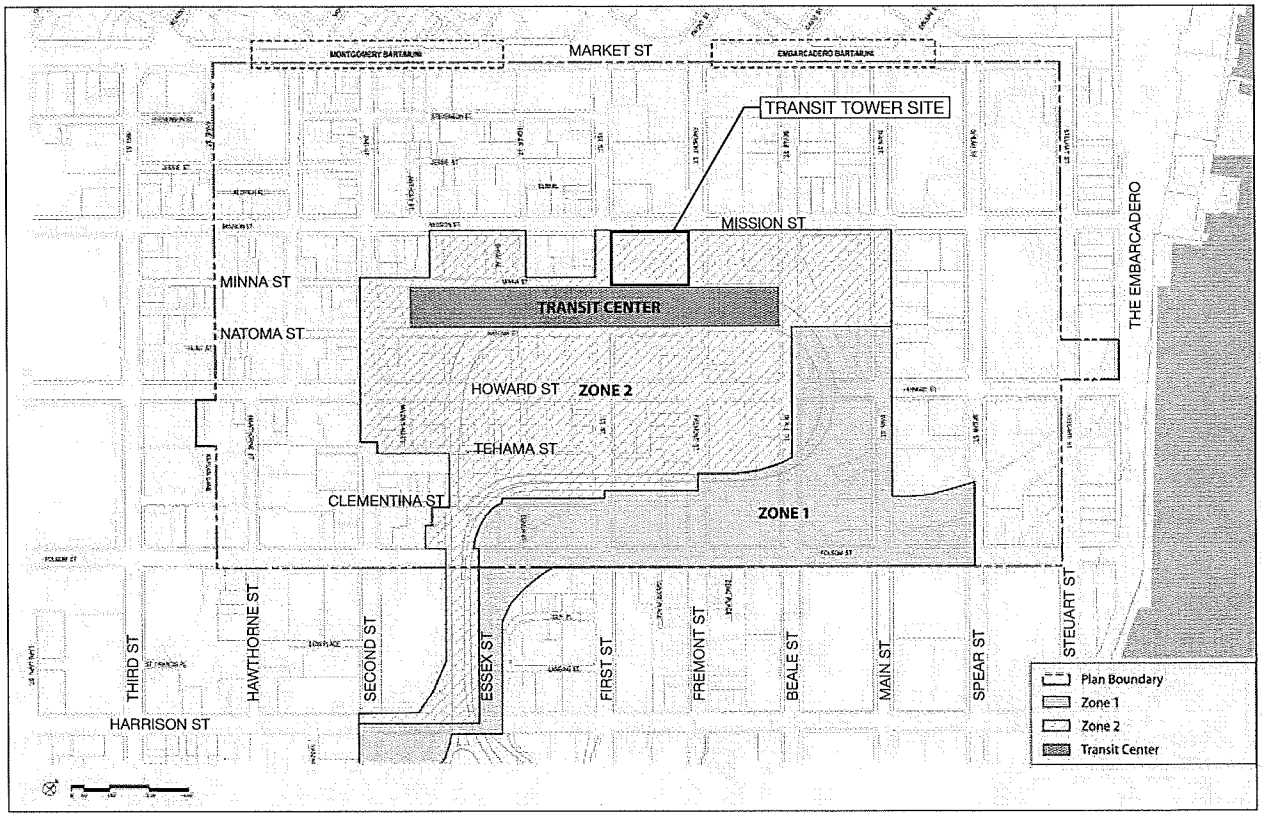
2 The TJPA is a Joint Powers Agency, formed pursuant to *California Government Code* Sections 6500 *et seq.*, composed of the City and County of San Francisco, the Alameda-Contra Costa Transit District ("AC Transit"), and the Peninsula Corridor Joint Powers Board-Caltrain, which is authorized to develop, design, construct, build, operate and maintain the new Transbay Transit Center. More information concerning the TJPA is available at: http://transbaycenter.org/tjpa/about-the-tjpa.

3 Demolition of the Transbay Terminal for purposes of constructing the new terminal, known as the Transbay Transit Center (or simply, the "Transit Center"), began August 2010. The Transit Center is now under construction.

4 Zone 1 of the Transbay Redevelopment Area generally comprises the parcels formerly occupied by the Terminal Separator Structure, which was the series of freeway ramps that formerly connected the Bay Bridge to the Embarcadero Freeway and to on- and off-ramps at Beale and Main Streets. Zone 1 is under the direct land use jurisdiction of the San Francisco Redevelopment Agency. The remainder of the Transbay Redevelopment Area is subject to the *San Francisco Planning Code*; in this Zone 2 the Redevelopment Agency has delegated its land use authority to the Planning Department.

5 The current design of the Transit Tower, as of spring 2011, is for a building 920 feet tall to the roof, with an unoccupied sculptural element rising an additional 150 feet, for a total height of 1,070 feet.





SOURCE: San Francisco Planning Department

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

● Figure 1 (revised)

Project Location and Plan Area Boundaries

The proposed project would result in new planning policies and controls for land use; urban form, including building height and design; street network modifications/public realm improvements; historic preservation; and district sustainability, including the enhancement of green building standards in the district, among other features. The Plan would allow for height limit increases in subareas composed of multiple parcels or blocks within the Plan area. It also includes one or more financial programs to support the Transit Center Program[6] and other public infrastructure and amenities in the area, through the implementation of one or more new fees, taxes, or assessments that would be applied to new development.

The proposed project would result in a comprehensive plan and implementing mechanisms, including *General Plan, Planning Code* and Zoning Map amendments, as necessary.

The main goals and objectives of the proposed Plan are listed below. In general, they include increasing the amount of allowable development in the transit-rich downtown core, while at the same time improving public amenities, modifying the system of streets and circulation to meet the needs and goals of a dense transit-oriented district, providing additional open space, and implementing policies to preserve existing historic structures and to promote sustainability.

This document is a "program level" Environmental Impact Report (EIR) for the Transit Center District Plan, as proposed by the San Francisco Planning Department, and a "project level" EIR for the Transit Tower. Pursuant to CEQA Guidelines Section 15168, a program EIR may be prepared for a series of actions that can be characterized as one large project, related, as in this case, geographically; as logical parts in a chain of contemplated actions; and in connection with the issuance of rules, regulations, plans and other general criteria to govern the conduct of a continuing program.

In addition to the new policies and controls (including modified building height controls) proposed by the Planning Department for the Transit Center District Plan, the EIR also analyzes, at a programmatic level, a Developer-Proposed Scenario that reflects certain applications submitted to the Planning Department by private project sponsors proposing individual buildings, which in some cases exceed or differ from the height limits identified in the proposed Plan.[7]

The Transit Tower, the subject of the project-level analysis, is described in greater detail below, in Section II.D, beginning on p. 38.

---

6 The "Transit Center Program" includes the new Transbay Transit Center on the site of the former Transbay Terminal, the downtown extension of rail for Caltrain and future California High-Speed Rail from the current rail terminus at 4th/King Streets into the Transit Center, along with ancillary bus ramps and bus staging areas.

7 These individual proposed projects include 350 Mission Street (Case No. 2006.1524; Final EIR certified and project approved on February 10, 2011), 50 First Street (Case No 2006.1523), 41 Tehama Street (Case No. 2008.0801), 181 Fremont Street (Case No. 2007.0456), and 2 New Montgomery Street (Case No. 2005.1101). These case files are available for review at the Planning Department, 1650 Mission Street, Suite 400.

B. Project Objectives

The Project Sponsor for the Transit Center District Plan is the San Francisco Planning Department. According to the Plan:

> The overarching premise of the Transit Center District Plan is to continue the concentration of additional growth where it is most responsible and productive to do so—in proximity to San Francisco's greatest concentration of public transit service. The increase in development, in turn, will provide additional revenue for the Transit Center project and for the necessary improvements and infrastructure in the District.[8]

A fundamental premise underlying the Transit Center District Plan is that, to accommodate projected office-related job growth in San Francisco, particularly under a so-called "Smart Growth" scenario[9] in which job growth is maximized in transit-accessible locations, additional office development capacity must be provided in downtown San Francisco. According to a study commissioned by the Planning Department, "there is about half of the necessary development capacity under current zoning to accommodate downtown projected job growth for the next 25 years."[10] Accordingly, the draft Plan seeks to "maintain Downtown San Francisco as the region's premier location for transit-oriented job growth within the Bay Area" (November 2009 Draft Plan, Objective 1.1) and to "reinforce the role of downtown within the City as its major job center by protecting and enhancing the central district's remaining capacity, principally for employment growth" (November 2009 Draft Plan, Objective 1.2).

The project objectives for the Transit Center District Plan are set forth in the draft Plan's five "fundamental core goals," which are as follows:[11]

(1) Build on the *General Plan's* Urban Design Element and Downtown Plan, establishing controls, guidelines, and standards to advance existing policies of livability, as well as those that protect the unique qualities of place;

(2) Capitalize on major transit investment with appropriate land use in the downtown core, with an eye toward long-term growth considerations;

(3) Create a framework for a network of public streets and open spaces that support the transit system, and provides a wide variety of public amenities and a world-class pedestrian experience;

(4) Generate financial support for the Transbay Transit Center project, district infrastructure, and other public improvements; and

(5) Ensure that the Transit Center District is an example of comprehensive environmental sustainability in all regards.

---

8 November 2009 draft, p. 4

9 The "Smart Growth" scenario was included in analysis of the demand for office space in San Francisco conducted in support of preparation of the draft Plan. This analysis is contained in: Seifel Associates, "Downtown San Francisco: Market Demand, Growth Projections, and Capacity Analysis." May 2008; p. II-9. Available on the Transit Center District Plan webpage (reviewed January 8, 2011) at: http://www.sf-planning.org/ftp/CDG/docs/transit_center/R_TransitCenter_051308_Final.pdf.

10 November 2009 draft, p. 15; based on Seifel Associates study cited in footnote 9.

11 November 2009 draft, p. 4

Additionally, the proposed Plan has three "sustainability goals," which are also project objectives:

(1) Support (and where possible exceed) existing city environmental, sustainability and climate change objectives;

(2) Require and enable low impact, high performance development within the Transit Center development area; and

(3) Pursue the coordination and planning for district-level sustainability programs and objectives.

For purposes of this EIR, the Project Sponsor for the Transit Tower is the Transbay Joint Powers Authority (TJPA). The objectives for the Transit Tower include the following, in addition to the project objectives applicable to the entire Plan area:

(1) Create a signature building to serve as the new visual focus of downtown San Francisco;

(2) Provide complementary design of and access between the new Transit Center and the proposed Transit Tower (although the two structures have been designed to be constructed independently), along with accompanying open space and public amenities;

(3) Generate substantial funding from the development rights for the tower to help enable successful completion of the Transit Center Program, including construction of the approved Transit Center with capability to accommodate regional and local bus service, a future downtown Caltrain extension, and future high-speed rail service; and

(4) Create a substantial amount of new transit-oriented office and retail space.

C. Background

The proposed Transit Center District Plan (November 2009 draft) builds on a number of prior and current planning efforts that have sought to shape the intensity, design, and pattern of future development in the vicinity of the project site. The most notable of these are the Downtown Plan (an area plan within the *San Francisco General Plan*), which was adopted by the City in 1985, and the Urban Design Element of the *General Plan*, which was adopted by the City in 1971.

In addition, in response to more recent development trends and infrastructure investments in the vicinity of downtown San Francisco, the Planning Department has determined that it is appropriate to draft a comprehensive plan for the area around the Transbay Transit Center. The proposed plan is, therefore, analyzed in the context of the following concurrent plans and projects:

- *Transbay Transit Center/Downtown Rail Extension* – The Transit Center terminal will replace the former Transbay Terminal with a new modern multimodal Transit Center that will serve multiple local and regional transportation systems under one roof and anchor the Transbay Redevelopment Area. The new terminal will replace the former Transbay Terminal as the downtown terminal for much of the service provided by the San Francisco Municipal Railway (Muni), AC Transit, SamTrans, and Golden Gate Transit, along with Greyhound bus service. Assuming that additional funding is secured, the Transit Center also would accommodate an underground extension of the Caltrain line as well as the future California High-Speed Rail from Fourth and King Streets to the new terminal. The new Transit Center and the rail extension were analyzed in an EIS/EIS prepared

in 2004 and subsequently amended.[12] The Transit Center will also include a new 5-acre public open space, known as "City Park," atop the Transit Center building; this park is planned as part of the initial phase of the new Transit Center, which is currently under construction, and is not dependent on the Caltrain or high-speed rail component.

- *Transbay Redevelopment Plan* – The Transbay Redevelopment Project Area, created in 2005, encompasses about 55 acres and is generally bounded by Mission, Main, Folsom, and Second Streets. The Redevelopment Plan area contains the former Transbay Terminal and access ramps, as well as a number of vacant and underutilized properties and older buildings, many of which are substantially deteriorated and/or constructed of unreinforced masonry. The Plan sets forth various projects and programs that will be funded with tax increment dollars over the life of the Redevelopment Plan. Proceeds from the sale of the property and approximately $178 million of the net tax increment will be pledged to the Transbay Joint Powers Authority to help pay the cost of rebuilding the Transbay Terminal as an improved, modern regional transit hub (the Transit Center). The Plan also calls for new residential development on parcels along Folsom Street formerly occupied by the Embarcadero Freeway ramps, as well as a tower adjacent to the new terminal (the Transit Tower site). The Transbay Redevelopment Plan was also analyzed in the previously-referenced EIS/EIR for the Transbay Transit Center/Rail Extension.

- *Rincon Hill Plan* – The Rincon Hill Plan, adopted in 2005, encourages high-density residential development and greater building heights in the area between Folsom Street and the Bay Bridge. The goal of the Plan is to encourage the ongoing transformation of the area into a new mixed-use high-density residential neighborhood adjacent to the downtown, with both strong urban design controls and implementing mechanisms to fund the necessary public infrastructure, including open space, streets, community facilities, and affordable housing. Together with plans for the Transbay Redevelopment Plan, the Rincon Hill Plan will create housing for as many as 20,000 new residents. The Plan calls for location of retail shops and neighborhood services along Folsom Street, and transformation of Main, Beale, and Spear Streets into traffic-calmed, landscaped residential streets lined with townhouses and front doors. Funding for the acquisition and development of open space in the district is also included, from development impact fees.

The Planning Department has determined that, due to the changes described above, coupled with the realization of moving forward with the Transit Center Program and the fact that substantial growth has occurred in the 25 years since the Downtown Plan was adopted, the land uses, urban form and public realm of the downtown core should be reexamined. This planning effort is intended to shape the next generation of downtown growth, extrapolating on the core principles of city building at the heart of the Urban Design Element and Downtown Plan.

The proposed Transit Center District Plan is intended to build on the Downtown Plan, which envisioned the area around the former Transbay Terminal as the heart of the expanded downtown. In contrast to the adopted Transbay Redevelopment Plan, which focuses mostly on public properties south of the Transit

12 U.S. Department of Transportation Federal Transit Administration, the City and County of San Francisco, Peninsula Corridor Joint Powers Board, and San Francisco Redevelopment Agency, *Transbay Terminal/Caltrain Downtown Extension Redevelopment Project Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation, June 2004*, and subsequently published Addenda 1 through 5 (SCH #95063004). Available along with addenda to the EIS/EIR, at http://transbaycenter.org/tjpa/documents/environmental-documents.

Center along Folsom Street, this new effort focuses on both private properties and properties owned or to be owned by the TJPA around the Transit Center itself and extending toward Market Street. The Transit Center District Plan includes mechanisms to direct funding to the construction of the Transit Center and other public improvements in the area.

The Transit Center District Plan area overlaps with the Transbay Redevelopment Project Area, and includes all of Zone 2 of the Transbay Redevelopment area, with the exception of a "tail" that extends southward from Folsom Street generally along Essex Street to encompass elevated bus ramps and the right-of-way of former freeway off-ramps.[13] The San Francisco Redevelopment Agency has implemented a Delegation Agreement with the Planning Department to generally delegate responsibility and jurisdiction for planning, zoning, and project entitlements in Zone 2 to the Planning Department and Planning Commission. The Redevelopment Plan is being implemented in partnership with the Redevelopment Agency and involves review by the Agency's Transbay Citizens' Advisory Committee.

D. Project Components

Transit Center District Plan

Location

As noted above, the Plan area is located in the southern portion of the downtown Financial District, roughly bounded by Market Street, Steuart Street, Folsom Street, and a line to the east of Third Street. It includes all of Zone 2 of the Transbay Redevelopment Area, and includes a portion of Zone 1 (see Figure 1), only for streetscape changes and roadway modifications consistent with the Transbay Redevelopment Plan. No changes in land use controls are proposed for Zone 1. Altogether, the Plan area comprises approximately 145 acres and is surrounded by the Financial District, Rincon Hill, the waterfront, and the Yerba Buena Center neighborhoods; it is centered on the site of the former Transbay Terminal, which was demolished in 2010. The Plan area boundary delineates the designated area that is analyzed in this EIR.

Existing Land Use Controls

The principal land use in the Plan area is office, although the Plan area also contains retail and mixed-used developments, as well as a limited number of residential buildings, two hotels—the Palace on New Montgomery and a Courtyard by Marriott on Second Street—and a limited amount of institutional and light industrial or Production, Distribution, and Repair (PDR) uses. (Two additional hotels, the St. Regis and the W, are on Third Street, just outside the Plan area.) In terms of zoning, the Transit Center District Plan area is generally composed of the Downtown Office (C-3-O), Downtown Office (Special Development) (C-3-O (SD)), Downtown Support (C-3-S), Transbay Downtown Residential (TB-DTR), and

[13] The draft Plan includes streetscape changes and road modifications within Zone 1 of the Transbay Redevelopment Area, although no land use or height changes are proposed within this area.

Public (P) use districts, the last one primarily encompassing the site of the former Transbay Terminal and its ramps (see **Figure 2**). Areas zoned TB-DTR comprise Zone 1 of the Transbay Redevelopment Area.

In terms of permitted uses, the C-3-O and C-3-O (SD) districts, which make up the majority of the Plan area, both permit office uses as principal uses and include controls that generally encourage concentrated, high density office development. Residential uses and some related retail and service uses are also permitted within these districts. In addition, the C-3-O (SD) district allows a lesser intensity of development, measured in terms of floor area ratio, as of right than does the C-3-O district, but the C-3-O (SD) district also permits unused development potential on lots containing historic resources from other C-3 districts to be directed to sites in the C-3-O (SD) district through the transferrable development rights (TDR) process, discussed below. Notwithstanding this distinction, all other provisions listed for the C-3-O district also apply to the C-3-O (SD) district. Both districts permit the same maximum floor area ratio of 18:1.

Those portions of the Plan area within the P zoning district are intended for some form of public use, including open space, while the areas designated TB-DTR are entirely within the Transbay Redevelopment Project Area and are, therefore, envisioned for high-density, predominantly residential uses, with some retail uses and open space, as provided for in the Transbay Redevelopment Plan and its companion documents, including the *Design for the Development* and the *Development Controls and Design Guidelines* for the Transbay Redevelopment Project.

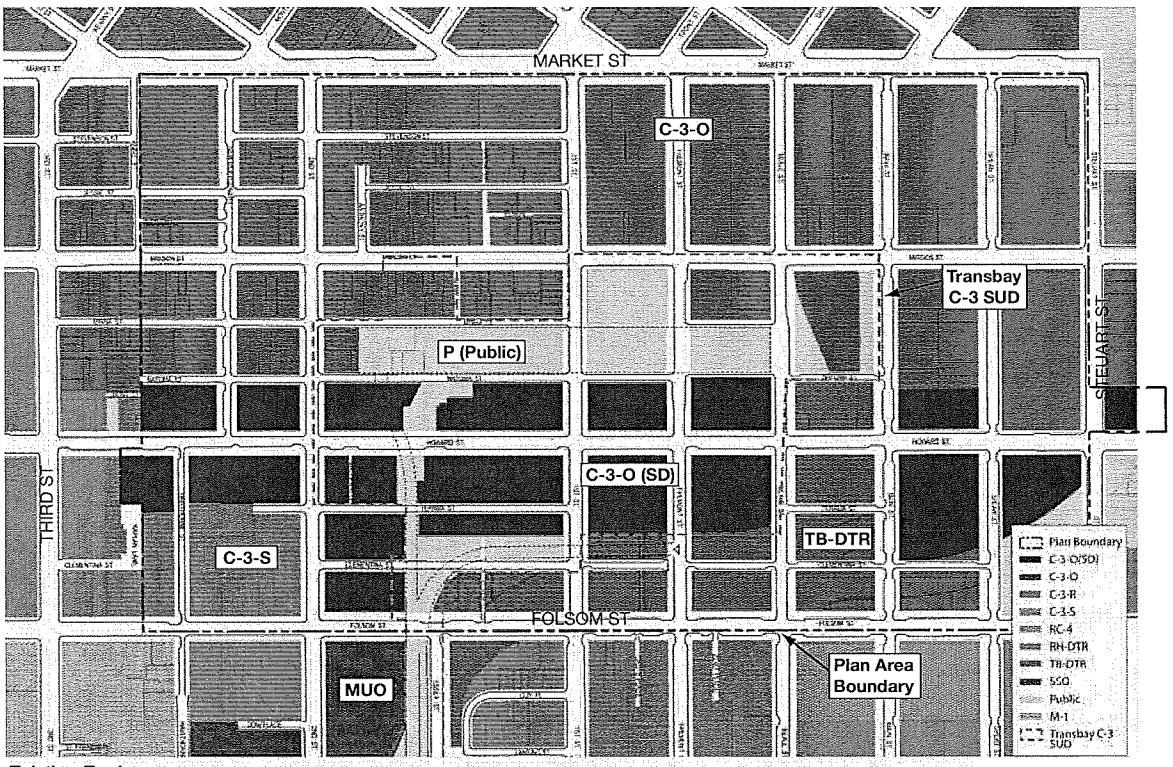
The Plan area also contains the Transbay C-3 Special Use District (SUD), which is coterminous with Zone 2 of the Redevelopment Area, and which contains additional land use controls to implement the Transbay Redevelopment Plan and its companion documents (*Planning Code* Section 249.28). In general, these controls require proposed development within the SUD to undertake streetscape improvements, deposit fees into the Downtown Open Space Fund and pay other fees into the Redevelopment Agency's Citywide Affordable Housing Fund to construct affordable housing on-site[14] and, for any parcels adjacent or facing the new Transit Center and its ramp structures, provide active ground floor uses and direct pedestrian access from these areas to the ramps around the future Transit Center.

Existing Height Controls

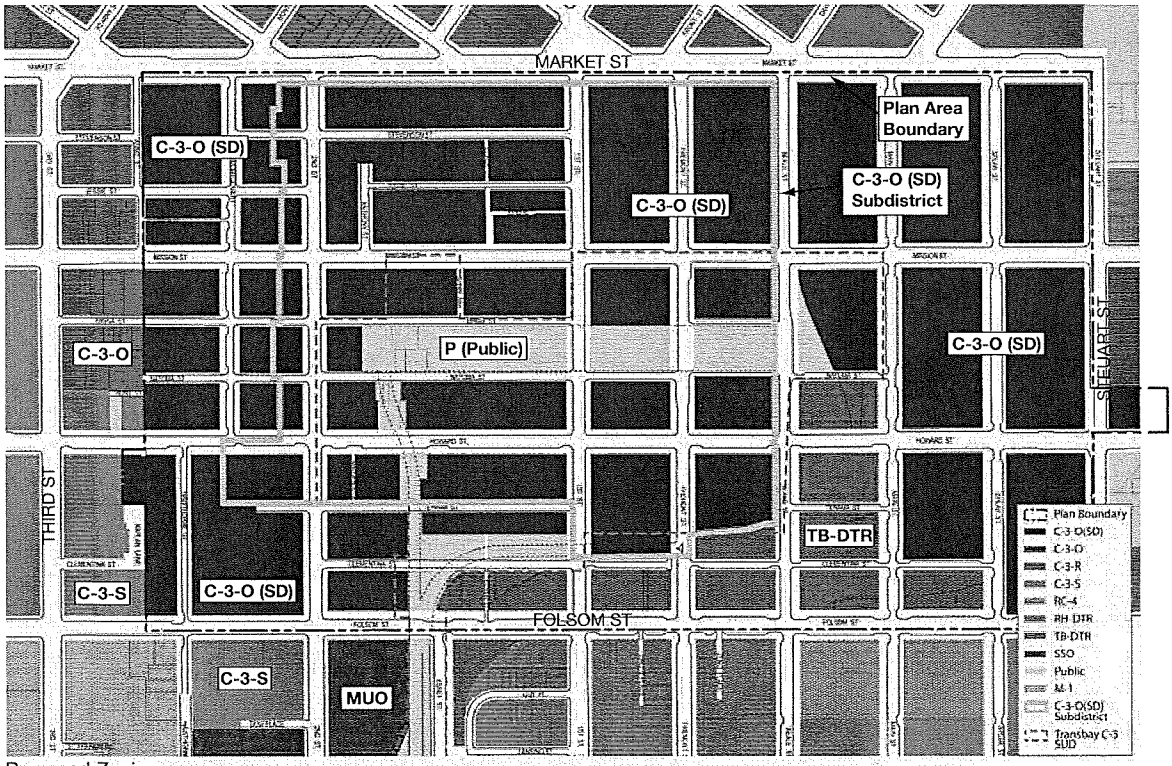
The Plan area contains a mixture of height and bulk districts within its boundaries. The height districts range from 30 feet to 550 feet and bulk districts include X, I and S.[15] **Figure 3** presents existing and proposed height limits. Because the existing controls in the Plan area support and encourage high-density office development, and because the Plan area is located in an area supported by a wide range of public

14 Contribution to funds and payment of fees are similar to requirements established in other districts; however, these funds are directed specifically to the San Francisco Redevelopment Agency.

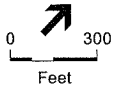
15 The X bulk district places no limitations on building bulk and applies only in height districts that permit relatively shorter buildings. The I bulk district limits building bulk (i.e., requires setbacks in larger buildings) above 150 feet. The S bulk district, unique to the C-3 (Downtown) use districts, limits building bulk based on formulae determined by the width of adjacent streets and the height of the building. It also sets absolute limits on the bulk of high rise towers.



Existing Zoning



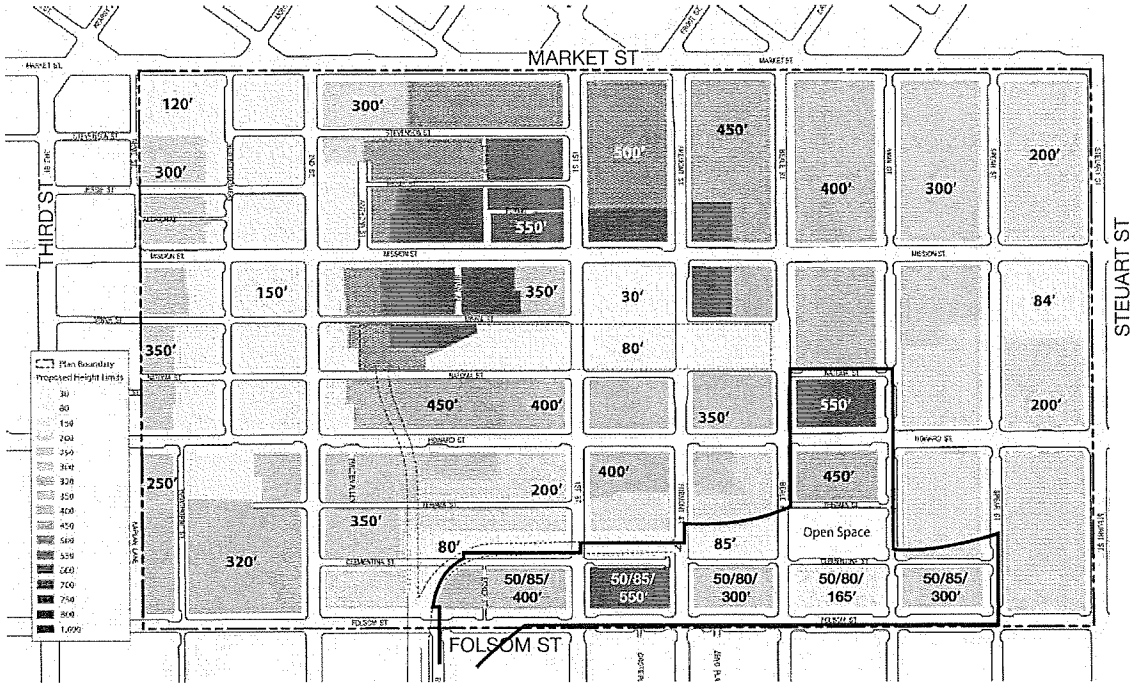
Proposed Zoning



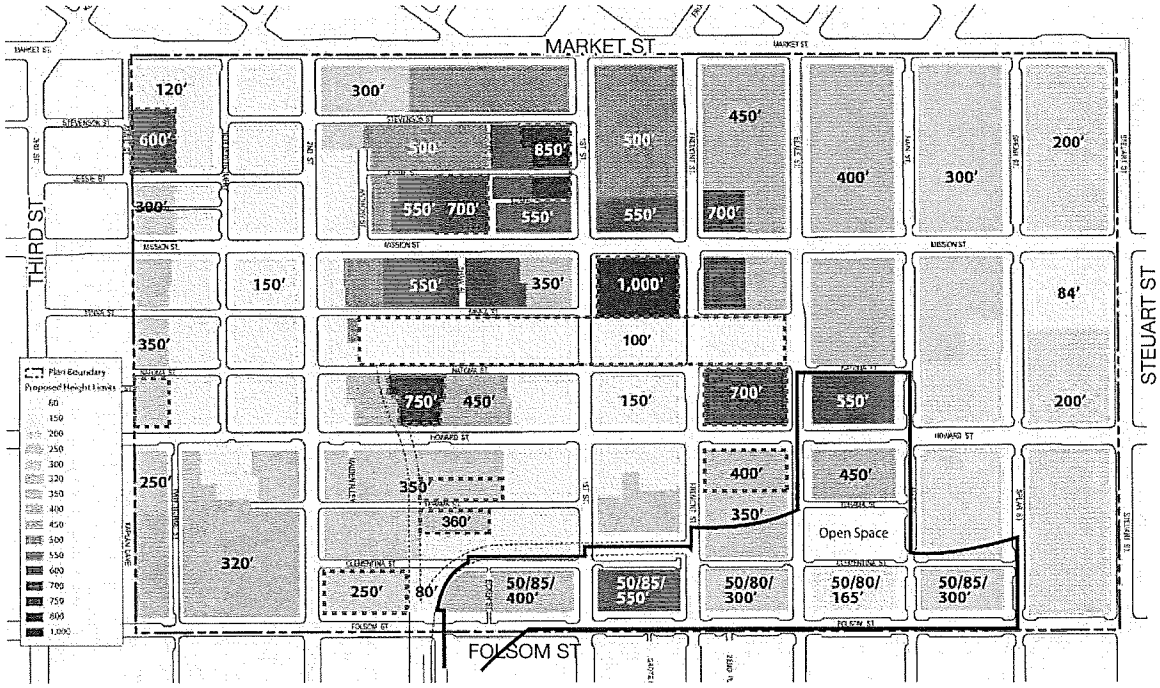
Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: San Francisco Planning Department, 2009

Figure 2
Existing and Proposed Zoning



Existing Height Limits



Proposed Height Limits

Areas Proposed for Increased Height Limits

Transbay Redevelopment Plan (Zone 1)

0 300 Feet

Note: Proposed height limits of 600 feet and greater would not include 10% additional height per Planning Code Sec. 263.9.

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: San Francisco Planning Department, 2009, 2012

Figure 3 (revised)

Existing and Proposed Height Limits

transit systems and is in close proximity to the historical financial and commercial core of San Francisco, the project vicinity contains a large number of mid-rise and high-rise buildings as compared to other parts of San Francisco. Consistent with the Downtown Plan's direction to expand the traditional downtown to a new "South Financial District" around the site of the former Transbay Terminal, the Plan area's 550-foot height limits in the vicinity of the terminal site are the greatest heights currently permitted anywhere in San Francisco, with the exception of a single parcel on Rincon Hill and a single parcel on Folsom Street in Zone 1.

Proposed Planning Policies and Land Use Controls

The draft Plan would rezone the bulk of the Plan area to the C-3-O (SD) use district, with the exception of Zone 1 of the Transbay Redevelopment Plan, which would not change, and most existing P Districts (other than the Transit Tower site), which would remain similar to present conditions.[16] The Plan would also include additional policies and land use controls intended to implement the Plan. These proposed policies and land use controls are described below and would fall under six major categories: Land Use, Urban Form, Public Realm, Moving About (transportation), Historic Preservation, and District Sustainability.

Selected Plan objectives and policies are included below; a complete list of objectives and policies proposed as part of the draft Transit Center District Plan is provided in **Appendix B**.

Land Use

Creation of a Commercial District

As a prelude to drafting the Transit Center District Plan, the Planning Department commissioned a study to evaluate the future of job and housing growth in San Francisco.[17] The study's conclusions were that, particularly with the implementation of so-called "smart growth" policies across the Bay Area that encourage development of jobs near transit, downtown San Francisco would not be able to provide sufficient space for anticipated growth in office space based on existing zoning. On the other hand, the downtown has sufficient capacity to accommodate the demand for future residential development, whether based on historical trends or smart growth forecasts.[18]

Accordingly, one of the major goals of the draft Plan is to ensure that there is sufficient growth opportunity for high-density, largely office-based, jobs in the downtown core, immediately proximate to

16 Changes to P Districts would consist of elimination of P zoning on an approximately 60-foot-wide strip on the east side of Main Street south of Mission Street; elimination of P zoning on the block bounded by Howard, Steuart, Folsom, and Spear Streets (former Embarcadero Freeway right-of-way); reconfiguration of P parcels along the realigned route of the Transit Center ramps between Tehama and Howard Streets; and rezoning of the Transit Tower site to C-3-O (SD).

17 Seifel Associates, "Downtown San Francisco: Market Demand, Growth Projections, and Capacity Analysis." May 2008; see footnote 9, p. 8.

18 The Seifel Associates study did not consider affordability of housing; provision of sufficient housing that is affordable to lower-income residents remains an ongoing concern of the City, but is not addressed in this discussion. The study referenced herein is available on the internet at: http://www.sf-planning.org/ftp/CDG/docs/transit_center/R_TransitCenter_051308_Final.pdf.

the region's best transit service. To this end, the Plan would limit the amount of non-office space in major new construction within a portion of the Plan area, as a mechanism to attain an overall ratio of no less than 70 percent office space within the Plan area. To achieve this, the Plan proposes two additional zoning changes in addition to rezoning to C-3-O (SD): elimination of limits on floor area ratio (FAR)[19] and enactment of limits on the amount of non-commercial development in the core of the Plan area.

The maximum permitted FAR is currently 18:1. The base allowable FAR in the Plan area varies from 5:1 in C-3-S districts to 9:1 in C-3-O districts. At present, a project may achieve up to a maximum of 18:1 through purchase and application of transferrable development rights (TDR) from qualifying historic buildings in the downtown. (Future use of TDR is discussed under Historic Preservation, p. 32, below.) The draft Plan proposes the following zoning changes:

- Rezone the entre Plan area to C-3-O (SD) and eliminate the maximum 18:1 cap on Floor Area Ratio (FAR) limit on development in this zone (November 2009 Draft Plan, p. 18).

The limit on non-commercial development would occur through creation of a sub-district within the Plan area within which major new construction on large sites would be required to have a minimum ratio of commercial to non-commercial (e.g. residential, hotel, cultural) uses. The proposed requirement is as follows:

- On development sites larger than 15,000 square feet within a prescribed sub-area of the C-3-O (SD) district, new construction greater than 6:1 FAR would be required to have at least two square feet of commercial space for every one square foot of residential space. (November 2009 Draft Plan, p. 19; April 2012 Plan Supplement, p. 3)

The C-3-O (SD) Subdistrict in which the limits on non-commercial space would apply is proposed to be bounded generally by Market Street on the north, Main Street on the east, Zone 1 of the Transbay Redevelopment Plan and Tehama Street on the south, and midway between Second and New Montgomery Streets on the west. Figure 2, p. 13, illustrates the proposed C-3-O (SD) Subdistrict described above, as well as other proposed changes in Planning Code use districts.

To maximize the potential for the Plan area to accommodate future job growth, the Plan also proposes a minimum level of development—a FAR of at least 9:1—on sites larger than 15,000 square feet. According to the draft Plan, "to site buildings of modest scale on the few handful of downtown sites adjacent to regional transit that are considered appropriate for taller and denser buildings is probably not the best long-term land use or transportation decision."[20] In addition, the draft Plan seeks to encourage continuous consumer retail uses on key street frontages, and maximize the diversity of businesses on the ground floor to create lively destination commercial areas. Establishment of zoning controls to achieve the following would address this goal:

---

19 Floor area ratio is the ratio of total floor area within a building (absent specified exceptions) to the size of the lot. That is, a three-story building that fully covers its lot would have a floor area ratio (not counting exceptions) of 3:1.

20 November 2009 draft, p. 20.

- Active retail uses are required along the following frontages:
  - 2nd Street between Market and Folsom streets
  - Natoma between 2nd Street and half way between 2nd and 1st streets
  - Ecker Street and the continuation of Ecker Street between Market and Mission streets
- Banks/credit unions/financial service, insurance, travel agencies, offices, and gyms/health clubs are not permitted on the first floor along the frontages listed above. Building lobbies should be located on alternative street frontages, if available, to those listed above.
- Buildings fronting on non-service pedestrian alleys (Ecker, Elim, Malden, Oscar) should be lined at the ground level with active uses—lobbies, retail, public open space (November 2009 Draft Plan, p. 21).

- In addition to the elimination of limit on FAR, the draft Plan would also eliminate the existing maximum dwelling unit density in the C-3-O (SD) use district. Thus, both residential and non-residential density would be limited only by building height and bulk restrictions. The Draft Plan also proposes elimination of the requirement for Conditional Use authorization for residential densities greater than 1 unit per 125 square feet of lot area.

Urban Form: Building Heights and Design

As noted, the Plan seeks to build upon the Downtown Plan and the Urban Design Element of the *General Plan*. "These plans set out the policies that have achieved the characteristics of downtown San Francisco we enjoy today: a compact, human-scaled, walkable and dynamic urban center and a dramatic concentrated skyline set against the natural backdrop of the city's hills. [The Plan's urban design framework] builds on the core principles of city form established in these two plans. It presents key objectives and policies for directing new development in a manner that enhances the overall cityscape and builds upon established and planned transit assets downtown."[21]

Figure 3, p. 14, illustrates the proposed height limits under the draft Plan and the specific subareas where height limits are proposed to be increased within the Plan area.

The draft Plan seeks to create an "elegant skyline … with its apex at the Transit Center, and tapering in all directions" so that the Transit Center becomes "the center of downtown, reinforcing the primacy of public transit in organizing the City's development pattern" (November 2009 Draft Plan, Objectives 2.2 and 2.3).

The greatest proposed height limit is a 1,000-foot height district at a site on the south side of Mission Street between First and Fremont Streets, adjacent to the north side of the new Transit Center. This is the site of the proposed Transit Tower, which the Plan envisions as the City's tallest structure, with an "enclosed" height (i.e., the height to the highest occupiable floor and mechanical level, if the latter would cast shadow on protected parks) of 1,000 feet (November Draft Plan, Policy 2.1). The Plan also calls for a sculptural element atop the 1,000-foot-tall tower, provided that this element does not result in "significant" shadows (November Draft Plan, Policy 2.2).[22] Other height districts that exceed the current maximum of 550 feet would allow for approximately six very tall buildings nearby whose height—up to a maximum of 850 feet—would be appropriately shorter than the Transit Tower. The Transit Tower

21 November 2009 draft, p. 23.

22 As noted previously, and discussed in more detail in the description of the proposed Transit Tower, p. 38, the current proposed height for the Transit Tower is 920 feet to the roof and 1,070 feet in total.

would be required to be developed at a minimum height of 750 feet, and a minimum total height with architectural feature of 950 feet (November 2009 Draft Plan, Policy 2.6).

South towards Folsom Street, heights would not be increased above generally prevailing existing height limits to provide for "a lower 'saddle' to clearly distinguish the downtown from the Rincon Hill form and to maintain views between the city's central hills and the Bay Bridge" (November 2009 Draft Plan, Policy 2.4).

The Plan proposes an 850-foot height district on the west side of First Street between Stevenson Street and Elim Alley, just north of First Street (see Figure 3). Recognizing that private interests will be responsible for the majority of development activity in the Plan area, the Plan calls for consideration of shifting this zone slightly to the west, along Mission Street, 10 years hence should no building taller than 700 feet be erected in the 850-foot zone. The Plan also states that, if the Transit Tower is ultimately constructed to a height less than 900 feet, the City should consider creating a 1,000-foot height zone near First and Mission Streets to ensure creation of "a new crown to the skyline adjacent to the Transit Center" (April 2012 Plan Supplement).[22a]

Table 1 summarizes the proposed changes to height districts within each of the Plan subareas.

Shadow on Public Spaces

Because the Transit Center District Plan calls for changes in height limits that would permit buildings up to 450 feet or more (including sculptural elements) than are permitted currently, the draft Plan considers potential shading impacts on public open spaces. The Plan expressly acknowledges that new buildings 600 feet and taller could add new shadow to certain public open spaces, including Union Square, St. Mary's Square, Portsmouth Square, and Ferry Park and Justin Herman Plaza (the latter two of which extend from Washington Street to south of Market Street). The draft Plan notes that some of the initial proposals for increased height limits were adjusted as a result of a preliminary analysis of shadow impacts. The Plan calls for potential improvements to some of the affected parks, as well as the creation of new open spaces within the Plan area. The Plan proposes, however, that shadow impacts of tall buildings be considered in light of the Plan's other goals and objectives, including creating a graceful skyline form and accommodating future job growth, and the draft Plan proposes policy language to this effect:

> Balance consideration of shadow impacts on key public open spaces with other major goals and objectives of the plan, and if possible, avoid shading key public spaces during prime usage times (November 2009 Draft Plan, Objective 2.5).[23]

The April 2012 Supplement to the draft Plan proposes to limit shadow effects from buildings taller than the existing maximum height limit of 550 feet, stating:

22a *Final Supplement to the Transit Center District Plan;* available on the internet at: http://www.sf-planning.org/ftp/CDG/docs/transit_center/TCDP_Initiation_I_PlanAddendum.pdf.

23 The draft Plan does not propose revisions to *Planning Code* Section 295, which generally prohibits the approval of projects that would shade Recreation and Park Department properties during the period from one hour after sunrise to one hour before sunset, unless the Planning Commission, upon the advice of the Recreation and Park Commission, determines that the shadow would have an insignificant impact on the use of the property.

- The typical height limit rules that apply to buildings in the S bulk districts which allow tower extensions and that govern architectural elements at the tops of buildings should not apply to buildings taller than 550 feet. Instead, a new bulk district, S-2, with specific rules should be crafted to apply to such tall buildings to reflect their central and iconic positions on the skyline in order to enhance their appearance while minimizing potential visual and shadow impacts.

- Under existing zoning, *Planning Code* Section 263.9 allows a building to have additional height up to 10 percent above the height limit if the bulk of the building's "upper tower" (approximately the upper one-third) is reduced by a specified percentage (defined in Section 271), compared to the bulk that would result from a vertical extension of the lower tower. As a condition of the additional height, the Planning Commission must find, pursuant to the Section 309 approval process, that "the upper tower volume is distributed in a way that will add significantly to the sense of slenderness of the building and to the visual interest to the termination of the building, and that the added height will improve the appearance of the sky-line when viewed from a distance, will not adversely affect light and air to adjacent properties, and will not add significant shadows to public open spaces."

- The draft Plan, as amended, proposes that, in the proposed new S-2 bulk district, buildings greater than 550 feet in height may gain approval for additional height only to accommodate unoccupied building features, including mechanical/elevator penthouses, enclosed and unenclosed rooftop screening, and "unenclosed architectural features." The Planning Commission would have to review and approve such additional height pursuant to *Planning Code* Section 309, and would have to determine that three specific criteria are met: 1) the additional building elements would "not add more than insignificant amounts of additional shadow compared to the same building without such additional elements on any public open space"; 2) other than a spire limited to 50 feet in height and 18 feet in maximum plan dimension, the additional height would be limited to 7.5 percent of the roof height of the highest occupied floor (except that no limit would apply to a building in the 1,000-foot height district—which is to say that the proposed Transit Tower would not be limited in the height of its rooftop sculptural feature); and 3) the additional rooftop building elements "are designed as integral components of the building design, enhance both the overall silhouette of the building and the City skyline as viewed from distant public vantage points by producing an elegant and unique building top, and achieve overall design excellence" (April 2012 Plan Supplement, p. 6)

A complete analysis of potential shadow impacts of the draft Plan and the proposed Transit Tower can be found in Section IV.J, Shadow, p. 466.

TABLE 1
PROPOSED HEIGHT LIMIT INCREASES

Subarea Location	Existing Height Limits (feet)	Proposed Height Limit (feet)
1. Transit Tower (Mission and First Streets)	30	1,000
2. Between Fremont and Beale Streets, north and south of Mission Street	Ranges from 450 to 550	700
3. East side of Fremont Street, north of Howard Street	350	700
4. Between Fremont and Beale Streets, from Howard Street south to Clementina Street	Ranges from 80 to 350	350 to 400
5. Between Clementina and Folsom Streets, from Second Street to Essex Street	200	250
6. Between Natoma and Howard Streets, east of Second Street	450	750
7. Between Stevenson Street and Elim Alley, west of First Street	550	850
8. Between Jessie and Mission Streets, mid-block between First and Anthony Streets	550	700
9. South side of Tehama Street, mid-block between First and Second Streets	200	360
10. North side of Tehama Street, mid-block between First and Second Streets	200	350
11. Between Stevenson and Jessie Streets, from Annie to west of New Montgomery Streets	300	600
12. Between Natoma Street and Howard Street, mid-block between New Montgomery and Third Streets	250	350

SOURCE: San Francisco Planning Department, 2009; 2012

Building Bulk and Design Guidelines

The Plan proposes guidelines regarding bulk and building form that build upon the standards established in the Downtown Plan, and proposes ground-floor design standards that are meant to encourage active and spacious ground floors, promote continuous street-level facades, and allow for the widening of sidewalks in areas where the redevelopment of contiguous parcels is anticipated to occur.

While the Plan proposes the elimination of maximum limits on floor area ratio, existing tower separation rules in the C-3 districts would remain in force, and would be extended to cover buildings greater than the current maximum 550-foot height limit, such that the top of a 1,000-foot-tall building would have to be set back 70 feet from the center of a typical major street in the Plan area. Also, where multiple towers are developed on the same property, setbacks of up to 70 feet would apply to these towers, as well to towers on separate lots.

The upper portions of tall towers (generally the top one-third of new buildings greater than 550 feet in height, referred to as the "upper tower") would be required to have an average floor plate that is at least 25 percent smaller than, and an average diagonal dimension at least 14 percent less than, that of the

"lower tower" (the remainder of the building above the base). This requirement is similar to, although less restrictive than, the volume reduction requirement currently contained in *Planning Code* Section 270(d)(3)(B), which requires that the upper tower contain floor plates up to 40 percent smaller than those of the lower tower.

The draft Plan proposes to strengthen the Downtown Plan's controls that call for the base of a tall building to be differentiated from the tower above, with the intent of establishing a more comfortable pedestrian environment at the ground level by limiting the height of continuous building façades rising from the sidewalk, requiring horizontal breaks at the streetwall height (between 50 and 110 feet), and encouraging the intermingling of lower scale building among the taller ones. Whereas the Downtown Plan includes a policy calling for a horizontal element (a "belt course") on the façade in a manner that suggests a human-scaled building base, the draft Plan states that "this architectural feature alone is insufficient"[24] to visually break up a very tall street wall that extends straight up from grade. By including this direction, the Plan would promote a more modest pedestrian scale at the ground level and would ensure that any proposed high-rise buildings proposed within the Plan area boundaries establish a distinct base element that defines the street realm at a comfortable height (no more than 1.25 times the width of the street).

To achieve these objectives, the draft Plan includes the following objectives and policies:

- Ensure that buildings taller than 150 feet establish a distinct base element to define the street realm at a comfortable height of not more than 1.25 times the width of the street.
  - Such a base element must be discernable from the tower form by any combination of upper level setbacks, projections, or other building features or articulations.
  - provide combined horizontal relief of at least 10 feet for at least 60 percent of the lot width.
  - Recesses of the base or changes of material alone are not sufficient streetwall defining treatments (November 2009 Draft Plan, Policy 2.10).
- A setback of 15 feet would be required within the existing New Montgomery-Second Street Conservation District (November 2009 Draft Plan, Policy 2.11).[25]

The draft Plan seeks to "ensure that development is pedestrian-oriented, fostering a vital and active street life" (November 2009 Draft Plan, Objective 2.12) through a number of design guidelines and directives. These include the following proposed policies:

- Limit the street frontage width of lobbies to 40 feet in width or 25 percent of the street frontage of the building, whichever is larger, and require the remaining frontage to be lined with public oriented uses, including commercial uses and public space (November 2009 Draft Plan, Policy 2.19);

---

24 November 2009 draft, p. 34.

25 This district, listed in Article 11 of the *Planning Code,* is proposed in the draft Plan to be expanded and renamed the New Montgomery-Mission-Second Street Conservation District; see discussion in Section IV.D, Cultural Resources, p. 32.

- Eliminate the Floor Area Ratio penalty for tall floors (November 2009 Draft Plan, Policy 2.23);[26] and
- Prohibit access to off-street parking and loading on key street frontages. Whenever possible, all loading areas should be accessed from alleys (November 2009 Draft Plan, Policy 2.24).

In addition, the Plan calls for amendment of *Planning Code* Section 136 to permit overhead horizontal projections of a decorative character deeper than 1 foot at all levels of a building on major streets (November 2009 Draft Plan, Policy 2.18).

Further, arcades would be discouraged (November 2009 Draft Plan, Policy 2.20), and ground-level facades would be required to have substantial transparency (November 2009 Draft Plan, Policy 2.21).

The draft Plan would pursue building setbacks along designated streets (see below) to allow for additional sidewalk widening beyond the widths called for in the public realm plan (see below, p. 21). A 12.5-foot setback would be required along the south side of Mission Street between First and Fremont Streets (location of the Transit Tower site). The proposed Plan also recommends 10-foot building setbacks be considered on the following frontages, depending on the sequence and particulars of development:

- North side of Mission Street between First and Second Streets;
- North side of Howard Street between First Street and Second Street; and
- West side of First Street between Market and Mission Streets (November 2009 Draft Plan, Policy 2.14 and 2.15).

Where applicable, such setbacks must be designed as an extension of the sidewalk, and must be:

- at sidewalk grade;
- completely free of all columns or other building elements; and
- open at all times for pedestrian circulation.

Finally, the draft Plan includes objectives and policies calling for high-quality building design and materials, including "green" building techniques such as use of materials that absorb minimal heat and the creation of "living," or planted walls.

Public Realm

Pedestrian Environment and Circulation

The draft Plan would build on the Downtown Streetscape Plan of 1995, as well as the 2006 Streetscape and Open Space Plan for the Transbay Redevelopment Area and the citywide Better Streets Plan, adopted in 2010, to create a "high quality public realm" covering the "shared space" of the Plan area, including its streets, alleys, sidewalks, parks, and plazas.[27]

---

26 Sec. 102.11 currently requires creating and counting "phantom floors" in square footage calculation where average floor-to-floor height exceeds 15 feet. This discourages relatively taller ground floor spaces.

27 November 2009 draft plan, p. 43.

Envisioning a sizable increase in pedestrian activity due to both new development and increased transit service to and from the new Transit Center (including the potential for a Caltrain extension to downtown and statewide high-speed rail service), the draft Plan places heavy emphasis on improving the pedestrian environment by widening and making improvements to sidewalks (including installation of landscaping and street furniture and other amenities), selectively eliminating on-street parking, and applying a "living streets" treatment to create "linear plazas" along Beale, Main, and Spear streets in the eastern portion of the Plan area (November 2009 Draft Plan, Policies 3.1 – 3.4). The draft Plan calls for creating sidewalk bulbs at intersections to increase sidewalk capacity and shorten crossing distances and improvements to crosswalks (e.g., special paving, raised crossings, lighting) (November 2009 Draft Plan, Policies 3.5 and 3.6), as well as the development of empirical measurement techniques to judge "the quality of streets both as walking corridors and social spaces for people" (November 2009 Draft Plan, Policy 3.7).

Under the draft Plan, curb cuts for access to off-street parking and loading would be restricted on Mission Street, Second Street, and additional mid-block alleys within the Plan area, and discouraged along First and Fremont Streets within the Plan area, while existing restrictions on new curb cuts along Folsom and Market Streets within the Plan area would be continued (November 2009 Draft Plan, Objective 3.5) (see **Figure 4**). The draft Plan calls for an explicit *Planning Code* change to implement this objective, including a requirement that exceptions be approved by the Board of Directors of the Municipal Transportation Agency (MTA):

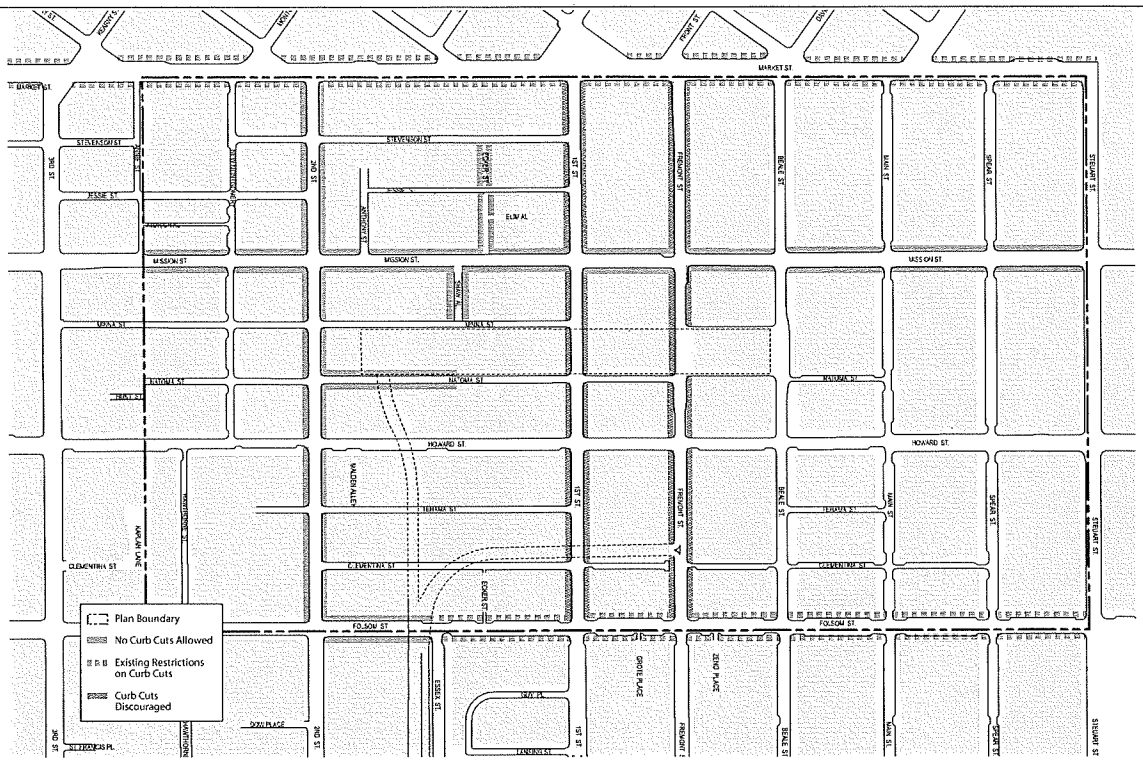
- *Amend Section 155(r) to prohibit access to off-street parking and loading on Mission, Second, Ecker and portions of Folsom and Natoma Streets in the Plan area, and to permit such access on portions of First, Fremont, and Beale streets only with Conditional Use Authorization from the Planning Commission and approval by the SFMTA Board (November 2009 Draft Plan, p. 52)*

The Plan also seeks to ensure that any proposed new development would enhance the pedestrian network and reduce the scale of large blocks. This would be done by maintaining and improving public access along existing alleys and creating new connections where none exist on long blocks and at congested locations. Shaw Alley (across Mission Street from Golden Gate University, west of First Street) is considered a key link in the pedestrian network that would serve the Transit Center. For this reason, a permanent closure of this alley to vehicles is sought in order to convert it to an open space and a pedestrian connection to the Transit Center (November 2009 Draft Plan, Policy 3.13).

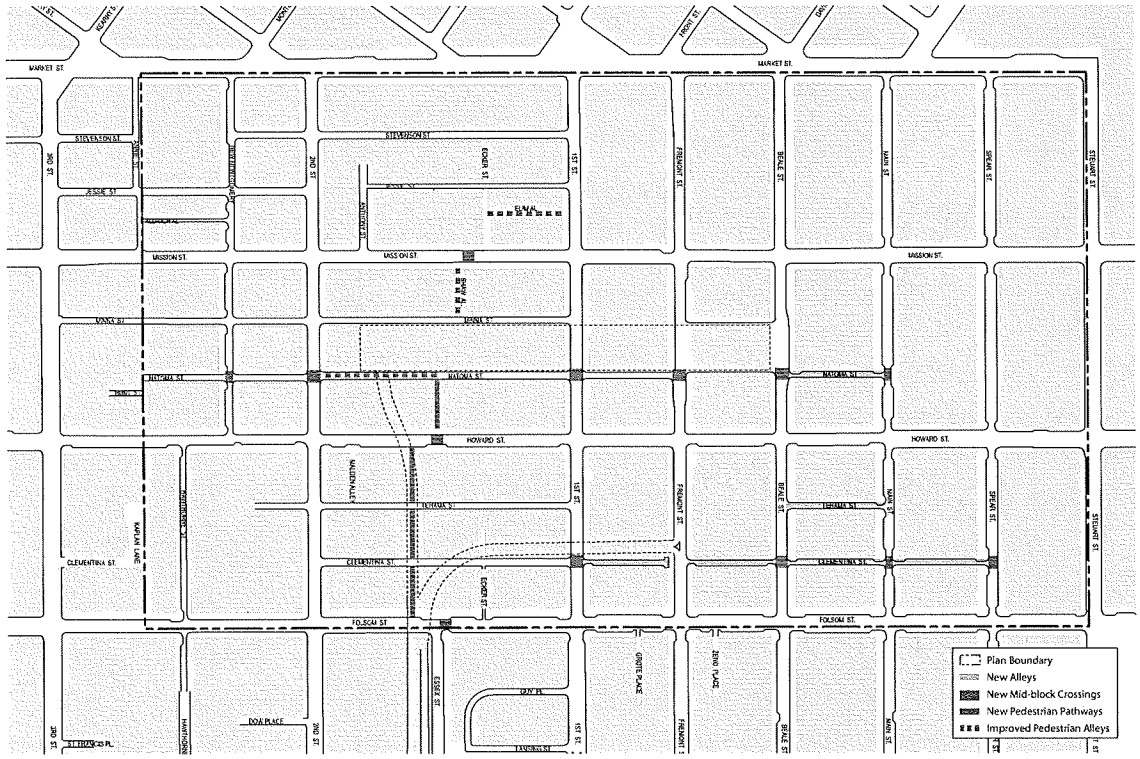
Both new and improved mid-block alleys and mid-block signalized crosswalks—including those set forth in the Transbay Redevelopment Plan's streetscape plan—would be added to enhance the pedestrian network (November 2009 Draft Plan, Objectives 3.6 – 3.9) (see Figure 4), including the following, which are proposed to facilitate access to the Transit Center:

- Require a new public mid-block pedestrian pathway on Block 3721[bounded by First, Second, Mission, and Howard Streets], connecting Howard and Natoma Streets between First and Second Streets (November 2009 Draft Plan, Policy 3.12).

- Convert the western portion of Natoma Street between First and Second streets on the south side of the Transit Center to a primarily pedestrian-only street (November 2009 Draft Plan, Policy 3.14).



Curb Cut Restrictions



Alley

SOURCE: San Francisco Planning Department, 2009

Figure 4
Curb Cuts and Alleys

Other mid-block pedestrian crossings are proposed across Mission Street between Second and First Streets (near Shaw Alley), across Main Street at both Clementina and Natoma Streets, across Beale Street at both Natoma and Clementina Streets, across First Street at Clementina Street, across Howard Street between Second and First Streets (near Oscar Alley and a proposed new pedestrian and bicycle path from Howard to Folsom Streets), and across New Montgomery Street at Natoma Street.

In general, the draft Plan calls for mid-block pathways to be attractive and useful:

- Ensure that mid-block crosswalks and through-block passageways are convenient, safe, and inviting (November 2009 Draft Plan, Objective 3.9).

Such mid-block pathways "must be at sidewalk grade and open to public passage. They need not be open to the sky, but must have clear space of at least 25 feet in height and 20 feet in width, be open to the public at all times (24 hours per day, 7 days per week), and lined with lobbies or active uses. They must be open to the air at both ends, similar to an arcade or galleria, and must not require opening of doors to access" (Text accompanying Policy 3.11 of the November 2009 Draft Plan).

Open Space

As noted in II.C, Background, as part of the Transit Center project being implemented by the TJPA, a new 5-acre "City Park" will be created atop the new Transit Center.[28] In addition, the draft Transit Center District Plan proposes to create a new public space at the northeast corner of Howard and Second Streets that would include a vertical circulation feature connecting to the City Park and the Transit Center, which would facilitate public access from the south to both the new open space and transit service (November 2009 Draft Plan, Policy 3.15). This public space would be located on the combined parcels now occupied by the buildings identified for demolition as part of construction for the Transit Center bus ramps and the Caltrain Downtown Extension (Block 3721/ Lots 022, 023, 025, 092-106, 109-118), analyzed in the EIS/EIR for that project (see footnote 12, p. 10). The public space could be an open plaza, an indoor space, or a combination of indoor and outdoor space.

With regard to the residential and non-residential open space requirements currently mandated by the *Planning Code*, the draft Plan includes a number of objectives and policies that would encourage flexibility in meeting these requirements within the Plan area, particularly in the vicinity of, and to enhance connections to, the Transit Center's City Park (November 2009 Draft Plan, Objective 3.13). One approach included in the Plan is for future projects adjacent to the City Park to meet *Code*-mandated open space requirements by providing direct pedestrian connections to the City Park rather than incorporating privately owned, publicly accessible open spaces into project designs, as is typically the case with downtown buildings, in fulfillment of the requirements of *Planning Code* Section 138 (November 2009 Draft Plan, Policies 3.17 and 3.20). A payment of in-lieu fees is another measure proposed in the Plan to allow for greater flexibility in meeting open space requirements for individual projects within the Plan

28 As stated, the Transit Center, including City Park, is under construction, and neither the transportation terminal facility nor the part atop the building is part of the Transit Center District Plan project or Transit Tower project analyzed in this EIR.

area (November 2009 Draft Plan, Policy 3.19). The draft Plan proposes these different approaches for projects to meet open space requirements in recognition of the fact that project-site-specific open spaces that are privately owned but publicly accessible are difficult to provide on constrained sites; could, over time, "erode the urban fabric"[29] by creating a series of gaps in otherwise solid street walls; and, depending on access and design, do not always feel "public."

The draft Plan would also require that open space provided within the interior of new buildings "have a distinct street presence separate from the building's primary entrance and lobby functions" to emphasize the public identity and use of the space, and that such space be at sidewalk grade, be open to the public during daytime and evening hours, be abutted by one or more permanent enclosed retail spaces that open directly onto such interior open space as well as from a public sidewalk, plaza, or other outdoor public space, and "be accessible through permeable building openings without the need to open doors [such as through] sliding or folding panels that can be kept open" (November 2009 Draft Plan, Policy 3.21).

In addition, the draft Plan includes provisions that would grant the general public access to views of the city and the region from the upper stories of the tallest high-rise building(s) proposed. (In general, such views are currently only available to tenants of such structures.)

> The Transit Tower should have a facility of public accommodation at a level no lower than 650 feet above grade that provides the general public the opportunity for views of the cityscape and Bay. (November 2009 Draft Plan, Policy 3.22)

The Plan encourages other very tall buildings (more than 600 feet) to provide the same public access to observation platforms or other means of public accommodation (e.g., sky lobby, restaurant).

Moving About

The draft Plan seeks to manage vehicular traffic and to enhance transit, pedestrian, and bicycle travel.

> The District's transportation system will prioritize and incentivize the use of transit. Public transportation will be the main, non-pedestrian mode for moving into and between destinations in the Transit Center District (November 2009 Draft Plan, Objective 4.1).

The transportation system will also "implement and require transportation demand management strategies to minimize growth in auto trips and reduce volumes as necessary"; "meet changing transit needs, particularly to support the new Transbay Transit Center and accommodate increased densities"; "prioritize pedestrian amenity and safety"; "build on successful traffic and parking management programs and policies that are in place"; "require management of Bay Bridge queues to reduce and mitigate impacts of regional travel on transit circulation and the public realm"; and "further sustainability goals" (November 2009 Draft Plan, Objectives 4.2 – 4.7).

---

29 November 2009 draft, p. 60.

The draft Plan calls for attempts to discourage traffic—especially regional traffic that passes through the District to and from the Bay Bridge. Vehicle parking would be further restricted, bicycle parking would be increased, and car sharing would be encouraged. As noted above in the discussion of the Public Realm, the Plan would include features and policies to make walking between destinations in the District more feasible and attractive.

For example, the draft Plan includes the following objectives and policies:

- Support and implement a public bicycle sharing program in the District (November 2009 Draft Plan, Policy 4.42).
- Do not compromise pedestrian, bicycle, or transit amenity or service within the District to accommodate or maintain levels of service for regional auto trips (November 2009 Draft Plan, Policy 4.44).
- Pursue measures to actively manage traffic volumes and bridge and freeway vehicle queues in order to achieve appropriate levels of traffic necessary to allow for the creation of the public realm and circulation system envisioned and necessary for the District (November 2009 Draft Plan, Policy 4.45).
- Consider rerouting bridge and freeway vehicle queues onto other streets outside the core of the District, avoiding primary transit, bicycle, and pedestrian streets (November 2009 Draft Plan, Policy 4.47).
- Consider converting some one-way streets to two-way in order to improve local circulation (November 2009 Draft Plan, Policy 4.48).
- Establish an absolute maximum cap on number of parking spaces in the district and adjacent areas based on the established targets for traffic reduction and goals for transit usage (November 2009 Draft Plan, Policy 4.50).
- Scrutinize and restrict new accessory and non-accessory parking in the Plan area until a comprehensive cap on new parking is adopted (November 2009 Draft Plan, Policy 4.51).

Until a cap is adopted, the draft Plan recommends that the maximum amount of floor area devoted to parking for non-residential uses in the Plan area be reduced from the current cap of 7 percent to 3.5 percent, pending establishment of an "absolute cap" on parking spaces in the Plan area, as called for in Policy 4.50.

- Prohibit parking and loading curb cuts on key transit and pedestrian streets, including Mission, Second, and Folsom streets (November 2009 Draft Plan, Policy 4.53).
- Restrict commercial loading and deliveries to non-peak periods (November 2009 Draft Plan, Policy 4.64).

The draft Plan also calls for evaluation of creating a transit-only zone on Mission between First and Fremont streets (November 2009 Draft Plan, Policy 4.3) and of the feasibility of implementing congestion

pricing for traffic (November 2009 Draft Plan, Policy 4.11), and evaluation of a potential future bicycle connection to the Bay Bridge, should a bicycle path be added to the bridge's west span in the future (November 2009 Draft Plan, Policies 4.37 and 4.38).

Planning Code revisions proposed in relation to parking and car sharing are the following:

- *Amend Section 155.4 to increase number of required on-site secure bicycle parking spaces for commercial buildings from maximum of 12 spaces (for buildings larger than 50,000 gsf) to accommodate visitors and five percent of all on-site employees bicycling to work. The proposed requirement should be the equivalent of at least one bike parking space for every 6,000 gsf of office space. Spaces should be located in highly visible and well-lit locations and may not be located more than one story above or below grade (November 2009 Draft Plan, p. 81).*
- *Amend Planning Code Section 156 to prohibit new surface parking lots in the District and to require the inclusion of bicycle parking and parking spaces dedicated for car sharing vehicles, as well as landscaping and other site improvements, as a condition for the extension of approvals of a surface parking lot in the District (November 2009 Draft Plan, p. 86).*
- *Amend Section 166 to require car sharing spaces in all garages in the Plan area.*[30]

In the area of transportation demand management (TDM), the draft Plan calls for expanding participation in, and the role of, the Transportation Management Association, which is a building-owner-funded non-profit organization, established pursuant to the Downtown Plan, that provides information on commute options. The draft Plan calls for the following change in the *Planning Code*:

- *Amend Planning Code Section 163 based on … policies [concerning TDM] to apply to projects in excess of 25,000 gsf and to apply to all new nonresidential buildings (November 2009 Draft Plan, p. 73).*

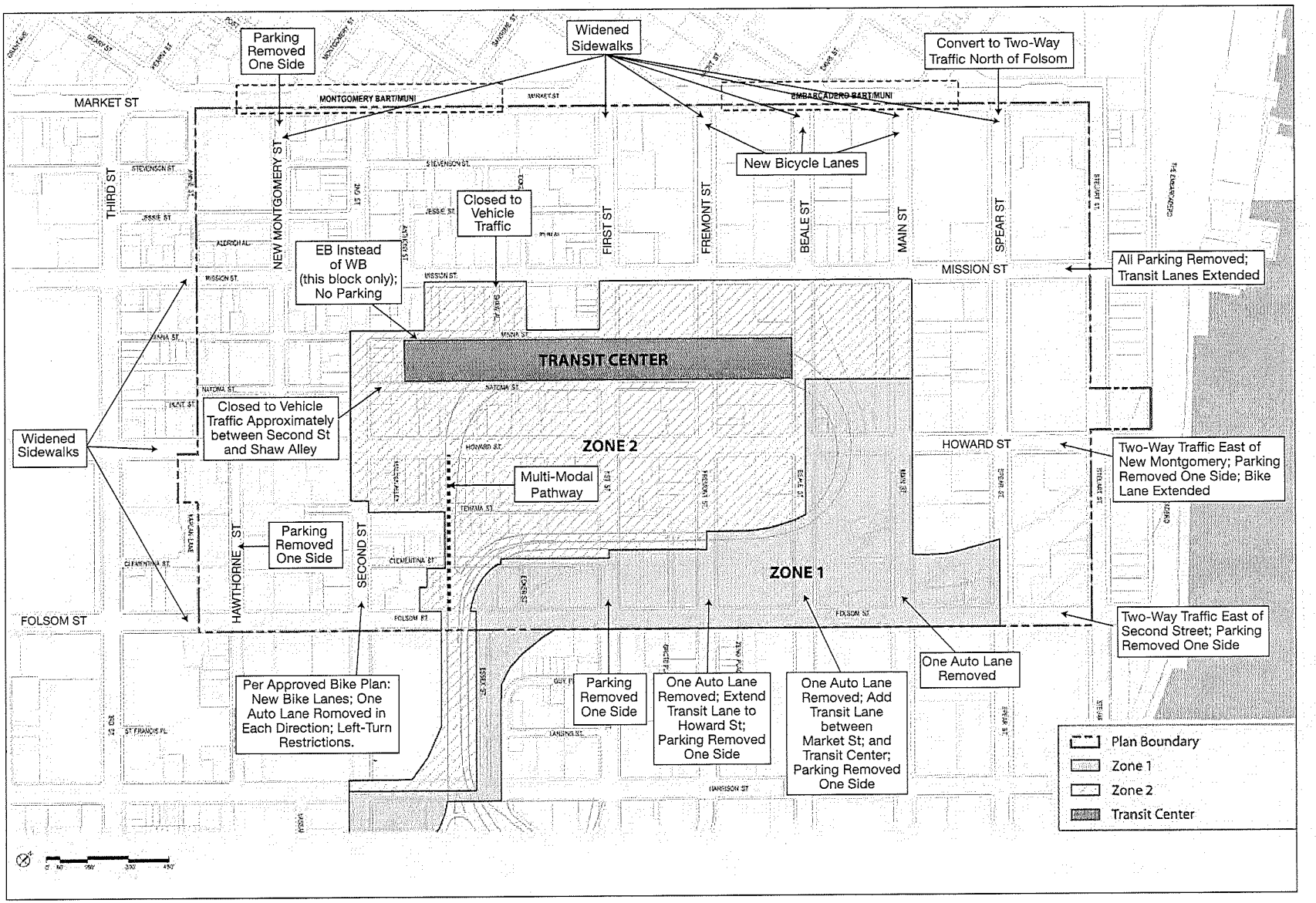
- Regarding off-street freight loading, the draft Plan states:
  - *Amend Section 155.2 to establish six as the maximum number of required off-street loading spaces for non-residential buildings (April 2012 Plan Supplement, p. 8).*

Streets and Circulation

The draft Plan would reconfigure many of the existing rights-of-way throughout the Plan area in an effort to meet the changing transportation and public space needs within the area, particularly to accommodate anticipated increases in pedestrian volume that would result from the intensification of the land uses and the completion of the Transbay Transit Center Program.

Such modifications would include the widening of sidewalks, the removal or reconfiguration of on-street parking and/or loading; the closure of one or more streets and alleys to general automobile traffic; installation of traffic-calming mechanisms; removal, addition or reconfiguration of auto travel lanes; conversion of one or more one-way streets into two-way operations; and dedication of transit-only lanes and delineation of pedestrian areas. Some of the key street and circulation changes are listed below and are illustrated in **Figure 5**. Existing and proposed transit lanes and existing and proposed bicycle lanes are depicted in **Figure 6**. A graphical representation of the complete public realm plan, including

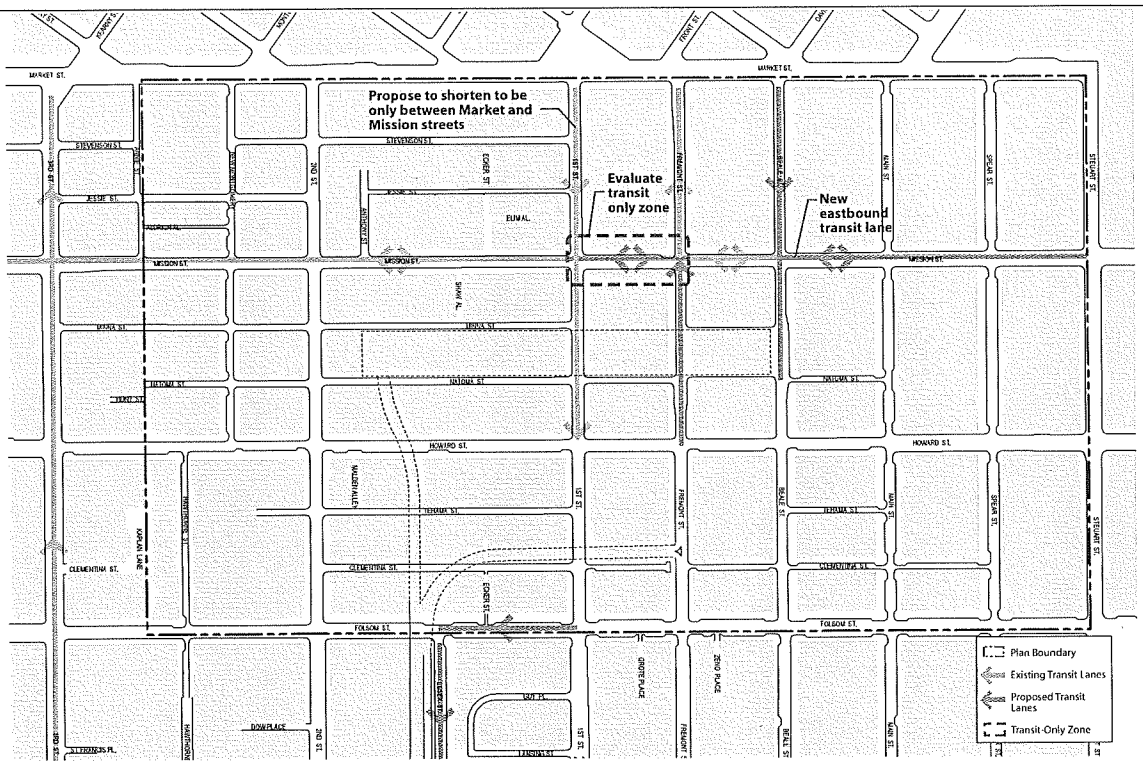
30 The changes recommended in the November 2009 Draft Plan (one car-sharing space for new buildings with 25 to 49 parking spaces and, for 50 or more parking spaces, one car-sharing space plus one additional space for every 50 parking spaces in excess of 50) were subsequently adopted by the Board of Supervisors, in November 2010, and are now included in Section 166.



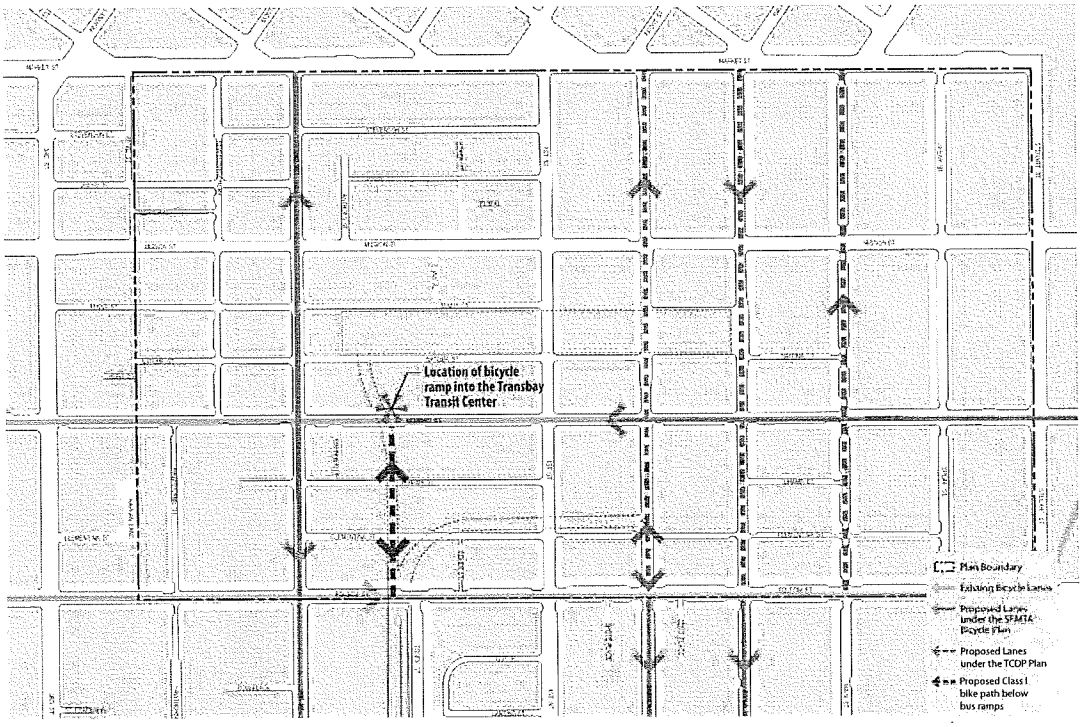
Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: San Francisco Planning Department

Figure 5 (revised)
Street and Circulation Changes



Transit Lanes



Bicycle Lanes

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: San Francisco Planning Department, 2009

● Figure 6 (revised)
Transit and Bicycle Lanes

proposed travel lane configurations, changes to on-street parking and loading, widened sidewalks, mid-block crossings, and other changes proposed under the draft Plan, is presented in **Appendix C**.[31]

- **Mission Street** – Remove parking and loading lanes on both sides of the street, add commercial loading turn-outs (one per block face), and widen sidewalks. Between Beale and Main Streets, convert dedicated turn lanes into turn pockets and convert one auto lane in each direction into dedicated transit lanes. Existing transit lanes between First and Third Streets would be relocated from the curb lane to the center lane in each direction, with in-street boarding islands provided in each direction at Second Street.

- **Howard Street** – Convert to two-way operations between Fremont and New Montgomery Streets; between Main and Fremont Streets and between First and Second Streets, remove one automobile travel lane and one parking lane; implement modifications outlined in the Transbay Streetscape and Open Space Plan; widen sidewalks and curb lanes. Between First and Fremont Streets, in addition to the modifications described above, relocate the automobile parking/casual carpool lane from the south side of street to the north side of street. Between Second and Third Streets, remove one auto travel lane and one parking lane and widen sidewalks. Retain existing bicycle lane west of Fremont Street (extension of that bike lane to the Embarcadero is part of approved Bicycle Plan).

- **Folsom Street** – West of Second Street, continue one-way operations, but remove one automobile travel lane and one parking lane and widen sidewalks; preserve exclusive right-turn lane onto Second Street. East of Second Street, convert to two-way operations and implement modifications outlined in the Transbay Redevelopment Plan Streetscape and Open Space Plan; remove one, and in some cases, two automobile travel lanes and/or one parking lane; widen sidewalks, preserve exclusive right-turn lanes onto First Street and Essex Streets. Retain existing bicycle lane.

- **Hawthorne Street** – Between Howard and Folsom Streets, eliminate one auto travel lane and one parking/loading lane on the east side of the street and add commercial loading turn-outs; widen sidewalks.

- **New Montgomery Street** – Between Market and Howard Streets, eliminate parking and loading on the east side of street and add commercial loading turn-outs; widen sidewalks; add a signalized mid-block crossing at Natoma Street.

- **Second Street** – In accordance with the approved Bicycle Plan, between Market and Harrison Streets, one vehicular travel lane and one bicycle lane in each direction (eliminate one auto travel lane in each direction), with curb parking and loading in each direction); left turns generally prohibited; right turns from parking lane.

---

31 Detailed design and engineering for the various components of the Public Realm Plan would be undertaken if the draft Plan is adopted and the City has funding to implement those components. The Municipal Transportation Agency (MTA) has authority over parking regulations, intersection geometry, traffic signals, and travel lanes, and MTA would review and approve any future designs. The Department of Public Works (DPW) has authority over sidewalks. As part the regular DPW review process, the Transportation Advisory Staff Committee, composed of representatives from MTA, the Police Department, and the Fire Department, among others, would review detailed proposals, including bulb-outs. Any changes to sidewalk width would generally require that the Board of Supervisors amend the official sidewalk width ordinance, which would require a public hearing.

- **First Street** – Between Market and Howard Streets, widen sidewalks, prohibit daytime parking and loading on the east side of street, and allow commercial loading turn-outs on the west side of street. Between Howard and Folsom Streets, widen sidewalks, allow non-peak-hour parking in left (east) curb lane.

- **Fremont Street** – Between Market and Howard Streets, remove one automobile lane, and widen sidewalks; extend existing transit-only lane south to Howard Street. In addition, between Folsom Street and the Bay Bridge off-ramp, prohibit parking and loading on the east side of the street and accommodate commercial loading with turn-outs. A new intersection would be created where the Transit Center, now under construction, will have a ground-level bus plaza (with four bus bays for Muni and one for Golden Gate Transit; buses will enter the Bus Plaza from Beale Street and exit onto Fremont Street), on the east side of Fremont Street between Minna and Natoma Streets. A traffic signal would be installed at Fremont and Natoma Streets to allow buses to enter Fremont Street traffic and pedestrians to cross Fremont Street at new crosswalks.

- **Beale Street** – Between Market Street and the new Transit Center, replace one automobile travel lane with a transit-only lane, widen sidewalks, and enhance landscaping. South of Howard Street, remove peak-hour parking and loading on both sides of the street and accommodate commercial loading with turn-outs; allow non-peak hour parking on east side only. This street would remain one-way in the southbound direction.

- **Main and Spear Streets** – Between Market and Folsom Streets, remove one automobile lane, widen sidewalks, and enhance landscaping. Convert Spear Street to two-way operations, with one lane in each direction.

- **Shaw Alley** – Close permanently to vehicles and design it as a pedestrian-only space for through-connection to the Transit Center as well as open space.

- **Minna Street** – Convert from one-way westbound to one-way eastbound between First and Second Streets to provide loading access; remove on-street parking.

- **Natoma Street** – As stated previously, Natoma Street from Second Street east to midway between First and Second Streets would be converted to pedestrian access and emergency vehicles only, with a potential exception for delivery vehicles during certain non-peak periods. To the east, Natoma Street would be converted to two-way traffic from First Street to approximately 250 feet west of First Street.

The public realm plan would also add signalized mid-block pedestrian crossings at a number of intersections: New Montgomery/Natoma Streets; Second/Natoma Streets; Howard Street/Oscar Alley; Mission Street / Shaw Alley; First/Minna Streets; First/Natoma Streets; First/Clementina Streets; Fremont Street/Transit Center Bus Plaza; Fremont/Natoma Streets; Beale/Natoma Streets; Beale/Clementina Streets; Main/Natoma Streets; Main/Tehama Streets; and, Main/Clementina Streets. Also proposed, as previously approved under the Transbay Redevelopment Plan, are extensions of Clementina Street (First Street to Spear Street) and Natoma and Tehama Streets (Beale Street to Main Street).

A new multi-use pedestrian and bicycle path is proposed between Howard and Folsom Streets, near Essex Street and beneath the ramp that links the Transit Center to the Bay Bridge. The Plan proposes new

bicycle lanes on Fremont, Beale, and Main Streets (see Figure 6).

Historic Preservation

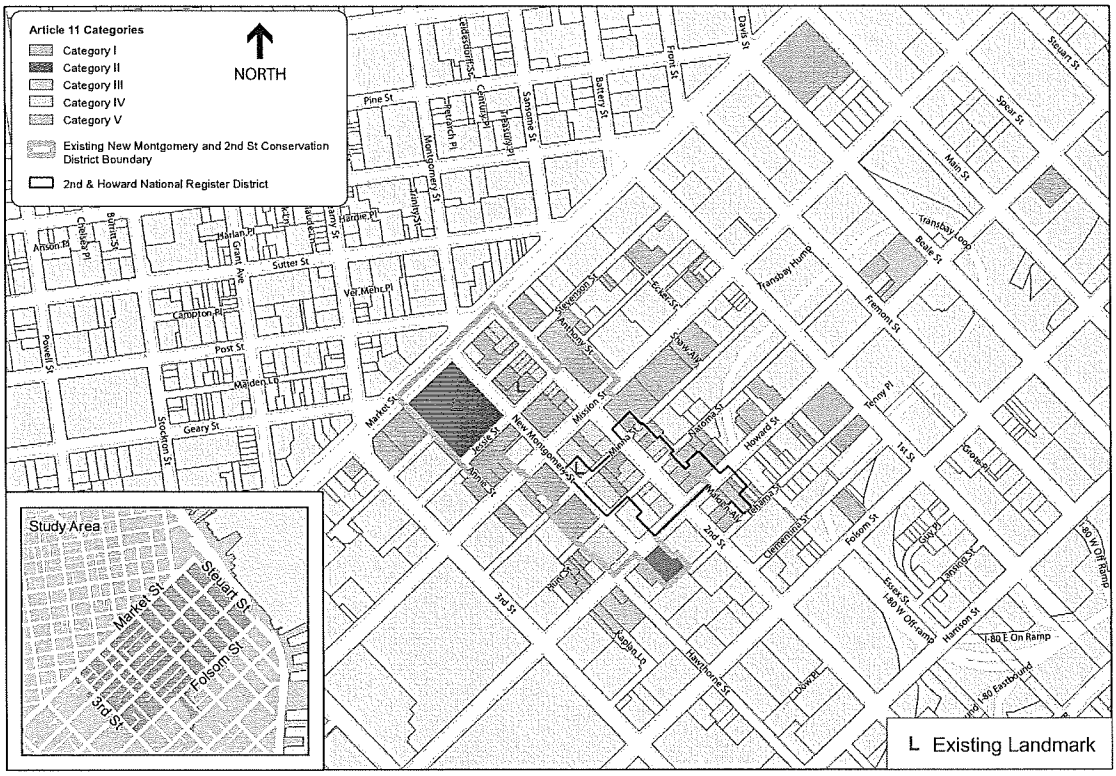
The Plan area contains two listed historic districts, the New Montgomery-Second Street Conservation District and the Second and Howard National Register District. As discussed further in Section IV.D, Cultural Resources, the draft Plan proposes expansion and renaming of the conservation district.

The New Montgomery-Second Street Conservation District, a downtown conservation district listed in Article 11 of the *Planning Code*,[32] extends southward from Market Street, generally encompassing both sides of Second and New Montgomery Streets, as far as Howard Street. Most of the existing office-over-retail buildings within this District were erected in the decade after the 1906 earthquake and fire, although the most visible office building, the Pacific Telephone and Telegraph Building at 140 New Montgomery, was completed in 1925. The New Montgomery–Second Street Conservation District, by virtue of being listed in Article 11 of the *Planning Code,* is a historical resource under CEQA. Buildings identified as contributors to a listed or eligible historic district are also considered historical resources for purposes of CEQA review.

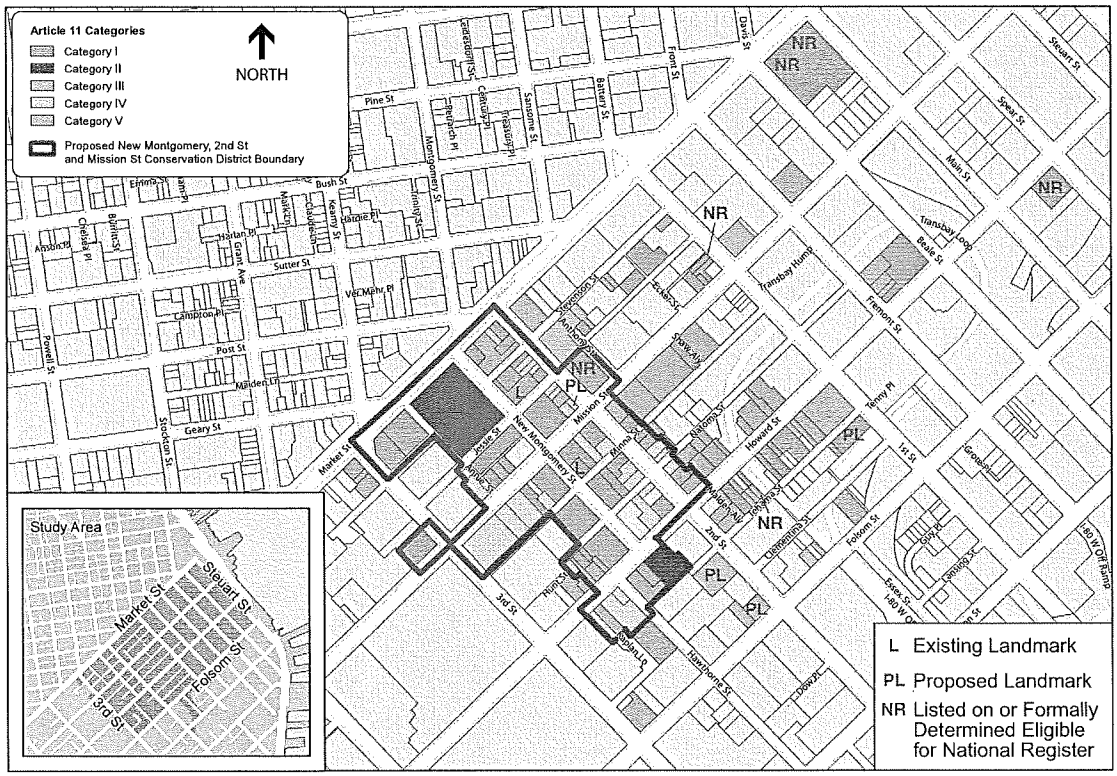
The Second and Howard National Register District, a historic district listed in the National Register of Historic Places in 1999, contains 19 contributing buildings. This District is generally contained within boundaries of the much larger New Montgomery-Second Street District, except that the National Register district extends eastward the distance of a few lots' width along both sides of Howard Street to the east of the local district (see **Figure 7**). The Second and Howard Streets District and the New Montgomery-Second Street District share some degree of architectural character and have a common history in that almost all their buildings were constructed as part of the rapid rebuilding of downtown San Francisco in the aftermath of the 1906 earthquake and fire. However, the buildings in the Second and Howard Streets District are generally smaller than many of those in the local district, inasmuch as the buildings in the National Register district were typically constructed as loft-style buildings, suitable for a variety of uses, including storage, wholesale display or light manufacturing, whereas New Montgomery Street housed more traditional, larger office buildings.

The Planning Department has completed historic survey work within and surrounding the Plan area, and through this process identified additional historic resources for potential preservation and rehabilitation. As a result of this, the Department is proposing in the draft Plan to expand the existing New Montgomery–Second Street Conservation District, to recommend additional individual resources for Landmark designation under *Planning Code* Article 10, and to revise the Article 11 historic ratings of

[32] Article 11 of the *Planning Code* addresses preservation of buildings and districts of architectural, historical, and aesthetic importance in the C-3 (Downtown) zoning district. Adopted in 1985 as part of the implementation of the Downtown Plan, Article 11 divides all buildings in the C 3 Zoning Districts (generally, downtown) into five categories according to the Building Rating Methodology as set forth and explained in the "Preservation of the Past" section of the Downtown Plan (*Planning Code* Sec. 1102).



Existing Article 11 Designations and Historic Districts



Proposed Article 11 Designations and Historic Districts

SOURCE: San Francisco Planning Department, 2009, 2012

Figure 7 (revised)
Historical Resources

several individual resources. The proposed expansion of the conservation district would encompass areas along both sides of Mission Street between New Montgomery and Third Streets (except the northeast corner of Third and Mission Streets), and would cross Third Street to include the Aronson Building on the northwest corner of Third and Mission Streets. The expansion would also extend westward on Natoma Street to Hunt Street. The Department proposes to rename the expanded district the "New Montgomery–Mission–Second Street Conservation District."

The *Planning Code* Article 11 ratings for individual building Categories I – V would be revised and updated, and newly-rated buildings would become eligible to sell transferrable development rights to development sites in the C-3 zoning districts.

In addition, the draft Plan proposes to seek City Landmark designation for four individual structures, three of which are outside existing or proposed historic districts, under Article 10[33] of the Planning Code. These include the Planters Hotel (606 Folsom Street), the Philips & Van Orden Building (234 First Street), the Marine Firemen's Union building (240 Second Street), and the Burdette Building (90 Second Street).

The draft plan also includes the following policies to address architectural cultural resources:

- Recognize and protect historic and cultural resources that are less than fifty years old that may display exceptional significance to the recent past (November 2009 Draft Plan, Policy 5.4).
- Develop incentives that promote the retention and rehabilitation of significant resources within the Transit Center District Plan area (November 2009 Draft Plan, Policy 5.5).

Concerning transferrable development rights (TDR), the draft Plan notes that since the Downtown Plan was adopted in 1985, some 2.75 million square feet of development rights has been "retired" from sites containing historic buildings and has been transferred to other sites, primarily for the construction of new high-rise structures. The program assists in preservation of historic structures by allowing owners to sell the development rights above a historic structure, up to the base FAR that would otherwise be permitted, thus relieving the owner of the "penalty" for ownership and operation of a smaller-than-permitted structure.

Another approximately 2.25 million square feet of TDR has been certified as meeting the program requirements but not used; the draft Plan states that much of this potential development floor area has likely been acquired for as-yet unbuilt projects but not formally accounted for. The draft Plan states that approximately 3 million additional square feet of TDR could theoretically be available, but indicates that much of this space would come from very small parcels and would be cumbersome to assemble for the benefit of one or more larger new towers. Accordingly, the draft Plan proposes policies and *Planning Code* revisions that would allow increased flexibility in the application of preservation incentives:

---

33 Adopted in 1967 as Article 10 of the *Planning Code*, San Francisco City Landmarks are protected from inappropriate alterations and demolitions by subjecting projects to review by the San Francisco Landmarks Preservation Advisory Board. San Francisco City Landmarks are buildings, properties, structures, sites, districts and objects of "special character or special historical, architectural or aesthetic interest or value and are an important part of the City's historical and architectural heritage."

- Maintain the TDR program as a critical component of the historic preservation program in the downtown and the Plan area, but modify the program in the Plan area based on updated information about the TDR program and on other objectives of this Plan (November 2009 Draft Plan, Policy 5.6).

- Balance the TDR requirement with other public benefits programs in the District by reducing the square footage requirement for the purchase of TDR by each individual development project (November 2009 Draft Plan, Policy 5.7).

Planning Code changes proposed in connection with the above policies are as follows:

- *Based on the District Plan proposal to rezone all of the Plan area to C-3-O (SD) with a base FAR of 6:1, modify the TDR rules in the Planning Code for the Plan area to require that development purchase TDR for all gross square footage between 6:1 and 9:1 FAR. For development projects that have been entitled prior to January 1, 2012 and purchased TDR prior to 2012 (as certified in a recorded transfer to that property by the Planning Department) in anticipation of needing it for entitlement based on prior TDR rules, allow use of those TDR units and provide partial waiver of new impact fees. (November 2009 Draft Plan, p. 100; April 2012 Plan Supplement, p. 9).*

- *Pursue expansion of the supply of available TDR to meet expected demand or provide flexibility for development in satisfaction of the TDR requirement by providing an in-lieu mechanism that directly benefits the preservation, rehabilitation, maintenance and public education of historic resources in the downtown. (November 2009 Draft Plan, Policy 5.8; April 2012 Plan Supplement, p. 9)*

District Sustainability

The draft Plan would implement a number of district-wide policies and controls aimed at supporting and, where possible, exceeding the City's existing environmental, sustainability and climate change objectives. Such policies would promote a higher level of coordination and planning than is typically conducted on a project-by-project basis. The incorporation of sustainability-related objectives and policies into the draft Plan is intended to achieve lower impact and higher performance development within the Plan area than would otherwise be achievable. The draft Plan encourages sustainability through many of the policies set forth in each of the five chapters discussed above. (The draft Plan contains a Sustainable Benefits Matrix that cross-references Plan policies that would have benefits in the area of regional smart growth, reduced water usage, improvements in water quality and air quality, greenhouse gas emissions reduction, habitat enhancement, and reduction in the "urban heat island effect"; this matrix is included, along with a complete listing of Plan objectives and policies, in **Appendix B**).

In addition, a separate chapter on District Sustainability contains a number of additional policies, as discussed below.

In the area of **energy efficiency**, the Plan would seek to create a shared district-wide energy and heating system by establishing a centralized Combined Heat and Power (CHP) system within the Plan boundaries that would capture waste heat from buildings and energy generators. A CHP energy and heating system, also known as a cogeneration system, increases efficiency compared to conventional heat generation (e.g., a boiler) or power generation (e.g., a generator) by generating both electricity and usable heat from the same equipment. Typically, this involves the collection of what would otherwise be exhaust heat that is given off during the electricity generation process. This exhaust can be used to heat the air in an office building, provide hot water or steam, power a dehumidifier, or even drive an absorption chiller to provide refrigeration and cooling.[34] A CHP system in the Plan area could entail development of one or more power generating plants, would be able to take advantage of the mixed-use development, which includes a diversity of building uses and types that have different demand profiles (i.e., office demand is highest during the day, while residential demand is highest in the evening). To help implement this vision, the following policies are included in the draft Plan:

- Create efficient, shared district-scale energy systems in the district (November 2009 Draft Plan, Policy 6.1; April 2012 Plan Supplement, p. 11).
- Pursue a Combined Heat and Power (CHP) system or series of systems for the Transit Center District and the Transbay Redevelopment Area (Zone 1) (November 2009 Draft Plan, Policy 6.2).
- Require new buildings to be designed to connect to such a system in the future (November 2009 Draft Plan, Policy 6.3).
- Require all buildings undergoing major refurbishment (defined as requiring new HVAC plant) to be designed to connect to such a system in the future (November 2009 Draft Plan, Policy 6.4).
- Identify and protect either suitable public sites or major development sites with the Plan area for locating renewable or CHP generation facilities (November 2009 Draft Plan, Policy 6.5; April 2012 Plan Supplement, p. 11).
- Require all major development to demonstrate that proposed heating and cooling systems have been designed in accordance with the following order of diminishing preference:
  - Connection to sources of waste heat or underutilized boiler or CHP plant within the Transit Center District or adjacent areas
  - Connection to existing district heating, cooling, and/ or power plant or distribution networks with excess capacity
  - Site-wide CHP powered by renewable energy
  - Site-wide CHP powered by natural gas
  - Building level communal heating and cooling powered by renewable energy

[34] San Francisco Department of the Environment, "An Assessment of Cogeneration for the City of San Francisco." Report prepared by Philip M. Perea. Available on the internet at: http://www.sfenvironment.org/downloads/library/ciscocogenerationreportpdf.pdf. Reviewed June 19, 2011.

- Building level communal heating and cooling powered by natural gas (November 2009 Draft Plan, Policy 6.6)

Several office buildings in the Plan area, and others elsewhere in downtown San Francisco, currently operate cogeneration systems on-site. Generally these consist of natural-gas-fired generator(s) that produce electricity and from which the waste heat is captured and used to provide building heat or hot water or to operate an air conditioning chiller. Existing installations also operate at hospitals and universities, as well as a few hotels and residential buildings. (The largest such system, although technically outside City limits, is in operation at San Francisco International Airport.)[35]

Because no physical improvements have been proposed to implement a district-wide heat and power system in the Plan area, this EIR analyzes this aspect of the draft Plan at a very general, programmatic level. Any district-wide energy or heating and cooling system(s) proposed in the future, including the requirement that buildings be connected to such a system, would be subject to subsequent environmental review. Individual building cogeneration plants are typically subject to review by the Bay Area Air Quality Management District, in much the same manner as are individual boilers and generators.

In the area of **green building design**, the draft Plan would encourage low environmental impact and high performance (with regard to energy, water, materials, construction) for all proposed buildings, in addition to the given inherent factors of location, density and existing city parking controls that all such potential project would automatically meet. The following policy is included in the proposed Plan to address green building design:

- Require all major buildings in the Plan area to achieve the minimum LEED [Leadership in Energy and Environmental Design] levels established in the S.F. Green Building Ordinance, not including credits for the given inherent factors of location, density, and existing City parking controls, in order to achieve high-performance buildings (November 2009 Draft Plan, Policy 6.12).

In the area of **water conservation**, one of the goals of the proposed Plan is to capture, treat, and reuse, where feasible, stormwater runoff, while at the same time reducing the use of potable water. To this end, the draft Plan includes the following policies:

- Create a reliable supply of non-potable water that can be used throughout the Plan area to reduce potable water demand (November 2009 Draft Plan, Policy 6.14).

- Create infrastructure in the Transit Center District and immediately adjacent areas for non-potable water use, including treatment and distribution (November 2009 Draft Plan, Policy 6.16).

The draft Plan calls for investigation of various potential sources of non-potable water, and the identification of potential site(s) in the Plan area for a treatment facility to supply non-potable water (November 2009 Draft Plan, Policies 6.15 and 6.18), along with a priority list of means by which buildings can reduce potable water use, including "low-impact design." However, no specific system is identified for consideration at this time (except at the proposed Transit Tower, as discussed below).

35 *Ibid.*

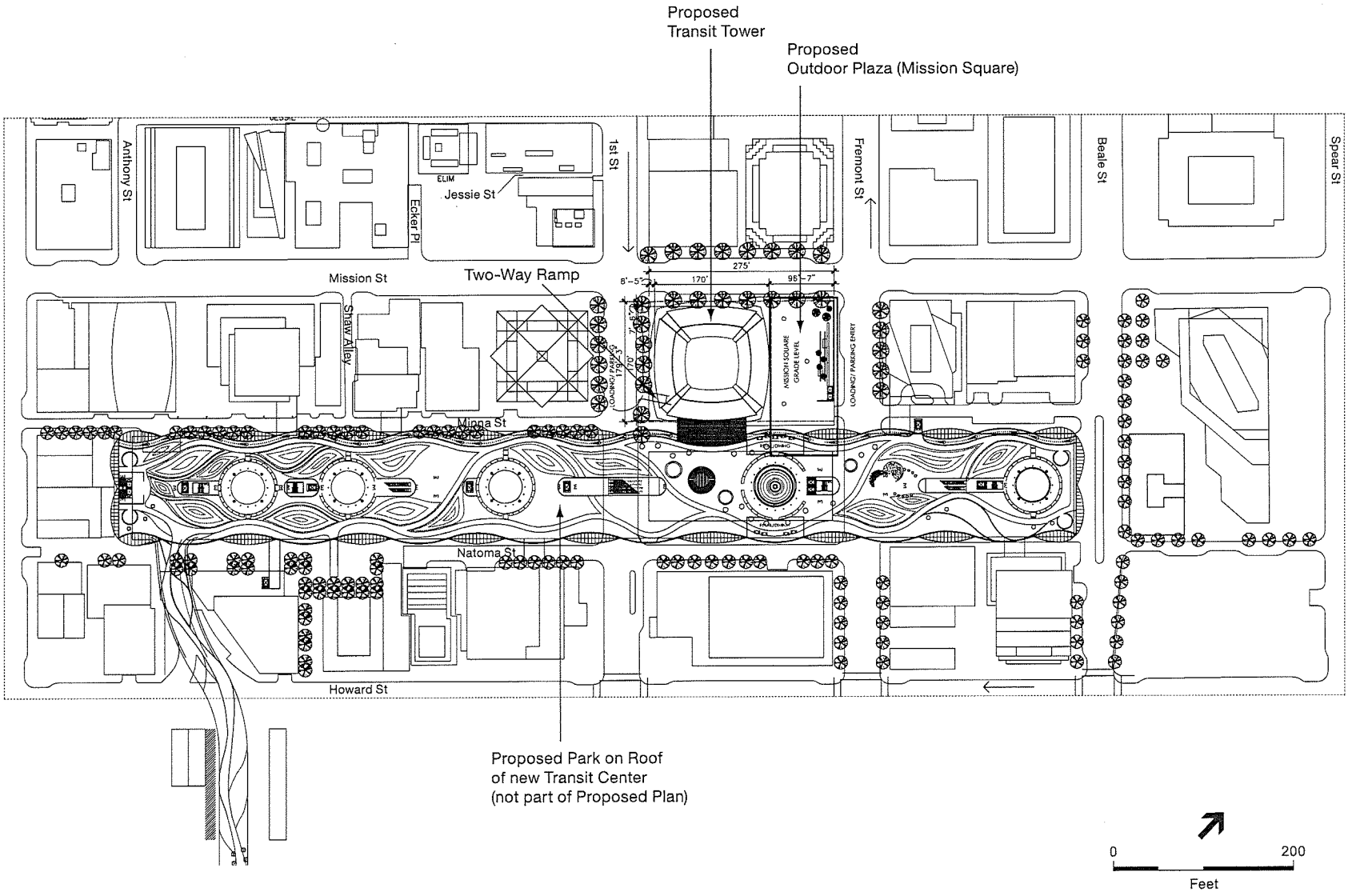
Transit Tower

This EIR analyzes at a project-specific level (in contrast to the program-level analysis otherwise contained in the EIR) the environmental impacts associated with developing the Transit Tower (Case No. 2008.0789E), a 61-story, approximately 1,070-foot-tall office building proposed for approximately the northern third of the block bounded by First, Mission, Fremont, and Howard Streets. The Transit Tower would occupy approximately the northern half of Lot 1 on Block 3720, and would be located adjacent to the new Transit Center, on the south side of Mission Street between Fremont and First Streets (see **Figure 8**).[36] The Transit Tower project site is approximately 50,000 square feet in size and was most recently used as the passenger waiting and loading and Muni drop-off/layover area for the old Transbay Terminal, which was demolished beginning in August 2010.

Under the current design for the proposed Transit Tower project, the building would encompass approximately 1.3 million square feet of office space and about 16,500 square feet of retail space. The tower would be constructed on a roughly square footprint of about 26,000 square feet, with curving frontages of just over 170 feet along each side. The building would have retail space and a lobby on the ground floor, additional retail space on a portion of the fourth floor (adjacent and connected by a footbridge to the planned City Park atop the new Transit Center) and on portions of one or more other levels between the ground floor and fourth story, and 58 floors of office space,[37] along with two mechanical floors (3 and 61). For consistency with the depth of excavation of the adjacent new Transit Center, the Transit Tower would have three basement levels beneath the entire footprint of the building as well as the Mission Square open space along Fremont Street, and a partial fourth basement level; excavation would be to a depth of approximately 60 feet below grade, and would involve removal of approximately 110,000 cubic yards of soil, assuming excavation beneath the entire 50,000-square-foot site. The Transit Tower would have a concrete slab foundation supported by driven piles anticipated to be founded on bedrock more than 200 feet below grade. The tower's structural system is anticipated to employ the concept of "megacolumns," which are very large structural columns several feet in width. The concentrated load supported by these megacolumns would be sustained by large diameter piles approximately 10 feet in diameter, with additional piles driven to support the building's foundation slab.

Up to approximately 302 independently accessible parking spaces would be provided in the basement, and a total parking supply of about 480 vehicles could be provided with valet operations, potentially including vehicle stackers. Parking, loading, and other subsurface areas would occupy approximately 122,000 square feet. Based on the preliminary design of the Transit Tower, the area devoted to parking would exceed 7 percent of gross floor area, which is the maximum amount of floor area that can be devoted to parking in the C-3-O use districts, and the area in excess of 7 percent of gross floor area would require Conditional Use authorization as a major parking garage, in accordance with Sections 158 and

36 The proposed Transit Tower is analyzed based on architectural plans dated May 2010 and December 2010.
37 This would include partial office levels on floors two and four.



SOURCE: Pelli Clarke Pelli Architects, 2008

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 8
Transit Tower and City Park Site Plan

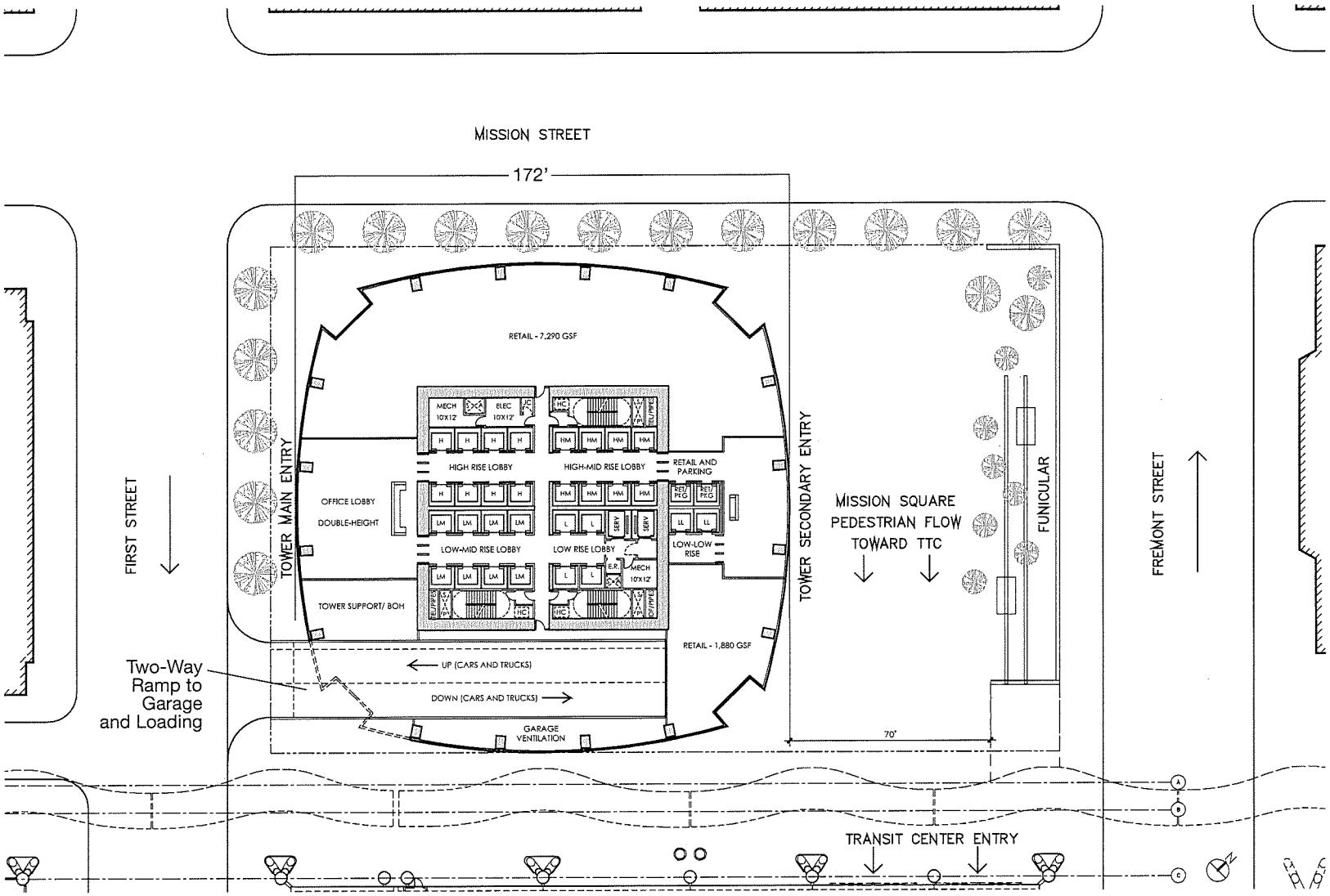
223(p) of the *Planning Code*.[38] Bicycle parking (approximately 225 spaces, based on proposed *Planning Code* revisions under the draft Plan) would also be provided in the garage. Six off-street freight loading spaces would be provided on the first basement level. Access to the parking garage and loading dock would be from a single, two-way ramp on First Street, located near the southwest corner of the building. Pedestrian entrances to the tower lobby would be from both the west (First Street) and east sides of the building; the latter entrance would open onto Mission Square, a public open space that would be developed east of the tower, at the southwest corner of Mission and Fremont Streets. In addition, a pedestrian bridge on the fourth level would provide a walking connection from the Transit Tower to the City Park on top of the Transit Center. City Park would be developed as part of the Transit Center, which is now under construction. The north side of the tower's ground floor would be occupied by retail spaces accessible from Mission Street.

The Transit Tower is proposed to have concave curved exterior walls on all four sides, and the walls would also taper as the building rises, beginning at a height of about 380 feet. From there, the exterior walls would slope gently inward on all four sides, giving the building a curving, obelisk-like form: the 172-foot horizontal dimension along each side of the ground floor would be reduced to about 138 feet at the building roof (i.e., at a height of about 920 feet). Atop the building would be a lattice-like steel sculptural element 150 feet tall, which would continue the building's tapering shape up to a total height of about 1,070 feet. The horizontal dimension at the top of this element would be approximately 89 feet. A two-level mechanical penthouse, set back from the building walls on all four sides, would be enclosed within the sculptural element. **Figures 8 through 13** illustrate the proposed site plan, representative floor plans, and a typical elevation of the proposed tower. **Table 2**, p. 46, summarizes and describes the Transit Tower development program as currently proposed.

In terms of design, the proposed tower would be constructed in a contemporary style, consisting of a slender, tapering silhouette and employing a curved glass curtain wall (a non-structural wall of mostly glass) along all four facades. The tower would consist of a single vertical element rather than a three-part (base, shaft, and capital) arrangement typical in many of the City's buildings. Horizontal metal fins on each floor would act as sunshades and would give the surface texture.

The current design of the Transit Tower would be consistent with the proposed bulk requirements of the draft Plan, which would amend *Planning Code* Section 132.1 to require a 35-foot setback from the center line of the adjacent street—Mission Street, in this case—and a setback increasing to 70 feet from the center line at a height of 1,000 feet. The draft Plan's streetscape and public realm improvements plan would also require that the base of the Transit Tower be set back at least 10 feet from the property line on Mission Street, to permit widening of the street right-of-way to accommodate transit activity on Mission Street. Depending on the location of the interior (southerly) property line, the tower might require an exception, pursuant to Section 309, from the interior property line setback requirements; if built to the property line, the current design would be 3 inches shy of the required 29-foot setback at 1,000 feet.

[38] Because the floor area proposed for parking would exceed 7 percent of gross floor area, it would also exceed the draft Plan's proposed limit of 3.5 percent of gross floor area devoted to parking.

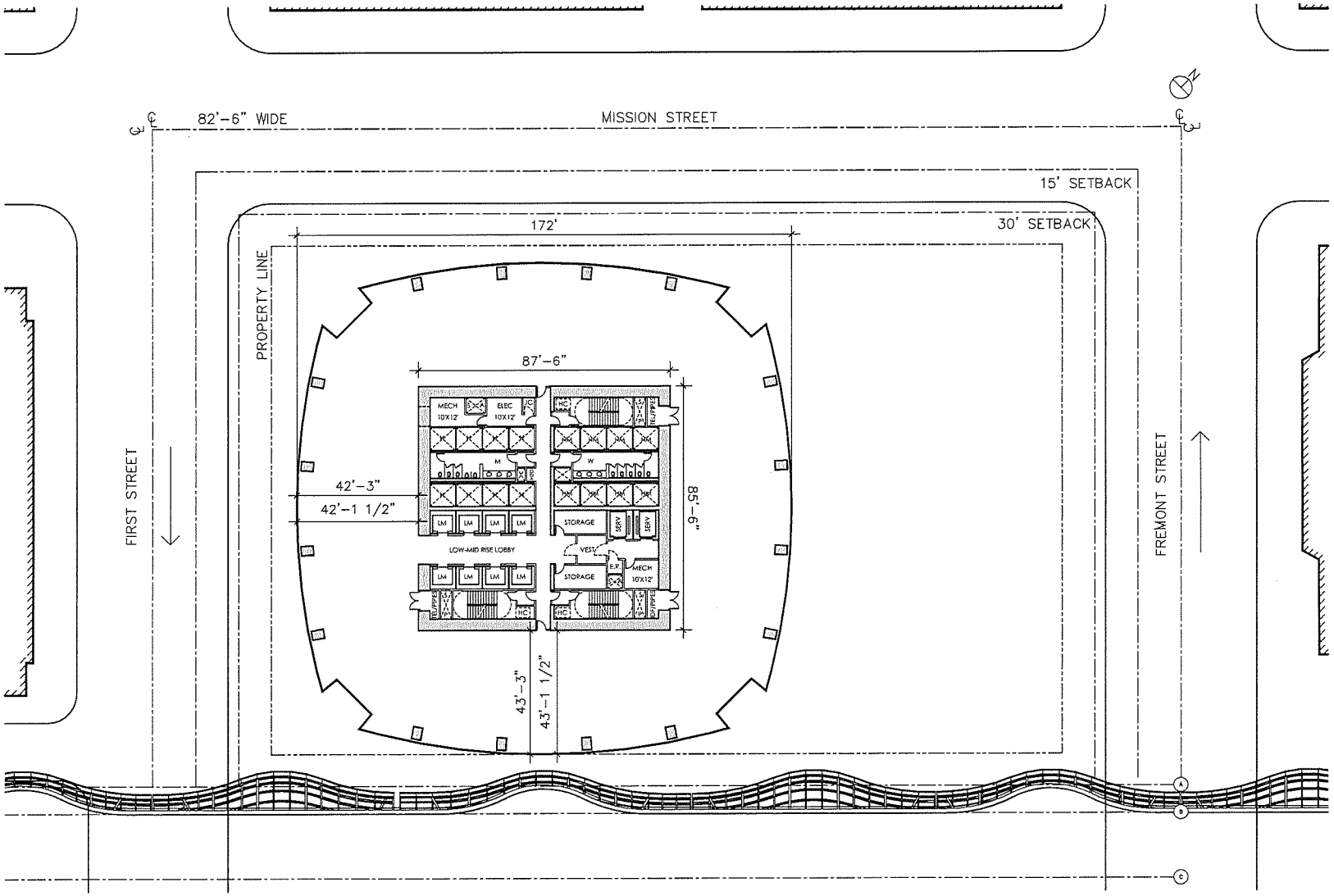


SOURCE: Pelli Clarke Pelli Architects

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 9

Transit Tower - Ground Level

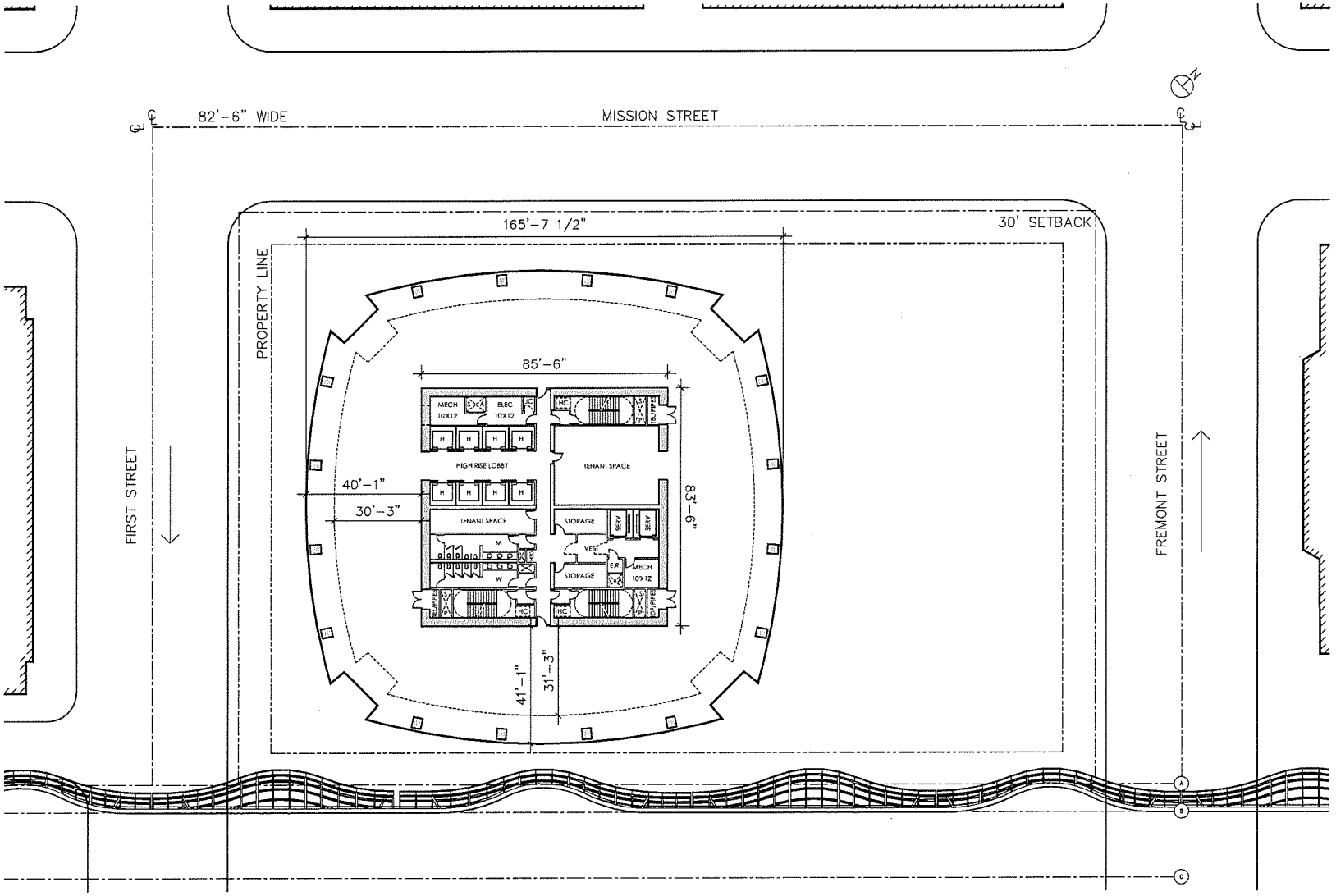


SOURCE: Pelli Clarke Pelli Architects

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 10

Transit Tower - Level 2

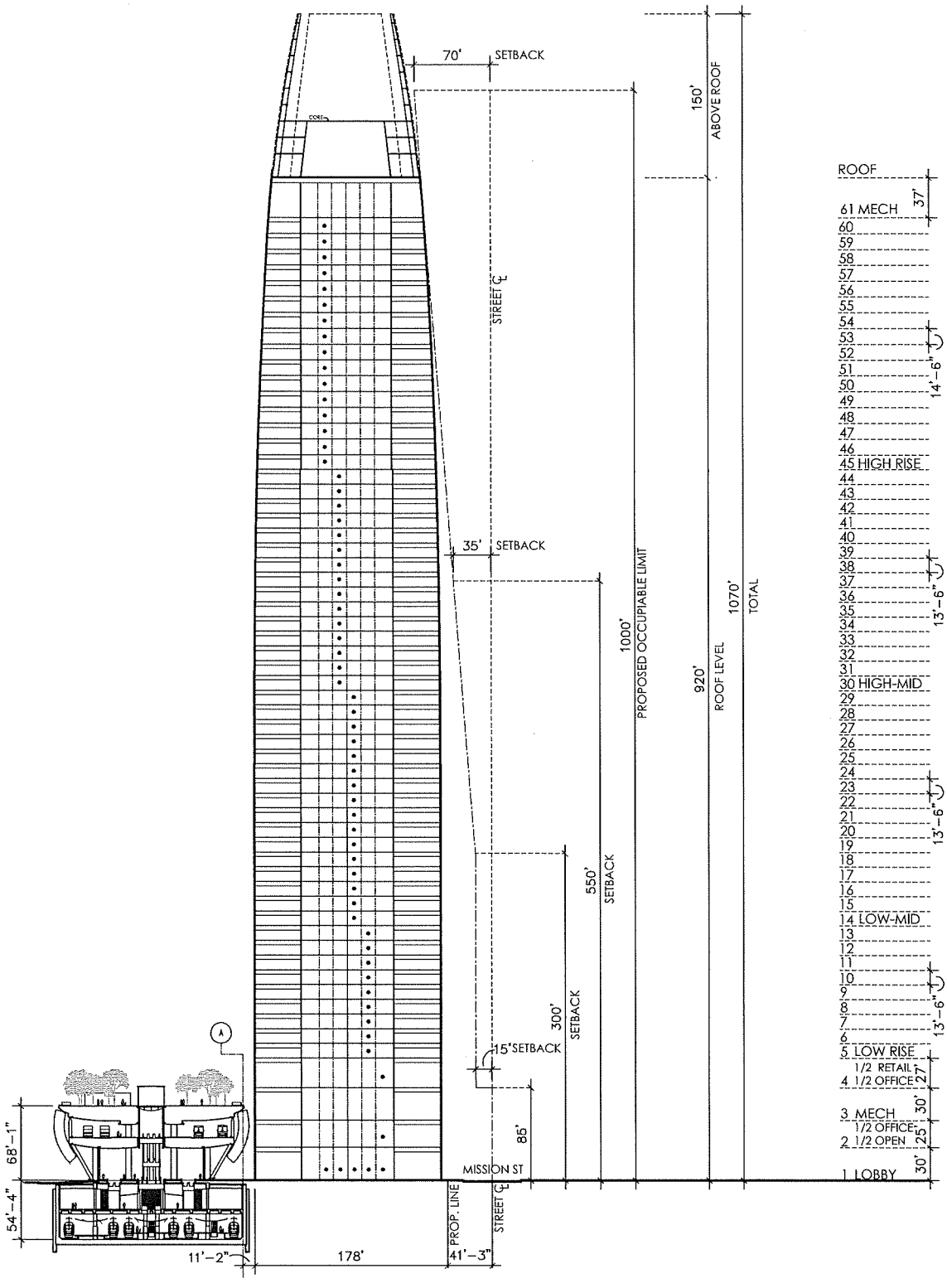


Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: Pelli Clarke Pelli Architects

Figure 11

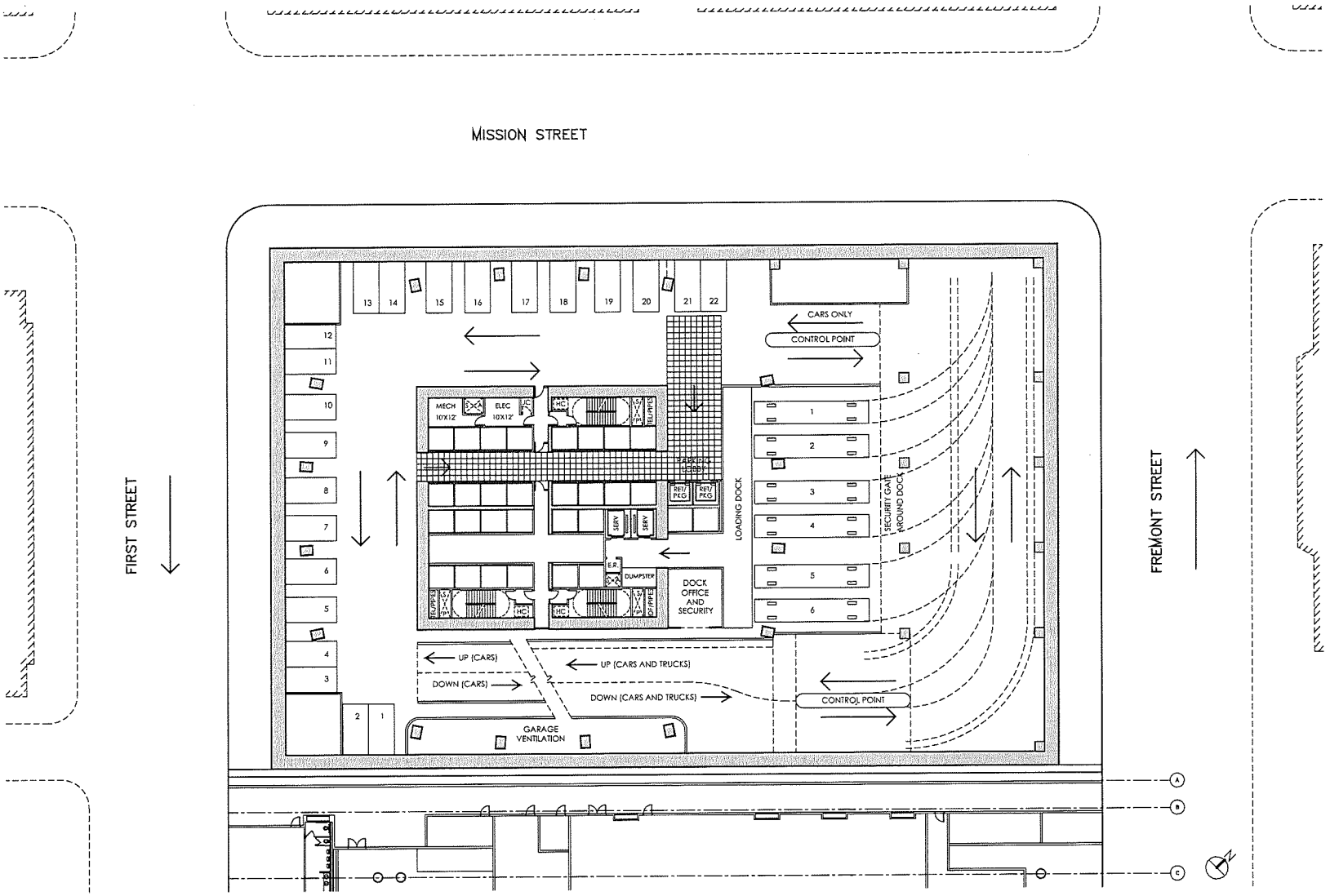
Transit Tower - Typical Floor Plan



Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: Pelli Clarke Pelli Architects

Figure 12
Transit Tower - Elevation



SOURCE: Pelli Clarke Pelli Architects

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 13

Transit Tower - First Garage Level

TABLE 2
TRANSIT TOWER PROJECT CHARACTERISTICS

	Square Feet[1]
Office	1,288,000
Retail	16,500
Subtotal	**1,304,500**
Parking,/Loading/Vehicle Circulation	122,000
Mechanical	27,000
Lobby	10,000
Total	**1,416,500**
Parking Spaces (Valet Capacity)	302 (420)
Loading/Service Vehicle Spaces	4
Bicycle Parking (Stalls)	283[2]
Height of Building	1,070 feet total (920 feet to roof of maximum occupied floor plus additional 150' for architectural elements, mechanical equipment)
Number of Stories	61

1 Office space is counted as gross floor area (GFA). Excluded from GFA are ground-floor lobby space and ground-floor retail space not exceeding 5,000 square feet per use, along with certain mechanical space, freight loading, and parking, which is limited to 7 percent of total building GFA.
2 Per proposed changes to the *Planning Code*.

SOURCE: TJPA; Pelli Clarke Pelli Architects

The Transit Tower may incorporate a publicly accessible observation platform at an elevation of no lower than 650 feet (approximately the 40th floor or higher), as called for in the draft Plan.[39] However, no such observation area is included in the proposed Transit Tower design at this time.

The TJPA is developing plans to substantially decrease the use of potable water for non-potable use at both the Transit Center and the proposed Transit Tower. Methods could include collection and reuse, following treatment, of greywater from non-retail restroom sinks and stormwater runoff and reuse of greywater for toilet flushing. Additionally, the adjacent City Park—to be built atop the Transit Center—and Mission Square open spaces would provide opportunities for stormwater retention.

The proposed Transit Tower project is designed to be eligible to receive a LEED (Leadership in Energy and Environmental Design) Gold rating from the U.S. Green Building Council, and would include water and energy-saving features. In addition, the TJPA would require the developer of the Transit Tower to adopt safety and security measures to maximize the protection of the public from injury due to human and natural events, including, but not limited to, earthquake, flood, wind, precipitation, building movement, terrorist attack, sabotage, civil unrest or civil disturbances, accidents, and crime.

39 November 2009 Draft Plan, Policy 3.22

Construction of the Transit Tower would require approximately three years.

The Transit Tower site is in a P (Public) use district. The project's office and retail uses would not be permitted in the P zoning district and an amendment to the zoning map (rezoning) to a Downtown Office (C-3-O SD) zoning district would be required as part of the project approval; this change is proposed as part of the draft Plan. The Transit Tower project site is also within a 30-X height and bulk district, which limits height to 30 feet but has no bulk limit. Amendment of the height and bulk districts (rezoning) would also be required for the Transit Tower site as part of the project approval. (As discussed in the previous section, the necessary rezoning for height is also proposed as a component of the Plan). Total gross floor area, measured according to *Planning Code* Section 102.9, would be approximately 1.32 million square feet,[40] and the project would have a floor area ratio (FAR) of approximately 26 to 1, which would not comply with the basic maximum permitted FAR of 9 to 1 in the surrounding C-3-O and C-3-O (SD) zoning districts. However, because the draft Plan proposes to eliminate the existing FAR restrictions and to rezone the Transit Tower site to C-3-O (SD), no conflict would exist with respect to FAR.

Plan Area Applications on File

As noted above, this EIR also analyzes a Developer-Proposed Scenario for the Transit Center District Plan to reflect several applications that have been submitted to the Planning Department by private project sponsors proposing individual buildings in the area, some of them deviating from Plan parameters with regard to height or other characteristics. This scenario is primarily addressed in Chapter VI, Alternatives, but these projects are discussed as relevant in Chapter IV, Environmental Setting, Impacts, and Mitigation Measures. These projects are summarized below and their locations, which generally correspond to the subareas identified for the Transit Center District Plan, are described below.

- **350 Mission Street** (Case No. 20-06.1524E; Final EIR certified and project approved February 10, 2011[41]): The applicant for this approved project proposes to demolish the existing 4-story building at 350 Mission Street and construct a 24-story, approximately 375-foot-tall office tower with office uses occupying approximately 356,000 square feet. The floor area ratio would be 18:1. The 50-foot-tall ground floor would provide about 1,000 square feet of retail and restaurant space, along with 6,960 square feet of publicly accessible indoor open space in an "indoor park," as set forth in the *Planning Code* (Section 138) and Downtown Plan (Table 1, Guidelines for Downtown Open Space). Four loading spaces and 61 auto parking spaces and 64 bicycle spaces would be provided. This project was approved at a lesser height than the 700-foot height limit identified for this site in the draft Plan; the proposed building is consistent with the existing height limit for this site, although the building would require exceptions to the *Planning Code* bulk controls. As an office building, this proposed project would be consistent with concept of the Plan's proposed commercial sub-district, where at least 75 percent of building floor area would be required to be devoted to office use (i.e., 3:1 ratio of office to non-office space).

40 Assumes approximately 10,000 square feet of ground-floor retail, 100,000 square feet of parking and loading, and lobby and mechanical space would be excluded from gross floor area.

41 This project was approved subsequent to the issuance of the Notice of Preparation for the Transit Center District Plan EIR, and is therefore included in the Developer-Proposed Scenario.

- **177-187 Fremont Street** (Case No. 2007.0456E; also known as 181 Fremont Street): The project applicant proposes a 675-foot-tall, 52-floor mixed-use tower at Natoma and Fremont Streets, that would encompass a total of 571,000 square feet of gross floor area. Approximately 138,000 square feet would be dedicated to residential uses (with approximately 80 dwelling units) and 414,000 square feet would be dedicated to office uses. The project also proposes four levels of parking (partially below grade) containing a total 230 parking stalls. As proposed, this project would be consistent with the Plan's proposed 3:1 ratio of office to non-office space. This building would have mechanical levels and a rooftop screen extending to a height of 750 feet, which would exceed the 700-foot height limit proposed in the draft Plan for this site. The draft Plan states, in the context of the proposed Transit Tower, "Building elements (e.g. mechanical penthouses) above 1,000 feet should be set back considerably from the building's façade or limited in bulk and enclosure such that they would not cast additional significant shadows...." Potential shadow effects of this project are discussed in the analysis of Plan shadow impacts in Section IV.J, Shadow, and in Chapter VI, Alternatives, in the context of Alternative D, Developer Scenario.

- **50 First Street** (Case No. 2006.1523E): This project would demolish four existing structures and develop three towers of 15 to 64 stories, ranging in height from 184 to 915 feet (to the top of the proposed parapet on the tallest building; 850 feet to the highest roof) on seven lots located at or near the northwest corner of First and Mission Streets. The three proposed towers would accommodate a mix of office (approximately 1.25 million square feet), residential (about 182 dwelling units in 365,000 square feet), retail (approximately 43,000 square feet), and hotel (about 266 rooms in 211,000 square feet) use, along with a 15,000-square-foot entertainment venue (performance theater), five levels of below grade parking (about 310 spaces), off-street loading spaces, and publicly accessible open space. This project would not be consistent with the Plan's proposed 3:1 ratio of office to non-office space. As with the building at 177 – 187 Fremont Street, the 915-parapet height would exceed the 850-foot height limit proposed in the Plan for this site. Potential shadow effects of this project are discussed in the analysis of Plan shadow impacts in Section IV.J, Shadow, and in Chapter VI, Alternatives, in the context of Alternative D, Developer Scenario.

- **2 New Montgomery (Palace Hotel)** (Case No. 2005.1101E): The project site is currently occupied by the eight-story 552-room Palace Hotel. The proposed project would demolish the non-landmarked portion of the structure, located at the southwest corner of the property near Jessie and Annie Streets, and construct in its place a new 60-story, 710-foot (to the top of the mechanical penthouse), approximately 742,000-square-foot residential tower with approximately 285 units, 192 off-street parking spaces, three car-share spaces and bicycle storage facilities in two basement level. The new tower would also include amenities for the residents as well as share amenities with the hotel, such as a swimming pool. The Gold Ballroom located in the southwest portion of the building would be dismantled and re-assembled in the current location of the Grand Ballroom south of the Garden Court. This project is proposed at a greater height than identified for this site in the draft Plan (600 feet). Potential shadow effects of this project are discussed in the analysis of Plan shadow impacts in Section IV.J, Shadow, and in Chapter VI, Alternatives, in the context of Alternative D, Developer Scenario. This project is proposed outside (west of) the sub-district where the Plan's proposes a 3:1 ratio of office to non-office space, and thus the proposed use would be allowable under the Plan.

- **41 Tehama Street** (Case No. 2008.0801E): Located between First and Second Streets, the project site currently functions as a surface parking lot and has a one-story structure on it that takes up a small portion of the lot. The proposed project would demolish the existing building on the site and construct a 342-foot 32-story residential building with approximately 297 dwelling units and up to 250 parking spaces. This project is proposed at a lower height than the 400-foot height limit

proposed under the Plan, and the site is outside (south of) the sub-district where the Plan's proposes a 3:1 ratio of office to non-office space. Thus, this project would generally be allowable under the Plan.

Other height limit changes and other land use controls proposed as part of the Transit Center District Plan would be the same under the Developer-Proposed Scenario Alternative. Under this alternative, there would be no change to the Transit Tower that is proposed as part of the project.

E. Intended Uses of the EIR

The Planning Department will distribute the Draft EIR to state agencies through the State Clearinghouse, to applicable public agencies, and to interested members of the public. Following publication, this Draft EIR will undergo a minimum 45-day public review period, including a public hearing before the Planning Commission, during which comments on the information presented herein will be accepted. Following the public review period, responses to written and oral comments received from the public and agencies will be prepared and compiled in a Comments and Responses document. The Comments and Responses document will also include any staff initiated changes to the Draft EIR. The Draft EIR, together with the Comments and Responses document, make up the Final EIR and will be taken together to the Planning Commission. The Commission will then consider certification of the Final EIR under the California Environmental Quality Act, including consideration of whether the EIR is adequate and accurate. No approvals may be issued before the city certifies the EIR as final. Certification of the Final EIR may be appealed to the Board of Supervisors.

Approvals Required

Approval and implementation of the Transit Center District Plan and Transit Tower (tower approvals noted explicitly) would require the following actions, with acting bodies shown in italics:

- Amendment of the *General Plan* [various elements and Downtown area plan] to conform to the concepts of the Transit Center District Plan rezoning program (the project), as outlined above. *Planning Commission recommendation; Board of Supervisors Approval*

- Determination of consistency of the proposed *General Plan* amendments and rezoning with the *General Plan* and *Planning Code* Section 101.1 Priority Policies. *Planning Commission*

- Amendment of the *Planning Code* to create new height and bulk districts greater than the current maximum of 550 feet; establish building setback and separation of towers requirements for buildings taller than 550 feet; eliminate the 18:1 limit on floor area ratio; adopt additional controls on building bulk, massing, and setbacks and façade articulation; modify controls for the use of transferrable development rights; establish a downtown preservation fund; increase bicycle parking and car-share parking requirements; prohibit off-street parking and loading access from Mission, Second, Ecker and portions of Folsom and Natoma Streets in the Plan area, and permit such access on portions of First, Fremont, and Beale streets only with Conditional Use Authorization; prohibit surface parking in the Plan area; allow for greater horizontal projections that emphasize ground floors; and require transportation demand management programs of all projects 25,000 square feet and larger. *Planning Commission recommendation; Board of Supervisors Approval*

- Amendment of the *Planning Code* Zoning Maps to change mapped use districts and height limits throughout the Plan area. *Planning Commission recommendation; Board of Supervisors Approval*
- Modification of the Absolute Cumulative Limit for new shadow on certain City parks and a Section 295 shadow finding (Transit Tower).[42] *San Francisco Planning Commission and San Francisco Recreation and Park Commission*
- Permit for boilers and generators (Transit Tower). *Bay Area Air Quality Management District*
- General Construction Activity Stormwater Permit (Transit Tower). *Regional Water Quality Control Board*
- Approval of Transit Tower under *Planning Code* Section 309 (Permit Review in C-3 Districts) and Section 321 (Office Development: Annual Limit), as well as approval of a Conditional Use under Sections 304, 158, and 223(p) for a Major Parking Garage, for the portion of the Tower's proposed parking in excess of permitted accessory parking. *San Francisco Planning Commission*
- Execution of a purchase and sale agreement with the developer of the Transit Tower, including design approval of tower and pedestrian connection(s) to City Park. *Transbay Joint Powers Authority*
- Building Permits (Transit Tower). *San Francisco Department of Building Inspection*
- Approval for new water, sewer, and street light utility connections (Transit Tower). *San Francisco Public Utilities Commission*
- Approval of stormwater management system and submittal by project sponsor of a Stormwater Control Plan (Transit Tower). *San Francisco Public Utilities Commission*
- Approval of alterations to street rights-of-way, including, for example, the configuration of travel lanes, sidewalks widths, and addition of crosswalks that are part of the draft Plan's modifications to the public realm. *San Francisco Municipal Transportation Agency, Department of Public Works*
- Approval for any proposed curb or street modifications (Transit Tower). San Francisco Municipal Transportation Agency; Department of Public Works; Board of Supervisors

[42] Other buildings that would cast shadow on Recreation and Park Department properties would also require modification of the Absolute Cumulative Limit for one or more parks. However, those subsequent projects would require their own project-specific CEQA analysis and would be considered for approval—including consideration of shadow limits—separately from the Transit Center District Plan and the Transit Tower.

CHAPTER III
Compatibility with Existing Zoning and Plans

This chapter describes any inconsistencies between the draft Transit Center District Plan and proposed Transit Tower and applicable plans and policies, including objectives and policies of the *San Francisco General Plan*, the adopted Transbay Redevelopment Plan that overlaps with a portion of the Transit Center District Plan area, and other applicable local and regional plans. This chapter also discusses the Plan's and tower's compliance with *San Francisco Planning Code*, which implements the *General Plan.* Where inconsistencies are identified that could result in physical effects on the environment, the reader is directed to analysis of those effect in Chapter IV, Environmental Setting, Impacts, and Mitigation Measures. In particular, regional plans pertaining to air quality (e.g., *2010 Clean Air Plan*) are discussed in Section IV.G, Air Quality.

Planning and regulatory control over the Plan area are governed by the San Francisco Planning Department and the San Francisco Redevelopment Agency (parts of the proposed Plan area within Zone 1 of the adopted Transbay Redevelopment Plan). Development in the Plan area is generally covered by the *San Francisco General Plan*, but the Transit Center District Plan area overlaps with the Transbay Redevelopment Project Area, and includes all of Zone 2 of the redevelopment area.[43] The Redevelopment Agency has implemented a Delegation Agreement with the Planning Department to generally assign responsibility and jurisdiction for planning, zoning, and project entitlements in Zone 2 of the redevelopment area to the Planning Department and Planning Commission, relying on the *Planning Code.* The Transbay Redevelopment Plan is being implemented in partnership with the Redevelopment Agency and involves review by the Agency's Transbay Citizens' Advisory Committee. The Transit Tower site is within Zone 2, meaning that it is governed by the *Planning Code,* as administered by the Planning Department and Planning Commission.

As part of the review and approval process, the draft Plan would be reviewed by the Planning Commission, and the Commission and the Board of Supervisors would make findings of consistency with objectives, policies and principles of the *General Plan* at the program level and make amendments to the *General Plan* for consistency with the final version of the Transit Center District Plan.

43 The draft Plan includes streetscape changes and road modifications within Zone 1 of the Transbay Redevelopment Area, although no land use or height changes are envisioned within this area.

A. San Francisco General Plan

The *San Francisco General Plan*, adopted by the Planning Commission and the Board of Supervisors, is both a strategic and long-term document, broad in scope and specific in nature. The *General Plan* is the embodiment of the city's collective vision for the future of San Francisco, and comprises a series of elements, each of which deal with a particular topic, that applies citywide. The *General Plan* contains 10 elements (Housing, Commerce and Industry, Recreation and Open Space, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that provide goals, policies, and objectives for the physical development of the city. In addition, the *General Plan* includes area plans that outline goals and objectives for specific geographic planning areas, such as the greater downtown, including the Plan area, policies for which are contained in the Downtown Plan, an area plan within the *General Plan*.

The Transit Center District Plan is intended to develop a rezoning proposal that increases the amount of allowable development in the transit-rich downtown core, while at the same time improving public amenities, modifying the system of streets and circulation to meet the needs and goals of a dense transit-oriented district, providing additional open space, and implementing policies to preserve existing historic structures and to promote sustainability. A primary goal of the proposed urban design controls is to enhance the downtown skyline, while relating the proposed structures to the surrounding mid- and low-rise residential and commercial neighborhoods. In general, these objectives of the draft Plan are founded upon the policy direction of the *General Plan*.

A conflict between a proposed project and a *General Plan* policy does not, in itself, indicate a significant effect on the environment within the context of the California Environmental Quality Act (CEQA). Any physical environmental impacts that could result from such conflicts are analyzed in this EIR. In general, potential conflicts with the *General Plan* are considered by the decisions-makers (normally the Planning Commission) independently of the environmental review process. Thus, in addition to considering inconsistencies that affect environmental issues, the Planning Commission considers other potential inconsistencies with the *General Plan*, independently of the environmental review process, as part of the decision to approve or disapprove a proposed project. Any potential conflict not identified in this environmental document would be considered in that context and would not alter the physical environmental effects of the draft Plan and proposed Transit Tower that are analyzed in this EIR.

As noted, the Plan area is contained within the boundaries of the Downtown Plan, an area plan within the *General Plan*. In an area plan, "the more general policies in the *General Plan* elements are made more precise as they relate to specific parts of the city."[44] Therefore, the policies in the Downtown Plan are those that are most applicable to the draft Plan. As directed by the state CEQA Guidelines (Sec. 15125(d)), potential conflicts with Downtown Plan policies are discussed below. Additional *General Plan* policies with which the proposed Plan could conflict are discussed following the Downtown Plan. This section is not intended to provide a comprehensive analysis of *General Plan* consistency: in particular, this section is

44 Introduction to the *General Plan*.

not intended to, and does not, identify policies that the draft Plan would support. Staff report(s) for Planning Commission and Board of Supervisors action(s) on the draft Plan will contain a complete analysis of *General Plan* consistency.

Downtown Plan

The Plan area is entirely within the area covered by the Downtown Plan, an area plan within the *General Plan*. The aim of the Downtown Plan is to encourage business activity and promote economic growth downtown, as the City's and region's premier center, while improving the quality of place and providing necessary supporting amenities. Centered on Market Street, the Plan covers an area roughly bounded by Van Ness Avenue to the west, Steuart Street to the east, Folsom Street to the south, and the northern edge of the Financial District to the north.

The Downtown Plan contains objectives and policies that address the following issues: provision of space for commerce, housing, and open space; preservation of the past; urban form; and movement to, from, and within the downtown area (transportation). The Downtown Plan was intended to maintain a compact downtown core and direct growth to areas with developable space and easy transit accessibility so that downtown would "encompass a compact mix of activities, historical values, and distinctive architecture and urban forms that engender a special excitement reflective of a world city" (Downtown Plan, Introduction [p. II.1.1 of printed version]). The Downtown Plan regulates growth in the downtown, centered in the Financial District, through height limits and FARs (floor area ratios).

The Downtown Plan grew out of an awareness of the public concern in the mid-to-late 20th century over the degree of change occurring downtown—and of the often conflicting civic objectives between fostering a vital economy and retaining the urban patterns and structures which collectively form the physical essence of San Francisco. One of the fundamental concepts embodied within the Downtown Plan is to expand the City's downtown office core south from its traditional locus north of Market Street, in a way that "protects the fine scale and rich mix of uses in Chinatown, Jackson Square, Kearny Street, Union Square, Mid-Market, North of Market-Tenderloin, and the hotel-entertainment area near Mason Street." Thus, the Downtown Plan states, "Major office towers can be constructed on sites remaining in the financial core north and south of Market and in an expanded area south of Market centered on the Transbay Bus Terminal." The rezoning that accompanied adoption of the Downtown Plan established the City's greatest height limits (450 to 550 feet) in proximity to the then-extant Transbay Terminal.[45] As noted in Chapter II, Project Description, height limits in the Plan area range from 30 to 550 feet. The Transit Tower project site, although in the center of this area of expansive height limits, currently has a *Planning Code*-permitted height of 30 feet.[46]

45 Subsequent rezoning has expanded the area of height limits of 400 to 550 feet to locations along the north side of Folsom Street, where the Embarcadero Freeway once ran, and certain locations on Rincon Hill.

46 The Transbay Design for Development document, published in 2003 in support of the adopted Transbay Redevelopment Plan, proposed a 550-foot-tall Transit Tower. However, the *Planning Code* height limit for the site has not been increased as of Spring 2011.

In 1986, shortly after the Downtown Plan was adopted by the Board of Supervisors (1985), San Francisco voters approved Proposition M, the Accountable Planning Initiative, that, among other things, established a limit of 950,000 square feet of office that can be approved in each annual period ending in mid-October. Of that total, 75,000 square feet is reserved for smaller buildings of between 25,000 and 49,999 square feet. (See further discussion of Proposition M, including the eight priority policies established by the measure, on p. 71.)

The draft Plan and the Transit Tower would be generally consistent with the Downtown Plan's stated goal of encouraging expansion of the downtown office core in the general vicinity of the former Transbay Terminal (planned new Transit Center) while avoiding "undesirable consequences which cannot be mitigated" (Policy 1.1). However, given that the draft Plan would permit and encourage the development of several towers much taller than any buildings heretofore developed in San Francisco, the proposed Plan could potentially conflict, on some levels, with the following objectives and policies of the Downtown Plan that speak to adverse effects of large-scale development:

Policy 1.1: Encourage development which produces substantial net benefits and minimizes undesirable consequences. Discourage development which has substantial undesirable consequences which cannot be mitigated.

Policy 2.1 Encourage prime downtown office activities to grow as long as undesirable consequences of such growth can be controlled.

The "undesirable consequences" discussed in the text accompanying Policy 2.1 (and also referenced in Policy 1.1) include impacts related to out-of-scale office development on neighborhood character; loss of historical resources; increased shading of streets and publicly accessible open space; increased pedestrian-level winds; increased traffic and parking demand, pollutant emissions, and energy use; overburdened public transit; increased traffic noise; increased pressure on housing supply resulting from increased employment; and conversion of housing, retail, and service commercial space to office space. Physical effects related to each of these issues are analyzed in the applicable sections of Chapter IV. This EIR identifies significant, unavoidable impacts in the areas of historical resources (potential adverse effects on buildings identified as historical resources under CEQA, and on one or more local historic district and/or historic districts eligible for listing in the California Register of Historical Resources; see Section IV.D), traffic (degradation in the level of service at certain intersections, increased transit occupancy and transit delay, a shortfall of freight loading spaces, and construction impacts; see Section IV.E), air quality (potential health risk due to exposure to diesel particulate matter and fine particulates [$PM_{2.5}$] emitted by operation of existing stationary sources and during construction; see Section IV.G), and shadow (addition of new shadow to Recreation and Park Department properties; see Section IV.J). Other impacts were found to be less than significant, in some cases with mitigation, including those related to aesthetics and visual quality, wind, transit, parking, and pedestrian and bicycle conditions, energy, noise, and population and housing. In terms of policy consistency, as noted in Chapter II, Project Description, the proposed Plan would include amendments to the Downtown Plan that would eliminate maximum floor area ratios and increase height limits in certain areas, as well as to *Planning Code* height and bulk requirements that implement the Downtown Plan.

Other Downtown Plan policies with which the draft Plan and/or the Transit Tower could conflict are identified below.

Policy 10.5: Address the need for human comfort in the design of open spaces by minimizing wind and maximizing sunshine.

Objective 14: Create and maintain a comfortable pedestrian environment.

Policy 14.2: Promote building forms that will minimize the creation of surface winds near the base of buildings.

Wind impacts are analyzed in Section IV.H, and shadow impacts are analyzed in Section IV.I.

Objective 12: Conserve resources that provide continuity with San Francisco's past.

Policy 12.1: Preserve notable landmarks and areas of historic, architectural, or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

Policy 12.3: Design new buildings to respect the character of older development nearby.

Policy 13.2 Foster sculpturing of building form to create less overpowering buildings and more interesting building tops, particularly the tops of towers.

Policy 13.4 Maintain separation between buildings to preserve light and air and prevent excessive bulk.

As described in Section IV.D, Cultural Resources, the proposed Plan area includes three historic districts and more than 100 individual historical resources. As further discussed in Section IV.D., although the draft Plan proposed additional protection for certain historical resources in the area, implementation of the proposed Plan could adversely affect one or more of these districts and/or individual resources. The Transit Tower would have no direct effect on historical resources, as the tower site is vacant following demolition of the Transbay Terminal. Historical resources impacts are fully analyzed in Section IV.D.

Objective 6: Within acceptable levels of density, provide space for future office, retail, hotel, service and related uses in Downtown San Francisco.

Policy 13.1: Relate the height of buildings to important attributes of the city pattern and to the height and character of existing and proposed development.

Objective 15: Create a building form that is visually interesting and harmonizes with surrounding buildings.

Policy 15.2: Assure that new buildings contribute to the visual unity of the city.

Effects on aesthetics and visual quality are analyzed in Section IV.B.

Objective 17: Develop transit as the primary mode of travel to and from downtown.

Objective 18: Ensure that the number of auto trips to and from downtown will not be detrimental to the growth or amenity of downtown.

Objective 20: Provide for the efficient, convenient and comfortable movement of people and goods, transit vehicles and automobiles within the downtown.

Objective 21: Improve facilities for freight deliveries and business services.

Policy 21.1: Provide off-street facilities for freight loading and service vehicles on the site of new buildings sufficient to meet the demands generated by the intended uses. Seek opportunities to create new [loading spaces in] existing buildings.

As set forth in Chapter II, Project Description, the draft Plan seeks to increase the concentration of development in proximity to the City's greatest concentration of public transit. However, as stated in Section IV.E, Transportation, by 2030, growth in the Plan area and elsewhere in San Francisco would result in public transit service operating in excess of capacity on several Muni corridors, the BART Transbay Tube corridor, AC Transit Transbay service, and Golden Gate Transit buses, absent increased service levels beyond those currently projected. At the same time, the analysis in Section IV.E indicates that the vast majority of intersections would operate at unacceptable levels of service, making travel by private auto difficult and causing delays for transit service on surface streets, including Muni lines and Golden Gate Transit and SamTrans buses. Additionally, the analysis in Section IV.E indicates that peak demand for off-street freight loading spaces is unlikely to be met in the Plan area. Because the on-street loading supply would likely be insufficient to meet overflow demand, unmet loading demand could result in double-parking, congestion, and adverse effects on transit, bicycles, and traffic.

Other Area Plans

The Plan area is adjacent on the southwest to the area covered by the East SoMa Plan, adopted in 2009 as part of the Eastern Neighborhoods Community Plans and Rezoning project, and on the south to the area covered by the Rincon Hill Plan, adopted in 2005. However, because the Plan area is not within either of those planning areas, their consistency is not generally applicable to the Plan area.

The Rincon Hill Plan calls for, among other things, the enhancement of Folsom Street "into a walkable neighborhood center to serve the Rincon Hill and Transbay neighborhoods" (Rincon Hill Plan Objective 1.3, with ground-floor neighborhood-serving retail stores. The Rincon Hill Plan includes only the southern frontage of Folsom Street; the northern frontage is within the Transit Center District Plan area. However, the portion of Folsom Street that is adjacent to the Rincon Hill Plan area (east of Essex Street) is within Zone 1 of the adopted Transbay Redevelopment Area, where the draft Transit Center District Plan proposes no changes to land use controls. Because the Zone 1 controls are consistent with the Rincon Hill Plan, the draft Transit Center District Plan would likewise be consistent with the Rincon Hill Plan. In terms of pedestrian improvements, both the Rincon Hill Plan and the draft Transit Center District Plan envision enhancements to Main, Beale, and Spear Streets to improve pedestrian travel, with widened sidewalks and additional landscaping. Therefore, the draft Plan is consistent with the Rincon Hill Plan in this regard, as well. The Transit Tower would be several blocks from the Rincon Hill Plan and East SoMa Plan areas and would not conflict with those plans.

Other General Plan Policies

Air Quality Element

Policy 3.5 Continue existing growth management policies in the city and give consideration to the overall air quality impacts of new development including its impact on the local and regional transportation system in the permit review process. Ensure that growth will not outpace improvements to transit or the circulation system.

As described in Section IV.E, growth pursuant to the proposed Plan, along with cumulative growth downtown, would result in Muni ridership that would exceed capacity at certain screenlines on certain corridors, and BART ridership that would exceed system capacity for travel to and from the East Bay. AC Transit and Golden Gate Transit bus ridership would also exceed capacity. In addition, most intersections in the Plan area are projected to operate at unacceptable levels of service.

Housing Element

The 2009 Housing Element, as adopted by the Planning Commission in March 2011 and by the Board of Supervisors on June 21, 2011, contains objectives and policies "intended to address the State's objectives and the City's most pressing housing issues: identifying adequate housing sites, conserving and improving existing housing, providing equal housing opportunities, facilitating permanently affordable housing, removing government constraints to the construction and rehabilitation of housing, maintaining the unique and diverse character of San Francisco's neighborhoods, balancing housing construction with community infrastructure, and sustainability."[47] The following policies relate to housing supply, especially the supply of affordable housing and housing for persons with varying special needs.

Objective 1 Identify and make available for development adequate sites to meet the City's housing needs, especially permanently affordable housing.

Policy 1.1 Plan for the full range of housing needs in the City and County of San Francisco, especially affordable housing.

Policy 1.8 Promote mixed use development, and include housing, particularly permanently affordable housing, in new commercial, institutional or other single use development projects.

Objective 4 Foster a housing stock that meets the needs of all residents across lifecycles.

Policy 4.1 Develop new housing, and encourage the remodeling of existing housing, for families with children.

Policy 4.5 Ensure that new permanently affordable housing is located in all of the City's neighborhoods, and encourage integrated neighborhoods, with a diversity of unit types provided at a range of income levels.

47 *San Francisco General Plan* Housing Element, adopted by Planning Commission, March 2011, Part II, p. 5. http://housingelement2009.sfplanning.org/docs/Housing_Element_Part_II_Objectives_and_Policies_CPC_Adopted.pdf

The draft Plan seeks to achieve a target that 70 percent of the built floor space in the district be devoted to office use. Although this would expressly limit the amount of housing (and other non-office uses) that could be developed in the Plan area, the proposed Plan would not conflict with the Housing Element's directives regarding provision of an adequate number of housing units, because the proposed Plan seeks to ensure that an adequate amount of office space to accommodate future employment growth be provided within a relatively small amount of land in the area of downtown proximate to the greatest array of transit services. The proposed Plan aims to accommodate a high concentration of office development within this southern portion of the Downtown office district while also recognizing that existing residential developments exist at various locations within the Plan area (particularly the southwest portion) and other high-density residential uses are already approved along the southern edge of the Plan area (approximately 2,700 units along Folsom Street, within Zone 1 of the Transbay Redevelopment Plan area), as well as within the Rincon Hill Plan area to the south. It is recognized that a high-density, heavily urbanized location such as the Transit Center District Plan area has not historically been a location of choice for many residents, particularly families with children, and that, therefore, some policy direction in the Housing Element that seeks to provide complete neighborhoods with a wide range of services for residents might be less applicable to portions of the Plan area than to other districts of San Francisco. This is, in part, because nearly all of the existing and anticipated housing in the Plan area is and will be provided in relatively taller buildings than elsewhere in San Francisco, limiting to some degree the desirability of these units to households seeking a less central-city-oriented community. Moreover, the greater height limits, both existing and proposed, increase the cost of housing, both due to the higher land cost and the higher cost of high-rise construction, relative to other districts, although these increases are offset to some degree by the greater housing density that can be achieved; these factors make non-subsidized housing in the Plan area unlikely to meet the Housing Element's affordability goals. The Housing Element states that about 66,000 new housing units could be built in San Francisco under existing zoning, including 3,500 units remaining to be built in the Mission Bay Redevelopment Areas. (Another 7,600 units could be built on Treasure Island and on the former Hunters Point naval base.) Of this total, about 10 percent could potentially be built in the downtown (C-3) use districts, including the Plan area and Rincon Hill to the south.[48] The draft Plan would increase this downtown housing potential by only about 12 percent, or about 800 units, because, as noted, the Plan's focus is on making sufficient land available primarily for office use, to accommodate forecast employment. Because it represents a relatively small percentage of projected Citywide housing growth, the loss of this 800-unit increment, were the draft Plan to be disapproved, would not jeopardize the City's ability to meet its share of regional housing demand, as forecast in the Regional Housing Needs Allocation administered by the Association of Bay Area Governments.

Nevertheless, to the extent that the draft Plan would permit housing and accommodate the retention of existing housing units, such policy direction in the Housing Element must be considered applicable and, within the constraints of the high-density housing that would be developed in the Plan area, the Plan would not be substantially inconsistent with the Housing Element. The Transit Tower, as an office

48 Housing Element, March 2011, Part I, p. 63. http://housingelement2009.sfplanning.org/docs/Housing_Element_Part_I_Data_Needs_Assmt_CPC_Adopted.pdf.

building, would not conflict with Housing Element. The tower developer would pay the housing fees required of office development citywide under Section 413.1 et seq., of the *Planning Code*, the Jobs-Housing Linkage Program.

Urban Design Element

The Urban Design Element is concerned with the physical character and environment of the city with respect to development and preservation. The Urban Design Element addresses issues related to City Pattern, Conservation, Major New Development and Neighborhood Environment. The proposed Plan draws from principles set forth in the Urban Design Element's discussion of Major New Development. These and other objectives and policies are discussed below.

Objective 1: Emphasis of the characteristic pattern which gives to the city and its neighborhoods an image, a sense of purpose, and a means of orientation.

Policy 1.1: Recognize and protect major views in the city, with particular attention to those of open space and water.

Policy 1.3: Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts.

Policy 1.6: Make centers of activity more prominent through design of street features and by other means.

Objective 2: Conservation of resources which provide a sense of nature, continuity with the past, and freedom from overcrowding.

Policy 2.6: Respect the character of older development nearby in the design of new buildings.

Objective 3: Moderation of major new development to complement the city pattern, the resources to be conserved, and the neighborhood environment.

Policy 3.2 Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance.

Policy 3.4: Promote building forms that will respect and improve the integrity of open spaces and other public areas.

Policy 3.5: Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development.

Policy 3.6: Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction.

The proposed Plan would permit a limited number of towers up to 1,000 feet in height (and potentially greater than 1,000 feet with the inclusion of non-occupiable, sculptural elements). Although such development could potentially conflict with one or more the above-listed objectives and policies, particularly with respect to the Transit Tower, which would be the tallest building in the Plan area, the proposed Plan draws from the Urban Design Element's call to concentrate tall buildings in centers of activity such as downtown, as long as such development is carefully planned and executed. Text accompanying Policy 3.5 of the Urban Design Element states:

> In areas of growth where tall buildings are considered through comprehensive planning efforts, such tall buildings should be grouped and sculpted to form discrete skyline forms that do not muddle the clarity and identity of the city's characteristic hills and skyline. Where multiple tall buildings are contemplated in areas of flat topography near other strong skyline forms, such as on the southern edge of the downtown "mound," they should be adequately spaced and slender to ensure that they are set apart from the overall physical form of the downtown and allow some views of the city, hills, the Bay Bridge, and other elements to permeate through the district.

The Urban Design Element classifies certain streets in terms of their importance as visual resources as well as quality of street views that are available from vantage points along those streets. In the project vicinity, Market Street, which runs along the northern edge of the Plan area, is characterized as a street containing "Street View of Important Building and Street That Defines City Form." No other streets within the Plan area are characterized as streets important to urban design and views. Additionally, long stretches of Mission, Howard, and Folsom Streets, including segments within the Plan area, are characterized by the *General Plan* as having "average" quality of views, with views along Mission, Howard, and Folsom Streets between First and Third Streets characterized as having "good" quality of street views. No other street segments are specifically characterized by the *General Plan* in terms of view quality along those streets.

As noted above, one of the objectives of the proposed Plan is to further the Downtown Plan, which strives to expand downtown southward into formerly industrial and low-rise areas around the Transit Center. By its very nature, the draft Transit Center District Plan would encourage development on a limited number of sites that would be taller than the maximum building heights currently permitted. The proposed Plan would require placement and massing of such very tall buildings to conform to principles intended to be consistent with the objectives and policies contained in the Urban Design Element. (See also Section IV.B, Aesthetics, for a discussion of physical environmental impacts with respect to aesthetics and views.)

Recreation and Open Space Element

Policy 2.3 Preserve sunlight in public open spaces. (The same text is contained in Policy 1.6 of the May 2009 draft Recreation and Open Space Element, which is being prepared to update the existing Recreation and Open Space Element.)

Implementation of the draft Plan and development of the Transit Tower would result in the addition of new shadow to several parks under the jurisdiction of the Recreation and Park Department, as well as to other public open spaces and to certain publicly accessible, privately owned open spaces. This issue is discussed in detail in Section IV.J.

B. Other Plans

Environmental plans and policies are those, like the *Bay Area 2010 Clean Air Plan*, which directly address environmental issues and/or contain targets or standards that must be met in order to preserve or improve characteristics of the City's physical environment. Neither the draft Plan nor the proposed

Transit Tower project would obviously or substantially conflict with any such adopted environmental plan or policy. (Consistency with clean air plans is discussed further in Section IV.G, Air Quality.)

Transbay Redevelopment Plan

The existing Transbay Redevelopment Area is roughly bounded by Mission Street, Second Street, Main Street, and Folsom Street, with a southwesterly extension to Second and Harrison Streets. The main objectives of the Transbay Redevelopment Plan, adopted in June of 2005, are to replace the outmoded (and now-demolished) Transbay Terminal and revitalize the vacant and underutilized properties that characterize the remainder of the Redevelopment Plan area. The Transbay Redevelopment Plan contains the following goals: Create a pedestrian-oriented urban environment that encourages walking as a primary transportation mode within the Plan area; encourage the use of alternative modes of transportation by future area residents, workers, and visitors and support the new Transbay Transit Center (new terminal) as a major hub while still providing local vehicular access; create a livable urban community with prime access to downtown and the waterfront, and well-designed streets, open space and retail areas; establish the area as both a gateway to the central city and a unique transit-oriented neighborhood in San Francisco; develop a new downtown neighborhood to help address the city's and the region's housing crisis, support regional transit use, and provide financial support to the future Transit Center, including access ramps and a temporary terminal facility, and Caltrain Downtown Extension; enhance linkage between the new Transit Center and the Financial District through visitor accommodations and commercial development that supports the new terminal; and create a state of the art multi-modal facility that is an integral part of the surrounding commercial and residential neighborhood. As noted in the introduction to this section, the Planning Department and Planning Commission have responsibility for planning, zoning, and project approvals within Zone 2 of the Redevelopment Plan area, pursuant to a delegation agreement between the Department and the San Francisco Redevelopment Agency, while the Redevelopment Agency controls planning activities and approvals within Zone 1 of the Redevelopment Plan area (along Folsom Street, between Main and Beale Streets south of the line of Natoma Street, and the area extending to Second and Harrison Streets). The draft Transit Center District Plan would not conflict with the overall goals of the Redevelopment Plan, but would instead complement implementation of the Redevelopment Plan, which calls for development of some 2,700 housing units along Folsom Street, by encouraging high-intensity employment—primarily office space—in the area surrounding the planned new Transit Center.

The Climate Action Plan

In February 2002, the San Francisco Board of Supervisors passed the *Greenhouse Gas Emissions Reduction Resolution* (Number 158-02) committing the City and County of San Francisco to a greenhouse gas (GHG) emissions reductions goal of 20 percent below 1990 levels by the year 2012. The resolution also directs the San Francisco Department of the Environment, the San Francisco Public Utilities Commission, and other appropriate City agencies to complete and coordinate an analysis and planning of a local action plan targeting GHG emission reduction activities. In September 2004, the Department of the Environment and the Public Utilities Commission published the *Climate Action Plan for San Francisco: Local Actions to Reduce*

Greenhouse Emissions. The *Climate Action Plan* examines the causes of global climate change and human activities that contribute to global warming and provides projections of climate change impacts on California and San Francisco from recent scientific reports; presents estimates of San Francisco's baseline greenhouse gas emissions inventory and reduction targets; describes recommended emissions reduction actions in the key target sectors – transportation, energy efficiency, renewable energy, and solid waste management – to meet stated goals by 2012; and presents next steps required over the near term to implement the Plan. Although the Board of Supervisors has not formally committed the City to perform the actions addressed in the Plan, and many of the actions require further development and commitment of resources, the Plan serves as a blueprint for GHG emission reductions, and several actions are now in progress.

The *Climate Action Plan* cites an array of potential environmental impacts to San Francisco from climate change, including rising sea levels which could threaten coastal wetlands, infrastructure, and property; increased storm activity that could increase beach erosion and cliff undercutting; warmer temperatures that could result in more frequent El Niño storms causing more rain than snow in the Sierras, reducing snow pack that is an important source of the region's water supply; decreased summer runoff and warming ocean temperatures that could affect salinity, water circulation, and nutrients in the Bay, potentially altering Bay ecosystems; as well as other possible effects to food supply and the viability of the state's agricultural system; possible public health effects related to degraded air quality and changes in disease vectors; as well as other social and economic impacts.

The Plan presents estimates of San Francisco's baseline GHG emissions inventory and reduction targets. Noting that burning fossil fuels in vehicles and for energy use in buildings and facilities are the major contributors to San Francisco's GHG emissions, the Plan includes GHG reduction strategies such as targeting emission reductions from fossil fuel use in cars, power plants and commercial buildings, developing renewable energy technologies like solar, wind, fuel cells and tidal power, and expanding residential and commercial recycling programs. According to the Plan, achieving these goals will require the cooperation of a number of different city agencies. An analysis of potential effects on global warming and GHGs, and consistency with the *Climate Action Plan,* is presented in Section IV.H, Greenhouse Gas Emissions.

San Francisco Bicycle Plan

In August 2009, the Board of Supervisors approved the San Francisco Bicycle Plan. The Bicycle Plan includes a citywide bicycle transportation plan (comprised of a "Policy Framework" and a "Network Improvement" document) and implementation of specific bicycle improvements identified within the Plan. The draft Bicycle Plan includes objectives and identifies policy changes that would enhance the City's bike-ability. It also describes the existing bicycle route network (a series of interconnected streets in which bicycling is encouraged), and identifies gaps within the citywide bicycle route network that require improvement. The Bicycle Plan updates the 1997 San Francisco Bicycle Plan. The Final Environmental Impact Report for the Bicycle Plan assessed a total of 56 short-term and long-term bicycle improvement projects. In the Transit Center District Plan area, the Bicycle Plan EIR evaluated a project calling for new

bicycle lanes on Second Street, involving removal of one traffic lane in each direction on Second Street between Market and King Streets, along with some curbside parking, and the creation of bicycle lanes in each direction. Left turns would be prohibited for cars and trucks at most intersections. This specific improvement was removed from the list of initial projects by the Municipal Transportation Agency (MTA) Board of Directors when it initially approved the Bicycle Plan in June 2009 (the version of the Plan approved by the Supervisors), to permit further study and community discussion. Following a series of community meetings in 2009 – 2010, MTA is working with Planning and Public Works staff on bicycle improvements, pedestrian bulbs, and paving plans for Second Street and anticipates having a preferred plan available for community review in 2012, with construction of bicycle lanes and other streetscape improvements anticipated to be completed by 2013.[49] As stated in Chapter II, Project Description, the draft Transit Center District Plan assumes that Second Street will be improved as set forth in the Bicycle Plan. Additionally, the Plan would encourage bicycle use by making other streetscape improvements and requiring increased bicycle parking in new developments, including the Transit Tower, which would be considered for approval under the Plan. Therefore, neither the draft Plan nor the Transit Tower appears to conflict with the Bicycle Plan.

Streetscapes Master Planning

The City of San Francisco in December 2010 adopted a Better Streets Plan, with the aim of creating a unified set of standards, guidelines, and implementation strategies to govern how the City designs, builds, and maintains public streets and rights-of-way. The main focus of the Better Streets Plan is upon the pedestrian environment and on the most appropriate design for allowing streets to be used as public space. The Better Streets Plan "provides a blueprint for the future of San Francisco's pedestrian environment," and responds to the "Better Streets Policy" adopted by the Board of Supervisors in 2006. The Plan sets forth goals, objectives, policies, and guidelines aimed at achieving "a great pedestrian environment," based on the premise that streets should be memorable, support diverse public life, vibrant places for commerce, promote human use and comfort, promote healthy lifestyles, safe, create convenient connections, ecologically sustainable, accessible, and attractive, inviting, and well-cared for (the "10 Elements of Better Streets). The Plan also includes a chapter on the approach to streetscape design, guides to street designs and streetscape element, and a final chapter describing implementation.[50] The draft Transit Center District Plan includes enhancements to the public realm, focusing on the pedestrian environment, and thus does not appear to conflict with the Better Streets Plan. The Transit Tower, likewise, would include pedestrian improvements, including widened sidewalks adjacent to the tower and a new open space, Mission Square, immediately east of the tower.

---

49 James Shahamiri, Assistant Engineer, San Francisco Municipal Transportation Agency, personal communication, March 11, 2011.

50 San Francisco Planning Department, *Better Streets Plan*, adopted by the Board of Supervisors and the Mayor, December 2010. Available at: http://www.sf-planning.org/ftp/BetterStreets/proposals.htm#Final_Plan.

Downtown Streetscape Plan

The Downtown Streetscape Plan was adopted by the Planning Commission in 1995 to implement the Downtown Pedestrian Network that is called for in Objective 22 of the Downtown Plan. The Downtown Streetscape Plan has three goals: to provide a coordinated, comprehensive design vision for the Downtown Pedestrian Network; to provide standards and guidelines for the placement of streetscape elements by both the public and private sectors; and to provide a framework for future capital projects funded by dedicated sales tax revenue and privately funded to meet downtown open space requirements, as well as for projects funded by public-private partnerships. The Downtown Streetscape Plan presents a hierarchy of design concepts for streets and alleys of varying importance, including, in the Plan area, Mission Street (a Special Street), Second and Beale Streets (Second Level Streets), and Minna, Natoma, and Ecker Streets and Shaw Alley (Walk Through Alleys). The draft Plan would implement streetscape improvements on the Plan area streets identified in the Downtown Streetscape Plan, and would extend the Ecker-Shaw pedestrian connection south to Folsom Street.

Transit First Policy

The City of San Francisco's Transit First policy, adopted by the Board of Supervisors in 1973, was developed in response to the damaging impacts over previous decades of freeways on the city's urban character. The policy is aimed at restoring balance to a transportation system long dominated by the automobile, and improving overall mobility for residents and visitors whose reliance chiefly on the automobile would result in severe transportation deficiencies. It encourages multi-modalism, the use of transit and other alternatives to the single-occupant vehicle as modes of transportation, and gives priority to the maintenance and expansion of the local transit system and the improvement of regional transit coordination.

The following ten principles constitute the City's Transit First policy:

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods.

2. Public transit, including taxis and vanpools, is an economically and environmentally sound alternative to transportation by individual automobiles. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile.

3. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights of way by pedestrians, bicyclists, and public transit, and shall strive to reduce and improve public health and safety.

4. Transit policy improvements, such as designated transit lanes and streets and improved signalization, shall be made to expedite the movement of public transit vehicles (including taxis and vanpools) and to improve public safety.

5. Pedestrian areas shall be enhanced wherever possible to improve the safety and comfort of pedestrians and to encourage travel by foot.

6. Bicycling shall be promoted by encouraging safe streets for riding, convenient access to transit, bicycle lanes, and secure bicycle parking.

7. Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation.

8. New transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments.

9. The ability of the City and County of San Francisco to reduce traffic congestion depends on the adequacy of regional public transportation. The City and County shall promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system.

10. The City and County shall encourage innovative solutions to meet public transportation needs wherever possible and where the provision of such service will not adversely affect the service provided by the Municipal Railway. (Added November 1999.)

One of the fundamental principles of the draft Transit Center District Plan is to encourage density of employment uses, particularly office use, in an area with the highest transit capacity in the City. The draft Plan would thus encourage use of transit and alternative transportation modes, and would also increase proximity of jobs to housing within the City. These factors would be expected to help minimize single-person auto travel in the future, which would be consistent with the intent of the Transit First Policy.

Section IV.E, Transportation, analyzes potential transportation impacts of the draft Plan and the Transit Tower, including possible impacts on alternative transportation modes. In general, however, it is apparent that the draft Plan's emphasis on compact development proximate to a high level of transit service, along with pedestrian and bicycle improvements, would be consistent with the Transit First Policy.

C. Planning Code (Zoning)

The *Planning Code*, which incorporates by reference the City Zoning Maps, governs land uses, densities and configuration of buildings within San Francisco. Permits to construct new buildings or to alter or demolish existing ones may not be issued unless the proposed project conforms to the Planning Code or an exception is granted pursuant to provisions of the Planning Code.

The proposed Plan would make alterations to the *Planning Code*, as described in Chapter II, Project Description. Principally, the Plan would rezone the bulk of the Plan area to the C-3-O (SD) use district, with the exception of Zone 1 of the Transbay Redevelopment Plan, which would not change, and existing P Districts, which would likewise remain. The draft Plan also proposes to increase allowable height limits on selected parcels (see Figure 3, p. 14).

The proposed Plan would eliminate the maximum floor area ratio (FAR) and to place limits on the amount of non-commercial development in the core of the Plan area, in order to ensure adequate land is

available for expansion of office use. The draft Plan also proposes a minimum FAR of 9:1 on larger sites; seeks to encourage continuous consumer retail uses on key street frontages; a requirement for sculpting of tall building forms through upper-story setbacks and horizontal modulation of street walls; and widened sidewalks along certain streets through increased building setbacks.

Planning Code Section 295

Section 295 of the Planning Code, the Sunlight Ordinance, was adopted through voter approval of Proposition K in November 1984 to protect certain public open spaces from shadowing by new structures. Section 295 generally prohibits, unless an exception is granted, new or renovated structures greater than 40 feet in height from shading property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission, during the period from one hour after sunrise to one hour before sunset on any day of the year. Section 295(b) states that the Planning Commission, following a public hearing, "shall disapprove" any project governed by this section that would have an "adverse effect" due to shading of a park subject to Section 295, "unless it is determined that the impact would be insignificant." The Planning Commission's decision under Section 295 cannot be made "until the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission has had an opportunity to review and comment to the City Planning Commission upon the proposed project."In practice, therefore, Section 295 acts as a kind of overlay that further limits heights and/or shapes of certain buildings around protected parks; the Section 295 limit is in addition to the height limits in the Height and Bulk districts.

Privately-owned open spaces, including any open spaces that are required under the Planning Code as part of an individual development proposal, are not subject to Section 295.

Section 295 is applicable to the analysis of shadow impacts in Section IV.I of this EIR.

Planning Code Section 146

Planning Code Section 146(a), applicable to certain streets in the C-3 zoning districts, requires that buildings and additions fit within an envelope defined by a plane sloping away from the street at a prescribed angle above a prescribed height "in order to maintain direct sunlight on public sidewalks in certain downtown areas during critical periods of use." In the Plan area, Section 146(a) applies to the west side of New Montgomery and Second Streets, specifying that a building be within an envelope that slopes away from the street at an angle of 62 degrees beginning at 132 feet above grade. Section 146(a) also applies to the south side of Market Street west of Second Street, where the required angle is 50 degrees, beginning 119 feet above the street. Section 146(a) also applies to portions of Bush, Sutter, Post, Geary, O'Farrell, Ellis, Powell, Stockton, and Kearny Streets and Grant Avenue. Under Section 146(b), an exception to the foregoing may be granted, pursuant to the procedures of Section 309, Permit Review in C-3 Districts, if no new shadow is created, or if "the shadow created by the penetration of the plane is deemed insignificant because of the limited extent or duration of the shadow or because of the limited public use of the shadowed space." Section 146(c) states that, on other streets in the C-3 districts, "New buildings and additions to existing buildings shall be shaped, if it can be done without

creating an unattractive design and without unduly restricting the development potential of the site in question, so as to reduce substantial shadow impacts on public sidewalks." A determination of compliance with Section 146(c) is made as part of the Section 309 project consideration process.

Planning Code Section 147

Planning Code Section 147, applicable to the C-3, RSD, SLR, SLI, or SSO zoning districts, where height limits are greater than 40 feet, requires that all new development and additions to existing structures where the height exceeds 50 feet must be shaped to minimize shadow on public plazas or other publicly accessible open spaces other than those protected by Section 295, "in accordance with the guidelines of good design and without unduly restricting the development potential of the property." The following factors must be taken into account in determining compliance with this criterion: the amount of area shadowed, the duration of the shadow, and the importance of sunlight to the type of open space being shadowed. A determination of compliance with Section 147 is made as part of the Section 309 project consideration process. Section 147 is applicable to the analysis of shadow impacts in Section IV.I of this EIR.

Planning Code Section 309

Planning Code Section 309, Permit Review in C-3 Districts, governs projects in the C-3 (Downtown) use districts. This section requires a public hearing before the Planning Commission to consider all projects in C-3 districts greater than 50,000 square feet in size or 75 feet in height. Section 309 permits the Commission to grant exceptions to certain *Planning Code* standards, including the setback and rear yard requirements of Sections 132.1 and 134(d); the ground-level wind current requirements of Section 148; the sunlight to public sidewalk requirement of Section 146; the limitation on residential accessory parking of Section 151.1(e); the requirement of independently accessible parking spaces of Section 155(c); the limitation on curb cuts for parking access of Section 155(r); the limitations on above-grade residential accessory parking of Section 155(s); the freight loading and service vehicle space requirements of Section 161(h); the off-street tour bus loading space requirements of Section 162; the height limits for vertical extensions of Section 260(b)(1)(G) and for upper tower extensions of Section 263.7; the height limits in the 80-130F and 80-130X Height and Bulk Districts of Section 263.6 and in the 200-400S Height and Bulk District of Section 263.8 (neither applicable in the Plan area); and the bulk requirements of Sections 270 and 272. Section 309 requires a public hearing before the Planning Commission for any such exceptions requested by a project sponsor. Section 309 also permits the imposition of certain conditions in regard to such matters as a project's siting and design; project effects on views and view corridors, shadow, wind, street walls; parking, traffic and transit effects; energy consumption; pedestrian environment; street trees, landscaping, and sidewalks; the quality of the living environment of residential units, including unit size and open space; aspects of project design that "have significant adverse environmental consequences"; historical resources in conservation districts; and other matters related to a project's "unique or unusual location, environment, topography or other circumstances."

The proposed Transit Tower would be subject to review and approval under Section 309.

Planning Code Section 321

Section 321 implements the City's annual limit on office construction, which is set at 950,000 square feet per calendar year, with a subset of 75,000 square feet reserved for buildings smaller than 50,000 square feet. The limit applies to all office space citywide, not just downtown. Buildings smaller than 25,000 square feet are excepted; however, Redevelopment Agency projects are included, as are projects within San Francisco that are under the jurisdiction the State of California and federal agencies, including the Presidio Trust and National Park Service. Square footage not allocated during any given year is added to the overall allocation for succeeding years.

As of November 30, 2010, the Planning Department inventory of office space showed 3.35 million square feet of space available for large projects (those 50,000 square feet and larger), with an additional 1.23 million square feet available for smaller projects (25,000 to 49,999 square feet).[51] Since the November 2010 update was issued, one large building has been approved Downtown, at 350 Mission Street (Case No. 2006.1524). This building was approved February 10, 2011, and was allocated 335,000 square feet of office space. Also in 2011, another 200,000 square feet was allocated to the Alexandria District in Mission Bay, and 100,000 square feet was allocated to Treasure Island. In June 2011, the Planning Commission revoked previous approvals for an office building at 524 Howard Street, adding 202,000 square feet back to the large building inventory.[52] As of September 1, 2011, therefore, the large building inventory is approximately 3.1 million square feet, or about 3.5 times the annual large building allocation of 875,000 square feet.

The large building inventory reached a maximum of just over 4 million square feet available at the start of the 1997-98 allocation period, in October 1997. The greatest amount of space allocated in any period was 2.18 million square feet, in 1999-2000. As of summer 2011, the Planning Department has environmental or other applications on file for more office space than the 3.1 million square feet currently available. The largest projects on file include the Transit Tower (approximately 1.3 million square feet), a mixed-use project at 50 First Street (Case No. 2006.1523E; approximately 1.06 million square feet; within the Plan area), a mixed-use building at 181 Fremont Street (Case No. 2007.0456E; approximately 414,000 square feet; also within the Plan area), and a medical office building proposed as part of the California Pacific Medical Center project at Van Ness Avenue and Geary Street (Case No. 2005.0555E; approximately 195,000 square feet). An additional 875,000 square feet space will be added to the available inventory each October.

If during a particular year large office projects come before the Planning Commission for approval of more office space than is available, the Commission must compare the proposed projects and approve those that "promote the public welfare, convenience and necessity," based on criteria that include:

---

51 San Francisco Planning Department, "Office Development Annual Limitation (Annual Limit) Program Update," November 30, 2010. Allocations in square feet of gross floor area, as defined in *Planning Code* Sec. 102.9 Available at: http://www.sf-planning.org/ftp/files/publications_reports/Office_Allocation_Stats_11-30-10.pdf; reviewed March 13, 2011.

52 This revocation is pending an appeal before the Board of Supervisors.

- maintaining a balance between economic growth, on the one hand, and housing, transportation and public services, on the other;
- projects' contribution to, and effects on, the objectives and policies of the *General Plan;*
- design quality;
- suitability of each project for its location, and any location-specific effects;
- the anticipated uses of each project, "in light of employment opportunities to be provided, needs of existing businesses, and the available supply of space suitable for such anticipated uses";
- the extent to a project "will be owned or occupied by a single entity"; and
- the use, if any, of transferrable development rights to assist in preservation of existing historic structures (*Planning Code* Sec. 321(b)).

This competitive approval process, dubbed the "beauty contest" by many observers, has not been employed since the early years of the annual limit, in the mid-1980s. At that time, the annual limit for large buildings was 400,000 square feet, having been reduced by 475,000 per year by voter initiative (Proposition M of 1986, codified as *Planning Code* Sec. 321.1), with that amount to be deducted annually from the allocation until all buildings approved between November 1984 (adoption of the Downtown Plan by the Planning Commission) and November 1986 had either received building permits or their approvals expired. It was not until the 1997 – 98 approval period that the backlog of approvals issued in the immediate aftermath of the Downtown Plan adoption was cleared and the annual large building allocation restored to 875,000 square feet.

The approximately 6.2 million square feet of office space (5.4 million square feet, considering approved projects) assumed to be developed in the Plan area over the next 20 years (see Growth Assumptions contained in Section IV.C, Population, Housing, Employment, and Business Activity) represents about six years of the annual limit's large building allocation.[53] Therefore, while other projects outside the Plan area, such as in the Mission Bay South Redevelopment Area, would be anticipated to draw down the office space allocation to some degree, given the existing size of the available inventory and the near-term outlook for a less rapid pace of office development than has sometimes been the case since adoption of the Downtown Plan, it is not anticipated that the office development annual limit would affect the schedule of development that would otherwise take place in the Plan area, at least for the foreseeable future.

In contrast to the large office allocation, the inventory available for smaller buildings is more than 16 times the annual allocation of 75,000 square feet. The small building inventory has increased in all but two years since the annual limit took effect in 1985.

The proposed Transit Tower would be subject to review and approval under Section 321.

53 Two of the projects in the Plan area (222 Second Street and 350 Mission Street), totaling about 800,000 square feet, are already approved and have received their office square footage allocations. Therefore, the net additional space would be about 5.4 million square feet.

Reflective Glass (Planning Commission Resolution 9212)

Planning Commission Resolution No. 9212 (1981) established a pair of guidelines for reviewing and acting on proposed building projects. The first guideline states that clear, untinted glass should be used at and near the street level. The second guideline states that mirrored, highly reflective, or densely tinted glass should not be used except as an architectural or decorative element. By prohibiting mirrored or reflective glass, this resolution serves to limit glare.

Resolution 9212 is applicable to the analysis of visual quality in Section IV.C of this EIR.

Exceptions to Planning Code Bulk, Wind, and Shadow Requirements

As noted above, *Planning Code* Section 309, Permit Review in C-3 Districts, allows the Planning Commission to grant exceptions to certain *Planning Code* standards. Review of Planning Department records and Planning Commission minutes revealed that there were more than 30 cases involving exceptions from Planning Code requirements for ground level winds (Section 148) and building bulk (Section 270) that were granted since the Downtown Plan and accompanying zoning regulations were approved. About 27 of these buildings have been constructed, including most major downtown buildings built since the adoption of the Downtown Plan. Another project granted an exception (Trinity Plaza, at Eighth and Market Streets) is under construction in phases. *Planning Code* Section 146(c), which states that new buildings and building additions shall be shaped "so as to reduce substantial shadow impacts on public sidewalks in the C-3 Districts" [other than on specified streets that are governed by another *Code* section], if this can be accomplished "without creating an unattractive design and without unduly restricting the development potential of the site in question." Determinations are made with respect to compliance with this requirement as part of the Section 309 downtown project review process. Planning Department records reveal at least two projects that have been granted exceptions with respect to the Code's wind and bulk provisions have also been specifically determined to be in compliance with the Section 146(c) requirement, including the Millennium residential tower, across Fremont Street from the Transit Tower site, and the office building at 555 Mission Street.

With regard to wind (Section 148), in particular, the vast majority of projects involving high-rise buildings that have been approved since adoption of the Downtown Plan have required, and have been granted, an exception to the *Planning Code* wind requirement that, "When preexisting ambient wind speeds exceed the comfort level, or when a proposed building or addition may cause ambient wind speeds to exceed the comfort level, the building shall be designed to reduce the ambient wind speeds to meet the requirements." This is because existing winds at many locations in downtown San Francisco exceed both the comfort criterion of 7 miles per hour (mph) in public seating areas and the comfort criterion of 11 mph in areas of substantial pedestrian use (generally, sidewalks), and it is generally not feasible to design a new building that would reduce existing wind speeds such that the these criteria would be met, or, in many instances, to avoid creating a certain number of new exceedances.

Developed projects in the Plan area that were granted exceptions to *Planning Code* wind, shadow, and/or bulk requirements, pursuant to Section 309, include office buildings at 555 and 560 Mission Street, 55 and

101 Second Street, 199 and 215 Fremont Street, and the three office buildings of Foundry Square at First and Howard Street; the Millennium residential tower at Fremont and Mission Streets and another residential building at 199 New Montgomery Street; the Courtyard-Marriott Hotel at Second and Folsom Streets; and the Museum of Modern Art parking garage on Minna Street.

Regarding the granting of exceptions to *Planning Code* requirements under Section 309 generally, this is a policy decision that is made by the Planning Commission on a case-by-case basis. To the extent that the granting of such exceptions would result in physical impacts, those impacts are analyzed in this EIR. The fact that a project would require one or more exceptions to *Planning Code* requirements does not, in itself, indicate that the project would have a significant physical effect on the environment.

Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the *Planning Code* to establish eight Priority Policies. These policies are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character (discussed in Section IV.A, Land Use); (3) preservation and enhancement of affordable housing (Section IV.C, Population and Housing); (4) discouragement of commuter automobiles (Section IV.E, Transportation); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; (6) maximization of earthquake preparedness (Questions 7a –7d, Geology and Soils, in Section IV.O, Geology, Soils, and Seismicity); (7) landmark and historic building preservation (Section IV.D, Cultural Resources); and (8) protection of open space (Questions 3a and c, Recreation, in Section IV.J, Recreation and Public Space, as well as Section IV.H, Wind, and Section IV,I, Shadow). The Priority Policies, which provide general policies and objectives to guide certain land use decisions, contain some policies that relate to physical environmental issues. Prior to issuing a permit for any project that requires an Initial Study under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the *General Plan*, the City is required to find that the proposed project or legislation is consistent with the Priority Policies. In evaluating *General Plan* consistency of the project and reviewing the building permit application for the proposed project, the Planning Commission and/or Planning Department would make the necessary findings of consistency with the Priority Policies.

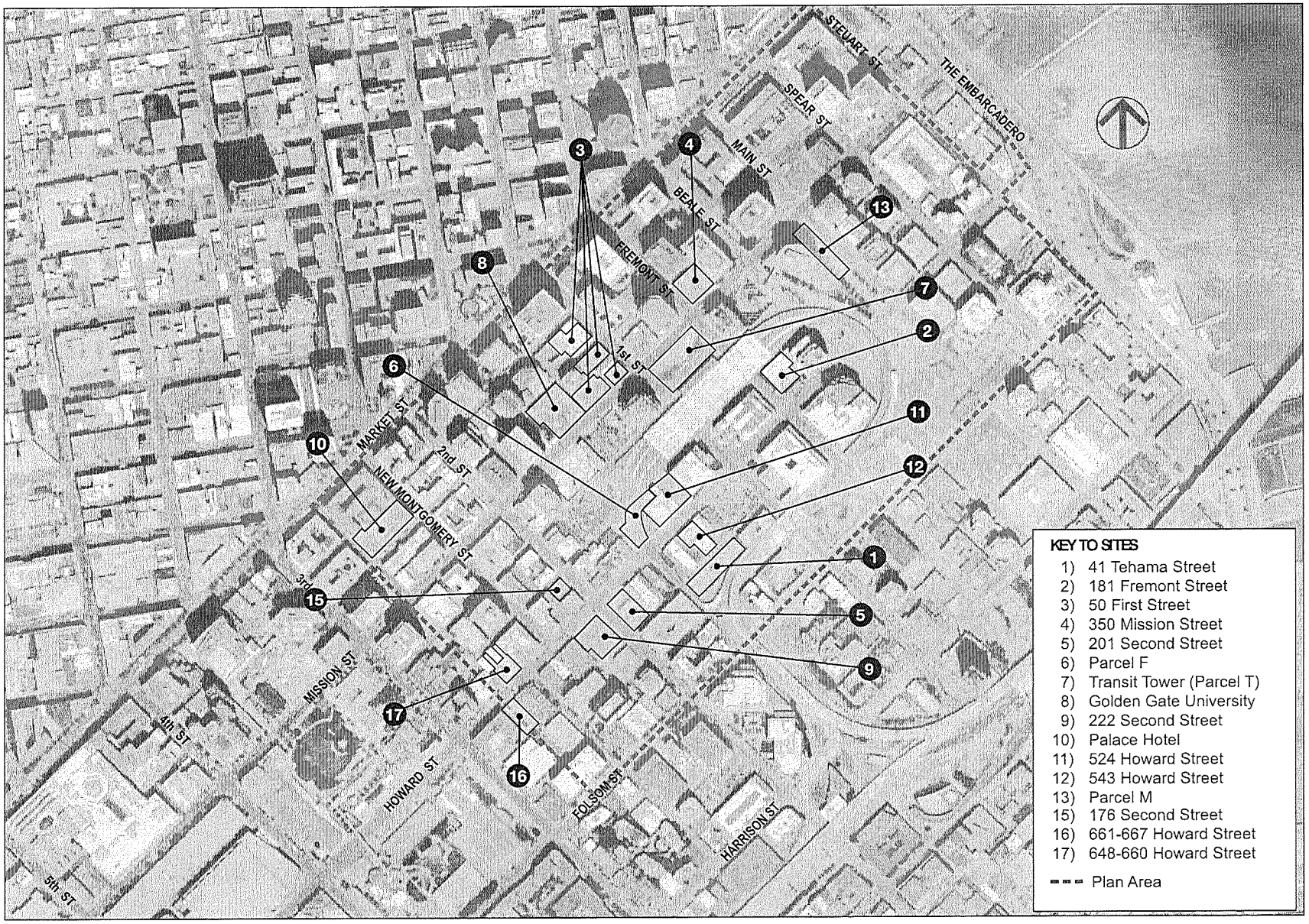
The staff report for the Planning Commission will analyze the project's consistency with *General Plan* policies and zoning, and will discuss in detail any exceptions requested or modifications required.

CHAPTER IV
Environmental Setting, Impacts, and Mitigation Measures

Analysis Assumptions

This EIR analyzes potential environmental effects associated with the proposed Transit Center District Plan (November 2009 draft; the "draft Plan") and Transit Tower. As described in Chapter II, Project Description, the proposed Transit Tower would be a 61-story, 1,070-foot-tall (including sculptural element) building containing approximately 1.3 million square feet of office space and about 16,500 square feet of retail space. Analysis of physical impacts of implementation of the draft Plan is based upon assumptions regarding potential development within the Plan area. These assumptions were formulated by the Planning Department for development that could occur at locations in the Plan area where increased height limits are proposed (see Figure 3, Existing and Proposed Height Limits, p. 14), as well as on several so-called "soft sites" (sites where existing development is at a substantially lesser intensity than is permitted, and which are therefore assumed to be redeveloped at a greater intensity in the future). The sites where development is assumed include several for which specific project applications are on file with the Planning Department, as described in the Developer-Proposed Scenario, p. 47. However, for the analysis of the draft Plan, assumptions prepared by the Planning Department were used, rather than specific projects, because it cannot be assumed that a specific development application will be approved. It is noted, however, that projects on two sites in the Plan area have been approved since the draft Plan was published in 2009: a 26-story (350-foot-tall), 430,650-square-foot office building at 222 Second Street, in 2010, and a 24-story (375-foot-tall), 356,000 square feet office building at 350 Mission Street, in 2011; the latter site is analyzed at a height of 700 feet under the draft Plan, while the former is analyzed as approved, consistent with the draft Plan.

The Plan area sites where development is assumed are shown in **Figure 14**, and the development assumptions used in the transportation analysis prepared in support of this EIR are listed in **Table 3**. The total development assumed in the Plan area between 2005 (the base year for the analysis because it was the most recent full set of data available when the draft Plan was developed) amounts to approximately 6,100 new households (about 9,470 residents) and about 7 million square feet of commercial space, 90 percent of which would be office space, with most of the remainder being hotel space and also including about 100,000 square feet of retail space; total employment would increase by about 29,300, of which 24,800 (85 percent) would be office jobs. Of the growth in the Plan area forecast by 2030, about one-third of the office space, 60 percent of the residential units, and 80 percent of the hotel rooms would be



SOURCE: San Francisco Planning Department, AECOM

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 14
Development Sites

TABLE 3
PLAN AREA DEVELOPMENT ASSUMPTIONS

	Location/Address (Block / Lots) [a]	Height Limit Existing	Height Limit Proposed	Development Assumptions
1	41 Tehama Street (3736 / 74-78A)	200	360	276 dwelling units, GFR
2	181 Fremont Street (3719 / 10,11)	350	700	424,000 sf office, 61 dwelling units, GFR
3	50 1st Street (3708 / 6,7,9-12,55)	550	850	1,160,000 sf office, 165 dwelling units, 330 hotel rooms, GFR
4	350 Mission Street (3710, Lot 017)	550	700	471,000 sf office, 67 dwelling units, 135 hotel rooms, GFR
5	201 Second Street (3736 / 94-98)	350	350	297,000 sf office, GFR
6	TJPA "Parcel F" (3721 /15A)	450	750	670,000 sf office, 96 dwelling units, 191 hotel rooms, GFR
7	Transit Tower (3720 / 1) [b]	550	1000	1,526,000 sf office, GFR
8	Golden Gate University (3708 / 98)	550	700	726,000 sf office, 104 dwelling units, 208 hotel rooms, GFR
9	222 2nd Street (3735 / 63)	350	350	439,000 sf office, GFR
10	Palace Hotel Tower (3707 / 52-SW crnr.)	300	600	449 dwelling units, GFR
11	524 Howard Street (3721 / 13 -15)	450	450	535,000 sf office, GFR
12	543 Howard Street (3736 /111)	85	85	58 dwelling units, GFR
13	TJPA "Parcel M" (3718 / 27 N. ptn.)	n/a	85	90,000 sf office, GFR
15	176 Second St. (3722 / 17)	150	150	22 dwelling units, GFR
16	661 – 667 Howard Street (3735/ 39-40)	250	250	175,000 sf office, GFR
17	648 – 660 Howard Street (3722 / 11,12,14, 23,24,26)	250	350	394,000 sf office, GFR

[a] Numbers in left-hand column keyed to Figure 14
[b] Plan analysis assumes a larger development at the Transit Tower site than the actual building program on file.
sf – square feet
GFR – ground-floor retail space
Note: Table does not include existing building space to be demolished (approximately 775,000 square feet total, not all of which is occupied). There is no site #14.

SOURCE: San Francisco Planning Department

attributable to the increment of additional growth that would be allowed under the increased height limits and elimination of floor-area ratio maximums proposed in the draft Plan.[54]

It is noted that the development program for the Transit Tower site assumed in the analysis of the draft Plan and shown in Table 3 is greater than the actual Transit Tower building program currently proposed by the TJPA, because the transportation analysis was undertaken based on preliminary assumptions

54 The analysis of cumulative impacts includes additional development elsewhere in the region and the City, including several specific projects or development sites near the western boundary of the Plan area, such as the proposed expansion of the San Francisco Museum of Modern Art; renovation of the Aronson (Mercantile) Building at 86 Third Street/700 Mission Street and an adjacent proposed residential tower that would also house the Mexican Museum; and potential expansion of Moscone Convention Center, including a new hotel and office space, at the northeast corner of Third and Folsom Streets. Consideration of these project will occur regardless of Plan approval.

concerning the Transit Tower. This means that the quantitative analysis of impacts from the Tower, such as traffic and transit impacts, is conservative. However, the Plan analysis remains valid.

Citywide Growth

As described more fully in Section IV.C, Population and Housing, Business Activity, and Employment, p. 176, the Planning Department forecasts that San Francisco's household population[55] will reach approximately 912,000 by 2030, an increase of some 132,500 residents from the 2005 total of 779,500.[56] Employment in 2005 totaled approximately 552,000. The Department forecasts employment growth of 241,300 additional jobs by 2030. Of this potential increase in employment, office jobs are forecast to represent one-half of the total, followed by retail/entertainment and production, distribution, and repair at 11 percent each, medical/health services at 8 percent, and hotel jobs at 4 percent. Employment growth in the Plan area is forecast to make up 21 percent of the citywide increase in office jobs and 25 percent of the citywide growth in hotel employment. The Plan area would also accommodate about 7 percent of citywide population growth.

55 Household population excludes about 2.5 percent of the City's total population that lives in what the U.S. Census calls "group quarters," including institutions (jails, nursing homes, etc.), college dormitories, group homes, religious quarters, and the like.

56 Consistent with recent trends, this incremental growth is anticipated to occur in relatively smaller households; that is, growth would occur in households that would be smaller than the average household size in 2000 of 2.3 persons per household.

A. Land Use

This section describes the existing land uses and zoning in the Plan area. It compares existing land uses to land use changes anticipated under the proposed project and describes the nature and magnitude of the potential changes.

Environmental Setting

Project Location and Vicinity

San Francisco's Downtown neighborhood functions as the densely developed center of commerce and employment for the City as well as for the nine county Bay Area. The Downtown, as defined by the C-3 use district, extends along both sides of Market Street from San Francisco Bay to Van Ness Avenue, extending as far north as Washington Street and south to Folsom Street; in common parlance, many refer to "downtown" as the area between Van Ness Avenue and the Bay, south of approximately Broadway. Development within the Downtown is governed by the policies in the 1985 Downtown Plan (an area plan contained within the *General Plan*, see Chapter III, Compatibility with Existing Plans and Zoning). As the eastern subset of the Downtown area, the Financial District is often divided along Market Street into north and south components.[57] The Plan area, roughly bounded by Market Street, Steuart Street, Folsom Street and Third Street, consists of approximately 145 acres in the southern portion of the Financial District. The Plan area is centered on the site of the new Transit Center currently under construction and surrounded by several neighborhoods including Rincon Hill, Yerba Buena Center, the eastern portion of the South of Market neighborhood (SoMa), and the northern Financial District. Much of the southern edge of the Plan area, along the north side of Folsom Street, consists of vacant land formerly occupied by elevated freeway ramps (discussed below under "Existing Land Uses") in the Plan area.

The western portion of the Plan area, like the South of Market neighborhoods generally, is characterized by a street grid that is fundamentally different from the area north of Market Street (and elsewhere in San Francisco) and that results in blocks that are more than two-and-one-half times the size of north-of-Market blocks. Blocks west of First Street generally measure 825 by 550 feet (east-west dimension by north-south dimension), compared to a typical north-of-Market block at 412.5 by 275 feet. East of First Street, the east-west dimension of the Plan area blocks decrease to 275 feet (north-south remains the same, at 550 feet), and even these blocks are larger than north-of-Market blocks. The blocks south of Market Street, combined with the wide streets—many of which carry one-way traffic—accommodated light industrial and service uses, including auto- and truck-oriented uses, throughout much of the 20th century. At the same time, the historical land uses, along with the scale of these blocks and the long distance between intersections, have made for less pedestrian- and bicycle-friendly streets than in many neighborhoods. This is notwithstanding the mid-block streets (often referred to as "alleys") that divide many south-of-Market blocks; although some, particularly in the western portion of SoMa, contain a high

[57] Consistent with San Francisco practice, Market Street and streets parallel to Market Street are considered east-west streets. For example, Folsom and Mission Streets are considered to run east-west while Second and Third Streets are considered to run north-south.

concentration of residential units, many, particularly to the east, including the Plan area, function largely as back entrances to buildings that face the major streets.

Moreover, beginning with construction of the Transbay Terminal in 1939, substantial portions of the Plan area have been devoted to transportation infrastructure. The Transbay Terminal was linked to the Bay Bridge by an elevated loop that originally carried Key System trains and later AC Transit buses. When the Embarcadero Freeway was completed in 1959, it was linked to the Bay Bridge by a series of ramps known as the Terminal Separator Structure, which also included vehicle on- and off-ramps at Main and Beale Streets and on Folsom Street. Together with the Transbay Terminal bus loop, the Terminal Separator Structure occupied the northern frontage of Folsom Street between Essex Street and Spear Street, where the Embarcadero Freeway turned north. The Main/Beale ramps occupied most of the area between those two streets, from Folsom Street north to Mission Street. The effect of the combined Terminal Separator Structure and the Transbay Terminal bus loop was to isolate the area within the loop and to effectively separate the areas north and south of the elevated freeway. Additionally, the Main/Beale ramps served as a psychological barrier to pedestrians along the south side of Mission Street, where the ramps touched down.[58] Most of these former freeway parcels and a portion of the area once occupied by the eastern half of the bus loop are now within Zone 1 of the adopted Transbay Redevelopment Plan.

Rincon Hill, a twelve-block area abutting the Plan area south of Folsom Street, is characterized by an emerging mixed-use neighborhood. Once dominated by industrial uses, this area has experienced redevelopment over the last 25 years in the form of rehabilitated industrial buildings to house residential uses and newly constructed large-scale residential towers. Since 2005, development has been guided by an updated Rincon Hill Plan that seeks to transform Rincon Hill into a mixed-use downtown neighborhood accommodating high-density housing and associated services and amenities.

Extending from Market Street to Harrison Street and from Hawthorne Street to Fourth Street, the 87-acre Yerba Buena Center (YBC) neighborhood overlaps the easternmost portion of the Plan area. Development in the YBC area, under a Redevelopment Plan that terminated in 2011, includes the Moscone Center convention and meeting facilities, Yerba Buena Gardens and Center for the Arts, several prominent museums including the San Francisco Museum of Modern Art, the Four Seasons and Marriott hotels, the Metreon retail and entertainment center, a Children's Garden, grocery store, and more than 2,500 residential units.

Further east and south of the Plan area, the East SoMa neighborhood abuts the Plan area's southwest corner. East SoMa is occupied by a mix of land uses, including offices, wholesale and retail establishments, entertainment venues, and residential and live-work units, often located within the same block. Many of the buildings that line the major streets offer small office or light industrial space (often described as "production, distribution, and repair," or PDR space). Housing units are located in primarily two to four story buildings that line the small alleys of the residential enclave districts, as well as in newer, larger buildings on some of the major streets. Residential uses in East SoMa also include higher-

[58] The building at 201 Mission Street, when constructed in 1983, included a pedestrian overcrossing over Beale Street and its primary lobby was at the mezzanine level where the overcrossing ended.

end residential buildings in South Beach, live/work lofts, and affordable housing, such as single-room-occupancy hotels. As a part of the Eastern Neighborhoods planning effort, the East SoMa Plan, adopted in early 2009, encourages the retention of space for existing businesses and residential uses, while allowing space for new development, especially affordable housing, to be built.

Historically, San Francisco's Financial District was contained north of the Plan area, primarily across Market Street. This northern portion of the Financial District is characterized by the intensity and compactness of its development. Land use consists primarily of high-rise structures occupied by commercial office uses and associated ground-floor retail. As described in the 1985 Downtown Plan, the Financial District spills across Market Street to the south, encompassing the Plan area and sharing a border with the Rincon Hill Plan area along Folsom Street.

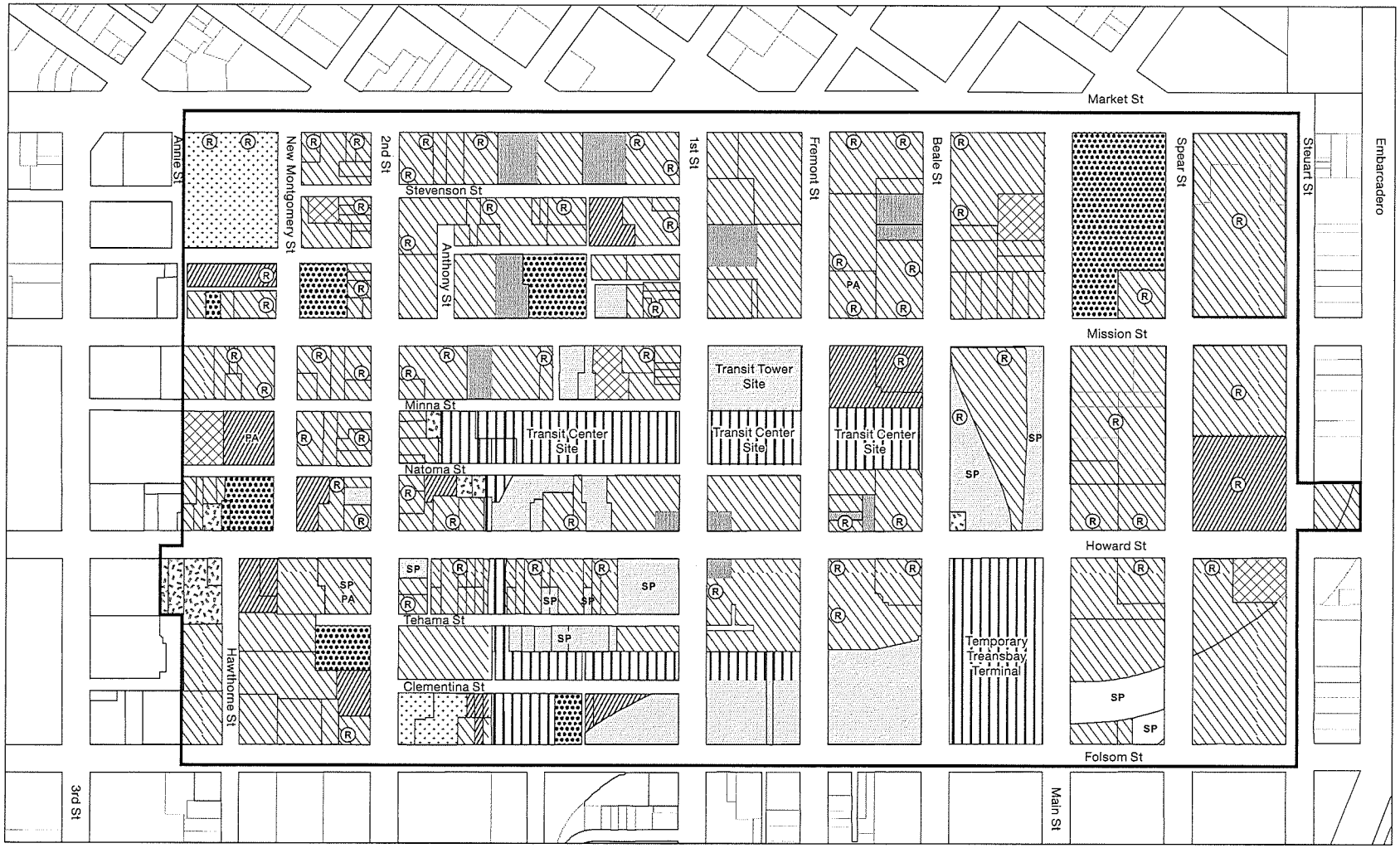
Further west of the Plan area, on the north and south sides of Market Street, land uses include large-scale destination retail. Union Square, which is the core of San Francisco's shopping district, lies approximately one-quarter mile west of the Plan area's northwest corner.

Overall, the majority of the City's new large-scale office and residential uses have been planned and developed in San Francisco's greater Downtown neighborhoods as described above. Since the mid-1980s, development has also included new visitor, hotel and retail uses establishing the greater Downtown area as an entertainment and tourist destination. Similarly, new cultural and institutional uses have expanded within the Downtown.

Transit Center District Plan Area

Existing Land Uses

Development patterns in the Plan area reflect its proximity to the historic Financial District to the north, the Bay Bridge and I-80 off-ramps, the former Transbay Terminal, and the redevelopment of Rincon Hill. As illustrated by **Figure 15**, development in the Plan area overwhelmingly comprises office use. Most office buildings contain ground-floor retail (including restaurant) space, in a pattern typical of much of downtown San Francisco. The Plan area also has several residential buildings, along with institutional uses such as Golden Gate University, the Academy of Art University, the consulate of Mexico on Folsom Street, and the headquarters of the Pacific Coast Marine Firemen, Oilers, and Watertenders and Wipers Association (Marine Firemen's Union) on Second Street. The Plan area includes the Palace Hotel at Market and New Montgomery, the Courtyard Marriott hotel at Second and Folsom Streets, and the smaller Harbor Court and Griffon hotels on Steuart Street near the Embarcadero, with several other hotels just west of the Plan area. There is also a relatively extensive portion of the Plan area that is devoted to transportation infrastructure, including the location of the former Transbay Terminal (and new Transit Center), the existing Temporary Transbay Terminal, and on- and off-ramps that connect to the Bay Bridge. There are scattered light industrial uses and surface parking lots. A large part of the southern portion of the Plan area, along Folsom Street, consists of vacant land that is the former location



SOURCE: ESA, 2008

Case No. 2007.0558E: Transit Center Plan . 207439

Figure 15
Land Use

of the "Terminal Separator Structure" of ramps that connected the Bay Bridge to the now-demolished Embarcadero Freeway and Transbay Terminal. This area, which generally coincides with Zone 1 of the Transbay Redevelopment Plan, is approved for primarily residential development with ground-floor retail uses fronting on Folsom Street, as well as open space. Public open space in the Plan area consists entirely of privately owned publicly accessible open spaces (sometimes known as POPOS) that have been developed in conjunction with office towers built over approximately the last 40 years. These open spaces include both outdoor gardens and plazas as well as indoor atria-greenhouse spaces. There are no public parks as such within the Plan area, although South Park, Justin Herman Plaza, and Union Square are located a few blocks away (within one-third to one-half mile), as are Yerba Buena Gardens, Rincon Park and the Embarcadero Promenade.

The Plan area contains more than 18 million square feet of office space, more than one-fifth of the total office space in the greater Downtown and about 18 percent of the citywide total of just over 100 million square feet.[59] Most of the office space is in high-rise towers built since 1980, although there is a concentration of older, early 20th century office buildings in and around the New Montgomery-Second Street Conservation District, near the Plan area's western edge. Office use occupies more than 60 percent of the developable land (non-street acreage) in the Plan area, and an even greater percentage of the building floor area, given that most office space is in towers taller than buildings that are devoted to other uses.

Although the Plan area has experienced growth in residential units in recent years, residential uses occupy a very small proportion of the land in Plan area—about 3.5 percent of the developable land, according to the Planning Department Land Use database. Most residential units are in buildings newly constructed for residential use since 2000; there are also a handful of older office and other commercial buildings that have been converted to residential use, including the newest such project, at One Ecker Street, a former ice house converted to 51 residential units in 2010. The largest potential such conversion is the former Pacific Telephone & Telegraph building at 140 New Montgomery Street, approved for conversion to residential use (175 units, including adjacent new construction) in 2008; to date, however, no construction has occurred. The largest of the new residential developments in the Plan area are the 60-story Millennium Tower (approximately 420 units) at 301 Mission Street, completed in 2008; the apartments at Rincon Center, a pair of 25-story towers built in 1989 that contain approximately 320 units; a 24-story tower at One Hawthorne Street (approximately 190 units), completed in 2010; a 16-story building at 199 New Montgomery Street (approximately 170 units; 2004); and a 17-story building at 246 Second Street (about 90 units; 2000). There are also large residential buildings just west and south of the Plan area, including a recently completed (2009) 21-story building at 631 Folsom Street (known as "Blu") and several larger projects within the Yerba Buena Center Redevelopment Area (the residential portion of the St. Regis tower and the 40-story Paramount, both at Third and Mission Streets, and two mid-rise buildings at Third and Folsom Streets, St. Francis Place and Museum Parc).

---

59 Seifel Associates, "Downtown San Francisco: Market Demand, Growth Projections, and Capacity Analysis." May 2008; p. II-9. Available on the Transit Center District Plan webpage (reviewed January 8, 2011) at: http://www.sf-planning.org/ftp/CDG/docs/transit_center/R_TransitCenter_051308_Final.pdf.

With the exception of the Palace Hotel between New Montgomery and Annie Streets, large parcels along Market Street contain mostly high-rise office buildings. This pattern of high-rise office buildings extends from Market Street southward along Main Street nearly to Folsom Street. Much of the land in the southern portion of the Plan area is occupied by the site of the new Transit Center, now under construction, and associated freeway ramps. South of Mission Street and east of First Street, large parcels of vacant land or surface parking reflect the path of the former Terminal Separator Structure and Embarcadero Freeway and their associated off-ramps, now demolished.

A broader mix of uses characterize the blocks west of First Street. Although many of these smaller parcels are occupied by office uses in older buildings, they also house residential and other uses. Vacant land, often used for surface parking, is notably present throughout this area west of First Street and south of Mission Street. Between Market and Howard Streets, the Second/New Montgomery Streets corridor is characterized by historic office buildings, with ground-floor retail. Although there are a few high-rise structures, mid-rise buildings (generally, three to eight stories) predominate. A similar pattern of office over retail and restaurant uses prevails on New Montgomery Street between Market and Howard Streets. Land uses are somewhat more varied on Howard Street, with a mixture of office uses—in some cases occupying former industrial or warehouse-type buildings—and remaining PDR uses, residential and live-work buildings.

There are no hospitals or pre-college educational institutions in the Plan area. The Plan area does contain several licensed children's day care centers, including facilities at the Pacific Gas & Electric Co. building (77 Beale Street; child-care located at the corner of Mission and Main Streets) and the U.S. Environmental Protection Agency building (75 Hawthorne Street; facility located in adjacent building at 95 Hawthorne), and in office buildings at 342 Howard Street, 221 Main Street, and (just outside the Plan area) 303 Second Street and 2 Harrison Street.

Transit Tower Project Site

Existing Land Uses

As described in the Chapter III, Project Description, this EIR analyzes the environmental impacts associated with developing the Transit Tower on a project-specific level. The Transit Tower project site is on the south side of Mission Street between Fremont and First Streets (see Figure 8 in Chapter III, Project Description, p. 39). The site is approximately 50,000 square feet in size and was last used as the Transbay Terminal passenger waiting and loading and Muni drop-off/layover area. As of early 2011, the terminal building has been demolished, along with the associated vehicle ramps that allowed bus access to the former terminal's loading area, and construction of the new Transit Center is under way. The Transit Tower portion of the former Transbay Terminal site is now vacant. The site is flat.

Buildings in the immediate vicinity exhibit a variety of heights, building styles, ages and uses although, as described above, land uses consist primarily of office space above ground-floor retail stores. An approximately 24-story office tower (100 First Street) is located west of the project site, across First Street. To the north, two office buildings occupy the north side Mission Street frontage across the street from the

project site. At the northeast corner of Mission and Fremont Streets is the 43-story tall Fremont Center at 50 Fremont Street (the tallest office building in the Plan area). On the northwest corner of Mission and First Streets is 440 – 450 Mission Street, an older five-story office building with retail below. An alleyway separating these two buildings runs perpendicular to the project site. Directly across Fremont Street, east of the project site, is the new Millennium Tower at 301 Mission Street. This 58-story, 645-foot-tall residential tower occupies the southeast corner of Mission and Fremont Streets. This project consists of the tower and the associated 12-story residential and amenity building on the southwest corner of Mission and Beale Streets. The Millennium Tower is the tallest existing building in the Plan area. In February 2011, an approximately 355-foot-tall office tower was approved at 350 Mission Street (Case No. 2006.1524E; Final EIR certified February 10, 2011), diagonally across the intersection of Mission and Fremont Streets from the Transit Tower site.

Impact Analysis

Significance Criteria

The proposed project would have a significant effect on land use if it would:

- Physically divide an established community; or
- Have a substantial adverse impact on the existing character of the vicinity.

A third criterion for evaluation of potential significant impacts that is contained in the Planning Department's CEQA checklist is: Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? Potential inconsistencies with applicable land use plans and policies are discussed in Chapter III. However, a conflict with a *General Plan* or other policy does not, in itself, indicate that a project would have a significant physical effect on the environment within the context of the California Environmental Quality Act (CEQA). Instead, this criterion is intended to ensure that the physical impacts of such conflicts are evaluated for their potential effect on the environment. That is, an affirmative response to the foregoing question means that the consequences of any such conflict must be considered to determine whether such a conflict could cause a substantial adverse physical change that might be considered significant. The physical environmental impacts that could result from such conflicts are analyzed in the applicable environmental topic sections this EIR. These include, in particular, the analysis of aesthetics, traffic and transportation, noise, air quality, wind, and shadow.

As noted, potential inconsistencies with applicable land use plans and policies are discussed in Chapter III, Compatibility with Existing Plans and Zoning. Potential policy conflicts are considered by the applicable decision-making body independently of the environmental review process. Thus, in addition to considering inconsistencies that affect environmental issues, the Planning Commission, Board of Supervisors, or other approving body considers other potential policy inconsistencies, independently of the environmental review process, as part of the decision to approve or disapprove a proposed project, including the draft Transit Center District Plan and proposed Transit Tower. Any potential conflict not

identified in this environmental document would be considered in that context and would not alter the physical environmental effects that are analyzed in this EIR.

Transit Center District Plan

Impact LU-1: Implementation of the draft Plan would not physically divide an existing community. (Less than Significant)

The draft Plan is proposed as a regulatory program, not a physical development project. The Plan policies and implementing change in the *Planning Code* would not create any new physical barriers in the Plan area. There are no major planned roadways, such as freeways, attributable to the proposed project that would disrupt or divide the Plan area or individual neighborhoods or subareas.

The proposed Plan would allow for construction of the tallest building in San Francisco—the 1,000-foot Transit Tower—as well as several other buildings that would be among the City's tallest. These buildings would be developed within the existing block configuration and would not alter the Plan area's street grid. Moreover, the new uses called for in the Plan would continue and intensify the existing land use pattern of the Plan area. As discussed in the Setting, the existing land use in the Plan area consists largely of office space. Consequently, the project would not physically disrupt or divide an established community in any direct sense. Although the Plan would allow for several very tall buildings to be built, such development would not alter the patterns of moving about the area, nor physically interfere with interaction between existing or future uses of the Plan area or its residents and employees. The Plan would, however, indirectly affect established communities by altering the land use characteristics of the Plan area, and this is discussed below.

Mitigation: None required.

Impact LU-2: The draft Plan would not substantially alter the existing character of the Plan area. (Less than Significant)

Changes in Plan area character would not be caused by the zoning itself, but by projects—including changes in the use of existing buildings, additions, new construction, and demolition—that could occur on individual sites within the Plan area after Plan adoption and rezoning, if applicable. However, because zoning establishes which land uses are permitted, prohibited, or limited in each district, and also establishes maximum building height and bulk, it determines how much land and potential building space is available in the city for each type of use.

The draft Plan would extend the C-3-O (SD) use district northward to encompass the area generally defined by Market, Steuart, Natoma, and Annie Streets. In so doing, the draft Plan would increase the land area eligible to develop with increased density through the transfer of development rights from other sites. The new zoning would replace existing C-3-O district—where there is less flexibility with

respect to transfer of development rights—as well as a small area of the existing C-3-S district along Hawthorne Street and between Folsom, Second, and Tehama Streets, in the southwest corner of the Plan area. Where the C-3-O (SD) replaces the C-3-S district, controls would allow for more office development.

Around the new Transit Center, the boundary of the Public use district would be shifted slightly to allow for redevelopment of the Transit Center and its ramps and to recognize the removal of some former Bay Bridge vehicle ramps. The proposed Transit Tower site would be rezoned to C-3-O (SD). The area zoned Transbay-DTR, within Zone 1 of the Transbay Redevelopment Plan area, would remain unchanged, except for a small shift to C-3-O (SD) along Clementina Street.

In addition to changes to the underlying use districts, the draft Plan would include additional policies and land use controls in the form of a commercial/office subdistrict. Additional controls within this subdistrict would apply to large opportunity sites within the area bounded roughly by Market, Beale, Clementina, Tehama and a line midway between Second and New Montgomery Streets. With the intention of achieving an overall ratio of no less than 70 percent office space within the larger Plan area, the subdistrict would limit the amount of allowable non-office uses on these opportunity sites by requiring a minimum ratio of commercial to non-commercial (e.g. residential, hotel, cultural) uses. Specifically, as stated on p. 19 of the November 2009 Draft Plan, "On development sites larger than 15,000 square feet within a prescribed sub-area of the C-3-O (SD) district, new construction greater than 6:1 FAR would be required to have at least three square feet of commercial [office] space for every one square foot of residential, hotel, or cultural space." The proposed limitation on non-office space within the core of the Plan area, centered on the new Transit Center, would continue and intensify the prevailing use within this sub-area. Therefore, the proposed requirement that larger sites be developed primarily with office space would not be anticipated to result in substantial adverse change in the character of the Plan area. (Zone 1 of the adopted Transbay Redevelopment Plan, however, permits substantial residential development, generally along the north side of Folsom Street.)

To maximize the potential for the Plan area to accommodate future job growth, the Plan also proposes a minimum level of development—a FAR of at least 9:1—on sites larger than 15,000 square feet. In addition, the proposed Plan seeks to encourage continuous consumer retail uses on key street frontages, and maximize the diversity of businesses on the ground floor to create lively destination commercial areas. Finally, the draft Plan proposes increases in height limits on a number of development opportunity sites within the Plan area, as shown in Figure 3, p. 14 in the Project Description, and elimination of the maximum floor area ratio of 18:1 in the C-3-O (SD) district; instead, building height and bulk controls would govern development density.

The combination of all of these proposed use district and height limit changes would encourage increased density and the construction of larger and, in select instances, substantially taller structures than currently exist within the Plan area, and would also promote a high concentration of office development. In total, the draft Plan anticipates the addition of approximately 6.35 million square feet of office space to the Plan area over the next approximately 20 years, which is some 2.2 million square feet more than could be permitted under existing zoning and height controls. However, because the Plan area already contains

predominantly office uses—more than 18 million square feet—within a dense urban area, the implementation of the draft Plan would intensify the existing character of the Plan area but would not fundamentally alter it. While the increased scale of development would be noticeable in terms of new large developments and more crowded streets and sidewalks, these changes would occur gradually over time, as approvals are granted and funding becomes available to implement individual development projects on sites throughout the Plan area. Based on the above, the proposed changes would not be characterized as significant or adverse, in terms of their effects on the character of the Plan area.

In addition to office uses, over time the Plan area would experience an increase in residential units (approximately 1,300), hotel rooms (approximately 1,000), and retail uses (86,000 square feet). This would create a mix of new uses, both at and above the ground level, although office uses would be maintained as the predominant land use. However, all of these uses currently exist in the Plan area as complements to the primary office use of the neighborhood, and therefore the character of the district is unlikely to change substantially as a result of this intensification of existing land uses.

It is important to note that some subareas within the Plan area would experience less noticeable change. For instance, blocks east of Main Street are largely built out and the draft Plan does not target them for major new development (i.e., no opportunity sites have been identified within this area). The character of these blocks would remain largely intact, although they may experience higher levels of pedestrian and vehicle activity along with the rest of the Plan area. Similarly, blocks west of Second Street, which contain older, more moderately-scaled buildings, including those in the New Montgomery-Second Street Conservation District, would also experience a lesser degree of change. While some new development within this subarea may lead to greater densities and building heights, new structures would be generally mid-rise in scale, in compliance with the lower height limits, and would not greatly impact the overall character of these areas. Thus, the draft Plan would not result in significant adverse impacts within these subareas.

Other changes to typical building heights and styles that are expected with the increase in residential development are described in Section IV.B, Aesthetics, and include taller buildings of contemporary design with features such as curtain glass walls, unadorned facades, and a regular pattern of fenestration.

Overall, while the expected land use changes may alter the existing character of several discrete subareas in the Plan area, the changes would not be considered substantial, even if some observers in certain subareas might find them to be adverse, because, as noted, the same land use pattern would prevail as under existing conditions. Moreover, in many instances, the proposed changes, such as pedestrian realm improvements, could serve to enhance the streetscape and the overall character of the neighborhood, by attracting services and directing public improvements to address existing deficiencies as well as new neighborhood needs. For all of the reasons discussed above, the implementation of the draft Plan would result in less-than-significant impacts to the land use character of the Plan area.

Mitigation: None required.

Transit Tower

Impact LU-3: The implementation of the Transit Tower project would neither divide an existing community nor substantially alter the existing character of the Plan area. (Less than Significant)

The Transit Tower, a planned 61-story, approximately 1,070 foot tall office building, would be located north of and adjacent to the new Transit Center on the south side of Mission Street between Fremont and First Streets. Under the proposed project, the Transit Tower would encompass approximately 1.35 million square feet of office space and about 16,500 square feet of retail space. Once constructed, it would become the most densely developed parcel within the City, built on a lot that, until recently, was occupied by the loading area in front of the Transbay Terminal. At completion, the Transbay Tower would alter the land use character of its vicinity, but not to a substantial degree, in that the building would provide office and associated retail uses in the same fashion as the majority of buildings in the area. Under existing conditions, there are approximately 10 million square feet of office space within about one block of the Transit Tower site and, in this context, the project's addition of 1.35 million square feet of office space would not result in a noticeable change in the types of activity in the immediate neighborhood. While the new structure would greatly intensify the land uses at the project site and introduce a high level of pedestrian activity to the site itself, the change would not be substantial in the context of the immediate vicinity or the larger Plan area.

Most of the tower floors would be occupied by office uses; however, retail uses would be provided on the lower levels, including the ground level. Although the character of land uses experienced by the pedestrians would be different from how the site is perceived today, and how it was perceived when occupied by the former Transbay Terminal forecourt (now demolished), the ground-floor character of the Transit Tower would be consistent with other ground-level retails uses that can be found throughout the immediate vicinity and the Plan area. Thus, at the ground level, the proposed changes would be noticeable but would not be considered adverse.

The Transit Tower would be developed within the existing street grid, and thus would not divide the community. The building, including rooftop sculptural element, would be more than 400 feet taller than the tallest existing buildings in the vicinity. This greater height, while readily apparent to anyone looking up, would not be expected to physically divide the community or adversely affect the character of the area, because most pedestrians, bicyclists, and drivers—most of those who could see the top of the building upon observation—are not anticipated to spend a large amount of time looking up as they travel through the neighborhood, for the simple reason that most persons moving through the area must pay attention to their path of travel.

Because the Transit Tower project would continue the types of uses that already predominate within the Plan area, its construction is not likely to adversely affect the overall land use character of the project site and its immediate surroundings. For this reason, this impact is considered less than significant.

Mitigation: None required.

Cumulative Impacts

Impact C-LU: The draft Plan, including the Transit Tower, along with other cumulative development, would neither divide an existing community nor substantially alter the existing character of the Plan area. (Less than Significant)

Other cumulative development in the vicinity, described in the introduction to Chapter IV would combine with the draft Transit Center District Plan, including the proposed Transit Tower, to result in further changes in land use in the Plan area and vicinity. In particular, approved development within Zone 1 of the Transbay Redevelopment Plan would add more than 3,000 additional dwelling units to the Plan area, mostly in residential towers along Folsom Street. Retail space would be provided at the ground level. Some 4,000 residential units are approved in the Rincon Hill Plan area. Together, these residential units in the Transbay Redevelopment Plan (Zone 1) area and in Rincon Hill would create a high-density residential neighborhood on the edge of the greater downtown. Additional nearby development, such as a proposed new residential tower that would also accommodate the Mexican Museum at the northwest corner of Third and Mission Streets, just west of the Plan area, would further the goal of creating a high-density, mixed-use neighborhood focused on, and located near, the Transit Center.

The new Transit Center structure will extend from Beale Street west to just east of Second Street, between Minna and Natoma Streets. It will thus cover an area slightly larger than the area occupied by the former Transbay Terminal, which ended near Shaw Alley. The new Transit Center, at approximately 70 feet in height (the approximate equivalent of a five-story office building or six-story residential building), will also be taller than the old Transbay Terminal, which had a 50-foot-tall center section (between First and Fremont Streets) that was flanked by 40-foot-tall wings to the east and west. The new Transit Center will extend three blocks east-to-west within the Plan area and will be situated in much the same manner as was the old Transbay Terminal although, as with the old terminal, both vehicular and pedestrian traffic would be able to pass beneath the Transit Center on First and Fremont Streets. Despite the additional height of the Transit Center compared to the former Transbay Terminal, the effect in terms of physical division would be comparable to the condition that existed for some 70 years, until the Transbay Terminal was demolished beginning in 2010. Arguably, the new Transit Center's extensive use of glazing and multiple pedestrian openings on the ground floor would result in a much "lighter" and more welcoming building that would reduce the effect of physical "blockage" at street level. Hence, to the extent that the Transit Center will create physical division, neither the draft Transit Center District Plan nor the Transit Tower would make any meaningful contribution to this condition or make it worse, because neither the Plan nor the Transit Tower would result in any physical division of the community, as described further under Impacts LU-1 and LU-3, above. Conversely, the draft Plan is in part intended to physically and functionally integrate the Transit Center with the surrounding area.

Exceptions to Planning Code Bulk, Wind, and Shadow Requirements

As noted in Chapter II, Compatibility with Existing Policies and Plans, *Planning Code* Section 309, Permit Review in C-3 Districts, allows the Planning Commission to grant exceptions to certain *Planning Code* standards. Review of Planning Department records and Planning Commission minutes revealed that

there were more than 30 cases involving exceptions from Planning Code requirements for ground level winds (Section 148) and building bulk (Section 270) that were granted since the Downtown Plan and accompanying zoning regulations were approved. About 27 of these buildings have been constructed, including most major downtown buildings built since the adoption of the Downtown Plan. Another project granted an exception (Trinity Plaza, at Eighth and Market Streets) is under construction in phases. *Planning Code* Section 146(c), which states that new buildings and building additions shall be shaped "so as to reduce substantial shadow impacts on public sidewalks in the C-3 Districts" [other than on specified streets that are governed by another *Code* section], if this can be accomplished "without creating an unattractive design and without unduly restricting the development potential of the site in question." Determinations are made with respect to compliance with this requirement as part of the Section 309 downtown project review process. Planning Department records reveal at least two projects that have been granted exceptions with respect to the Code's wind and bulk provisions have also been specifically determined to be in compliance with the Section 146(c) requirement, including the Millennium residential tower, across Fremont Street from the Transit Tower site, and the office building at 555 Mission Street.

With regard to wind (Section 148), in particular, the vast majority of projects involving high-rise buildings that have been approved since adoption of the Downtown Plan have required, and have been granted, an exception to the *Planning Code* wind requirement that, "When preexisting ambient wind speeds exceed the comfort level, or when a proposed building or addition may cause ambient wind speeds to exceed the comfort level, the building shall be designed to reduce the ambient wind speeds to meet the requirements." This is because existing winds at many locations in downtown San Francisco exceed both the comfort criterion of 7 miles per hour (mph) in public seating areas and the comfort criterion of 11 mph in areas of substantial pedestrian use (generally, sidewalks), and it is generally not feasible to design a new building that would reduce existing wind speeds such that the these criteria would be met, or, in many instances, to avoid creating a certain number of new exceedances.

In terms of cumulative effects related to compliance with Section 146, the effect of each potential project's shadow is evaluated by Planning Department staff, with the conclusions presented in the proposed approval motion that was presented to the Planning Commission and then reviewed and, for those projects approved by the Commission, consented to by the Commission as part of the findings required under Planning Code Section 309, Permit Review in C-3 Districts. In general, findings have indicated that, with respect to determinations under Section 146(c), as well as exceptions to Section 146(a), which governs specific streets (including only Second and New Montgomery Streets in the Plan area), approvals were granted when a project did not result in substantial new shadow on sidewalks and streets. That is, shadow from any individual project, including the proposed Transit Tower, would (or does, in the case of existing buildings) cover a relatively small area of sidewalk and/or street, for a relatively short duration. The Downtown Plan EIR of 1984 acknowledged that assumed development could result in several hours of sunlight being eliminated in the winter at a particular sidewalk location, but found that several hours of existing sunlight would often remain during spring, fall, and summer. Moreover, much of the activity on Downtown sidewalks consists of routine travel from one place to another that is unlikely to be adversely affected by incremental new shadow, as opposed to recreational activity. Finally, to the extent

that a project that exceeds the *Planning Code* bulk limits is responsible for additional shadow, compared to a compliant building, the bulk exceptions are likely to be made for the building's upper tower, where bulk requirements are more stringent. This means that potential shadow impacts of such a bulk exception are likely to be more distant from the building's location (because shadow from a taller building extends much farther than shadow from a short building). As the distance from a building increases, so too does the chance that this building's shadow on a distant site is intercepted by shadow from a building closer to the distant site, even if the closer building is shorter than the building in question. Thus, the impact would not appear to "substantially affect the usability of other existing publicly accessible open space or outdoor recreation facilities or other public areas" (the criterion for an effect under CEQA), and the cumulative exceptions granted do not appear to warrant a conclusion that such exceptions could combine to result in a cumulative significant impact with respect to shadow on Downtown sidewalks.

Beyond effects on ground-level winds and shadow, building bulk affects visual impacts as well. However, a comparison of views of the Downtown from Potrero Hill (one showing 2008 conditions, and another showing long-term projected development as assumed in the Downtown Plan EIR) shows that, in general, development in the Downtown has resulted in a configuration of the Downtown skyline that is comparable to that forecast in the Downtown Plan EIR, despite the fact that, as noted above, more than two dozen buildings have been built without full compliance with the Downtown Plan bulk controls. Full compliance with the bulk controls would have resulted in a relatively minor change, compared to now-existing conditions, in the sculpting of the top of newer buildings, particularly with regard to the rooftop cupola-like elements. However, it does not appear that development that has proceeded since adoption of the Downtown Plan has resulted in substantially different building bulks than was anticipated in the Downtown Plan EIR.

Developed projects in the Plan area that were granted exceptions to *Planning Code* wind, shadow, and/or bulk requirements, pursuant to Section 309, include office buildings at 555 and 560 Mission Street, 55 and 101 Second Street, 199 and 215 Fremont Street, and the three office buildings of Foundry Square at First and Howard Street; the Millennium residential tower at Fremont and Mission Streets and another residential building at 199 New Montgomery Street; the Courtyard-Marriott Hotel at Second and Folsom Streets; and the Museum of Modern Art parking garage on Minna Street.

Regarding the granting of exceptions to *Planning Code* requirements under Section 309 generally, this is a policy decision that is made by the Planning Commission on a case-by-case basis. To the extent that the granting of such exceptions would result in physical impacts, those impacts are analyzed in this EIR. The fact that a project would require one or more exceptions to *Planning Code* requirements does not, in itself, indicate that the project would have a significant physical effect on the environment.

In summary, the draft Plan and Transit Tower would, in combination with other nearby development, contribute to an intensification of land use in the greater Downtown, but would not result in adverse effects with respect to the character of the Plan area and vicinity, nor would such development physically divide an existing community.

Mitigation: None required.

B. Aesthetics

This section describes existing visual conditions in the Transit Center District Plan area and analyzes the potential for the draft Plan to affect those conditions. This section focuses primarily on the visual character of the Plan area, views of the Plan area from public vantage points throughout the city, and light and glare issues. This section specifically analyzes the physical changes proposed by the Plan as described in the Project Description. This section also describes and analyzes the potential visual impacts associated with implementing the development of the Transit Tower project, located on Mission Street, between Fremont and First Streets. Photographs and visual simulations (photomontages) are included in this section to supplement the analysis of the existing visual character of the Plan area and the individual Transit Tower project.

Environmental Setting

Transit Center District Plan Area

Visual Character

The Plan area covers approximately 145 acres and is surrounded by the Northern Financial District, Rincon Hill, and East SOMA neighborhoods, with The Embarcadero waterfront abutting the Plan area to the east. The boundaries of the District are roughly Market Street to the north, Steuart Street to the east, Folsom Street to the south, and a line to the east of Third Street to the west. The visual setting of the Plan area is varied, reflecting the visual characteristics of its natural and built elements, including the topography, street grid, elevated freeway segments, individual buildings and blocks, vacant and underutilized lots and public open spaces. However, it is possible to describe some general characteristics that establish the Plan area's visual setting.

The Plan area's topography is at a gradual but slight incline, ranging from an elevation of zero, SFD,[60] along the Plan area's eastern portion near the waterfront to a crest of between about 25 and 40 feet, SFD, near the Plan area's western boundary (just east of Third Street). Such gradual inclines are not easily perceptible to the eye and most of the area appears relatively flat to a typical pedestrian. There are no hills or valleys of note within the Plan area, although Rincon Hill begins its rise to about 100 feet in the southern portion of the Plan area.

The type and distribution of land uses and building types within the Plan area also contribute to its visual character. The Plan area is made up largely of office and retail uses, although it also contains a limited amount of residential, light industrial, cultural/institutional/educational, and public uses, as well as vacant/underutilized lots and surface parking lots. The office uses exist within a variety of structures, from the recently converted single-story former industrial buildings to early 20th Century mid-rise office buildings clad in masonry to the more modern glass-encased office towers. Many contain retail and

60 SFD, or San Francisco City Datum, establishes the City's zero point for surveying purposes at approximately 8 feet above mean sea level.

dining uses on the ground level, such as shops, restaurants, cafes, and bars. The prevalence of high-rise towers north of Minna Street visually defines this portion of the Plan area. The towers are consistent with the area's functions as the southern extension of City's business center, which continues from the North Financial District, north of Market Street.

A number of residential towers, including the Millennium Tower at Fremont and Mission Streets in the eastern portion of the Plan area and One Hawthorne, 199 New Montgomery, and 246 Second Street in the western part of the Plan area, have also been constructed within the last 20 years, as have several smaller residential development and conversion projects. In terms of visual character, the newer residential towers appear similar to the other high-rise buildings in the area, employing extended silhouettes and façade materials (such as glass) that are similar to the office towers, albeit with lesser floor-to-floor heights.

Several subareas within the Plan area establish a departure from the built-up vertically-oriented character of the Plan area and contribute a different set of visual attributes to the Plan area. One of them is the area defined by the series of on- and off-ramps that linked the Bay Bridge to the former Transbay Terminal and to surrounding streets, as well as the site of the former terminal itself. This area, bounded generally by Mission, Beale, Folsom, and Essex Streets, was the subject of prior environmental review and is encompassed within the adopted Transbay Redevelopment Plan. In particular, the area within the looping elevated ramps that carried buses to and from the Transbay Terminal has experienced very limited new development even as some surrounding blocks were redeveloped beginning in the 1970s and 1980s with office towers built to the east, on Main and Spear Streets, and continuing in the 1990s and 2000s with office and residential high-rise development to the west, on and near Second Street. The other enclave that departs from the vertical quality of the Plan area is the area containing the New Montgomery-Second Street Conservation District and the Second and Howard National Register Districts. These areas, located within the western portion of the Plan area, contain a more moderately scaled development pattern, consisting mostly of two to 8 story buildings constructed in the early 20th Century. Both of these enclaves are discussed further below.

The remaining transportation infrastructure, associated with both Bay Bridge vehicle ramps and the former Transbay Terminal ramps, also influences the visual character of the Plan area by creating strong visual boundaries and voids within the neighborhood. Several blocks and streets, particularly those surrounding the new Transit Center, are interrupted by vehicular overpasses. Furthermore, the Plan area is proximate to the I-80 freeway and its Bay Bridge on-ramps. Proximity to freeways and concentrated amounts of office space within the Plan area contribute to streets that are often congested with vehicles, bicycles, and pedestrians, particularly during the a.m. and p.m. peak hours. The moving traffic, as well as heavily used sidewalks, add to the intensified urban nature of the Plan area. Surface parking lots, often filled to capacity during weekdays, as well as open spaces through the Plan area create voids between the visually dominant high-rise structures.

In general, although this neighborhood contains a high proportion of the City's high-rise buildings, the area as a whole lacks a high degree of visual definition or coherence beyond that of a very dense,

vertically built neighborhood with some of moderately developed subareas. The existing visual character of the Plan area is, therefore, mostly defined by its location and prevailing urban form; the geometry and scale of its street grid and surrounding transportation infrastructure; and variety of building types, including early 20th century masonry buildings and contemporary office and residential towers. The following section describes visual quality of the Plan area in greater detail.

Streets and Street Pattern

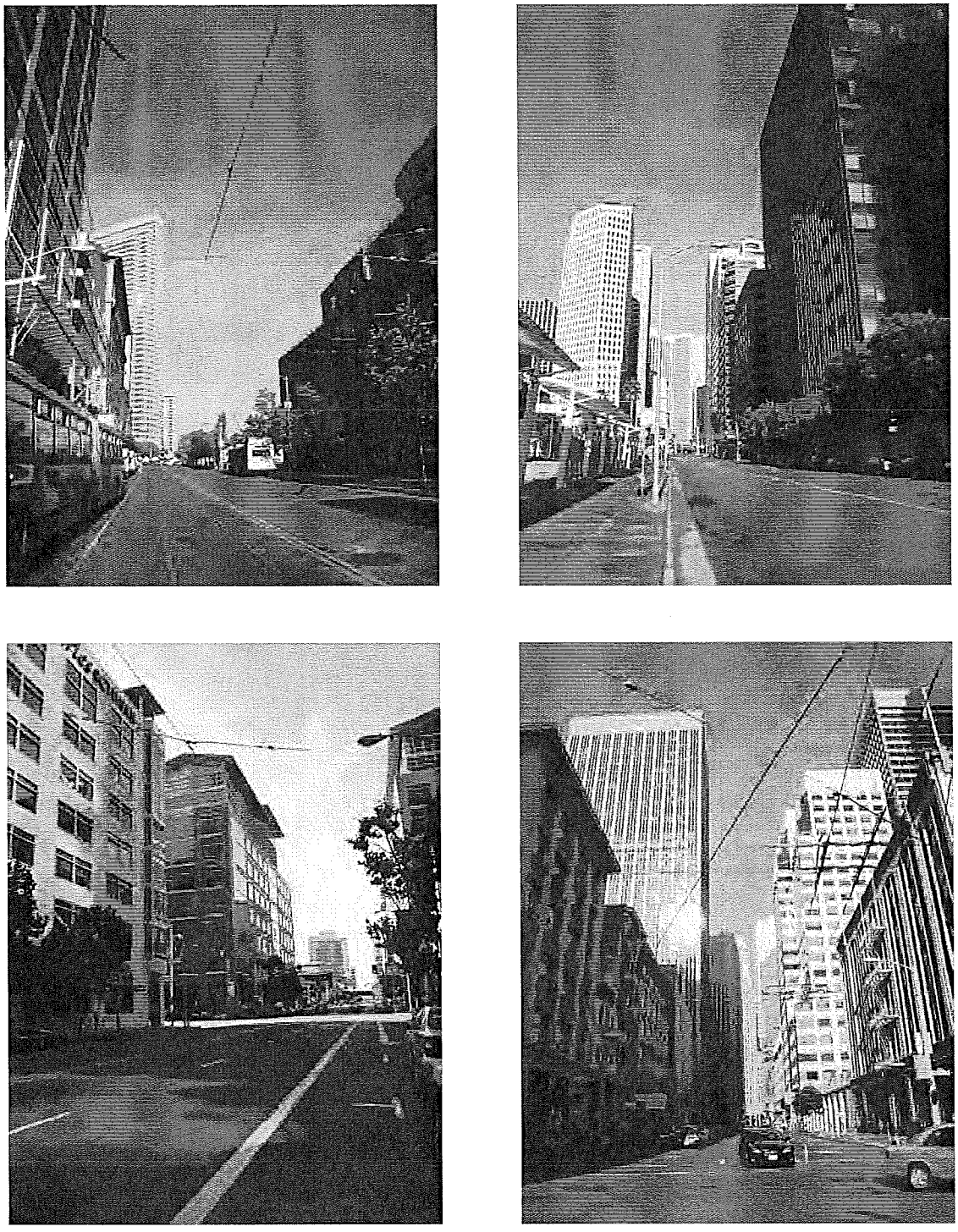
The large scale of streets and blocks contributes to the visual character of the Plan area. The Plan area abuts Market Street to the north, which acts as a seam between the street grids to its north and south. The orientation of the streets is abruptly offset by 45 degrees along Market Street. This shift, in combination with the fact that most of the blocks to the south of Market are nearly four times as large as those the north of Market Street, creates a wholly different grid system south of Market.

Within the Plan area, blocks west of First Street are the largest (825 feet by 550 feet), while blocks to the east of First Street measure 275 feet by 550 feet. Most of the larger blocks west of First Street are broken up by mid-block, east-west and/or north-south alleys,[61] reducing their perceived length at the street level.

The primary north-south oriented streets, such as Steuart, Spear, Main, Beale, Fremont, First, Second, and New Montgomery, are relatively wide (right-of-way of 82.5 feet, except New Montgomery, which is about 70 feet wide) and accommodate up to four lanes of traffic (in addition to one or two parking lanes). These streets, with the exception of Second Street, carry one-way traffic through the Plan area, connecting it to the surrounding roadways, including some that connect directly to the north of Market streets and some that connect to the nearby freeways and the Bay Bridge. The primary east-west oriented streets, Mission, Howard and Folsom Streets, are also 82.5 feet wide, while Market Street has a 120-foot right-of-way. While Market and Mission Streets carry two-way traffic, Howard and Folsom Streets operate as one-way streets for most of their length. All of the streets within the Plan area convey a highly urbanized feel, consisting of generally regular sidewalks and intersections, overhead utility wires, and often heavy flows of traffic (see **Figure 16**). Some sidewalks and publicly accessible open spaces contain street trees, although in general, the Plan area is limited in pedestrian amenities along the sidewalks.

Market and Mission Streets are used by a variety of public transportation modes (i.e., buses, trolleys, Muni Metro, etc.) that help to infuse the sidewalks with a high level of pedestrian activity. Most other major Plan area streets, however, are dominated primarily by cars, and experience a reduced volume of pedestrian activity. The density of development, usability of the streets by pedestrians—including pedestrian-oriented uses at street level, such as ground-floor retail—and the availability of public transit within the northern part of the Plan area contribute to its visual quality, resulting in a more vibrant urban quality at the street level than displayed by the streets in the southern part of the Plan area. These streets,

61 The term "alley" is used to denote minor streets between the multi-lane major streets in the Plan area. Although most are not technically alleys as defined in the Planning Code (by which an alley is a right-of-way less than 30 feet), these minor mid-block streets are commonly referred to as such, and are distinguished from the major streets by their relatively narrow widths.



View corridors within the Plan Area are dominated by paved surfaces and urban features. Most views to the north terminate with North of Market buildings.

SOURCE: ESA

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 16
View Corridors

with less density of development, generally convey a character dominated by cars rather than pedestrians, and also have less of a pedestrian orientation of ground-floor uses.

In addition to heavily trafficked major streets, the Plan area also contains a number of narrow alleys, some in the north-south direction but most in the east-west orientation. These alleys, described in more detail below, are generally one-way streets that carry one or two lanes of traffic, with additional one or two lanes designated for parking. The alleys that intersect the primary street grid convey a smaller scale, although most do not provide any pedestrian amenities and, as a result, do not experience heavy pedestrian use. Many alleys provide access to service entrances and garages for uses oriented primarily on the major streets, which sometimes present a blank doorway at street level (see **Figure 17**).

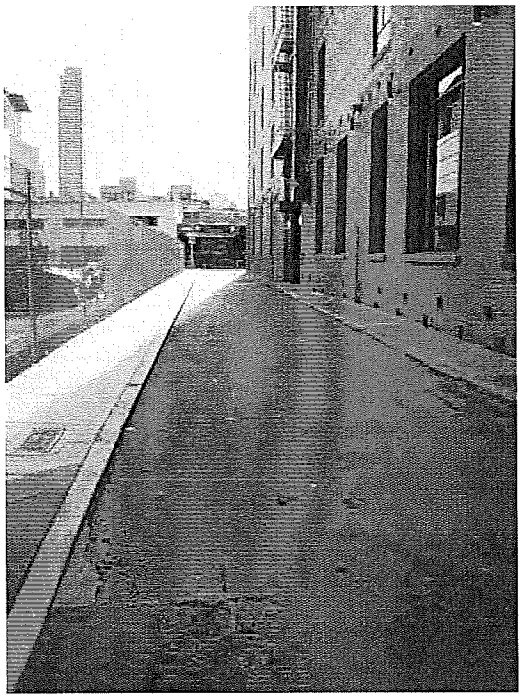
As noted above, the Plan area contains several off- and on-ramps, which connect the Plan area to the nearby freeways and the Bay Bridge. These ramps emphasize transportation-related attributes associated with the Plan area as well as obscure views to the Bay and to Rincon Hill, creating dark and cramped spaces underneath. While several lots underneath the ramps contain surface parking uses, others are vacant and appear neglected. These vehicular overpasses are visible from various vantage points within the Plan area and exist as unadorned angular concrete structures, most suspended between about 15 and 20 feet above the street grade (see **Figure 18**).

Buildings and Streetscapes

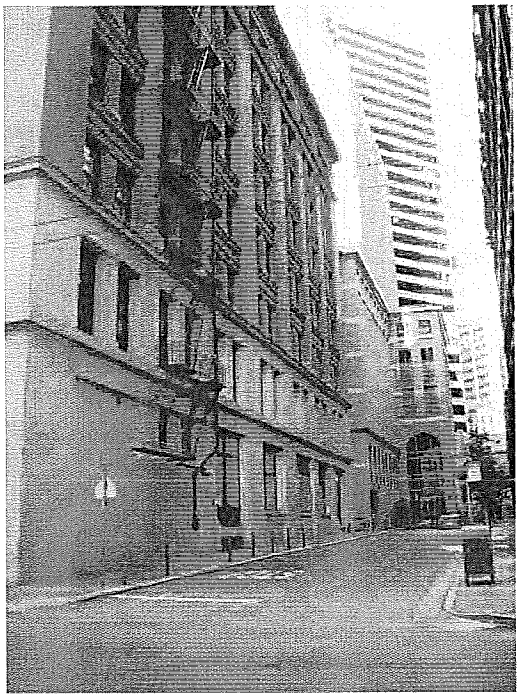
As discussed above, office uses predominate within the Plan area, although other land uses, such as residential, commercial, entertainment, educational, and public uses can also be found throughout this neighborhood. Although the Plan area contains buildings of different types and sizes to accommodate the multitude of land uses, the visual character of the Plan area (particularly in the northern subarea), is dominated by modern skyscrapers. This is how the Plan area is generally perceived in the region and what makes it recognizable in long-range views of the city (discussed in greater detail below).

The northern portion of the Plan area (north of approximately Minna Street, extending to Howard Street in the east) operates as a continuation of the North Financial District. Although the block sizes and orientations differ from areas just north of Market Street, the northern portion of the Plan area is similar to it in building scale and development pattern. Like the Northern Financial District, the northern portion of the Plan area contains a concentrated number of high-rise structures, interspersed with early 20th century historic buildings, parking lots, and privately owned, publicly accessible open spaces (POPOS) (see **Figure 19**). As noted above, the northern subarea contains a mix of ground-floor commercial establishments that attract heavy pedestrian use and result in a high level of activity at the street level. Along Market Street, rows of modern high-rise structures along both sides form an "urban canyon," which terminates at the Ferry Building just beyond the Plan area's easternmost edge (at the waterfront).

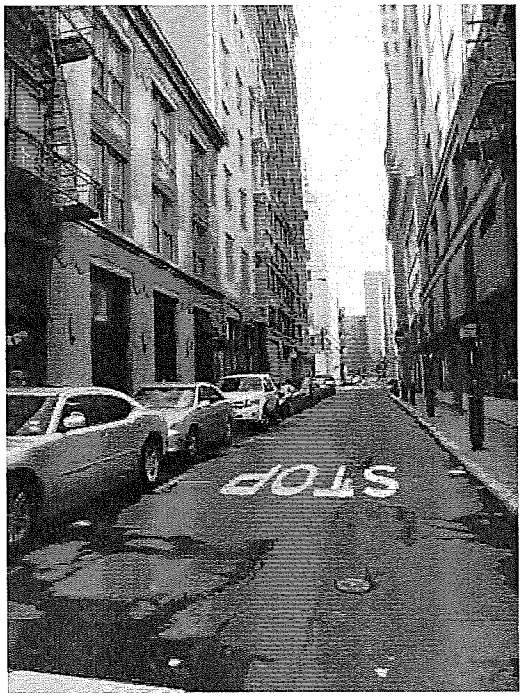
While building setbacks, articulation, façade materials, and architectural details emphasize the individuality of the buildings along Market and Mission Streets, the large-scale development pattern itself, which conveys a dense urban atmosphere, is the dominant feature that defines these streets as a whole. Many of the skyscrapers contain a podium with one or two towers that range in height to 600 feet.



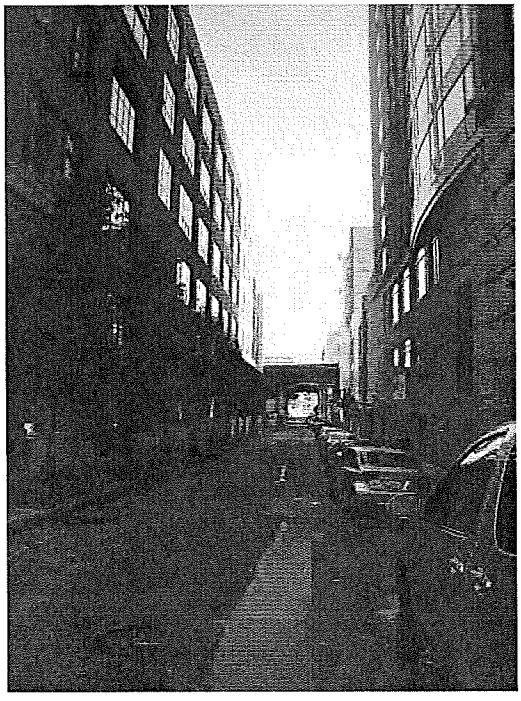
Shaw Alley



Anthony Alley



Natoma Street



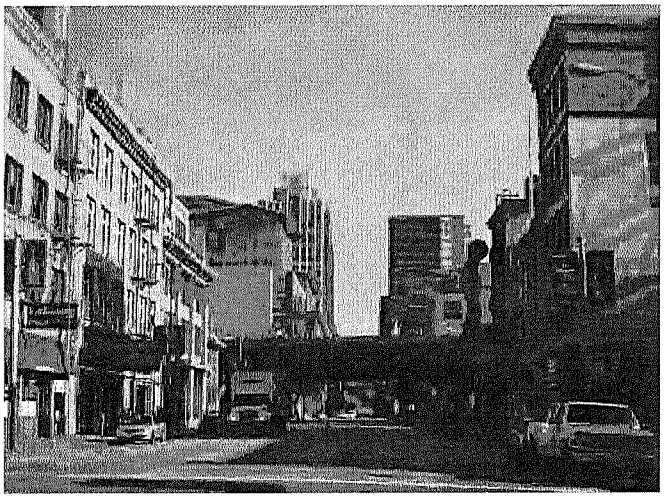
Clementina Street

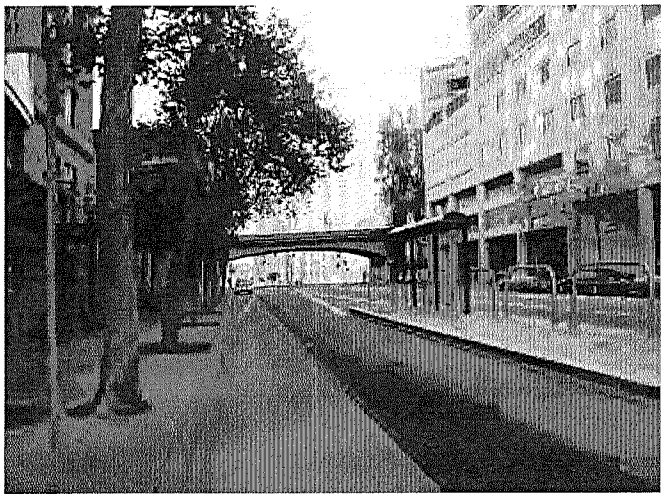
The Plan Area contains a number of narrow streets and alleyways, which vary in abutting land uses and the number of travel lanes but are generally consistent in that most lack vegetation or other pedestrian amenities and receive little sunshine.

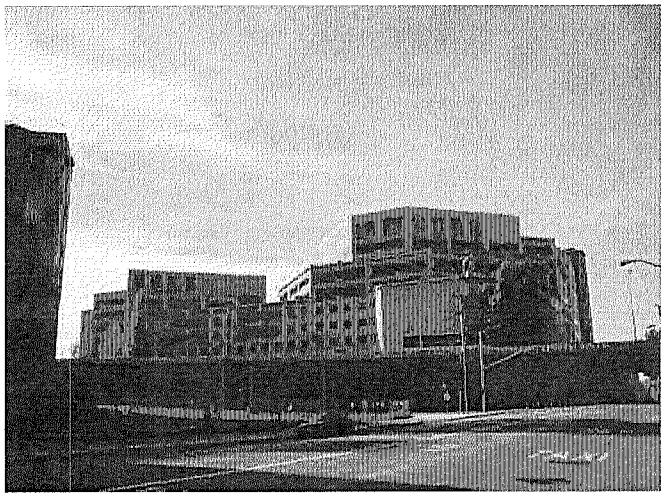
SOURCE: ESA

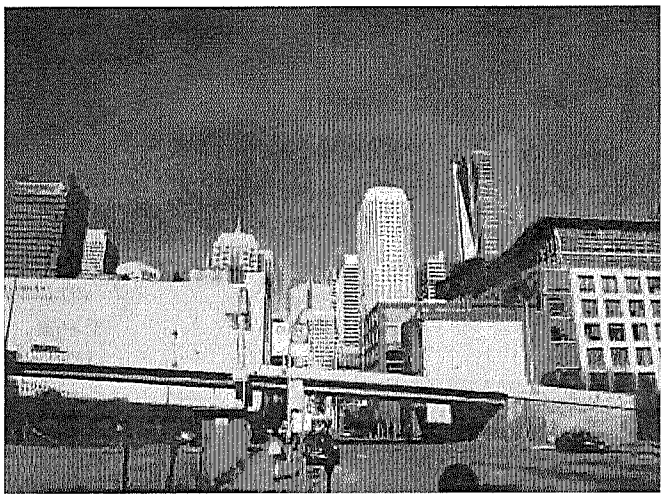
Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 17
View of Alleys









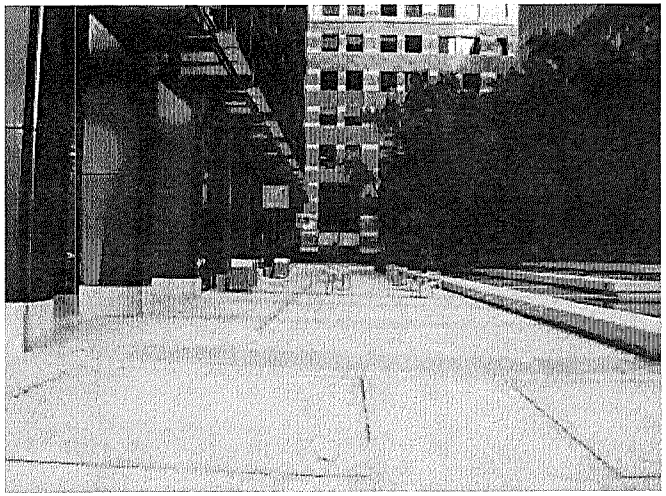
Freeway segments, which are associated either with the former Transbay Terminal or with the nearby freeways (and the Bay Bridge), can be seen from various vantage points throughout the Plan Area. In most locations, they tend to obscure the views along the major corridors and create visual edges within the Plan Area.

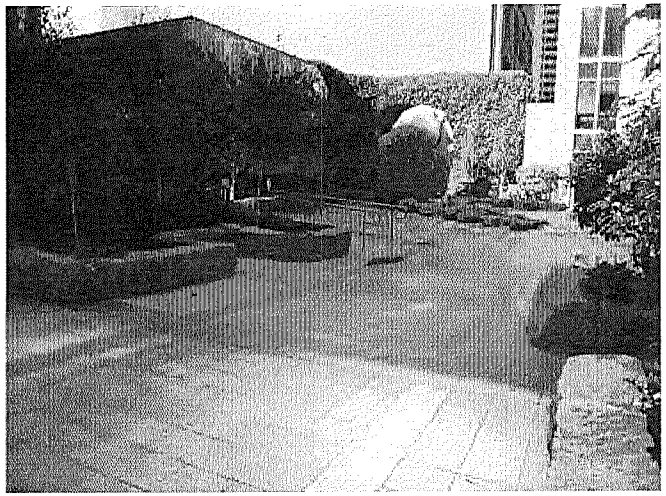
SOURCE: ESA

Figure 18
View of Freeways









The Plan Area contains a number of publicly-accessible public plazas, most of which are affiliated with one of more of the adjacent high-rise office towers. Most contains large areas of paved surfaces as well as some streets furniture (such as benches) and planter landscaping.

SOURCE: ESA

Figure 19
View of Open Spaces and Public Plazas

In terms of materials, a large number of buildings utilize glass and steel curtain walls, resulting in many areas containing transparent and/or reflective surfaces. Concrete and masonry facades can also be found within the Plan area; some residential towers have balconies. **Figure 20** contains photographs of some of the contemporary structures within the Plan area.

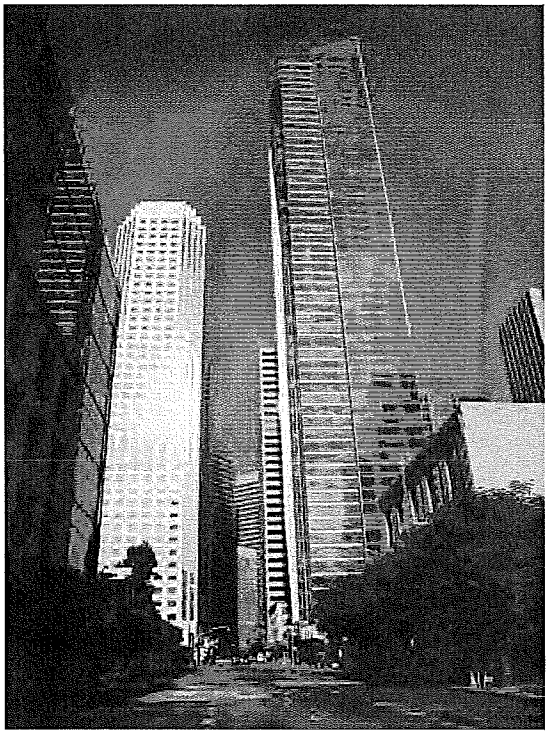
In terms of height, the skyscrapers along Market Street range in height from about 300 to nearly 600 feet, while those along Mission Street range in height from about 400 to 650 feet. Although the high-rise structures are most numerous within the northern subarea, some also punctuate other subareas further south, particularly in the eastern portion of the Plan area, along Main and Spear Streets, and along Third Street, just outside the western Plan area boundary.

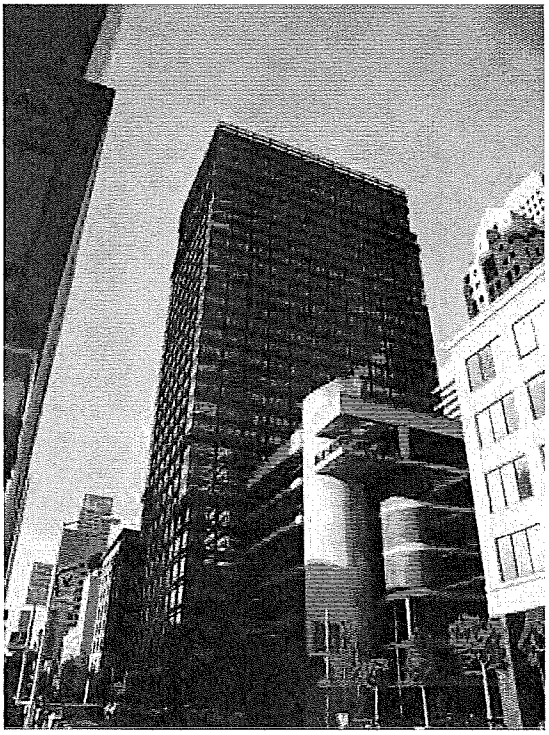
The New Montgomery-Second Conservation District and the Second and Howard National Register District, each located in the western portion of the Plan area, represent a departure from the pattern of almost continuous large-scale development in the northern part of the Plan area. These visually distinctive enclaves contain a mid-rise collection of historic structures, most ranging in height from two to six stories, although some along New Montgomery Street are taller, up to 15 stories and more. In terms of design, the majority are masonry commercial office or light industrial buildings constructed or reconstructed between 1906 and 1929. Within these districts, visual importance is given to architectural detail, particularly on office buildings, in the form of horizontal elements such as cornices and belt courses, vertical columns, colonnades, and arches, and rustication of the masonry, which gives the appearance of large blocks of stone. Loft industrial buildings typically have limited detail, primarily in the cornice and window surrounds. The historic buildings tend to activate the street level and, owing to a large number of storefronts, restaurants, cafes, bars, and other entertainment-related uses, results in a high level of pedestrian activity. In general, these historic corridors retain a more human scale than other portions of the Plan area, owing to a reduced building scale and high level of street activity (see **Figure 21**).

As discussed above, the other subarea that interrupts the otherwise large-scale development pattern in the area is the former Transbay Terminal and adjacent area to the south, especially the area defined by the one-time looping bus ramps to and from the Bay Bridge. The terminal once extended over Fremont and First Streets above the street level, forming two vehicular/pedestrian tunnels on either side of the main structure, which were dark and relatively unattractive. The development pattern south of Minna Street, within the former loop of the bus ramps and along Folsom Street where the ramps to the Embarcadero Freeway once existed, is greatly reduced in scale as compared to that north of Minna Street. No substantial new development occurred in this area until the construction of the office tower at 301 Howard Street (at Fremont) in 1987, and it was 13 years before the building across Howard Street, at 199 Fremont Street, was built. In general, building heights in this subarea drop off substantially and the area is dominated by a mix of low- and mid-rise older building stock, some of which has been renovated, with newer buildings, including mid-rise office, hotel, and residential uses, mostly east and west of the former ramps.

The Plan area also contains a number of vacant lots, surface parking lots, and other underutilized parcels, some of which are bordered by cyclone fencing to limit public access. They infuse industrial character





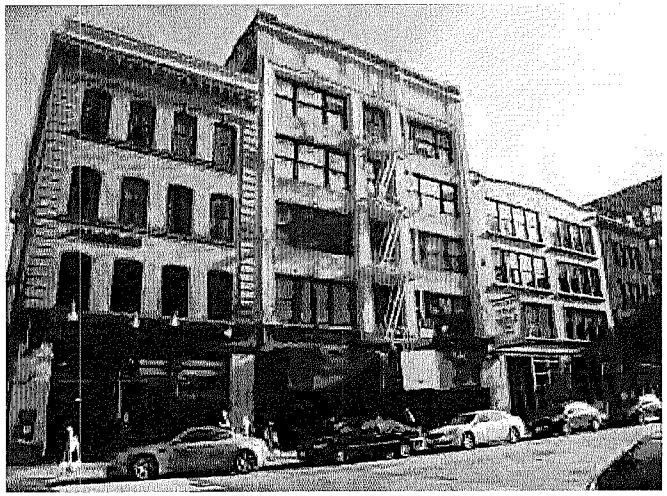




The Plan Area contains a concentration of modern structures, including both high-rise office towers and mid-rise commercial buildings. Many employ the use of glass and industrial details, such as metal casement windows. Some also incorporate multiple façade textures, upper story set-backs, and angled rooflines, effects that differentiate these buildings and create a sense of visual interest along the primary facades.

SOURCE: ESA

Figure 20
Views of Contemporary Structures within the Plan Area









The Plan Area contains two historic districts, the New Montgomery-Second Conservation District and the Second and Howard National Register Districts. These enclaves contain buildings that were constructed in early 20th Century, most of which range from two to six stories in height. The historic districts convey a more moderate pattern of development than is found throughout the northern portion of the Plan Area. The mix of building heights, architectural styles, colors and buildings materials, as well as pedestrian activity at the ground level all adds a sense of vibrancy and vitality to this portion of the Plan Area.

SOURCE: ESA

Figure 21
Views of Historic Districts

into the Plan area and, when sited next to buildings several stories tall, expose the adjacent buildings' side walls, some of which contain murals or commercially-scaled signage (see **Figure 22**).

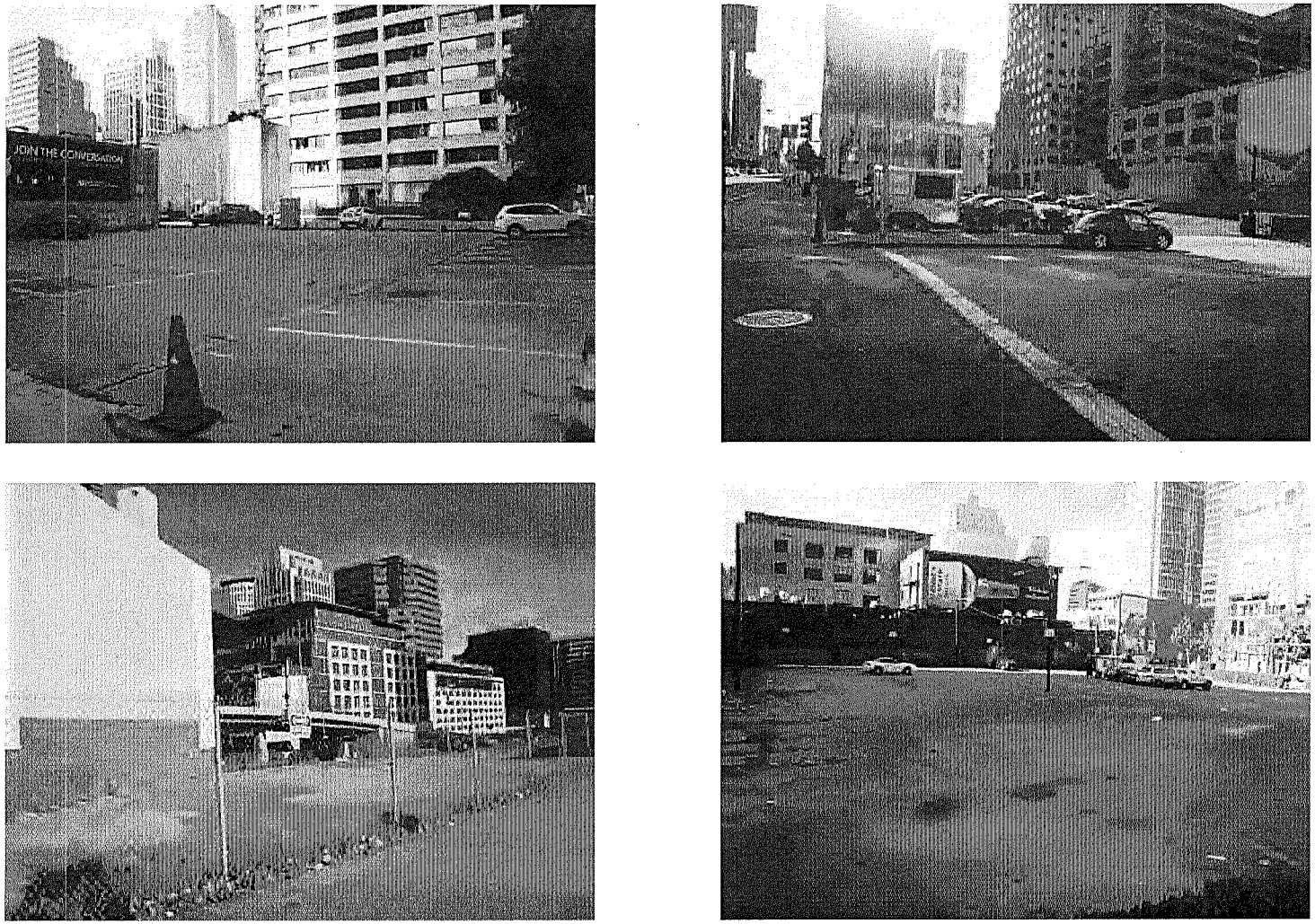
Visual and Scenic Resources

The Plan area lacks topographic relief and does not possess individual natural landscape features with high scenic resource value. With limited exceptions, the Plan area likewise does not contain built features with high scenic resource value, nor does it contain a visually remarkable diversity of vegetation.

The Urban Design Element of the *San Francisco General Plan* classifies some streets in terms of their importance as visual resources as well as quality of street views that are available from vantage points along those streets. In the project vicinity, Market Street, which runs along the northern edge of the Plan area, is characterized as a street containing "Street View of Important Building and Street That Defines City Form." No other streets within the Plan area are characterized as streets important to urban design and views. Additionally, long stretches of Mission, Howard, and Folsom Streets, including segments within the Plan area, are characterized by the *General Plan* as having "average" quality of views, with views along Mission, Howard, and Folsom Streets between First and Third Streets characterized as having "good" quality of street views. No other street segments are specifically characterized by the *General Plan* in terms of view quality along those streets.

The Plan area contains a number of notable buildings although, as a whole, does not possess what would normally be termed "high scenic quality." As discussed above, the transformation of much of the Plan area into a southerly extension of the financial district is reflected in the large number of skyscrapers built along Mission and Market Streets. While many are comparable to one another in terms of massing, façade materials, and architectural details, several contain distinct visual attributes either at the street level or which can be perceived in long-range views. Those that draw attention at the street level include buildings such as the Federal Reserve Building (Market Street, between Spear and Main Streets), a large concrete-clad building that gradually sets back above the podium level and contains a pedestrian arcade along the ground story, extending partially into the sidewalk. Another is the Palace Hotel (Market and New Montgomery Streets), a historic landmark hotel that contains a high degree of ornamentation along its main facades. Other visually notable buildings erected in early 20th century include the Pacific Telephone & Telegraph Building at 134-40 New Montgomery (vacant and approved for conversion to residential use), the Philips & Van Orden Building at 234 First Street, the Matson Building at 215 Market, the PG & E Building at 245 Market Street, and the William Volker Building at 625 Howard Street. Other older buildings that add visual interest to the streetscape are those within the aforementioned New Montgomery-Second Conservation District and the Second and Howard National Register Districts.

Of the modern buildings, many contain contemporary features and massing such as unadorned facades, glass curtain walls external skeleton detailing, and a regular pattern of fenestration. Examples of those than stand out in views of the Plan area include the Millennium Tower at Mission and Fremont Streets, 101 Second Street, 555 Mission Street, and 560 Mission Street. The Plan area also contains examples of Postmodern development with masonry and glass facades and less monolithic massing, along with



Parking lots and underutilized spaces contrast sharply with the built environment within the Plan Area, due to the abrupt change in scale and the general lack of activity within the areas.

SOURCE: ESA

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 22

View of Parking Lots and Underutilized Spaces

relatively greater ornamentation, including the Gap Building at 2 Folsom Street, 101 First Street, and the office tower at 199 Fremont Street.

In addition to the many buildings that define the visual character of the Plan area, the publicly accessible open spaces and plazas also offer visual interest at the ground level, many containing landscaping and art installations that draw the eye and contribute to the Plan area a sense of cultural enrichment.

Views

This discussion of publicly accessible views of and through the Plan area is supplemented by photographs of existing conditions that are presented in **Figures 27 – 49**, in the analysis of project impacts. The representative views described in this section are included on the Viewpoint Location Map (**Figure 26**, p. 118).

Views from Within the Plan Area

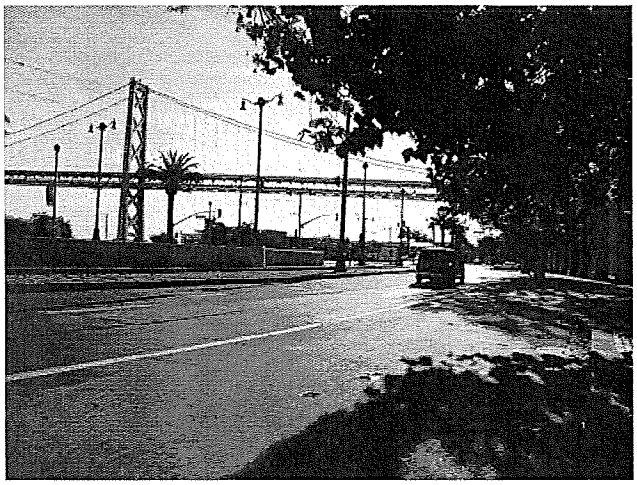
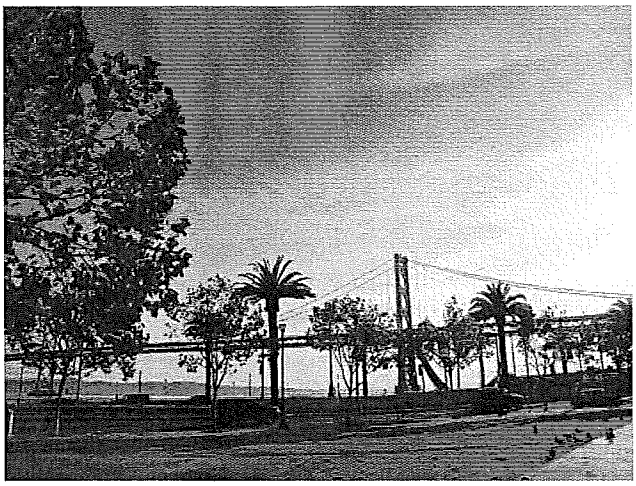
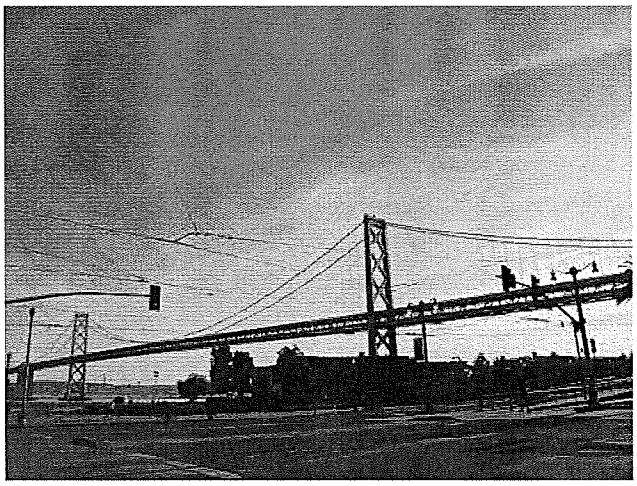
Availability of public views within the Plan area depends on the subarea from which those views are observed. For example, although the Plan area affords views of the Bay Bridge from points along its eastern edge, close to the waterfront (see **Figure 23**), these types of long-range views are generally obstructed by intervening development from other portions of the Plan area. The relative unavailability of long-range public views from much of the Plan area is underscored by its relatively flat topography and numerous overhead freeway ramps that further diminish visibility into the neighboring areas, particularly when viewed at the street level.

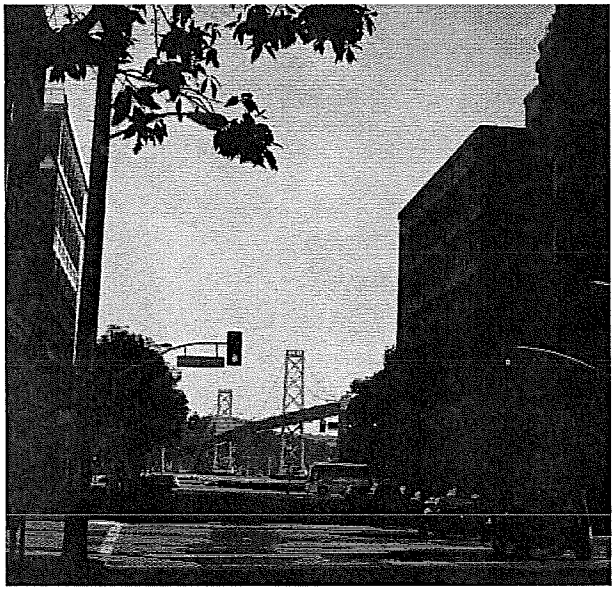
Views along the north-south-oriented streets provide views of the tall buildings of the Northern Financial District north of Market Street (see **Figure 24**) and Rincon Hill neighborhood to the south. Some east-west streets provide views toward the Yerba Buena Center area and the East SoMa neighborhood. Views within the Plan area are otherwise limited to shorter-range views, such as streetscapes, building architectural elements, and intermittent street-level views into the alleyways.

Views of the Plan Area from Surrounding Vantage Points

The Plan area is visible from a variety of vantage points throughout and even outside of the City, due to its location near the eastern edge of the City and the open expanse of the San Francisco Bay and the preponderance of high-rise buildings within its boundary, which can be seen from miles away. As discussed below, views from the Bay, Treasure Island, the Bay Bridge and Interstates 80 and 280 offer the best unobstructed long-range views of the Plan area. View corridors presented in the discussion below are described by physical elements such as buildings that guide lines of sight and control view directions available to pedestrians and motorists. View corridors include the total field of vision visible from a specific vantage point. Public view corridors are areas in which views are available from publicly accessible viewpoints, such as from city streets, bridges, freeways, parks, and other public spaces.

As illustrated in **Figures 27A – 30A**, pp. 121 - 127, the Plan area is visible from just outside and west of its western boundary, represented by four vantage points – the intersections of Geary and Stockton Streets, Fifth and Mission Streets, and Post and Leavenworth Streets, and from Yerba Buena Gardens, near Third

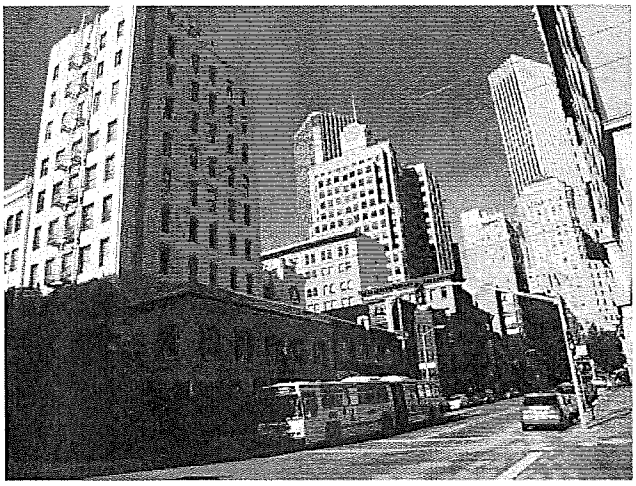





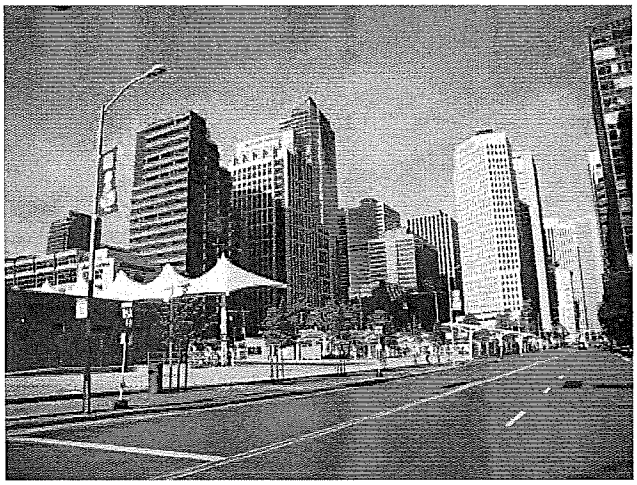


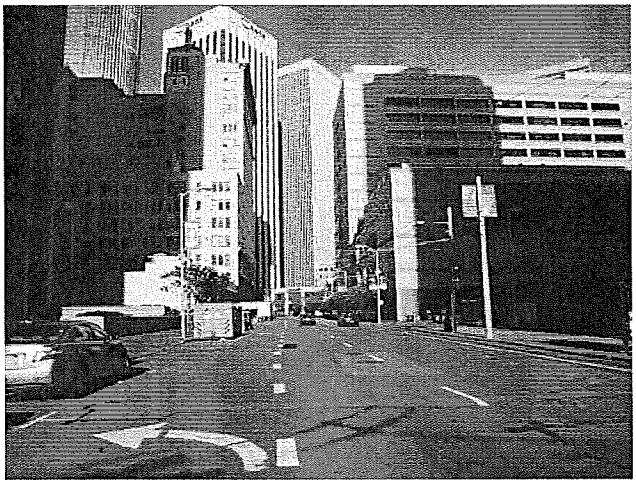
Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

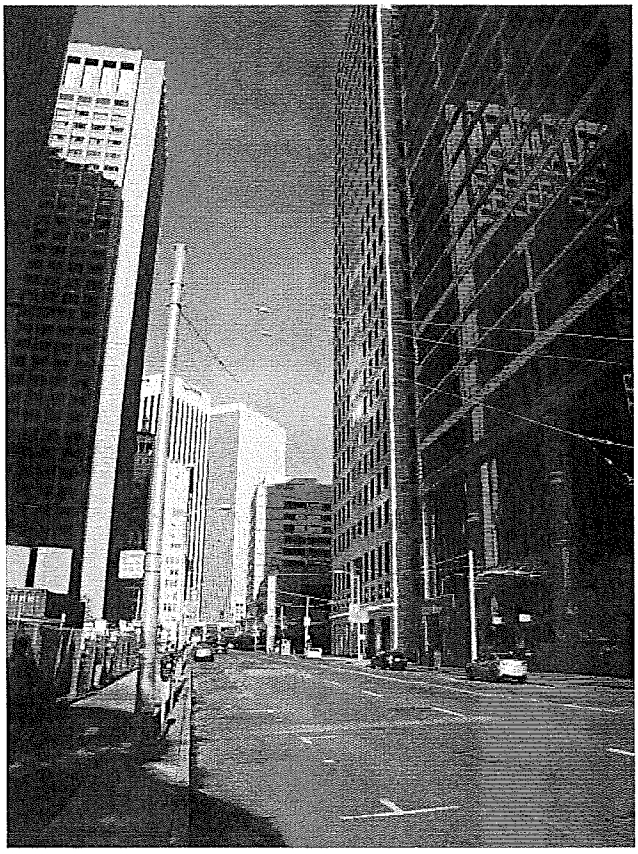
SOURCE: ESA

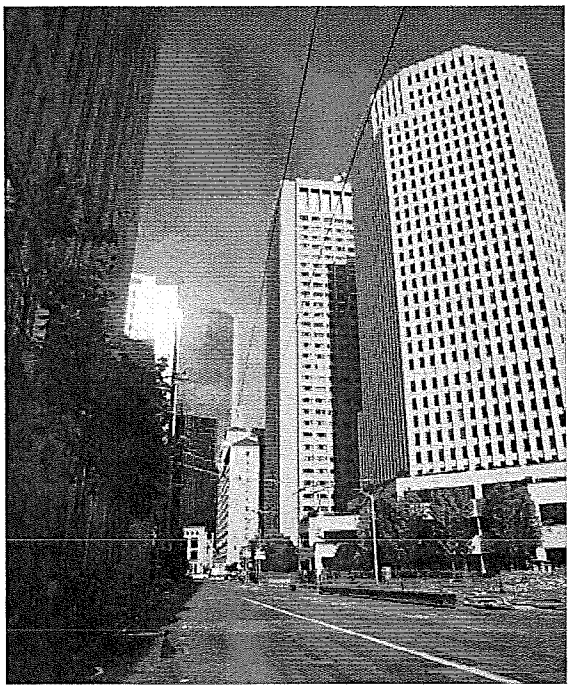
Figure 23
Views of Bay Bridge











Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: ESA

Figure 24
Views of North Financial District

and Mission Streets. From all four of these vantage points, the Plan area appears heavily urbanized and substantially built out, with a mix of buildings, ranging in height and style, dominating most easterly views. View points from Geary and Stockton, Fifth and Mission and Post and Leavenworth Street intersections provide only limited views of the Plan area, as much of it is blocked by intervening development, including the St. Francis Hotel (in the view from Post and Leavenworth Streets) and the St. Regis Hotel (in the view from Fifth and Mission Streets). These obstructed views from these locations are typical for the shorter range views experienced from outside of the Plan area. The shift in the streets grid from north to south of Market Street also makes it difficult to see into the Plan area from north of Market Street.

Views from Yerba Buena Gardens are dominated by the Yerba Buena Gardens landscaping in the foreground with the distinctive western San Francisco Museum of Modern Art façade just beyond. The St. Regis Hotel, the Pacific Telephone Building (within the Plan area), and the W Hotel can be seen rising above these low-rise features, blending into the jumble of high-rise forms and colors just beyond and blocking views of the sky. As from viewpoints described above, the views from Yerba Buena Gardens are dominated by urban streetscapes, with building scale generally increasing from the foreground toward the background (Plan area).

In views of the Plan area from vantage points further southwest, buildings in the Plan area generally blend in with the surrounding development. This is illustrated in views from Alamo Square and from the corner of Market and Octavia Streets. The foreground view from Alamo Square is dominated by the famous "Painted Ladies," located just beyond the park lawns. Beyond these, the panoramic view of the northeastern portion of San Francisco reveals the Financial District and the Plan area as an assortment of structures of various sizes, shapes and colors. The Plan area is not dominant in this view. Rather, the Transamerica Pyramid, the Bank of America tower, and St. Mary's Cathedral draw the eye more due to either their shape, color or proximity to Alamo Square and because they are at the edge of/outside the downtown area.

The Plan area is visible in dynamic northerly views from U.S. Highway 101 (northbound) and I-280 (at Sixth Street), as well as from Potrero Hill, a neighborhood located between these freeway segments farther south, approximately two miles from the Plan area. From farther away, northeasterly views of the Plan area can be experienced from Twin Peaks, Dolores Park and Portola Drive (located between approximately two-and-one-half and four miles of the Plan area). All of these vantage points offer clear observations into the Plan area, although as in views described above, the Plan area is largely indistinguishable from the immediately adjacent Northern Financial District, defined primarily by its location. This is especially apparent in the view from Twin Peaks, with Market Street demarcating the northern and southern portions of the Financial District. In all of these views, the Plan area is an integral part of the City's downtown skyline, which can be characterized as a dense cluster of high-rise buildings in the downtown core that tapers off to lower scaled development at its periphery. This compact urban form, the downtown "mound," which is neither smooth nor uniform, visually denotes the downtown as the center of commerce, access and activity. A range of building heights in the downtown creates gaps, peaks, dips and inconsistencies within this pattern, allowing taller buildings and building tops stand out

in profile against the sky. The tension between conformity and variety in the skyline results in a readable and recognizable image for San Francisco, and includes familiar landmarks such as the Transamerica Pyramid, the Bank of America Tower and the more recently constructed One Rincon building, sited apart from the "mound."

Southerly views into the Plan area are available from Telegraph Hill, located about a mile north of the Plan area. In this view, the dominant features include the Transamerica Pyramid building in the center of the scenery as well as the Bay Bridge in the left of the view (see **Figure 35A**, p. 147[62]). The Bank of America Tower as well as the twin spires of the 345 California Street building also project within the generally irregular pattern of development. The high-rise structures vary in height and shape and form a landscape that lacks uniformity or cohesion. Although some buildings in the Plan area are visible from this vantage point, most are obscured by closer intervening north-of-Market high-rises.

Views from Treasure Island and along the Bay Bridge offer perhaps some of the most iconic views of the San Francisco skyline. Comparatively low buildings along the waterfront allow visibility into the downtown and Plan area and contribute to the pattern of tapering heights from hilltops to water. The downtown rises above and just beyond the waterfront, appearing as an intricate wall of staggered building heights, forms and sizes. Since the structures appear as one mass, buildings in the Plan area cannot readily be discerned from these perspectives except by location (e.g., south of the Ferry Building in the view from Treasure Island).

Views from Aquatic Park offer views toward the Plan area from the city's northern waterfront. However, the downtown "mound" effect is less obvious from this perspective, due to the competing foreground topography of Telegraph Hill and Russian Hill as well as other dominant features along the shoreline. The Plan area is, therefore, not easily visible from Aquatic Park.

Light and Glare

Sources of light and glare around the Plan area are generally limited to the interior and exterior lights of buildings and lighting visible through windows, parking lots, and city streets. These sources of light are typical of those in a developed urban area. In addition, cars and trucks traveling to, from and within the Plan area represent a source of glare.

Because Downtown, including the Plan area, includes the City's greatest concentration of tall buildings, it likewise presents the greatest intensity of night lighting sources, and lighted high-rise buildings can be seen from long distances away.

62 This photograph was taken from atop the concrete wall that surrounds the Coit Tower parking lot in order to be able to see above the tall hedges planted there.

Impacts and Mitigation Measures

Significance Criteria

The proposed project would have a significant effect on visual quality if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties.

The significance determination is based on consideration of the extent of change related to project visibility from key public vantage points, as well as the degree of visual contrast and compatibility in scale and character between proposed project elements and the existing surroundings, and the sensitivity of the affected view.

The analysis of the Draft Plan's effect on the Plan area's visual character or quality focuses on how the existing aesthetic quality in the area could change based on design elements proposed in the Draft Plan. The analysis considers the Draft Plan's proposed neighborhood design objectives and policies, which would guide building massing, articulation, height, and ground-floor treatment. The analysis also considers the Plan's proposed improvements to the public realm, including provisions concerning pedestrian environment and circulation, public open space and privately owned publicly accessible open space.

The analysis of the Plan's effects on views considers the various towers proposed and anticipated throughout the Plan area, including the Transit Tower, in relation to topography, siting and separation, and the Plan's proposed requirements concerning height, bulk, and sculpting. Concurrently, the discussion of views also includes an analysis of changes to San Francisco's urban form, specifically in the context of changes to the downtown skyline. Discussion of potential changes to public views is accompanied by a series of visual simulations taken from several viewpoints.

Transit Center District Plan

Visual Character and Scenic Resources

Impact AE-1: The draft Plan would alter the height and bulk limits within the Plan area, allowing for a number of high-rise buildings to be constructed over time. This would alter the visual character of the Plan area but would not adversely affect scenic resources. (Less than Significant)

When the San Francisco Urban Design Plan was published in May 1971 (it was adopted in modified form as the Urban Design Element of the *Master Plan*—now the *General Plan*—in August of that year), the Transamerica Pyramid was just being completed, the Bank of America building was two years old, and the Planning Commission had, eight months earlier, approved a 550-foot office tower for U.S. Steel Corporation, to be constructed on Port property, where decaying piers extended into the Bay between the

Ferry Building and the Bay Bridge, near the southeast corner of the Plan area. In addition to the Bank of America building, some 20 other high-rise buildings had been constructed in the decade before the Urban Design Plan was published, and nearly two dozen more were planned.[63] The Urban Design Plan declared, "Major new buildings of extraordinary height and bulk have been opposed and criticized for their effects upon the skyline, topography and views, their overwhelming appearance and lack of harmony, and the disruption of their immediate surroundings."[64] This statement was accompanied by an illustration of the new Bank of America tower (see **Figure 25**).

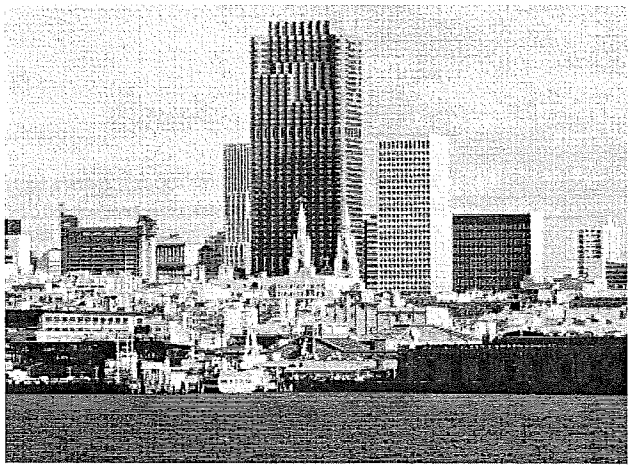


Figure 25
Bank of America Building seen from Fisherman's Wharf, as depicted in the *San Francisco Urban Design Plan* (1971)
Note: A telephoto lens was evidently used for this photograph.

As described in Chapter III, Compatibility with Existing Zoning and Plans, the adopted *General Plan* Urban Design Element contains discussions on, and objectives and policies relevant to, City Pattern, Conservation, Major New Development and Neighborhood Environment. In the introduction to the section on City Pattern, the Urban Design Element states:

> BUILDINGS AND STRUCTURES and clusters of them, which reflect the character of districts and centers for activity, provide reference points for human orientation, and may add to (but can detract from) topography and views. Some buildings and structures, such as the Golden Gate and Bay Bridges, Coit Tower, the Palace of Fine Arts and City College, stand out as single features of community importance, while elsewhere the dominant pattern of man's development is a light-toned texture of separate shapes blended and articulated over the landscape.

Policy 1.3 of the Urban Design Element states, "Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts." The accompanying text recommends that the pattern of buildings "should emphasize the topographic form of the city and the importance of centers of activity." Policy 1.8 states, "Increase the visibility of major destination areas and other points for orientation."

In the wake of the high-rise building boom of the 1960s, the Urban Design Element cautioned against further development that did not acknowledge its context. Objective 3, under the section on Major New

63 New York Times, "High Skyline Opposed on Coast," October 26, 1970. The U.S. Steel project was ultimately rejected by the Board of Supervisors.

64 San Francisco Planning Department, *The Urban Design Plan for the Comprehensive Plan of San Francisco*, May 1971. This document is available for review at the Planning Department, 1650 Mission Street, Suite 400.

Development, calls for "Moderation of major new development to complement the city pattern, the resources to be conserved, and the neighborhood environment." This section of the element advocates that taller (but not "extremely massive") buildings be sited on hills to emphasize the natural topography and that building heights decrease in locations closer to the Bay. A fundamental principle for major new development is that "Clustering of larger, taller buildings at important activity centers (such as major transit stations) can visually express the functional importance of these centers."

Policies related to Major New Development are intended to achieve harmony in visual relationships between new and old, by avoiding "extreme contrasts" in color, shape and other characteristics (perhaps a critique of the Transamerica Pyramid); achieving high-quality design for prominent buildings; creating buildings that respect the integrity of public spaces; and relating building height to "important attributes of the city pattern and to the height and character of existing development" (Policies 3.2 through 3.5). Text accompanying Policy 3.5 states:

> Tall buildings should be clustered downtown and at other centers of activity to promote the efficiency of commerce, to mark important transit facilities and to avoid unnecessary encroachment upon other areas of the city. Such buildings should also occur at points of high accessibility, such as rapid transit stations in larger commercial areas and in areas that are within walking distance of the downtown's major centers of employment. In these areas, building height should taper down toward the edges to provide gradual transitions to other areas.
>
> In areas of growth where tall buildings are considered through comprehensive planning efforts, such tall buildings should be grouped and sculpted to form discrete skyline forms that do not muddle the clarity and identity of the city's characteristic hills and skyline. Where multiple tall buildings are contemplated in areas of flat topography near other strong skyline forms, such as on the southern edge of the downtown "mound," they should be adequately spaced and slender to ensure that they are set apart from the overall physical form of the downtown and allow some views of the city, hills, the Bay Bridge, and other elements to permeate through the district.

The Downtown Plan that followed the Urban Design Element a decade and a half later sought, ultimately with success, to shift the center of the downtown Financial District southward, towards what is now proposed as the Transit Center District Plan area, as well as to preserve historic buildings, protect nearby housing and increase the housing supply for office workers and others, and provide for open space downtown. In its recently published review of the Downtown Plan's first 25 years, the Planning Department notes that most new development downtown has occurred south of Market Street, as directed by the Downtown Plan. Thus, the Downtown Plan has helped to direct the expansion of Downtown office buildings to the area around the Transbay Transit Terminal and the new Transit Center, as the Plan intended.

The Urban Design Element also emphasizes the role that landscaping and lighting can play in helping to define the city pattern. Policy 1.4 states, "Protect and promote large-scale landscaping and open space that define districts and topography"; Policy 1.5 states, "Emphasize the special nature of each district through distinctive landscaping and other features"; and Policy 1.6 states, "Make centers of activity more prominent through design of street features and by other means."

This analysis of impacts on visual character draws on the Urban Design Element, with a focus on the height and massing of potential new buildings and their effect on the City's skyline.

The draft Transit Center District Plan would allow for construction of the tallest building in San Francisco—the 1,070-foot Transit Tower—as well as several other buildings that would be among the City's tallest. The increases in height limits proposed in the Plan would permit a total of six towers of 600 feet or more, all of which would exceed the current maximum height limit of 550 feet. By comparison, the Transamerica Pyramid is 853 feet tall and the Bank of America Building, 779 feet tall. Only one other existing buildings exceeds 600 feet at its rooftop height—the Millennium Tower, with a roof height of 645 feet, the maximum permitted in the 550-foot height zone with permitted 10 percent extension for certain buildings that do not occupy their entire site.[65,66] The One Rincon Hill building is approximately 605 feet tall at its highest point, but appears taller because it is located at a higher elevation than other downtown buildings.

The Plan would also result in the removal of some visual elements with neutral or low aesthetic value, including surface parking lots and, in some cases, low-rise (sometimes underutilized industrial-type) buildings, and their replacement with new structures, mostly high-rise office, residential, and hotel towers, which would be substantially greater in height. Such physical changes would be implemented as a result of the revisions to the zoning and height and bulk districts at various parcels throughout the Plan area. In allowing greater development intensity on the vacant and underutilized parcels, with several new high-rise buildings, the draft Plan would reshape the built form of the Plan area, creating a concentration of very tall buildings in the vicinity of the new Transit Center and symbolically shifting the focus of the City's downtown. Under the Plan, heights on the downtown skyline would transition from the Transit Tower as the tallest feature to the gradually shorter forms in the surrounding area.

Some increases in height limits would be relatively modest, for example increasing from 200 feet to 250 feet on parcels between Clementina and Folsom Streets, from Second to Essex Streets, and increasing from 350 feet to 400 feet on parcels along the south side of Tehama Street, mid-block between First Street and Second Street. In other areas, the proposed changes would be more substantial, for example

65 The Millennium Tower is 645 feet to the top of its rooftop sculptural element.

66 *Planning Code* Section 263.9 allows a building to have additional height up to 10 percent in excess of the height limit if the bulk of the building's "upper tower" (approximately the upper one-third) is reduced by a percentage specified in Section 271, compared to the bulk that would result from a vertical extension of the lower tower. As a condition of the additional height, the Planning Commission must find, pursuant to the Section 309 approval process, that "the upper tower volume is distributed in a way that will add significantly to the sense of slenderness of the building and to the visual interest to the termination of the building, and that the added height will improve the appearance of the sky-line when viewed from a distance, will not adversely affect light and air to adjacent properties, and will not add significant shadows to public open spaces."

increasing from 550 feet to 850 feet on the parcels on the west side of First Street between Stevenson Street and Elim Alley, from 450 feet to 750 feet on the north side of Howard Street between east of Second Street, and from 350 feet to 700 feet on the east side of Fremont Street between Mission and Howard Streets. The greatest increase in height limit would be on the south side of Mission Street between First and Fremont Streets, where the height limit would increase from 30 feet to 1,000 feet to accommodate the proposed Transit Tower.[67] In addition to increasing the maximum height limit beyond the downtown's current maximum permitted heights, the greater height limits in the Plan area, which are generally limited to areas north of Minna Street, would be extended to areas further south under the draft Plan. As noted above, proposed height and bulk districts would allow buildings up to 750 feet in height along Howard Street and up to 700 feet in height along Fremont Street north of Howard Street.

As noted, new, taller towers would be permitted at several specific locations under the proposed increases in height and bulk limits. These high-rises, when developed, would be distributed from north of Mission Street to south of Howard Street. However, no change would occur east of Main Street, leaving the blocks closest to the Embarcadero, already densely built out with an earlier generation of high-rises, most less than 300 feet tall, essentially undisturbed. In the southern portions of the Plan area, the proposed height designations would be limited to between 300 and 550 feet, with the intended effect of gradually reducing the urban forms in order to provide a visual break in the transition to the concentration of tall buildings in the Rincon Hill neighborhood further south which, combined with a 100-foot topographical rise, is intended to create a secondary "mound" on the skyline, emphasizing the elevation of Rincon Hill. Overall, the changes proposed would accelerate the type of development that has been occurring within the Plan area over several decades, encouraging an even denser urban neighborhood than currently exists, containing a larger number of taller buildings, interspersed with designated areas of open space and preserving enclaves of moderately scaled older commercial buildings in and around existing historic districts.

Consistent with the Urban Design Element, the draft Plan would allow for the City's tallest building, the proposed Transit Tower, to be built adjacent to the new Transit Center, thereby "mark[ing] important transit facilities." Around the Transit Tower would be clustered additional tall buildings, "sculpted to form discrete skyline forms that do not muddle the clarity and identity of the city's characteristic hills and skyline."[68] The height controls and setback and massing requirements in the draft Plan are intended to ensure that these new buildings would be "adequately spaced and slender to ensure that they are set apart from the overall physical form of the downtown and allow some views of the city, hills, the Bay Bridge, and other elements to permeate through the district."

It is noted that physical changes (i.e., development of specific opportunity sites) would be expected to be incremental and occur gradually over time, as individual project sponsors find opportunities and financing to implement their projects. It is also the case that, while the Plan area currently permits the

67 Although the approved Transbay Redevelopment Plan and associated EIR/EIS anticipated a 550-foot-tall tower at this location, the height limit on the site once occupied by the bus and taxi loading area in front of the former Transbay Terminal was never changed and is currently 30 feet.

68 Text accompanying Policy 3.5 of the *General Plan* Urban Design Element.

tallest buildings in San Francisco, all parcels are not built to maximum height and bulk limits. The height limits proposed by the draft Plan would provide a greater incentive than the existing limits for redevelopment of certain specific sites within the Plan area. As a result, some new buildings could be noticeably taller than the adjacent remaining structures that are not redeveloped. Some observers may perceive the proposed area-wide changes to be dramatic, as new buildings would in many areas be several hundred feet taller than adjacent development. However, while the character of the Plan Are would be altered, it would not necessarily be detrimental in terms of visual quality for the reasons discussed below.

As articulated in the draft Plan, the implementation of the proposed project would result in changes both to the cityscape (the overall City appearance, including the skyline) and on the ground level. In general, development pursuant to the draft Plan would increase the height of selected sites within the Downtown, amplifying the peaks in the City's skyline and culminating with the construction of the tallest building in the City, the Transit Tower. This would reinforce the patterns already in place, but would nevertheless result in visible and demonstrable changes to the Plan area. At the ground level, there would be a perceptible change in both pedestrian and vehicular activity, owing to the introduction of greater density development and some lessening of sunlight at certain times of day, depending on location relative to new tower(s). However, while these changes would be noticeable, they would not necessarily be considered adverse, as they would serve to intensify the existing pattern of closely spaced high-rise buildings that is characteristic of the San Francisco Financial District. Thus, while the overall appearance of the Plan area would changes as a result of the proposed project, the overall visual character would remain generally consistent with current development patterns.

Because the Plan area would allow for the construction of several of the tallest buildings in the City, the massing and design of the towers would be controlled to achieve maximum visual access to sun and sky. To this end, the draft Plan sets forth guidelines that would require the new skyscrapers to be separated and massing of upper stories to be reduced to minimize the "urban canyon" effect and provide visual access to the sky, views and sunlight. Furthermore, the towers would be differentiated in height, with height transitions proposed in increments of about 150 feet. As stated in the draft Plan, height limits would be regulated both at podium and tower levels. In addition, lower portions of the buildings would be articulated along the first two stories to maintain a distinctive streetwall and engage the pedestrian at the ground level. Base elements, discernable from the tower form, as well as upper-story setbacks and articulations and horizontal breaks, would be required to define the street realm. These requirements articulated in the draft Plan are intended to "maximize building envelope and density in the Plan area within the bounds of urban form and livability objectives of the *San Francisco General Plan*" and "create an elegant downtown skyline, building on existing policy to craft a distinct downtown 'hill' form, with its apex at the transit center, and tapering in all directions" (November 2009 Draft Plan, Objectives 2.1 and 2.2). These regulations would not preclude the substantial changes that would occur at individual development sites within the Plan area. However, although future buildings within the Plan area would generally be larger than existing buildings, increases in building height would not, in themselves, result in an adverse

change in regard to visual quality. As discussed throughout this section and in the Land Use section, the Plan area contains a sizable number of high-rise buildings, ranging in height up to about 600 feet.

Moreover, the cluster of new development contemplated in the draft Plan would "reflect the character" of the Transit Center District as a transit-oriented, high-density employment and transportation center, and would "provide reference points for human orientation," both within the Plan area and from points beyond.

The draft Plan also proposes substantial improvements to the public realm that would complement the proposed transportation infrastructure. These include widening of selected sidewalks, establishing new mid-block crossings at key locations, and enhancing alleys as pedestrian spaces. In addition, as under current conditions, new publicly accessible open spaces would be a required component of new development, and would create pedestrian-friendly spaces throughout the Plan area. Area-wide landscaping improvements would also be undertaken along the public rights-of-ways, adding rows of street trees and other greenery to areas where there is currently little vegetation. The proposed public realm improvements would follow the Urban Design Element's direction to use landscaping and other treatments to help define and "emphasize the special nature of each district" and to "make centers of activity more prominent."

The Plan area's greatest visual changes would occur within one to two blocks of the Transit Center. This would come about as a result of the new Transit Center (currently under construction) and the proposed Transit Tower and other anticipated high-rise buildings on the adjacent blocks. Although the former Transbay Terminal functioned as a transportation hub at this location for decades, the new Transit Center, along with increased bus, train, car, and pedestrian traffic on (and, assuming the Caltrain downtown extension and high-speed rail, below) the surrounding blocks, would result in increased levels of pedestrian activity, further underscoring the Transit's Center's function as a regional focus. In addition, the fairly "open" feeling that is currently conveyed in this area would be substantially altered by the implementation of the Transit Tower and the anticipated 350 Mission and 50 First Street projects. While the changes at these individual project sites would be substantial, they would not be demonstrably adverse since they would represent a continuation, albeit in a more intensified form, of the types of uses that have historically existed in this area and a continuation of the types of development that already exist on the surrounding blocks. The site where the Transit Tower would be developed formerly served as bus and taxi loading areas for the Transbay Terminal, but it is currently vacant. the change from that use to a high-rise building would not typically be considered adverse. Finally, some of the openness would remain with development of the proposed Mission Square park east of the Transit Tower, as well as the planned City Park atop the Transit Center (see discussion of Transit Tower impacts under Impact AE-5, below).

Of the existing subareas within the Plan area, less change would occur within the New Montgomery-Second Street Conservation District and the Second and Howard National Register District, where building height limits would be maintained at existing limits and existing historic preservation policies continued in force in an expanded area to protect the older building stock that predominates along these

streets. To ensure that new structures constructed within much of this area are consistent in massing with the existing historic structures, the draft Plan would require that new structures be built out to property line and that, for buildings taller than 85 feet (except on New Montgomery Street), a setback of at least 15 feet be incorporated above about 50- to 85-foot heights. As such, with the exception of public realm improvements such as the proposed intensification of landscaping and despite any new development that may occur in these areas in the future, the existing visual character in these subareas would be largely maintained.

As reiterated throughout this discussion, while the draft Plan would result in aesthetic changes within the Transit Center District Plan area due to the construction of new buildings, the adaptive reuse of historically significant buildings, and an overall intensification of urban uses, such changes would not necessarily be considered adverse. Future uses and building designs would be developed pursuant to the City's *General Plan* and a set of urban design controls and guidelines proposed by the Draft Plan as discussed in Chapter II, Project Description, and Chapter III.A, Land Use, Plans and Policies. At the same time, the development of certain arguably unsightly vacant parcels and surface parking lots, the anticipated provision of new open space(s), and area-wide streetscaping improvements could enhance the visual quality of the area.

In terms of visual and scenic resources, the draft Plan calls for intensification of existing types of development and uses in the Plan area, within the existing street grid and, to a large extent, without displacing or destroying existing built features. Although some historic architectural resources would be adversely affected by development due to implementation of the draft Plan (see Section IV.D, Cultural Resources), the draft Plan does not envision substantial disruption of the existing built environment. No natural scenic resources would be affected. Accordingly, the draft Plan would result in less-than-significant impacts on scenic resources.

Although visual quality is subjective, it can reasonably be concluded, based on the foregoing, that the implementation of the draft Plan would not result in a substantial, demonstrable negative aesthetic effect on the existing visual character or quality of the area and its surroundings, nor would the draft Plan result in substantial adverse effects on visual or scenic resources.

Mitigation: None required.

Views

The Urban Design Element section on Major New Development does not seek to prohibit tall buildings, but rather urges caution in their design and placement. "Exceptional height can have either positive or negative effects upon the city pattern and the nearby environment. A building that is well designed in itself will help to reinforce the city's form if it is well placed, but the same building at the wrong location can be utterly disruptive," the Element states.

The Urban Design Element finds that properly placed tall buildings "can enhance the topographic form and existing skyline of the city," can "orient the traveler," and can "define districts and centers of activity." All of this can be achieved without blocking views, the Element declares, if building height is considered in the context of "appropriate established patterns of building height and scale, seeking for the most part to follow and reinforce those patterns," and if building bulk is evaluated based on "the existing scale of development" and "the effects of topographic form in exposing building sites to widespread view," since apparent bulk results from the amount of a building's wall surface that is visible, and the degree to which the structure extends above its surroundings.

Policy 1.1 of the Urban Design Element is: "Recognize and protect major views in the city, with particular attention to those of open space and water." The text accompanying this policy states:

> Views contribute immeasurably to the quality of the city and to the lives of its residents. Protection should be given to major views whenever it is feasible, with special attention to the characteristic views of open space and water that reflect the natural setting of the city and give a colorful and refreshing contrast to man's development.

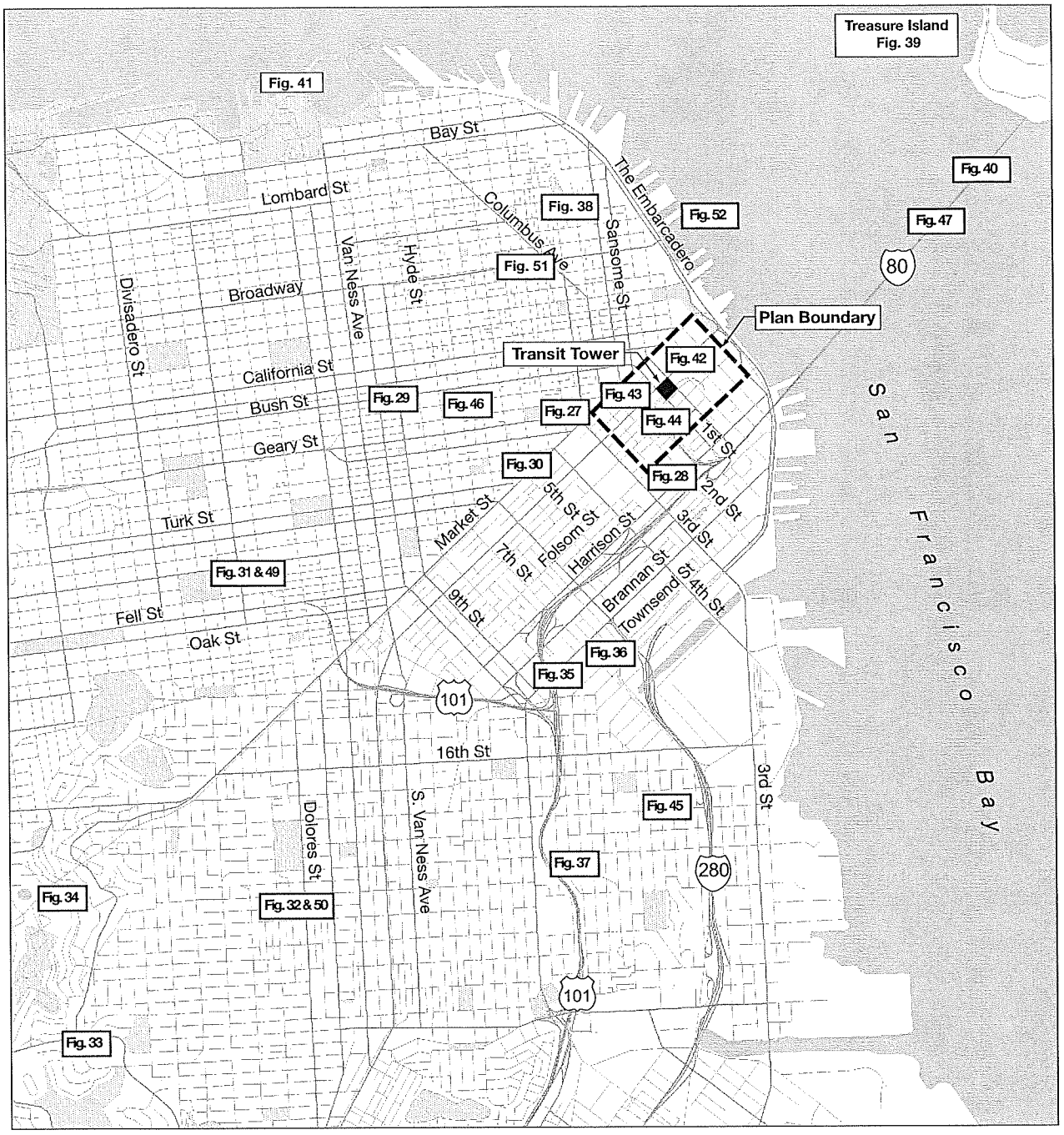
The text also states that "visibility of open spaces, especially those on hilltops, should be maintained."

One of the Fundamental Principles for Conservation set forth by the Urban Design Element concerns the protection of views, particularly long-range views emblematic of the City: "Blocking, construction or other impairment of pleasing street views of the Bay or Ocean, distant hills, or other parts of the city can destroy an important characteristic of the unique setting and quality of the city."

As stated above under Impact AE-1, the text accompanying Urban Design Element Policy 3.5 states that tall buildings in the southern part of downtown—that is, the Plan area—should be "adequately spaced and slender to ensure that they are set apart from the overall physical form of the downtown and allow some views of the city, hills, the Bay Bridge, and other elements to permeate through the district."

This analysis of impacts on views of and through the Plan area draws on the Urban Design Element, with a focus on critical views of San Francisco Bay and the City's hills. The analysis assesses photomontages from the viewpoints depicted in **Figure 26**. Each photomontage in **Figures 27 – 41** is presented with the accompanying photograph of existing conditions from the same viewpoint. For the reader's benefit in comparing effects on views, each paired photograph and photomontage is also accompanied by photomontages from the same viewpoint that depict the cumulative development scenario, discussed in Impact C-AE, p. 172, and the No Project Alternative (Alternative A, including cumulative development, discussed in Chapter VI, p. 662).

Implementation of the Transit Center District Plan would result in visual and aesthetic changes within the Plan area and could alter the way it is perceived from certain public vantage points. Changes to public views would be associated primarily with development of new high-rise buildings that would be enabled by changes to height and bulk districts. Changes to the overall development pattern within the



SOURCE: Square One Productions; ESA

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 26
Viewpoint Location Map

Plan area (i.e., how the new buildings relate to each other when viewed from outside the Plan area) would also affect public views.

Existing views, both within and across the Plan area, would be altered with development that could occur under the draft Plan. Depending on which projects ultimately get approved and developed, the Plan area could result in the development of a combination of about six to 15 high-rise office, hotel, and residential towers, some of which are already approved and not yet constructed, along with other shorter buildings. While the discussion below takes a conservative approach by assuming that all of the proposed structures would be developed, in reality, the magnitude of the effects of the draft Plan on public views would vary greatly, depending on the combination of projects that ultimately are constructed. Figure 14, p. 73, indicates the locations of potential opportunity sites assumed in this analysis, while the text on p. 47 of the Project Description describes buildings that have been proposed by individual developers and that are assumed as part of the overall buildout of the Plan area.

The visual simulations illustrating changes to the urban form that would occur as a result of the draft Plan are shown on pp. 121 – 154 of this section. These simulations present the height and general massing of proposed and potential allowable development, but do not illustrate fenestration (windows) or cladding materials, nor do they represent in detail the massing that is proposed for projects with applications on file with the Planning Department, other than the current design of the proposed Transit Tower. This level of analysis is appropriate for a program EIR such as this document.

Within these figures, the blue color represents development sites within the Plan area, including the proposed Transit Tower, other sites for which applications have been filed, and opportunity sites with no application filed. Green indicates anticipated cumulative development on sites that are outside the Plan area. Gray represents projects that have been approved at either a programmatic or project level, both on Rincon Hill and in the Transbay Redevelopment Area, along Folsom Street. It is noted that the massing models depicted in the visual simulations do not necessarily represent potential future projects that would comply with all bulk controls under the draft Plan, and therefore present a conservative assessment of potential visual effects, because Code-compliant projects would generally be sculpted so as to be somewhat less bulky at their upper levels than the massing models depicted. As noted in Chapter III, Compatibility With Existing Zoning and Plans, p. 70, many projects approved since the Downtown Plan was adopted—including most in the Plan area—have requested and been granted exceptions to the bulk requirements of the *Planning Code*. Therefore, it can be anticipated that at least some sponsors of future projects would make similar requests.

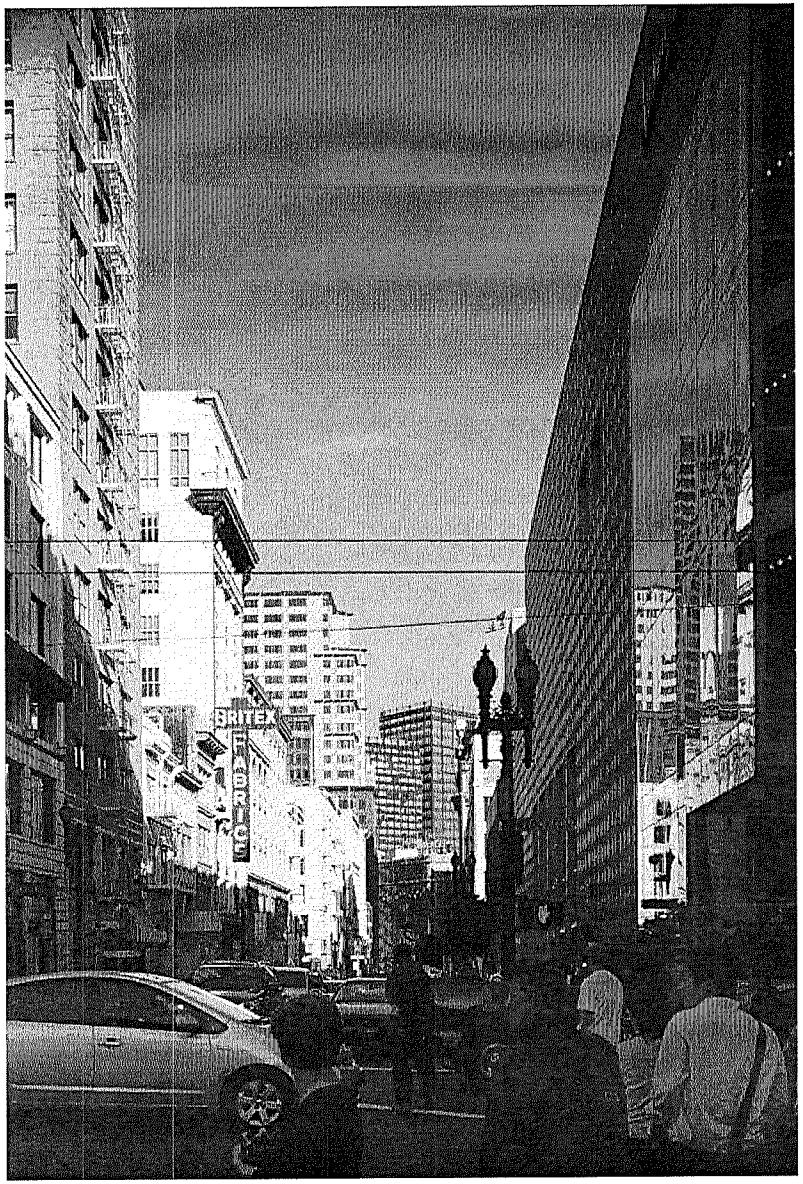
As analyzed in the following discussion, the most obvious changes to Plan area views from almost all directions would be the general amplification of the southern portion of the existing downtown "mound" that characterizes the cluster of high-rises on either side of Market Street and the increase in the number and height of high-rise forms on the skyline, reducing the gaps that exist between the buildings and limiting some views of the sky.

As noted above, according to the Urban Design Element, Market Street, along the northern edge of the Plan area, is characterized as a street containing "Street View of Important Building and Street That Defines City Form" and segments of Mission, Howard, and Folsom Streets within the Plan area are characterized as having either "average" or "good" qualities of views. Because the draft Plan would channel most of the development to the south of Market Street, views along Market Street would remain similar to the existing conditions, and Market Street's characterization as a "Street View of Important Building and Street That Defines City Form" would be maintained. Furthermore, future development within the Plan area would also not be expected to alter the characterization of Mission, Howard, and Folsom Streets as having "average" or "good" quality of views, for reasons discussed in greater detail below. Based on this, the classification of streets according to their importance as visual resources or quality of street views (as articulated by the Urban Design Element) would not change as a result of the proposed project.

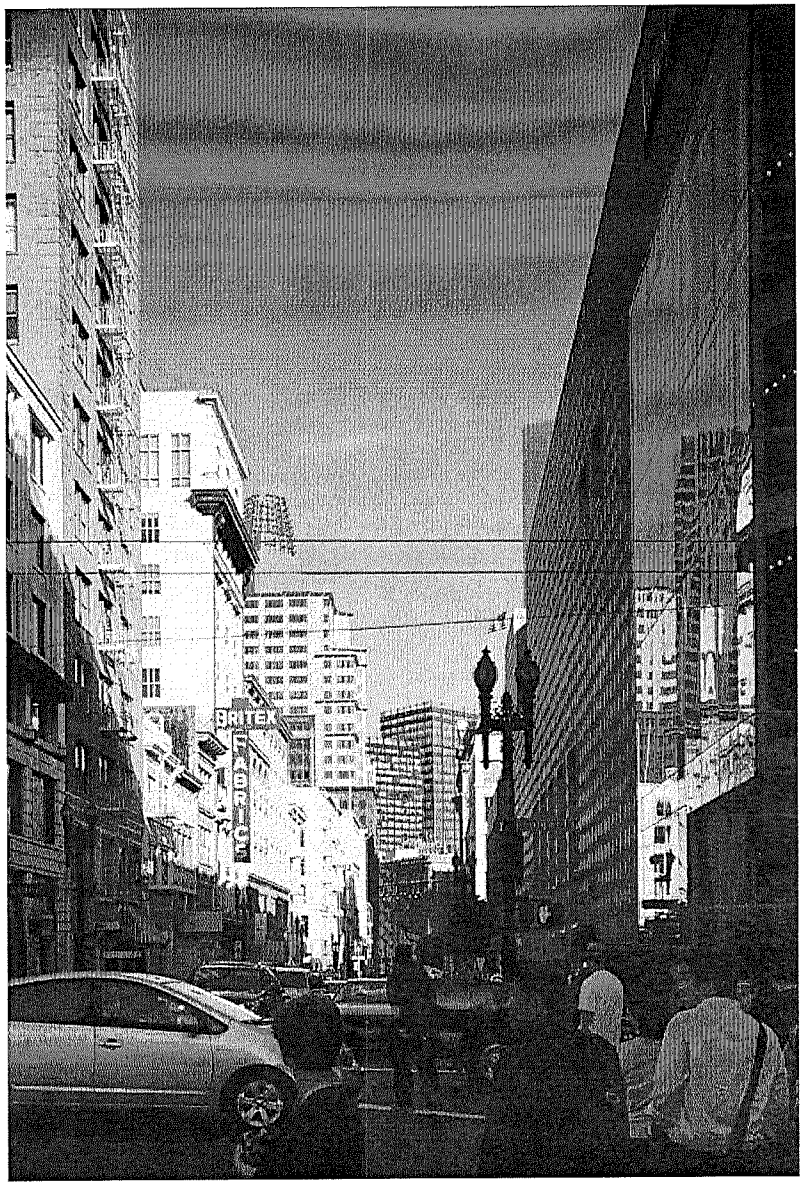
Moreover, the buildings that could be built pursuant to the draft Plan would not, except in limited instances, result in blockage of Bay views or views of the City's hills, identified in the Urban Design Element as among the most critical views to be safeguarded, nor would Plan area buildings detract from the topographic forms established by the City's hills. Therefore, although aesthetic impacts are inherently subjective, this EIR concludes that the proposed Transit Center District Plan, as described in the Project Description and shown in the visual simulations based on assumptions set forth in Section 4.0, would not have a substantial adverse effect on scenic vistas from short-range and mid-range viewpoints. However, because development pursuant to the draft Plan would, when viewed from certain long-range viewpoints, substantially alter important view in a manner that conflicts with some policies in the *General Plan*, this analysis concludes, conservatively, that this change would be **significant and unavoidable**. Changes to selected views from short-range and mid-range vantage points are described in detail in Impact AE-2, below, while changes to long-range views throughout and just outside of the city are described in Impact AE-3. Blockage of certain scenic vistas, from cumulative development, is discussed under Impact C-AE, p. 172.

Impact AE-2: The draft Plan would alter the public views of the Plan area from short-range and mid-range vantage points as well as alter views into the surrounding neighborhoods from within the Plan area. (Less than Significant)

As seen in **Figures 27A – 30A**, views of the Transit Center District from areas just outside the Plan area, at Geary and Stockton, Fifth and Mission Streets, Post and Leavenworth Streets, and from Yerba Buena Gardens would change as compared to existing conditions. From Geary and Stockton, the change attributable to the Draft Plan would be views of upper stories of the Transit Tower as well as other proposed and potential nearby office towers. Relatively small portions of these towers would be visible behind the existing buildings and the view corridor down Geary Street would remain relatively unobstructed. The proposed Transit Tower would also be newly visible from Mission Street between Fourth and Fifth Streets. Although much of its podium would be obstructed by the St. Regis tower and other intervening buildings, the Transit Tower would nevertheless constitute a major visual feature in the background. Although the new buildings would add vertical elements to this viewshed, such a change



Existing



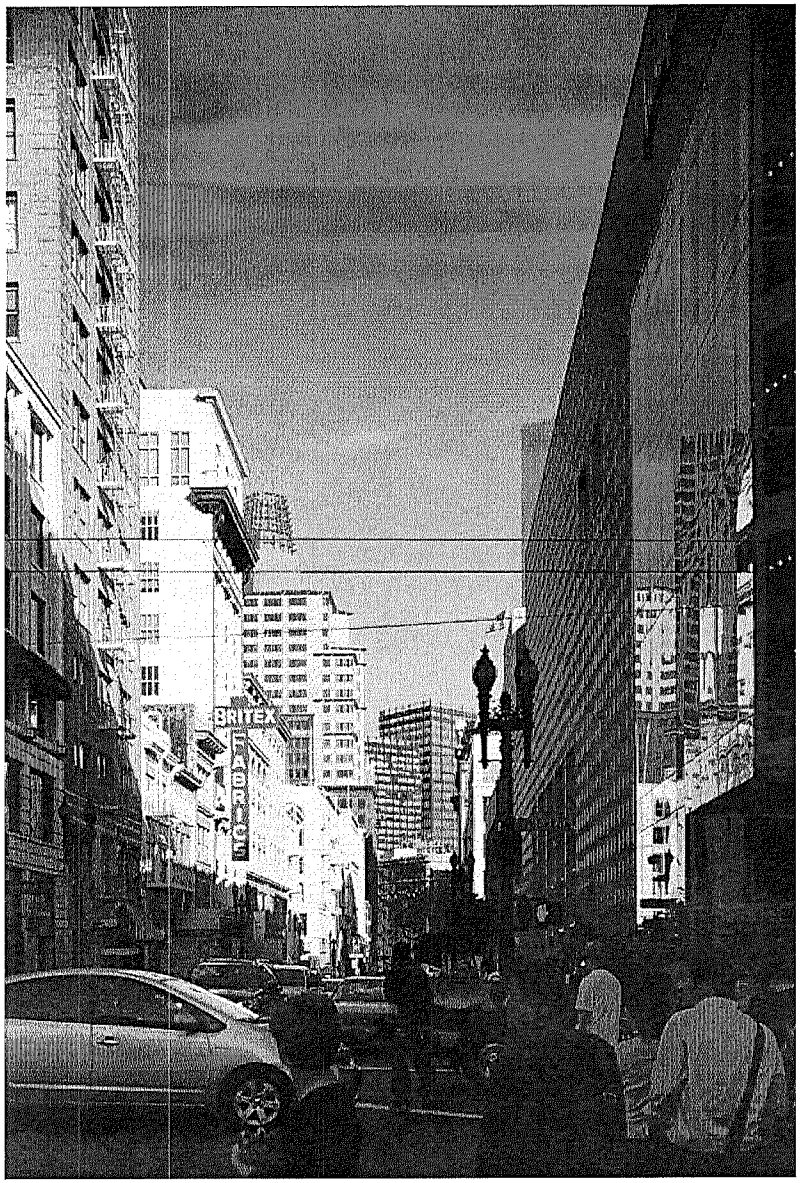
Plan

SOURCE: Square One Productions

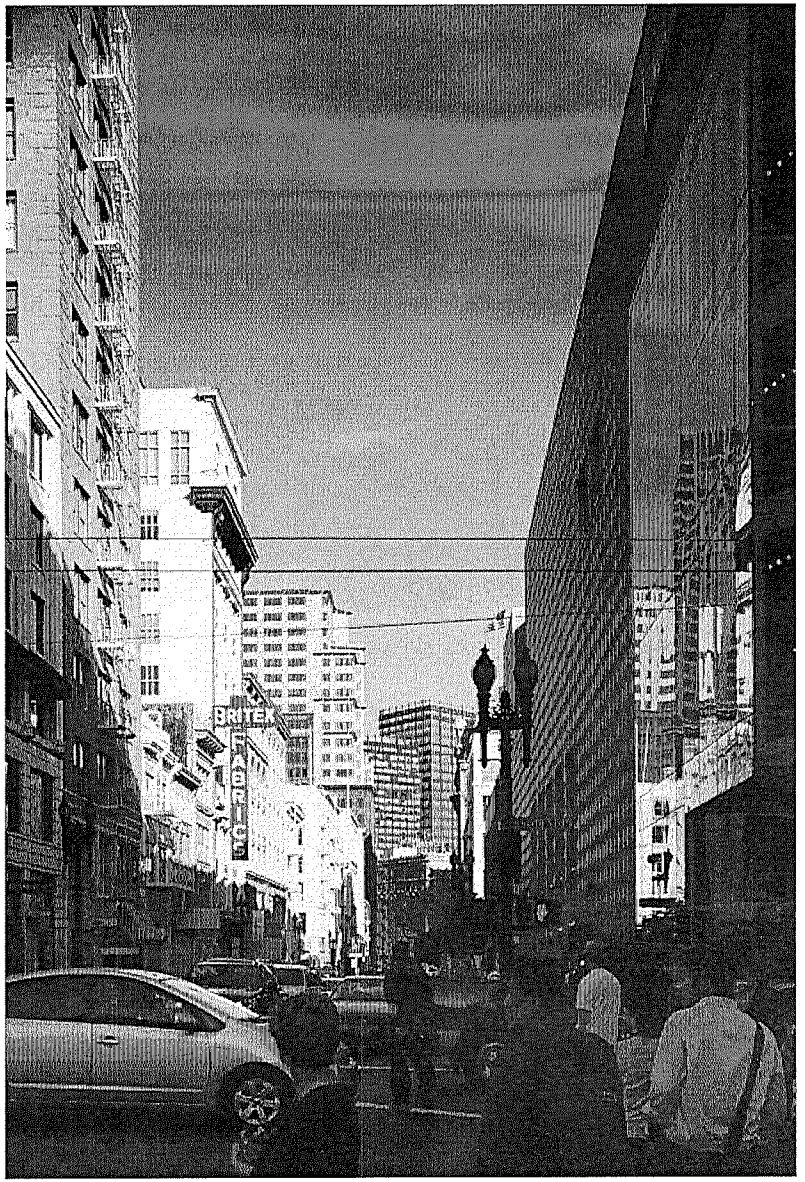
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 27A

Visual Simulations: Geary and Stockton Streets



Cumulative



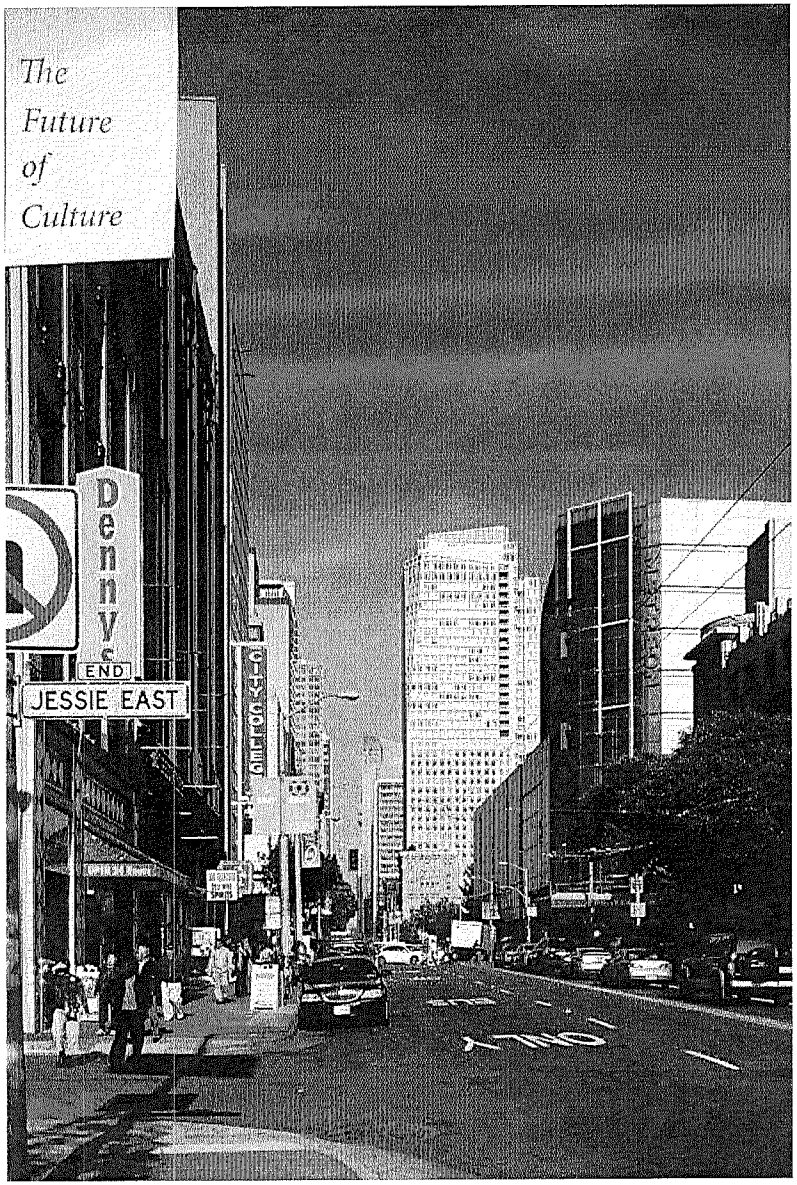
No Project plus Cumulative

SOURCE: Square One Productions

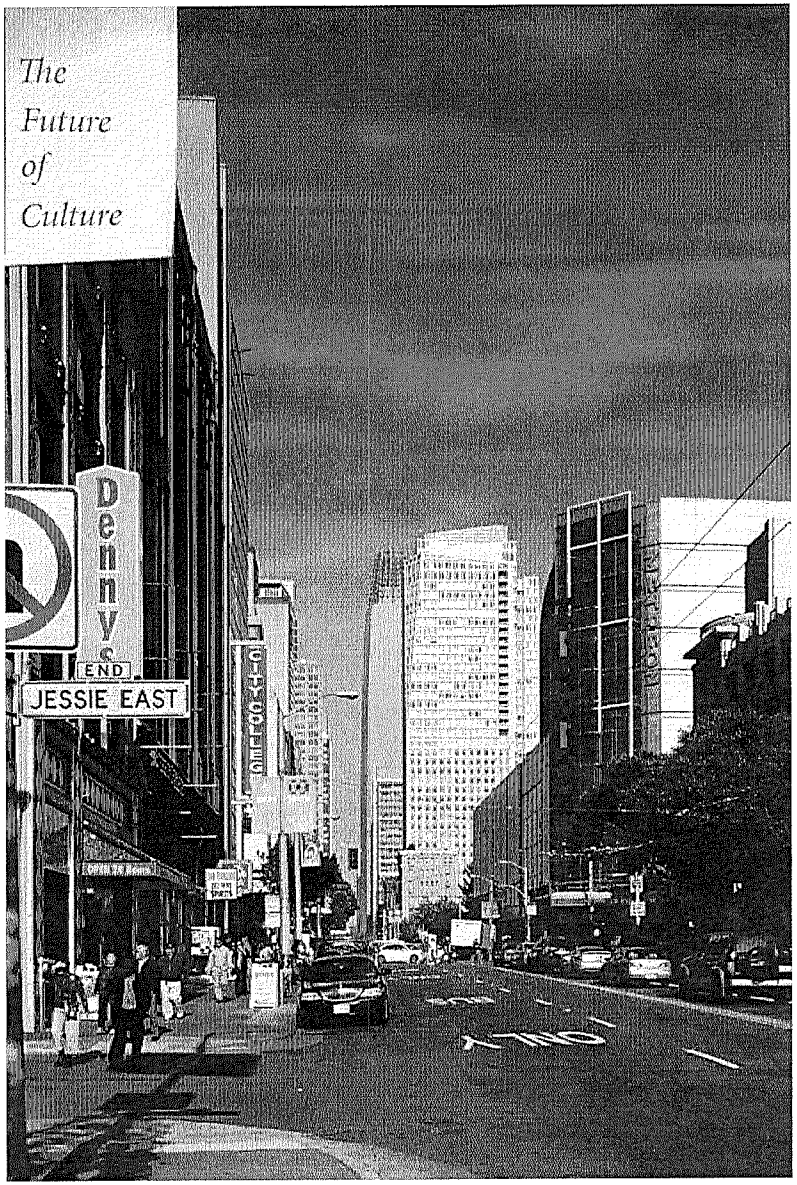
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 27B

Visual Simulations: Geary and Stockton Streets



Existing



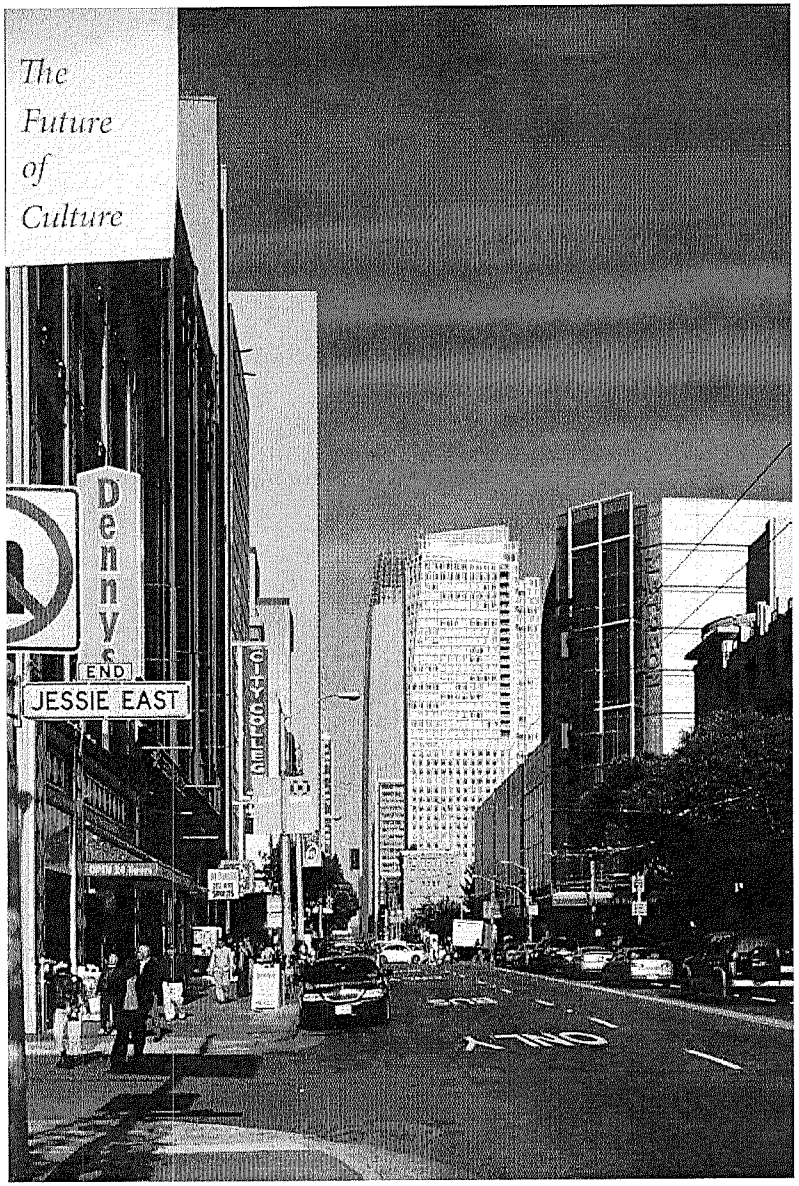
Plan

SOURCE: Square One Productions

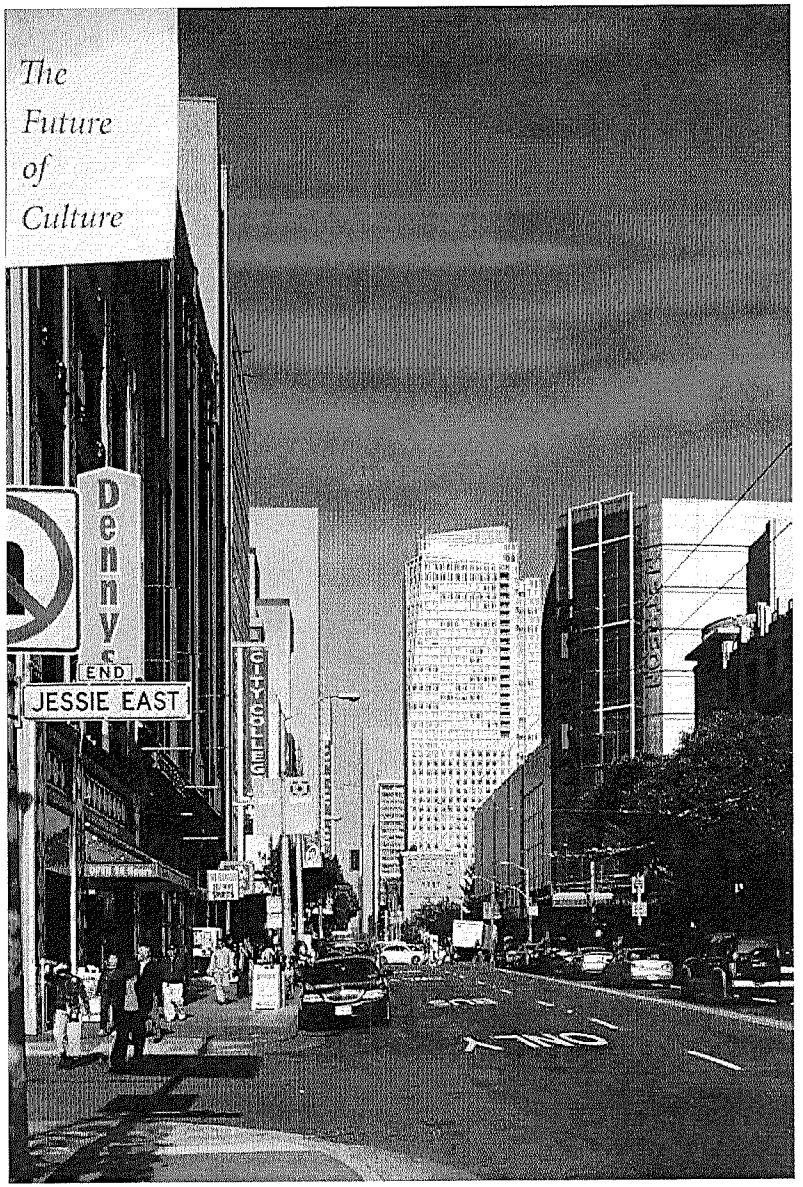
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 28A

Visual Simulations: Mission Street West of Fourth Street



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 28B

Visual Simulations: Mission Street West of Fourth Street



Existing



Plan

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 29A

Visual Simulations: Post and Leavenworth Streets



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

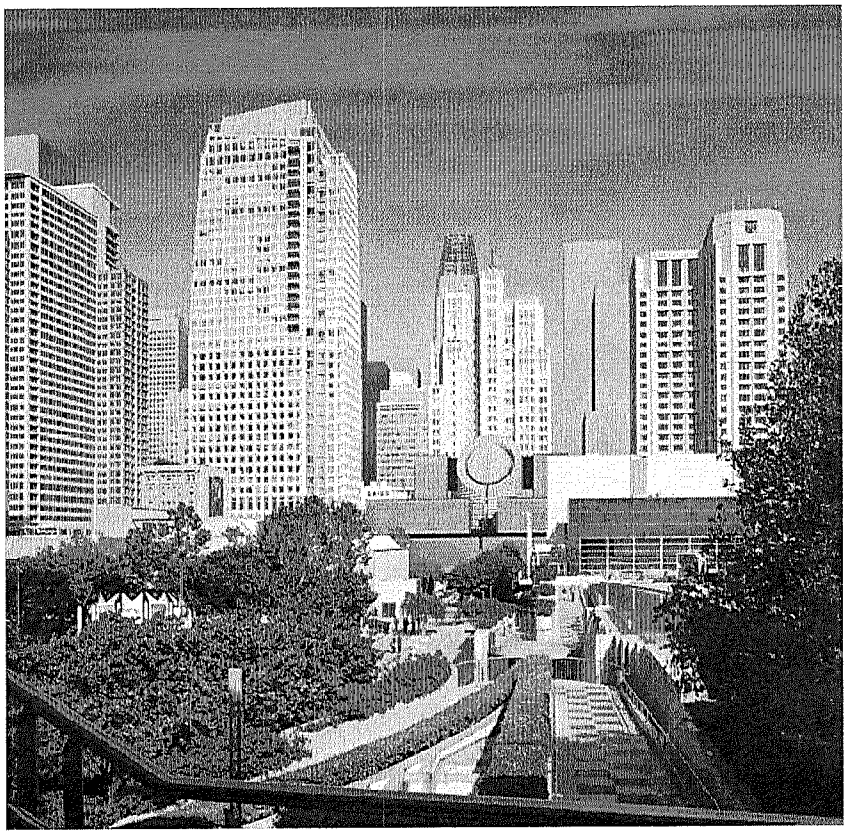
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 29B

Visual Simulations: Post and Leavenworth Streets



Existing



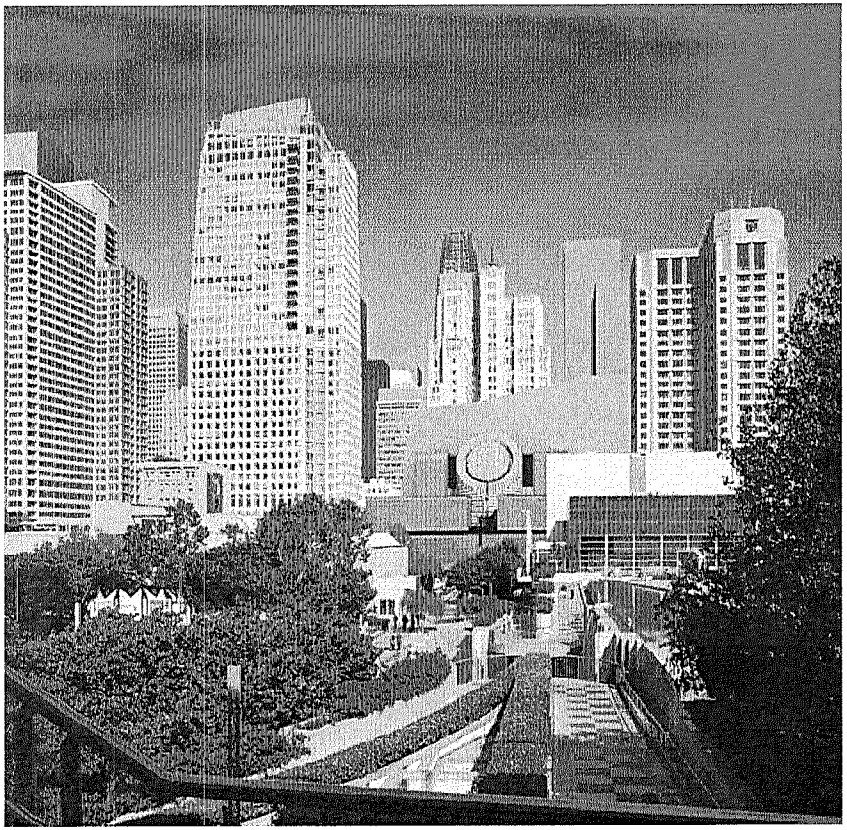
Plan

SOURCE: Square One Productions

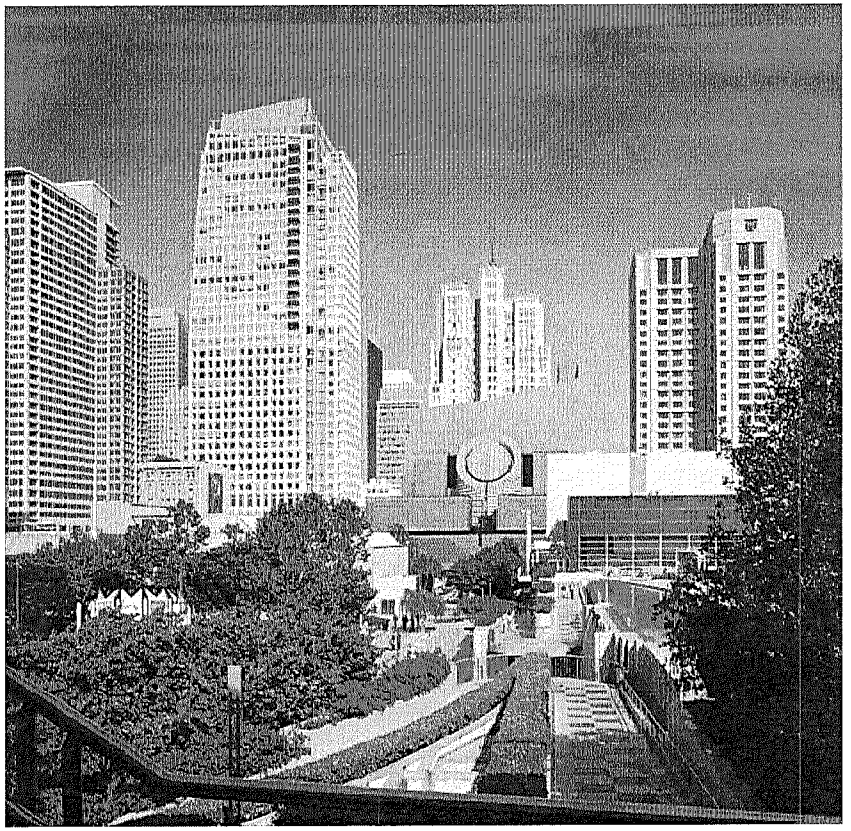
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

● Figure 30A (revised)

Visual Simulations: Yerba Buena Gardens



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

● Figure 30B (revised)

Visual Simulations: Yerba Buena Gardens

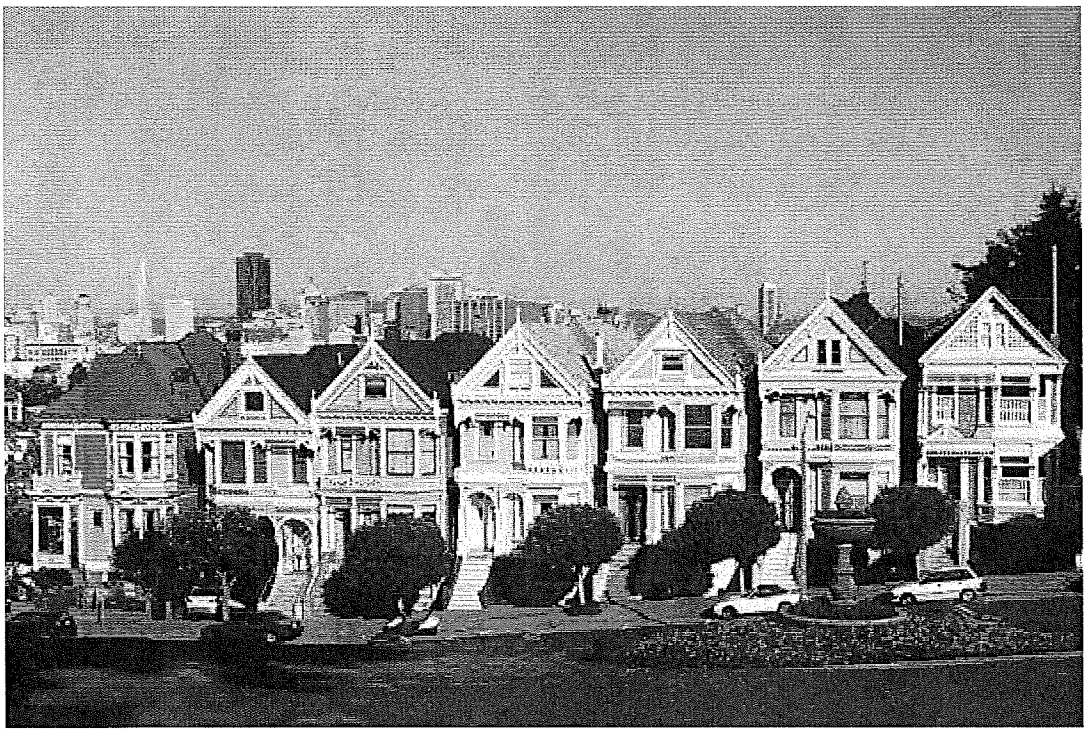
would not be considered adverse, as Mission Street already contains several towers that can be visible from this vantage point, and the change with the addition of relatively small portions of Plan area towers added to the view would not be substantial, and no scenic views would be blocked. From Post and Leavenworth Streets, the top stories of the Transit Tower would be visible, along with southerly tower of the 50 First Street project nearby. This would fill in the gap in the horizon that is currently experienced, but would not constitute a severe change to the viewshed as views from this perspective are composed primarily of mid-rise and high-rise buildings and only small slivers of the new buildings would be added to the view.

In comparison to these three vantage points, the view of the Plan area from Yerba Buena Gardens would change more substantially. Specifically, the gaps between the existing high-rise office towers that can currently been seen in the Plan area (particularly the existing gap between the Pacific Telephone building and the W Hotel) would be largely filled in with development that could be constructed under the draft Plan. Rising above all of them would be the Transit Tower, tapering in the distance above the Pacific Telephone. The "TJPA Parcel F" building, just to the right of the Transit Tower, would also be visible from this vantage point. A cluster of other proposed structures, either those that are currently proposed or those that could be developed under the Draft Plan, would be visible to the left of the Transit Tower. Although this view would be visibly altered, such change would not be considered adverse, since the new skyline would be an intensification of the existing skyline and views toward the Plan area from this vantage point already contain exclusively urban forms. Views of the Museum of Modern Art's distinctive western façade as well as the St. Regis tower would continue to be available, and no Bay views, views of major open spaces, or other important scenic views would be obstructed.

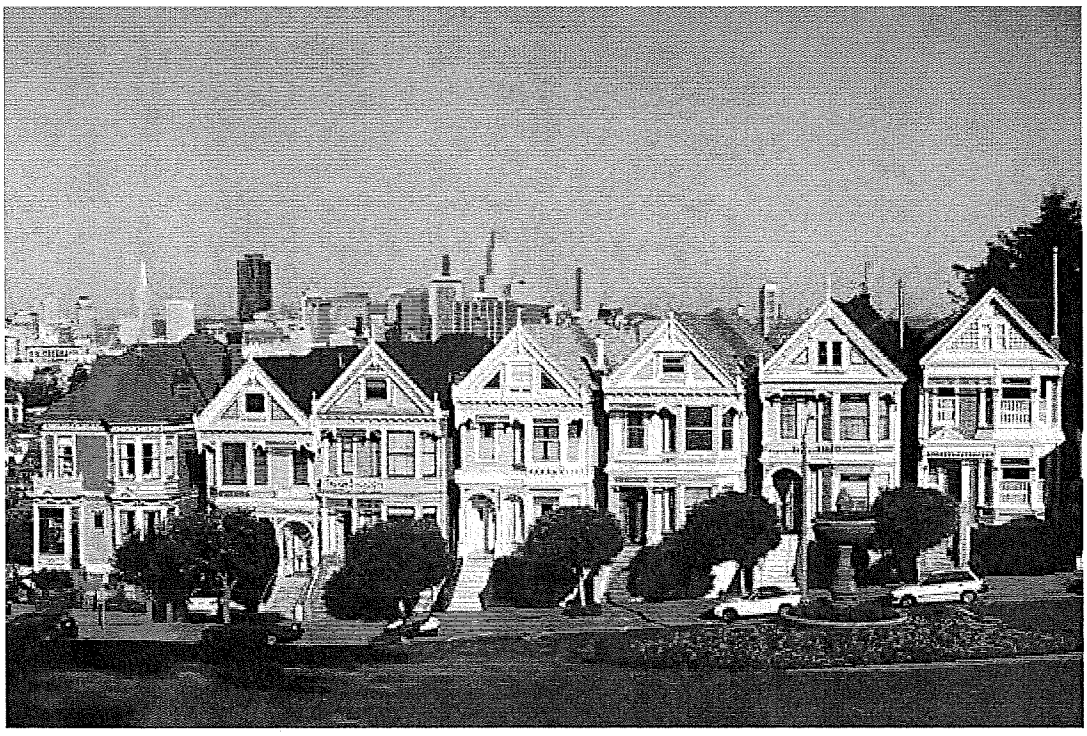
Mitigation: None required.

Impact AE-3: The draft Plan would alter public views of the Plan area from key long-range vantage points. (Significant and Unavoidable)

From Alamo Square (**Figure 31A**), the City skyline would take on a new shape, from that of a relatively smooth mound visible some distance to the right of the Bank of America tower to one that showcases the Transit Tower as the tallest feature in the skyline, with other proposed and potential buildings decreasing in height to either side. Currently, the Transamerica Pyramid and the Bank of America tower are the most dominant features of the skyline, whereas, with the Plan, the Transit Tower and the other taller Plan-area buildings would take on a co-dominant role on the skyline. While this would represent a substantial change, it would not necessarily be considered adverse; in fact, the prominence of Plan-area buildings would be consistent with the direction in the Urban Design Element that very tall buildings should reflect the importance of their setting—in this case, a major transportation hub. Additionally, the tallest Plan-area buildings (left-to-right, one of the towers at 50 First Street, the Transit Tower, and the Parcel F building, would be spaced such that areas of open sky would be visible between them, consistent with Urban Design Element Policy 3.5. Finally, no scenic views would be substantially obstructed from this viewpoint.



Existing



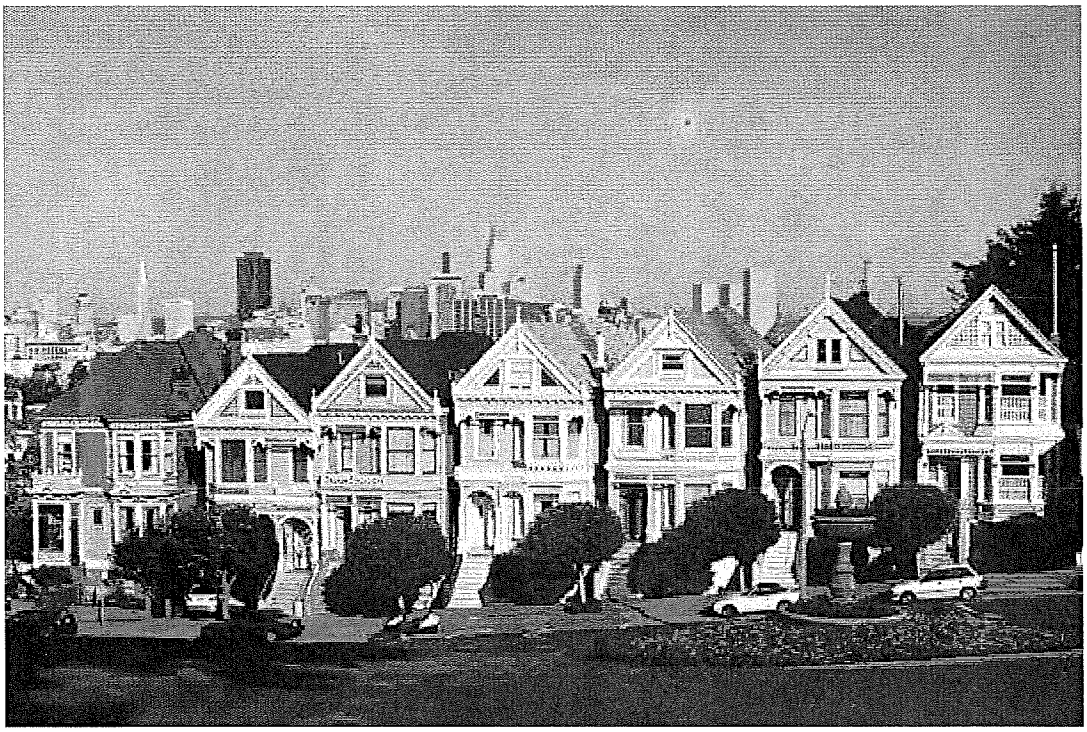
Plan

SOURCE: Square One Productions

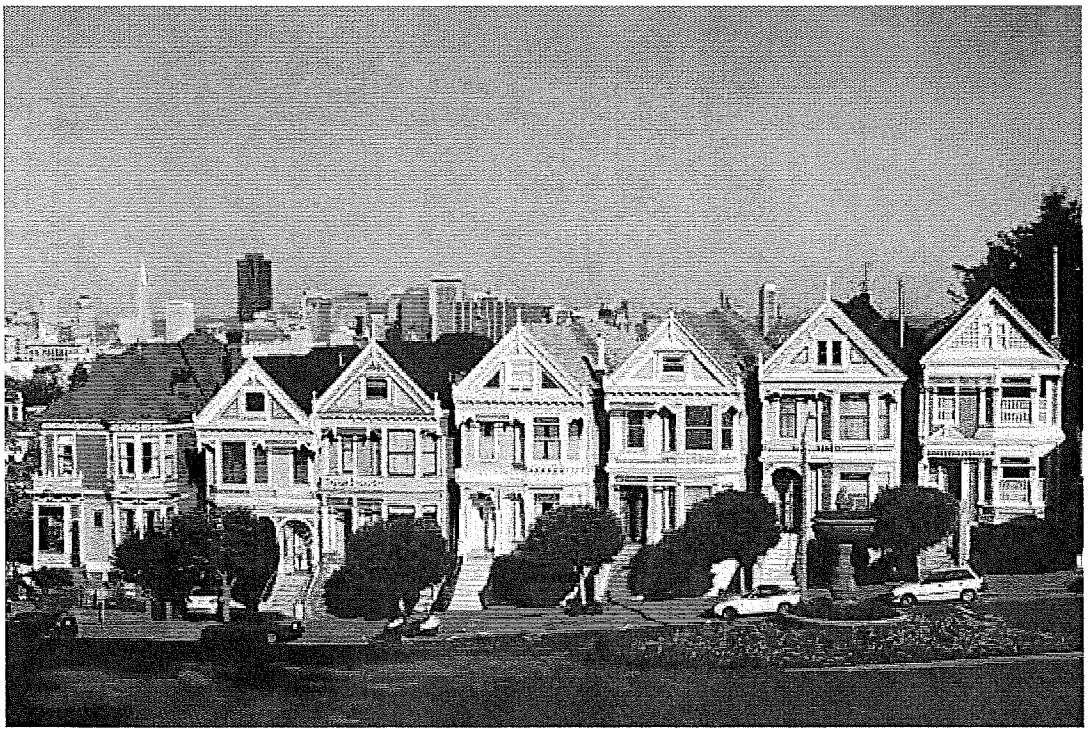
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 31A

Visual Simulation: Alamo Square



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 31B

Visual Simulation: Alamo Square

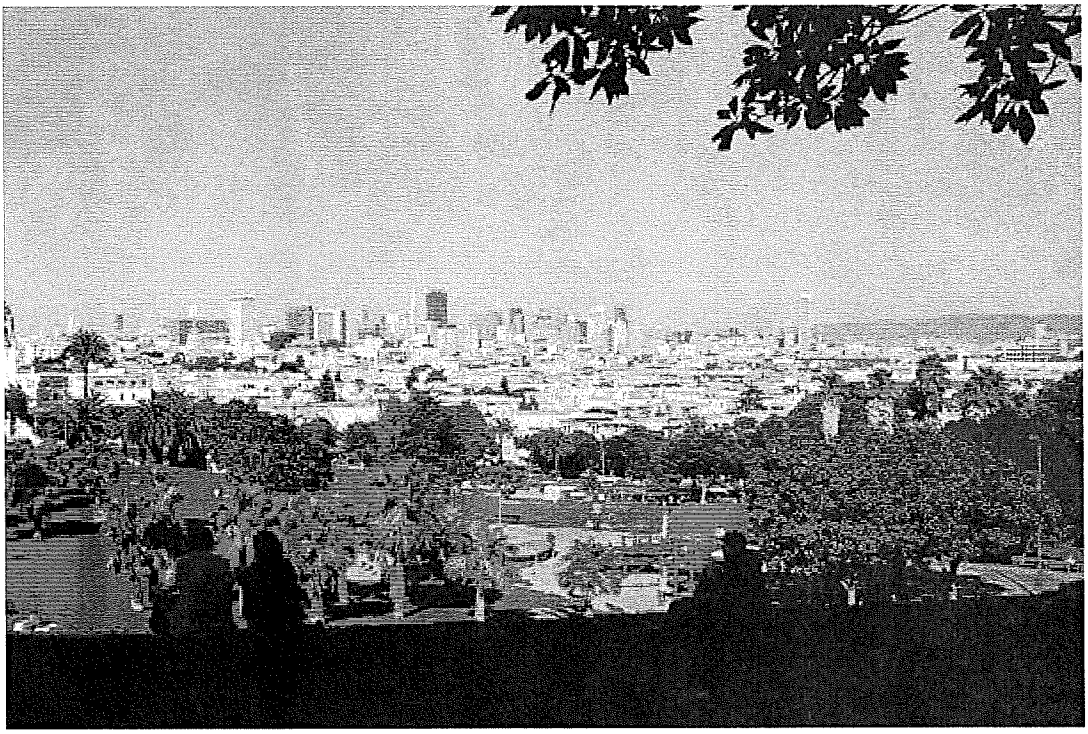
Views from Dolores Park, Portola Drive, and Twin Peaks, (**Figures 32A – 34A**), which are located between approximately two-and-one-half and four miles southwest of the Plan area, also offer iconic long-range views of the downtown skyline and would clearly illustrate the proposed changes. In all three views, the Transit Tower would become a co-dominant element in the skyline, along with the Transamerica Tower and Bank of America Building, and the Plan area portion of the downtown "mound" would appear more built-up, dense, and urban.

From Dolores Park (Figure 32A), the "benched" look of the existing development as it extends toward the Bay would be replaced by the very prominent "mounding" of the tallest Plan-area buildings. However, the overall quality of these views would not be substantially compromised, as the views that would be blocked by the new buildings would primarily be of other similar, but slightly shorter buildings. In particular, no views of the Bay, of the Bay Bridge, or of open space would be blocked. While the view from Dolores Park would be altered by development under the draft Plan, there would not be a demonstrable adverse affect, and from this long-range viewpoint the impacts would be less than significant.

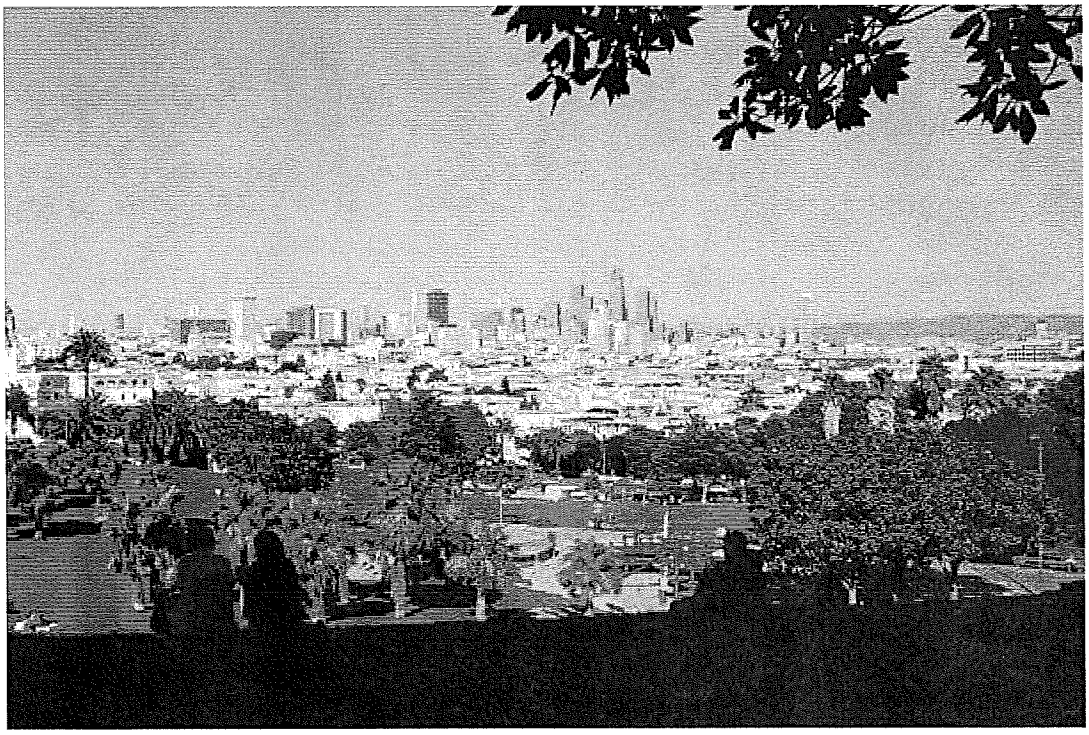
The Transit Tower and other Plan area buildings would alter views of major features, including the Bay, the Bay Bridge, the East Bay hills, and Yerba Buena Island, when seen from Portola Drive (Figure 33A) and Twin Peaks (Figure 34A). The Transit Tower would become the first building to rise above the East Bay hills on the skyline. Development in the Plan area, including the proposed Transit Tower, would clearly reduce the visual importance of the Bay Bridge west span towers in this view: whereas the bridge towers now appear approximately as tall as most of the existing buildings in the Plan area, exceeded in height only by the One Rincon Hill building, with development pursuant to the draft Plan, the bridge towers would be flanked on either side by considerably taller structures and would be obscured or overwhelmed by Plan area buildings. While buildings in the Plan area would be "adequately spaced and slender to ensure that they are set apart from the overall physical form of the downtown and allow some views of the city, hills, the Bay Bridge, and other elements to permeate through the district," [69] it appears that full buildout under the Plan would at least partially obscure and/or overwhelm views of the Bay Bridge, Yerba Buena Island, and the East Bay hills.

It is difficult to determine with certainty that aesthetic impacts are significant, as they are by nature subjective and rarely demonstrably adverse. Policies in the *General Plan*, particularly the Urban Design Element, identify the aspects of the visual environment that are important to retain or enhance and for some topics serve as a framework for analysis of aesthetic impacts in the CEQA context. The draft Plan's effects on existing views from Twin Peaks and Portola Drive appear to be in conflict with the Urban Design Element's direction to "[r]ecognize and protect major views in the city, with particular attention to those of open space and water" (Policy 1.1). Policy 1.8 states: "Increase the visibility of major destination areas and other points for orientation," and the supporting text notes, "Views from streets and other

69 Text accompanying Policy 3.5 of the *General Plan* Urban Design Element.



Existing



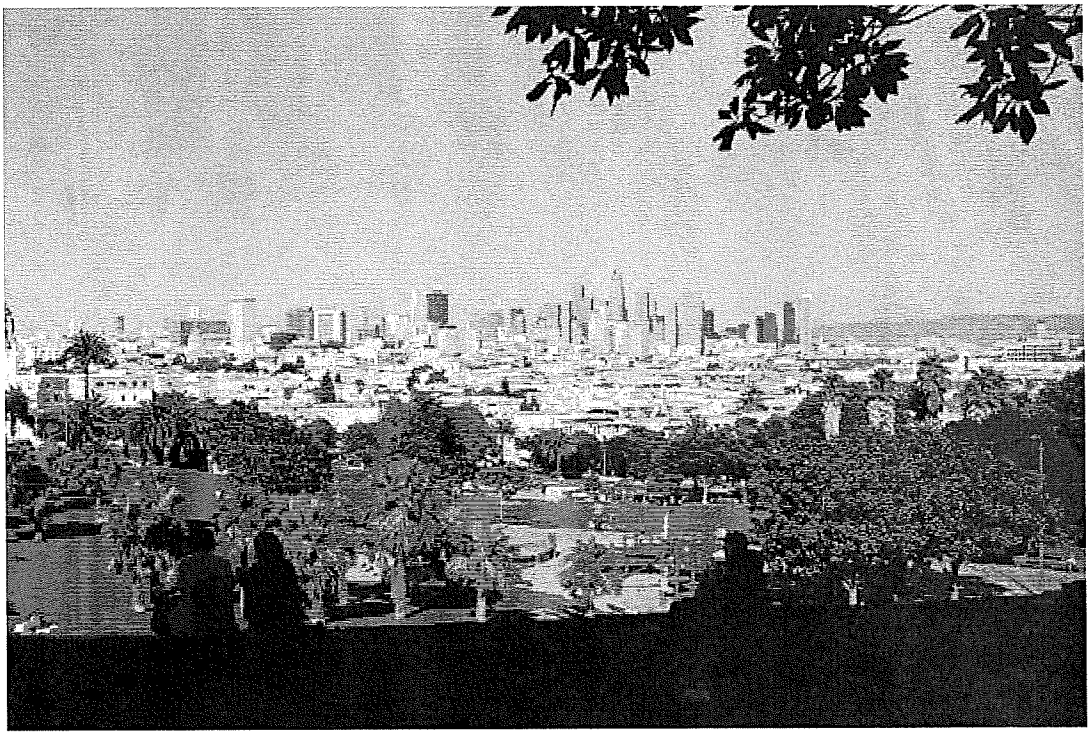
Plan

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

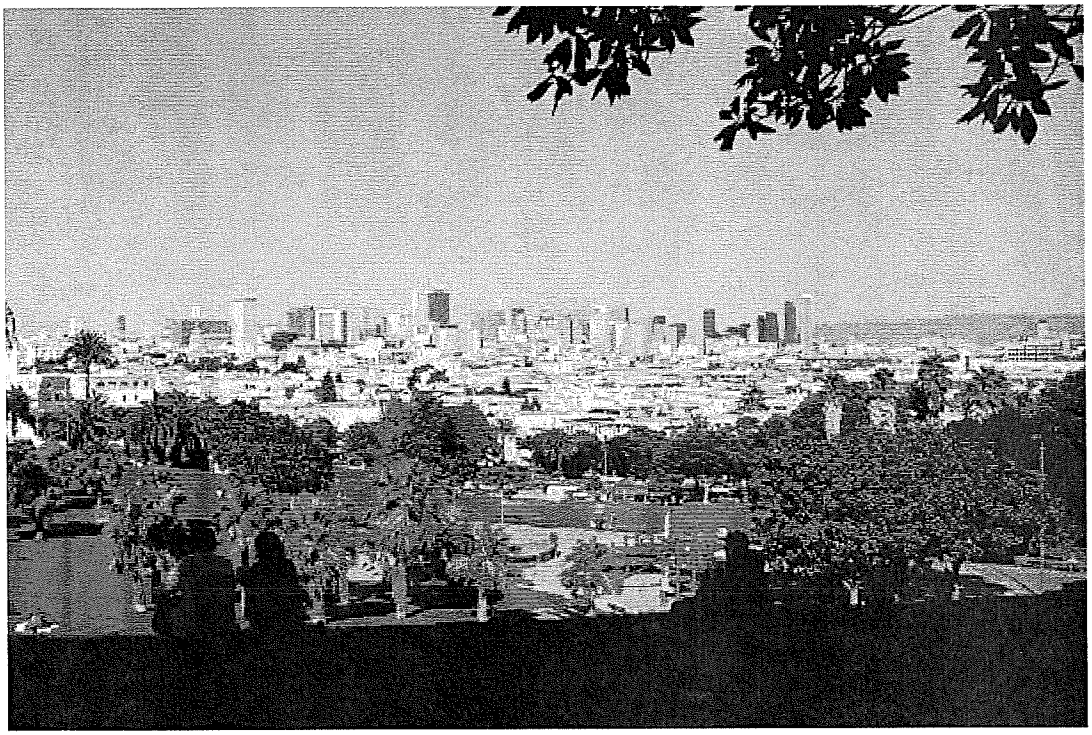
SOURCE: Square One Productions

Figure 32A

Visual Simulation: Dolores Park



Cumulative



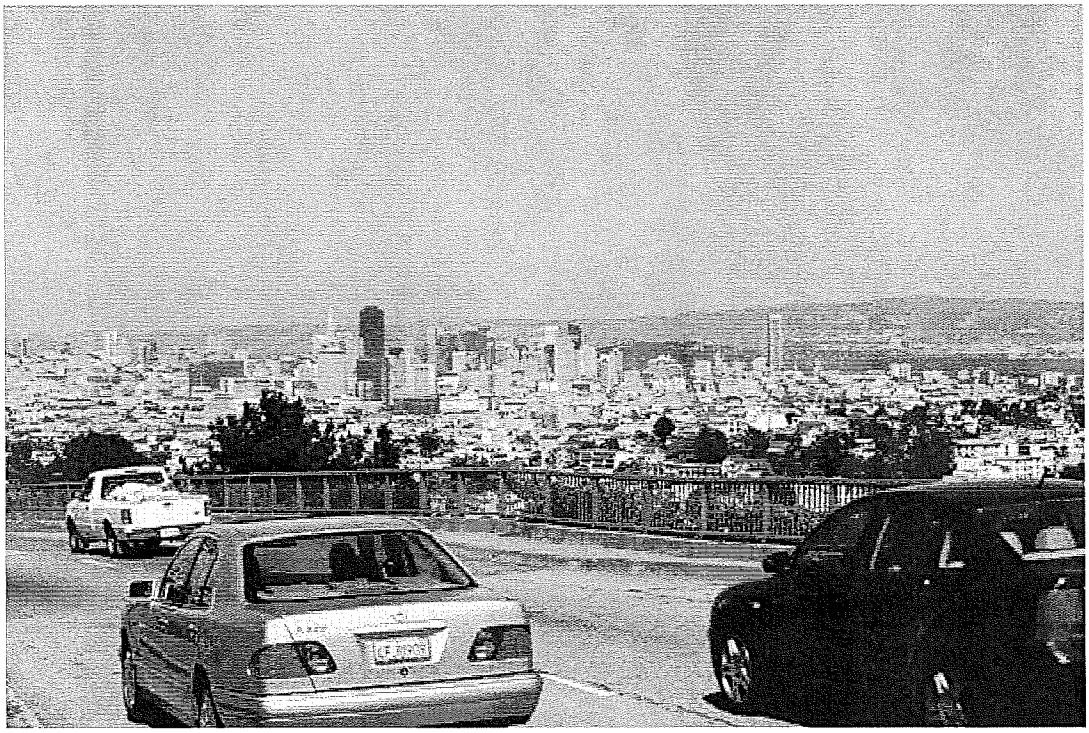
No Project plus Cumulative

SOURCE: Square One Productions

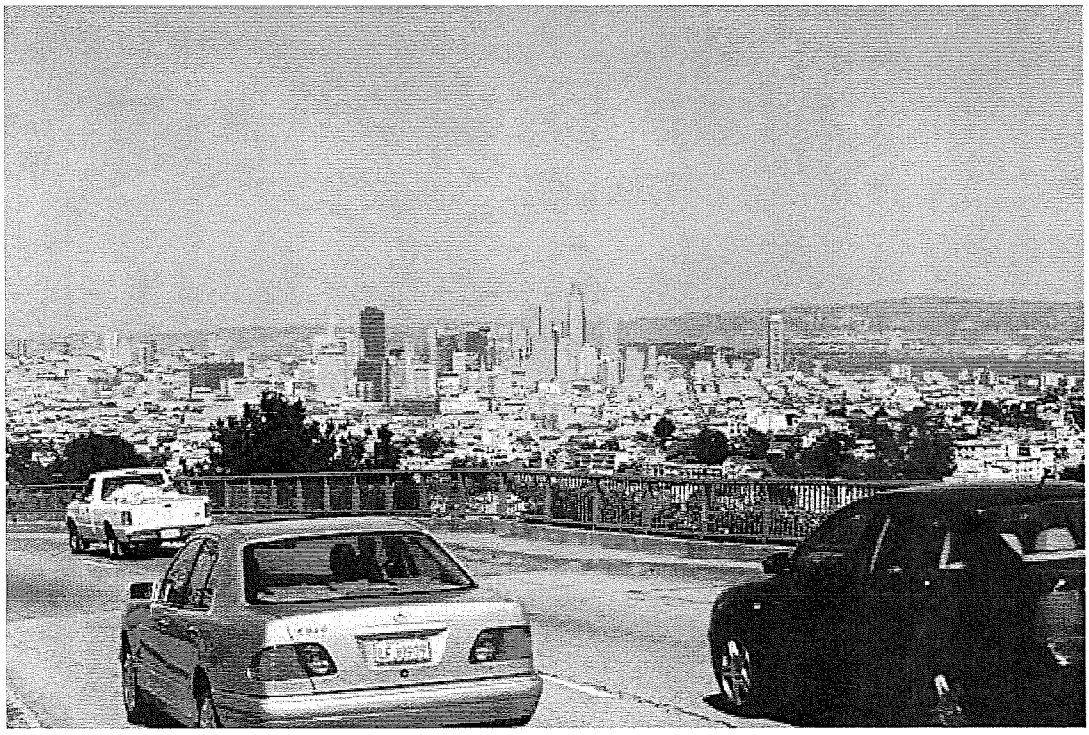
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 32B

Visual Simulation: Dolores Park



Existing



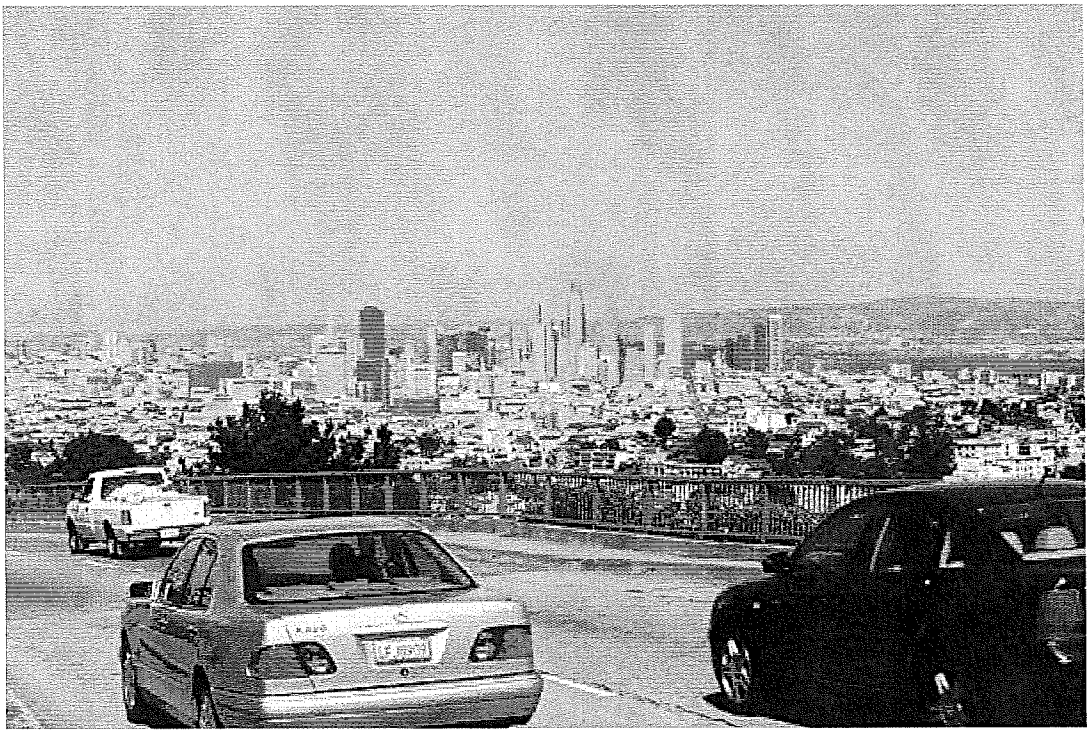
Plan

SOURCE: Square One Productions

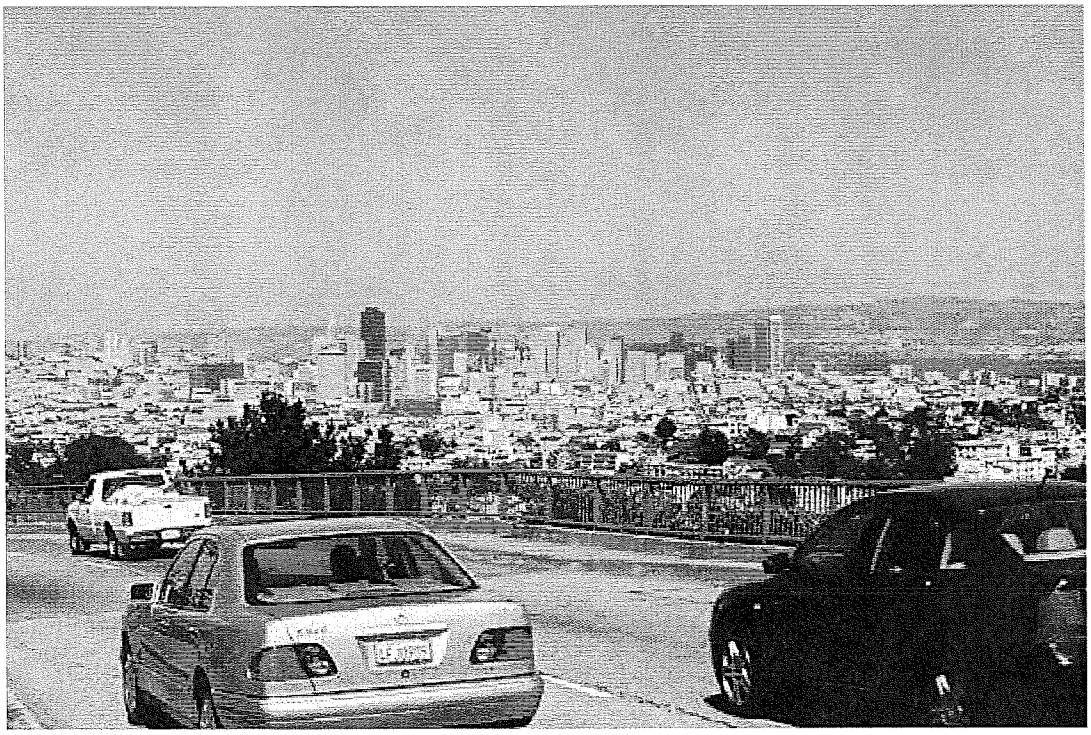
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 33A

Visual Simulation: Portola Drive



Cumulative



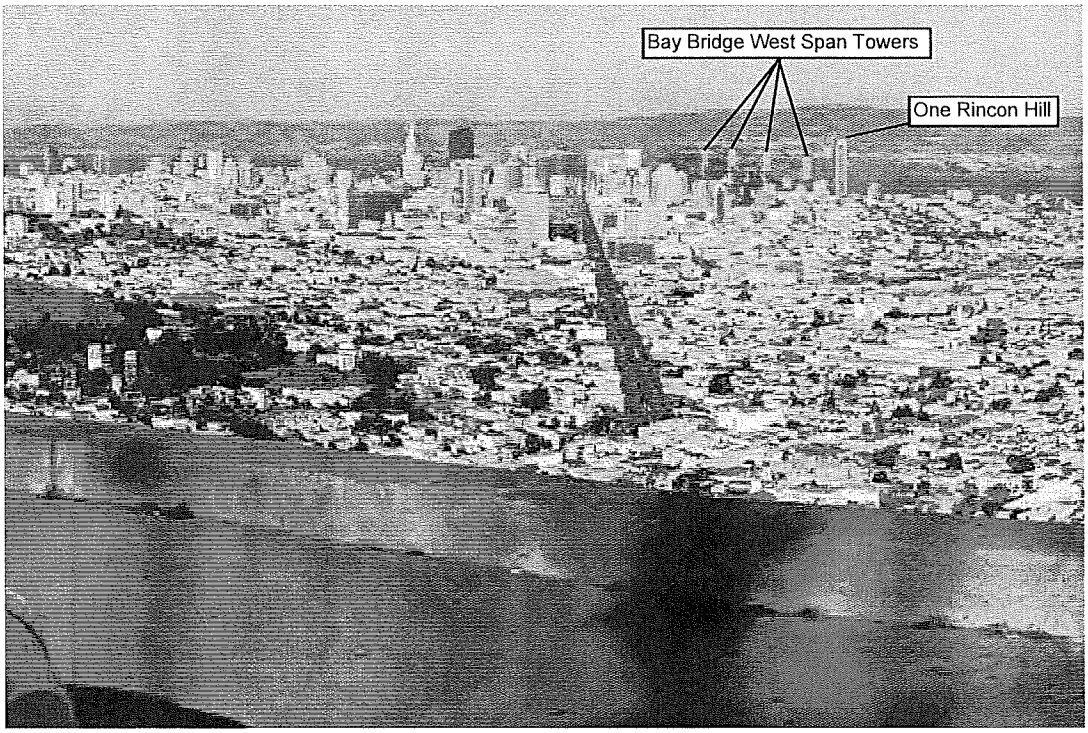
No Project plus Cumulative

SOURCE: Square One Productions

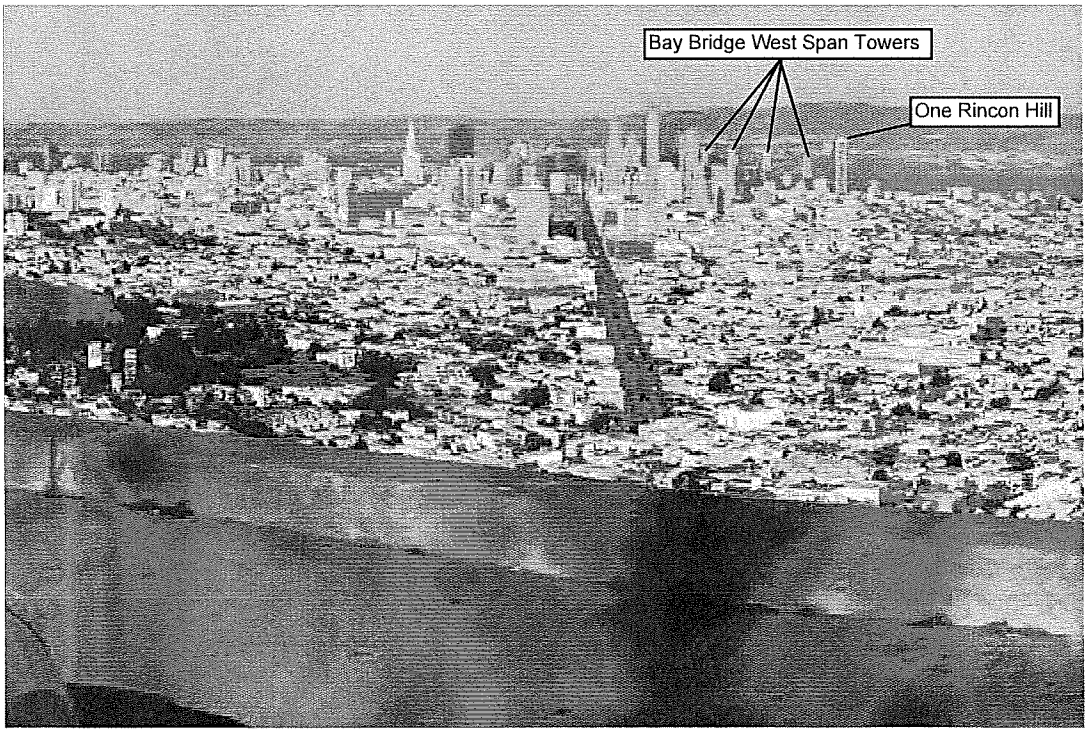
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 33B

Visual Simulation: Portola Drive



Existing



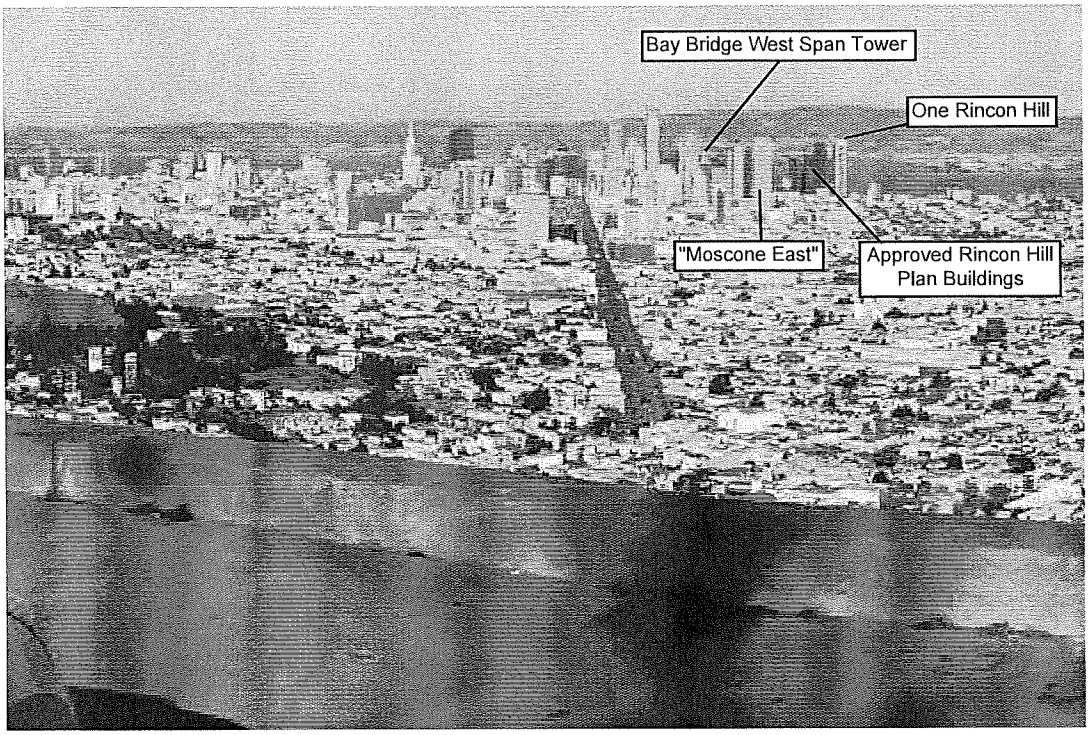
Plan

SOURCE: Square One Productions

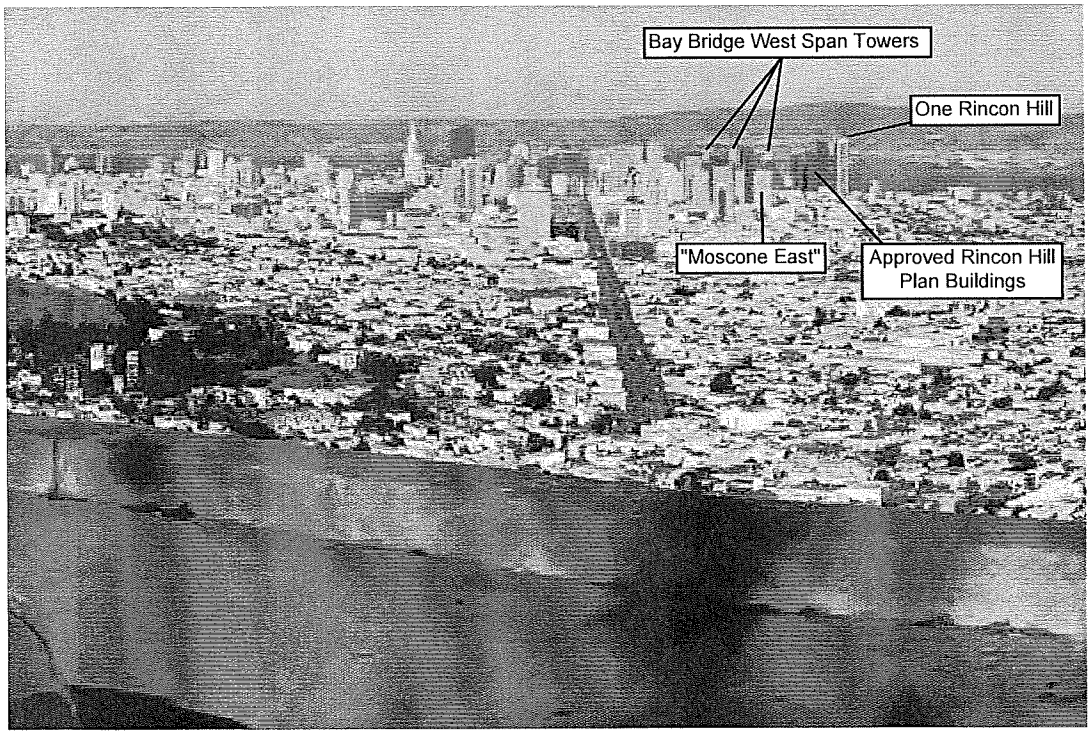
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

● Figure 34A (revised)

Visual Simulation: Twin Peaks



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

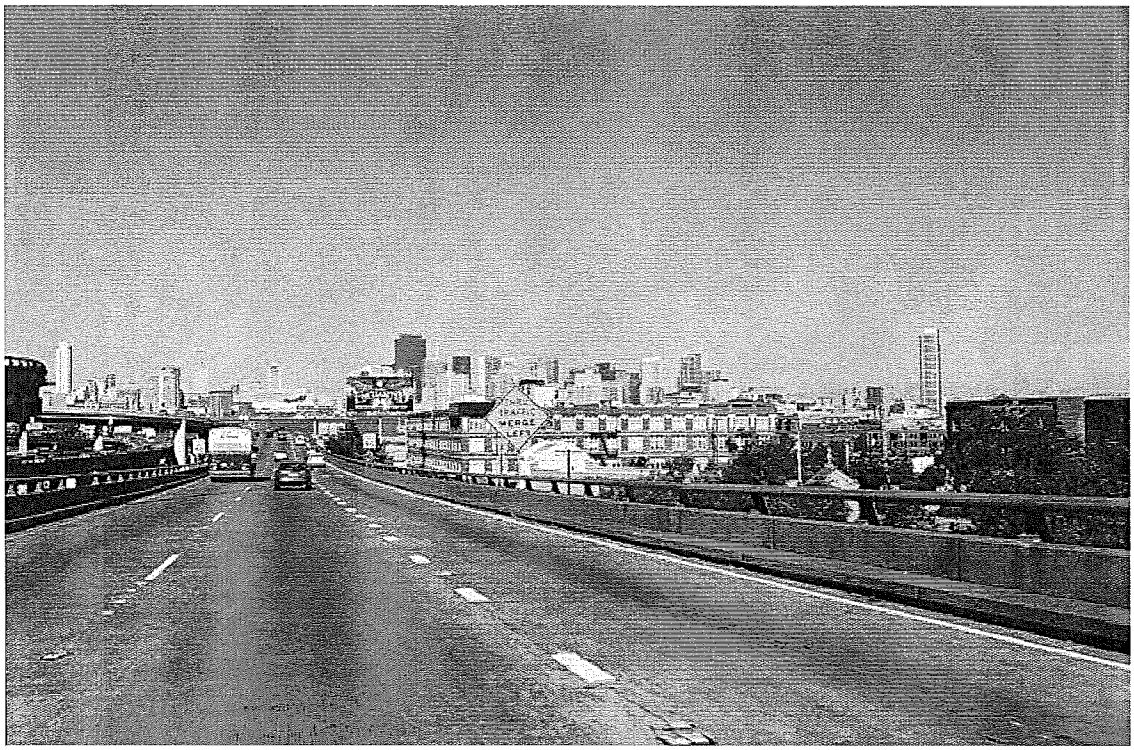
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

● Figure 34B (revised)

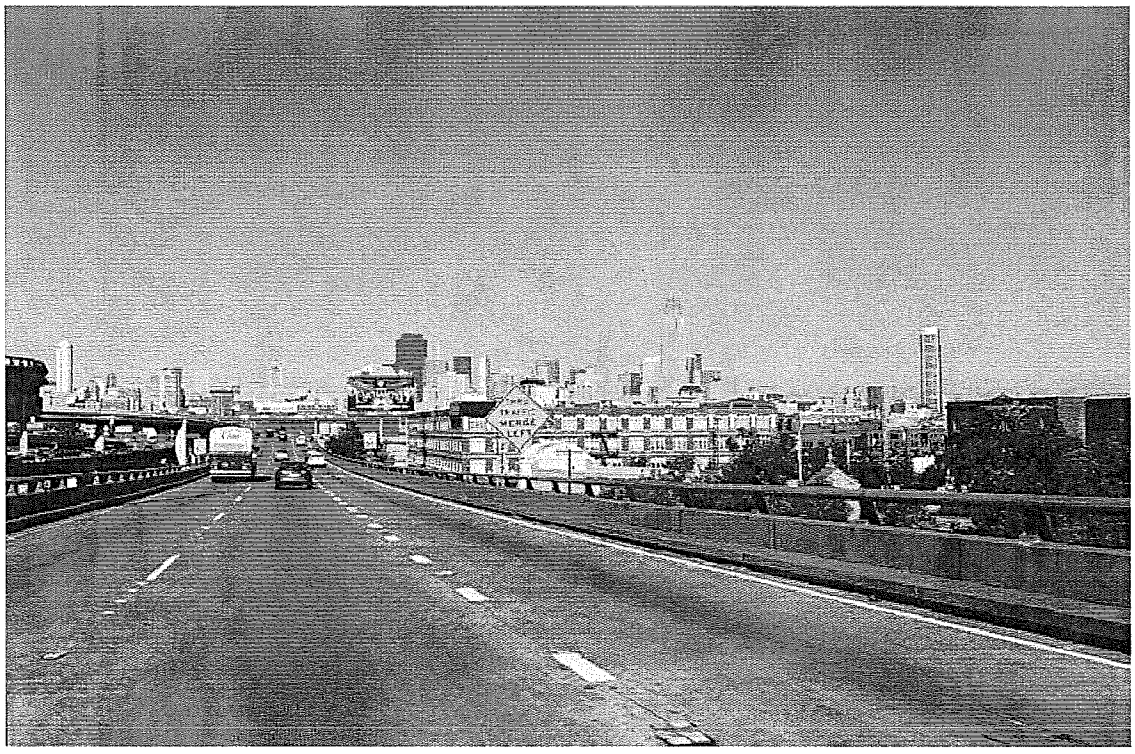
Visual Simulation: Twin Peaks

public areas should be preserved, created and improved where they include the water, open spaces, large buildings and other major features of the city pattern. Entranceways to the city and to districts are of special concern in this respect, as are lateral and downhill views that show a panorama or corridor with prominent features." It is expected that opinions will vary regarding on the overall change in the appearance of downtown San Francisco from these viewpoints. Moreover, the visual analysis portrays each site in the Plan area at full buildout, whereas in reality some sites might not be developed and others would be developed with more sculpted building forms that do not use the full allowable height and bulk. However, due to the reduced prominence of important visual features in a manner that could be considered inconsistent with the direction of the Urban Design Element, this impact is conservatively considered to be **significant and unavoidable**.

Northeasterly views of the Plan area from U.S. 101 (northbound at UPS Building; **Figure 35A**) and I-280 (at Sixth Street; **Figure 36A**) would be altered to a relatively greater extent than more distant views as a result of implementation of the draft Plan. From U.S. 101, dynamic views toward the Plan area would present a more built up cluster of towers, a classic urban downtown look, with many of the proposed and potential high-rises either almost fully or at least partially visible in the background. The tapered top of the Transit Tower would stand out against the sky, although the lower portions would not be visible from this particular vantage point. Detached from the Third and Folsom project to the right would be the 181 Fremont building, while the proposed 50 First Street and "Parcel F" structures would be visible just to the left. Further to the left, towards the Transamerica Pyramid and the Bank of America building, would be the proposed Palace Hotel tower. In combination, these buildings would block some views of a portion of the sky as well as block some other buildings that could be currently viewed from this freeway segment. However, such views are generally not considered scenic, and the reduction in the view of the sky would be minimal. The views with the implementation of the Plan would contain similar features that are visible in existing views of the Plan area, namely high-rise buildings, varying in height and massing, arranged in clusters. The view from I-280 would contain most of the same buildings, although the proposed changes would be perceived more clearly from this view point, as it is located about one quarter mile closer than the U.S. 101 view point. From this location, the new buildings would largely redefine the skyline, and thus would visually predominate, substantially reducing the visual prominence of the One Rincon structure as a result, although the separate mound of Rincon Hill, emphasizing the height of that hill, would be apparent in both views. (Most of the influence on views of the One Rincon Hill tower would be due to already approved buildings, including the second tower proposed as part of that project.) Virtually all of the proposed and potential new high-rises would be visible from this vantage point, transforming the appearance of the Northern Financial District and northern part of the Plan area from an environment in which buildings share a similar range of height and present a "benched" skyline into one with a distinct high point in the Transit Tower and a gradual scaling down in surrounding areas. No scenic views would be obscured from either viewpoint.



Existing



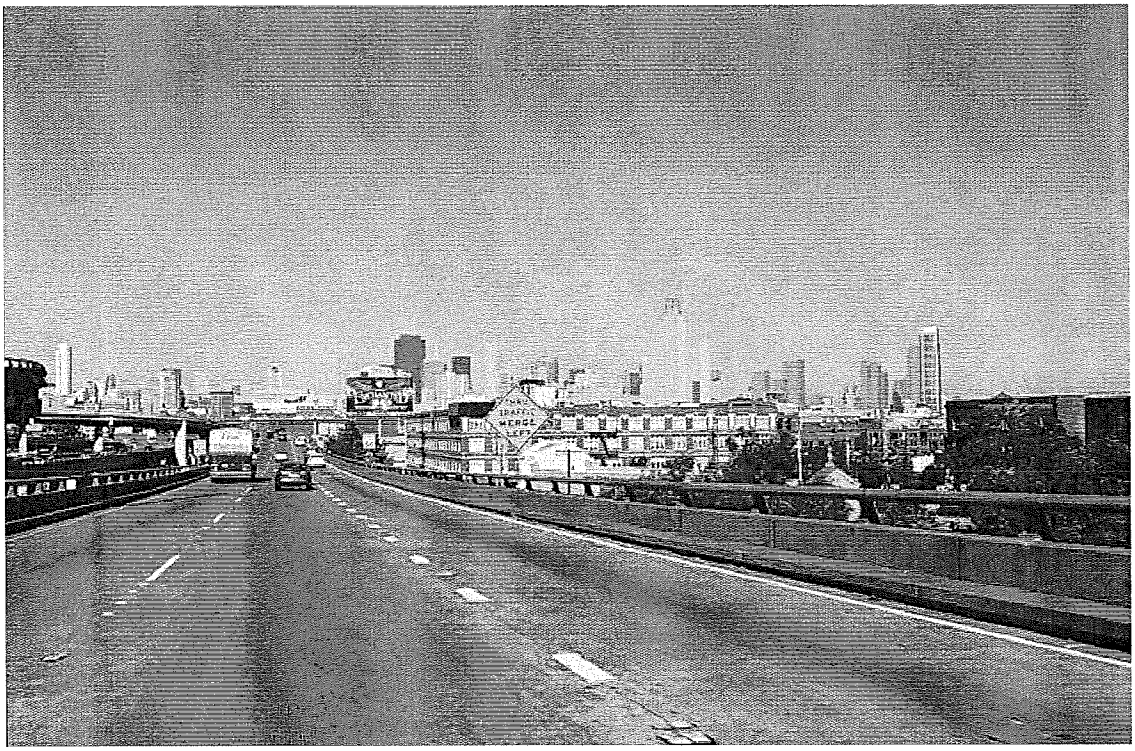
Plan

SOURCE: Square One Productions

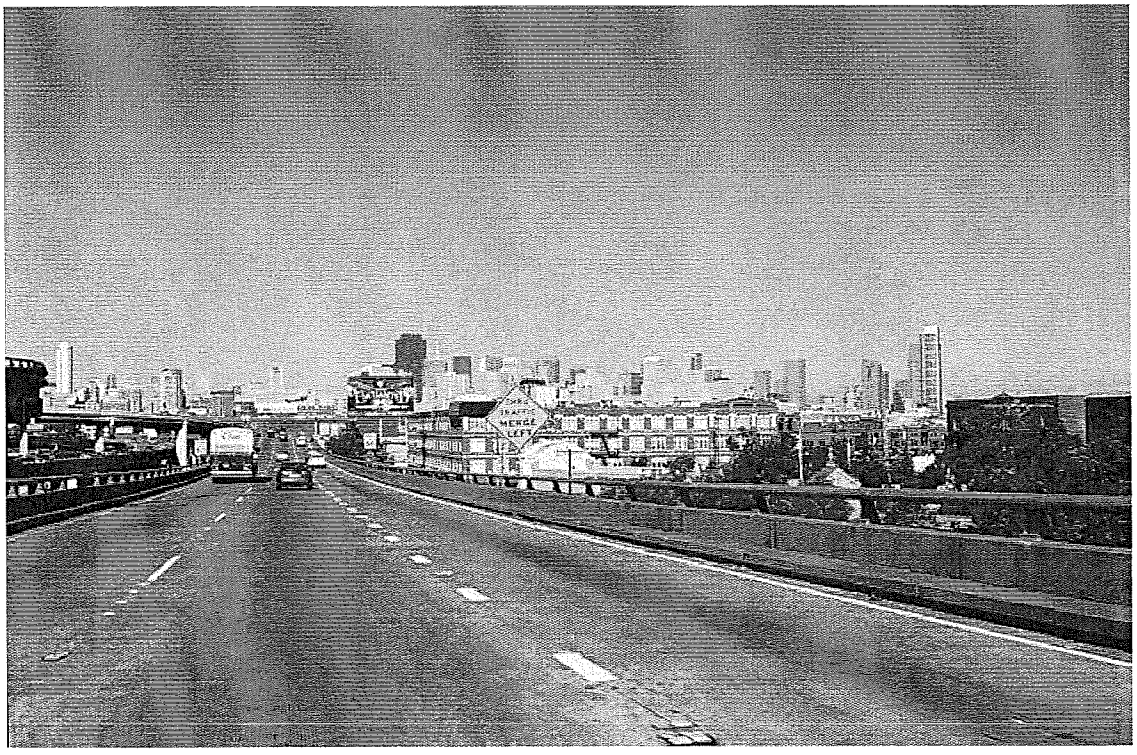
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 35A

Visual Simulation: U.S. 101 Northbound at UPS Building



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

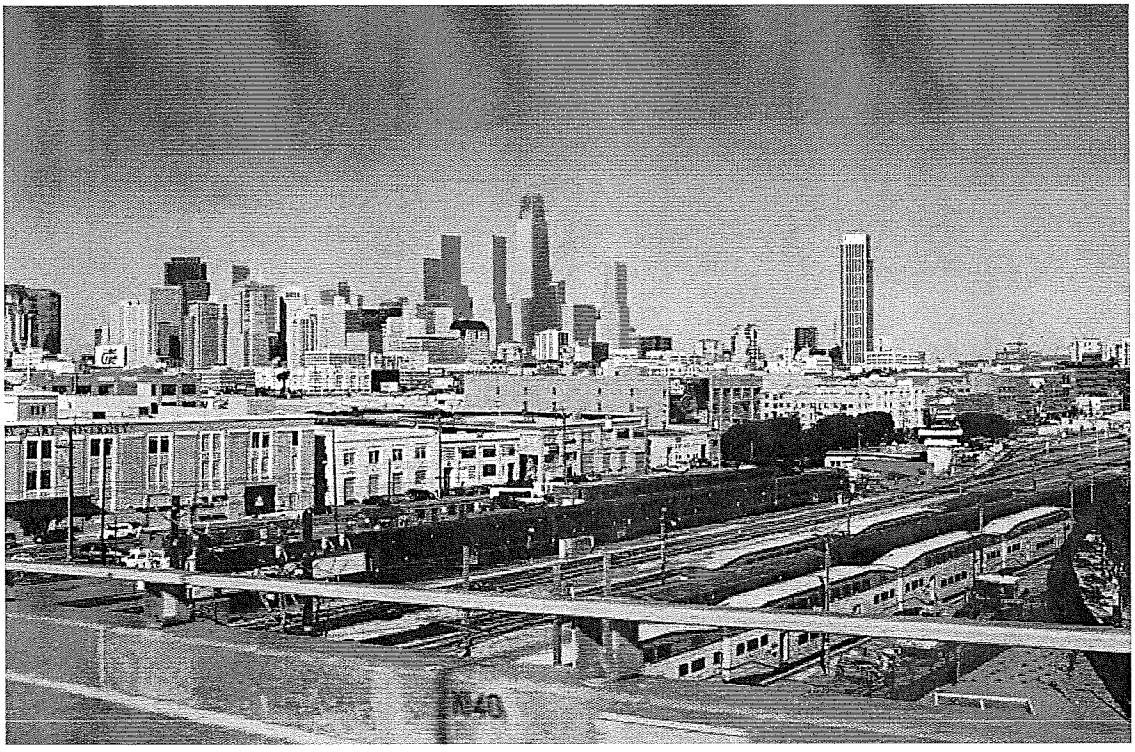
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 35B

Visual Simulation: U.S. 101 Northbound at UPS Building



Existing



Plan

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: Square One Productions

Figure 36A

Visual Simulation: I-280 at Sixth Street



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 36B

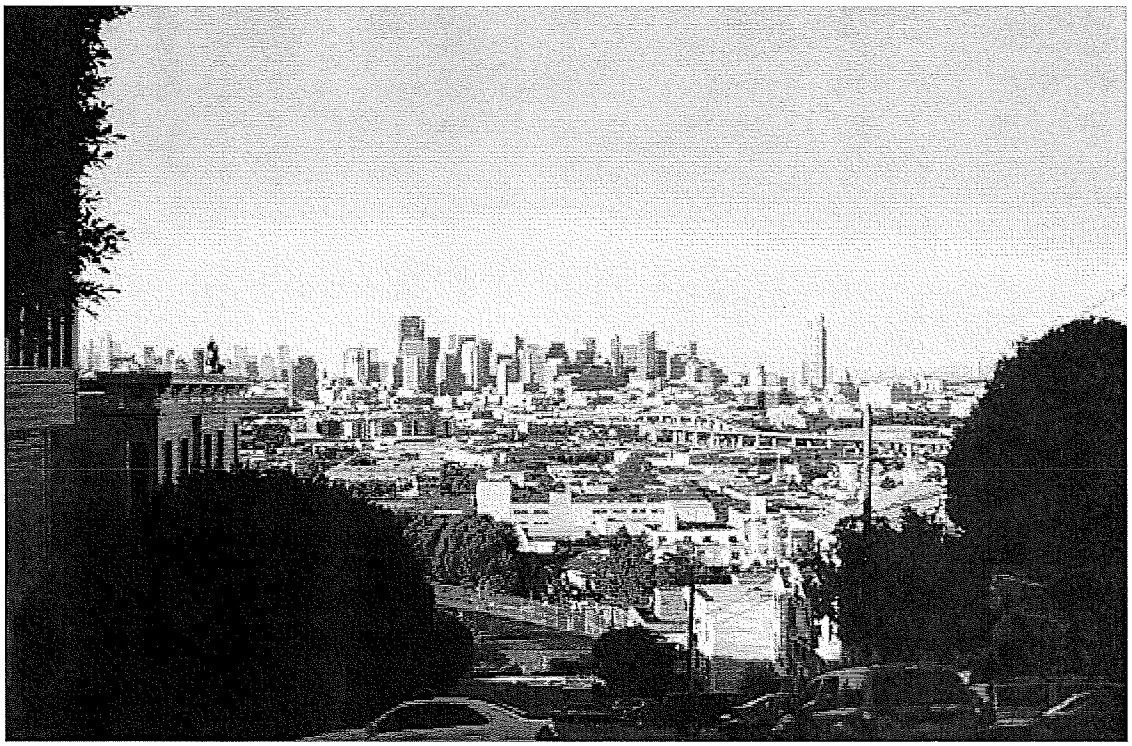
Visual Simulation: I-280 at Sixth Street

This newly formed urban peak would be particularly apparent in views from Potrero Hill (**Figure 37A**), with a viewpoint located between these two freeways but farther south (approximately two miles from the Plan area). Most of the proposed and potential Plan-area buildings would be visible from this vantage point and, in contrast with longer-range viewpoints from the west, the new structures would be essentially unobscured by existing buildings. Moreover, because of the relative orientation of the street grid of Potrero Hill with that of the Plan area blocks, the Transit Tower and other Plan-area buildings would be viewed at approximately a 45-degree angle, meaning that two facades would be fully visible. This would increase the apparent width, and therefore the mass, of the new buildings, as would the fact that the Plan area is closer to Potrero Hill than are other parts of downtown. As with other longer-range views, the Transit Tower would be the tallest feature in the skyline, and its height would be accentuated by the fact that the Bank of America building and Transamerica Pyramid are largely obscured by other buildings in this view. Some small portion of the sky would be obscured as a result of implementation of the draft Plan, although such a change would not be considered substantial as most of the sky would remain visible just to the right and left of the Plan area. With the primary exception of the Transit Tower, the net effect largely would be to further fill in the existing densely developed Downtown, and thus the change would not be considered adverse.

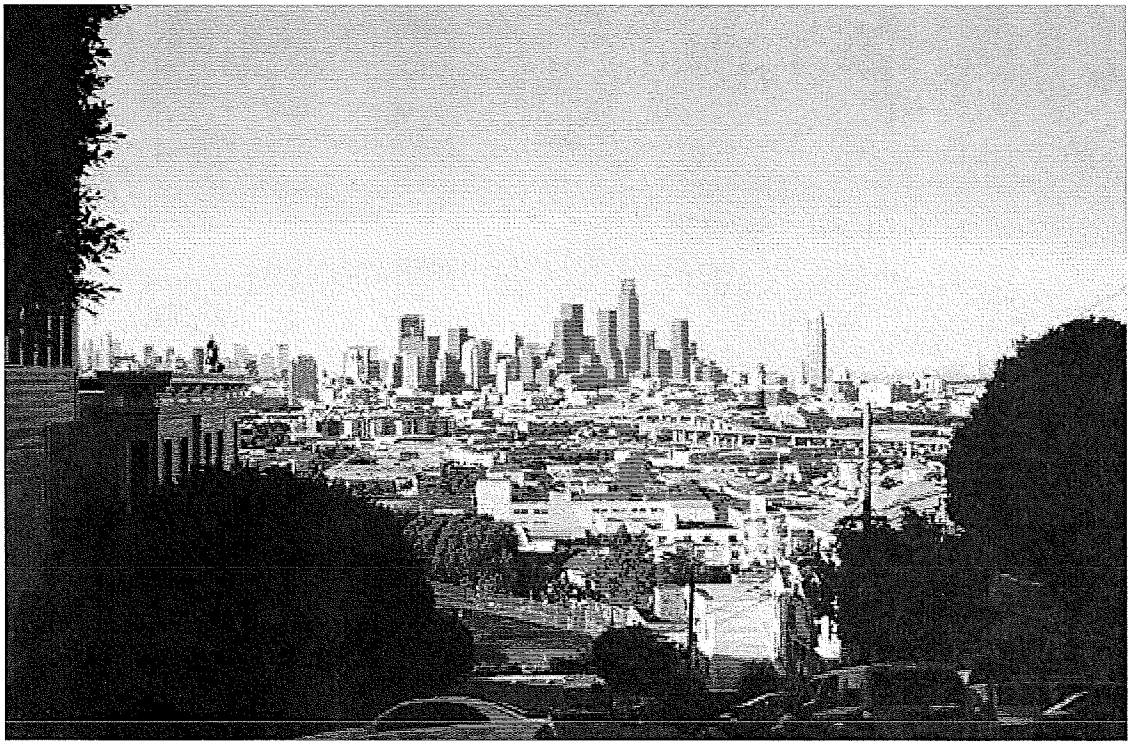
Views of Plan area buildings from Telegraph Hill, approximately one mile north of the Plan area (**Figure 38A**), are, and would continue to be, largely obscured due to existing vegetation and development. However, they would include the upper stories of the Transit Tower and several of the tallest of the other proposed or potential buildings. The visual dominance of the Transamerica Pyramid and Bank of America Building would remain, given their relative proximity to Telegraph Hill (especially the former). However, other high-rises that currently define the skyline (i.e., 345 California Street) would be somewhat diminished in prominence by the tall new structures in the Plan area. This change, while evident, would not be considered adverse, because new buildings in the Plan area would be behind existing high-rise development and would not block views of either the Bay or the Bay Bridge, both of which would remain visible, as at present, to the left (east) in views from Telegraph Hill, nor would views of open space be obscured.

In views from Treasure Island (**Figure 39A**) and the Bay Bridge (**Figure 40A**), the Downtown skyline would be changed in a manner similar to that with other longer-range views described above. From these vantage points, the newly constructed Transit Tower would peak above the backdrop of existing buildings and other new towers, with other proposed and potential buildings, including 181 Fremont Street, 50 First Street, and the TJPA Parcel F building, readily apparent and clustered around the Transit Tower. This visual prominence of the Transamerica Pyramid would, to some degree, be supplanted by the dominance of the proposed Transit Tower and other buildings proposed in the surrounding area.

Although bitterly fought over when first proposed, the Transamerica Pyramid has arguably become an iconic structure on the San Francisco skyline by virtue of both its height and its distinctive silhouette. None of the Plan area buildings would obscure the Pyramid, however, and its somewhat diminished prominence on the skyline in long-range views would not be considered an adverse change, as the Pyramid would retain its importance in the skyline due to its distinctive silhouette. Moreover, from the



Existing



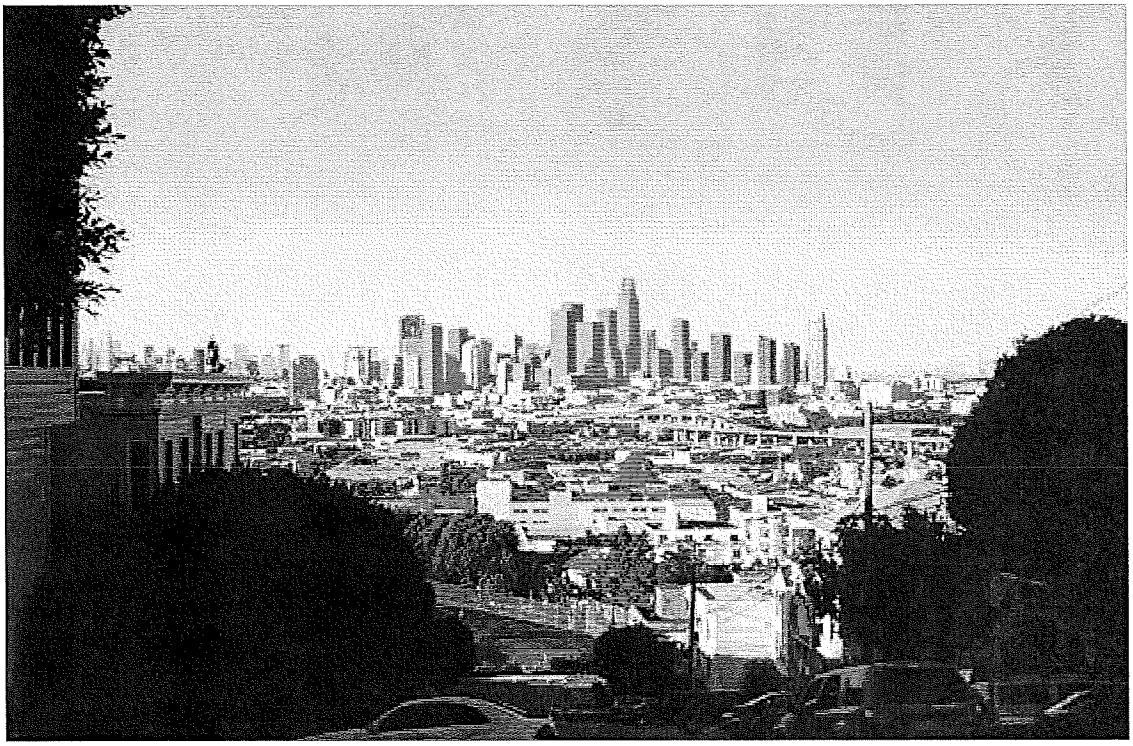
Plan

SOURCE: Square One Productions

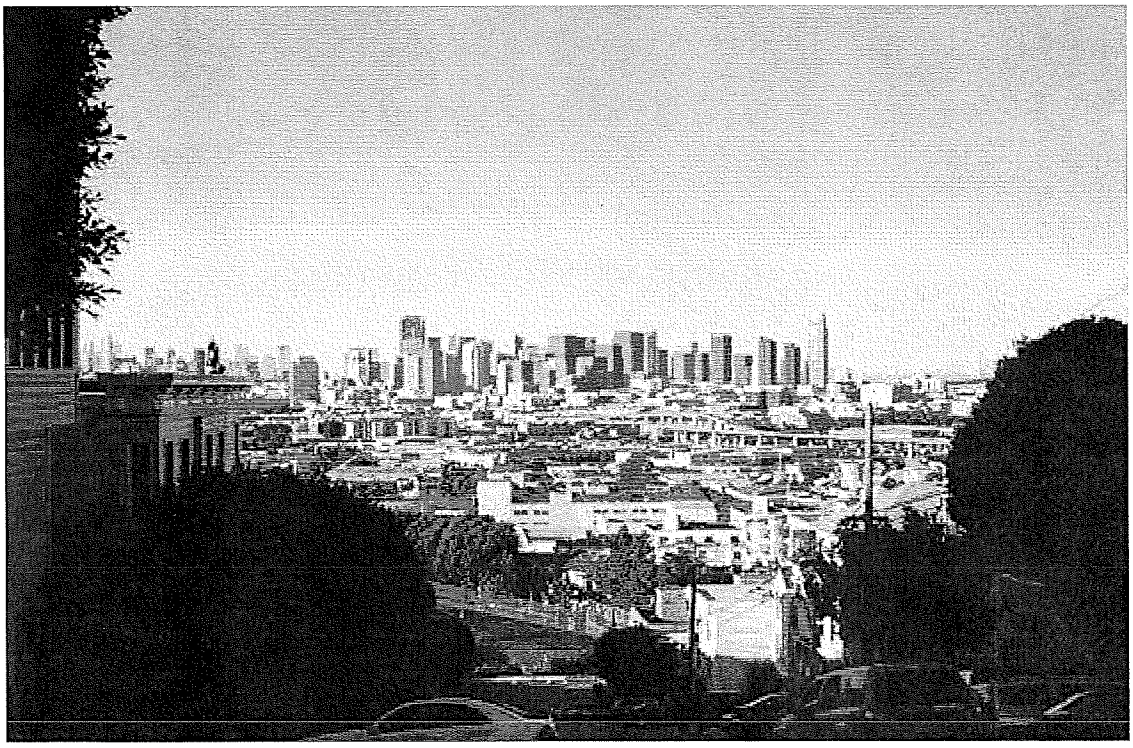
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 37A

Visual Simulation: Potero Hill



Cumulative



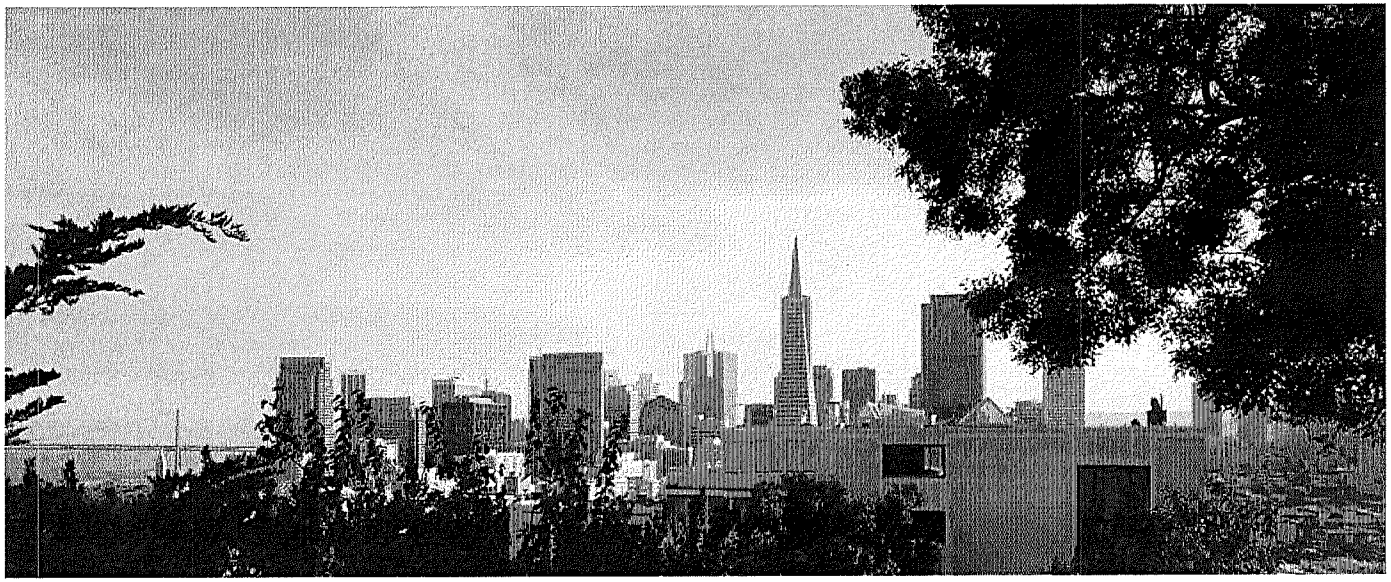
No Project plus Cumulative

SOURCE: Square One Productions

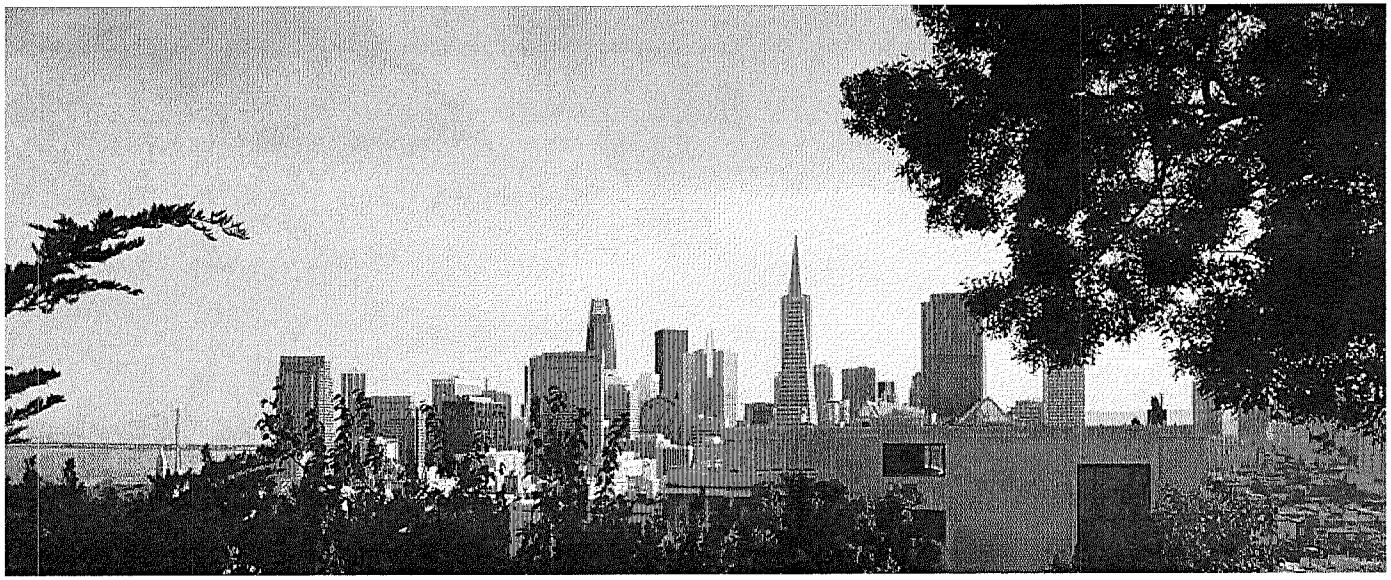
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 37A

Visual Simulation: Potero Hill



Existing



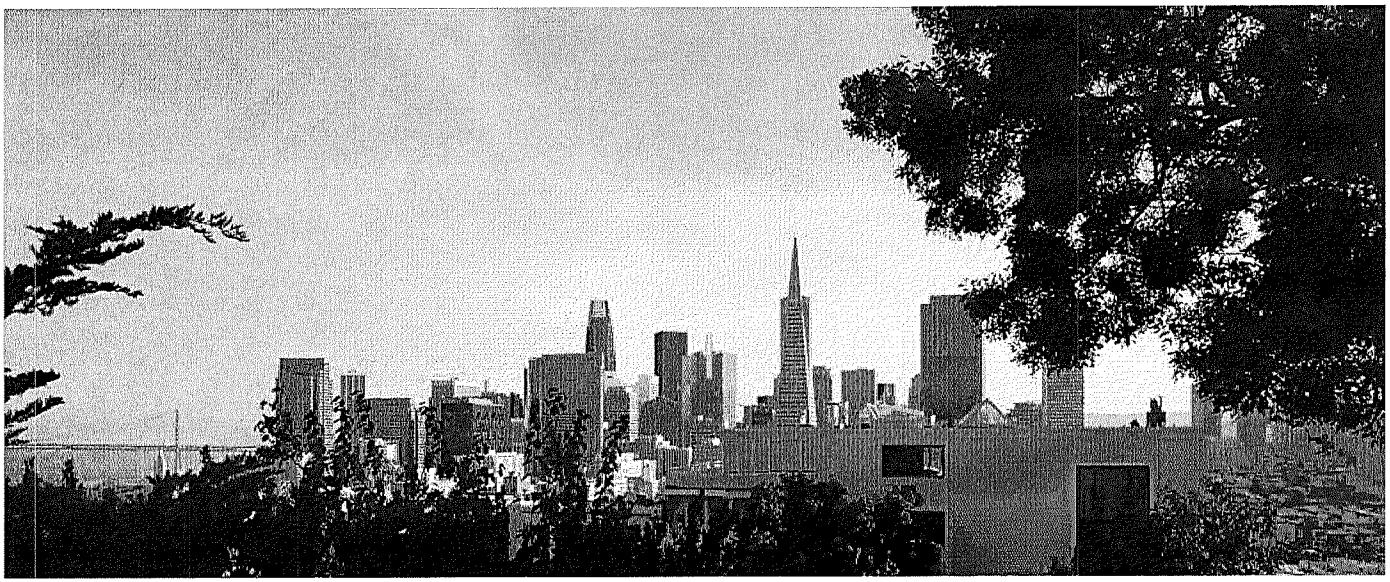
Plan

SOURCE: Square One Productions

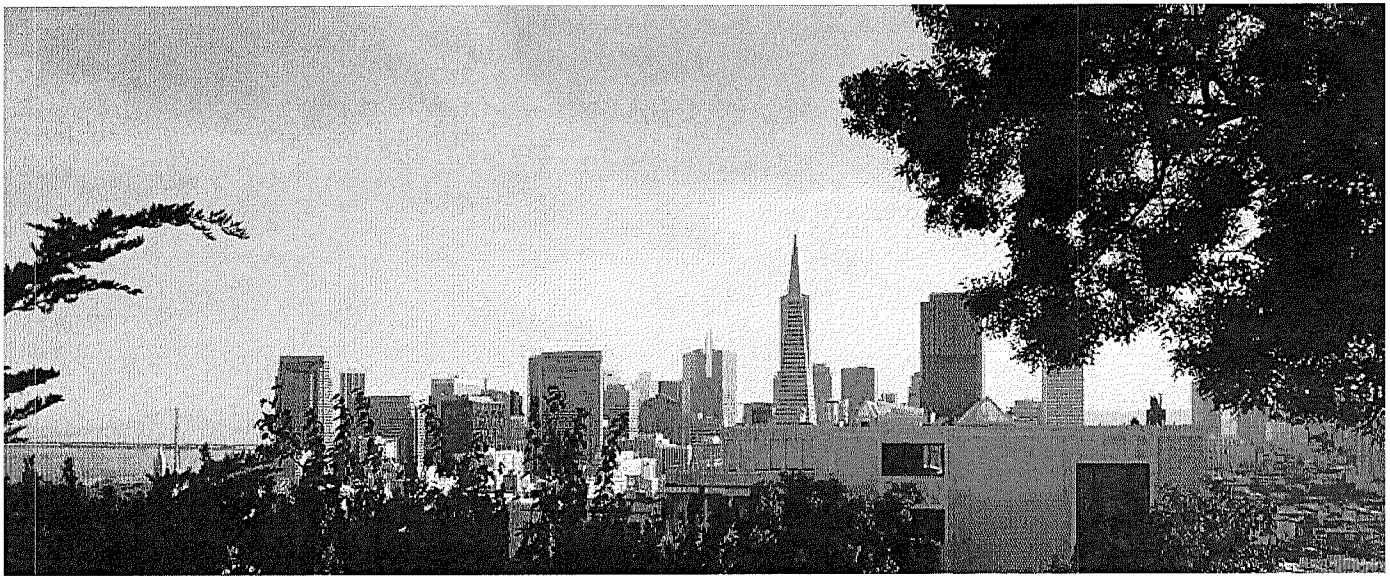
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 38A

Visual Simulations: Telegraph Hill



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 38B

Visual Simulations: Telegraph Hill



Existing



Plan

SOURCE: Square One Productions

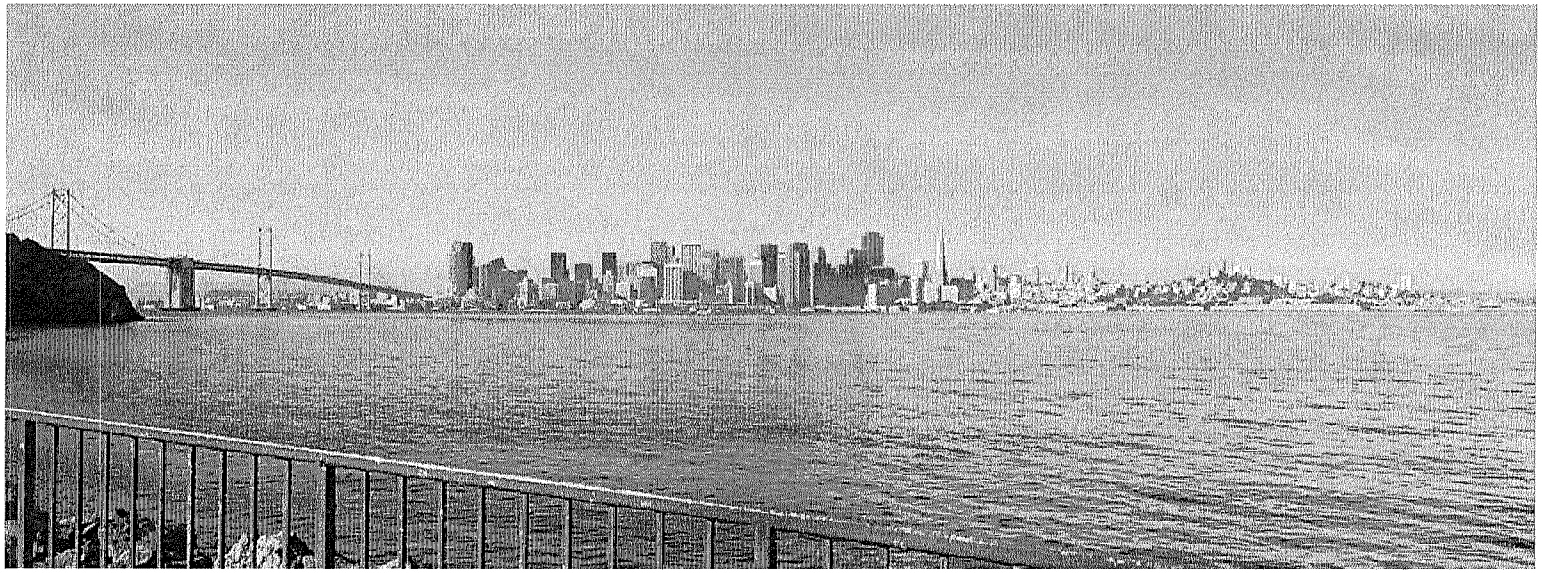
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 39A

Visual Simulations: Treasure Island



Cumulative



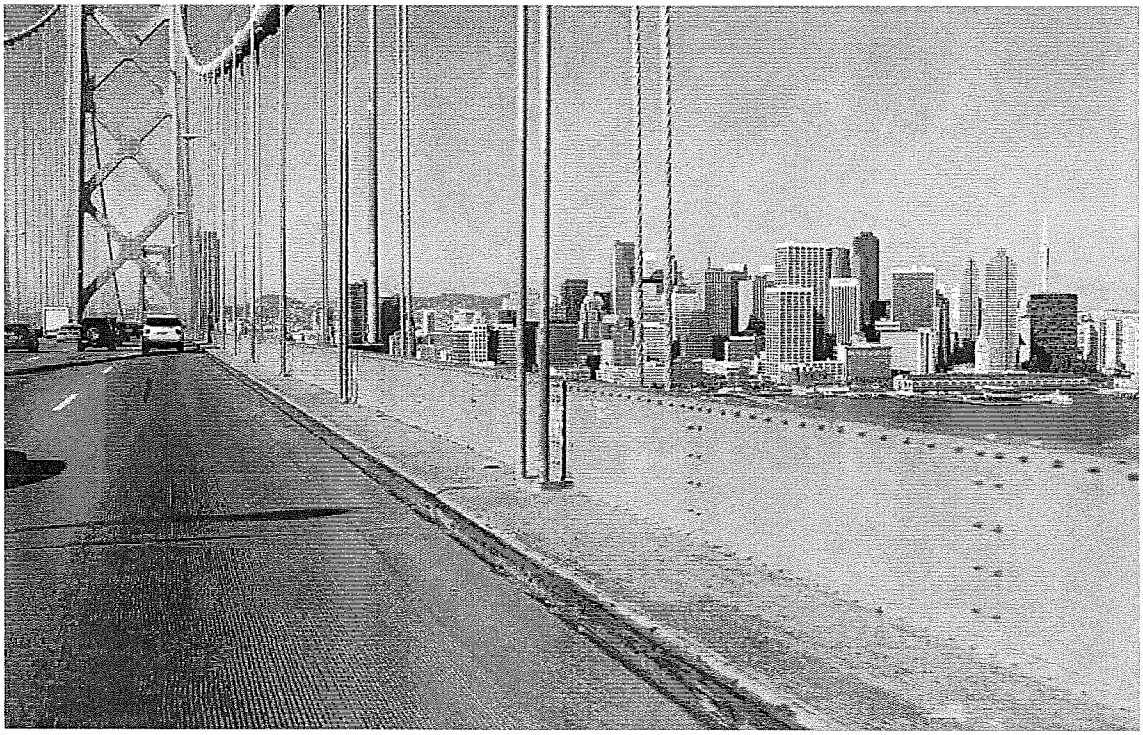
No Project plus Cumulative

SOURCE: Square One Productions

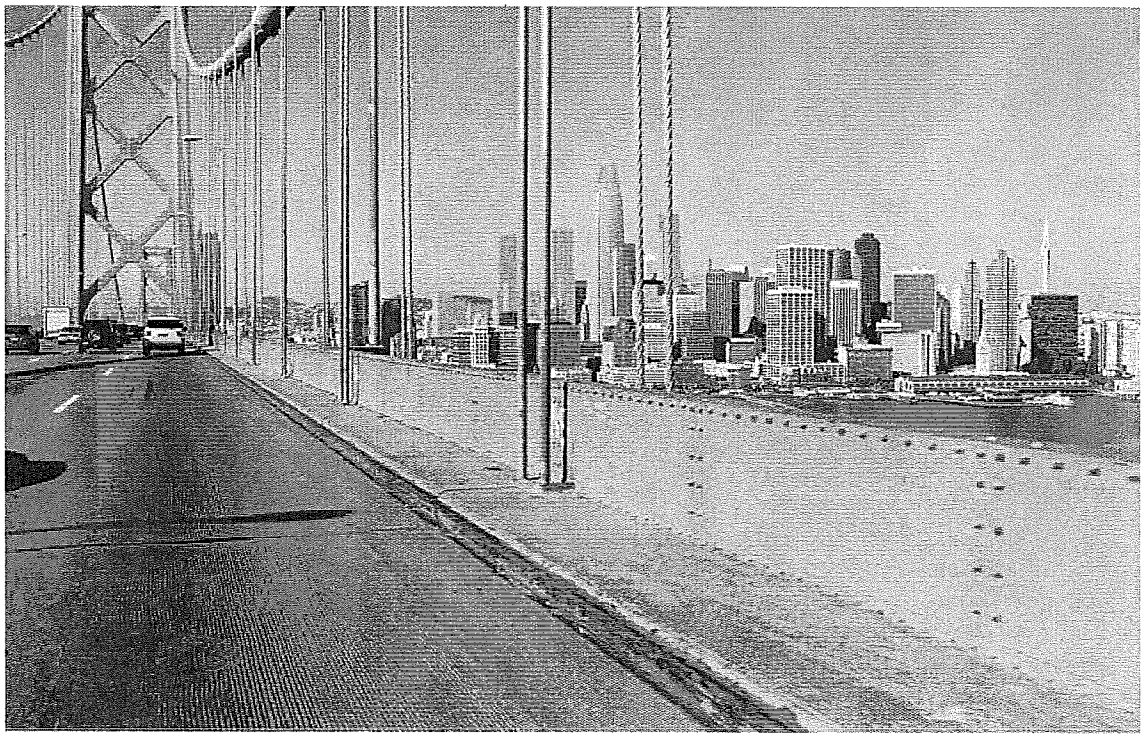
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 39B

Visual Simulations: Treasure Island



Existing



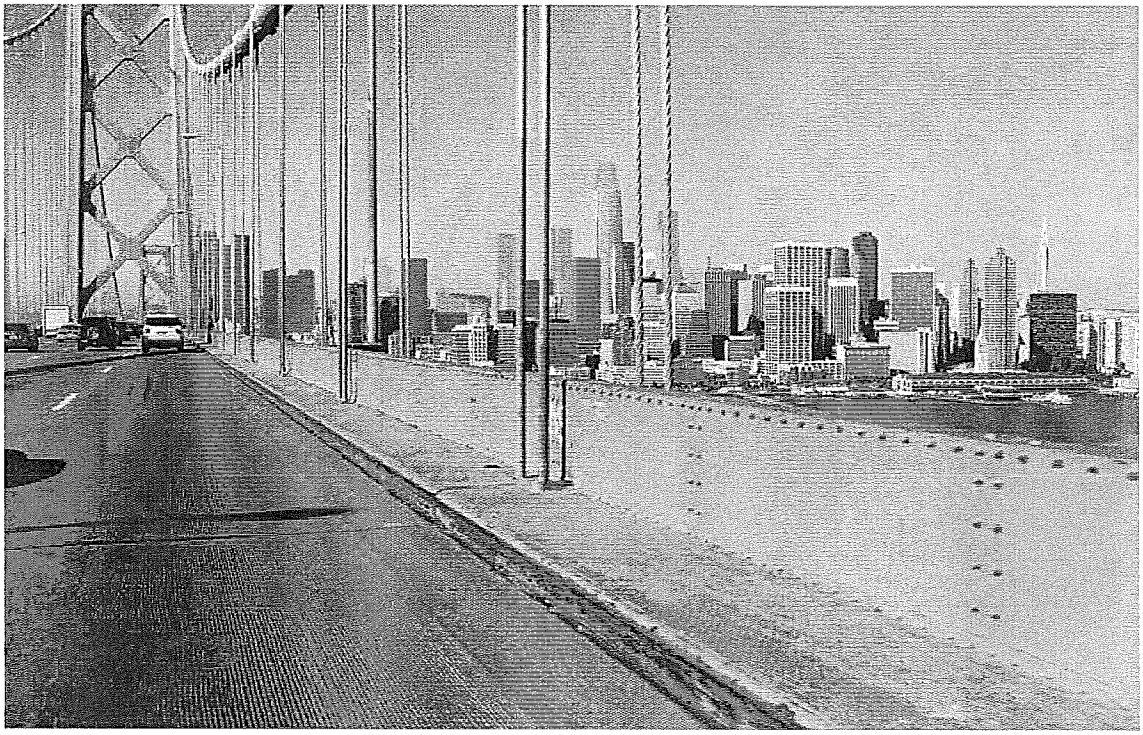
Plan

SOURCE: Square One Productions

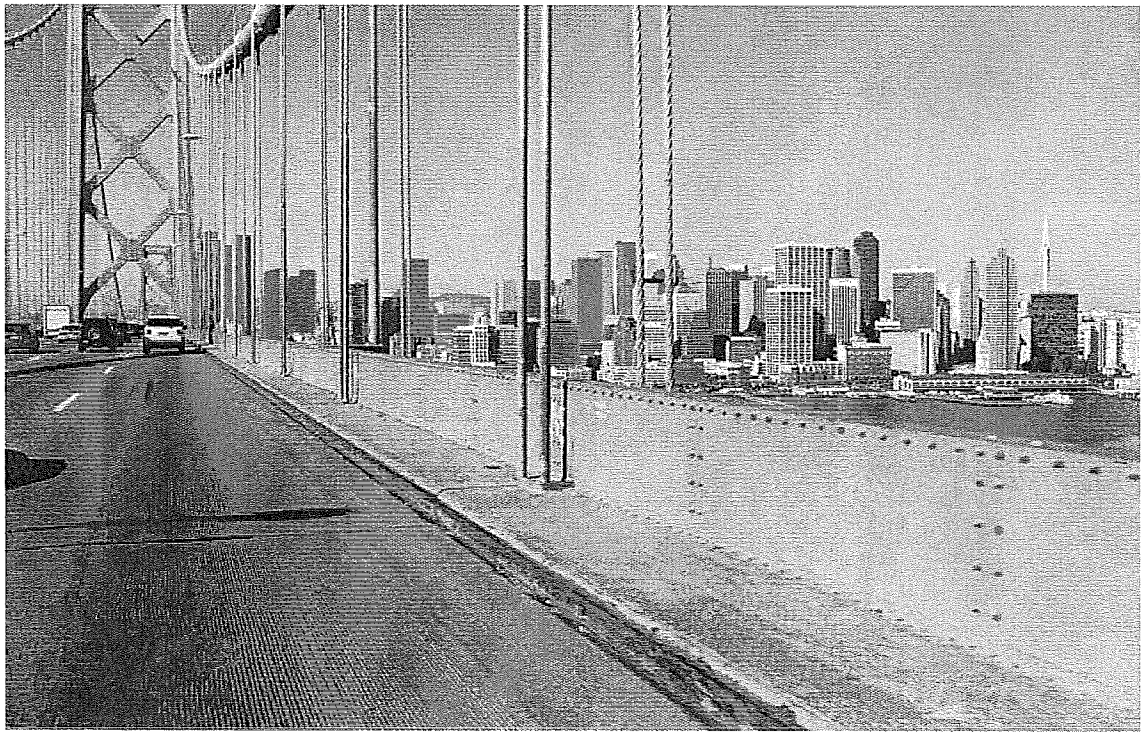
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 40A

Visual Simulation: Bay Bridge Upper Deck



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 40B

Visual Simulation: Bay Bridge Upper Deck

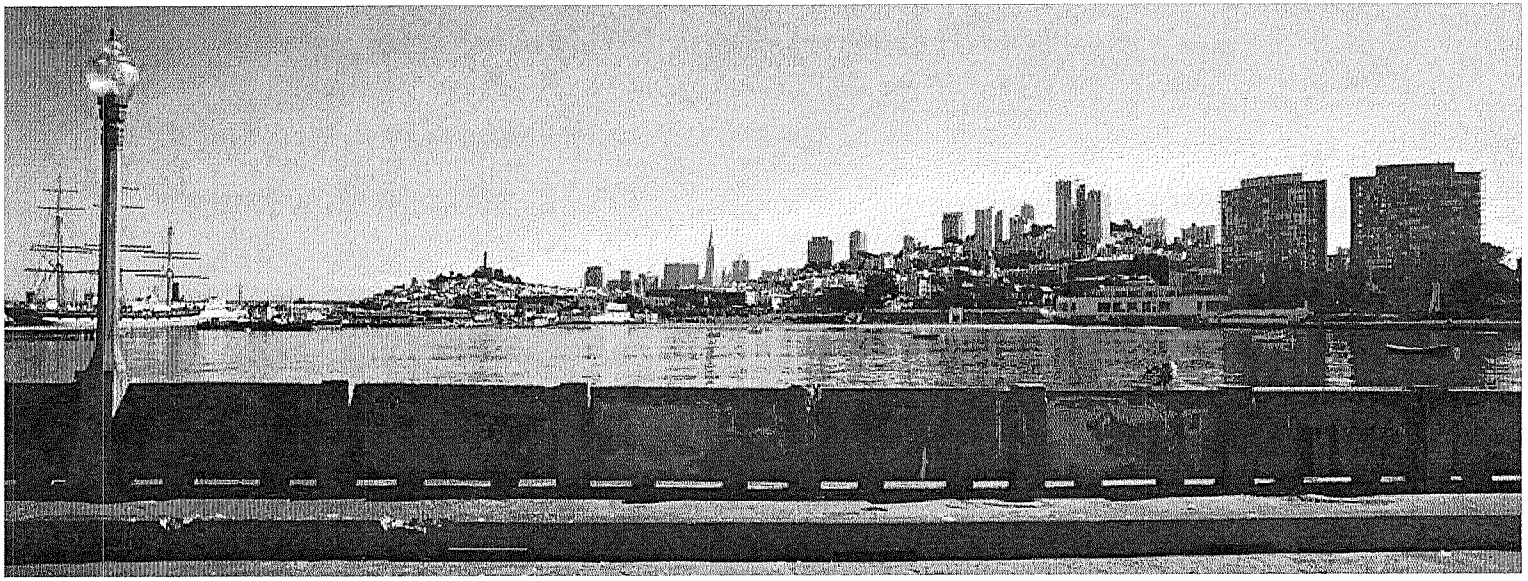
vantage point of Treasure Island, Plan-area buildings would not block scenic views of the City's hills beyond, nor would they obscure any Bay views or views of open spaces. Effects in views from Bay Bridge would be similar to those from Treasure Island, although in the image presented in Figure 40A, Plan-area buildings would obscure portions of the mid-City ridgeline that includes Twin Peaks and Mount Sutro. However, this view is extremely transitory: that is, observers only experience this particular view for a matter of seconds while traveling on the Bay Bridge at the speed limit in a moving vehicle, and this view of the City hills rapidly opens up as the observer comes alongside downtown. Therefore, and because much of the ridgeline would remain visible, even in this viewpoint, this effect is considered less-than-significant.

Lastly, views of the Plan area from Aquatic Park (**Figure 41A**), located approximately two miles northwest of the Plan area, would reveal the Transit Tower as well as some of the other proposed buildings in the surrounding vicinity. However, no "mounding" effect of multiple new tall buildings would be obvious from this vantage point, due to the competing topography at Telegraph Hill and other dominant structures along the shoreline that would obscure more than half of the new towers.

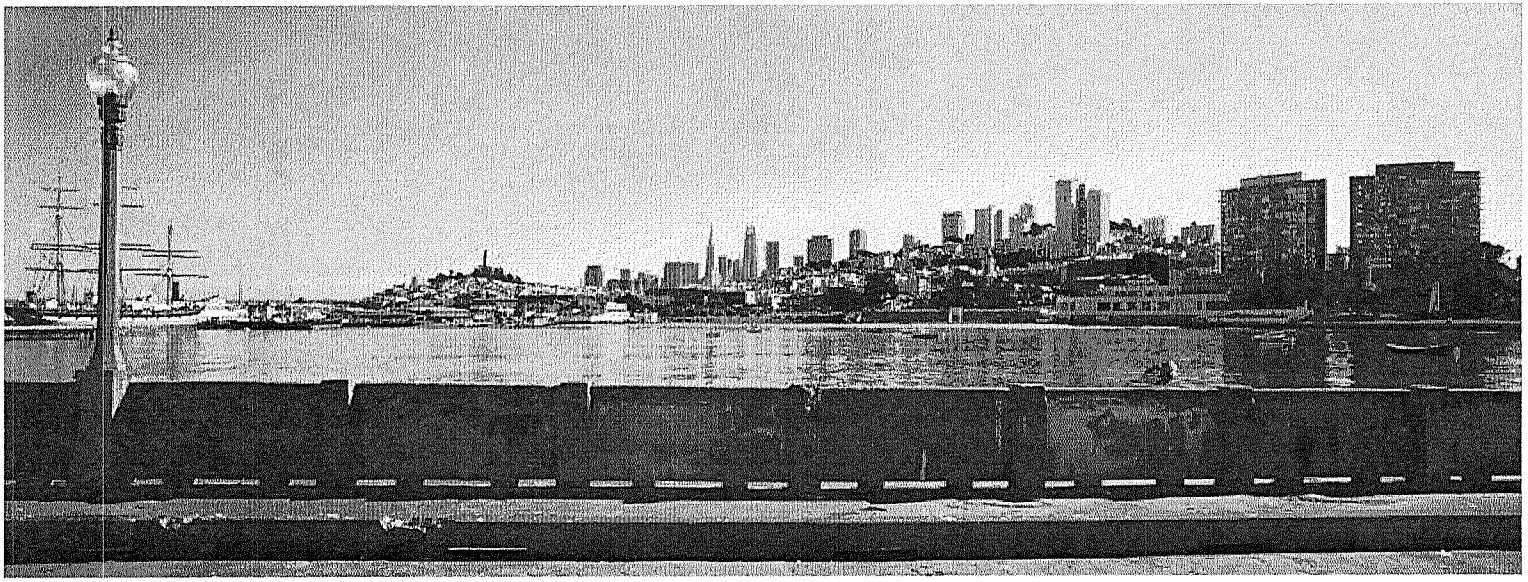
In conclusion, the increases in density and height of the proposed development would result in changes in the built forms, perceptible most clearly in long-range views of the Plan area. Although the draft Plan would alter at least some public views of downtown from almost all directions, the proposed changes would not constitute a substantial departure from the types and massing of structures that already exist in the Plan area. Implementation of the Draft Plan would provide an additional focal point in long-range views of and through the area, consistent with the direction in the Urban Design Element that tall buildings emphasize the importance of activity centers, such as transit stations, by the location of tall buildings. Additionally, the draft Plan calls for the proposed Transit Tower and a limited number of other buildings taller than existing development to be separated by sufficient distance and to incorporate setbacks and sculpted massing such that they would not adversely affect important views. While the perception of views is inherently subjective and it is conceivable that the changes to the skyline described above due to development pursuant to the draft Plan may be perceived as substantial and perhaps adverse to some individuals, this analysis concludes that the draft Plan, by its adherence to the principles of the *General Plan* Urban Design Element, would largely result in less-than-significant aesthetic impacts.

The exception to this overall conclusion is the effect of the Plan on the views from Twin Peaks and Portola Drive. As discussed above, from these central vantage points views of the Bay, Bay Bridge, and Yerba Buena Island would be overwhelmed and potentially obscured by Plan area buildings. Policy established through the *General Plan* recognizes that such an outcome would be adverse, and for this reason the impact is conservatively considered **significant and unavoidable**.

It is important to point out that it is possible that not all of the buildings illustrated in visual simulations would be developed. Those that are developed would be constructed according to different schedules, spanning perhaps a number of years. Therefore, for some undetermined amount of time following the certification of the EIR and adoption of the draft Plan, one or more of the sites under construction and



Existing



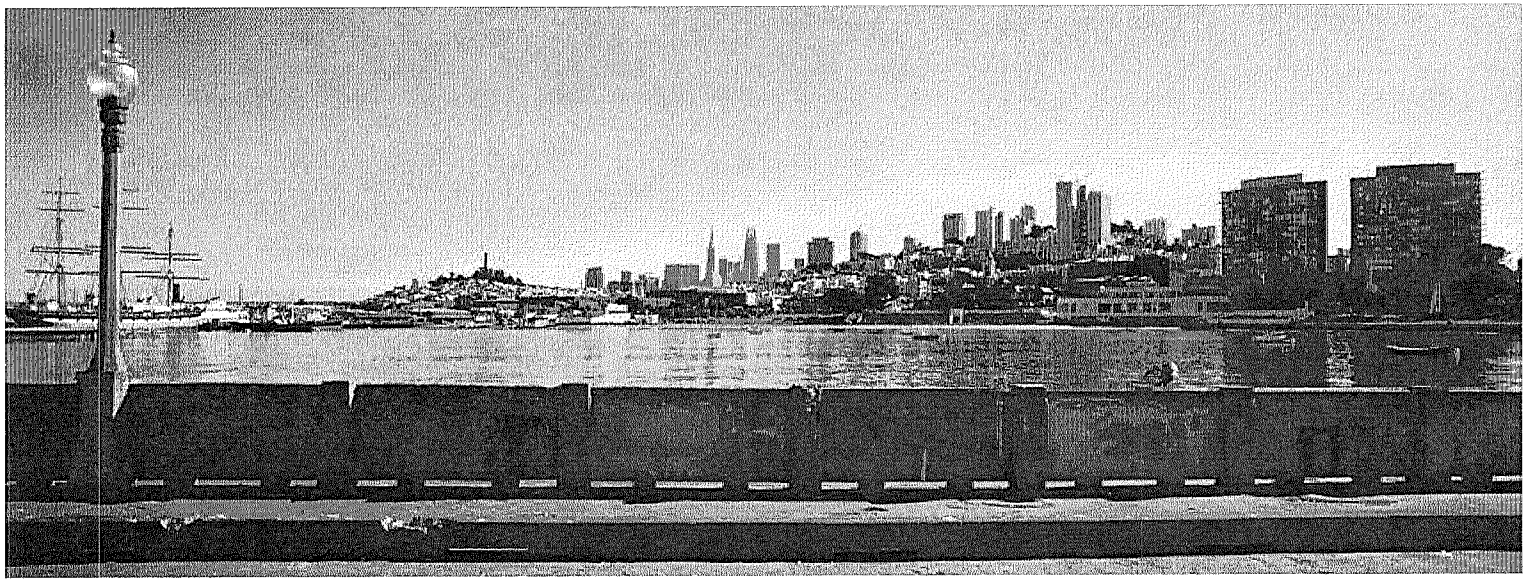
Plan

SOURCE: Square One Productions

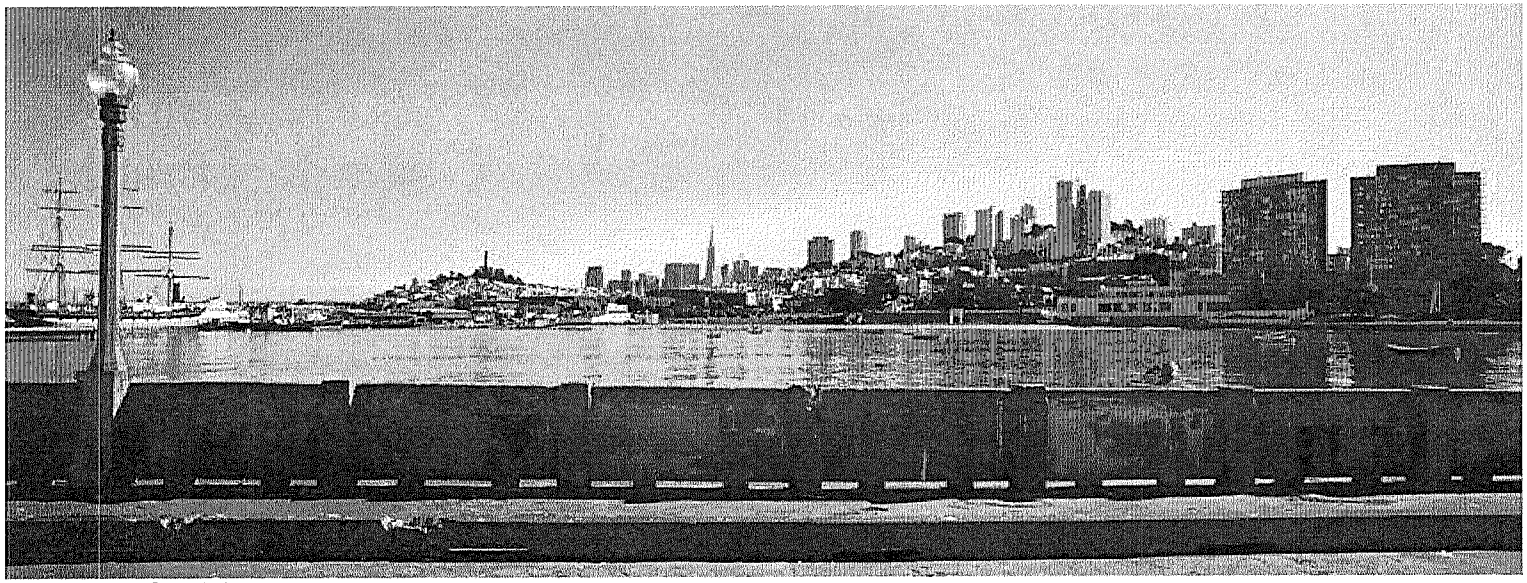
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 41A

Visual Simulations: Municipal Pier, Aquatic Park



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 41B

Visual Simulations: Municipal Pier, Aquatic Park

other site(s) with completed buildings could be visible. The analysis presented herein assumes, for purposes of a most conservative analysis, that all sites identified in the assumptions in Section 4.0 would be built upon.

Mitigation: No mitigation is available.

Impact AE-4: The draft Plan would result in increased light and glare in the Plan area. (Less than Significant)

Individual development projects that occur under the proposed Plan would generate additional night lighting in the future, but the change is not anticipated to be substantial or adverse in the context of the existing densely developed Downtown. New lighting would not be in excess of that currently emitted by existing high-rises, and could be expected to be incrementally reduced, on a per-building basis, with the ongoing and increasing focus on energy conservation. Therefore, implementation of the draft Plan would not result in obtrusive light or glare that would adversely affect views or substantially affect other properties. (A separate analysis of lighting effects on birds is presented in Section IV, Biological Resources.)

Planning Commission Resolution 9212 generally prohibits the use of mirrored or reflective glass in new buildings. Therefore, effects related to glare would not be substantial, and would be less than significant.

Based on the above, impacts of the proposed Plan on light and glare would be less than significant.

Mitigation: None required.

Transit Tower

Impact AE-5: The implementation of the Transit Tower project would alter the visual character of the tower site vicinity and alter public views of the site and the surrounding Plan area from key public vantage points as well as alter views into the surrounding neighborhoods from within the Plan area. (Less than Significant)

As discussed in the Project Description, the Transit Tower would be a 61-story, approximately 1,070-foot-tall office building, located adjacent to the new Transit Center on the south side of Mission Street between Fremont and First Streets. The design of the building would include concave curved exterior walls on all sides, with walls tapering as the building rises. A lattice-like steel sculptural element atop the building would extend 150 feet in height above the approximately 920-foot-tall occupiable area of the tower, and would continue the building's tapering shape. A pedestrian bridge on the tower's fourth level would provide a walking connection from the Transit Tower to the City Park on top of the Transit Center.

Although the Transit Tower would be sited within an area that already contains a high concentration of tall buildings, it would nevertheless be taller than any of the existing structures in the immediate vicinity (or anywhere in San Francisco) and taller than all of the structures that could be constructed as part of the Transit Center District Plan. At the ground level, the new building would provide entrances along all four sides, creating ground-level activity along the project block and elevating the level of pedestrian activity. Despite the proposed tapering of the building, the tower would block views to the sky as well as reduce the amount of sunlight that reaches the ground level as compared to existing conditions. Although all of these changes would be noticeable, they would not substantially alter the visual character of the Transit Tower project site and the surrounding blocks, since they would constitute infill development and a continuation, albeit in a more intensified form, of the types of uses that have historically existed in this area.

In terms of views, photomontages of the proposed Transit Tower, along with accompanying photographs of existing conditions, are included in **Figures 42 – 52**, pp. 158 through 170. These images demonstrate changes that would occur to short-, medium- and long-range public views toward the Transit Tower project site. Thus, the increased height of the downtown "mound" that could eventually be achieved with implementation of the draft Plan and other cumulative projects in the surrounding vicinity is not presented in the images below.

It is noted that these visual simulations illustrate the proposed Transit Tower in the absence of other development proposed as part of the draft Plan. Because the redevelopment of specific opportunity sites would occur gradually over time, as individual project sponsors find opportunities and financing to implement their projects, it is possible that Transit Tower, the tallest building in the City, could be built ahead of the other anticipated projects within the Plan area. While this temporary outcome could be considered adverse, this conclusion is subjective. While the impacts of the draft Plan on long-range views from Portola Drive and Twin Peaks are conservatively considered significant due physical outcomes that would potentially conflict with the Urban Design element (see Impact AE-3), the Transit Tower alone would not result in this impact.

As shown in **Figure 42**, the current view of the site from Mission Street east of Fremont Street, which consists of a largely vacant, underutilized parcel (where the construction of the Transit Center is currently under way) would be replaced by the Mission Street frontage of the proposed Transit Tower. On the ground level, the building would appear as a relatively large building mass clad by glass curtain wall. Some articulation would be apparent, although from this vantage point, the tapering of the tower, or its overall architectural form (for instance, its height as related to other surrounding buildings), would not be readily evident.[70] The Transit Tower would block views of the buildings further east along Mission Street, as well

[70] The visual simulations from both close-in viewpoints on Mission Street do not depict the articulation of the ground floor of the Transit Tower building, because the Tower design has not advanced to this level of detail. Consistent with the draft Plan, a substantial portion of the ground floor would be expected to be occupied with active uses, such as retail and/or restaurant space and it is expected that the Transit Tower would comply with the draft Plan with respect to ground floor design and massing.



Existing



Project

SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 42
Visual Simulation (Transit Tower) from
Mission Street West of First Street

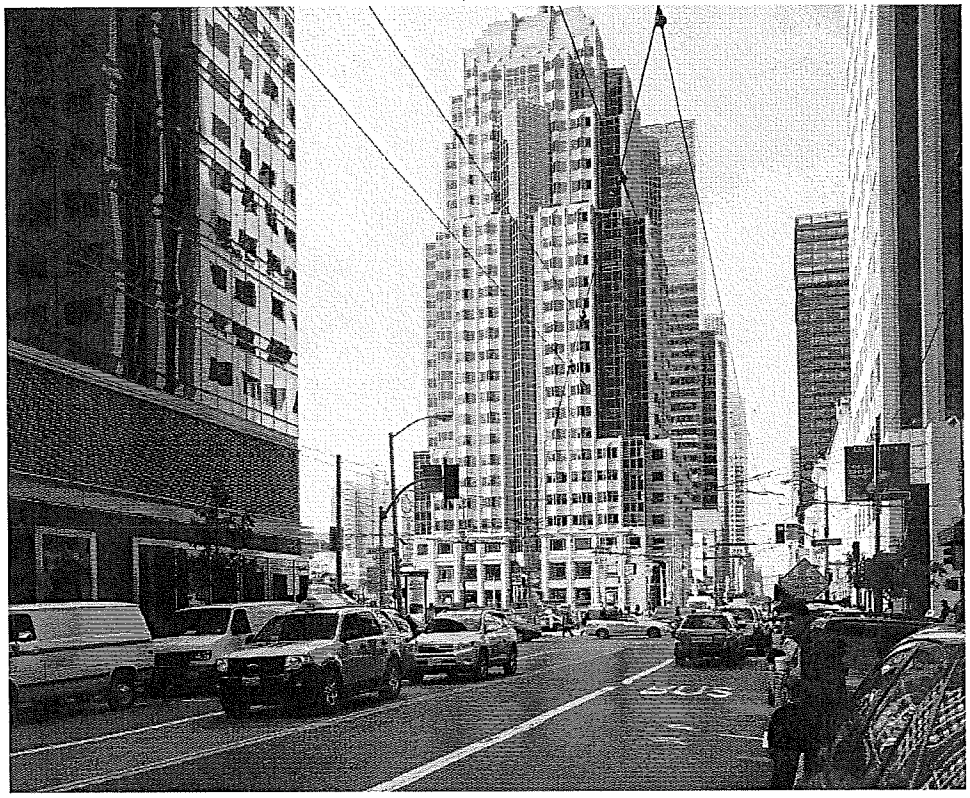
as other buildings to the southeast of the project site that are currently visible through the gap in the streetwall. While this view would be demonstrably altered with the construction of the Transit Tower, this would not be considered an adverse impact, as views of the building would be similar to other views already experienced along Mission Street and other surrounding streets.

Visual simulation of the proposed Transit Tower is also shown from Mission Street, west of First Street. As shown in **Figure 43**, the Transit Tower would appear similar to how it is described above, with its massing and the encircling glass façade as its defining visual characteristics. As with the easterly view from Mission Street, the Transit Tower would likewise block views of buildings immediately to the west, as well as to the southwest. However, while changes to this view would be clearly noticeable, they would not be considered adverse, since Mission Street is developed with other buildings that are similar in massing, lot coverage, and architectural style to the proposed tower.

Neither close-up view of the Tower site, each consisting of several other nearby towers, is considered scenic, and the development of the Transit Tower, while it would fill in areas of sky now visible, would not be considered an adverse change. It is noted that the transformation from the existing condition to development of a building would not constitute a loss of "open space," as the site in its current condition is not considered open space. Moreover, the most recent use of the site was as a bus and taxi loading facility for the Transbay Terminal, which was demolished in 2010.

As shown in **Figure 44**, the proposed Transit Tower would substantially alter views from the Fremont Street freeway off-ramp near Harrison Street. Although these views are typically experienced for short durations by drivers and passengers in passing vehicles, the proposed Transit Tower would become the dominant feature in the foreground, obstructing views of other downtown buildings in the background and substantially altering these views. It is noted that development approved along Folsom Street, in Zone 1 of the Transbay Redevelopment Plan, would partially obscure the Transit Tower in this view. However, if constructed prior to other development, the Tower would be visible nearly in its entirety from this vantage point, with its height further accentuated by the relatively low-scale development in the foreground; it would also appear twice as tall as existing nearby towers. From this vantage point, the Tower would thus clearly demarcate the location of the Transit Center. The view of the Transit Tower from the freeway off-ramp would represent a noticeable change from existing conditions; however, the view from the freeway off-ramp is not considered particularly scenic, and this impact would not be significant.

Views of the Transit Tower that show it within the context of downtown are also available from Potrero Hill, as shown in **Figure 45**. As demonstrated in these images, with the implementation of the Transit Tower, views of the skyline from Potrero Hill would be dominated by the proposed tower, which would appear as a disruption to the generally flat development pattern of the downtown skyline. The tower would be somewhat similar to the Bank of America tower in the left field of vision and the One Rincon Tower in the right field of vision, but due to its height, central placement among other downtown buildings, and the unique tapered form, would stand out among these other structures. The Transit Tower in this view would introduce a new focal point, identifying the Transit Center as an important



Existing

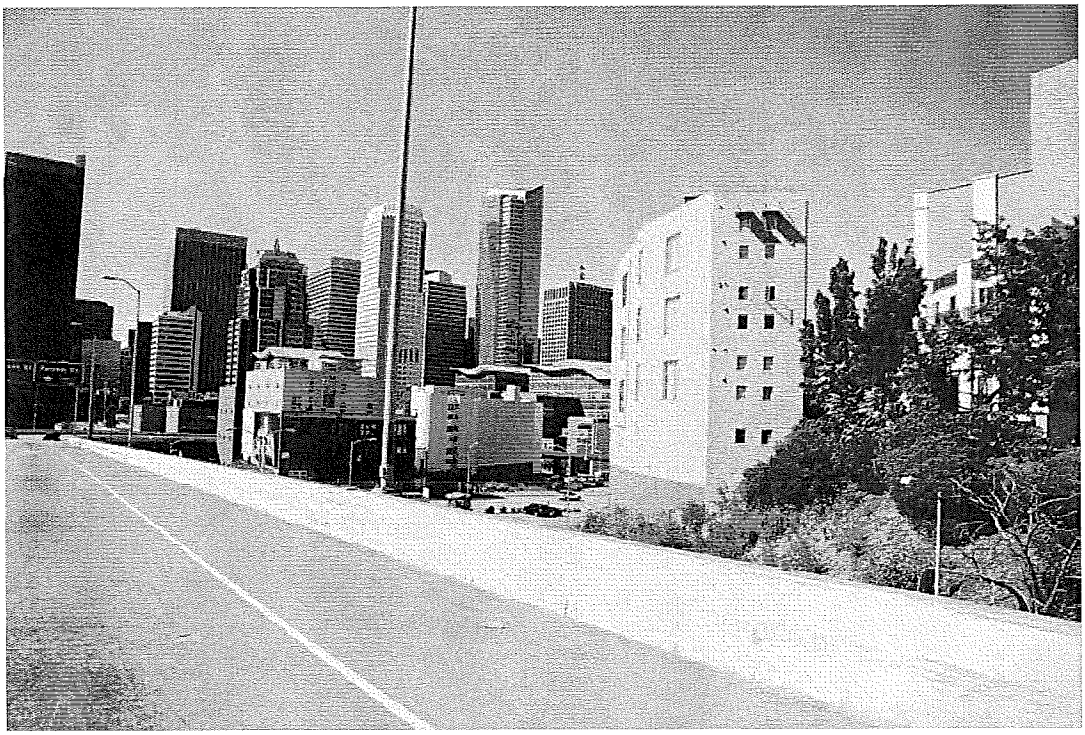


Project

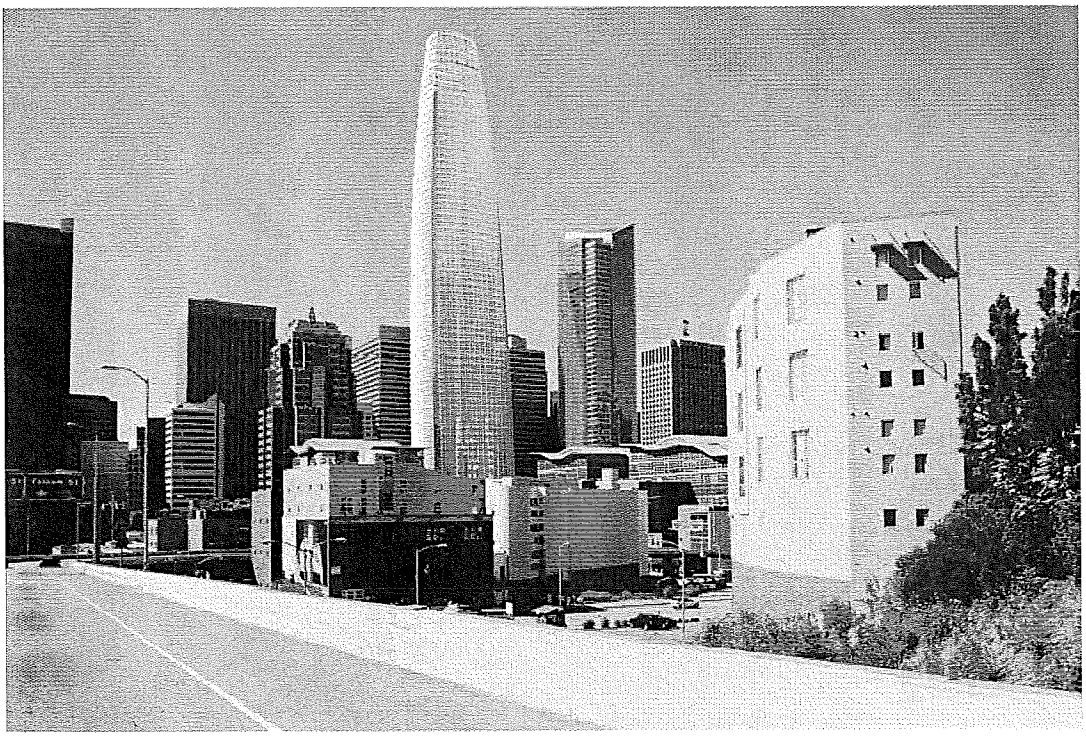
SOURCE: Square One Productions

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 43
Visual Simulation (Transit Tower) from
Mission Street East of Fremont Street



Existing

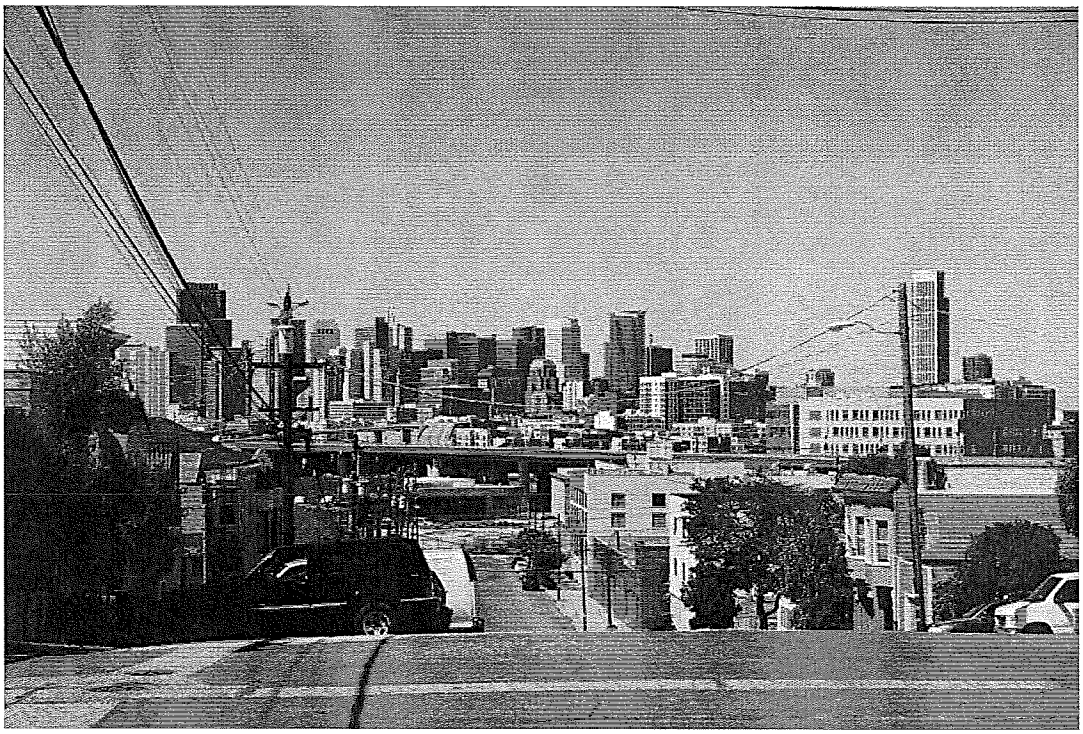


Simulation

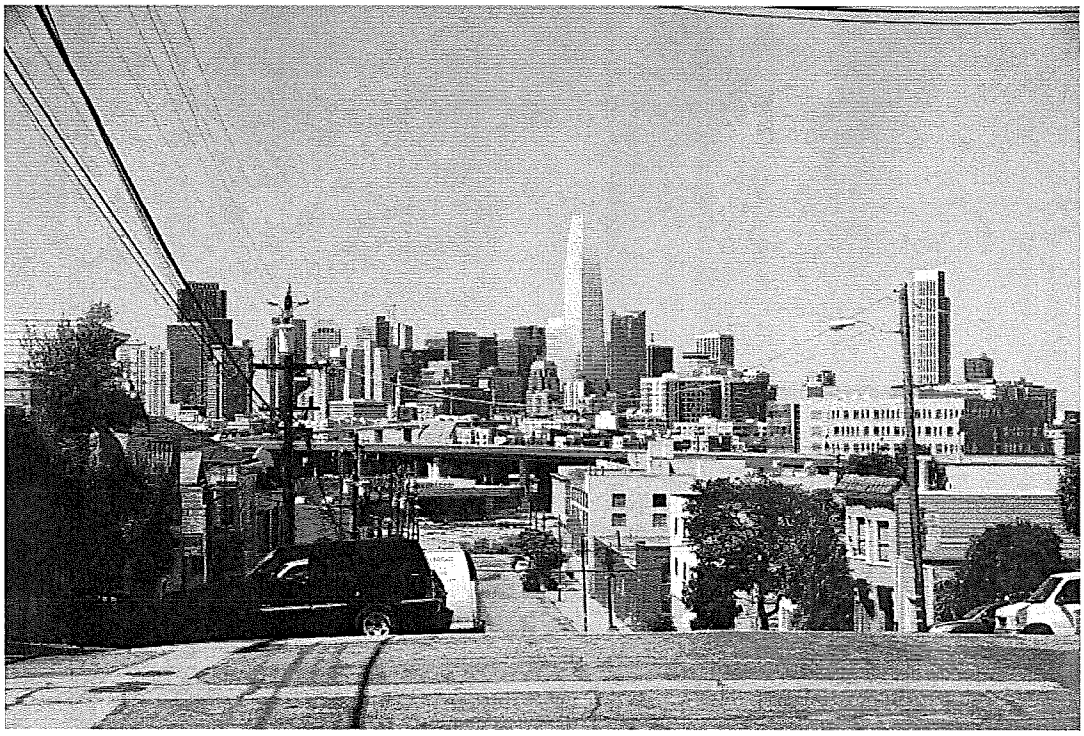
SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 44
Visual Simulation of Transit Tower from
Fremont Street Ramp near Harrison



Existing



Simulation

SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 45
Visual Simulation of Transit Tower from
Potrero Hill - Missouri and Mariposa

activity center in the South Financial District. As with the effects of the draft Plan described in Impact AE-2, the apparent mass of the Transit Tower would be greater in this view than in many others because two full facades would be clearly visible. Nevertheless, no important views of the Bay or hills would be obscured, and the impact would not be considered significant or adverse.

The view from Post and Jones Streets toward the project site, as shown in **Figure 46**, would not change dramatically, although the upper portion of the proposed Transit Tower would be newly visible in the background, as a new element anchoring the end of Post Street at the Transit Center. Because the perceived size of the tower would be somewhat tempered by its distance from this vantage point and the overall mid- to high-rise scale of the surrounding development, and because the Tower would play a key role in orienting the pedestrian from this viewpoint, the change to this public view would not be considered substantial or adverse.

Views toward the Transit Tower project site from the Bay Bridge, both from the bridge's western span (which contains iconic views of the San Francisco's downtown skyline) and over Spear Street, are shown in **Figures 47 and 48**. From both vantage points, the new Tower would dominate the mid- to long-range views, rising substantially above the existing development in the surrounding area and obscuring some views of the sky. As with the draft Plan described in Impact AE-2, these views would be highly transitory in nature. Although the tapered tower would interrupt the existing development pattern by introducing a major new visual element, which might be perceived by some to be an adverse change, the Transit Tower would not obscure the City's central ridgeline, would not block important scenic views, and would focus the observer's attention on the Plan area as a major new source of activity, consistent with the direction in the Urban Design Element. Therefore, this impact would be less than significant.

Long-range public views of downtown are also available from Alamo Square and Dolores Park (**Figures 49 and 50**), both of which are considered recreational areas and thus, experience heavy use by the general public. From both views, the development pattern of the downtown skyline would be altered by the proposed Tower, which would be co-dominant with the Bank of America tower, the One Rincon tower and the Transamerica pyramid. From both of these viewpoints, the Tower would somewhat dramatically shift the observer's focus to the South Financial District, emphasizing the importance of the Plan area; again, this would be consistent with the Urban Design Element. Additionally, the Tower's apparent bulk would be substantially less than that of the Bank of America building when seen from both locations. Thus, although clearly a substantial change, this alteration of the skyline would not be considered adverse.

From the vantage point at Columbus Avenue and Broadway (shown in **Figure 51**), changes to views would not be easily perceptible, as only the tapered top portion of the Transit Tower would be visible beyond the existing intervening development; accordingly, no adverse effect would ensue.

As shown in **Figure 52**, from the end of Pier 7 (along the City's waterfront north of the Ferry Building), views toward the Transit Tower project site would also be altered. Although the proposed tower would be taller than the buildings along Market Street and buildings along the north-south oriented streets south of Market Street (i.e., Main, Spear, and Steuart Streets), it would appear similar in scale to these



Existing

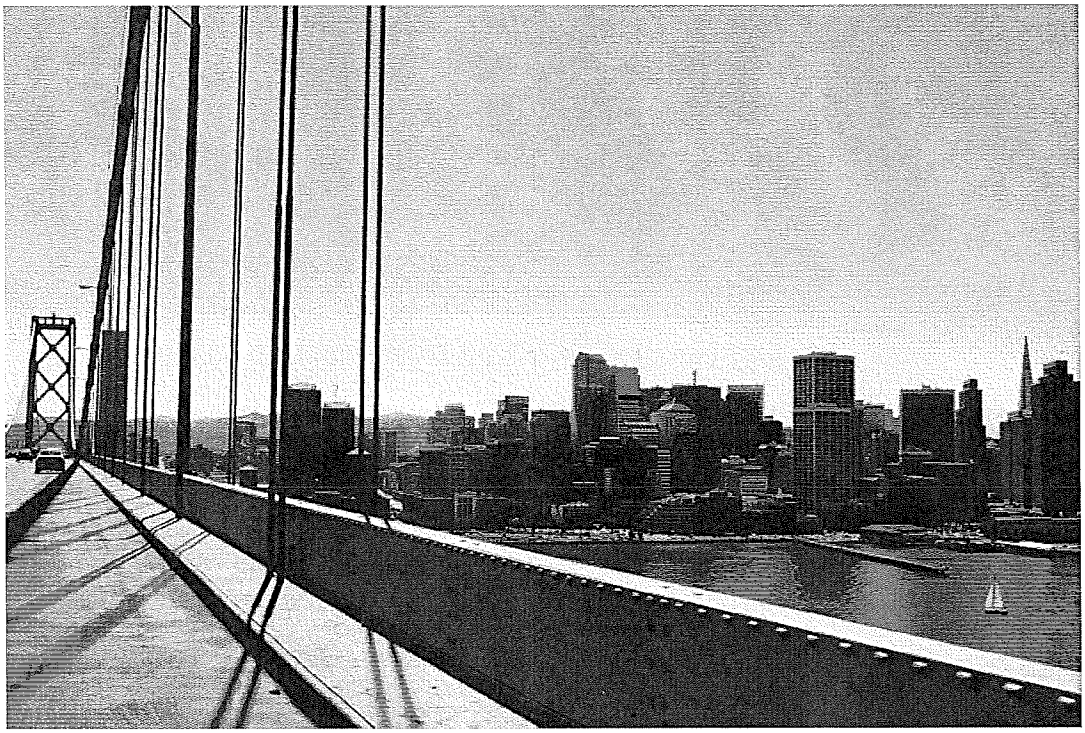


Simulation

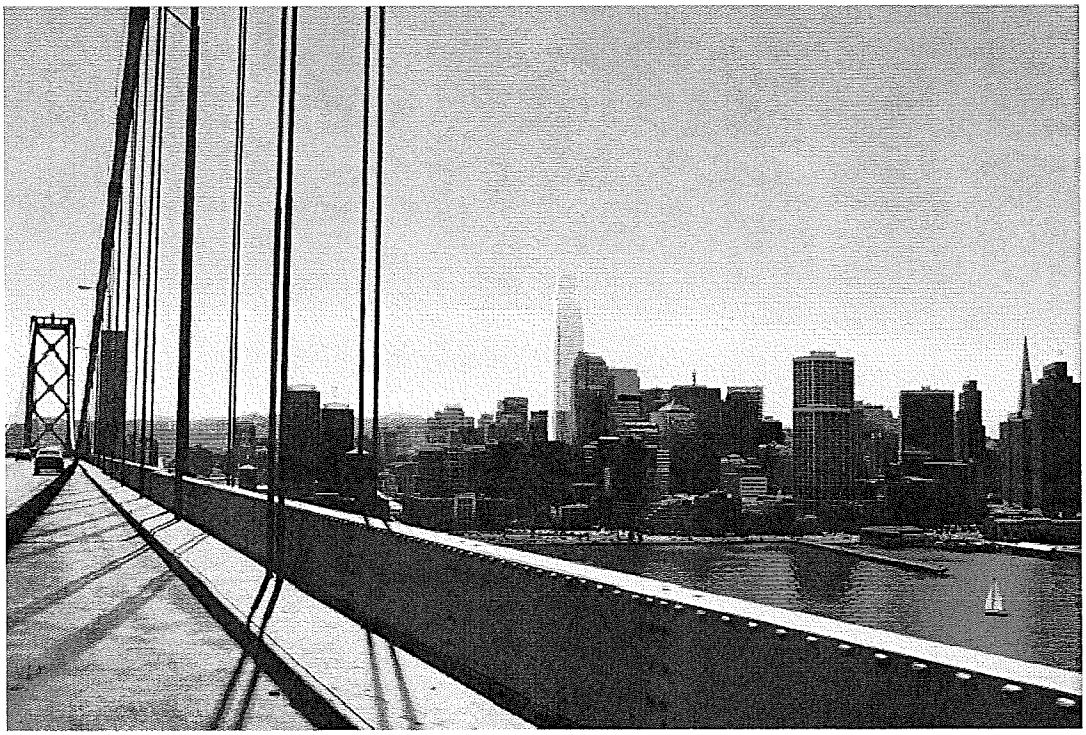
SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 46
Visual Simulation of Transit Tower from Post and Jones



Existing

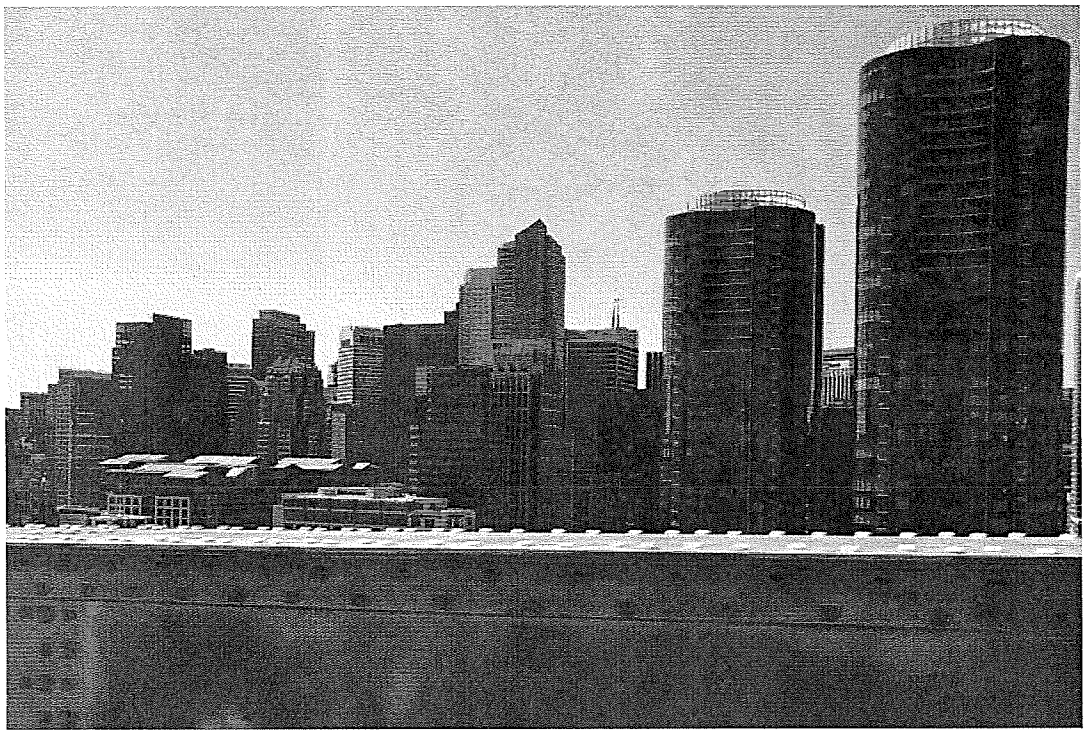


Simulation

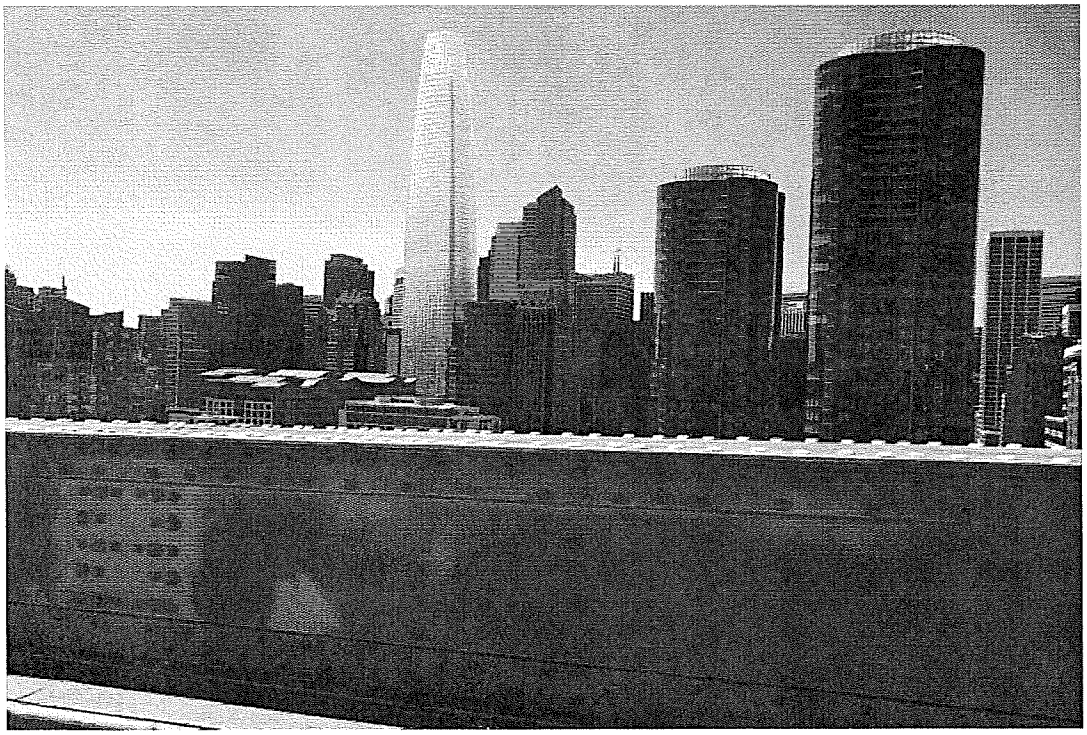
SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 47
Visual Simulation of Transit Tower from Bay Bridge



Existing



Simulation

SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 48
Visual Simulation of Transit Tower from
Bay Bridge over Spear



Existing

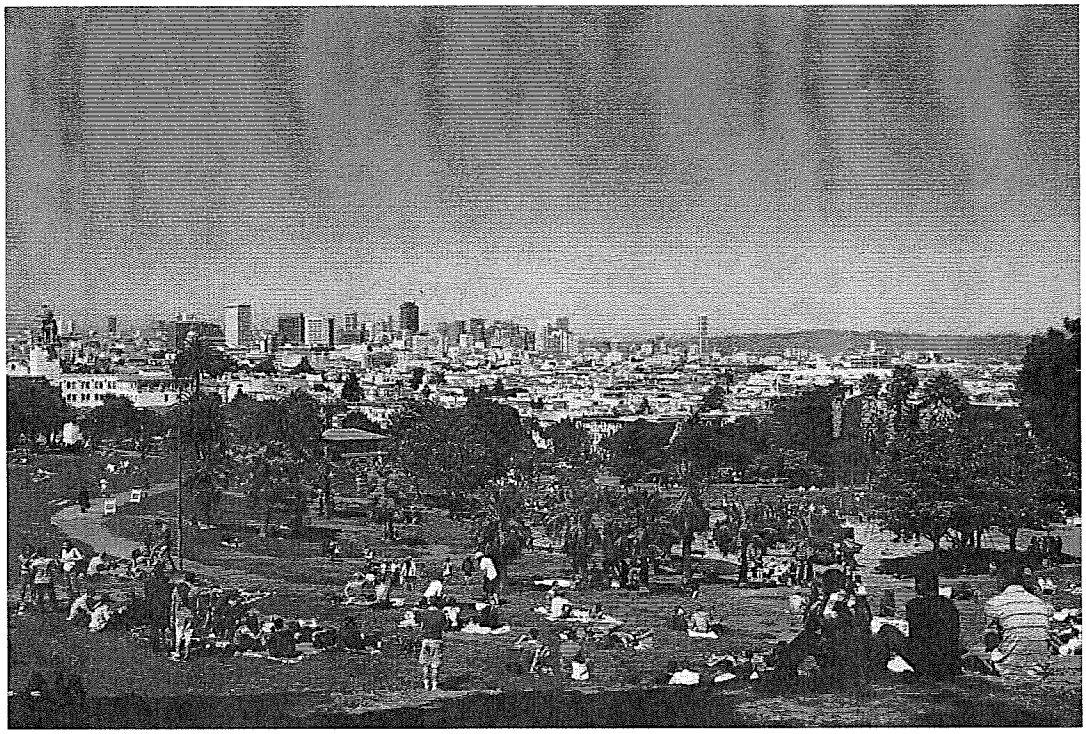


Simulation

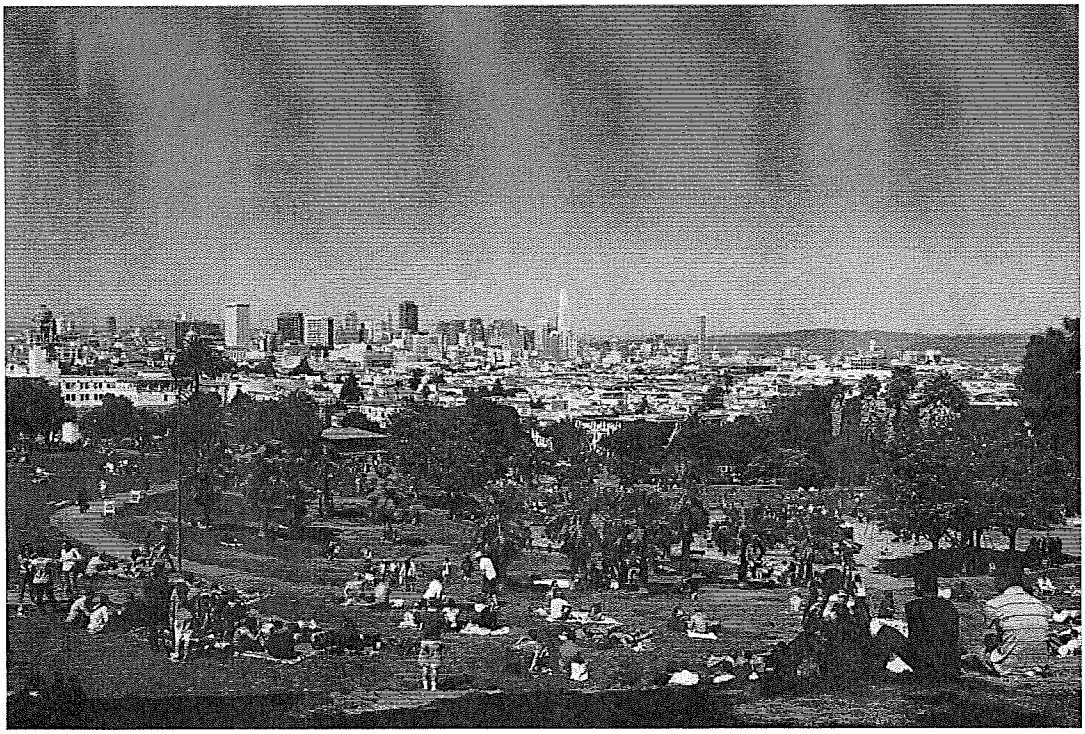
SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 49
Visual Simulation of Transit Tower from Alamo Square



Existing

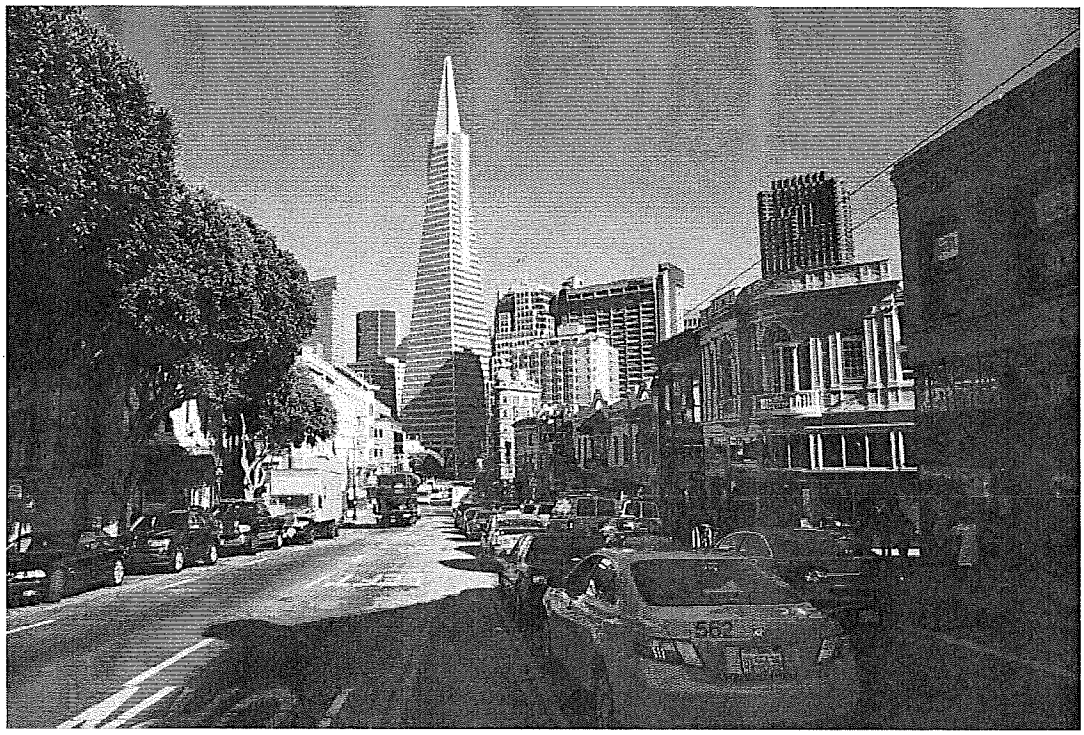


Simulation

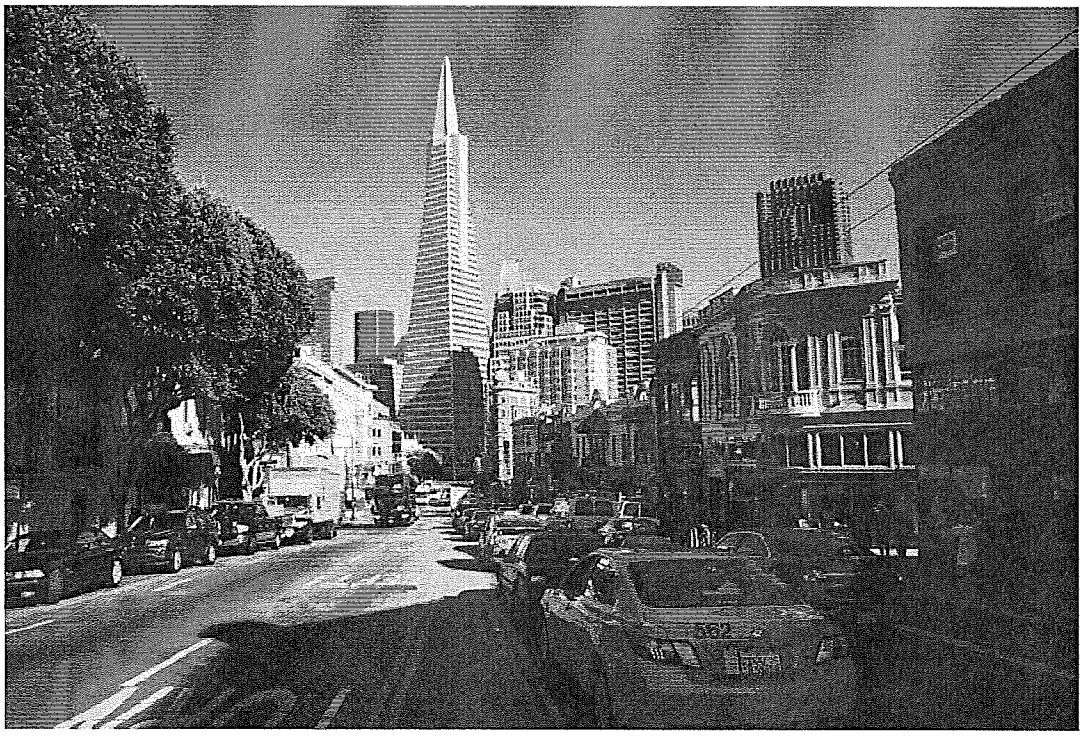
SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 50
Visual Simulation of Transit Tower from Dolores Park



Existing

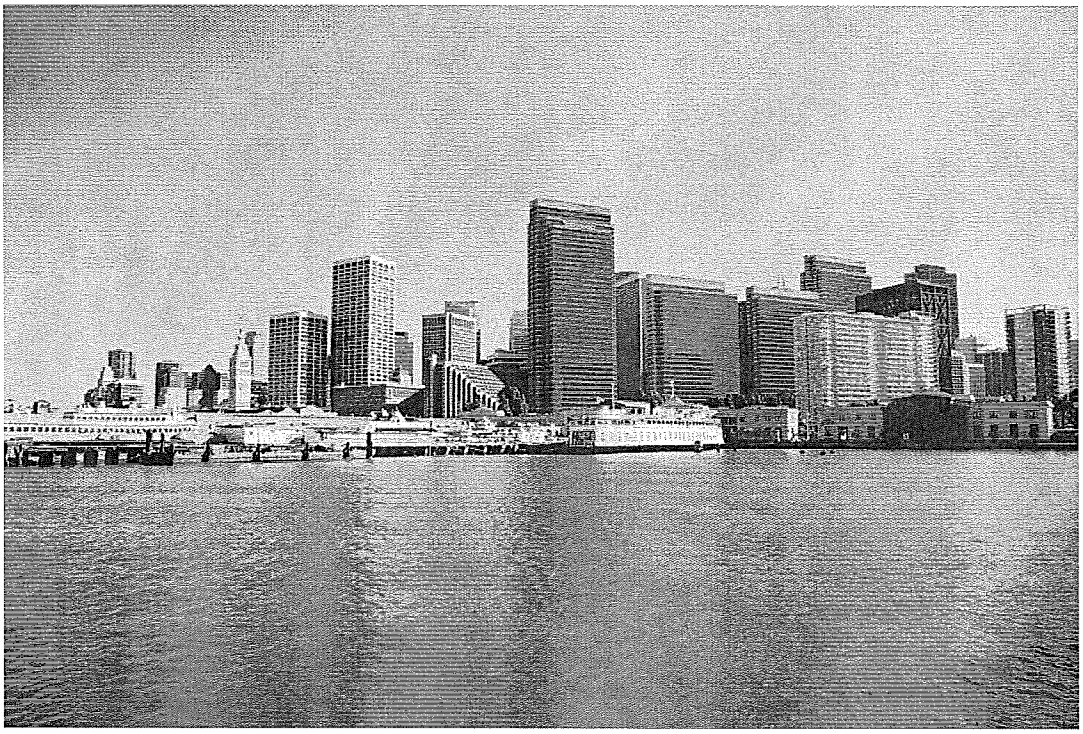


Simulation

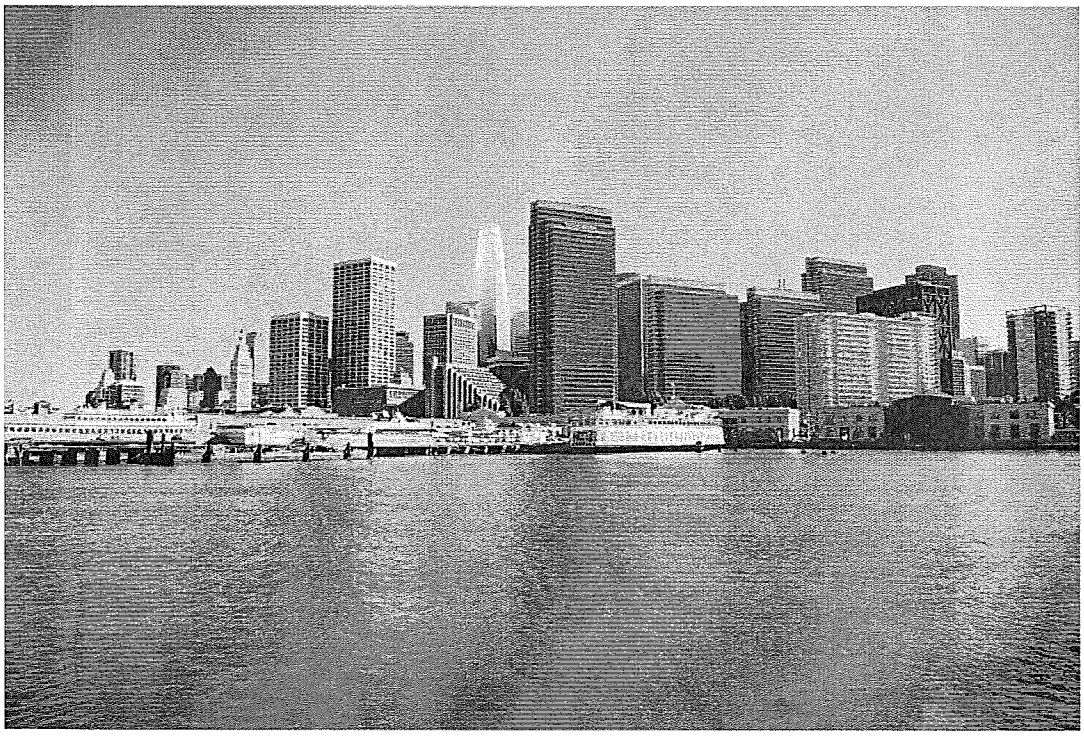
SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 51
Visual Simulation of Transit Tower from Columbus and Broadway



Existing



Simulation

SOURCE: Pelli Clarke Pelli Architects and Steel Blue LLC

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 52
Visual Simulation of Transit Tower from End of Pier 7

buildings from this perspective because the tower would be located approximately one-half mile further south. Moreover, the apparent bulk of the Transit Tower would be far less than that of numerous other buildings observable from this viewpoint. Thus, while the Transit Tower would constitute a new feature in the downtown's skyline and would partially block views of the sky, in general, these changes would not be considered substantial or adverse.

As illustrated in the photomontages presented above, it is possible that Transit Tower could be built ahead of the other anticipated projects within the Plan area. Without the proposed surrounding Plan-level development to temper the height of the Transit Tower and place it within a larger context, the tower would dominate the skyline in views from certain locations, although from other locations it would play a more secondary role. However, the proposed Transit Tower would be developed generally in keeping with the guidance of the *General Plan* Urban Design Element that tall buildings, if properly located, "can enhance the topographic form and existing skyline of the city. They can orient the traveler by helping to clarify his route and identify his destination. Building height can define districts and centers of activity."

Mitigation: None required.

It is noted that Chapter VI, Alternatives, discusses aesthetics impacts of alternatives that would allow development of Plan area buildings at lesser heights, which would reduce impacts on views and visual character.

Impact AE-6: The proposed Transit Tower would result in increased light and glare. (Less than Significant)

As with all individual development projects pursuant to the draft Plan, the Transit Tower would generate additional night lighting in the future, but the change is not anticipated to be substantial or adverse in the context of the existing densely developed Downtown. New lighting would not be in excess of that currently emitted by existing high-rises, and could be expected to be incrementally reduced, on a per-building basis, with the ongoing and increasing focus on energy conservation. Therefore, the proposed Transit Tower would not result in obtrusive light or glare that would adversely affect views or substantially affect other properties. (A separate analysis of lighting effects on birds is presented in Section IV, Biological Resources.)

Planning Commission Resolution 9212 generally prohibits the use of mirrored or reflective glass in new buildings. Therefore, effects related to glare would not be substantial, and would be less than significant.

Based on the above, impacts of the proposed Transit Tower on light and glare would be less than significant.

Mitigation: None required.

Cumulative Effects

Impact C-AE-1: The draft Plan, in combination with the Transit Tower and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not adversely affect scenic resources or substantially increase light and glare. (Significant and Unavoidable)

As noted throughout this Chapter, the proposed project would consist of implementing the Transit Center District Plan (a set of district-wide zoning and height and bulk changes along with various other revisions), as well as constructing the Transit Tower. When combined with other foreseeable projects proposed or under construction nearby, the proposed project would alter the visual character of the northeast portion of the City as well as modify the public views of the project vicinity that are currently experienced. The projects that are included in the cumulative scenario for purposes of visual quality analysis are described in the introduction to Chapter IV and include the Transit Center, buildings proposed under the Zone 1 Transbay Redevelopment Plan, buildings proposed under the Rincon Hill Plan, the Museum of Modern Art expansion structure,[71] the residential tower at 706 Mission Street that would also house the Mexican Museum, and the potential expansion of Moscone Center and ancillary facilities at Third and Folsom Streets.

Implementation of both the Transit Center District Plan and Transit Tower projects, along with the Transit Center and other proposed nearby projects, would introduce approximately a dozen new high-rises to the northeastern portion of the City, intensifying the overall look and feel of this area. The proposed urban design controls included in the Draft Plan, as well as those previously included in the Rincon Hill Area Plan and the Transbay Redevelopment Plan, would maximize retention of existing views and encourage slender towers by requiring minimum tower separation distances and square footage reductions in the towers' upper levels. Furthermore, the area plans have been developed with reference to each other. For instance, as noted above, the proposed building heights within the Plan area would transition to lower forms within the Rincon Hill Plan area, emphasizing the topographic form of the city and the importance of centers of activity. Overall, the development program envisioned under the Transit Center District Plan, in combination with other nearby plans and projects would continue the existing character of this general area of the City. Although the visual character would be altered by introduction of new buildings as well as intensification of pedestrian and vehicular activity on the local streets, this impact would not be considered to be adverse.

Effects on views from the closer-in locations (Figures 27B — 30B) would be similar to those of the draft Plan, in that only relatively small parts of new towers would be visible from any given location. In the view from Mission Street west of Fourth Street (Figure 28B), buildings outside the Plan area, such as 706 Mission Street, would also become part of the viewshed.

---

71 The proposed Museum of Modern Art expansion is modeled as a 320-foot-tall tower, consistent with the information available at the time this analysis was undertaken. The museum has subsequently proposed a shorter building, approximately 200 feet tall, behind the existing museum, which is analyzed in the EIR for that project (Case Nos. 2009.0291E and 2010.0275E).

In terms of views (shown in Figure 31B through 40B), the skyline would appear more built up, blocking some views of other buildings and possibly the Bay and the iconic Bay Bridge (which, according to the Urban Design Element of the *General Plan*, stands out as a feature of community importance). From Alamo Square (Figure 31B), the proposed towers at Third and Folsom Streets (Moscone Center expansion), which are outside the Plan area, would be visible in a separate cluster to the right. The views of the One Rincon Hill building would be at least partially blocked, as would some views of the sky. These changes would be diminished in intensity by distance, because the Plan area is located approximately two miles from the Alamo Square, and because large portions of the new towers would be obscured by existing buildings. However, the buildings that could be constructed under the Draft Plan would be clearly noticeable, and while they would be at a fairly great distance, they could be seen by some observers to diminish the quality of this iconic view. Nevertheless, because the focal point of this view would remain in the near field (i.e., the "painted ladies" across Steiner Street), the effect from this location would not be substantial, and would be less than significant. Moreover, no views of the Bay would be obscured.

In long-range views, particularly from Portola Drive and Twin Peaks (Figures 33B and 34B), cumulative development would obscure portions of San Francisco Bay and much of the Bay Bridge west span, because several buildings west and south of the Plan area would be developed where no intervening high-rise buildings currently exist; Yerba Buena Island would be further obscured. The separate set of buildings on Rincon Hill would clearly be seen to emphasize the height of that hill, consistent with the direction in the Urban Design Element of the *General Plan*. The Rincon Hill Plan EIR (Case No. 2000.1081E; Final EIR certified May 5, 2005) found that aesthetic effects related to implementation of the Rincon Hill Plan would be less than significant. That EIR determined that, while the Rincon Hill Plan would allow for a number of new high-rise residential buildings, despite "what could be described as a dramatic change in density and, especially, height," the Plan would not result in substantial adverse aesthetic change, given the Rincon Hill Plan's attention to the precepts of the Urban Design Element, including many of the Fundamental Principles For Major New Development. In terms of view obstruction, the Rincon Hill Plan EIR found that the Plan would preserve view corridors to the Bay and that obstruction of long-range views would occur over a limited visual field from any given viewpoint.

Consistent with CEQA requirements, this EIR considers potential development in the Plan area together with development that could occur under the Rincon Hill Plan and the Transbay Redevelopment Plan. From the Twin Peaks and Portola Drive viewpoints, full buildout of these plans would result in substantial obscuring of the existing views of the Bay, Bay Bridge, and Yerba Buena Island. The *General Plan* Urban Design Element establishes that impacts to such major, orienting views would be adverse, as discussed above under Impact AE-3. Accordingly, this cumulative impact would be **significant and unavoidable.**

From U.S. Highway 101 Interstate 280 (Figure 35B), the Third and Folsom structures of the potential Moscone Center expansion (outside the Plan area) would appear near the center of the view, partially blocking the Transit Tower behind them, whereas from Interstate 280 (Figure 36B), these buildings and others west of the Plan area would appear prominently to the west (left) of the image, due to their

position relatively closer to the observer. In both of these views, the separate mound of Rincon Hill would be readily apparent. As with the Plan, no scenic views would be obscured.

From Potrero Hill (Figure 37B), cumulative development would appear to spread the skyline both east and west; because of the relatively orientation of the street grid, the buildings on Rincon Hill would blend into the overall skyline more than would be the case from other viewpoints. From Telegraph Hill (Figure 38B), effects would be similar to those of the draft Plan, because most of the cumulative projects would not be visible. From Treasure Island (Figure 39B) and the Bay Bridge (Figure 40B), however, the added mound of Rincon Hill's buildout would be evident, although its "separateness" would be somewhat diminished by the tallest of the buildings along Folsom Street in Zone 1 of the adopted Transbay Redevelopment Plan. From this angle, this potential 550-foot building would act as somewhat of a visual bridge between the South Financial District and Rincon Hill.

In the view from the Bay Bridge, cumulative development, including buildings west of the Plan area and on Rincon Hill, would substantially obscure the mid-City ridgeline. Arguably, the near-complete blockage of the City's hills would be deemed by some observers to be a substantial adverse change. However, as stated above, in Impact AE-2, this viewpoint is transitory, in that observers experience this view for only a few moments while traveling at freeway speed.

From Aquatic Park (Figure 41B), effects would be the same as those of the draft Plan, because no cumulative projects would be seen.

As with the draft Plan, cumulative development would not substantially disrupt the existing natural or built environment. Accordingly, cumulative impacts on scenic resources would be less than significant.

As described above, implementation of the draft Plan and development of the proposed Transit Tower would not result in obtrusive light or glare that would adversely affect views or substantially affect other properties. Because the draft Plan, including Transit Tower, would represent the vast majority of overall development in the greater vicinity, no significant cumulative effects related to light and glare would occur.

In summary, the draft Plan would contribute to significant adverse aesthetic effects on the view from Twin Peaks and Portola Drive, and the cumulative impact would be **significant and unavoidable**.

Mitigation: No mitigation is available.

Impact C-AE-2: The proposed Transit Tower, in combination with the draft Plan and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not contribute considerably to this change, and would not adversely affect scenic resources or substantially increase light and glare. (Less than Significant)

The long-range views that would be blocked by Plan and cumulative development would be obscured regardless of construction of the proposed Transit Tower. In addition, the Transit Tower site is sufficiently distant from the Bay Bridge, as it appears in views from Twin Peaks and Portola Drive, that it would remain visually separate from the bridge towers and would not overwhelm them. Therefore, the proposed Transit Tower would not make a considerable contribution to the cumulative significant impact described in Impact C-AE-1, and would therefore have a less-than-significant cumulative aesthetic impact.

Mitigation: None required.

C. Population and Housing, Business Activity and Employment

This section describes existing conditions and trends for population, housing, business activity and jobs in the Transit Center District Plan area and for downtown San Francisco and sets the Plan area in a city and regional context. The section analyzes the impacts of the Plan on the ability of San Francisco to accommodate population and employment and discusses impacts for housing demand and supply; affordable housing; residential, business, and worker displacement; and job opportunities.

Environmental Setting

Regional Setting

Population and Housing

In 2000, there were 777,000 people living in San Francisco. The household population in the City totaled 757,000; others living in group quarters such as shelters, group homes, nursing homes, dormitories, and correctional facilities numbered about 20,000 residents, or 2.5 percent of the total living in the City. There were 329,700 households in San Francisco, and the average household size was 2.3 persons-per-household.

Since 2000, there has been a marked increase in housing in San Francisco. The City's official housing inventory counts almost 367,000 housing units in 2009, an increase of 22,000 units from April 2000 through 2009.[72] State of California Department of Finance estimates show 368,000 housing units in the City as of January 1, 2010.[73]

The number of people living in the City has increased by 10 percent since 2000. The State estimates cited above show 856,000 people living in San Francisco—an increase of 79,000 people from April 2000 through January 1, 2010. The increases are attributable to natural increase and high levels of net foreign immigration coupled with relatively low levels of domestic out-migration.[74] During this period, the City's population exceeded it prior peak of 780,000 residents recorded in 1951.[75]

An increase in the City's population, consistent with the increased housing supply, represents a change from conditions of the 1980s and 1990s. During those decades, the growth of the City's population was not matched by an increase in housing supply. Therefore, population growth resulted in increases in the

72 San Francisco Planning Department, *San Francisco Housing Inventory*, April 2010.

73 State of California. Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001 – 2010, with 2000 Benchmark*, May 2010.

74 State of California, Department of Finance, *Population Estimates and Components of Change by County, July 1, 2000-2010*, December 2010.

75 The U.S. Census also prepares annual official population estimates. Until 2006, the Census estimated that San Francisco's population had *decreased* from 2000 levels, resulting in a large gap between the state and federal population estimates. In 2008, the City and County of San Francisco filed a challenge to the 2007 Census estimates. That challenge was accepted, and, as of December 2008, the Census Bureau's revised 7/1/2007 population estimate for San Francisco stood at 799,185—an increase of 34,000 over the prior estimate. The most recent Census estimates (for July 1, 2009) show San Francisco's population at 813,358.

number of people living in existing housing. By contrast, average household size since 2000 has remained relatively constant in the range of 2.3 – 2.4 persons-per-household.

San Francisco's resident population is just over 11 percent of the total population living in the nine-county Bay Area. With increases in the housing stock and consistent gains in population over the last 15 years, the City has maintained its share of regional population. This represents a marked change from the historic trend of declining regional share: in 1940, almost 40 percent of the region's population lived in San Francisco. The share dropped to 30 percent in 1950, 20 percent in 1960, reaching 15 percent in 1970, followed by a slower pace of decline in the 1970s, 1980s, and 1990s.

Jobs and Business Activity

There were about 576,000 people working in San Francisco in 2009, a considerable drop from the recent high of 605,000 in 2008.[76] This estimate measures workers by place of work and includes full-time and part-time wage and salary employment, as well as the self-employed.[77] Wage and salary jobs in San Francisco totaled about 524,000 in 2009. The self-employed (and a relatively small number of unpaid family workers) account for about nine percent of total jobs in the City.

San Francisco's role as a place of work in the region has diminished over time. Forty years ago, in 1969, San Francisco was the employment center for the region, claiming about 27 percent of total regional employment—more than one in every four jobs. There were more jobs in San Francisco than in any other Bay Area county. By the mid 1980s, that share had declined to 20 percent: suburban settings became viable location options, particularly for business operations looking for lower-cost space to house large numbers of "back-office" workers, and the high technology sector established the South Bay as the other major employment center in the regional economy. By 2008, only 16 percent of Bay Area jobs were in San Francisco, and there were 3.5 times as many jobs in Alameda and Santa Clara counties combined as in San Francisco. Notably, San Francisco's share of regional employment has held steady at 16 percent since 2001.

Nevertheless, San Francisco is unique in the region as a place of highly concentrated, high density business activity. Other counties may claim more total employment, but that employment is dispersed among smaller Downtowns, BART station areas, larger educational institutions and medical centers, and suburban business parks.

---

76 These estimates of employment by place of work count part-time and full-time jobs equally. People who hold more than one job may be counted more than once.

77 The estimate of total employment by place of work including the self-employed is based on data from the U.S. Census Bureau American Community Survey (ACS). That data source provides estimates of the percentage of workers, by place of work, who are private and non-profit wage and salary workers (including the self-employed in their own incorporated businesses), government workers (local, state, and federal), self-employed not incorporated workers, and unpaid family workers. The latter two categories are not covered in employment estimates from the State of California Employment Development Department (EDD). The State data measure wage and salary employment by place of work and do not include the self-employed, a considerable number in San Francisco, or unpaid family workers or private household workers. The more complete estimate of jobs by place of work combines the EDD data with estimates derived from the percentages in the ACS for San Francisco (2007-2009 3-year estimates and 2009 1-year estimates).

There have been substantial fluctuations in the level of employment in San Francisco and elsewhere in the Bay Area over the past decade. The Bay Area and San Francisco economies experienced strong growth through 2000, and employment levels were highest in that year. The subsequent job loss in San Francisco was more severe than the job loss in most other parts of the region, with the exception of Santa Clara County.

Wage and salary jobs, fueled by the boom in the high technology and internet sectors, peaked in San Francisco in 2000 at almost 600,000, but soon returned to employment levels of the mid-1990s, by 2004. Over this 10-year period (1995 – 2004), San Francisco gained and then lost about 85,000 jobs. More recently, the City saw a net gain of 45,000 jobs between 2004 and 2008—an increase of about 11,000 jobs per year on average. Employment remained substantially below the 2000 peak, however. Job growth reversed in 2009, with a year-over-year decrease of 26,000 wage and salary jobs in the City from 2008 through 2009. The boom and bust economic conditions of the last decade have exacerbated long–term trends of decline in manufacturing, wholesale trade, transportation, and warehousing employment in the City. Against this backdrop and with relatively stable employment overall in retail, hospitality, government, education, and health care sectors, jobs losses have been concentrated in the information sector, financial activities, and professional and business services. The overall net decrease in jobs in these three sectors (from the 2000/2001 peak) amounts to about 50,000 jobs—about 10 percent of total wage and salary employment in the City. The Planning Department's *Commerce & Industry Inventory 2010* shows an 11 percent decrease in office employment from 2001 to 2009; the net loss of 25,000 office jobs second to the loss of 31,000 production, distribution, and repair (PDR; generally, light industrial and heavy service in nature) jobs, a 30 percent decrease, over this period.[78]

Through these fluctuations, the City's economy has remained diverse. The 25 largest employers in San Francisco account for 20 percent of all employment in the City. That group of large employers represents twelve business sectors: government, health sciences, education, professional services, health care, hospitality, retail, facility services, utilities, financial services, high technology, and non-profits. These large entities are only a fraction of the total number of business establishments in the City (about 29,000 in 2009).[79] **Table 4** illustrates the diversity of San Francisco's private sector business mix.

Labor Force, Employed Residents, and Commuters

The Great Recession has resulted in persistent high unemployment in the San Francisco—annual rates of nine and ten percent through 2009 and 2010. The City's unemployment rate is now more than double what it was at mid-decade. The unemployment rate measures people who do not have jobs as a

78 San Francisco Planning Department, *Commerce & Industry Inventory*, October 2010, Table 3.2.1.

79 San Francisco Planning Department, *San Francisco Commerce and Industry Inventory*, October 2010. This list does not count government or the 23,000 private households that employ caregivers, gardeners, and other household maintenance workers.

TABLE 4
ESTABLISHMENTS BY LAND USE CATEGORY, 2009

Land Use Category	Number of Establishments	Percent of Total
Office	11,419	40%
Retail	7,496	26%
Cultural, Institutional, Educational	4,739	17%
Production, Distribution, and Repair	4,718	16%
Hotel	292	1%
Total	**28,664**	**100%**

NOTE: Does not include private households or government.

SOURCE: San Francisco Planning Department, *San Francisco Commerce & Industry Inventory*, October 2010.

percentage of people actively looking for work. Additional evidence of the drop in economic activity in the City is the decrease in the labor force—the number of people actively looking for work.

As a result of the "internet bubble," the year 2000 represented a peak for labor force participation and employment of City residents: about 456,000 of the people living in San Francisco were employed in 2000, according to the U.S. Bureau of Labor Statistics and the California Employment Development Department. That number stood at 411,000 employed residents in 2010. During a period of population growth, the number of San Francisco residents in the labor force decreased by 17,500 from 2000 through 2010, while the number of employed residents has decreased by over 45,000 and the number of unemployed has increased by 28,000.

The employed residents hold jobs in San Francisco and elsewhere in the regional labor market. Decentralization of regional employment beginning in about 1960 resulted in erosion of the share of the City's employed population working in San Francisco from almost all (94 percent) employed residents working in the City in 1960. During the 1990s, however, the likelihood of City residents working in San Francisco did not change as much as it had in prior decades. Citywide, in 2000, 78 percent of employed residents worked in San Francisco, only three percentage points below the 1990 share (81 percent).[80] Notably, in 2000, about the same number of San Francisco residents worked in the City as in 1960, marking a comeback after three decades of lower numbers. The 2007 – 2009 American Community Survey indicates the percentage of employed residents working in San Francisco holding steady at 76 – 78 percent. The consistent growth over this period has been in the number and percentage of the City's residents commuting to jobs outside San Francisco—from six percent in 1960 to 22 percent in 2000.

The employed residents living and working in San Francisco hold 56 percent of the jobs in the City. Commuters from other Bay Area counties hold about 43 percent of San Francisco jobs, and commuters from neighboring counties outside of the Bay Area account for about one percent of San Francisco jobs.

80 Metropolitan Transportation Commission, County-to-County Commuting in the San Francisco Bay Area, 1960 – 2000 (http://www.mtc.ca.gov/maps_and_data/datamart/census/county2county/).

As with the percentage of City residents working in the City, the percentage of San Francisco jobs held by people also living in the City has declined over time. In 1960, San Francisco residents held almost three-quarters of the jobs in the City. The percentage declined to about 56 percent through 1980 and has remained at about that level ever since.

These trends and the stabilization of intra-regional commute patterns are illustrative of the growth of Bay Area suburbs, the de-concentration of business location options leading to the diminution of San Francisco's position as regional employment center, offset to some extent by the development of regional transportation systems designed to get commuters to central city jobs.

Workforce Characteristics; Types of Jobs Held by Workers Living in the City

The relatively high educational attainment of the City's labor force is a foundation of the City's competitive advantage with respect to economic growth. People who have at least a high school diploma represent 85 percent of the City's labor pool, and most of those (52 percent of the total labor pool over aged 25) have college degrees or graduate degrees. Nationwide, the percentage of people who have college or graduate degrees is only 28 percent, and the California average is 30 percent. In San Francisco, one of every five working-age people has a graduate or professional degree.[81]

Although, as noted above, the City's labor force is generally highly educated, the education and training possessed by San Francisco residents spans a range from very high to very low. This is reflected in the wide range of occupations and earnings for San Francisco residents.

Half of the employed residents of San Francisco work in management and professional occupations, generally occupations that require college or advanced degrees and prior work experience. About one-quarter work in sales and office support occupations. Sales positions in the financial, insurance, and real estate sectors require college degrees or vocational degrees. Other sales occupations require prior work experience, and still others are entry-level positions offering on-the-job training. Of the balance of San Francisco's employed residents, most are in service occupations. College degrees and prior training are not required, and wage levels are low. About 10 percent of the working population of San Francisco holds jobs in construction, repair, maintenance, production, or transportation occupations. These occupations cover a range of skill levels mostly relating to prior on-the-job training. [82]

Housing Market Conditions and Housing Affordability

Housing prices in San Francisco are among the highest in the Bay Area region and consistently rank among the highest in the nation. In 2010, the median price for houses sold in San Francisco was $661,000—$248,500 (60 percent) higher than the regional median price of $412,000. Median house prices in San Francisco have been consistently about 20 – 30 percent higher than the regional median until 2008 when median prices plummeted elsewhere. In all other Bay Area counties, through 2008 and 2009,

81 U.S. Census Bureau, *2009 American Community Survey* 1- Year Estimates and *2007 -2009 American Community Survey* 3-Year Estimates.

82 U.S. Census Bureau, *Census 2000* and *2007 – 2009 American Community Survey* 3-Year Estimates.

median prices dropped between 27 percent (San Mateo County) and 56 percent (Contra Costa County) below the 2007 peak. In San Francisco, median prices dropped 16 percent overall during this time period.[83] The diversity of the City's housing supply—a range of types of new and existing housing in a variety of neighborhood settings at a variety of price points—as well as strong underlying demand for urban housing and for living in San Francisco in particular explain some of this pattern.

The housing inventory in and around the Plan area is primarily new high-rise construction. At a median price of $727,000 in 2010, housing in the South of Market/Rincon Hill area was about 10 percent more expensive than the citywide median.[84] Prices have been particularly volatile in this area, however, due to the large number of new units that came on the market in the last five years, during the peak and subsequent collapse of the housing market bubble. Across San Francisco planning districts, average rents are highest in the South of Market district—at $3,284 on average for a two-bedroom unit.[85] The housing supply is predominantly new construction here, and there is a premium for proximity to Downtown, to the waterfront, and to new neighborhood amenities, as well as for high-rise construction with views. Much of the rental supply in the South of Market district consists of units originally intended for owner-occupancy that are either put on the rental market by building developers or are subsequently placed on the rental market by absentee owners.

The cost of housing in San Francisco is very high relative to household incomes. A three-person household with an income of about $100,000 can afford a maximum purchase price of about $350,000—only about half of the median sales price in San Francisco.[86] Equally important, the rental housing market is the largest component of San Francisco's housing market; for most existing residents and newcomers, rents are the most important housing market indicator. After falling from the year 2000 peak ($2,750 average monthly rent for a two-bedroom apartment), average rents citywide were back to those levels in 2007 and have held steady since then.[87] Assuming 30 percent of income to rent, these rents are affordable to a household with an annual income of $110,000. The median household income in San Francisco is about $70,000 (2009 dollars) and only about one-third of San Francisco households could reasonably afford this average-priced two-bedroom apartment.[88]

With prices and rents this high, many people share housing and/or look for second jobs, and households take on substantial housing cost burdens to live in San Francisco. Housing cost burdens in San Francisco are particularly high for lower-income newcomers, and new households, such as immigrants, young

83 Real Estate Research Council of Northern California, *Northern California Real Estate Report*, Fourth Quarter 2010.
84 Dataquick, San Francisco Home Sales Activity, San Francisco Chronicle Chart for the Year 2010.
85 *San Francisco General Plan* Housing Element Part I: Data and Needs Analysis, March 2011 (see footnote 48, p. 58); p. I.37 57.
86 This household is at about 120 percent of the three-county Area Median Income for households in San Francisco, San Mateo and Marin counties and represents the local household in need of affordable housing that has the *most* money to pay for housing. The maximum purchase price is based on factors used by the Mayor's Office of Housing to estimate sample sales prices for the San Francisco Inclusionary Housing Program.
87 Rent data from Zilpy.com published in San Francisco Planning Department, *Housing Inventory 2009*, April 2010.
88 Household income distribution and median household income estimates for San Francisco are from the U.S. Census, *American Community Survey*, 2005-2009 5-Year Estimates, 2007-2009 3-Year Estimates, and 2009 1-Year Estimates.

entry-level workers, students, and artists, as well as for existing residents who become unemployed or find themselves in the housing market not by choice but because they are displaced from their household and former housing unit. Rent is greater than 30 percent of household income for over 44 percent of renter households in San Francisco (more than two of every five renter households); and for almost half of these households, rent is 50 percent or more of household income. Owner households are considered to be overpaying for housing if 35 percent or more of income goes towards mortgage payments. By this measure, 40 percent of owner households in San Francisco with mortgages are overpaying, and for 60 percent of this group, mortgage costs are 50 percent or more of household income. [89] The increase in financial burden among homeowner households is at least in part attributable to the relaxed criteria for issuing mortgage loans during this period.

Housing Needs

In the face of persistent strong demand from the many different types of people who want to live in San Francisco, increasing the housing supply and making housing more affordable have been key concerns of the City's policy-makers for decades. Affordable housing production in San Francisco is supported by funding from the San Francisco Redevelopment Agency, the Inclusionary Affordable Housing Program, the Jobs-Housing Linkage Program, and the commitment of a robust non-profit housing development sector. One-third of the new housing units added in San Francisco from 2005 – 2009 were affordable units, meaning the units are rented or owned at prices affordable to households with low or moderate incomes (as defined by income limits determined by U.S. Department of Housing and Urban Development for the San Francisco Market Area). Almost 60 percent of these units were built for the lowest ends of the affordability spectrum—households at or below 50 percent of median household income. As of December 2009, another 1,100 affordable units were under construction. In addition to this supply of newly constructed affordable units, 836 units of permanently affordable housing were added to the City's supply during the 2005 – 2009 period through acquisition and rehabilitation of existing housing by non-profit housing organizations to create housing for low- and very-low income persons.[90]

In spite of this production record, San Francisco has not met the quantified housing goals established by the California Department of Housing and Community Development (HCD) and the Association of Bay Area Governments (ABAG). **Table 5** shows how affordable housing production in San Francisco over the 1999 – 2006 period tracked with the housing need goals set for the City for that period by HCD and ABAG.[91] As a consequence of relatively high rates of housing production in the City over this period, San Francisco was close to meeting the *overall* housing production goal. Market-rate units accounted for almost two-thirds (65 percent) of total production—exceeding the target amount. Allocation of public funds for affordable housing, development activity by non-profit housing developers, and other efforts

89 U. S. Census Bureau, *American Community Survey*, 2005-2009 5-Year Estimates and 2007-2009 3-Year Estimates.
90 San Francisco Planning Department, *San Francisco Housing Inventory 2009*, April 2010.
91 Current housing goals for the 2007 – June 2014 period are described in the Chapter II of Part I of the *General Plan* Housing Element.

TABLE 5
HOUSING PRODUCTION TARGETS, 1999-JUNE 2006 AND ACTUAL PRODUCTION, 1999-2006

	ABAG/HCD Regional Housing Needs Determination (RHND) Production Goals 1999-June 2006		Actual Housing Production 1999 – 2006	
Income Category	No. of Units	% of Total	No. of Units	% of RHND Goal
Very Low (< 50% AMI)	5,244	25.7%	4,342	82.8%
Low (50-79% AMI)	2,126	10.4%	1,113	52.4%
Moderate (80-120% AMI)	5,639	27.7%	725	12.9%
Market (over 120% AMI)	7,363	36.1%	11,293	153.4%
TOTALS	**20,372**	**100.0%**	**17,473**	**85.8%**

SOURCE: San Francisco Planning Department, Housing Element Part I: Data and Needs Analysis March 2011.

and resources enabled the City to achieve 83 percent of the ABAG goal for meeting the housing needs of very-low-income households and over half of the goal for low-income households. The under-production of housing affordable to moderate-income households (at around 100 percent of median income—just below the threshold where market rate housing is affordable) stands out as a key gap in recent production statistics.

Local Setting

Population and Housing

There are not many people living in the Plan area, although the number of people living there has increased substantially since 2000. The 2000 Census counted about 350 people living in 263 households and an additional 128 people (almost 30 percent of the total population) living in non-institutional group quarters.[92] **Table 6** presents the characteristics of Plan area housing and population as of the 2000 Census. Compared to the citywide average, Plan area households were small—just over 1.3 persons per households, and almost all the units were rental housing. One-in-five units was vacant, and almost all of these units were categorized by the Census as held "for seasonal, recreational, or occasional use." The Census tabulations for 2000 represent essentially one project: in 2000, the largest residential development in the plan area was the Rincon Towers apartment complex, completed in 1989. The 320 units in this development continue to be managed for both long-term lease to primary residents and short-term furnished corporate housing.

92 Estimates from 2000 Census block-level data for Census tracts 176.02 and 179.01, excluding blocks east of Steuart Street (Tract 176.02 blocks 1000, 1001, and 1999) and blocks in the Rincon Hill Plan area (Tract 179.01 Blocks 1007 – 1019, 4005, and 4006).

TABLE 6
TRANSIT CENTER DISTRICT PLAN AREA
POPULATION AND HOUSING, 2000

Total Population	475	
Household Population	347	
Households	263	
Persons Per Household	1.32	
Group Quarters Population	128	27% of plan area population
Housing Units	332	
Occupied Units	263	
Owner Occupied	4	
Renter Occupied	259	
Vacant Units	69	21% of plan area housing units

NOTE: Estimates from 2000 Census block-level data for Census tracts 176.02 and 179.01, excluding blocks east of Steuart Street (Tract 176.02 blocks 1000, 1001, and 1999) and blocks in the Rincon Hill Plan area (Tract 179.01 blocks 1007 – 1019, 4005, and 4006).

SOURCE: U. S. Census Bureau, *Census 2000.*

Planning Department estimates for 2005 show about 740 households and a household population of about 1,500 people in the Plan area—a three-fold increase from 2000 Census counts.[93] New housing in the Plan area during this period includes 246 Second Street and smaller condominium developments on Clementina.[94]

Plan area residents are less than one half of one percent of the total population in San Francisco. **Table 7** compares the number of people living in the Plan area to the number living throughout downtown San Francisco. In 2005, just over 55,000 people lived in downtown San Francisco, defined here to include the C-3 District covered by the Downtown Plan, in addition to the Transbay, Rincon Hill, and Yerba Buena planning areas; other parts of the "Downtown" planning district (Civic Center, Union Square, Chinatown, and Tenderloin); and parts of Eastern SoMa. This larger area houses just under 10 percent of the City's households and household population and 20 percent of the group quarters population. The Plan area comprises two – three percent of the C-3 / Downtown total for population and households.

93 Preliminary 2010 Census data for newly created Tract 615, which combines former Tracts 176.02 and 179.01 and which encompasses the Plan area, Rincon Hill, and South Beach, shows a total population of approximately 11,500 in about 8,250 units, 6,785 of which are occupied. The comparable totals for the entirety of 2000 Tracts 176.02 and 179.01 were: population, 5,942; housing units: 3,925; occupied units: 3,500. Major residential projects completed in the Plan area since 2005 include 199 New Montgomery Street, 74 New Montgomery Street, and the Millennium Tower at 301 Mission Street. Census 2010 data are not yet available at the level of detail used in this analysis, and therefore the analysis relies on 2005 data as the most detailed current information available.

94 San Francisco Planning Department, *Housing Inventory 2005*, October 2006.

TABLE 7
TRANSIT CENTER DISTRICT PLAN AREA AND DOWNTOWN SAN FRANCISCO
POPULATION AND HOUSEHOLDS, 2005

	Transit Center District Plan area	C-3 / Downtown	Plan area % of C-3 / Downtown	C-3 / Downtown % of City
Population	1,654	55,566	3%	7%
Household Population	1,463	51,379	3%	7%
Households	742	31,814	2%	9%
Group Quarters Population	191	4,187	5%	21%

NOTE: The C-3 / Downtown area is defined to include the C-3 District covered by the Downtown Plan and adjacent areas relevant to the analysis of the Transit Center District Plan: Transbay, Rincon Hill, and Yerba Buena planning areas; other parts of the "Downtown" planning district (Civic Center, Union Square, Chinatown, Tenderloin); and parts of East SoMa. These areas include most but not all of the Greater Downtown identified in the Planning Department's Downtown Plan Monitoring Reports.

SOURCE: San Francisco Planning Department, Land Use Allocation 2007 (revised January 2010).

The amount of housing and resident population in both the Plan area and the C-3 District / Downtown area has increased more rapidly than in many other parts of the City. This is consistent with the goals of the Downtown Plan, the Rincon Hill Plan, and the Rincon Point - South Beach and Yerba Buena Redevelopment Plans.[95] From 2005 through 2009, another 700 units have been completed in the Transit Center District Plan area and almost 2,700 units have been added within one – two blocks of the Plan area since 2002.[96] Fully 63 percent of the housing units added in San Francisco through 2009 (since the 2000 Census) were located in the larger Downtown and South of Market planning districts used to analyze housing production trends in the Planning Department's annual Housing Inventory Report.[97]

Most of this new housing production is mid-rise and high-rise construction of condominiums and rental units. The primary target market is people working in downtown San Francisco. Most of the units are developed with views, finishes, and amenities for the high end of the housing market. Although prices have dropped from the high levels approaching $1,000 per square foot achieved in some cases during the housing bubble, housing costs, considering housing prices, taxes, and HOA fees, remain at high levels relative to household incomes.

Business and Employment

In 2005, there were about 78,000 jobs in the Plan area—14 percent of total employment in San Francisco and about one-third of total employment in the C-3 / Downtown Area. **Table 8** presents estimates of existing employment by business activity for the Plan area, the larger Downtown area in which it is located, and the City overall.

95 The Yerba Buena Redevelopment Plan expired in January 2011.

96 San Francisco Planning Department, *Housing Inventory* reports, July 2005, October 2006, December 2007, April 2008, April 2009, and April 2010.

97 This larger geographic area includes Mission Bay, where several large new housing developments were completed during this time period. San Francisco Planning Department, *Housing Inventory 2009*, April 2010.

TABLE 8
TRANSIT CENTER DISTRICT PLAN AREA, DOWNTOWN, AND SAN FRANCISCO EMPLOYMENT BY BUSINESS ACTIVITY, 2005

Business Activity / Land Use[1]	Transit Center District Plan area	C-3/ Downtown	San Francisco Total	Plan area % of C-3 / Downtown	Plan area % of City	C-3 / Downtown % of City
Management/Information/Professional Services	67,165	175,806	275,380	38%	24%	64%
Retail/Entertainment	5,296	26,812	88,710	20%	6%	30%
Visitor Lodging	657	12,051	17,350	5%	4%	69%
Medical and Health Services	285	3,546	38,027	8%	1%	9%
Cultural/Institutional/Educational (CIE)	3,871	13,709	59,524	28%	7%	23%
Production/Distribution/Repair (PDR)	360	7,058	73,003	5%	0.5%	10%
Total	**77,634**	**238,982**	**551,994**	**32%**	**14%**	**43%**

[1] The business activity / land use categories used in this analysis are summarized from the Planning Department's Land Use Allocation 2007. The estimates rely on Planning Department analysis of the relationship between ABAG's classification system based on the North American Industrial Classification System (NAICS) and the Planning Department's land use classification system (also dependent on detailed NAICS categories). The categories used in this analysis vary in small degree from those defined in the Planning Department's *Commerce and Industry Inventory*.

NOTE: The C-3 / Downtown area is defined to include the C-3 District covered by the Downtown Plan and adjacent areas relevant to the analysis of the Transit Center District Plan: Transbay, Rincon Hill, and Yerba Buena planning areas; other parts of the "Downtown" planning district (Civic Center, Union Square, Chinatown, Tenderloin); and parts of East SoMa. These areas include most but not all of the Greater Downtown identified in the Planning Department's Downtown Plan Monitoring Reports.

SOURCE: San Francisco Planning Department Land Use Allocation 2007, revised January 2010.

Downtown and the Plan area have specialized functions in San Francisco economic geography. Almost 65 percent of San Francisco office employment is located in the C-3 / Downtown area, and Downtown is the primary destination for most tourists, shoppers, and sightseers. Office employment, represented by the Management, Information, and Professional Services (MIPS) category is the dominant type of business activity in the Plan area and in the larger C-3 / Downtown area. In the Plan area, office employment represents almost 90 percent of area employment and accounts for almost 40 percent of the office employment in downtown San Francisco.

Retail/Entertainment and Cultural/Institutional/Educational (CIE) jobs are the next largest components of Plan area employment, at seven percent and five percent, respectively, of the total. The Plan area employment in these categories is 20 – 30 percent of the retail and CIE employment in Downtown. Retail activity in the Plan area consists primarily of small stores, full-service restaurants, sandwich shops, and coffee shops located in ground floor spaces and serving the day-time office worker population. The area is increasingly a nighttime entertainment destination as a consequence of new housing development and attractions at the adjacent Yerba Buena Center, Moscone Center, and AT&T Park. Cultural, institutional, and educational activities have been attracted to the Plan area by relatively lower space costs and the proximity to transit and the Yerba Buena Center cultural district.

In the other employment categories, Plan area employment is less than 10 percent of Downtown totals. By contrast, the larger C-3 / Downtown area is somewhat more diverse; Retail/Entertainment, Visitor

Lodging, and CIE activities are more substantial parts of the mix when Union Square, Yerba Buena Center, and the northern Financial District are included.

In the 25 years since the Downtown Plan was adopted, San Francisco's Financial District has expanded south of Market Street to such an extent that real estate market reports commonly define a North Financial District and a South Financial District, split by Market Street. Analysis of establishment data for ZIP Codes that match these boundaries reveals additional characteristics of Plan area business activity. Consistent with the more recent development pattern of large floor-plate office structures south of Market Street, businesses in and around the Plan area are larger on average than businesses north of Market Street—two times as large at an average of 42 jobs per establishment in the South Financial District compared to 20 jobs per establishment in the North Financial District.[98]

In the combined North and South Financial District, there are about 50 million square feet of office space—two-thirds of the total office space in the greater Downtown. That office inventory is split fairly evenly with about 54 percent in the North Financial District and 46 percent in the South Financial District. Following two consecutive years in which office occupancy declined by a combined total of more than three million square feet, 2010 saw positive net absorption of office space in San Francisco. Almost all of the new leasing activity was the result of technology sector activity outside of the Financial District, however; vacancy rates in the Financial District continue to reflect a total of seven million square feet of vacant space—about two times the eight percent vacancy estimated as San Francisco's natural vacancy rate.[99] To bring Financial District vacancy down to eight percent requires absorption of about three million square feet of office space, equivalent to about 10,000 office workers.[100]

Growth Context: The Bay Area Region and San Francisco

Regional Scenario for Population and Employment Growth

Projections of population and employment for the Bay Area are based on regional economic, demographic, and transportation assumptions, analysis of land use patterns and land availability, and on smart growth policy assumptions, emphasizing infill development to revitalize central cities, support and enhance public transit, and preserve open space and agricultural land. *Projections 2007*, published by the

98 Based on analysis of *2008 County Business Patterns: ZIP Code Business Statistics.* ZIP Codes 94104, 94105, 94108, and 94111 define the Financial District in the Planning Department's *Commerce and Industry Inventory*. The Plan area is in ZIP Code 94105—the Financial District south of Market Street.

99 Cassidy Turley Commercial Real Estate Services, " Office Market Snapshot, San Francisco – Fourth Quarter 2010."

100 San Francisco's natural office vacancy rate is described in Federal Reserve Bank of San Francisco, FRBSF Economic Letter Number 2001-27, October 5, 2001, 'Natural Vacancy Rates in Commercial Real Estate Markets." The analysis of absorption and employment is consistent with that presented in *Downtown San Francisco: Market Demand, Growth Projections and Capacity Analysis*, prepared for the San Francisco Planning Department, Seifel Consulting, May 2008.

Association of Bay Area Governments (ABAG) in December 2006 provides the long-term regional growth context for this analysis.[101]

The nine-county Bay Area is expected to gain about 1.6 million people between 2005 and 2030 and about 1.5 million jobs. Rates of population growth are projected to slow somewhat from those of the 1990 – 2005 period, while employment growth is expected to increase at a faster pace over the long-term—2005 represents a decline from the employment peak in 2000. Over the 30-year projection period, housing production is expected to continue at about the same pace of the last 15 years, averaging about 24,000 units added per year, region-wide.

San Francisco Growth in the Regional Context

Population and Housing

Table 9 presents projections of population and household growth for San Francisco and the rest of the Bay Area region from 2005 – 2030. By 2030, the City's population is expected to increase by almost 20 percent, to about 934,000 people. While growth is projected at a somewhat faster pace in other parts of the region, San Francisco maintains its share of regional population and housing under this future growth scenario—consistent with more recent regional trends.

The population increase depends on housing development in the City—the projection shows over 50,000 new households in San Francisco between 2005 and 2030. This represents an average of just over 2,000 net additional units per year. This is substantially higher than the annual average increase for the 20-year period from 1990 – 2009: about 1,600 net additional units per year on average. The housing scenario anticipates maintaining the more recent pace of housing production in the City; from 2000 – 2009 the annual net addition to the housing inventory averaged 2,300 units per year.[102]

Employment

Total employment in San Francisco is projected to increase by 50 percent between 2005 and 2030, to a total of 793,000 jobs. The increase of 241,000 jobs between 2005 and 2030, represents about 16 percent of the 1.5 million additional jobs expected in the region over this period (**Table 10**).[103] According to this projection scenario, San Francisco maintains its share of regional employment, as is the case with population and housing, reflecting more recent regional development patterns.

---

101 ABAG generally publishes revised regional growth projections every two years. The version subsequent to *Projections 2007*, *Projections 2009*, was published in August 2009, after the draft Plan and EIR analyses had been undertaken, and subsequent to publication of the EIR Notice of Preparation, which was issued in July 2008. *Projections 2009* shows lower population and job totals in the short- to mid-term, representing the depth of the recession, but the longer term for 2030 and 2035 generally track the regional totals in *Projections 2007*.

102 San Francisco Planning Department, *San Francisco Housing Inventory*, April 2010 (Table 2) and *Residence Element*, Adopted September 13, 1990, (Table 23).

103 For both the City and the region, the job count was lower in 2005 than in 2000. Measured from the peak for employment in 2000, San Francisco is projected to add about 150,000 jobs by 2030, a 23 percent increase over 2000 levels, and the rest of the region is projected to add about one million jobs.

TABLE 9
POPULATION AND HOUSEHOLD PROJECTIONS FOR SAN FRANCISCO AND THE REST OF THE BAY AREA REGION: 2005 AND 2030

			2006-2030		
	2005	2030	Change	Percent Change	Annual Rate
Total Population					
San Francisco	799,800	933,800	134,000	17%	0.6%
Rest of the Bay Area	6,300,300	7,790,200	1,489,900	24%	0.9%
Total Bay Area	**7,100,100**	**8,724,000**	**1,623,900**	23%	0.8%
City Percent of Total	11%	11%	8%		
Household Population					
San Francisco	779,500	912,000	132,500	17%	0.6%
Rest of the Bay Area	6,176,000	7,654,000	1,478,000	24%	0.9%
Total Bay Area	**6,955,500**	**8,566,000**	**1,610,500**	23%	0.8%
City Percent of Total	11%	11%	8%		
Households					
San Francisco	341,200	392,700	51,500	15%	0.6%
Rest of the Bay Area	2,244,200	2,790,800	546,600	24%	0.9%
Total Bay Area	**2,585,400**	**3,183,500**	**598,100**	23%	0.8%
City Percent of Total	13%	12%	9%		

SOURCE: San Francisco Planning Department, Land Use Allocation 2007 (revised January 2010) and Association of Bay Area Governments, *Projections 2007,* December 2006.

TABLE 10
EMPLOYMENT PROJECTIONS FOR SAN FRANCISCO AND THE REST OF THE BAY AREA REGION: 2005 AND 2030

			2006-2030		
	2005	2030	Change	Percent Change	Annual Rate
Total Employment (by place of work)					
San Francisco	552,000	793,300	241,300	44%	1.5%
Rest of the Bay Area	2,896,550	4,139,100	1,242,600	43%	1.4%
Total Bay Area	**3,448,550**	**4,932,400**	**1,483,850**	43%	1.4%
City Percent of Total	16%	16%	16%		

SOURCE: San Francisco Planning Department, Land Use Allocation 2007 (revised January 2010) and Association of Bay Area Governments, Projections 2007, December 2006.

Scenario for Growth and the Distribution of Growth within San Francisco

Downtown San Francisco, including the Plan area, is expected to accommodate a substantial amount of the population and employment growth projected for the City. The growth scenario reflects state, regional, and local policy priorities directing new development to dense urban centers served by transit, as well as the other market factors favoring San Francisco: important business location, central location well-connected to other parts of the region, diverse and walkable neighborhoods, cultural and entertainment attractions, range of housing options, reputation for tolerance and acceptance, and opportunities for immigrants and other newcomers.

Building on market trends and planning efforts, an additional 15,000 households and 30,000 residents are expected in the C-3 / Downtown area between 2005 and 2030 (see **Table 11**). This is a substantial percentage increase—almost 50 percent for households and 60 percent for population. The increase in housing and population Downtown is 20 – 30 percent of the total growth projected for the City as the share of the City's population living Downtown is expected to continue to increase over time.

TABLE 11
GROWTH SCENARIO FOR DOWNTOWN AND THE REST OF THE CITY
HOUSEHOLDS AND HOUSEHOLD POPULATION
2005 – 2030

			2006-2030	
	2005	2030	Change	Percent Change
Household Population				
C-3 / Downtown	51,379	80,602	29.223	57%
Rest of the City	728,080	831,437	103,267	14%
San Francisco Total	**779,549**	**912,039**	**132,490**	17%
C-3 / Downtown Percent of City Total	7%	9%	22%	
Households				
C-3 / Downtown	31,814	46,472	14,658	46%
Rest of the City	309,434	346,227	36,793	12%
San Francisco Total	**341,248**	**392,699**	**51,451**	15%
C-3 / Downtown Percent of City Total	9%	12%	28%	

NOTE: The C-3 / Downtown area is defined to include the C-3 District covered by the Downtown Plan and adjacent areas relevant to the analysis of the Transit Center District Plan: Transbay, Rincon Hill, and Yerba Buena planning areas; other parts of the "Downtown" planning district (Civic Center, Union Square, Chinatown, Tenderloin); and parts of East SoMa. These areas include most but not all of the Greater Downtown identified in the Planning Department's Downtown Plan Monitoring Reports.

SOURCE: San Francisco Planning Department, Land Use Allocation 2007 (revised January 2010) and ABAG, *Projections 2007*, December 2006.

While an additional 61,000 jobs are projected for the C-3 / Downtown area during this planning horizon, bringing total Downtown employment to 300,000 in 2030, the share of total San Francisco employment located Downtown is projected to decline somewhat (see **Table 12**). The share of City employment located in the C-3 / Downtown is expected to decline across all business activities. This is due to the fact that most of the Downtown business district is largely built out, and other locations in the City,

TABLE 12
GROWTH SCENARIO FOR DOWNTOWN AND THE REST OF THE CITY
EMPLOYMENT BY BUSINESS ACTIVITY
2005 – 2030

			2006-2030		
	2005	2030	Change	Percent Change	Percent of Total Change
C-3 / Downtown					
Management/Information/Professional Services	175,806	222,206	46,800	27%	77%
Retail/Entertainment	26,812	32,579	5,767	22%	9%
Visitor Lodging	12,051	16,445	4,394	36%	7%
Medical and Health Services	3,546	4,939	1,393	39%	2%
Cultural/Institutional/Educational (CIE)	13,709	16,363	2,654	19%	4%
Production/Distribution/Repair	7,058	7,181	123	2%	0.2%
Total	**238,982**	**300,113**	**61,131**	**26%**	**100%**
San Francisco Total					
Management/Information/Professional Services	275,380	395,530	120,150	44%	50%
Retail/Entertainment	88,710	127,450	38,740	44%	16%
Visitor Lodging	17,350	27,359	10,009,	58%	4%
Medical and Health Services	38,027	57,951	19,924	52%	8%
Cultural/Institutional/Educational (CIE)	59,524	85,201	25,677	43%	11%
Production/Distribution/Repair	73,003	99,666	26,663	37%	11%
Total	**551,994**	**793,157**	**241,163**	**44%**	**100%**
Downtown Percent of City Total					
Management/Information/Professional Services	64%	59%	39%		
Retail/Entertainment	30%	26%	15%		
Visitor Lodging	69%	60%	44%		
Medical and Health Services	9%	9%	7%		
Cultural/Institutional/Educational (CIE)	23%	19%	10%		
Production/Distribution/Repair	10%	7%	0%		
Total	**43%**	**38%**	**25%**		

NOTE: The C-3 / Downtown area is defined to include the C-3 District covered by the Downtown Plan and adjacent areas relevant to the analysis of the Transit Center District Plan: Transbay, Rincon Hill, and Yerba Buena planning areas; other parts of the "Downtown" planning district (Civic Center, Union Square, Chinatown, Tenderloin); and parts of East SoMa. These areas include most but not all of the Greater Downtown identified in the Planning Department's Downtown Plan Monitoring Reports.

SOURCE: San Francisco Planning Department, Land Use Allocation 2007 (revised January 2010) and ABAG, *Projections 2007*, December 2006.

specifically South of Market, Mission Bay, parts of the Eastern Neighborhoods, and Hunters Point Shipyard /Candlestick Point, are planned to be the locations of choice for the technology, medical, engineering, health sciences sectors leading San Francisco's next decades of economic growth.

Management, information, and professional services employment is anticipated to remain the dominant business activity in San Francisco, providing almost 400,000 jobs citywide by 2030, 60 percent of which are located in the C-3 / Downtown area. The office employment represented by this sector accounts for

80 percent of total employment growth Downtown, from 2005 through 2030. Medical and health services and visitor lodging are projected to show the strongest pace of growth citywide and in the Downtown area over this period, reflecting both the increasing demand for health and medical services and products as the population ages and San Francisco realizes its emerging competitive edge as a location for this sector, and the continued importance of tourism to the City's economic base. Retail and entertainment, and cultural, institutional, and educational employment grows at an average pace, citywide and in the Downtown area. These activities, along with production, distribution, and repair activities, are more important components of employment growth outside of the Downtown.

Regulatory Framework

San Francisco General Plan

Downtown Plan

The Downtown Plan contains the objectives and policies to guide land use decisions about downtown San Francisco, including the Transit Center District Plan area. The Transit Center District Plan is proposed to build on the policies of the Downtown Plan, taking into account the evolution of downtown San Francisco over the 25-years since the Plan's adoption.

The following Downtown Plan objectives and policies address employment opportunities, Downtown housing, and managing the impacts of employment growth. They are relevant to evaluating the impacts of the proposed Transit Center District Plan on population, housing, business activity, and employment. In addition, what was originally the Office-Affordable Housing Production Program (now the Jobs-Housing Linkage Program), implemented in concert with the Downtown Plan to mitigate impacts of office employment growth, is also described below.

- Objective 2: Maintain and improve San Francisco's position as a prime location for financial, administrative, corporate, and professional activity.
- Policy 2.1: Encourage prime Downtown office activities to grow as long as undesirable consequences of such growth can be controlled.
- Policy 2.2: Guide location of office development to maintain a compact Downtown core and minimize displacement of other uses.
- Objective 7: Expand the supply of housing in and adjacent to Downtown.
- Policy 7.1: Promote the inclusion of housing in Downtown commercial developments.

Jobs-Housing Linkage Program

The Jobs-Housing Linkage Program was first imposed in 1985 as the Office Affordable Housing Production Program (OAHPP)—one means by which the impacts of Downtown office employment growth would be managed and mitigated. The original exaction was limited to Downtown (C-3 zoning districts) office development. The program was updated and expanded in 1997. The updated nexus

analysis demonstrated the relationship between all types of new commercial development and the need for affordable housing and expanded the geographic scope beyond Downtown to the rest of the City.[104]

Carrying forward ongoing policy, Policy 1.9 of the Housing Element 2009 calls for enforcement and monitoring of the Jobs-Housing Linkage Program requiring that new commercial development (as well as institutions of higher education) in the City provide affordable housing or pay an in-lieu fee to meet the housing need attributable to employment growth and new commercial development, particularly the demand for new housing affordable to low and moderate income households.[105] The current Jobs-Housing Linkage Program applies to the following types of nonresidential development: office, research and development, retail, entertainment, and hotel. The Jobs-Housing Linkage Program is codified in Section 413 *et seq* of the *San Francisco Planning Code.*

Housing Element

The Housing Element of the *General Plan* describes housing needs and identifies the capacity for new housing in the City based on land supply and development capacity. The Element focuses on the City's critical need for affordable housing. The Housing Element establishes goals for housing production as well as policies related to mitigating the impacts of growth on the housing market that are relevant to evaluation of the draft Plan.

Housing Needs Allocation

San Francisco's official quantified targets for addressing housing needs are provided by the Association of Bay Area Governments (ABAG), in coordination with the California State Department of Housing and Community Development (HCD) as part of the Regional Housing Needs Plan (RHNP). The RHNP is required by state law to promote the state interest in increasing housing supply, increasing the mix of housing types and affordability in all jurisdictions, facilitating infill development and efficient development patterns, protecting environmental resources, and reducing inter-regional commuting. The needs are defined in terms of housing market factors: accommodating projected demand (due to both household growth, employment growth, and the need to turn commuters into residents), increasing the vacancy rate to provide more choice and less upward pressure on prices and rents, and increasing the supply of affordable housing options. ABAG allocates regional total housing needs among jurisdictions based on factors that consider existing employment, employment growth, household growth, and the availability of transit. Region-wide income distributions complete the allocation by household income category.

The Regional Housing Needs Plan for the 2007—2014 period was published in June 2008, and San Francisco's allocation is incorporated in the *San Francisco General Plan* Housing Element (adopted by the Planning Commission March 2011). The housing allocation is expressed not only as an overall housing production target to alleviate tight housing market conditions and reduce long-distance

104 Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Jobs Housing Nexus Analysis, City of San Francisco,* prepared for Office of Affordable Housing Production Program, City and County of San Francisco, July 1997.

105 *San Francisco General Plan* Housing Element 2009 Part II: Objectives and Policies, March 2011 (see footnote 47, p. 57); pp. 11-12.

commuting, but, more importantly, as separate targets for production of housing affordable to various household income categories. San Francisco's 2007—2014 goal is just over 31,000 units—almost 15 percent of the regional total. This amounts to housing production of about 4,160 units per year. This overall production goal is almost two times what was actually achieved over the last decade of strong housing production in the City. (See **Table 13**.)

TABLE 13
HOUSING NEEDS ALLOCATION, 2007-JUNE 2014

	ABAG/HCD Regional Housing Needs Allocation Production Goals by Income Category 2007-June 2014	
Income Category	**No. of Units**	**% of Total**
Extremely Low (< 30% AMI)	3,294	10.5%
Very Low (31 50% AMI)	3,295	10.5%
Low (51-80% AMI)	5,535	17.7%
Moderate (81-120% AMI)	6,754	21.7%
Above Moderate (over 120% AMI)	12,315	39.5%
TOTALS	**31,193**	**100.0%**

SOURCE: San Francisco Planning Department, Housing Element, March 2011.

Furthermore, a substantial component of the housing need is for affordable housing production. ABAG estimates that 60 percent of the production should be affordable to moderate-, low-, and very-low-income households. Meeting the needs for these segments of the market requires changing land use regulations and marshalling additional resources and implementation actions. In particular, substantial financial resources are required to bridge the gap between land and development costs and the resources that very low-, low-, and moderate- income tenants or first-time buyers can be expected to pay for housing.

Land Supply for Housing

Analysis presented in the Housing Element 2009 identifies capacity (under existing zoning) for 63,600 new housing units on vacant or underdeveloped sites throughout the City. Almost 60 percent of this capacity is in neighborhood commercial and mixed-use districts, including housing potential under recently adopted area plans: Eastern Neighborhoods, Market & Octavia, Balboa Park, Visitacion Valley, and Rincon Hill. In the Downtown C-3 districts, the residential development capacity under existing zoning totals 1,100 units. In addition, there is remaining capacity for another 11,000 units in programmed redevelopment areas: Mission Bay, Hunters Point Shipyard Phase I, and Treasure Island (before counting additional capacity that would be added under proposed rezoning in the latter two areas).[106] This estimate of development capacity for a total of 73,700 units of housing under existing zoning does not include the parcels in the proposed residential development pipeline. Including 6,800 units under construction, that amounted to a total of 50,200 units as of the fourth quarter of 2008.[107]

106 Housing Element 2009 Part I: Data and Needs Analysis, March 2011 (see footnote 48, p. 58), pp. I.62 – I.67.
107 This is the estimate presented in the Housing Element 2009: Part I: Data Needs and Analysis, March 2011, Table vI-65, page I.94.

On-going community planning efforts in San Francisco aim to expand this residential development potential, and some of the pipeline projects under review are in anticipation of that rezoning. The Housing Element estimates another 28,800 units could be provided under rezoning proposed in such areas as Executive Park, Western SoMa, India Basin, and Treasure Island. This list includes another 1,100 units under the draft Plan.[108]

Finally, housing could be added on some surplus sites owned by public agencies, amounting to only about 57 acres of land in total. The Housing Element describes planning efforts that could add another 4,000 units to the City's residential development capacity. This would be on sites owned by the San Francisco Municipal Transportation Agency, the San Francisco Community College District, and the San Francisco Public Utilities Commission, in addition to the Central Freeway parcels.[109]

Residential Inclusionary Affordable Housing Program / Affordable Housing Fee

Contributing to the production of housing affordable to low- and moderate-income households as a function of producing new market-rate housing is a zoning requirement in San Francisco. The program is one of several local resources applied in San Francisco to increase the supply of affordable housing, as called out in the Housing Element:

> Policy 7.1: Expand the financial resources available for permanently affordable housing, especially permanent sources.[110]

The year 2006 saw a substantial review and expansion of the City's inclusionary housing program, and the program was clarified in 2010 to primarily require developers of market-rate housing to pay an Affordable Housing Fee to mitigate the impacts of demand for affordable housing. The program applies to projects that develop five or more units of market-rate housing. The fee amount is the difference between the affordable sales price and the cost of developing a comparable housing unit (the "affordability gap" established annually by the Mayor's Office of Housing) multiplied by (generally) 20 percent of the number of market-rate units proposed. The Residential Inclusionary Affordable Housing Program is codified in Section 415 *et seq* of the *San Francisco Planning Code.*

Recent changes to the Inclusionary Affordable Housing Program limit the ability of project applicants to satisfy the requirement by providing on-or off-site affordable units. To qualify for compliance through the construction of on- or off-site units, developers must develop permanently affordable ownership units, or show direct public financial contribution, zoning changes or density bonus assistance, or the provisions of a development agreement.[111]

---

108 Housing Element 2009 Part I: Data and Needs Analysis, March 2011, page I.95.
109 Housing Element 2009 Part I: Data and Needs Analysis, March 2011, pp. I.96 – I.98.
110 Housing Element 2009 Part II: Objectives and Policies, March 2011, page 28.
111 San Francisco Planning Department, Memorandum to Applicants Subject to *Planning Code* Section 415: Inclusionary Affordable Housing Program, January 24, 2011.

Impact Analysis

Significance Criteria

The proposed project would have a potentially significant impact related to population and/or employment if it would:

- Induce substantial growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace a large number of people (involving either housing or employment), or
- Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply.

Approach to Analysis

The impact analysis for population, housing, and employment evaluates the change in development capacity represented by the proposed plan in the context of Plan area, Downtown, and citywide growth expectations. The analysis estimates the amount of population and employment that would occupy the additional building space allowed in the Plan area as a result of implementation of the Plan's proposed rezoning. To derive conclusions about the relative magnitude of the growth, and therefore whether or not the amount of population or employment is substantial, the evaluation compares these estimates to both existing conditions and to growth scenarios for the larger Plan area, for downtown San Francisco, and for the city as a whole, developed by San Francisco and regional agencies as the basis for long-term regional transportation and other infrastructure planning.

The analysis assumes eventual return to market conditions for housing and office development in which demand and supply are at levels that support the rents and sales prices that make new high-rise development feasible.

Plan Growth Scenarios: Housing, Population, and Employment

The key goal of the draft Transit Center District Plan is to concentrate future growth where it is best served by public transit and where private development can best capitalize on major investment in transit infrastructure.

The proposed Plan and the adopted Transbay Redevelopment Plan would each accommodate high-density residential and commercial development in the proposed Transit Center District Plan area, which encompasses most of Zone 1 of the redevelopment area. Most of the housing is planned for Zone 1 of the Redevelopment Plan area, on sites freed for development by the demolition of the Embarcadero Freeway and Terminal Separator Structure. Office and mixed-use towers are planned for the blocks centered on the Transit Center.

The proposed Plan would rezone a number of sites in the Plan area to accommodate more development potential than allowed under current zoning by changing height and bulk limits and floor-area ratio

limits. Planning Department staff has identified 17 "opportunity sites" within the Plan area. According to estimates prepared by the Department, the net additional development that could be accommodated on these sites under the proposed plan totals just over 9 million square feet of building space; of this, approximately 4 million square feet is the additional increment that would be permitted under the draft Plan, compared to existing zoning. (Net additional development accounts for demolition of existing buildings on these sites.)

The rezoning would increase the amount of office, hotel, and residential development concentrated around the Transit Center. There would be more employment on these blocks and more housing and population, as well as more visitor activity, assuming the above-noted increase in hotel rooms. **Table 14** presents the estimates of households, population, and employment growth for the Plan area and the opportunity sites in the Plan area.

Business activity and employment is the much larger component of the growth accommodated on Plan area opportunity sites. Net additional non-residential development on these blocks would accommodate a total of about 22,000 jobs, almost all in office use. There would be about 900 new hotel jobs and just over 200 new retail jobs.[112] The increment of new non-residential development allowed by the proposed rezoning would accommodate 8,000 new jobs in the Plan area, about 40 percent of the total for the opportunity sites (the remainder could be accommodated under existing zoning); in turn, the opportunity sites would accommodate three-fourths of the job growth in the Plan area, with the remainder attributable to sites in Zone 1 of the redevelopment area and to other locations. The development that could occur with implementation of the proposed rezoning represents an increase of about 60 percent in the capacity of these opportunity sites near the Transit Center to accommodate employment growth, compared to existing capacity.

The new housing on Plan area opportunity sites would accommodate about 1,200 additional households and about 1,900 additional residents. The increment of new development allowed with rezoning, after accounting for proposed controls limiting residential use, would more than double the housing and residential population otherwise accommodated on the opportunity sites. However, 80 percent of the increase in residential development in the Plan area would occur within Zone 1 of the approved redevelopment area.

Table14 shows the projections of Plan area growth from 2005 through 2030, and compares that growth to what is forecast for the larger Downtown area and for the City overall during this period.

112 New development on the opportunity site currently occupied by Golden Gate University would potentially reduce institutional employment on these blocks, but not necessarily in the larger Plan area or in downtown San Francisco; it is possible that Golden Gate University would be accommodated elsewhere in the Plan area or nearby. See the following impact analysis.

TABLE 14
HOUSING, POPULATION AND EMPLOYMENT: 2005 – 2030
TRANSIT CENTER DISTRICT PLAN AREA COMPARED TO DOWNTOWN AND CITY TOTALS

	Transit Center District Plan Area			Pct. of Dwntn. Increase	Pct. of Citywide Increase	Oppor. Sites Change[1]	Pct. of Plan Growth[1]	Plan-induced Change[2]	Pct. of Opp. Site Growth[2]
	2005	2030	Increase						
Households	742	6,851	6,109	42%	12%	1,233	20%	760	14%
Household Population[3]	1,463	10,730	9,469	32%	7%	1,911	20%	1,179	14%
Employment by Land Use									
MIPS[4]	67,165	91,980	24,815	53%	21%	21,183	85%	7,322	42%
Retail/Entertainment	5,296	7,093	1,797	31%	5%	232	13%	10	<1%
Visitor Lodging	657	3,169	2,512	57%	25%	887	35%	729	41%
Other[5]	4,512	4,674	162	2%	<1%	(461)	n/a	—	n/a
Total	**77,630**	**106,916**	**29,286**	**48%**	**12%**	**21,841**	75%	8,060	37%

NOTE: This is a summary of the land use allocation by Traffic Analysis Zone (TAZ) for those TAZs within the Plan area boundary. There are three TAZs on the western edge of the Plan area that are not entirely within the Transit Center District Plan area. Therefore, some of the growth included in the estimates above may represent potential future development along Third Street, just west of the Plan area.

1 Represents the amount of Plan area change that would occur on the opportunity sites.

2 Represents the increment of opportunity sites growth attributable to the proposed rezoning of opportunity sites.

3 Household population for the Plan area assumes household sizes smaller than the citywide average and more appropriate to the existing and future Plan area housing stock. For 2005, the household population estimate is based on an average household size of 1.7 persons-per-household, derived from the 2000 Census. The growth in household population assumes an average household size of 1.55 persons per household, as estimated for the Rincon Hill Plan EIR.

4 MIPS – Management, Information, and Professional Service. This is essentially office employment.

5 Other includes institutional, educational, medical, and PDR (production, distribution, and repair) jobs.

SOURCE: San Francisco Planning Department, Land Use Allocation 2007, revised January 2010.

An increase of 6,100 households is forecast for the Plan area, about 40 percent of Downtown growth and 12 percent of the 51,500 additional households expected for the City as a whole over the same period. The population living in the Plan area would increase from about 1,500 to almost 11,000. The number of people working in the Plan area is forecast to increase by about 29,000—an increase of about 40 percent, representing about half of Downtown employment growth and 12 percent of total employment growth forecast for San Francisco between 2005 and 2030. The office sector would generate 85 percent of the employment growth in the Plan area.

Impact Analysis

California CEQA Guidelines, Section 15064(e) state: "Economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment." In the case of the draft Plan, adoption of the proposed plan would not by itself result in direct physical change. After implementation of the Plan, new development allowed under the Plan, would be an indirect physical change that would accommodate population and employment and thereby increase economic activity in the City. This impact analysis addresses the question: would the physical change indirectly brought about by the proposed plan result in social or economic changes that would be considered

substantial, such that the physical changes would be considered significant effects on the environment. Social and economic effects are considered substantial when they are not anticipated in local plans.

The population and employment growth attributable to the proposed rezoning would result in secondary physical changes related to transportation, air quality, greenhouse gases, noise, and public services and utilities. These types of impacts are analyzed under the other environmental topic sections in this EIR. This growth would also result in physical changes related to the City's built environment, which are analyzed under the topic sections for aesthetics, cultural resources, wind, and shadow.

Impact PH-1: The new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would induce growth in population and employment, but the associated physical impact would not be substantial. (Less than Significant)

Employment Growth and Job Opportunities

The proposed rezoning would accommodate an additional 8,000 jobs in downtown San Francisco beyond what could be accommodated under existing zoning (including existing height limits), and would be expected to enable the addition of approximately 21,840 jobs overall in the Plan area. Market and development capacity analysis conducted for the Planning Department as background to development of the draft Plan concluded that, without an increase in Downtown development potential, San Francisco would not have the capacity to accommodate the demand for office space in San Francisco according to the "Smart Growth" policy scenario in *Projections 2007*.[113] The northern Financial District, the traditional location for the higher-end of the office market in San Francisco is essentially built-out. The proposed Plan, therefore, would allow this forecast office employment to be accommodated.

The 8,000 jobs represent about 40 percent more employment on the Plan area opportunity sites than would be the case without the rezoning and about 30 percent of the total employment growth projected for the Plan area. Development on Plan area opportunity sites would represent 75 percent of projected employment growth and 20 percent of projected total employment in the area by 2030. In the larger context, new Plan area employment would constitute 36 percent of growth in the C-3/Downtown and 9 percent of growth in San Francisco to 2030. The new jobs attributable to the proposed rezoning represent less than 15 percent of the employment growth scenario for the C-3/Downtown and less than 5 percent of total employment growth projected for San Francisco. While the proposed rezoning would result in an addition to economic activity and employment in San Francisco, this would not be beyond what is targeted in state, regional, and local policy documents, as described in more detail below. More importantly, the job growth would be consistent with City and regional forecasts, including regional air quality planning efforts.

113 Seifel Consulting Inc. for the San Francisco Planning Department, *Downtown San Francisco: Market Demand, Growth Projections and Capacity Analysis*, May 2008.

Office Market Impact

Most office demand in the Plan area is likely to be from tenants that would otherwise locate elsewhere in the region but choose the Plan area because of transit access and location decision factors that may favor the competitive advantages of Downtown over suburban options: workforce preferences for the urban experience, the high cost of suburban commuting by car, and investments in the Downtown public realm and public safety. In addition, some component of the demand for this space would be businesses whose other location options are global financial center cities. With the proposed Transit Tower and other buildings taller than now currently permitted, San Francisco could gain some office inventory that would compete for tenants with other iconic buildings in other cities.

Because of the higher-end nature of this office market segment, the proposed rezoning would not be expected to have much effect on other segments of the office market or on other business locations in San Francisco. It would not be expected to attract a large number of tenants that would otherwise be the basis for absorption of space planned to attract technology and research firms. Therefore, the increase in development potential in the Plan area is unlikely to have a negative impact on the demand for space South of Market, in Mission Bay, or at Candlestick Point / Hunters Point Shipyard, because these locations tend to provide office and research and development space to users not interested in a central city location or the accompanying amenities, but who are instead interested in particular building types (e.g., technology firms in the South of Market) and in locations with concentrations of like users (SoMa tech firms again, or bioscience firms in Mission Bay).

Population Growth Impact

The proposed rezoning would increase housing development potential in this part of downtown San Francisco. There would be more people living Downtown near the Transbay Transit Center than would otherwise be the case. The additional population would not be as great as the additional employment, since the intent of the draft Plan is to increase office development potential to intensify business activity and employment in the City's central district. The same market and development capacity analysis referenced above concluded that there was ample development capacity under existing zoning Downtown to satisfy future residential demand under either the Baseline or the "Smart Growth" scenario.[114] The increase in residential development capacity (and therefore in households and population) is proposed as part of comprehensive planning to have a mix of land uses in this intense urban center.

The Plan area opportunity sites are expected to gain approximately 1,235 households and more than 1,900 residents, 20 percent of the expected residential growth in the Plan area. Some 800 of these additional households and 1,200 of the additional residents would be accommodated through the rezoning, representing 60 percent more population than would be expected under existing zoning on the opportunity sites. Most of the residential growth in the Plan area is expected to occur it in the new residential district represented by the Transbay Redevelopment Zone 1. The population growth attributable to the draft Plan is 6.5 percent of the population growth projected for the C-3/Downtown and

[114] Seifel Consulting, San Francisco demand and growth projections study; see footnote 113, p. 199.

1.4 percent of population growth forecast for San Francisco. While the proposed rezoning would result in population growth beyond what would be expected under existing zoning, the addition is not substantial in the context of San Francisco and its downtown, and is consistent with regional smart growth forecasts and the regional air quality planning efforts based on those smart growth principles, as described in more detail below[115]

Growth Anticipated in Local and Regional Plans

The population and employment growth accommodated by the draft Plan, including the increment of new development allowed under the proposed rezoning, is incorporated in ABAG's regional projections, which, since 2003, have been based on policy assumptions that include more infill and transit-oriented development, particularly around fixed transit stations. As the Association of Bay Area Governments has noted, "The Transbay Transit Center project will not only provide a central focus for many regional transit services, it will be an important economic stimulus to the city." San Francisco's central location, historic function as job nucleus and employment hub for the region, and access to jobs and transit are reasons the city's share of regional population is expected to increase. The conceptual growth pattern behind ABAG's forecast for San Francisco builds more housing throughout the City, particularly in the Downtown area.[116]

The Transbay Terminal Area is a Priority Development Area (PDA) recognized by ABAG, MTC, and the BAAQMD—an infill location served by transit—where compact land development is promoted and supported by investments in community improvements and infrastructure. The Plan area is one of the 12 PDAs in the City where 80 percent of the new housing production and population growth in the City are expected to take place.[117] In addition, the City's *General Plan* Housing Element 2009 (adopted June 2011) identifies this additional capacity in the Plan area as an appropriate location for high-density housing near transit and jobs as part of the planned housing supply capacity to meet the City's short-term (to 2014) and longer-term (to 2035) housing production goals.

Planning for more intensive new development on the few remaining underutilized blocks in downtown San Francisco to accommodate more employment and population than would otherwise be the case is one of the means by which San Francisco and the region as a whole could potentially meet state mandates under SB 375 for a Sustainable Communities Strategy to reduce per-capita greenhouse-gas emissions. The long-term projections of city and regional population and employment growth are the basis for the housing, transportation, other infrastructure, and public services and utilities planning conducted at a city and regional level. They are also the basis for efforts to secure the funding and financial support essential to realizing this level of infill development. For these reasons, the growth induced by the proposed rezoning is not considered substantial or adverse.

---

115 In addition to comparing the draft Plan to existing conditions, this section compares the total amount of growth forecast in the Plan area without the Plan (i.e., under existing zoning) to growth with the draft Plan, to provide for more information regarding Plan-permitted changes.

116 Association of Bay Area Governments, *Projections 2007*, December 2006, pp. 140 – 142.

117 Association of Bay Area Governments and Metropolitan Transportation Commission, *Bay Area Plan – Initial Vision Scenario for Public Discussion*, March 11, 2011. Available on the internet at: http://www.onebayarea.org/pdf/Initial_Vision_Scenario_Report.pdf.

Mitigation: None required.

Impact PH-2: The new development allowed by the Plan's proposed rezoning, including the development of the proposed Transit Tower, would not displace a large number of people, involving either housing or employment. (Less than Significant)

The proposed plan would increase development potential on selected opportunity sites in the Plan area. This change would not result in demolition of a substantial amount of existing building space, compared to the new space that would be provided (about 550,000 square feet could be demolished, compared to 9 million square feet of new space that could be built), although to the extent that occupied commercial space is removed, there would be displacement of some businesses. However, several of the buildings on potential development sites in the Plan area are currently vacant, or partially vacant. To the extent that existing office tenants would be displaced, they would likely have to relocate elsewhere in San Francisco, or outside the City, because most of the building space in the Plan area that is anticipated to be replaced is considered Class C space, whereas new office construction would be Class A space, and commercial rents would be considerably higher. Displaced tenants could likely find comparable, lower cost space in older buildings outside the heart of the C-3 District, for example, in parts of Western SoMa, Mid-Market, and the Civic Center area.[118] At least some retail tenants displaced would be more likely to be able to stay in the Plan area, because retail rents are more closely tied to location than to building amenities. Therefore, while there would be some displacement of commercial tenants, the magnitude of the impact would not be such that this would be considered a significant impact.

No residential uses would be displaced by development pursuant to the draft Plan.

The largest existing building occupant on the opportunity sites is Golden Gate University, occupying 175,000 square feet. With development of this opportunity site, this institutional use might relocate elsewhere in the Plan area, or nearby, because the Downtown location well-served by transit is essential to attracting students, most of whom already work Downtown. It is also possible that this institutional use would be accommodated as part of new development on an opportunity site in the Plan area. Moreover, as the owner of its property, Golden Gate University has site control and thus would control whether it might relocate.[119]

---

118 While the vacancy rate for Class C space is about 50 percent lower than that for Class A and C space, and there is a much smaller pool of Class C space overall (Colliers International, "San Francisco Research & Forecast Report—Office, Second Quarter 2011," available at: http://dsg.colliers.com/document.aspx?report=1603.pdf), it is also true that tenants in Class C buildings typically lease smaller spaces—in part, because the buildings themselves are smaller.

119 It is noted that no application has been filed with the Planning Department for development on the Golden Gate University opportunity site, although the school has publicly discussed future development plans. "Golden Gate University eyes new highrise," J.K. Dineen, *San Francisco Business Times*, June 8, 2009.

The site of the proposed Transit Tower is currently vacant, having been formerly occupied by the passenger waiting and loading area in front of the former Transbay Terminal (demolished in 2010). Therefore, no housing or employment would be displaced by the Transit Tower project.

In light of the above, displacement would not be considered a significant impact.

Mitigation: None required.

Impact PH-3: Neither the draft Plan nor the proposed Transit Tower would create substantial demand for additional housing beyond projected increases in housing supply in San Francisco, or substantially reduce the housing supply. (Less than Significant)

Housing Demand

By accommodating more development and therefore more employment growth than otherwise allowed under existing zoning, the draft Plan would increase demand for housing in San Francisco, but the increase would not be substantial, and required participation in the Jobs-Housing Linkage program would help reduce the impact of the increased demand on housing prices and rents and the need for affordable housing in San Francisco.

Employment growth in the Plan area by 2030—an estimated 29,300 jobs—would result in a demand for approximately 10,250 housing units in San Francisco.[120] The 10,250 housing units represents about 18 percent of the potential of approximately 58,000 units that could be developed under various areawide planning efforts and redevelopment plans identified in the 2009 Housing Element, including the proposed Transit Center District Plan, as well as recently approved plans such as the Market-Octavia Plan and the Eastern Neighborhoods rezoning, Hunters Point, and Treasure Island. If these forecasts hold, it would mean that a larger percentage of San Francisco workers would look for housing outside the City, that more workers would live in dual-worker households, that increased demand could increase prices for housing in the City (which might, in turn, generate increased supply), or some combination thereof.

It is important to note that the employment forecasts assume that all commercial development would generate new employment to San Francisco. In reality, it is always the case that some commercial tenants in new development relocate from other locations (both within San Francisco and without). To the extent that space vacated by tenants relocating from within the City is re-occupied at a similar density, then the employment can be considered new to San Francisco. On the other hand, such vacated space may be used at a different intensity, or converted to another use. For example, between 2006 and 2009, 18 Downtown commercial buildings (mostly former offices) containing an estimated 700,000 square feet of floor area

120 Based on 56 percent of City workers who live in San Francisco, from 2000 Census data, 1.68 workers per worker household, and an assumed 5 percent vacancy factor.

were converted to residential use.[121] Moreover, despite the addition of nearly 20 million square feet of office space in the greater Downtown (12.6 million square feet in the C-3 Use Districts), employment in the C-3 Districts has declined since the Downtown Plan was approved in 1985. As noted in the Setting, employment is cyclical, and any instantaneous snapshot of employment reflects the current economic conditions. Downtown Plan monitoring data show that between 2002 and 2010, a period that encompassed both positive and negative economic cycles, employment in the C-3 districts fluctuated from a low of about 195,000 in 2004 to a high of about 220,500 in 2008, a swing of about 13 percent. Moreover, not all "new" jobs create demand for new housing, because some employees taking these jobs already live in San Francisco. Nevertheless, housing demand in the City would be expected to increase as a result of projected employment growth.

The large-scale non-residential development on Plan area opportunity sites would be subject to San Francisco's Affordable Housing-Jobs Housing Linkage Fee (*Planning Code* Section 413). The fee would apply to the gross square feet of net additional office and hotel space, to mitigate the documented impact of employment growth on housing supply and affordability. The fee would also apply to any retail space that exceeds 25,000 square feet in size. The Jobs-Housing Linkage Fee revenue would be deposited in the Citywide Affordable Housing Fund to be used to increase the supply of affordable housing in San Francisco.

At the current fee schedule of $19.96 per gross square foot of office space and $14.95 per gross square foot of hotel space, the net additional increment of building space allowed as a result of the proposed rezoning would generate total Jobs-Housing Linkage fee revenue of about $53 million.[122]

Housing Supply

The proposed rezoning would not reduce the housing supply. No existing housing would be demolished as a result of the new development allowed on opportunity sites in the Plan area, including the Transit Tower site.

The proposed rezoning undertaken as part of implementation of the draft Plan would increase the development potential for housing on Plan area opportunity sites, beyond what could be achieved under existing zoning: an additional 800 units of housing could be developed on the opportunity sites, increasing the total housing unit potential in this part of downtown San Francisco from 498 units to 1,298 units.

This increase in housing development potential would incrementally improve San Francisco's ability to accommodate housing demand, and is consistent with regional scenarios to accommodate future growth in infill locations well-served by transit and existing infrastructure. As noted, the Plan area is designated as a Priority Development Area (PDA) by ABAG and the Metropolitan Transportation Commission

121 San Francisco Planning Department, *25 Years: Downtown Plan Monitoring Report, 1985 – 2009.* June 2011. Available on the internet at: http://www.sf-planning.org/index.aspx?page=1663#downtown_report; p. 10.

122 San Francisco Department of Building Inspection, Citywide Development Fee Register (updated as of 11/15/2010). http://sfdbi.org/Modules/ShowDocument.aspx?documentid=717

(MTC). Furthermore, the additional housing supply in the Plan area could incrementally reduce demand pressure from employment growth on the existing, older housing stock in the City.

In addition, the developers of new housing allowed under the proposed Plan would be required to participate in San Francisco's Residential Inclusionary Affordable Housing Program (*Planning Code* Section 415). The Affordable Housing Fees required of these developer's would generate revenue for the Citywide Affordable Housing Fund to be used to increase the supply of affordable housing in San Francisco. Payment of these fees would satisfy the City's current land use regulatory requirement to mitigate the documented impact of market-rate housing development on the demand for affordable housing in San Francisco.

Project sponsors of market-rate housing in the Plan area would be required to pay fees to help bridge the affordability gap for 160 affordable units (20 percent of 800), or to build that housing on-site or off-site. Assuming half of the 800 units were 1-bedroom units (fee amount of $248,210 per unit) and half were 2-bedroom units (fee amount of $334,478 per unit), total Affordable Housing Fee revenue would amount to $46.6 million.[123]

Some of the high-rise housing encouraged in the Plan area is likely to be purchased as second homes.[124] These units would be a response to one segment of the market for Downtown high-rise housing, but they would not contribute to San Francisco's ability to meet the demand for housing from people employed Downtown.

In light of the foregoing, because the draft Plan would provide for additional housing in the Plan area beyond what could be accommodated under existing zoning, because of the development and affordable housing fees that would be required, and because no existing housing would be eliminated, effects of the draft Plan on housing supply would be less than significant.

Mitigation: None required.

---

123 Mayor's Office of Housing, Inclusionary Housing Fee Determination, effective July 15, 2008. The fee schedule was not updated for the 2010-2011 fiscal year due to continued review of the appropriate index. The July 15, 2008 schedule remains in effect until the Mayor's Office of Housing issues a 30-day notice of a schedule update. http://sf-moh.org/index.aspx?page=307

124 "More recent buyers of Downtown housing are affluent Bay Area households choosing to either relocate to Downtown or purchase a second home." Seifel Consulting Inc. for the San Francisco Planning Department, *Downtown San Francisco: Market Demand, Growth Projections and Capacity Analysis*, May 2008, page IV-14.

Impact C-PH: The draft Plan and proposed Transit Tower would not contribute considerably to a substantial growth in population or employment, to displacement of a large number of people, or to substantial demand for additional housing in San Francisco, nor would they reduce the housing supply. (Less than Significant)

The analysis above, in Impacts PH-1 through PH-3, discusses growth in the Plan area, including the proposed Transit Tower, in the context of cumulative growth in San Francisco through the year 2030. Given the foregoing conclusions, neither the draft Plan nor the proposed Transit Tower would contribute considerably to a cumulative significant impact related to population and housing or business activity and employment.

Mitigation: None required.

D. Cultural and Paleontological Resources

Introduction and Methodology

This analysis of the potential impacts to historical resources is based on a review of existing known resources and an evaluation of the potential effects on those resources. Because the draft Plan and accompanying rezoning would not directly affect historical resources (effects could result from subsequent development projects, including the Transit Tower), the impact discussion relative to the draft Plan evaluates whether the proposed policy and zoning changes could indirectly result in effects on historical resources in the Plan area. Subsequent development pursuant to the draft Plan, including the proposed Transit Tower, may have direct effects, which are also analyzed.

A "historical resource" is defined, under CEQA Section 21084.1, as one that is listed in, or determined eligible for listing in, the California Register of Historical Resources.[125] In addition, a resource that (i) is identified as significant in a local register of historical resources, such as Article 10 and Article 11 of the *San Francisco Planning Code*, or (ii) is deemed significant due to its identification in an historical resources survey meeting the requirements of *California Public Resources Code* Section 5024.1(g), is presumed to be historically significant "unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." Finally, CEQA Section 21084.1 permits a lead agency to determine that a resource constitutes a historical resource even if the resource does not meet the foregoing criteria. Section 5024.1(g) sets forth guidelines for historical resource surveys, including, among other things, listing the results in the State Historic Resources Inventory and preparation of the survey according to State Office of Historic Preservation procedures. In general, project-specific historical resource surveys performed as part of CEQA review in San Francisco will meet these guidelines and, therefore, resources identified as having California Historical Resource status codes 1 through 5 on such surveys will normally be determined to be historical resources for CEQA purposes.

Both buildings (historic architectural resources) and archeological sites may be listed on the California Register or otherwise qualify as historical resources for purposes of CEQA analysis.

The Plan area has also been studied to identify known and potential archeological resources, including historic-period remains, and prehistoric/Native American archeological sites. Those resources are discussed here, followed by an assessment of Project impacts and recommendations for mitigation of the impacts. A more detailed discussion, including references, of these topics is available in the confidential

[125] Resources are listed in the California Register if they meet one of four criteria and also retain sufficient integrity. The four criteria are: 1 – Event (resource is associated with important historical events); 2 –Person (resource is associated with the lives of historically important persons); 3 – Architecture (resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values); and 4 – Informational Potential (resource has yielded, or has the potential to yield, information important to prehistory or history). (Criteria for the National Register of Historic Places are similar, but are lettered A – D.) Integrity entails the survival of characteristics or historic fabric that existed during the resource's period of significance; that is, the time it gained its historical importance. Integrity encompasses seven aspects: location, design, materials, workmanship, setting, feeling, and association.

Archeological Research Design and Treatment Plan (ARDTP) for the Transit Center District Plan area.[126] That report addressed the Plan area as a whole, project-level analysis for the Transit Tower, and parcel level analysis of five private project sites (five of the 17 "soft sites" discussed at the start of Chapter IV).

The historic architectural resources analysis in this section is based on a background report prepared by preservation architects Kelley and VerPlanck,[127] as well as additional surveys and evaluations by preservation architects at Carey & Co.[128] Additional information is included that has been derived from Planning Department surveys of downtown San Francisco and the South of Market area over the past several years.

Setting

This discussion includes sections on the archeological record followed by a consideration of historic architectural resources. The archeological setting includes consideration of prehistoric, ethnohistoric, and historic time segments. It is followed by a separate historic-era context tailored to architectural resources.

Archeological Context of the Plan Area

Generally, an archeological resource may be determined to be an "historical resource" due to its eligibility for listing on the California Register under Criterion 4; that is, because of the potential scientific value of the resource, that is, "has yielded, or may be likely to yield, information important in prehistory or history" (CEQA Guidelines Section 15064.5 (a)(3)). An archeological resource may also be California Register-eligible under other Evaluation Criteria, such as Criterion 1, association with events that have made a significant contribution to the broad patterns of history; Criterion 2, association with the lives of historically important persons; or Criterion 3, association with the distinctive characteristics of a type, period, region, or method of construction. Appropriate treatment for archeological properties that are California Register-eligible under criteria other than Criterion 4, information potential, may be different than that for a resource that is significant exclusively for its scientific value. As with historic architectural resources, a lead agency may determine that an archeological resource is a "historical resource," even if it is not listed on the California Register or one of the other qualified inventories identified in CEQA Guidelines Section 15064.5.

Integrity is an essential criterion in determining if a potential resource, including an archeological resource, is an historical resource. In terms of CEQA, "integrity" can, in part, be expressed in the requirement that the resource must retain "the physical characteristics that convey its historical significance" (CEQA Guidelines Section 15064.5 (b)). For an archeological resource evaluated under

126 Far Western Anthropological Research Group, Inc., Past Forward Inc., and JRP Historical Consulting, LLC, *Archaeological Research Design and Treatment Plan for the Transit Center District Plan area, San Francisco, California;* February 2010.

127 Kelley & VerPlanck, *Final Historic Context Statement Transit Center District Survey, San Francisco, California,* September 11, 2008. This report is available for review at the Planning Department, 1650 Mission Street, Suite 400, in File No. 2007.0558E.

128 Carey & Co. Inc., Supplemental DPR 523B Forms for selected properties, March 18, 2010. This material is available for review at the Planning Department, 1650 Mission Street, Suite 400, in File No. 2007.0558E.

Criterion 4, integrity is conceptually different than how it is usually applied to the built environment. For an historic building, possessing integrity means that the building retains the defining characteristics from the period of significance of the building. In archeology, an archeological deposit or feature may have undergone substantial physical change from the time of its deposition but it may yet have sufficient integrity to qualify as a historical resource. The integrity test for an archeological resource is whether the resource can yield sufficient data (in type, quantity, quality, diagnosticity) to address significant research questions. Thus, in archeology, "integrity" is often closely associated with the development of a research design that identifies the types of physical characteristics ("data needs") that must be present in the archeological resource and its physical context to adequately address research questions appropriate to the archeological resource.

Prehistoric Period Setting

Terminal Pleistocene (13,500-11,600 cal BP)[129]

Currently there is considerable agreement that humans entered the New World via multiple migrations using both coastal and inland routes. Most scholars view this as a post-glacial maximum process (after 21,000 cal BP), although some have argued for pre-glacial maximum incursions. The coastal route, referred to by some as "the Kelp highway," entailed travel by boat exploiting this corridor's highly productive marine resources.

The Terminal Pleistocene is largely contemporaneous with the Clovis and Folsom periods of the Great Plains and the Southwest and is generally considered to be represented by wide-ranging, mobile hunters and gatherers who periodically exploited large game. Throughout California Terminal Pleistocene occupation is infrequently encountered and poorly understood, and most often represented by isolated fluted points.

No fluted points or archeological deposits dated to the Terminal Pleistocene have been documented in the Bay Area. The Borax Lake site (LAK-36) situated near Clear Lake in the North Coast Ranges is the nearest locality with numerous fluted points. Isolated fluted points have also been documented at Tracey Lake in the Delta, at NAP-131 and Hidden Valley north of the Bay, and at the Wolfsen mound (MER-215), a major Late Holocene site along the middle San Joaquin River.

The absence of Terminal Pleistocene archeological remains is undoubtedly the result of several factors most notably the likelihood that initial human populations were small, highly mobile, and traveled rapidly across the continent. Therefore their archeological signature on the landscape was generally faint and wide-spaced. For coastal areas, sea level rise, coastal erosion, and localized subsidence have further reduced the likelihood of documenting initial occupation of the Plan area.

129 All dates use "cal BP" to indicate they are given in calibrated calendar years before present (i.e. 1950) rather than non-calibrated radiocarbon-dated years.

Early Holocene (11,600-7,700 cal BP)

In much of Central California, the Early Holocene occupation is indicative of semi-mobile hunter-gatherers exploiting a wide range of food resources from marine, lacustrine, and terrestrial contexts. Early Holocene assemblages often include stemmed points, crescents, and steep-edged formed flake tools that share many attributes with contemporaneous material of the Mojave Desert.

Early Holocene prehistoric material in the Bay Area has rarely been encountered in sites, resulting in few and poorly established archeological patterns. Four dated Early Holocene sites have been documented in the general Bay Area region including two sites at Los Vaqueros reservoir (CCO-696 and -637) in the East Bay, the Blood Alley site (SCL-178) in the Coyote Narrows of the Santa Clara Valley, and SCR-177 at Scotts Valley in the Santa Cruz Mountains. All were recovered from buried terrestrial contexts, while none have been documented in bay or coastal settings.

Diverse resource exploitation is indicated by the artifact and ecofact assemblages from these sites. They include hand stones and milling slabs (but not mortars and pestles), large flaked cores and cobble tools, flake tools, well-made bifaces, and a single crescent. Trace amounts of marine shellfish have been recovered from some inland sites, while faunal assemblages include varied remains including deer, elk, rabbit, ground squirrel coyote, and grizzly bear. Carbonized plant remains from CCO-696 were dominated by acorn and wild cucumber (*Marah* sp.), indicative of fall-winter occupation. Each Los Vaqueros site also included a single human burial. These Early Holocene deposits demonstrate that the general region was occupied throughout this time segment, but strong insight into the nature of early occupation trends will require much more data.

Middle Holocene (7,700-3,800 cal BP)

Comparatively, Middle Holocene occupations are much more ubiquitous than in earlier time segments. More than 30 Bay Area archeological sites have produced radiocarbon dates indicating occupation during the Middle Holocene. Both surface and buried sites are present, including a number of substantial residential settlements. Notably the Middle Holocene includes a series of buried sites with diverse cultural assemblages and occasional burials, such as ALA-483 in the Livermore Valley, the Marsh Creek Site (CCO-18/548) in the northern Diablo Range, and MRN-17 on de Silva Island in Richardson Bay. In addition, several isolated human burials have been found in buried contexts including several in the northern Santa Clara Valley (such as SCL-33, -484, -674, and -832) and on the San Francisco peninsula (SFR-28 and SMA-273). SMA-273 was an isolated buried dated to around 4200 year ago discovered during dredging about 12 feet below the surface of San Francisco Bay off Coyote Point. SFR-28 was a 5,000-year-old human skeleton discovered in buried marsh deposits within a former arm of Mission Bay. The buried skeleton was discovered at a depth of approximately 60 feet below the modern ground surface during construction of the BART tunnel in the City.

Artifact assemblages are varied and include ground stone (some only with milling slabs and hand stones, some with mortars and pestles, and some with both); side-notched dart points, cobble-based chopping, scraping, and pounding implements, and shell beads and ornaments. Notably, Type N grooved

rectangular *Olivella* beads are present at the San Bruno Mountain Mound site (SMA-40) and at CCO-474/H along the eastern edge of San Pablo Bay. These beads are well-dated to the Middle Holocene across a large region from the northwestern Great Basin to San Clemente Island and indicate the presence of an extensive regional interaction sphere.

Resource exploitation began to shift toward a lacustrine and maritime focus with the expansion of San Francisco Bay's estuary, mud flats, and freshwater tidal marshes in the Middle Holocene. Shellfish exploitation included bay oyster (*Ostrea*) and mussel (*Mytilus*), while inland East Bay sites exploited freshwater shellfish. Faunal remains reveal diverse, local niche-based exploitation strategies that included exploitation of seasonal waterfowl.

The presence of a diverse range of habitation sites, including the basal layers of some Bay margin shell mounds, suggests higher population levels, more complex adaptive strategies, and longer seasonal occupation than took place during the Early Holocene. Along with burial by alluviation, undoubtedly the earliest sites situated along the Bay margins have been inundated by subsequent sea level rise.

Late Holocene (3,800-170 cal BP)

The Late Holocene is generally divided into the following five main time slices: Early (4500/3800-2450 cal BP), Early-Middle Transition (2450-2050 cal BP), Middle (2050-900 cal BP), Middle-Late Transition (900-700 cal BP), and Late (700-170 cal BP). The Middle and Late periods have been further subdivided (into four and two subdivisions, respectively), based largely on the dating of specific types of shell beads.

The Late Holocene is very well-documented in the Bay Area with more than 200 dated sites, and this time period is dominated by complex hunter-gatherers. The vast majority of occupation deposits from Bay Area surface shell middens and shell mounds date to the Late Holocene. Early site recording and survey by Nels Nelson identified more than 400 such sites along the margins of San Francisco Bay. Of these, less than 10 shell mounds were noted in the northern San Francisco peninsula area: most south of Hunters and Candlestick points on the bay side, along with a few near Lands End on the northwest. Many more mounds were certainly present in the area based on other investigations.

Early in the 20th century, a series of Bay Area shell mounds was excavated, documenting their depths and composition. The data that was generated formed the basis of subsequent Late Holocene cultural typologies and sequences for the region based on changes in artifacts, mortuary practices, and shellfish remains. Among these early excavations were Nelson's excavations at SFR-7 (the Crocker/Bay Shore Mound) and Loud's fieldwork at SFR-6 (the Presidio Mound) on the northern San Francisco peninsula. Very little work was then carried out in the northern San Francisco peninsula until the enactment of environmental laws and the emergence of cultural resource management in the mid 1970s.

Since then a series of prehistoric sites have been investigated, most of which have been discovered during urban redevelopment projects and underlying the city of San Francisco, some within or near the Plan area. Currently, at least 16 Late Holocene prehistoric sites have been subjected to formal archeological testing or data recovery excavations. Excavated sites are mainly clustered between Yerba Buena Cove and

Mission Bay (eight sites: SFR-112, -113, -114, -135/H, -147, -148, -154/H, and -155), along with six near the northern end of the peninsula (SFR-6/26, -21, -29, -30, -31, and -129), one south of Candlestick Point (SFR-7), and one on Yerba Buena Island (SFR-4). The excavated sites are mainly shell middens (n=14), along with two shell mounds (SFR-6 and -7). They are typically situated within sand dunes, and some are well-buried by natural sediments as well as by historic-era fill. Although their full areal extent has not always been fully defined owing to their urban settings, each site is typically a single continuous midden. A notable exception is SFR-113 which is comprised of eleven small midden concentrations or loci.

These sites vary widely in size. Most are either small or medium-sized (less than one acre), along with two large sites (3 to 5 acres). The latter include the Crocker/Bayshore mound (SFR-7) and SFR-113, where none of the 11 loci are larger than 1,600 square feet. Midden thickness also varies greatly between sites, ranging from thin lenses (less than one inch thick) at two loci of SFR-113 to thick (16 feet) at SFR-7. Most middens fall into one of two size ranges: 18 inches or less in thickness, and between 2 and 5 feet in thickness.

The amount of intact midden that has been excavated differs greatly between sites, ranging from as little as 15 cubic feet at SFR-155 to 17,000 cubic feet at SFR-7, and as a result insights into site structure are highly varied. A total of 80 radiocarbon samples has been obtained from 13 of the excavated sites. They include sites from the Early, Middle, and Late period, although Early period occupation is currently only documented on Yerba Buena Island. Large numbers of burials have been recovered from three sites: SFR-4 (mostly Early period), SFR-7 (probably Middle period), and SFR-114 (Middle period). Despite the impact of historic-era and modern development, these sites generally contain well-preserved features, intra-midden stratigraphy, and diverse cultural assemblages. Many also appear to represent relatively short-term and discrete occupation events. As such, new research in the region has considerable potential to unravel diachronic and spatial trends in prehistoric hunter-gatherer occupation within the region and refine our understanding of the current status Late Holocene occupation summarized below.

The Early Period marks the establishment of a number of large shell mounds. Prominent sites along the Bay margins that have produced particularly early dates—including dates at the end of the Middle Holocene—include the University Village (SMA-77), the Ellis Landing site (CCO-295), the San Bruno Mountain mound (SMA-40), the Stege mound (CCO-298), the West Berkeley Mound (ALA-307), and ALA-17.

The earliest shell mound typically had artifact assemblages that included projectile points of varied forms (including stemmed, broad-leafed, and square-based), mortars, pestles, charmstones (typically perforated); bones tools such as awls, net sinkers; *Olivella* shell beads (rectangular and spire lopped), and *Haliotis* sp. rectangular beads and pendants. Bay margin sites reveal a strong emphasis on marine shellfish (particularly bay mussel and oyster), marine fishes, and marine mammals. In contrast, interior sites emphasized freshwater fish and shellfish along with terrestrial mammals. Nuts and berries appear to have been particularly important plant resources.

Burials are common, tend to flexed, and the regular use of grave offerings, suggests well-developed mortuary practices. Artifacts recovered mostly from burial contexts suggest that an extensive trade

network provided access to finely crafted implements made of obsidian originating east of the Sierra Nevada and from Napa County. *Haliotis* (abalone) and *Olivella* (olive snail) beads and ornaments may also represent trade items.

The Middle Period appears to have witnessed greater settlement permanence—characterized either by sedentary or multi-season occupation. This time interval is considered to have been the heyday of mound building and correlated with greater social complexity and ritual elaboration. A series of changes in artifact types have been documented including barbless and single-barbed bone fishing spears, large mortars, ear spools, and varied forms of *Haliotis* and *Olivella* ornaments. Mortuary practices were often highly ritualized and some individuals, typically males, were buried with thousands of shell beads. Terrestrial resources appear to have been more heavily exploited than previously, based on food remains and isotopic analysis of human bone. Shifts in resource emphasis included greater exploitation of deer, less reliance on oysters and greater exploitation of mussels, and an increase in acorn exploitation.

The Late Period is the best-documented Late Holocene time segment, although some have suggested a decline in the number of settlements. Near the end of the period artifact assemblages included flanged steatite pipes, chevron-etched bone whistles and tubes, elaborately finished mortars, thin awls for basketry, clamshell disk beads, and very distinctive *Haliotis* pendants. The bow and arrow also make its appearance in the Late Period. Archeobotanical remains reveal heavy reliance on small seed exploitation, while the faunal evidence indicates a wide range of resources notably sea otters, rabbits and deer. Clams (*Macoma*) and horn snails (*Cerethedia*) also were increasingly important to the diet. Funerary rituals were strongly patterned, and included flexed interments and "killed" grave offerings, along with occasional cremations. Extensive trade relations also appear to have flourished with neighboring groups.

Ethnohistoric Setting

The Plan area falls within the aboriginal territory of the Ohlone, once referred to by the Spanish as *Costanos* (for "coastal people"). The aboriginal way of life for the Ohlone was disrupted by the influx of explorers and the establishment of missions by the Spanish in the late eighteenth century. Colonization and occupation of their land by Spanish, Mexicans, and then Anglo-Americans substantially reduced native populations, displaced them, and dramatically altered their traditional way of life. As a result the Ohlone are not well-known ethnographically.

Most of what we know about the Ohlone comes from early Spanish accounts—both explorers and mission staff—along with a few 20th century interviews by anthropologists who gathered information on remembered lifeways. Recent interpretations of Ohlone lifeways, sometimes contradictory with earlier studies, are largely based on mission records research.

Costanoan is a linguistic subfamily of the Penutian language stock. Miwok (such as that spoken by the Coast Miwok north of Golden Gate) is the closest related language. According to early linguists, there were eight branches of the Costanoan language, each associated with a geographic location and the tribelet(s) that inhabited the locality. Whether these were distinct languages or dialects is uncertain. The Plan area lies within the northern portion the *Ramaytush* linguistic territory.

At the time of Spanish contact, the Bay Area and the Coast Range valleys were dotted with native villages. The Ohlone aboriginal population has been estimated to be between 7,000 and 10,000. It is estimated that there were approximately 1,400 Ohlone inhabiting the area of modern San Francisco and San Mateo counties and speaking *Ramaytush* in AD 1770.

The northern portion of the San Francisco peninsula (including the city of San Francisco) is considered to have been the tribal/regional community area of the *Yelamu*, one of seven tribal areas on the San Francisco peninsula (north of San Francisquito Creek). The *Yelamu* is estimated by scholars to have had a population of 160 and population density of 2.7 persons per square mile at the time of contact.

For the Ohlone as a whole, the basic unit of political organization was a territory-holding group of one or more associated villages and smaller temporary encampments. Often referred to as a tribe or tribelet, these groups were generally considered independent, multi-family, landholding groups. Each regional community was a largely autonomous polity numbering typically between 150 and 400 people falling under the jurisdiction of a headman and council of elders who served as advisors to the villagers. Permanent villages were established near the coast and on river drainages, while temporary camps were located in prime resource-processing areas. Some tribes occupied a central village, while others had several villages within a few miles of each other. Three different semi-sedentary groups lived in this area: one group near have a village near Mission Creek (*Sitlintac*) and a village 2 – 3 miles inland (*Chutchui*); a second was centered at the villages of *Amuctac* and *Tubsinte* near Visitation; and third group lived at a village (*Petlenuc*) near the beach on the north side of the peninsula.

Prior to European contact, native people of the Bay Area were hunters, gatherers, and fisherfolk. Subsistence activities centered around the seasonal availability of gathered resources such as acorns, nuts, seeds, greens and bulbs; hunting deer, pronghorn, tule elk, smaller animals, sea mammals and waterfowl; fishing; and collecting shellfish (oysters, mussels, and abalone). The proliferation of shell middens throughout the Bay Area attests to the heavy reliance on marine food resources. Although they did not cultivate crops, the Ohlone practiced burning on an annual basis to ensure an abundance of seed-bearing annuals and forage for large game, and to facilitate the gathering of fall-ripening acorns. Their only domesticate was the dog, which presumably served as a companion and camp protector, and may have played an important dietary role (a "walking larder") when times were bad.

The most common type of housing consisted of small hemispherical huts thatched with grasses and rushes. Other types of village structures included sweathouses, dance enclosures or plazas, and assembly houses. A variety of stone tools were used, including knives, arrow and spear points, hand stones and milling stones, mortars and pestles, net sinkers, anchors, and pipes. Chert was obtained from local quarries, and obsidian was acquired in trade. Many perishable items were made from tule (e.g., canoes, mats, and baskets), plant fibers (e.g., cordage, nets, and baskets), and animal skins (sea otter, rabbit, and duck skin blankets). Pottery was not made. Mortars, both bedrock and portable variants, were important components of acorn processing technology. Tule balsas were used for transportation, fishing, and duck hunting. Shell beads were gaming and trading commodities as well as ornamental items. Trade relations with neighboring villages and groups were well established. Likely trade items included bows, arrows,

basketry materials, paints, and feather blankets, procured from the east, while the Ohlone traded mussels, dried abalone, salt, and abalone shells to the neighboring Yokut groups and provided the Sierra Miwok with *Olivella* and abalone shell beads.

Historical Period Setting

The Plan area is part of the larger South of Market neighborhood, and has historically supported mixed commercial uses dominated by industrial businesses and oriented toward the railroad tracks and the nearby shipping facilities on the Bay. At the onset of the Gold Rush in 1848-1849, First Street marked the easternmost street at the water's edge on Yerba Buena Cove, a gentle half-moon-shaped inlet that extended from Clarks Point on the north to Rincon Hill on the south (see **Figure 53**). The portion of the Plan area west of this original shoreline has been intensively settled since the early 1850s. The east portion—originally under water—developed incrementally throughout the 1850s and into the 1860s as Yerba Buena Cove was filled, and as wharves and city streets were extended into the former Bay.

Yerba Buena during the Spanish, Mexican, and Early American Periods (1776-1848)

Spanish colonial policy throughout the late 1700s and early 1800s was directed toward establishing outposts in all lands held by Spain. Spanish explorations of San Francisco Bay began in 1769, and in 1776, the Juan Bautista de Anza expedition traveled into the area of modern San Francisco in the search for a suitable location for a Spanish settlement. Similar to other Spanish settlements in Alta California, colonial San Francisco (known as Yerba Buena) was organized around three frontier institutions: the fortified military garrison or presidio; the mission, the religious component founded by Franciscan padres; and the pueblo, the civilian village. Established in late June 1776, the San Francisco Presidio was situated along the northern edge of the peninsula. Mission San Francisco de Assisi at Dolores (generally referred to as Mission Dolores) was located west of Mission Bay with the pueblo, or town, established on lands surrounding the mission.

With the founding of the missions, Old World plant and animal domesticates were introduced to California. Spanish occupation of Alta California was the driving force behind tribal disintegration, with native people enlisted as laborers at the missions, where padres controlled their daily lifestyles, work, diet, and religious expression. The Ohlone suffered numerous hardships during the Spanish colonization, death rates greatly increased, and a quarter of the population died in the 1806 measles epidemic.

For 60 years after their founding, the areas immediately around Mission Dolores and the Presidio remained San Francisco's principal areas of settlement. The Spanish Period in this area lasted until 1821, when the Mexican government gained control over Alta California. During the 1820s, the mission system declined as Indians abandoned the missions, and land formerly held by Spain was divided into vast ranchos owned by individuals. Secularization grew with the creation of these land grants, the rise of a ranching class, and the growth of pueblo populations.

From 1776 to 1835, there was no permanent settlement at Yerba Buena Cove. The primary activity was maritime, with one to two ship landings each year during the Spanish period, which then increased to



SOURCE: Far Western Anthropological Research Group
(detail from 1853 US Coast Survey)

Figure 53
Historic Shoreline

twelve or more each year in the Mexican period as it became the region's principal anchorage. Harbor activities accelerated during the 1830s following the establishment of Yerba Buena village, and peaked during the frenzied Gold Rush years of 1848-1849, when the small cove was packed with hundreds of vessels. Other nearby activities included cattle grazing, and recreational hunting and picnicking. By 1826 there were footpaths and trails around the perimeter of Yerba Buena Cove, and a horse path, forerunner of today's Mission Street, ran from to the Mission.

The first permanent historic-era settlement of Yerba Buena Cove occurred in 1835, when Captain William Richardson established a hide and tallow trade there. For the next decade all settlers located their residences and businesses on the north side, above the Market Street alignment. Initially tents were common, followed by frame houses. Construction of these early structures preceded the first survey and plat of Yerba Buena, and the Mexican *alcalde* (mayor) conveyed title to the lots in a random and haphazard manner. In 1839, Jean-Jacques Vioget, a Swiss immigrant, prepared the first survey, incorporating the existing grants, in a twelve-block grid north and outside of the Plan area. Permanent settlement of the Plan area did not occur until the 1840s, coinciding with the first mass immigrations of the Gold Rush. The area that would become South of Market was characterized historically by rolling and often very steep sand hills and dunes. The shoreline originally hugged the line of First Street south of Market, and consisted of sandy beaches that gave way to shallow tidal mudflats that ringed the cove.

The region came under American control in 1847, and Yerba Buena was officially renamed San Francisco. A second plat of Yerba Buena was then undertaken by Jasper O'Farrell to extend the grid into the hills surrounding a small flat of land covered by the original survey. Market Street became the principal artery; it paralleled the southwest-to-northeast orientation of the old route to Mission Dolores. North of Market, streets ran in the cardinal directions, but south of Market they ran northeast, northwest, southeast, and southwest.[130] The lots on the south side of Market were 100 by 100 *varas*, four times as large as those on the north (50 by 50 varas), with the exception of 444 much smaller beach and water lots platted in and along the margin of the cove. Nearly half of the new lots sold when the city put them up for auction in August 1847, including many of the beach and water lots, while the rest were sold during the Gold Rush days of 1848-1850 for much higher prices

The Early Days of the Gold Rush (1848-1850)

Until the advent of the Gold Rush, settlement around Yerba Buena Cove was almost entirely restricted to the area north of Market, which was already becoming San Francisco's commercial district. The southern half of the cove remained virtually unused. The Plan area received its first permanent settlers during the massive migrations of 1848-1849. These South of Market pioneers established a tent city in areas known as "Happy Valley" and "Pleasant Valley." Although the exact locations of the tent cities are uncertain, the two valleys stretched from the shoreline of the cove west to about Second or Third street, with Happy Valley located north of Mission Street and Pleasant Valley located south of Mission to Folsom Street. By

[130] Consistent with San Francisco convention, Market Street and streets parallel to it are considered to run east-west, while First Street and streets parallel to it are considered to run north-south.

1849, as many as two thousand tents had been erected in this area, and houses of a more permanent character were minimally constructed.

Despite the influx of settlers, the small city retained a rough and primitive character. In the summer of 1849, the city lacked grading, planking, or paving. The beach front was either mud or sand. Only shallow water small wharves existed, and the only deep water landing took place at Clark's Point, near the intersection of Broadway and Battery streets, because deeper water came close to this rocky shore.

The Emergence of South of Market (1850-1860)

In 1850 infrastructural improvements began along the streets and shoreline surrounding Yerba Buena Cove that would "pave the way" for more intensive future land use. A system of uniform street grades was adopted by the City to facilitate adequate drainage, and over the next three years street leveling proceeded in a somewhat orderly fashion, particularly to the north of Market Street. At this time, most of the principal streets were wood-planked.

Although street building was slower south of Market in the early 1850s, a few major construction projects were completed that played a major role in the development of the neighborhood. Chief among these was the Mission Dolores Plank Road, a roughly three-mile long wooden toll road connecting the Mission with California Street, via Kearny, Third, and Mission streets. A second, parallel plank toll road was constructed along Folsom Street in 1852. These "plank highways" were crucial to the development of South of Market because they facilitated movement within the neighborhood and provided longer-distance travel between the harbor and the rest of the city. An omnibus stagecoach service that ran along Third Street, established not long after Mission Dolores Road was completed, further added to the mobility of the South of Market population and encouraged "suburban" settlement on the periphery of downtown San Francisco north of Market.

Development of local streets within the South of Market grid was much slower in the early 1850s than in the commercial district north of Market, yet the changes still occurred at a remarkable pace. This was in large part because most improvements were privately planned and financed by interested parties, usually property holders who petitioned the Council for approval.

Some of the few streets within the Plan area that were graded and planked in the 1850s were First Street between Mission and Market, and portions of Second Street. Even Market Street, principal thoroughfare that it was, was not passable between Second and Third streets well into the 1850s, because it was blocked by an eighty-foot sand dune. As street construction progressed, private contractors also built several miles of redwood and brick sewers and cisterns along most major alignments beginning in about 1858 and continuing throughout the 1860s.

Another form of street improvement was construction of wharves into the Bay. In addition to providing docking facilities, wharves also served as extensions of the street grid, thus expanding the city out onto the Bay. By 1850 nearly a dozen wharves had been built on pilings extending into Yerba Buena Cove.

Market Street Wharf, the foot of which was located at First Street, was the southernmost of these early wharves; by the summer of 1850 it had already been extended 600 feet into the Bay.

Also during the summer of 1850, several water lot owners began to build houses or businesses on piles over the water. Pilings also demarked water lot lines and helped establish property rights. This provided an expedient means of putting the water lots to productive use, but the solution these structural features rapidly deteriorated in the Bay waters. Access streets to the water lots were also erected on pilings. These streets were notoriously dangerous—there are many tales of people and horses falling through the planks into the harbor

Water lots then began to be filled in. South of Market Street the original shoreline of Yerba Buena Cove more or less followed the alignment of First Street, curving to cross Fremont Street between Howard and Folsom. The Bay here was relatively shallow and had a sandy bottom. Beginning in about 1850 and continuing unabated for more than a decade, Yerba Buena Cove was filled with earth and debris, eastward to today's waterfront at the Embarcadero (Front Street).

The filling of Yerba Buena Cove was continuous, and often on a *ad hoc* basis by individual water lot owners. As well, it was related to grading activities that aimed to remove the area's sand dunes that blocked thoroughfares and encumbered development of individual lots, but also provided a seemingly endless supply of fill material. At first horse carts transported most of the material to fill sites, but beginning in 1851 a powered shovel known as the "steam paddy" speeded up the process since it could move up to 2,500 tons in a day.

By late 1853, fill activities were still concentrated north of Market Street. South of Market the original shoreline was still mostly intact, and many portions of the Plan area remained partially submerged. The only filled area at this time was the block bounded by Market, First, Mission, and Fremont, and the north half of the block on the south side of Market between Fremont and Beale. Grading and filling activities accelerated after 1853, following the adoption of the city's second system of street grades. The city was forced to reset the grades because filling of Yerba Buena Cove had pushed the waterfront more than 1,000 feet east, thus making it necessary to raise the levels of city streets in order to facilitate adequate drainage. These new grades set the base (zero) elevation at 6.7 feet above the ordinary high water mark on a wooden pile at the boat stairs at Pacific and Davis streets - the city grade is still computed from this point.

The recalculation of the grades required street levels to be raised and lowered, and as a consequence, the levels of individual lots—even those with buildings already on them—had to be adjusted accordingly, often at great expense. Many buildings throughout the city were raised through addition of new basement levels, even large brick buildings in the commercial districts. The amount of earth moved—most of which ended up in the harbor as fill—was also substantial: one source estimates that establishment of the new grade ultimately resulted in the removal of 21 million cubic yards of land, most of which went into the cover. While sand made up the bulk of the fill material tossed into the Bay, any available solid material would suffice including trash, building rubble, and even hulks of abandoned Gold Rush-era ships.

At the peak of the Gold Rush, Yerba Buena Cove teemed with vessels, many of which were abandoned by their crews, eager to set out to the gold fields. In the summer of 1850, there were some 500 vessels (ships, barks, brigs, and schooners) in the port. Most eventually returned to sea, but scores of abandoned vessels remained anchored in the cove well into the 1850s. Most of these were broken up and salvaged by a ship-breaking enterprise based at Rincon Point, but the best preserved and intact were reused as floating storehouses and occasionally hotels or boarding houses. As many as forty or more vessels may still exist encased within the filled lands of old Yerba Buena Cove, extending from Montgomery Street south to Rincon Point, including perhaps half a dozen in the Plan area.

By 1857, the filling of Yerba Buena Cove south of Market Street had pushed east to the Beale Street alignment, with the exception of a small lagoon at Mission and Fremont streets and a larger one at the foot of Howard Street. Fingers of fill extended even beyond Beale Street as far east as Main along Market, Mission, and Folsom streets. In 1857, much of the cove still remained unfilled, but it was entirely enclosed: Steuart Street, with its many wharves extending into the open waters of the Bay, completely bridged the cove from Market Street south to Folsom. Much of the Plan area was completely filled by that time.

Happy Valley/Pleasant Valley During the 1850s

Major infrastructural developments in the Plan area began in 1850, coinciding with the start of Happy Valley's transformation from a glorified tent city to a permanent, mixed-use neighborhood. Other residential pockets began to develop throughout the Plan area during the early 1850s, and prominent inhabitants included New Englanders and, boarding in a two-story house, army officers. Interspersed among and surrounding the residential pockets in the early to mid-1850s were several civic, public, and religious institutions. These included Happy Valley's first free school, the City's first orphan asylum, and St. Patrick's Church, on Market Street between Second and Third Streets (the current location of the Palace Hotel).

The industrial character of South of Market and the Plan area also emerged as the area became dotted with a multitude of foundries, lumber and flour mills, shipyards, and warehouses, particularly near the beach along First Street between Mission and Folsom. The rapid rise of industry in South of Market is not surprising, given several factors: that the older portion of San Francisco, on the north side of Market Street, was already established as the city's commercial and financial district; that Happy Valley lay adjacent to the California's principal harbor, served at the time by Market Street Wharf; and that the burgeoning city, the principal supply and transshipment center for the goldfields in California's interior, was in desperate need of production and storage facilities for durable and consumable goods.

The first and principal industry of South of Market was iron foundering. The mining boom created a lucrative opportunity for individuals who could establish the heavy manufacturing necessary to supply the mines, railroads, and shipbuilders. From its inception in the 1850s throughout the half century that followed, the foundry industry was centered in the South of Market district, near the waterfront in an area roughly bounded by First, Mission, Main, and Folsom streets. Being situated near the waterfront enabled the foundries to receive shipments of bulky equipment without having to then transport it far

across land. Prominent early foundries included Union Iron Works, Brooklyn Iron Foundry, Pacific Foundry, and the Vulcan Foundry.

Soon, other industries were founded along the shoreline, most in close proximity to the metal foundries. These included flour and timber mills, the latter—along with the iron foundries—providing the much needed raw materials for Happy Valley's flourishing shipbuilding and repairing industry. As early as 1850, San Francisco's shipyards produced dozens of steamers and were soon manufacturing schooners, scows, and other sailing vessels.

The San Francisco Gas Company plant was established in 1854 on the block bounded by First, Natoma, Howard, and Fremont streets. The company provided the earliest large-scale gas-powered lighting to the city, and used coal to produce the gas, the by-product of which was coal tar. The waste was dumped in a depression in the vicinity of Beale, Mission, Howard, and Spear streets. The area soon became known as "Tar Flat"; the nickname stuck and gradually replaced "Happy Valley" as the popular name of the industrial portion of the South of Market district. In addition to the tar slurries near the gas works, there was a fairly substantial "waste depot" at the corner of Market and First streets where anyone and everyone would dump their trash; some of this trash may have eventually made its way to the Bay as fill material.

South of Market Matures (1860s-1906)

The permanent, mixed-use character of South of Market and the Plan area had begun to assert itself during the early 1850s. At this time, the land-use patterns were somewhat segregated—light and heavy industry was concentrated near the harbor; retail establishments, churches, and schools were aligned more or less with Market Street—but residences were still scattered throughout the neighborhood. By 1860, land use on a block-by-block basis became increasingly more segregated, with foundries dominating the southeast corner of the Plan area; factories, mills, and warehouses in the northeast corner; retail and wholesale businesses in the northwest corner; and residential neighborhoods in the southwest corner. This trend intensified in the 1860s and persisted until the earthquake and conflagration of 1906.

The city built and extended sewer lines in step with land filling activities and street improvement. Redwood sewers were located beneath Howard, Mission, and Market streets east of Fremont by 1865, while the brick sewers covered a large portion of the grid west of Fremont. All major streets in the Plan area between Third and Fremont had brick sewers before 1876, as did Stevenson, Jessie, and Minna streets. The Tehama Street and Natoma Street sewers were brick between First and Second streets, but wooden west of Second Street by the mid 1870s as well.

South of Market in the late 1850s and the early 1860s witnessed the concurrent rise in heavy industry and the exodus of many of its wealthiest residents. These residents, many of whom established successful businesses on the periphery of Yerba Buena Cove, gradually moved out of the flats and into surrounding neighborhoods. The exodus was driven in part by the transportation improvements which facilitated easier access to the hills surrounding the cove; at the same time, many members of the wealthy class were fleeing the industrial environment that they created. By 1860, the residential population of the Plan area had taken on a decidedly working-class character.

By the end of the 1870s the population of the Plan area was predominantly of Irish and German stock, and these two ethnic groups remained in the majority until the 1906 earthquake. It appears that the Irish were overwhelmingly Catholic and members of the Democratic Party, while the Germans were nearly all Protestants and Republicans. Both groups included a large force of skilled and unskilled laborers, most of whom worked in the various South of Market industries.

Land-use patterns were clearly segregated and firmly established by the 1880s, with First Street—the original shoreline—marking the dividing line between industrial on the east and commercial and residential on the west. On the industrial side and concentrated south of Mission and west of Main were iron, copper, and other metallurgical foundries. Surrounding the foundries were factories and light manufacturers, warehouses, the gas works, and lumber mills, the latter being located primarily between Main Street and the Embarcadero (Front Street). In general, west of First Street, on the south side of Mission to Folsom Street, was the residential sector. The blocks north of Mission and fronting on Market Street formed a commercial district comprised primarily of hotels, retail shops, and wholesalers.

South of Market in the Post-Earthquake Era

The 1906 earthquake and fire devastated many areas of the city, but perhaps none more profoundly than the industrial South of Market. The severe damage sustained to its unreinforced brick buildings, as well as timber frame buildings, during the earthquake was substantial, and neither the weakened structures nor the surviving buildings could withstand the fires that followed. The fires that swept through the South of Market and other neighborhoods were the result of damaged gas lines, untended boilers or stoves, and well-intentioned but poorly executed efforts at fire suppression by the U.S. Army. An estimated 28,800 buildings were destroyed in the conflagration, covering an area measuring almost five square miles.

The efforts that San Franciscans made to rebuild during the months and years immediately following the disaster were widely praised and their accomplishments were admired. An estimated $300 million had been spent rebuilding the city by the end of 1913; thereafter construction returned to a more normal pace. San Francisco merchants did not hesitate to reestablish shipping and commerce, opening temporary offices within days of the disaster. These new buildings throughout the burned district were designed with fire protection in mind.

The nearly total devastation followed by rapid reconstruction gives the building stock in the South of Market area distinct characteristics, one of which is the age of the resources. There are almost no buildings that pre-date 1906, while a large number of buildings date to the immediate post-earthquake era. The new construction also included far fewer timber structures. Most of the new buildings were reinforced concrete warehouses and factories, although brick was still used for many buildings; and steel-frame structures sided in corrugated metal were also relatively common. Although the construction itself had changed, the area along the northern half of Second Street continued to be known as a wholesale center that shared space with other small industrial business like printing, binding, or garment factories through the 1930s.

One of the most striking changes to the Plan area in the aftermath of the 1906 disaster was the nearly complete disappearance of family housing. On the eve of the earthquake, the quadrant bounded by Folsom, Mission, First, and Third streets was comprised predominantly of densely packed wood-frame residences. The fires completely obliterated these neighborhoods, permanently driving out most of the families that lived there. The population in South of Market dropped from 62,000 in 1900 to 24,500 in 1910; of those that remained, nearly 80 percent were male, and almost all lived in residential hotels, boarding houses, or flats above places of business.

Another key date in the general development of the South of Market area was 1939, the year of completion of the rail lines associated with the San Francisco-Oakland Bay Bridge. The bridge not only revolutionized transportation in the San Francisco Bay Area but it had a major effect on San Francisco. Within the Plan area, these effects included construction of infrastructure, long-term impacts on freight traffic, and separation of certain portions of the industrial area from other parts of the city.

The new infrastructure that was introduced into the Plan area in the mid-1930s produced a large number of historical resources in the South of Market area. The bridge was anchored in Rincon Hill and its major viaduct built from Rincon Hill to a touchdown point at Fifth Street. The bridge originally carried a trolley line on its lower level from Oakland to the Transbay Terminal Building on Mission Street. This electrified rail line was supported in San Francisco on a series of elevated structures arranged in a large "loop" that brought Key System and other trolley cars from the bridge without intermixing with city street traffic. The rail system has since been removed and both the terminal and ramps converted the late 1950s and early 1960s for use by uninterrupted bus connections that continue to serve the eastern side of the Bay.

The bridge-related historic-era resources that exist within the Plan area included, until recently, the Transbay Terminal and the bus ramps described above. The Transbay Terminal, which opened for service in January 1939, occupied parts of three city blocks and straddled two streets (First and Fremont) just south of Mission Street, until it was demolished beginning in 2010. (Portions of the east half of the looping bus ramp had been demolished earlier.)

The vehicle access provided by the Bay Bridge reoriented the distribution system for goods in the Bay Area, diminishing the importance of San Francisco's port and railroad connections and ultimately spelling the end of this area as the prime warehousing and industrial district for the region. San Francisco industry had been on the decline since the disaster of 1906, being out competed during the 1910s and 1920s by the major manufacturing center that rapidly developed in the East Bay. Businesses such as electrical and industrial supply houses, grocery wholesalers, and clothing manufacturers still operated successfully in the South of Market area, but fewer and fewer companies saw the need to maintain or open branches in San Francisco.

As it had been with other historical trends, this evolution was reflected in the types of buildings of the South of Market area, where larger commercial buildings and offices crowded around the northern boundary at Market Street, and wholesale operations and loft industries were arranged along Second Street. The

economic slowdown of the 1930s, followed by the limitations on civilian construction during the war, resulted in very little new construction in the South of Market area during this.

After World War II, South of Market foundered and many of the buildings suffered from vacancies and neglect. Despite opposition from locals, modern development in the area was eventually approved; multi-story office buildings were completed in the 1980s and began to change its architectural atmosphere. Among the most ambitious recent projects to be completed near (but not within) the Plan area are the arts and cultural facilities at Yerba Buena Center and the new San Francisco Museum of Modern Art Building in the blocks south of Mission between Fourth and Third streets. These new developments bring modern architecture which contrasts sharply with the otherwise reserved warehouses and lofts of South of Market.

Documented Archeological Resources

Archeological records searches were undertaken in August 2008 at the Northwest Information Center at Sonoma State University (NWIC File No. 08-0047) and at the Environmental Planning division in the San Francisco Planning Department to identify prior archeological studies and resources for the Transit Center District Plan area. The records search also included a 1/2-mile radius around the Plan area.

A total of 45 substantive archeological studies reports have been conducted within or abutting the Plan area. Some of the most significant projects that entailed either detailed archival research or produced substantive results are as follows: the Yerba Buena Center project, the SF-480 terminal separation rebuild project; the San Francisco-Oakland Bay Bridge West Approach replacement project; and excavations at prehistoric shell midden sites SFR-112 and SFR-135.

The Information Center listed another 199 reports that had been conducted in the ½-mile buffer zone around the Plan area. Overall these 244 projects include archeological surveys, treatment plans, and archival research prior to new building construction; archeological testing reports for building demolition and construction; monitoring; or data recovery. Recently, there have also been a number of small-scale studies, typically for cell towers, that include consideration of potential cultural resources.

Seven formally recorded cultural resources have been identified by the Information Center within the Plan area, including four historic-era sites, two prehistoric sites, and one site with prehistoric and historic-era components. The four historic-era sites include three with Gold Rush-period debris and structural remains (SFR-27H, -119H, and -166H), and one with later 19th-century ground surfaces, building foundations, and hollow-filled features (SFR-150H). The two prehistoric sites are both shell middens (SFR-112 and -135). The multi-component site (SFR-151H) has late 19th-century ground surfaces, building foundations, and hollow-filled features, and a prehistoric shell midden buried in a sand dune (the latter components was documented during the ARDTP coring). None of these sites are listed or have been formally determined eligible for listing on the National Register of Historic Places or the California Register of Historical Resources.

Another 29 formally recorded cultural resources have been identified by the Information Center as situated within the 0.8 km buffer zone around the Plan area. Six are prehistoric resources, of which five are shell middens (SFR-2, -113, -114, -147, and -155). The other prehistoric resource (P-38-004499) was designated based on a 1920s newspaper article that reported human remains and prehistoric artifacts during road work. The full extent of several of these prehistoric sites is uncertain, since only the portions within the relevant construction areas were studied and additional portions extend beyond those limits.

The 23 historic-era sites adjacent to the Plan area vary widely in size and character. Their boundaries are most often reported as either city blocks or the entire the area under construction, rather than defined by the extent of actual deposits within these areas. They include one possible 1840s Mexican customs house (P-38-004401) reported in a newspaper article; 11 sites with Gold Rush-period deposits (SFR-33H, -81H, -116H, -117H, -118H, -122H, -123H, -127H, -166H, and P-38-004262); and 12 sites with late 19th century or early 20th century remains (SFR-115H, -120H, -128H, -130H, -137H, -138H, -152H, -153H, -161H, -165H, P-38-004294, and P-38-004357). Site SFR-154/H includes both a prehistoric shell midden and 1860s-1880s historic-era remains. Building foundations and floors, earlier ground surfaces, trash pits, and privies are common, and several sites include remnants of ships (SFR-33H, -81H, and -127H). None are listed or have been formally determined eligible for listing on the National Register or the California Register; SFR-81H, however, is a California Point of Historical Interest.

All 36 archeological resources within and adjacent to the Plan area were encountered below the current urban land surface. They were typically documented during formal archeological excavations, and many of the prehistoric sites were also buried under natural dune sand. It should be noted that additional historic-era remains were encountered during a variety of projects within and adjacent to the Plan area, but were considered not substantial enough to be formally recorded. The nature and extent of these remains can be determined only through individual reviews of the archeological reports.

Recently, five small prehistoric midden deposits were discovered along Fourth Street between Folsom Street and Howard Street in the records search area. Although the technical report on these sites is not yet available, these deposits have been determined eligible for the National Register individually under Criterion D and as part of a larger district under Criterion A.[131] The proposed District also includes previously documented prehistoric sites SFR-2, -113, -114, -147, -155, -154/H, all of which lie in the records search area west of the District Plan area.

The Native American Heritage Commission also conducted a search of their Sacred Lands files to determine if there were known traditional cultural properties or areas of Native American concern within or near the Plan area. The Commission stated that no Native American cultural resources were reported from the sacred lands file records search. The Commission also provided a list of six interested Native American groups and individuals. All six contacts were sent letters requesting their input on the proposed project. Mr. Andrew Galvan responded requesting that a Native American monitor be present during excavations, given the

131 Anthropological Studies Center, *Site Specific Archaeological Research Design, Evaluation, and Data Recovery and Treatment Plan for Prehistoric Midden Deposits at Fourth and Howard Streets, San Francisco. Report Revision 0,* September 29, 2010. (Prepared for the Central Subway Project).

considerable number of prehistoric sites that have been previously documented in the area. Ms. Anne-Marie Sayers also responded requesting a Native American monitor be present during any testing or data recovery excavations at prehistoric sites. No other responses have been received.[132]

The potential for additional archeological resources to be present within the Plan area is discussed in the Impacts analysis, below.

Historic Architectural Context of the Plan Area

A "historical resource" is defined, under CEQA Section 21084.1, as one that is listed in, or determined eligible for listing in, the California Register of Historical Resources. In addition, a resource that (i) is identified as significant in a local register of historical resources, such as Article 10 and Article 11 of the *San Francisco Planning Code*, or (ii) is deemed significant due to its identification in an historical resources survey meeting the requirements of *California Public Resources Code* Section 5024.1(g), is presumed to be historically significant "unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." Finally, CEQA Section 21084.1 permits a lead agency to determine that a resource constitutes a historical resource even if the resource does not meet the foregoing criteria. Section 5024.1(g) sets forth guidelines for historical resource surveys, including, among other things, listing the results in the State Historic Resources Inventory and preparation of the survey according to State Office of Historic Preservation procedures. In general, project-specific historical resource surveys performed as part of CEQA review in San Francisco will meet these guidelines and, therefore, resources identified as having California Historical Resource status codes of 1 through 5 on such surveys will normally be determined to be historical resources for CEQA purposes.

Historic Context

The following historic context for the Transit Center District Plan area has been summarized primarily from the *Historic Context Statement* developed for historic architectural resources (see footnote 127).

The discovery of Gold at Sutter's Mill, in Coloma, in January 1848 unleashed a population explosion in San Francisco. By the end of 1848, thousands of gold-seekers from all over the world—dubbed "Forty-niners"—had come to San Francisco. Between 1848 and 1852, the population of San Francisco grew from less than one thousand inhabitants to almost 35,000.

During the Gold Rush, American settlers began to move away from the waterfront real estate of Yerba Buena Cove to south of Market Street, which was protected by sand dunes from harsh onshore winds, and enjoyed some of the best weather in San Francisco. Especially attractive was access to well water which became available among the sand dunes bounded by Market, Howard, First, and Second Streets, called "Happy Valley" by the Forty-niners who erected tents and temporary wood houses in the area.

---

132 Correspondence with the Native American Heritage Commission and Native American groups is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E. Both responses noted in the text were by telephone, and accordingly no further written record is available.

The character of what is now the Plan area evolved rapidly, and by 1850, residents had begun erecting more permanent stores and houses around First and Mission streets. However, the transformation of the South of Market area from a temporary gold miner's encampment to a permanent neighborhood required substantial work to remove the sand dunes that divided Happy Valley from Market Street. Prior to the adoption of the "steam paddy" in 1852, heavy manual labor was required to move the sand. The steam paddy (named for the primarily Irish laborers it displaced) sped up the process, with the last major dunes cleared from Happy Valley in 1858, although sand removal elsewhere South of Market Area continued into the 1870s.

With the removal of sand hills came grading of new streets in the Plan area. In 1853, the first surfaced road in the Plan area was constructed of wooden planks atop the dunes in the alignment of present-day Mission Street, and became known as the Mission Street Plank Road. By this time the Plan area was becoming San Francisco's industrial district, with early foundries such as Union Iron Works, Vulcan Iron Works, Sutter Iron Works, the Alta Foundry, and Pacific Iron Works established along First Street, facing Yerba Buena Cove. By 1875, there were 42 iron foundries in the Plan area, supplying the West Coast with mining equipment, heavy machinery, and other industrial equipment.

In addition to industrial development, the Plan area was also had a growing residential district centered on Second and Folsom Streets in the mid to late-1800s. Lots continued to be subdivided, and submerged lots at the edge of Yerba Buena Cove were filled. The Second Street Cut in 1869 lowered the grade of Second Street, demolishing many fine residences which had previously occupied Rincon Hill, located just south of the Plan area. (The wealthy had begun moving to Nob Hill, made accessible by the cable car.)

During the last quarter of the 19th century, the South of Market area including portions of the Plan area evolved into a prosperous southerly extension of the downtown commercial district. During the 1870s, speculators watched as San Francisco's downtown commercial and financial district moved south from Jackson Square, along Montgomery, Sansome, and Kearny streets. Jasper O'Farrell's 1847 survey made expansion south of Market Street very difficult because the north-south streets on either side of Market Street did not align. In the early 1870s, businessman Asbury Harpending and banker William Ralston began buying properties on the south side of Market Street and made plans to extend Montgomery Street south of Market. They envisioned the extension, which they called New Montgomery Street, as a fine new office, banking, retail, and hospitality district. Ralston envisioned the street eventually extending all the way south to his properties at Hunters Point. The two men bought up all the land on either side of the proposed street as far south as Howard Street and began demolishing buildings to construct a new street.

New Montgomery Street was developed largely along the lines envisioned by Harpending and Ralston, although they were unable to convince property owners south of Howard Street to sell, resulting in the two-block long extent of New Montgomery Street. Prominent structures soon arose on the sites of former frame houses and industrial buildings, including the Palace Hotel, which opened for business in 1875 on the corner of Market and New Montgomery streets. Designed by New York architect John P. Gaynor, the Palace was the largest and best-appointed hotel in the United States. The Grand Hotel, also designed by Gaynor, opened nearby. The block of New Montgomery Street between Mission and Howard streets

acquired three elegant brick commercial buildings that conformed to a unified design scheme of classically detailed facades and mansard roofs, and other important buildings—all destroyed in the 1906 earthquake and fire—also were built. The development increased real estate prices in adjoining areas along Mission, Howard, First, and Second streets, leading to the gradual replacement of lower-value industrial and residential structures with more substantial commercial, entertainment, and civic structures. One of the most impressive of these projects was the Grand Opera House which opened at Third and Mission in 1876. The luxury hotels and Opera House, in turn, attracted milliners, jewelers, and other businesses that catered to the "carriage trade." By the late, 1870s, Mission Street between Second and Third streets had a number of large wholesale furniture, carpet, and bedding businesses.

By 1900, the Plan area was entirely built out and urban in every respect. The 1899 Sanborn Map shows a general pattern of development included of a large concentration of substantial masonry commercial buildings along Market Street between First and Third streets and along New Montgomery and the numbered cross streets as far south as Howard Street. The commercial buildings attracted several large wholesale furniture, carpet, and bedding businesses, and were interspersed among wood-frame tenements and hotels as one moved further away from Market Street. Meanwhile, industrial plants and warehouses dominated the area east of First Street as far as Steuart Street.

Post-1906 Earthquake and Fire Reconstruction

On April 18, 1906, San Francisco was devastated by a magnitude 7.9 earthquake. The South of Market area was especially hard hit by the temblor, which liquefied the extensive filled ground, and the dozens of fires that broke out as a result of ruptured gas mains. The fires quickly grew out of control, fed by the densely packed frame buildings. The Earthquake and Fire destroyed virtually every building and structure in the Plan area, although the shells of several buildings remained standing. Only one building appears to have emerged from the earthquake fully intact—the two-story brick Burdette Building (still extant) at the northwest corner of Second and Mission Streets.

Reconstruction of downtown San Francisco, including the Plan area, began with an initial flurry of building activity occurring between 1906 and 1913, with more construction occurring after the First World War between 1918 and 1920, and culminating with a major real estate boom in the mid-1920s. The industrial area east of First Street was rebuilt in one and two-story heavy timber framed industrial buildings, most of which were clad in corrugated iron or masonry to reduce fire risk. West of First Street along Mission and Howard and the intersecting numbered streets were many substantial new and reconstructed steel and heavy timber-frame loft buildings housing light manufacturing, paper companies, printers and binderies, and wholesale warehouses. Some were pre-quake survivors such as the Wells Fargo Building at 71-85 Second Street, which was restored in 1907 (extant).

By 1908, the Aronson Building, which still stands at 700 Mission Street, was outfitted with a new interior and in 1910, the Rialto Building was recommissioned (extant). Others were newly constructed. Perhaps the first masonry loft building completed after the disaster was the Greenwood Estate Building at 545 Mission Street. Planned in May 1906, this five-story brick building, constructed to house a paper company, still stands, and is the last of its type on the 500 block of Mission Street.

The most valuable real estate in the Plan area remained along Market and New Montgomery Streets. Much of the land in this area remained in the hands of wealthy investors, family estates, and realty companies such as the Sharon Estate Company. Formed in 1885 by Francis G. Newlands after the death of Nevada Senator William Sharon (former business partner of banker William Ralston), the Sharon Estate rebuilt the Palace Hotel in 1909 and the Sharon Building in 1912 (both still standing), along with many of the more important buildings that remain on New Montgomery Street.

The transformation of much of the Plan area and vicinity into a southerly extension of downtown was reflected in the large number of skyscrapers built along Mission and Market streets. Market Street acquired several new and repaired pre-1906 skyscrapers between 1906 and 1910. Extant examples include the Metropolitan Trust and Savings Bank, built in 1907 at 625 Market Street; the Hearst Building, built in 1909 at 691 Market Street; and the Spreckels Building, rebuilt in 1907 at 703 Market Street; all three structures remain today. The intersection of Third and Mission Streets, just west of the Plan area, evolved into the most important intersection in the vicinity, bracketed on three corners by important early skyscrapers, including the rebuilt Aronson Building on the northwest corner (extant), the Williams Building on southeast corner (extant), and the Gunst Building (demolished) on the southwest corner.

The initial flurry of post-quake reconstruction was followed by a brief recession. By the First World War, construction had picked up again, with several new office buildings and hotels constructed in the Plan area. Examples include the new Call Building, built in 1914 at 74 New Montgomery Street (extant), and the Santa Fe Building, constructed in 1917 at 601 Market Street (extant). After subsiding for several more years, the market picked up again in the early 1920s. Two of the most important surviving high rise buildings were constructed during this period: the Matson Building at 215 Market Street (1921) and the PG&E Building, built in 1922 at 245 Market Street.[133]

The Plan area achieved build out by 1930. The building boom of the mid-to-late 1920s resulted in the construction of several buildings as infill projects on the few remaining vacant parcels. In some cases, older buildings were demolished and replaced with new larger buildings, in particular close to Market Street. The Great Depression slowed new construction to a halt, limiting work to façade remodels. Important buildings erected during this period include the Pacific Telephone & Telegraph Building at 134-40 New Montgomery, (1925), the Philips & Van Orden Building at 234 First Street (1929), and the William Volker Building at 625 Howard Street (1929 and 1939).

Transbay Terminal

The only major new construction projects to occur in the Plan area during the Depression were public works projects associated with the completion of the San Francisco-Oakland Bay Bridge (Bay Bridge) in 1936. The most important of these was the Transbay Terminal. Designed jointly by Timothy Pflueger and Arthur Brown, Jr., the Transbay Terminal was built as the transit depot for East Bay rail commuters traveling to San Francisco on Key System streetcars. At its peak around the end of World War II, the terminal handled 26 million passengers annually. After the war ended and gas rationing was eliminated,

[133] These two buildings were combined in a renovation and seismic retrofit project completed by PG&E in 1995.

use of the terminal's declined along with Key System ridership. In 1958, the Key System was dismantled, and by 1959, the Transbay Terminal was converted into a regional bus station. The 1930s construction of the Transbay Terminal and viaducts for the Key Route and vehicular onramps had led to substantial physical changes in the Plan area, as dozens of buildings were demolished and some lot lines reconfigured portions of seven blocks.

Post-War Development

In the years following World War II, city authorities began to envision a different future for the South of Market area, including the Plan area. Since the achievement of build-out in the late 1920s, little new construction had occurred aside from the Transbay Terminal and its associated viaducts. After the war, the South of Market area, in particular the western portion of the Plan area, resumed its role as a refuge for the poor and working-class single men. The San Francisco Redevelopment Agency declared a large portion of the South of Market an urban renewal zone, and began to assemble parcels for what would ultimately become Moscone Center and Yerba Buena Gardens, located just west of the Plan area.

By the late 1950s, new office space began to be conceived and built in downtown San Francisco. The overwhelmingly favorite architectural mode was Corporate Modernism. This style derived from European Modernism of the first decades of the 20th century by way of the International Style. It generally featured flat planes of glass and steel paneling, and unadorned orthogonal forms. The Crown Zellerbach Building, an International Style building at 20 stories, was not out of keeping with the 1920s generation, but by 1971 the new PG&E Building at 77 Beale Street, within the Plan area, attained 34 stories, or 492 feet tall. Such towers required a larger footprint than had older, smaller structures, and the PG&E Building covered what had been six separate lots on Mission Street. As such, the former small-scale streetscape was enlarged, with a resulting reduction of visual diversity and diminished pedestrian sensibility. This building also was an early example of downtown high-rise office construction moving south of Market Street, occurring shortly after the first such development, the Bechtel Building at 50 Beale Street (1967).

The 1971 *General Plan* Urban Design Plan and later the 1985 Downtown Plan confirmed the South of Market area, including the Plan area, as one suitable for high-rise development, permitting buildings up to 550 feet in the Plan area, as City policy focused favored a southward expansion of Downtown, rather than permitting office towers to encroach upon Chinatown and North Beach. The design policies of the Downtown Plan, in particular, were strongly influenced by the contemporary Postmodernist architecture, which advocated a return to historic precedent in regard to design. Such policies led to a return of the 1920s-era 'Wedding Cake' silhouette, firm street walls rising in recessed tiers to slender towers. Within the Plan area, these Postmodern office building designs include: 33 New Montgomery Street (1986), 100 First Street (1988), 455 Market Street (1988), and 71 Stevenson Street (1986). The Downtown Plan established an annual limit of 950,000 square feet of new office space, and Proposition M, passed by the voters in 1986, reduced the amount of new construction allowable by half, temporarily, to 475,000 square feet, until all buildings approved since adoption of the Downtown Plan had either received building permits or their approvals expired.

Today the Plan area contains a broad mix of building styles spanning 20th century architecture, including masonry commercial buildings from the post-1906 reconstruction era, mid-rise skyscrapers from the 1910s through the 1930s, and Modern post-war high-rise office development, along with several remaining surface parking lots generally south and east of the now-demolished Transbay Terminal. In particular, the area that was contained within the loop ramps serving the terminal is notable for its relative lack of new construction and remaining small-scale structures, along with several parking lots.

Historical Resource Surveys in the Plan Area

A number of historical resources surveys have been conducted within the Transit Center District Plan area. Some of these surveys constitute local registers of historical resources, having been formally adopted by the Board of Supervisors and/or the Planning Commission. Buildings identified in these surveys as having historical significance are considerer historical resources under CEQA.[134] Other surveys have not been formally adopted by the City, and therefore are not considered local registers of historical resources. Buildings identified as historically significant in those surveys are considered potential historical resources, for which further consultation and review is required prior to a determination being made as to whether the building is historical resource.[135] Historical resources surveys applicable to the Plan area are described below.[136] For each survey, the criteria that surveyed buildings were required to meet to be included is also presented, and the number of designated and potential resources is given.

Junior League Survey (Here Today)

In 1968, the Junior League of San Francisco concluded a five-year-long survey of historic buildings in San Francisco, San Mateo and Marin counties. The most important buildings identified in the survey were included in the book *Here Today*, which contains information on approximately 2,500 properties within San Francisco.[137] The survey (as reflected in the text and index of *Here Today*) was adopted by the Board of Supervisors in 1970, and therefore buildings included in the book are identified as historical resources for CEQA purposes, by virtue of their listing on an adopted local register. The Junior League Index, which includes the full results of the survey, includes additional buildings of historical significance that were not included in *Here Today*; properties in the survey but not included in *Here Today* are considered potential historical resources for which more analysis is required before a formal determination can be made.[138]

---

134 Included in the list of designated historical resources are those properties identified in *Planning Code* Article 10 (City Landmarks) and Article 11 (historical resources in the C-3 [Downtown] zoning districts, including portions of the South of Market area formerly zoned C-3, generally bounded by Mission, Howard, Sixth, and Tenth Streets, and subsequently designated as the South of Market Extended Preservation District).

135 San Francisco Preservation Bulletin 16, "CEQA Review Procedures for Historic Resources," http://www.sf-planning.org/Modules/ShowDocument.aspx?documentid=5340.

136 Much of the language describing the surveys is taken from Preservation Bulletin 11, "Historic Resource Surveys."

137 Junior League of San Francisco, *Here Today*. San Francisco: Chronicle Books, 1968.

138 Junior League Index, available on the internet at: http://sfpl.lib.ca.us/librarylocations/sfhistory/pdf/juniorleague.pdf

Here Today lists three buildings within the Plan area: the Sharon Building at 55 New Montgomery Street and the Call Building at 74 New Montgomery Street (page 281),[139] and the California Farmer Building at 83 Stevenson Street (page 296).[140] The Aronson (Mercantile) Building at 86 Third Street/700 Mission Street (page 298) is just outside the Plan area, at the northwest corner of Third and Mission Streets.[141]

Unreinforced Masonry Building (UMB) Survey

In November 1990, the Landmarks Preservation Advisory Board (Landmarks Board) completed *A Context Statement and Architectural/Historical Survey of Unreinforced Masonry Building (UMB) Construction in San Francisco from 1850 to 1940*. The survey examined more than 2,000 privately owned, unreinforced masonry buildings in San Francisco. The survey was evaluated by the California Office of Historic Preservation (OHP) and National Register of Historic Places determinations of eligibility were made by the OHP for many of the 2,000 buildings surveyed; those rated 1 – 5 are considered historical resources (as described below under "California Register of Historical Resources/National Register of Historic Places"). Because the UMB survey has not been adopted by the Planning Commission or Board of Supervisors, it is not a local register of historical resources. According to Preservation Bulletin 16, because of their age and the time period in which most were built, UMBs as a class have a high degree of historical and architectural interest; however, the determination of whether the property is a historical resource needs to be made from original source material and/or listings and surveys.

According to the UMB *Context Statement*, there were 343 unreinforced-masonry buildings in Area 1 (Downtown), and 194 in Area 3 (South of Market). Most of the Plan area falls within Area 1 with a smaller portion falling within Area 3, including the portion of the Plan area south of Howard Street. A count of listed UMBs in areas 1 and 3 yields 100 UMBs in the Plan area. Since 1990, approximately one third of these properties have been demolished.

1976 Citywide Architectural Quality Survey

Between 1974 and 1976, the San Francisco Planning Department conducted a citywide inventory of architecturally significant buildings. An advisory review committee of architects and architectural historians assisted in the final determination of ratings for the 10,000 buildings, which became an unpublished 60-volume inventory (on file at the Planning Department). Both contemporary and older buildings were surveyed, but historical associations were not considered. The inventory assessed architectural significance, which included design features, the urban design context and overall environmental significance. Each building was assigned a rating, from a low of "-2" to a high of "5," generally correlated with architectural quality (from "detrimental" to "extraordinary"). When completed, the 1976 Architectural Survey was believed to represent the top 10 percent of the city's architecturally significant buildings. Buildings rated 3 or higher represent approximately the top 2 percent of all of

139 The Call Building has been converted to residential use and is now known as "The Montgomery."
140 The California Farmer Building was rehabilitated and incorporated as indoor public open space into the 55 Second Street project, completed in 2002.
141 The Aronson Building is proposed to be incorporated into a mixed-use project at 706 Mission Street that would include residential and retail use and space for the Mexican Museum.

San Francisco's buildings in terms of architectural importance, while ratings of 0 or 1 are generally interpreted to mean that the property has some contextual importance. Because the 1976 Survey has not been adopted by City action, it is not a local register of historical resources. However, a building's inclusion in the 1976 survey indicates that the building may be a resource and more information is needed.

There are some 40 individual properties within the Plan area that have 1976 Survey ratings. This list is based on an inventory of original survey forms checked against the Planning Department's current historic resources inventory and accounts for demolished buildings and merged lots. Since the 1976 Survey was completed, 13 survey-rated properties in the Plan area have been demolished.

San Francisco Architectural Heritage Surveys

For the past 30 years, San Francisco Architectural Heritage (Heritage) has commissioned a number of historical resource surveys. To date, Heritage has conducted a comprehensive survey, research and evaluation of the city's Downtown and other areas. The findings of the Downtown survey served as the genesis of the book *Splendid Survivors,*[142] which led to the historic preservation portion of the Downtown Plan and adoption of Article 11 of the *Planning Code.* Heritage developed a rating system for its surveys while conducting the Downtown survey, using an alphabetical rating system of A through D, with buildings of highest importance rated A and buildings of minor importance rated D. Buildings rated B were deemed of Major Importance, while C-rated buildings were of Contextual Importance. The Downtown survey resulted in an inventory that assessed the importance of over 800 buildings surveyed according to a set of 13 criteria in four main categories: architectural significance, historical significance, environmental significance (including visual prominence and importance as part of a row or cluster of buildings), and integrity (the degree to which the original design had survived later alterations).[143] The Heritage surveys have not been adopted as a local register of historical resources, although many Heritage-rated buildings have been otherwise designated as landmarks or otherwise determined to be historical resources. Heritage ratings are not easily obtainable en masse. Ratings are only available in hard copy, and are organized by street address, not neighborhood.

There are 10 'A'-rated buildings within the Transit Center District Plan area. The majority are substantial buildings designed by well-known architects and located along important streets. Two are located on Market Street—the Matson Building at 215 Market and the PG&E Building at 245 Market. Most other A-rated buildings are located along New Montgomery Street. These include the Palace Hotel at 2 New Montgomery Street, the Sharon Building at 57-61 New Montgomery Street, the Call Building at 74 New Montgomery Street, the Rialto Building at 116 New Montgomery Street, and the Pacific Telephone & Telegraph Building at 134-140 New Montgomery Street. Further A-rated buildings in the Plan area include

142 Michael R. Corbett, ed., *Splendid Survivors: San Francisco's Downtown Architectural Heritage.* San Francisco: Foundation for San Francisco's Architectural Heritage; California Living Books, 1979.

143 The 13 criteria, by category, are: Architecture (Style, Construction, Age, Architect, Design, Interior); History (Person, Event, Patterns); Environment (Continuity, Setting, Landmark); and Integrity.

the Wells Fargo Building at 85-91 Second Street, the Philips & Van Orden Building at 234 First Street, and the Aronson Building at 86 Third Street (700 Mission Street).

In addition to the A-rated buildings, there are 21 B-rated buildings and 77 C-rated buildings. B-rated buildings consist of individually important buildings that are less architecturally distinguished than A-rated buildings. Examples include the Monadnock Building at 681-5 Market Street and the Williams Building at 101-7 3rd Street. When Splendid Survivors was published, there were 21 B-rated buildings. Since then, seven or one-third of the total, have been demolished. The majority are C-rated are one- to four-story masonry commercial or loft buildings completed in the years following the 1906 Earthquake. C-rated help provide the "setting," or context, for A- and B-rated buildings. Concentrations of C-rated buildings still stand along the 500 block of Howard Street, the 600 block of Mission Street, and the first two blocks of First and Second Streets.

Adopted Local Registers of Historical Resources

Planning Code Article 10

Article 10 of the *Planning Code* identifies city landmarks and historic districts. Article 10 is considered an adopted local register of historical resources under CEQA, as it is part of the *Planning Code* and is therefore subject to formal action by the Board of Supervisors. San Francisco City Landmarks denote buildings, properties, structures, sites, districts and objects that are of "special character or special historical, architectural or aesthetic interest or value and are an important part of the City's historical and architectural heritage."[144] Adopted in 1967 as Article 10 of the *Planning Code*, the City Landmark program protects listed buildings from inappropriate alteration and demolition through review procedures overseen by the Historic Preservation Commission. The Plan area has two city landmarks, each of which is a historical resource under CEQA; the Hoffman Grill at 619 Market Street (Landmark No. 144) and the Palace Hotel and Garden Court at 2 New Montgomery Street (Landmark No. 18). The Plan area has no Article 10 historic districts, but does have a conservation district as designated under Article 11.

Planning Code Article 11

Article 11 of the *Planning Code* classifies buildings in the C-3 Downtown Commercial districts in five Categories reflecting their architectural, historical, and aesthetic value, as established in the Downtown Plan. Category I and II buildings are identified as Significant Buildings and, in general, may not be demolished unless it can be demonstrated that they have no substantial market value or reasonable use, after taking into account costs of rehabilitation and any development rights transferred to another site; Category II buildings permit additional height to be added, but only on certain portions and generally with reference to nearby buildings. Category III and IV buildings are identified as Contributory Buildings, and their retention is encouraged, but not required. Category V buildings are Unrated.

144 San Francisco Planning Department, Preservation Bulletin No. 9 – Landmarks (San Francisco: January 2003)

There are 20 Category I buildings in the Plan area. Most are prominent buildings such as the Sharon, Call, Rialto, and Pacific Telephone & Telegraph buildings. Others are less well-known but unusual or rare examples of a particular style or building type such as the Drexler Estate Building at 121 Second Street or the Philips & Van Orden Building at 234 First Street. There are only two Category II buildings in the Plan area: the Palace Hotel and the William Volker Building at 631 Howard Street. The Plan area contains seven Category III Buildings.

Another important provision of Article 11 was the establishment of conservation districts. Section 1103 of the *Planning Code* defines conservation districts:

> Portions of the C-3 District may be designated as Conservation Districts if they contain substantial concentrations of buildings that together create sub areas of special architectural and aesthetic importance. Such areas shall contain substantial concentrations of Significant and Contributory Buildings and possess substantial overall architectural, aesthetic or historic qualities justifying additional controls in order to protect and promote those qualities.

There are currently six conservation districts within downtown San Francisco. The only conservation district situated within the Transit Center District Plan area is the New Montgomery-Second Street Conservation District (see Figure 7, p. 33 in Chapter II, Project Description). Approved by the Board of Supervisors in 1985, the New Montgomery-Second Conservation District was established because the area "possesses concentrations of buildings that together create a sub-area of architectural and environmental quality and importance which contributes to the beauty and attractiveness of the City."[145]

Federal and State Resources

National Register of Historic Places

Historical resources within the Plan area are also listed on federal and state historic registers, including the National Register of Historic Places, the California Register of Historical Resources, and certain California Historical Landmarks. The National Register of Historic Places is the official federal list of historical resources that have architectural, historic or cultural significance at the national, state or local level. The National Register of Historic Places is administered by the National Park Service, an Agency of the Department of the Interior. Listing of a property on the National Register of Historic Places does not prohibit demolition or alteration of that property, but does denote that the property is a resource worthy of recognition and protection.

- There are three individually listed National Register properties within the Plan area: the Matson Building and Annex, at 215 Market Street; the PG&E Office Building and Annex, at 245 Market Street; and the J.A. Folger & Co. Building at 101 Howard Street.

[145] Ordinance 414-85, Approved September 17, 1985.

The Plan area also contains the Second and Howard Streets Historic District, listed in the National Register in 1999, containing 19 contributing buildings. This District is generally contained within boundaries of the much larger New Montgomery-Mission-Second Street District described above, except that the National Register district extends eastward the distance of a few lots' width along both sides of Howard Street to the east of the local district (see Figure 7).

The Second and Howard Streets District and the New Montgomery-Second Street District share some degree of architectural character and have a common history in that almost all their buildings were constructed as part of the rapid rebuilding of downtown San Francisco in the aftermath of the 1906 earthquake and fire. However, the buildings in the Second and Howard Streets District are generally smaller than those in the local conservation district, inasmuch as the buildings in the National Register district were typically constructed as loft-style buildings, suitable for a variety of uses, including storage, wholesale display or light manufacturing, whereas New Montgomery Street housed more traditional office buildings.

California Register of Historical Resources

The State Office of Historic Preservation administers and maintains the California Register of Historical Resources. The California Register includes resources listed in, or formally determined eligible for, the National Register of Historic Places and California Historical Landmarks numbered 770 and higher. The California Register can also include properties designated under local ordinances or identified through local historic resource surveys. The three designated National Register-listed properties in the Plan area described above, the Matson Building and Annex, at 215 Market Street; the PG&E Office Building and Annex, at 245 Market Street; and the Folger Building at 101 Howard Street, as well as the Second and Howard Streets Historic District, are also listed in the California Register, as are three buildings formally determined eligible for listing on the National Register, at 76 First Street, 72 Tehama Street, and 85 Second Street. As discussed below, a number of buildings in the New Montgomery-Second Street District are also individually eligible for listing in the California Register. No California Historical Landmarks are located within the Plan area.

Transit Center District Survey

The Planning Department commissioned preservation architects Kelley & VerPlanck to undertake a survey and historic context for Transit Center District Plan area in 2008, and asked Carey & Co. to conduct additional analysis in 2010 (see footnotes 127 and 128, p. 207). The geographical area under study encompassed the entire Transit Center District Plan area and several surrounding blocks where new construction is anticipated. At the heart of the Plan area is the new Transbay Transit Center, construction of which began in 2010 with the demolition of the former Transbay Terminal. The survey found that despite post-WWII construction and demolition activities, the Plan area retains a concentration of contiguous historic resources within an area roughly bounded by Market Street to the north, Second Street to the east (including the properties on the east side of Second Street), Tehama Street to the south, and Third Street to the west. The survey newly identified a number of resources, both within this concentration and elsewhere in the Plan area, as appearing to be individually eligible for listing in the

California Register.[146] These buildings include 62 and 88 First Street; 85, 90, 121, 132, 141, 182, and 240 Second Street; 86 Third Street; 572, 606, and 666 Folsom Street; 40 Hawthorne Street; 531, 580, 606, and 657 Howard Street; 40 and 96 Jessie Street; 685 Market Street; 545, 601, 602, 647, 658, 678, and 693 Mission Street; 116, 145, and 147 Natoma Street; 111, 137, and 140 New Montgomery Street; 79 Stevenson Street; and 78 Tehama Street. The buildings at 217 Second Street, and 77-79 Natoma Street[147] were identified as individually eligible by Carey & Co.

The Kelly & VerPlanck survey was adopted by the Landmarks Preservation Advisory Board, predecessor to the Historic Preservation Commission, in 2009.

As a result of these analyses, the Department is proposing in the draft Plan to expand the existing New Montgomery–Second Street Conservation District, to recommend additional individual resources for Landmark designation under *Planning Code* Article 10, and to revise the Article 11 historic ratings of several individual resources. The proposed expansion of the conservation district would encompass areas along both sides of Mission Street between New Montgomery and Third Streets (except the northeast corner of Third and Mission Streets), and would cross Third Street to include the Aronson Building on the northwest corner of Third and Mission Streets. The expansion would also extend westward on Natoma Street to Hunt Street. The Department proposes to rename the expanded district the "New Montgomery–Mission–Second Street Conservation District." **Figure 7**, p. 33, shows the existing and proposed historic district boundaries and other buildings proposed for landmark designation in the draft Plan.[148]

The Kelly & VerPlanck *Context Statement* also identified an additional potential historic district around First and Mission Streets that was determined eligible for listing on the California Register, a finding that was concurred in by the Landmarks Preservation Advisory Board (predecessor to the Historic Preservation Commission). This potential district, which is not listed on the California Register, is nevertheless considered a historical resource for purposes of CEQA review. This district contains seven buildings and "comprises a rare enclave of early twentieth-century commercial loft buildings within an area of the South of Market that has been and will continue to be redeveloped with modern high-rise

146 Previously identified resources in the Plan area that are listed in the California Register as individual resources, or determined eligible for such individual listing, include several of the more noteworthy buildings in the existing New Montgomery–Second Street Conservation District (this is in addition to their listing as district contributors), such as the Palace Hotel and the Sharon, Call, Crossley, Rialto, and San Francisco Furniture Exchange buildings, all on New Montgomery Street; the Schwabacher Building at 20 Second Street, the Volker Building at 625 Howard Street; and four buildings on Market Street between Second and New Montgomery Streets; as well as the Palace Garage on Stevenson Street. Also previously determined individually eligible are buildings at 342, 527, and 531 Howard Street; 16 Jessie Street; 215, 245, 685, and 691 Market Street; 440 and 617 Mission Street; 83 Stevenson Street; 72 Tehama Street; and 76, 231, and 234 First Street.

147 The building at 77 – 79 Natoma Street has subsequently been demolished.

148 The Kelly & VerPlanck survey recommended a historic district boundary that would also extend east on Howard Street, beyond the former bus ramp that served the now-demolished Transbay Terminal. However, subsequent research by Carey & Co. and Planning Department staff determined that this easterly extension along Howard Street was not warranted under Article 11 because the ramp had essentially severed the buildings to the east from the remainder of the New Montgomery–Mission–Second Street Conservation District, and because some of the easterly resources had been altered.

office and condominium projects."[149] Six buildings are on the west side of First Street between Stevenson and Mission Streets, and the seventh building is at the northeast corner of First and Mission Streets.

Impact Analysis

Significance Criteria

The proposed project would have a significant effect on the environment in terms of Cultural Resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code;
- Cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

A "substantial adverse change" is defined by State CEQA Guidelines Section 15064.5 as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." The significance of an historical resource is "materially impaired," according to Guidelines Section 15064(b)(2), when a project "demolishes or materially alters, in an adverse manner, those physical characteristics" of the resource that:

(A) "convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or"

(B) "account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or"

(C) "convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA."

In general, a project that would comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (including the Standards for Rehabilitation)[150] is considered mitigated to a less-than-significant level (CEQA Guidelines Section 15064.5(b)(3)).

State CEQA Guidelines Section 15126.4(b)(2) states that, "In some circumstances, documentation of a historical resource, by way of historic narrative, photographs, or architectural drawings as mitigation for

149 Kelly & VerPlanck, "Transit Center District Survey," (footnote 127, p. 207); page 65.

150 U.S. Department of the Interior, National Park Service, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Illustrated Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. 1995. Available on the internet at: http://www.nps.gov/history/hps/tps/standguide/index.htm.

the effects of demolition of the resources will not mitigate the effects to a point where clearly no significant effect on the environment would occur."[151] In such cases, the demolition or substantial alteration of a historical resource would remain a **significant and unavoidable** impact on the environment even after the historical documentation has been completed.

The determination of whether an effect on an archeological resource is significant depends on the effect of the project on those characteristics of the archeological resource that make the archeological resource important. For an archeological resource that is an historical resource because of its prehistoric or historical information value, that is, its scientific data, impairment of the potential information value of the resource would be a significant effect. The depositional context of an archeological resource, especially soils stratigraphy, can be important to the resource in terms of dating the resource and reconstructing characteristics of the resource at time of deposition, as well as interpreting the impacts of later deposition events on the resource. Thus, for an archeological resource eligible for the California Register under Criterion 4, a significant adverse effect to its significance may not be limited to impacts on specific artifacts, but may include effects on the soils matrix in which such objects or materials are situated.

Preservation in place is the preferred treatment of an archeological resource (CEQA Guidelines Sections 21083.2(b); 15126.4 (b)(3)(a)). When preservation in place of an archeological resource is not feasible, data recovery, in accord with a data recovery plan prepared and adopted by the lead agency prior to any soils disturbance, is the appropriate mitigation. In addition to data recovery, the mitigation of effects to an archeological resource that is significant for its scientific value, requires curation of the recovered scientifically significant data in an appropriate curation facility. Final studies reporting the interpretation, results, and analysis of data recovered from the archeological site are deposited in the California Historical Resources Regional Information Center (CEQA Guidelines Section 15126.4(b)(3)(C).

Under State law, human remains and associated burial items may be significant resources in two ways: they may be significant to descendent communities for patrimonial, cultural, lineage, and religious reasons and human remains may also be important to the scientific community, such as prehistorians, epidemiologists, and physical anthropologists. The specific stake of some descendent groups in ancestral burials is a matter of law for some groups, such as Native Americans (CEQA Guidelines Section 15064.5(d), Public Resources Code Section 5097.98). In other cases, the concerns of the associated descendent group regarding appropriate treatment and disposition of discovered human burials may become known only through outreach. Beliefs concerning appropriate treatment, study, and disposition of human remains and associated burial items may be inconsistent or in conflict between descendent and scientific communities. CEQA and State regulations concerning Native American human remains provide the following procedural requirements to assist in avoiding potential adverse effects to human remains within the contexts of their value to both descendents communities and the scientific community:

[151] Case law has held that, at least in the instance of a major historical resource, commemoration of the resource cannot mitigate, to a less-than-significant level, the impact of demolition of the resource. ("A large historical structure, once demolished, normally cannot be adequately replaced by reports and commemorative markers." *League for Protection of Oakland's Architectural and Historic Resources v. City of Oakland*, 52 Cal. App. 4th 896. 1997.)

- When an initial study identifies the existence or probable likelihood that a project would impact Native American human remains, the lead agency is to contact and work with the appropriate Native American representatives identified through the Native American Heritage Commission (NAHC) to develop an agreement for the treatment and disposal of the human remains and any associated burial items (CEQA Guidelines 15064.5 (d), Public Resources Code Section 5097.98).

- If human remains are accidentally discovered, the county coroner must be contacted. If the county coroner determines that the human remains are Native American, the coroner must contact the NAHC within 24 hours. The NAHC must identify the most likely descendant (MLD) to provide for the opportunity to make recommendations for the treatment and disposal of the human remains and associated burial items. If the MLD fails to make recommendations within 24 hours of notification or the project applicant rejects the recommendations of the MLD, the Native American human remains and associated burial items must be reburied in a location not subject to future disturbance within the project site (Public Resources Code Section 5097.98).

- If potentially affected human remains/burial may have scientific significance, whether or not having significance to Native Americans or other descendent communities, then under CEQA, the appropriate mitigation of effect may require the recovery of the scientific information of the remains/burial through identification, evaluation, data recovery, analysis, and interpretation (CEQA Guidelines Section 15064.5(c)(2)).

Paleontological Resources

There are no known paleontological resources in the Plan area. As described more fully in Section IV.O, Geology, Soils, and Seismicity, the Plan area is underlain primarily by artificial fill, Dune Sand, and Marsh deposits. The fill and Dune Sand do not typically contain paleontological resources (fossils), and the Marsh deposits are relatively young in age and thus are unlikely to contain rare or important fossilized remains. Because there are no known paleontological resources in the Plan area, and because the Plan area soils are unlikely to contain rare or important fossil resources, the project would not result in an adverse effect on paleontological resources.

Archeological Resources

Predicted Archeological Resources

Archeological resources are commonly grouped into categories referred to as property types. Property types are useful artificial constructs that can be associated with more than one time frame or research theme. Property types are groupings of individual properties that have shared physical or associative characteristics. This exercise links the ideas developed in theoretical historic contexts with actual historic properties that illustrate those ideas. Property types facilitate the development of plans for evaluation and treatment even when there is incomplete knowledge of the location and existence of individual properties. The usefulness of a property type with regard to relevant research themes determines the legal importance of that resource. The ARDTP prepared for the Plan area developed a series of research topics to which archeological resources of particular types could contribute significant information. Also useful to the importance of property types are assessments of integrity, land use history, and comparison

with other known similar property types. The following discussion presents archeological property types that can be expected to occur within the Plan area.

Prehistoric Period

While relatively few prehistoric archeological sites have been recorded so far within the Plan area, archeological results from elsewhere on the northern San Francisco peninsula and from other portions of the Bay Area provide a basis for discerning the range of prehistoric property types that may be encountered within the Plan area. Potential property types, based on the material remains associated with individual sites, include middens, artifact and/or ecofact scatters, burial complexes/cemeteries, isolated artifacts or features, and re-deposited prehistoric material.

Middens are accumulations of anthropogenically enriched sediment that generally have stratigraphy; in other words discrete episodes of occupation, trash dumping, and other daily activities that can be distinguished within the midden. Middens often include features, such as hearths, pits, house floors, and burials. The presence of distinct strata and features are highly informative for a variety of archeological research questions. Middens are the most common sites documented on the northern San Francisco Peninsula, and occur at three sites in the Plan area. These sites are referred to as shell middens owing to the high frequency of shellfish contained within them. Middens often vary greatly in size and thickness.

Artifact and ecofact scatters are generally the most common archeological site type documented during archeological surveys in undeveloped coastal areas. The absence of midden sediments is largely because occupation was of a very short duration (often including very specialized activities) but can also be affected by post-depositional processes. Artifact and ecofact scatters may have been created by a variety of cultural and natural formation processes that requires analysis to fully ascertain. In general, the older the site, the more likely it is to be an artifact or ecofact scatter rather than a midden. As such, this is the most likely site type to be encountered in association with middle-Holocene or earlier buried land surfaces.

Intentional burial grounds are well-documented from the middle Holocene onward in central California. Most are typically found within major residential sites. Occasionally, burial complexes are documented largely in isolation or adjacent to major residential sites. Data gleaned from burials can provide a wide range of invaluable scientific information, and they also have tremendous significance to modern Native Americans.

Isolates are typically one or a few artifacts found on ancient land surfaces without association with other aspects of human behavior. Isolated features, such as a hearth or a burial (e.g., the nearby BART skeleton, SFR-28), may also occur. Generally, their discovery and recovery exhausts their data potential. As such, isolate are not eligible resources.

Re-deposited prehistoric material is often encountered in urban settings where the original landscape has been greatly modified by construction activities. For example, late 19th-century removal of sand dunes in the Plan area vicinity and their dumping into Yerba Buena Cove are likely to have removed prehistoric

cultural material as well. Natural processes, such as erosion, can also re-deposit cultural material into a new geological context. Generally, prehistoric material that has been re-deposited has lost all integrity and association and hence is not able to contribute significantly to regional research issues. There are, however, exceptions to this general rule—most often if a short-term occupation site or an isolated burial was re-deposited. Such sites may still retain some valuable information, but analysis would be required to confirm that the material is from a limited temporal span.

Historical Period

The historical context roughly divided the occupation of the Plan area into four time segments: early San Francisco development prior to 1860; the late 19th century and early twentieth century (1860-1906); the 1906 earthquake and its immediate aftermath; and post-1906 development. The character of land use (e.g., residential, public-institutional, commercial, industrial) varies in the Plan area during each of these time segments. This is also reflected in the likelihood of encountering archeological property types indicative of these types of land-use activities. Four main property types are distinguished: architecture and landscape features, infrastructure features, industrial features, and refuse features. All four property types have been previously documented within the Plan area or in the immediately vicinity.

Architectural and landscape properties include structural remains such as foundations, wall footings, basement walls, and floor remnants. This property type essentially encompasses all buildings and other structures, although in this instance as they relate primarily to residential, institutional, and commercial land uses. Included here are some maritime resources; wharves and ships/vessels (also referred to as storeships) that may be encountered in the Plan area. Ditches, fencepost holes, and tree stump holes may be filled with refuse that may address important research themes (and would then be evaluated as refuse features).

Infrastructure features are related to development and maintenance of the city of San Francisco, such as roads, cisterns, sewer lines, drain pipes, power lines, roads, hydrants, and etc. Infrastructure features often correlate to utility maps and the locations of architectural features such as buildings. Where deviation occurs, it provides a means for addressing research issues such as actual application of technology. Identification of these features is critical for understanding impacts to the creation and/or destruction of the archeological record.

Industrial property types for the Plan area have been drawn largely from Sanborn Insurance maps and historic-era photographs. Expected types include foundries, machine shops, and metalworking shops. Industrial facilities have often been neglected in urban archeological projects due to a perceived lack of data potential. Since a great deal of the Plan area was used for industrial purposes, industrial features will be given added attention for this project.

Refuse features are the most common expected historic property type, and have proven to be one of the most useful sources of archeological investigation in urban settings, particularly those that relate to residential occupation, and to a lesser extent to commercial enterprises. Hollow-filled refuse features include pits, privies, and wells. Such property types were created specifically for a functional use. During

their use-life or upon abandonment, they became receptacles for refuse. Urban backyards were often used as convenient receptacles for trash before the advent of regular trash-removal services. This is particularly true for those residents who were moving out of the neighborhood. These discrete refuse features provide the archeologist with a "snapshot" of the occupants who used them.

Archeological Sensitivity Assessment

Plan Area as a Whole

As discussed in the Setting, seven formally recorded archeological resources are located within the Plan area, including four historic-era sites, two prehistoric sites, and one site with prehistoric and historic-era components. None of these sites are listed or have been formally evaluated for eligibility for listing on the National Register of Historic Places or the California Register of Historical Resources.

The potential for additional, as yet undocumented archeological resources within the Plan area was also assessed. This was done by geoarcheological archival research and field investigations and conducting historic-era archival investigations. The results provide a basis for assessing the potential sensitivity of the Plan area to contain archeological resources, and if so what age are they most likely to reflect and what types of activities are anticipated to have taken place at these sites.

Prehistoric Period Archeological Resources

Geoarcheological investigations were conducted to further assess the potential for archeological resources to lie buried below the urban landscape. Background research on the potential for buried prehistoric archeological sites relied heavily on existing knowledge of the various geological formations underlying the Plan area. These included two geologic mapping studies of the northern San Francisco Peninsula and geological coring in Yerba Buena Cove. It also utilized selected historic-era maps (US Coast Survey maps 1852/53 and 1857/59) to gain unique glimpses into the natural environment prior to major development that has obscured every natural surface in the Plan area. In particular, these maps identify how large portions of the Plan area are now situated within the area that was previously within Yerba Buena Cove, and the degree to which dunes were leveled in the Plan area.

The results of a previous geoarcheological investigation in the vicinity also provided insight into the nature and timing of geological formations underlying the Plan area. Recent geotechnical analysis and preliminary geological cross-sections of the Plan area by Treadwell and Rollo identified the general depth and nature of portions of the Plan area that are either too deep to be reached or outside of the area sampled by the current study. This analysis combined previously collected geotechnical data from approximately 145 investigations throughout the Plan area.

Geoarcheological coring was undertaken to explore subsurface deposits at the Transit Tower location and five sites in the Plan area for which project development plans are on file. A total of 33 cores were excavated using truck-mounted and limited-access dolly-mounted hydraulic coring devices, known commercially as "Geoprobes." The results of these efforts facilitated a reconstruction of localized Holocene landform evolution, assessment of where prehistoric settlements were likely to have been

located at various points in the past, and appraisal of the positive and negative implications of landform change on prehistoric site preservation. The resulting sensitivity assessment explains why certain deposits either are or are not archeologically sensitive, and provides general guidance for future archeological investigations in the Plan area.

The Plan area as a whole has undergone significant landscape changes during the terminal Pleistocene and the Holocene (the time span of human occupation). Landform stability prevailed during the last part of the Pleistocene and first part of the Holocene, and is reflected in the presence of the well-developed soils formed on and in the Colma Formation deposits. During the early Holocene, when sea levels were more than 30 feet lower than today, the Colma Formation likely formed an undulating surface throughout much of the peninsula and southwestern portion of the Plan area. Since this is the landscape that was first encountered and used by the earliest inhabitants, any archeological materials from this period will be located at or near the top of the Colma deposits and not buried by them. This is why these geologic deposits represent the "cultural basement," both temporally and stratigraphically, and only the upper 5 feet of the Colma formation have potential to contain archeological deposits.

Portions of the Colma Formation in the Plan area were high-angle landforms that were eroded by rising sea levels. In these contexts, the upper portion of this formation would have a low potential for archeological deposits. In the northeast portion of the Plan area (between Howard and Stevenson streets beginning east of Second Street), the top of the Colma Formation is more deeply buried near the Bay where it is overlain by increasingly thicker "marine sand" deposits, and eventually pinches out near Beale and Main Streets. Therefore in the eastern portion of the Plan area, only the Colma deposits have archeological sensitivity because the overlying marine sand was essentially unavailable for human use or occupation since they were deposited under water.

There is a moderate or greater potential for the Colma Formation to contain buried prehistoric archeological deposits in some portions of the Plan area. This area of moderate or greater potential includes the lower-angle surfaces of the Colma Formation expected to occur west of Second Street, south of Howard Street, and along the north-central margin of the Plan area on Market Street. Conversely, in the former steep valley locations of the Plan area (indicated by bedrock contours along Mission Street) where this surface would have been subjected to considerable erosion, the potential for buried archeological materials is low. This includes the central portion of the Plan area between Howard and Stevenson streets, beginning at the eastern edge of the Plan area and extending to Second Street.

Beginning between 8,500 and 4,000 years ago and continuing through the late Holocene, rising sea levels inundated the lower reaches of valleys around the peninsula, including the steep valley underlying the Plan area. During this time the rising Bay eroded adjacent high-angle landforms and deposited near-shore deposits in the vicinity of Fremont Street, potentially resulting in the deposition of the "marine sand" identified offshore of Yerba Buena Cove. The rapid rise in sea level into this valley resulted in the formation of an ancestral Yerba Buena Cove, which was much larger than what existed during the historic era. Then during the late Holocene, a large part of the cove and marsh were filled with sediments, forming the landscape as depicted historically.

Given that the Bay Mud was deposited in an aquatic environment, the potential for it to contain buried archeological material is generally low. The outer edges of these deposits, however, are marked by marshes and tidal flats where the low-energy conditions promoted the accumulation of sediments. Since these settings create productive habitats for a variety of plant and animals they also attracted and sustained prehistoric human settlements, which were generally located nearby. Consequently, some archeological materials may occur in the near-shore portions of these deposits, as with the "BART" skeleton (SFR-28) which lay encased within sediments deposited in a former arm of Mission Bay. In this context, the outer margins of the bay mud would have a low to moderate potential for buried archeological deposits.

The approximate extent of the of Yerba Buena Cove shoreline during the middle Holocene generally follows the contours of the canyon underlying the Plan area, specifically along the steep edge trending northeast-southwest between Howard and Tehama streets. Within the middle of Yerba Buena Cove, there is a low to moderate potential for archeological deposits to occur near the contact between the bay mud the Colma Formation where the later has not been eroded (i.e., north-central margin of Plan area along Market Street). Furthermore, given the low angle of the Colma Formation west of Second Street, the marsh deposits extending west to Fourth Street have a similar potential for buried archeological sites.

During the late Holocene, the landscape was forever changed by the eastward migration and deposition of sand dunes that extended across most of the northern peninsula and portions of the Plan area. A significant episode of dune formation occurred around 2000 cal BP that continued intermittently from 1000 cal BP up to the historic era. While the Ocean Beach area to the west is considered the primary source of this sand, some may be reworked sand from Colma-age dunes. As sand generally blew from west to east, Nob Hill acted as a barrier that slowed and trapped sand on its eastern face, resulting in the formation of a substantial dune in the northwest part of the Plan area. Massive dunes were historically situated along Market Street, while relatively thin dune deposits are present along Tehama Street. As such, much of the 1850s surface in the Plan area was represented by Late-Holocene-age sand dunes; most of the rest was under water. Because of this, some of the prehistoric marsh deposits within Yerba Buena Cove were buried by sand dunes that generally become progressively younger from west to east. This is further evidenced by the location of late-Holocene archeological sites SFR-112 and -135 within dune sand that overlies the western part of former Yerba Buena Cove, and the intact dune sand overlying historic-era bay deposits at the Transit Tower site farther to the west.

Given that several prehistoric sites in the Plan area have been identified buried by Late Holocene sand dunes (SFR-112, -114, and -151/H), these dune have the potential to contain more buried sites. The presence of thick dune deposits in the western portion of the Plan area, as compared to the east, increases the depth below the modern ground at which sites may be buried. Therefore, the potential for buried sites exists both at the historic surface and deeply buried in this area. Because the dunes adjacent to the historic-era shoreline in the Plan area were likely deposited on bay mud during the latest Holocene and up to the historic era, there is low potential for prehistoric sites below this surface. There is, however, potential for very late prehistoric sites at or near the historic-era surface.

Large amounts of artificial fill are present throughout the Plan area (especially in the east due to filling of the bay), and in places historic-era surfaces remain obscured. The unit includes dune sand deposits that have been significantly disturbed by historic-era development. Any prehistoric archeological materials documented within this unit should represent material in secondary context as a result of historic era cutting and filling. Therefore, this unit is considered to have very low potential for containing intact prehistoric archeological deposits.

Historical Period Archeological Resources

Archival investigations were undertaken to provide fine-grained insight into the land-use histories for the Transit Tower site and five opportunity sites within the Plan area, as well as to facilitate the historic-era context in the Plan area environs. The types of primary archival material utilized were varied and consisted of historic-era newspapers and periodicals, municipal reports of the City of San Francisco, Sanborn Fire Insurance maps, US Coast and Geodetic surveys, photographs, water company records, city directories, and oral histories.

Primary documentation was critical in establishing detailed land-use histories that focused on physical uses and changes to the individual parcels during the historic era (with an emphasis on cut and fill histories). The main focus of the research was to first establish the period of historical development in the Plan area, and then to focus on the main land-use activities that took place within individual parcels during that period. The historical context identified the beginning of permanent, non-native development in the Plan area at around 1848-1849, and consequently the Plan area site histories also begin at about that time.

The archival material was mainly collected from sources located in San Francisco, especially the San Francisco History Center at the San Francisco Public Library, the California Historical Society, San Francisco Planning Department, and the San Francisco Maritime Museum. Other important libraries and collections include the California Room of the California State Library (Sacramento) and the Bancroft Library at the University of California, Berkeley.

There is considerable potential for historic-era sites to be well-preserved in the Plan area. This assertion is supported by the nature of previously documented sites within and adjacent to the Plan area. The archival investigations have identified a series of prominent land-use trends that should be reflected in the archeological record within particular portions of the Plan area. These events are summarized here and key dates highlighted.

- The historic pre-Gold Rush settlement of the area occurred north of Market and outside of the project boundaries. Overall, the potential for encountering Yerba Buena (1776-1848) related sites is considered to be very low. However, should such sites or features be encountered, their research and interpretive potentials would be very high.

- One of the earliest residential settlements was known as Happy Valley, encompassing the southwestern portion of the Plan area (north of Howard Street, east of Annie Street, south of Market Street, and west of First Street).

- Another early residential settlement was Pleasant Valley, south of Happy Valley.
- In 1849 much of the Plan area was underwater, and represented by "water lots" (parcels mapped and sold while still submerged within Yerba Buena Cove).
- In 1853, filling in and reclaiming of land north of Market Street began.
- After 1857, reclaiming of area south of Market Street began. Most of the historic-era activities in the Plan area east of First Street occurred after fill was deposited on "water lots."
- From its outset, the Plan area was a mixed-use working-class neighborhood, with residential, commercial, and institutional uses.
- By the early 1850s, light and heavy industry concentrated near the harbor; retail establishments, churches, and schools aligned more or less with Market Street.
- By the end of the 1850s, the land use was more segregated: foundries dominated the southeast corner of Plan area; factories, mills, and warehouses were located to the northeast; retail and wholesale businesses clustered in the northwest corner; and residential neighborhoods dominated the southwest corner.
- The area was a working-class neighborhood by the 1860s.
- An Irish and German population dominated the area by the end of the 1870s (and remained in the area until the 1906 earthquake).
- By the 1880s, industrial use was concentrated east of First and south of Mission. West of First Street, south side of Mission to Folsom was residential.
- The industrial area south of Market Street was devastated during the earthquake and fire—almost no pre-1906 buildings survive in the area, and many were constructed immediately afterwards. There was an almost complete disappearance of family dwellings after 1906, although a few apartment complexes, boarding houses, and flats above commercial establishments survived.
- After the construction of the San Francisco-Oakland Bay Bridge in 1939, much more construction and reconstruction of infrastructure occurred.

The sanitation history of the city must also be taken into consideration when assessing the archeological sensitivity of specific locations within the Plan area. Brick and wooden cisterns were in place by the 1860s, and a 1872 General Order mandated that all garbage be taken to areas specifically designated as dumping grounds. Still, the disposal of sewage and refuse did not always go as city officials intended. Illegal refuse dumping often took place by burying garbage on private lands, and not all houses were tied into the sewer system. Backyard privy vaults often were used for the secondary purpose of refuse disposal. The city continued its efforts to enforce garbage collection, although private scavengers remained the "backbone of the waste disposal system," even after the 1906 earthquake and fires.

Other Individual Sites

As noted, the ARDTP also evaluated the archeological sensitivity of five sites in the Plan area where development applications are on file with the Planning Department. Four of those sites are discussed

here, while the fifth, at 350 Mission Street, was considered in the EIR for a project approved at that site in 2011 (Case No. 2006.1524E).

50 First Street Site. No archaeological sites are documented within this site, although two prehistoric sites (SFR-112 and SFR-135) and one historic-era site (SFR-119H) are located within 250 feet. There is a moderate potential for discovering intact prehistoric archaeological deposits on this project site. Any such resources would most likely be preserved in Late Holocene dune deposits situated about 12 to 30 feet below grade, or possibly at the interface of the bay mud and Colma Formation, between about 45 to 55 feet below the surface. The historical archaeological potential is relatively low due development that has occurred on the site.

181 Fremont Street Site. No prehistoric archaeological sites have been documented within this site, and the 1852-1853 Coast Survey shows it as completely within Yerba Buena cove. The only archaeological site documented nearby is historic site SFR-166H, situated across Fremont Street to the southeast. Because this site was within the Bay prior to being filled in the 19th century, it has a low potential for both prehistoric and historic-era archaeological sites. By the late 1860s the area was part of the Empire Foundry. Geoarchaeological coring adjacent to this site documented up to 20 feet of historic-era fill, including a thick black layer of coal tar likely associated with the foundry. Deposits relating to the coal houses may be preserved in the southeastern half of the parcel; however, there is a limited potential for information recovery from such deposits, whose archaeological potential is therefore considered to be low.

Palace Hotel Site. No documented archaeological resources are present within this site, nor have any been documented in the immediately vicinity. Based on geoarchaeological coring, this site has a moderate potential for buried prehistoric archaeological sites, which most likely to be within intact dune deposits at between 25 to 35 feet below grade, or at the interface of the thin marsh deposit and the Colma Formation, at a depth of from 35 to 40 feet. Geoarchaeological coring documented artificial fill underling the Palace Hotel that likely represents the rubble of the first Palace Hotel (built in 1875 and destroyed in the 1906 fire), as well as any fill brought in to construct the current building. The potential for historical archaeological deposits on this parcel is considered to be low, as much of the trash associated with the Palace Hotel was likely taken away on a routine basis, and the construction of the 1907 version of the hotel itself likely removed the pre-1907 ground surface. As a result, there is little likelihood of refuse features associated with the old hotel or its occupants, other than debris from the 1906 conflagration.

41 Tehama Street Site. This site falls within SFR-151/H, a city-block site bounded by Second, First, Howard, and Folsom streets. Prior historic-era archaeological fieldwork documented 1860s – 1880s buried surfaces, structural features, and privies in lots between Folsom and Clementina streets, although the tested lots between Tehama and Clementina Streets, where the project site is located, had been heavily disturbed. The latter were just west of the 41 Tehama site and presumably were disturbed by construction of the Bridge and the Transbay Terminal ramps and Embarcadero Freeway in the 1930s and 1950s. Geoarchaeological coring for the current study identified a prehistoric component to the site, consisting of a thin prehistoric shell midden buried in Late Holocene sand dune deposits 10 feet below grade. This site has a moderate to high potential for buried prehistoric archaeological deposits. The size of the 1,000-

year old prehistoric component of SFR-151/H is uncertain and it is possible that it is laterally extensive. Other sites or loci may be associated with this buried surface within this site, and it is also possible that earlier, as-yet undiscovered, deposits associated with another buried surface 18 feet deep may exist. Coring also documented an extensive historic-era burned layer associated with the 1906 fire. Pre-1906 deposits and surfaces associated with residential occupation (including privies) are likely preserved in the western portion of this site, while features related to the 1866 Tehama School may be present in the eastern portion. The archaeological potential for encountering domestic deposits associated with the residential occupation of the western portion of the site is moderate to high. After the earthquake, there were no disturbances (such as building basements) excavated into this portion of the lot. The area behind the residences is especially promising for encountering such deposits, including privies. Further, the sheet refuse associated with the earthquake may be associated with particular households. There may also be refuse deposits associated with the post-earthquake residence at 43 Tehama Street.

Transit Tower Project Site

No formally recorded archeological sites currently are documented on the Transit Tower project site (Block 3720, Lot 1). The following present sensitivity assessments for the potential for previously undocumented prehistoric and historic-era resources to be present within the parcel.

Sensitivity for Prehistoric Period Resources

The southern half of this site was formerly occupied by the Transbay Terminal building. This building was built with a basement and parking garage extending to about 20 feet below street level, while a driveway and sidewalks covered the site's northern half, where the proposed Transit Tower would be located. The 1852-1853 Coast Survey map depicts this area on the shoreline of Yerba Buena Cove, with only the western portion of the site situated on dry land at this time.

Four cores were excavated from the sidewalk in front of the Transbay Terminal, ranging in depth from 20 to 60 feet below street surface. No prehistoric archeological deposits were identified during coring. The cores did, however, document a complex series of depositional units one of which has the potential to contain prehistoric resources.

The results of the geoarcheological investigation for the Transit Tower indicate that this parcel has a low potential for buried prehistoric archeological sites (see **Table 15**). Stratigraphically, the parcel consists of artificial fill at the surface, underlain by sand dunes that were deposited immediately prior to or during the historic era. The lack of indications of a stable land surface (i.e., a buried soil) within these dunes and the probable historic age indicates they have a low potential for containing prehistoric sites. This assessment should be considered tentative, given that the radiocarbon date has a large standard deviation that encompasses the very end of the prehistoric sequence, and that nearby shoreline contexts were attractive settings in the Late Period (as indicated by nearby sites SFR-129 and SFR-154).

The bay deposits underlying the sand dunes were formed in an aquatic environment and have a low potential for prehistoric sites. The thin terrestrial landform identified within the dunes and within these bay deposits represents a very brief span of time and also has a low potential to contain buried

TABLE 15
SUBSURFACE PREHISTORIC ARCHEOLOGICAL POTENTIAL AT THE TRANSIT TOWER SITE

Geologic Unit	Depth Range (feet)	Potential for Deposits to be Present
Artificial Fill	Surface to ~11.5	Very low (for intact deposits)
Historic Sand Dunes	~11.5 up to 29	Low?
Bay Deposits	~20 to 55	Low
Beach Deposit	55 to 59	Low
Colma Formation Surface	59 to 60	Low (eroded surface)
Colma Formation	>60	Very low

SOURCE: Far Western Anthropological Research Group

archeological deposits. The pre-bay terrestrial deposits underlying the bay deposits (the Colma Formation) have been truncated and then overlain by a beach deposit. Given that the surface of the Colma Formation has been eroded in this area, and the beach deposit represents only a brief time period, both of these horizons also have a low potential for prehistoric sites.

Sensitivity for Historical Period Resources

Detailed archival investigation was undertaken to understand the land use history of the site. The following discussion summarizes its land use history. Since emerging from Yerba Buena Cove, land-use at the Transit Tower Parcel can be characterized by three distinct phases; pre-1906 earthquake, earthquake to 1938, and post-1938.

Of the six water lots that made up the site of the Transit Tower, one was actually a beach lot on the water's edge. As such, in 1849 the lot was almost entirely submerged. An 1853 survey noted that the northern part of this lot was under one foot of water at low tide and 6 feet of water at high tide. Historic-era site SFR-119H contained a well-preserved Gold Rush Period campsite, and is directly to the west of the Transit Tower location (bounded by First, Folsom, Second, and Mission Streets). As much of the Transit Tower site was largely underwater at the time of the campsite occupation, there is low potential for related resources in much of the parcel except where the historic period surface was identified. Study of the stratigraphy (assuming strata are dateable) may provide additional insights into the early development of the shoreline and the vegetation.

By 1853, buildings had been constructed on the western portion of the site, while the rest remained under water until sometime in 1854; in that year the intersection at Fremont and Mission had a city grade of 90 cm (three feet). By 1854 the entire Transit Tower site had been filled to a point to elevate it above the high-water mark. A brick sewer was in place on Mission Street, north of the site, by 1860. Water service was obtained two years later.

The site quickly developed the heavy industry already prevalent in the surrounding area. The SF Novelty and Plating Works was established on Mission Street in 1862. In 1864, Gallagher and Weed established a

brass foundry on First Street, midway between Natoma and Mission streets. From then on, the block became increasingly industrial. The 1886 Sanborn reflects the industrial nature of the block: a mechanic's mill, boiler shop, brass works, and forge shop are all shown.

Sanborn maps from 1886-1893 show machinists, a blacksmith and wagon maker, an instrument maker, J. Roylance Brass Works, and Mechanics Mill. The 1889-1890 directory listed a brass works, a blacksmith, an instrument maker/cutler, machine shop, an iron works, a mechanics mill, a coppersmith, a turning and planing mill, and a machine shop. The only residential location noted was a "Mechanics Home." In 1899, Miller, Sloss, and Scott began construction of a five-story commercial building that would house Pacific Hardware and Steel Co. between 1900 and 1904. The *San Francisco Chronicle* noted that the building "will fittingly indicate the importance of that new business section of San Francisco."

The 1899 Sanborn map depicts the construction of a five-story brick building (with a basement) in the northern portion of the lot, with storage buildings to the south. A copper works occupied the north center of the area, along with a variety storage buildings and sheds to the south. Along the south edge (adjacent to First Street) were an office, more storage, sheet metal works, machine shop, blacksmith, and a "lodgings" at the corner of First and Mission. As the twentieth century began, the parcel reflected a shift from gritty industry to consolidated wealth speculating in commercial real estate ventures.

The block remained primarily industrial until the 1906 earthquake, when the entire block was destroyed by fire. The block was rebuilt quickly after the earthquake as a mixed industrial complex, composed largely of warehouses. By 1909, the parcel was owned entirely by the Crockers or guardians of the Crocker Estate. Along Fremont Street, in the northern part (Fremont and Mission), the 1913 Sanborn map shows the Studebaker Brothers Sales room, offices, carriage repository, and auto repair shops (reflecting the transportation transition from the carriage to the automobile). This building was reconstructed on the site of the same five-story building noted above, and reused its foundations and basement. The Pacific Coast Envelope Company occupied the area of the Transit Tower site at the corner of First and Mission, and a box company occupied the area to the south. There was no longer any residential occupation of the site or, indeed, the vicinity after the earthquake.

All of these structures were demolished in the 1930s to make way for the Transbay Transit Terminal, constructed in 1938 (along with the Bay Bridge), which included a taxi stand, street car ramp, and pedestrian walkway. The Transbay Terminal building, with its basement and parking garage extending down to 20 feet below the surface. It is expected that construction of that building, including excavation for the basement, destroyed any archeological deposits directly beneath the surface.

Geoarcheological testing within the Plan area identified an historic period surface in the northern portion of the project site at a depth of 13 feet below modern ground level, generally at sea level. This surface is underlain by disturbed dune sand and overlain by artificial fill likely from the 1906 earthquake. This suggests that there is a low to moderate likelihood of encountering historic period deposits associated with residential and industrial uses of the block. Potential property types in this area could include sheet refuse associated with the earthquake, possible refuse deposits associated with the residential occupation

of the corner of First and Mission, and infrastructure, architectural, and industrial remains (**Table 16**). Overall the parcel has moderate potential to contain important historic period resources.

TABLE 16
EXPECTED HISTORIC-ERA PROPERTY TYPES AND PRELIMINARY ASSESSMENT OF RESEARCH VALUE AT THE TRANSIT TOWER SITE

Time Period	Property Type/ and Examples	Potential for Deposits to be Present	Relative Research Values (assuming high levels of integrity)	Gold Rush Era Occupation	Defining Working-Class Neighborhoods	Commercial and Institutional Land Use	Development of Industry and Technology	Development of Infrastructure	Environmental Change	Public Interpretive Potential
Yerba Buena (1776-1848)	Natural/Dune	Low	-	-	-	-	-	-	Moderate to High	High
Gold Rush (1848-1850)	Refuse	Low	-	Moderate to High	-	-	-	-	-	High
Emergence of South Market (1850-1860)	Infrastructure	Low	-	-	-	-	-	Low	-	Low
South of Market Matures (1860s-1906)	Refuse, Architecture, Industrial, Infrastructure/ Mixed Industrial-Residential Neighborhood	Low to Moderate	-	-	Moderate to High	-	Low to Moderate	Low	Low	Moderate to High
Earthquake and Fires (1906)	Sheet Refuse, Architecture, Industrial, Infrastructure	Moderate	-	-	Low to Moderate	-	Low to Moderate	Low	Low	Moderate
Post-1907	Sheet Refuse, Architecture, Industrial, Infrastructure	-	-	-	-	-	Low	Low	Low	Low
1938	Transbay Terminal	Demo'd. 2010 - 11	-	-	-	-	-	-	-	-

Summary

In summary, the prehistoric sensitivity assessment considers the Transit Tower project site to have a low potential for containing buried archeological material. The data for this assessment are considered strong for all contexts except the upper-most portion of the dune deposits (owing largely to the poor chronological resolution provided by the radiocarbon dating results). In contrast, the historical archeological sensitivity assessment suggests there is a moderate potential for historic period resources; additional archeological investigations at the time of construction are needed to address this possibility, since archeological deposits could exist that were not identified by the coring already undertaken. During any such field investigation, additional identification efforts should be made to confirm the prehistoric sensitivity assessment regarding the age of dune deposits within the Site.

Plan Impacts

Impact CP-1. Development projects in the Plan area could cause a substantial adverse change in the significance of archeological resources. (Less than Significant with Mitigation)

As discussed previously, the Plan area as a whole can be considered generally sensitive for both prehistoric and historic-era archeological resources. Expected archeological resources could have important research value and would, therefore, be significant under CEQA. The Transit Center District Plan ARDTP presented sensitivity assessments for prehistoric and historic-era resources. It has also discussed spatial variation (both horizontal and vertical) within the Plan area regarding where certain types of sites are either known to be located or most likely to be discovered with additional subsurface investigative effort. This approach ensures that important archeological remains that may be present on development opportunity sites are identified, evaluated, and appropriately treated. The ARDTP has also identified a series of research topics to which identified archeological could contribute significant information.

Given that the majority of the buildings in the Plan area were constructed in the early twentieth century, prior deep sediment disturbances tend to be relatively shallow compared to many nearby areas where post-1950 construction predominate. For example, subgrade parking garages and deep foundation supports are relatively uncommon except in the northeast portion of the Plan area (generally, north and east of the Transit Center site), where the greatest concentration of 1960s and later development has occurred.

Proposed changes in *Planning Code* (zoning) controls for the Plan area would create a regulatory context for new private land improvements that would likely result in an increased potential for disturbance of soils below the existing surface. These *Planning Code* changes would increase maximum building height allowances, encouraging new development on parcels that have historically been underutilized. Moreover, greater development height often increases the minimum level of geotechnical support required for the development, with an associated increase in the depth and magnitude of sediment disturbance/modification. Much of the Plan area is within Liquefaction Hazards Zones in which tall buildings would frequently require geotechnical support in the form of pilings or soils improvement techniques. The potential to increase the amount and depth of soils disturbance resulting from the new building height regulations within the Plan area would increase the potential to affect California Register-eligible archeological resources.

Portions of the Plan area may also contain persistent hazardous wastes from late 19th and early industrial activities and other land uses using chemical processes. Therefore there is the potential that site remediation for hazardous wastes would occur in the future (see Section IV.X, Hazards and Hazardous Materials). Site remediation can result in the disturbance and removal of sediment in excess of sediments that would be disturbed by other components of a project such as foundations or parking. Thus, mitigation of hazardous materials within the sediments of a project site may adversely affect archeological deposits within the affected sediments independent of all other aspects of a project. Implementation of mitigation procedures outlined in the Plan area ARDTP would reduce this effect to a less-than-significant level.

In general there is a high likelihood that new construction would extensively disturb sediments to considerable depths below the modern surface. Since California Register-eligible archeological resources are expected to be present within existing sub-grade sediments of the Plan area, the proposed land use policies and controls within the Plan area could adversely affect archeological resources, which would be considered a significant impact. However, implementation of Mitigation Measure M-CP-1 would reduce this impact to a less-than-significant level.

Mitigation Measure

M-CP-1: **Subsequent Archeological Testing Program.** When a project is to be developed within the Transit Center District Plan Area, it will be subject to preliminary archeological review by the Planning Department archeologist. This in-house review will assess whether there are gaps in the necessary background information needed to make an informed archaeological sensitivity assessment. This assessment will be based upon the information presented in the Transit Center District Plan Archeological Research Design and Treatment Plan (Far Western Anthropological Research Group, Inc., *Archaeological Research Design and Treatment Plan for the Transit Center District Plan Area, San Francisco, California,* February 2010), as well as any more recent investigations that may be relevant. If data gaps are identified, then additional investigations, such as historic archival research or geoarchaeological coring, may be required to provide sufficiently detailed information to make an archaeological sensitivity assessment.

If the project site is considered to be archaeologically sensitive and based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archeological consultant from the Planning Department ("Department") pool of qualified archaeological consultants as provided by the Department archaeologist. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure and with the requirements of the Transit Center District Plan archeological research design and treatment plan at the direction of the ERO. In instances of inconsistency between the requirement of the project archaeological research design and treatment plan and of this archaeological mitigation measure, the requirements of this archaeological mitigation measure shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of

construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sections 15064.5 (a) (c).

Archeological Testing Program. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. If the ERO determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological consultant shall prepare an archeological monitoring plan (AMP):

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context;

- Archeological monitoring shall conform to the requirements of the final AMP reviewed and approved by the ERO;
- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations.

- Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures.
- Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies.
- Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- Final Report. Description of proposed report format and distribution of results.
- Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high

interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Level of Significance after Mitigation

Implementation of the above mitigation measure would reduce impacts on archeological resources in the Plan area to a less-than-significant level.

Transit Tower Impacts

Impact CP-2. Development of the proposed Transit Tower could cause a substantial adverse change in the significance of archeological resources. (Less than Significant with Mitigation)

As described in Chapter II, Project Description, the Transit Tower is anticipated to be founded on deep piles that would be supported in bedrock more than 200 feet below grade; this would include a series of large diameter piles approximately 10 feet around that would support the tower's "megacolumns" (very large structural columns several feet in width). Excavation for the basement and parking levels of the Transit Tower would be to a depth of approximately 60 feet, consistent with the depth of the excavation for the adjacent Transit Center terminal that is currently under construction.

As noted above in the discussion of archeological sensitivity, while there is little potential for the discovery of prehistoric archeological resources at the Transit Tower site, there is a moderate potential for the existence of historic-era resources. Excavation for and construction of the Transit Tower and its foundation system could adversely affect these resources, which would be considered a significant impact. However, implementation of Mitigation Measure M-CP-2 would reduce this impact to a less-than-significant level.

Mitigation Measure

M-CP-2: **Archeological Testing Program Specific to Transit Tower.** Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried historical resources. Transit Center District Plan Archeological Research Design and Treatment Plan (Far Western Anthropological Research Group, Inc., *Archaeological Research Design and Treatment Plan for the Transit Center District Plan Area, San Francisco, California,* February 2010) included a sensitivity assessment (based on historic archival investigations and geoarchaeological coring) of Transit Tower parcel and parcel-specific archaeological treatment plan. No formally recorded archaeological sites currently are documented on this parcel, and the parcel is considered moderately sensitive for historic-era resources and as having a low sensitivity for prehistoric resources. The Treatment Plan laid out an approach to mitigation efforts at the Transit Tower site that primarily focus on historic-era resources, with much more limited attention given to potential prehistoric resources. This would include

identification efforts, and if an archaeological site is located, evaluation and data recovery mitigation work.

The project sponsor shall retain the services of an archeological consultant from the Planning Department ("Department") pool of qualified archaeological consultants as provided by the Department archaeologist. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure and with the requirements of the Transit Center District Plan Archeological Research Design and Treatment Plan at the direction of the Environmental Review Officer (ERO). In instances of inconsistency between the requirement of the project archaeological research design and treatment plan and of this archaeological mitigation measure, the requirements of this archaeological mitigation measure shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sections 15064.5 (a) (c).

Archeological Testing Program. The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP) that builds upon the Transit Center District Plan Archeological Research Design and Treatment Plan elements developed for this parcel. The ATP shall identify the testing method to be used and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. The archeological testing program shall be conducted in accordance with the approved ATP.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. If the ERO determines that a significant

archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:

A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or

B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological consultant shall prepare an archeological monitoring plan (AMP).

- The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context;
- Archeological monitoring shall conform to the requirements of the final AMP reviewed and approved by the ERO;
- The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the ADRP shall include the following elements:

- Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations.
- Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures.
- Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies.
- Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- Final Report. Description of proposed report format and distribution of results.
- Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains and Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate

dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects.

Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.

Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.

Level of Significance after Mitigation

Implementation of the above mitigation measure would reduce impacts on archeological resources at the Transit Tower site to a less-than-significant level.

Historical Resources

Future development projects that would be facilitated by the proposed Plan may cause substantial adverse changes in terms of (a) direct impacts to the significance of one or more of the historical resources identified in this analysis by way of demolition or substantial alteration, or (b) indirect impacts to the significance of one or more of the historical resources identified in this analysis due to changes to the existing zoning controls (use districts and height limits), which in turn may add redevelopment pressures to such resources resulting in demolition or substantial alteration. The direct and indirect impacts can occur to both individual historical resources, as well as to proposed conservation or historic districts in the Plan area and/or their contributing buildings.

As noted above, substantial adverse changes that may occur include demolition, destruction, relocation or alteration of one or more resources, such that the historical significance or resource and/or the historic

district in which it is located is "materially impaired." Such an adverse change to a CEQA-defined historical resource would constitute a significant impact.

As described in the Setting, an expansion of the existing local New Montgomery–Second Street Conservation District is also being proposed as part of the Transit Center District Plan. *Planning Code* Article 11 ratings for individual building categories I – V would be revised and updated, and newly-rated buildings would become eligible to sell transferrable development rights to development sites in the downtown. Proposed new development in the expanded district would be analyzed for potential impacts to the district. Finally, the draft Plan proposes to seek City Landmark designation for four individual structures, three of which are outside existing or proposed historic districts, under Article 10 of the *Planning Code.* These include the Planters Hotel (606 Folsom Street), the Philips & Van Orden Building (234 First Street), the Marine Firemen's Union building (240 Second Street), and the Burdette Building (90 Second Street). Another aspect of the draft Plan that could affect historical resources is the Plan's proposed removal of restrictions on floor area ratio. This could affect the amount of transferrable development rights available at sites on which historic buildings are located.

Plan Impacts

Impact CP-3: Changes to the zoning controls in the Plan area could result in adverse impacts to historic architectural resources through demolition or substantial alteration. (Significant and Unavoidable)

Changes to Existing Use and Height and Bulk Districts

The Plan area is generally composed of portions of the C-3-O (Downtown Office), C-3-O (SD) (Downtown Office (Special Development)), C-3-S (Downtown Support), TB-DTR (Transbay Downtown Residential), and P (Public) use districts. The C-3-O and C-3-O (SD) districts, which make up the majority of the Plan area, both permit office uses as principal uses and include controls that generally encourage concentrated, high density office development. In addition, the C-3-O (SD) district allows a lesser intensity of development, measured in terms of floor area ratio, as of right than does the C-3-O district, but the C-3-O (SD) district also permits unused development potential on lots containing historic resources from elsewhere in the C-3 districts to be directed to other sites through the transferrable development rights (TDR) process.

The rezoning proposal that would be adopted as part of implementation of the draft Plan would entail converting the entire Plan area to C-3-O (SD) and eliminate the maximum 18:1 cap on Floor Area Ratio (FAR) limit on development in this zone. Although the C-3-O (SD) district would permit unused development potential on lots containing historic resources from elsewhere in the C-3 districts to be directed to other sites through the TDR process, the rezoning of the entire Plan area to C-3-O (SD) and elimination of the maximum 18:1 cap (FAR) could still indirectly increase incentives to demolish smaller-scale historic commercial buildings, in order to construct new large-scale commercial buildings.

The proposed Transit Tower project would not involve demolition of any structures. However, at other sites in the Plan area, future development projects that could be facilitated by the proposed changes to use districts in the Plan area could cause substantial adverse changes in either (a) the significance of one

or more of designated or potential historical resources, or (b) the significance of one or more of the existing or potential historic districts in which some of these resources are located. Such projects could result in demolition of historical resources or alteration of such resources such that their historic significance would be "materially impaired." Such an adverse change to a historical resource would constitute a significant impact as defined by CEQA Guidelines Section 15064.5, and such impacts could not necessarily be mitigated to a less-than-significant level. Because such projects would be permitted with implementation of the draft Plan, this would be a significant, unavoidable impact of the Plan.

For example, there is currently a project proposed within the Plan area that would result in the demolition of known historical resources on First Street, and two other projects that could adversely affect historical resources. These projects, with applications on file at the Planning Department, include a proposal for three towers ranging in height up to 850 feet at 50 First Street at Mission Street, a 680-foot residential tower at the rear of the Palace Hotel at 2 New Montgomery Street, and a residential project at Second and Howard Streets. These projects—each of which would be subject to project-specific environmental review under CEQA—would result in the demolition or substantial alteration of several individually significant and/or contributing buildings to an existing or potential historic district. Potential development opportunity sites identified along Howard Street could also result in the demolition or substantial alteration of historical resources. Finally, new construction may also adversely affect the setting of existing or potential historic districts.

The three projects noted specifically above are described below in more detail:

1. 50 First Street: This project would demolish four existing structures, three of which are historical resources, and develop three towers, ranging in height from 184 to 915 feet (to the top of the parapet and solar/wind energy collection features) on seven lots located at or near the northwest corner of First and Mission Streets. The project would accommodate a mix of office, residential, retail, hotel, and entertainment use, as well as publicly accessible open space. The three historic buildings that would be demolished are on the west side of First Street: the Marwedel Building at 76 First Street (rated "2S2," or determined individually eligible for the National Register), and the Neustadter Bros. Building at 62 First Street and the Brandenstein Building at 88 First Street (both rated "3CS" or individually eligible for listing in the California Register by the Transit Center *Context Statement*). These buildings represent the key elements of a small concentration of remaining early 20th century commercial buildings on First Street, and contribute to the potential First and Mission Historic District. The proposed project would constitute an adverse effect on the environment under CEQA because it would result in demolition of these historical resources.

2. Palace Hotel Tower, 2 Montgomery Street: The construction of a 680-foot residential tower at the rear of the Palace Hotel would result in the demolition of a non-historic addition to the City Landmark hotel and a property that is individually eligible for listing in the National Register. As such, no direct impacts to historic resources would necessarily result from construction of the tower itself. However, this project would also include alterations to the City Landmark hotel building, both as part of a structural upgrade to tie the historic building to the tower, and potentially as part of other program-related alterations to the hotel, some interior spaces of which

are considered historical resources.[152] Therefore, for purposes of a conservative assessment, this analysis assumes that the proposed Palace Hotel Tower could result in a significant adverse impact on the City Landmark hotel building that could not be mitigated to a less-than-significant level. Moreover, the Palace Hotel is located within the New Montgomery-Second Conservation District and the proposed expanded New Montgomery–Mission–Second Street Conservation District, and is a contributing resource to both. The proposed 680-foot tower could have a significant adverse impact not only on the historic setting of the Palace Hotel itself, but also on the on the historic setting of the existing and expanded conservation district. It is noted that the Palace Hotel Tower project will be the subject of a separate, project-specific EIR that will fully evaluate historical resources impacts, mitigation measures, and alternatives.

3. 201 Second Street: A 19-story, 180-foot residential building was approved in 2006 for a site at Second and Howard Streets that is currently a surface parking lot. As such, this project would not constitute an adverse effect on the environment because the parking lot does not contain any historical resources. However, the parking lot is proposed be acquired by the Transbay Joint Powers Authority (TJPA), along with two parcels to the south on Second Street occupied by existing buildings, as part of the project to extend underground Caltrain tracks to the new Transit Center, assuming the Caltrain Downtown Extension is ultimately funded. Under the approved Caltrain extension, the two existing buildings would be demolished. The draft Plan calls for the City to consider vacating Malden Alley, which runs between Howard and Tehama Streets to the east of these three parcels, to facilitate the assembly of a larger development parcel that could permit construction of a building that would have its foundation set back from the underground railway right-of-way. The draft Plan, in the discussion under Policy 2.12, notes that such a development scheme could permit a cantilevered portion of a new building to maintain a street presence at the corner of Second and Howard Streets. The draft Plan further indicates that such a program could "incorporate and build above a portion of the historic buildings immediately to the east," along Howard Street. Of the two buildings on Second Street to be demolished, the southerly structure, at 217 Second Street, was identified in the *Context Statement* and follow-on research as a historical resource (individually eligible for the California Register).[153] This building has been approved for demolition as part of the separate Caltrain extension project. However, the enlarged development site could involve alteration, or possibly even demolition, of one or more of the buildings to the east, at 583 and 589 Howard Street and 90 Tehama Street. The two buildings on Howard Street are listed on the National Register (rated "1D") as contributors to the Second and Howard Streets Historic District, while 90 Tehama Street was determined as part of the *Context Statement* and follow-on research to be a historical resource under CEQA. No design for development of the enlarged site is available as of this writing, although the site has an existing height limit of 350 feet, which would be retained with implementation of the draft Plan. Therefore, for purposes of a conservative assessment, it is assumed that this project would result in a significant unavoidable impact on historical resources.

The Plan would also allow for development on a number of opportunity sites that are either vacant, in use as surface parking, or where existing structures occupy 30 percent or less of the total permitted developable square footage allowable under the existing zoning. In particular, there are two opportunity

152 Notably, the Garden Court dining room is part of the City Landmark designation. Planning Department preservation staff considers some other publicly accessible spaces of the hotel to be defining features of the building's historical status.

153 Carey & Co., Supplemental DPR forms; see footnote 128, p. 208.

sites on Howard Street in the westernmost portion of the Plan area where development could result in the demolition of historical resources, at 648 - 660 Howard Street and at 667 – 669 Howard Street. Development on the former site could affect historic architectural resources at 147 Natoma Street (a Category I building under the Downtown Plan and rated "3S," or individually eligible for the California Register as part of the *Context Statement*) and 161 Natoma Street and 658 Howard Street (both eligible for listing to the California Register as district contributors). Development at 667 – 669 Howard Street could affect the 1907 Sharon Estate Building at 667 Howard Street (Downtown Plan Category III and eligible for the California Register as a district contributor). These two potential projects, like those described above, and like any other subsequent projects that could affect historical resources, would each be subject to project-specific CEQA review.

Additionally, although the potential expanded New Montgomery–Mission–Second Street Conservation District has not yet been incorporated into Article 11, the expanded district is considered a historical resource for purposes of CEQA analysis. The existing New Montgomery-Second Street Conservation District, by virtue of being listed in Article 11 of the *Planning Code*, is a historical resource under CEQA, as is the Second and Howard Streets National Register Districts, by virtue of being listed in the National Register.

For purposes of a conservative assessment, it is presumed that the demolition of one or more contributing resources to the existing and potential historic districts would occur during the lifetime of the Plan. While demolition of a contributing resource to a historical district does not necessarily result in a significant adverse effect on that district, this assessment assumes that such demolition would constitute a significant impact due to the loss of the contributing element itself, which would be considered demolition of a historical resource that could not be mitigated to a less-than-significant level. However, the precise nature of the impact cannot be determined in the absence of specific information about the proposal under consideration. Mitigation could, in some cases reduce the nature or the degree of the impact on the potential historic district, but it is assumed that the loss of one or more contributing resources would be **significant and unavoidable** for at least some subsequent projects.

Transfer of Development Rights

As noted, the draft Plan proposes to eliminate the restrictions on FAR in the Plan area. By increasing the potential development envelope on a given site, this change could increase the supply of transferrable development rights, a tool that allows owners of historic properties to sell the unused development rights above an existing smaller building to a prospective developer of another site, thereby potentially helping ensure the survival of the historic structure. According to Planning Department records, approximately 5 million square feet of transferrable development rights has been certified as eligible for sale since 1985; of this, 2.75 million square feet has been used by subsequent development projects, leaving about 2.25 million square feet of certified supply available, most of which is believed to have been acquired by developers but not yet applied to projects that remain unbuilt. The Department estimates that there is about 3 million additional square feet of "potential" supply remaining that is not yet certified.[154]

[154] San Francisco Planning Department, *25 Years: Downtown Plan Monitoring Report, 1985-2009.* June 2011. Available on the internet at: http://www.sf-planning.org/index.aspx?page=1663#downtown_report; p. 22.

The draft Plan proposes to maintain the Transfer of Development Rights program (*Planning Code* Section 128), but to modify the program in the Plan area. Among other things, the draft Plan would reduce the square footage requirement for the purchase of development rights by each individual development project from all floor area greater than a floor area ratio (FAR) of 6:1 to floor area between 6:1 and 9:1 FAR, seek to expand the supply of TDR through designation of eligible buildings, and potentially establish a Downtown Historic Preservation and Rehabilitation Fund and an in-lieu fee (whose proceeds would go to the fund) that developers could pay in lieu of purchasing transferrable development rights.

The draft Plan's proposed elimination of maximum FAR limits and increased height limits would be expected to result in increased development in the Plan area, which would increase the demand for TDR. Conversely, the draft Plan's modification of the TDR program would, as noted previously, reduce the demand for TDR on any given development project site. Along with this reduction, the draft Plan's proposal to increase flexibility in the use of TDR, including the creation of an in-lieu mechanism, would be expected to increase the overall number of both development projects and historical resources that could use TDR, thereby assisting in the preservation—and, potentially, ongoing maintenance—of historic buildings.

Mitigation Measures

M-CP-3a: **HABS/HAER Documentation.** Prior to demolition or substantial adverse alteration of historical resource(s), the project sponsor of a development project in the Plan area shall contract with a qualified preservation architect, historic preservation expert, or other qualified individual to fully document the structure(s) to be demolished or altered. Documentation shall be undertaken following consultation with Planning Department preservation staff and the Historic Preservation Commission, and shall at a minimum be performed to HABS Level II documentation standards. According to HABS Standards, Level II documentation consists of the following tasks:

- Written data: A brief report documenting the existing conditions and history of the building shall be prepared, focusing on the building's architectural and contextual relationship with the greater Western SoMa neighborhood.
- Photographs: Photographs with large-format (4x5-inch) negatives shall be shot of exterior and interior views of all three project site buildings. Historic photos of the buildings, where available, shall be photographically reproduced. All photos shall be printed on archival fiber paper.
- Drawings: Existing architectural drawings (elevations and plans) of all three the project site buildings, where available, shall be photographed with large format negatives or photographically reproduced on Mylar.

The completed documentation package shall be submitted to local and regional archives, including but not limited to, the San Francisco Public Library History Room, the California Historical Society and the Northwest Information Center at Sonoma State University in Rohnert Park.

M-CP-3b: **Public Interpretative Displays.** Prior to demolition or substantial adverse alteration of historical resource(s) that are significant due to event(s) that occurred in the building at the development site, the project sponsor of a development project in the Plan area shall develop, in consultation with Planning Department preservation staff, a permanent interpretative program/and or display that would commemorate such event(s). The program/display would be installed at a publicly accessible location, either at or near the project site or in another appropriate location (such as a library or other depository). The content and location of the display shall be presented to the Historic Preservation Commission for review and comment.

M-CP-3c: **Relocation of Historical Resources.** Prior to demolition or substantial alteration of historical resource(s), the project sponsor of a development project in the Plan area shall make any historical resources that would otherwise be demolished or substantially altered in an adverse manner available for relocation by qualified parties.

- M-CP-3d: **Salvage of Historical Resources.** Prior to demolition of historical resource(s) that are significant due to architecture (resource(s) that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values), the project sponsor of a development project in the Plan area shall consult with a Planning Department Preservation Technical Specialist and/or other qualified parties regarding salvage of materials from the affected resource(s) for public information or reuse in other locations.

In addition to the foregoing measures, the procedures spelled out in Article 11 of the *Planning Code* and in the City's transferrable development rights (TDR) program (*Planning Code* Section 128) would serve to avoid or minimize potentially significant impacts on historical resources. Moreover, as noted in the Setting, the draft Plan proposes expansion of the existing local New Montgomery–Second Street Conservation District; revision of some Article 11 ratings for individual building categories I – V, along with revisions to the TDR program; and potential City Landmark designation for four individual structures in the Plan area. These policies and programs in the draft Plan would also function to avoid or minimize potentially significant impacts on historical resources.

Level of Significance after Mitigation

The foregoing mitigation measures would reduce the adverse impacts of the proposed Plan on historical resources, but not to a less-than-significant level. Therefore, the impacts are considered **significant and unavoidable**.

While relocation of historical resources could reduce the severity of impacts, it would likely not be practical except in limited circumstances (notably, for smaller buildings). This is because of the relatively high cost associated with such effort. Also, many of the historical resources that could be affected are either constructed of masonry (reinforced or unreinforced) or are faced in brick, meaning that such buildings are relatively more fragile than wood-frame structures such as residential buildings relocated in the Western Addition in the 1970s. Therefore, while relocation of one or more buildings could be undertaken, it is considered unlikely to be widely accomplished. Moreover, a relocated building could suffer, at a minimum, a loss of integrity of setting.

Impact CP-4: Changes to the height and bulk limits in the Plan area could result in indirect impacts to historic architectural resources. (Less than Significant)

Existing building height limits in the Plan area range from 30 feet at First and Mission Streets to 550 feet in other areas. The Plan would increase the height limit at First and Mission Streets to 1,000 feet to accommodate the proposed Transit Tower, and up to 850 feet in other areas (see Table 1, Proposed Height Limit Increases, on p. 18 of the Project Description).

By eliminating the maximum limit on floor area ratio and increasing height limits and changing use districts in portions of the Plan area, the draft Plan could increase the financial incentive to replace smaller buildings with newer, taller buildings, in order to take advantage of the greater allowable height and bulk. Thus, the increased height and bulk limits could foster the development of taller buildings adjacent to or near existing historical resources. Such new developments could bring significant changes to the historical resources' setting, thereby potentially compromising the integrity of those resources. While any height increase to surrounding buildings can potentially compromise the integrity of a historical resource's location and context, it is generally true that as permitted heights increase, so do potential adverse effects to nearby historical resources. For example, the draft Plan would permit development of a 750-foot-tall building on a TJPA-owned parcel (known as "Parcel F") on the north side of Howard Street near Second Street. Development of this tower would not result in direct effects on any historical resources. However, the addition of a building of a size and scale so much greater than that of nearby buildings in the Second and Howard Streets District and the local conservation district (and to individually listed or eligible resources) could result in an adverse effect on the setting of one or both districts, depending on the design of the new tower. Other high-rise development could result in somewhat similar effects, although generally to a lesser degree, as the Parcel F tower would be the tallest building in proximity to such a large concentration of historical resources. It is noted, however, that the Parcel F site is separated from both districts by the location of the new ramp to the Transit Center, which would attenuate potential impacts.

However, there are a number of draft Plan policies that address historical resources, such as recognizing and protecting historic resources, promoting the retention and rehabilitation of significant resources, and maintaining and balancing the TDR program. These policies and programs, in combination with implementation of design review and other processes through *Planning Code* Article 11, would serve to avoid any potentially significant indirect effects of the Plan's changes to use districts and height limits on historic resources. Therefore, the indirect impacts of the draft Plan on existing historical resources would be less than significant.

Impact CP-5: Construction activity in the Plan area could result in damage to historic architectural resources. (Less than Significant with Mitigation)

As described in Section IV.F, Noise and Vibration, construction activity can generate vibration that can cause structural damage in nearby buildings. In general, even pile driving, which causes the greatest

vibration levels during construction, is sufficiently attenuated by distance such that the peak particle velocity at 100 feet from pile driving is less than 0.2 inches per second (0.2 PPV), the threshold established by the Federal Transit Administration for potential damage to non-engineered timber and masonry buildings. At closer distances, pile driving, and possibly other construction activity, could potentially damage historical resources, particularly unreinforced masonry structures. Mitigation Measures M-CP-5a and M-CP-5b would require contractors to undertake best practices during construction and to conduct pre-construction surveys of historical resources within 125 feet of proposed construction (to allow for a 25 percent safety factor) and to conduct construction-period monitoring of these resources to ensure that potential construction impacts would be reduced to a less-than-significant level.

Mitigation Measures

M-CP-5a **Construction Best Practices for Historical Resources.** The project sponsor of a development project in the Plan area shall incorporate into construction specifications for the proposed project a requirement that the construction contractor(s) use all feasible means to avoid damage to adjacent and nearby historic buildings, including, but not necessarily limited to, staging of equipment and materials as far as possible from historic buildings to avoid direct impact damage; using techniques in demolition (of the parking lot), excavation, shoring, and construction that create the minimum feasible vibration; maintaining a buffer zone when possible between heavy equipment and historical resource(s) within 125 feet, as identified by the Planning Department; appropriately shoring excavation sidewalls to prevent movement of adjacent structures; design and installation of the new foundation to minimize uplift of adjacent soils; ensuring adequate drainage from adjacent sites; covering the roof of adjacent structures to avoid damage from falling objects; and ensuring appropriate security to minimize risks of vandalism and fire.

M-CP-5b **Construction Monitoring Program for Historical Resources.** The project sponsor shall undertake a monitoring program to minimize damage to adjacent historic buildings and to ensure that any such damage is documented and repaired. The monitoring program would include the following components. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a historic architect or qualified historic preservation professional to undertake a preconstruction survey of historical resource(s) identified by the Planning Department within 125 feet of planned construction to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource(s), the consultant shall also establish a maximum vibration level that shall not be exceeded at each building, based on existing condition, character-defining features, soils conditions, and anticipated construction practices (a common standard is 0.2 inches per second, peak particle velocity). To ensure that vibration levels do not exceed the established standard, the project sponsor shall monitor vibration levels

at each structure and shall prohibit vibratory construction activities that generate vibration levels in excess of the standard.

Should vibration levels be observed in excess of the standard, construction shall be halted and alternative techniques put in practice, to the extent feasible. The consultant shall conduct regular periodic inspections of each building during ground-disturbing activity on the project site. Should damage to either building occur, the building(s) shall be remediated to its preconstruction condition at the conclusion of ground-disturbing activity on the site.

Level of Significance after Mitigation

Implementation of Mitigation Measures M-CP-5a and M-CP-5b would reduce construction-related impacts on historic architectural resources to a less-than-significant level.

Transit Tower Impacts

Impact CP-6. Development of the proposed Transit Tower would not directly or indirectly result in substantial adverse changes in the significance of historical resources. (Less than Significant)

The proposed Transit Tower project would include a mixed use office tower on the south side of Mission Street between First and Fremont Streets. The Plan foresees the Transit Tower as the City's tallest structure, with an "enclosed" height (i.e., the height at the top of the highest occupiable floor) of up to 920 feet. The Plan also calls for a sculptural element to potentially be located atop the tower. Although the Transit Tower would be developed on a portion of the site until recently occupied by the National Register-eligible Transbay Terminal, the terminal itself was demolished beginning in 2010 as part of the separate project to develop the new Transit Center. This demolition was fully analyzed and determined to be a significant and unavoidable impact to historic resources as part of the previously certified EIS/EIR for the Transit Center, Caltrain extension, and Transbay Redevelopment Plan (SCH No 95063004). As these direct effects of demolition have already been analyzed under a separate planning document, they are not addressed in this document. However, the proposed Transit Tower could have indirect effects to the setting of nearby historic resources and/or existing or potential historic districts in the project vicinity.

The proposed Transit Tower would be constructed directly and diagonally across First and Mission Streets from the three historic buildings which comprise the 50 First Street Project Site; 62 First Street and 88 First Street (both rated "3CS" or individually eligible for listing in the California Register), and 76 First Street (rated "2S2" determined individually eligible for the National Register). If the Transit Tower is constructed prior to the 50 First Street project, or if the 50 First Street project does not occur in the future and the existing buildings on that site remain in place, the setting of these buildings could be adversely affected by the construction of a tower up to 1,000 feet in height (and potentially up to 1,150 feet with sculptural element). The Transit Tower would contrast substantially with the architectural character of

the smaller, more fine-grained commercial buildings constructed between 1907 and 1917. A mixture of architectural styles and contrasting building heights is already prevalent in the immediate vicinity, and the setting of these three historic buildings has already been greatly altered by mid to late-20th century high rise construction. The proposed Transit Tower would further erode the historic setting of these three historic buildings, but not to the extent that they would no longer be eligible for the California Register, or the National Register in the case of 76 First Street. As stated in the *Context Statement*, "Since the late 1960s, intervening development has severed this small enclave from the rest of the [potential expanded New Montgomery–Mission–Second Street] district." The small concentration of existing buildings around the intersection of First and Mission Streets, were they to remain, would continue to present a "relatively intact cluster of early 20th-century masonry loft buildings," even with development of the Transit Tower. As such, no significant impacts to immediately adjacent historic resource are anticipated from construction of the Transit Tower.

The proposed Transit Tower would be located approximately 300 feet from the eastern edge of the existing New Montgomery-Second Conservation District and the potential New Montgomery, Mission and Second Historic District. While the upper stories of the tower would be clearly visible from these existing and potential historic districts, there would be no significant indirect effects to their setting, given the relatively large distance (300 feet) between the tower and the districts, and the number of intervening non-contributing high rise buildings in the Plan area which have already altered the setting of the districts. As such, no significant indirect impacts to either existing or proposed districts are anticipated from construction of the Transit Tower.

Cumulative Impacts

Impact C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources. (Significant and Unavoidable)

No cumulative significant impacts to archeological resources are anticipated beyond impacts identified for the Plan and Transit Tower, because effects are typically considered on a site-by-site basis.

However, development pursuant to the draft Plan, including development of the Transit Tower, could result in significant, unavoidable impacts to historical resources, as described above. In addition, other development, including projects in the Plan area that could proceed without the need for the zoning district changes or increased height limit proposed in the draft Plan, as well as projects near to the Plan area, would also have the potential to adversely affect historical resources, both through demolition and substantial adverse alteration. Such changes could also indirectly affect historical resources by changing the setting of individual historical resources or historic districts. Potential cumulative impacts, to which the draft Plan would make a considerable contribution, would be **significant and unavoidable**.

Mitigation Measures

- **M-C-CP:** Implement Mitigation Measures M-CP-3a, **HABS/HAER Documentation**, M-CP-3b, **Public Interpretive Displays**, M-CP-3c, **Relocation of Historical Resources**, and M-CP-3d, **Salvage of Historical Resources**.

Level of Significance after Mitigation

- Implementation of Mitigation Measures M-CP-3a, M-CP-3b, M-CP-3c, and M-CP-3d would lessen the severity of effects on historical resources, but would not reduce them to a less-than-significant level. Thus, the impact would remain **significant and unavoidable**.

E. Transportation

This analysis is based on a transportation study prepared for the Transit Center District Plan, and a separate project-specific analysis for the Transit Tower.[155]

Setting

Street System

Interstate Highway 80 (I-80) and U.S. Highway 101 (U.S. 101) provide the primary regional access to the Plan area, linking the area to the East Bay (I-80, via the Bay Bridge) and to the North Bay (U.S. 101, via the Golden Gate Bridge) and the Peninsula and South Bay (U.S. 101). The elevated I-80 "skyway" merges with U.S. 101 about one mile southwest of the Plan area. Access to and from I-80 is provided via on- and off-ramps at Fremont, First, and Essex Streets, south of the Plan area, and Fourth, Fifth, Seventh, and Eighth Streets, to the southwest. I-280 provides alternative access to the Peninsula/South Bay, with ramps at King and Sixth Streets.

Within the Plan area, all of the major east-west streets in the Plan area (Market, Mission, Howard, and Folsom Streets) are identified in the Downtown Plan (Map 6) as Transit Preferential Streets. Several Plan area streets are called out in the Downtown Streetscape Plan, which was adopted in 1995 to implement a Downtown Pedestrian Network as called for in Downtown Plan Objective 22. This plan identifies Mission Street as a "Special Street," Second and Beale Streets as "Second Level Streets," and Minna, Natoma, and Ecker Streets and Shaw Alley as "Walk Through Alleys." The *San Francisco Bicycle Plan* (2009) identifies Howard and Folsom Streets as part of the City's existing bicycle route network, and calls for new bicycle lanes on Second Street and a shared northbound auto-bicycle lane on Fremont Street south of Howard Street.

Existing intersection levels of service in the Plan area are presented in **Tables 17** and **18**, pp. 286 and 287. Under existing conditions, 47 of the 62 study intersections (see **Figure 54**, p. 285) operate at an acceptable level of service (LOS D or better) during the afternoon (p.m.) peak hour; the 15 intersections operating at unacceptable LOS E or F conditions are primarily those leading to freeway on-ramps (First Street intersections from Market to Harrison Street; Harrison Street intersections at Main, First, Second, Essex, and Fourth Streets; Bryant Street at Second, Fourth, and Fifth Streets; and New Montgomery at Howard Streets), along with the intersections of Kearny/Market/Third/ Geary Streets and Beale and Howard Streets. All 12 intersections analyzed in the morning (a.m.) peak hour operate at an acceptable LOS. [156]

Existing conditions at nearby freeway ramps are presented in **Table 20**, p. 298.

---

155 AECOM, *Transit Center District Plan Transportation Impact Study*, September 2011. This report is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E and Case No. 2008.0789E.

156 The intersections selected for analysis in the a.m. peak hour 12 of the intersections were selected based on their being most likely to be affected by vehicles arriving into downtown San Francisco during the morning commute.

Transit

The Plan area has the greatest concentration of both local and regional transit in San Francisco (and, in fact, in the Bay Area). Local service is provided by the San Francisco Municipal Railway (Muni). Service to and from the East Bay is provided by BART, AC Transit and ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries; and service to and from the Peninsula and South Bay is provided by SamTrans and BART, as well as by Caltrain, which can be reached by a connecting Muni line (and is within walking distance for many riders). There are several transit-only lanes (taxis may also use these lanes) in the Plan area, including on Mission Street west of Main/Beale Streets (depending on direction), from 7:00 a.m. to 6:00 p.m.; on First Street between Market and Howard Streets (all times); and on Fremont Street between Market and Mission Streets (all times).

Transit service that formerly served the Transbay Transit Terminal was relocated to the Temporary Transbay Terminal, on Howard Street between Beale and Main Streets, in late 2010. In general, the routes that formerly served the Transbay Transit Terminal will be relocated to the new Transbay Transit Center, currently under construction, when it opens in 2014.

Muni Service

Muni lines serving the Plan area include the six Muni Metro lines (J-Church, K-Ingleside/ T-Third Street,[157] L-Taraval, M-Oceanview, and N-Judah), all of which are accessible at the Montgomery and Embarcadero Stations on Market Street, the F-Market and Wharves historic streetcar line on the surface of Market Street, and bus lines 1-California (and 1AX and BX Expresses), 2-Clement, 3-Jackson, 5-Fulton, 6-Parnassus, 9-San Bruno, 10-Townsend, 12-Folsom/Pacific, 14-Mission (and 14 Limited and 14X Express), 21-Hayes, 30X-Marina Express, 31-Balboa (and 31-AX and BX Expresses), 38-Geary (and 38 Limited and 38AX and BX Expresses), 41-Union, 71-Haight/Noriega (and 71 Limited), and 108-Treasure Island, along with three routes offering express service to the Caltrain station at Fourth and King Streets and the 76-Marin Headlands (Sunday and holiday service only). Additional lines operate within a block of the Plan area, including the 8X, 8AX, and 8BX Expresses, 30-Stockton, 45-Union/Stockton, and 91-Owl (late night service only).

For analysis purposes, most Muni service into and out of downtown is grouped into one of four "screenlines" (Northeast, Northwest, Southeast, and Southwest) that transit vehicles cross when passing between downtown and a quadrant of the City. Each screenline is further divided into key corridors such as the Geary Corridor within the Northwest screenline and the Mission Corridor within the Southwest screenline, for which ridership and capacity are presented separately from other lines. Together, the lines included in the screenline analysis represent the primary commute lines into and out of the greater

[157] The K and T lines function as a single line; inbound K trains transition to outbound (to Visitacion Valley) T trains in the Market Street tunnel, while inbound (to downtown) T trains become outbound K trains in the tunnel.

Downtown area.[158] More than 20,000 riders travel on the screenline routes during both the morning and afternoon peak hours each day.

Under existing conditions, Muni service operates within Muni's acceptable standard of 85 percent capacity utilization (riders as a percentage of capacity) in the peak direction on all corridors within each screenline, with the exception of Muni Metro service at the Southwest screenline (just outbound of the Market Street station); Muni Metro service in the subway currently operates at 86 percent of capacity utilization in the morning peak hour, and 87 percent in the afternoon peak hour.[159] Ridership in the non-commute direction is considerably lower than that in peak direction, and Muni has substantial surplus capacity in non-commute service. Many trips on Market Street service do not affect screenline capacity as these trips do not pass through the maximum load point, but they can cause some degree of concentrated loading on transit vehicles before or after the maximum load point. Observations indicate that a sizable number of Market Street riders use surface transit along Market Street, as the aggregate frequency and convenience of surface lines is sufficient to preclude many riders from using Muni Metro for these short trips.

Regional Transit Service

Five principal regional transit providers serve San Francisco: BART from the East Bay and northern Peninsula; Caltrain and SamTrans from the Peninsula; AC Transit from the East Bay, and Golden Gate Transit (buses and ferries) from the North Bay. There are also three additional East Bay ferry providers—Vallejo Baylink, Alameda Harbor Bay Ferry, and Blue & Gold Fleet's Oakland/Alameda Ferry. Blue & Gold also serves Tiburon and Sausalito, although much of this service is to and from Fisherman's Wharf. All of these regional transit providers serve the Plan area or the immediate vicinity (the Ferry Building is six blocks from the Transit Center site), with the exception of Caltrain, whose station is at Fourth and King Streets, about one mile southwest of the Transit Center.

Regional transit operations are evaluated at three regional screenlines (East Bay, North Bay, and South Bay). Approximately 38,000 transit riders currently cross the three regional screenlines during the morning and afternoon peak hours, with about 59 percent crossing the East Bay screenline (88 percent of

---

158 The Northeast screenline (generally separating the greater downtown from North Beach, Russian Hill, and Polk Street) and includes the Kearny/Stockton corridor (Lines 30 and 45) and Other service (Lines F, 10, and 41). The Northwest screenline (essentially, Van Ness Avenue) includes the Geary corridor (38, 38L, 38AX and BX), the California corridor (1, 1AX and BX), the Sutter/Clement corridor (2, 3), the Fulton/Hayes corridor (5, 21), the Balboa corridor (31, 31AX and BX), and the Chestnut/Union corridor (30, 30X, 41, 45). The Southeast screenline (approximately Duboce Avenue and 18th Street)includes the Third Street corridor (T), the San Bruno/Bayshore corridor (8X, 8AX and BX, 9), and Other service (J, 12, 19). The Southwest screenline (Gough, Market, and Duboce) includes the Subway corridor (K, L, M, N), the Haight/Noriega corridor (6, 71, 71L, 16AX and BX [the latter two are outside the Plan area]), and Other service (F).

159 Capacity utilization based on aggregation of each line's "maximum load point," regardless of whether that maximum load occurs within the Plan area. Each vehicle's capacity includes seated passengers and a number of standing passengers that is between 30 and 80 percent of the seated capacity depending upon the specific transit vehicle. Maximum capacities, including both seated and standing passengers, are 45 passengers for the 30-foot bus, 63 passengers for a standard 40-foot diesel or electric (trolley) bus, 94 passengers for a 60-foot (articulated) bus, and 119 passengers for a Muni Metro rail car.

which are on BART), while about 35 percent cross the South Bay screenline (80 percent on BART). All regional transit providers currently operate at less than their capacity standard under existing conditions.[160]

As with Muni service, ridership on regional transit in non-commute directions during the peak hours is relatively low. Many of the regional operators, such as express buses operated AC Transit, SamTrans, and Golden Gate Transit, operate only in the peak direction, with no (or limited) service in the reverse direction due to limited demand. BART service in the non-commute direction operates at the same frequencies as in the commute direction, generally resulting in substantial excess capacity on counter-commute trains.

Pedestrian Conditions

All major streets in the Plan area have sidewalks and all major intersections have signalized crossings with marked crosswalks. Intersection corners in the Plan Area also have curb ramps, although some are not Americans with Disabilities Act (ADA) compliant and lack tactile warning systems such as the bumpy plastic tiles known as "truncated domes." Sidewalks in the Plan area generally range from 8 to 15 feet in width along most streets to 30 feet or more along Market Street. However, the effective width of each sidewalk is often less due to obstructions such as street trees, lamp posts, newspaper racks, and other objects. The effective width is increased in some locations by publicly accessible building setbacks.

Because of the high concentration of jobs and of transit service in the Plan area, there is generally a high level of pedestrian activity throughout the day, with peaks occurring in the morning and afternoon commute periods and the noon hour. At some locations, there is potential for pedestrian-vehicle conflicts, primarily on left- and right-turning movements at intersections. However, the effects of these pedestrian-vehicle conflicts are more apparent in the operations of the affected vehicular movements (which may see reduced capacity) as opposed to safety hazards to pedestrians. For example, the number of collisions involving pedestrian injury is generally lower at Plan area intersections than at many intersections farther west in the South of Market neighborhood and the Tenderloin.[161] The greatest number of pedestrian injury collisions in the Plan area occur along Fremont Street and on Market Street; the intersections of Market Street at Sixth Street and at Fifth Street, west of the Plan area, were two of the four intersections with the highest numbers of reported pedestrian injury collisions during the period 2007 – 2009.[162]

---

160 Capacity on BART is considered 1. 5 riders per seat (i.e., 50 percent standees), while for other operators, capacity is reached when all seats are occupied.

161 San Francisco Municipal Transportation Agency, *Eastern Neighborhoods Transportation Implementation Planning Study (EN TRIPS): Existing Conditions Report*, June 2010. Available at: http://www.sf-planning.org/ftp/files/Citywide/Eastern_Neighborhoods/SFMTA_EN_TRIPS_Existing_Conditions_REPORT_7_2_10.pdf.

162 San Francisco Municipal Transportation Agency, *San Francisco 2009 Collisions Report*, April 21, 2011; Figures 17; available at: https://sfmta.securesites.net/cms/vsafe/documents/Collision_report_2009.pdf. (Injury collision total for 1996 taken from MTA's *2005 Collision Report*.) A third nearby intersection, Sixth/Howard Streets, is also among the four with the highest number of pedestrian injury collisions.

Citywide, the number of pedestrian injury collisions citywide (including fatalities) has generally declined over the last 14 years, from 1,018 in 1996 to 695 in 2009.[163]

In terms of pedestrian activity, crosswalks in the Plan area generally operate at acceptable level-of-service conditions (i.e., are not overcrowded), although one or more crosswalks at New Montgomery/Mission Streets, Fremont/Mission Streets, and First/Mission Streets have sufficient activity that pedestrians may need to change speed and position to avoid conflicts with one another. Sidewalks in the Plan area generally operate without overcrowding, although the northeast corner of New Montgomery and Mission Streets and the northwest corner of Beale and Howard Streets were both observed to experience moderate pedestrian congestion in the midday period and, in the latter case, in the afternoon peak.

Bicycle Conditions

Bicycle routes with separate bike lanes (Class II route) are on The Embarcadero and King, Seventh, Eighth, Folsom, and Howard (west of Fremont) Streets. Class III routes, where bicycles share the roadway with vehicle traffic, exist on Second, Third, Fifth, Harrison, Division, Townsend, and Howard (east of Fremont) Streets. Also, Market Street, just north of East SoMa, is a major Class III bicycle route. Bicycle volumes in the East SoMa subarea in general were observed to be low to moderate. During field surveys, a substantial number of bicyclists were observed on Folsom Street (Route #30) and on Division Street (Route #36).

Bicycle commuting has been increasing in San Francisco. Between 2003 and 2009, the percentage of commuters traveling by bicycle increased from 1.9 percent to 3.2 percent, according to Census data; actual counts showed a 58 percent increase in the number of bicyclists observed at selected locations on San Francisco streets between 2006 and 2010.[164] As of 2007, the City currently ranked third among large U.S. cities, behind Portland and Minneapolis, in the percentage of commuters traveling to and from work by bicycle.[165]

Passenger and Freight Loading

On-street passenger (white) and freight (yellow) loading zones are distributed fairly evenly throughout the Plan area, albeit with a higher concentration, especially of yellow zones, closer to Market Street, where the concentration of larger office towers is much greater. More than half the blocks on major streets in the Plan area have one or more passenger loading zones, and virtually every block has at least one freight loading zone. In general, the passenger zones were observed to have relatively high turnover, due to limited time required to drop-off and pick-up passengers.

---

163 *Ibid.*

164 San Francisco Municipal Transportation Agency, *City of San Francisco 2010 Bicycle Count Report*, November 2010. Available on the internet at: http://128.121.89.101/cms/bhome/documents/City_of_San_Francisco_2010_Bicycle_Count_Report_edit12082010.pdf.

165 Alliance for Biking and Walking, *Bicycling and Walking in the United States: 2010 Benchmarking Report*, November 2010; pp. 32, 34. Available on the internet at: http://peoplepoweredmovement.org/site/images/uploads/2010%20Benchmarking%2011.20.10%20Web.pdf.

Freight loading zones were observed to be occupied between 50 percent and 75 percent of the time throughout the day, with periods of higher usage concentrated in the early mornings (primarily deliveries to restaurants and stores) and the midday period (primarily package and mail deliveries). Violations of the freight loading zones were routinely observed, including usage by non-delivery vehicles, such as passenger pick-ups/drop-offs and short-term parking. Such violations result in a shortage of available loading spaces in areas and during periods of high demand, which was observed to result in delivery vehicles double-parking in travel lanes, resulting in minor congestion. Delivery / service vehicles were also observed to stop at red zones (such as near intersections or fire hydrants) or at bus stops, affecting bus operations and resulting in additional delays at intersections. It should be noted that most large buildings in the Plan area provide off-street loading docks that can accommodate most of the daily delivery / service vehicle demands of each building. The demand for on-street loading zones tends to be from smaller buildings or uses that do not have off-street facilities, or by deliveries that only require a short stop (such as a package delivery).

Casual Carpools

"Casual carpools" are informal carpools formed when drivers and passengers meet at designated locations, primarily for trips between the East Bay and San Francisco. Passengers are typically dropped off in the Plan area, such as within the designated on-street "carpool" parking spaces along Howard Street, or via double-parking along Fremont Street, Howard Street, or Mission Street (many casual carpool drivers exit the Bay Bridge onto Fremont Street). An aggregate total of 550 feet of curb space is designated along both sides of Howard Street between Fremont and First Streets for carpool activities between 6:00 a.m. and 10:00 a.m. on weekdays. Observations of carpool drop-off activity on this section of Howard Street indicated that five to seven vehicles per signal cycle arrive at the designated drop-off zone, after making the northbound left turn from Fremont Street, typically occupying no more than half of the allotted curb space. Little double-parking was observed along this section of Howard Street and drop-off activity does not typically obstruct traffic on Howard Street.

In the evening, casual carpool pick-up spaces are designated on Beale Street between Howard and Folsom Streets between 3:30 p.m. and 7:00 p.m., occupying approximately 250 feet of curb space. Observations during the p.m. peak hour indicated that the designated curb space is generally sufficient to handle arrivals, although there is some queuing along streets as drivers wait for curb space to load passengers, as well as passenger queuing on sidewalks. Given that traffic volumes along this section of southbound Beale Street are low relative to the available lane capacity, traffic flow along southbound Beale Street is not substantially affected.

Parking

The parking study area encompasses an approximately one-block radius surrounding the Plan area and is generally bounded by Harrison, Third, Market, Montgomery and Pine Streets and the Embarcadero. Off-street parking was quantified, while on-street conditions were assessed qualitatively.

On-street parking is either metered (typically 15-minute or one-hour limit) or time-limited unmetered parking. On-street parking is prohibited on some streets during the morning and afternoon commute periods, including Mission, First, and Fremont Streets. No on-street parking is permitted on Market Street at any time. South of Mission Street, on-street parking is generally 80 percent or more occupied during the midday period, while occupancy reaches 85 percent closer to Market Street, and generally is close to 100 percent north of Market Street. There is a small area of residential permit parking ("Y" permit) in the Plan area on the block bounded by First, Second, Howard, and Folsom Streets.

There are approximately 60 off-street parking lots and garages in the parking survey area that provide publicly accessible parking. All Plan area facilities are privately operated; there are no City garages in the Plan area. Off-street parking was found to be used at approximately 85 percent of capacity in the midday period, and about 40 percent occupied in the evening, for those facilities operating after 7:00 p.m. Since the survey was conducted, approximately 10 parking lots and garages have closed due to construction of the Temporary Transbay Terminal and the start of work on the new Transit Center. This has resulted in elimination of some 1,800 spaces, or almost 15 percent of the previously available total of 13,500 spaces in the Plan area, and is presumed to have pushed midday occupancy to approximately 90 percent.

Impacts

Significance Criteria

The City has not formally adopted significance standards for impacts related to transportation and circulation, but generally considers that implementation of the project could have a potentially significant impact related to transportation and circulation if it were to:

- Conflict with an applicable plan, ordinance, or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including but not limited to level-of-service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses;
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities.

Due to the nature of the proposed project, there would be no impact related to the following topics for the reasons described below:

- *Change in air traffic patterns.* The Plan area is not near an airfield; San Francisco International Airport is about 12 miles to the south, and Metropolitan Oakland International Airport is about 11 miles to the southeast. These distances are outside of the limit for objects near airports in the guidance published by the Federal Aviation Administration (FAA).[166] Therefore, this criterion is not discussed further.

- *Substantially increase hazards due to a design feature or incompatible uses.* Neither development projects that would be permitted by the draft Plan nor the draft Plan's proposed public realm improvements would include design features that would be expected to result in particular safety hazards or introduce incompatible uses to the Plan area. On the contrary, many of the proposed public realm improvements would be anticipated to improve safety for pedestrians and bicyclists. Therefore, this criterion is not discussed further.

Below is a list of significance criteria used by the San Francisco Planning Department to assess whether a proposed project would result in significant impacts. These criteria are organized by mode to facilitate the transportation impact analysis; however, the transportation impact criteria are essentially the same as the ones presented above.

- The operational impact on signalized intersections is considered significant when project-generated traffic would cause the level of service (LOS) at a signalized intersection to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F as a result of the addition of project traffic; or, for an unsignalized intersection, cause the LOS at the worst-operating approach[167]to deteriorate from LOS D or better to LOS E or F (where Caltrans signal warrants would be met) or cause Caltrans signal warrants to be met when the worst approach is already operating at LOS E or LOS F.[168] The project may result in significant adverse impacts at intersections that operate at LOS E or F under baseline conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, the project would have a significant adverse impact if it would cause major traffic hazards or contribute considerably to cumulative traffic increases that would cause deterioration in levels of service to unacceptable levels;

- The operation impact on freeway ramps is considered significant when project-generated traffic would cause the level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. In addition, a project would have a significant effect if it would contribute substantially to ramp volumes already operating at LOS E or F;

- The project would have a significant effect if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service (measured by capacity utilization in excess of an operator's standard); or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result (measured by the need to add an additional transit vehicle, or, for routes with a headway [separation between buses] of 6 minutes or less, increase the round-trip travel time by half the headway or more, and for routes with a headway of greater than 6 minutes, increase the round-trip travel time by six minutes or more);

---

166 Tall buildings proposed in the Plan area, including the Transit Tower, would be required to be fitted with warning lights approved by the Federal Transportation Administration.

167 An "approach" to an intersection represents vehicles entering the intersection on one street from one direction.

168 The LOS analysis provides a standardized means of rating an intersection's operating characteristics on the basis of traffic volumes, intersection capacity, and delays. LOS A represents free-flow conditions, with little or no delay, while LOS F represents congested conditions, with extremely long delays; LOS D (moderately high delays) is considered the lowest acceptable level in San Francisco.

- The project would have a significant effect if it would cause a pedestrian facility to deteriorate from LOS D or better to LOS E or LOS F, or from LOS E to LOS F, or add substantially to pedestrian congestion where the facility operates at LOS E or LOS F under existing conditions; or result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas; or
- The project would have a significant effect if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas; or
- The project would have a significant effect if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, or pedestrians; or
- The project would have a significant effect if it would result in inadequate emergency access.

Parking supply is not considered to be a part of the permanent physical environment in San Francisco.[169] Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

As described above, neither the draft Plan nor the Transit Tower would result in a change in air traffic patterns, including obstructions to flight that results in substantial safety risks[170] or substantially increase hazards due to a design feature or incompatible uses. Therefore, these issues are not analyzed.

Plan Impacts

Travel Demand

The San Francisco County Transportation Authority (SFCTA) countywide travel demand forecasting model was used to develop the travel forecasts for development and growth through the year 2030 in the Plan area. Inputs to the SFCTA model are generated by the Planning Department from departmental growth forecasts; regional traffic growth is derived from forecasts by the Association of Bay Area Governments (ABAG). Additionally, trip generation for assumed development on potential individual project sites within the Plan area was calculated based on the Planning Department's *Transportation Impact Analysis Guidelines for Environmental* Review (2002), with trip generation rates modified by a Resident Travel Behavior Survey undertaken in 2008 in an and around the Plan area, as well as the SFCTA model and the Institute of Transportation Engineers *Trip Generation* manual to account for linked trips between different uses and for area-specific conditions. This approach results in an impacts

169 Under California Public Resources Code (CEQA) Section 21060.5, "environment" can be defined as "the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise and objects of historic or aesthetic significance." In 2010, the state CEQA Guidelines were amended to remove parking impacts from consideration in Appendix G, the environmental checklist.

170 Tall buildings proposed in the Plan area, including the Transit Tower, would be required to be fitted with warning lights approved by the Federal Transportation Administration.

assessment for year 2030 conditions that takes into account both the future development expected in the Plan and the expected growth in housing and employment for the remainder of San Francisco and the nine-county Bay Area. This is the common and generally accepted approach to transportation analysis in San Francisco, and is similar to that used in other communities, although San Francisco is unique in being a City and County, and therefore having a transportation model that serves only a single city.

The transportation analysis calculated service levels and capacity utilization for existing conditions to serve as a basis for assessing impacts. Travel demand was estimated for the following three land use scenarios:

- **2030 Without Project**—Assumes future development and growth consistent with the forecasts by ABAG for San Francisco and the Bay Area, but without any changes to uses on the development sites in the Plan area that are assumed to be improved under the Plan scenario, as described in the Analysis Assumptions set forth at the start of Chapter IV (p. 72). This scenario assumes approval and completion of several projects east and south of the Plan area, including the Museum of Modern Art expansion, a residential tower and the Mexican Museum project at Third and Mission Streets, expansion of Moscone Convention Center and associated mixed-use development at Third and Folsom Streets, and three mixed use projects, at Second and Harrison Streets, Fourth and Harrison Streets, and Fifth and Mission Streets. In addition, the 2030 Without-Project Scenario includes a number of modifications to the Plan area roadway network that are considered reasonably foreseeable. These include implementation of Bicycle Plan projects on Second and Howard Streets; two-way traffic on Folsom Street east of Fremont Street and on Spear Street south of Folsom Street (consistent with the Rincon Hill Plan); Muni service changes consistent with the Transit Effectiveness Project; operation of the Central Subway Muni Metro extension that is now under construction; and implementation of certain streetscape improvements in Zone 1 of the Transbay Redevelopment Area, including reconfiguration of the I-80 off-ramp at Fremont and Folsom Streets. Also assumed is extension of Caltrain to the new Transit Center now under construction and expanded ferry service on San Francisco Bay.

- **2030 With Plan Area Growth**—This scenario includes the foregoing plus the incremental additional development associated with the 17 individual "soft" sites in the Plan area that could occur under the rezoning, including increased heights, proposed under the draft Plan. This scenario also includes development of the Transit Tower.

- **2030 With Plan Area Growth and Public Realm Improvements**—This scenario adds to the above the effects of changes to the street network that are proposed as part of the draft Plan. These changes are described in Chapter II, Project Description (p. 27) and depicted graphically in **Appendix C**. This scenario includes all reasonably foreseeable growth and street network changes that could affect the Plan area and vicinity.

No separate cumulative model run was undertaken, because, as noted, the 2030 forecasts developed by the Planning Department include growth in the remainder of San Francisco, as well as in the rest of the Bay Area. Thus, the Plan analysis takes into account the cumulative growth scenario for the year 2030, including non-project-generated growth accounted for in the 2030 Without-Project scenario, as well as growth from development that would occur with implementation of the draft Plan. Growth resulting from the draft Plan itself is the increment between the 2030 Without-Project condition and the 2030 with Plan Area Growth scenario, while the overall impact of the draft Plan, including the proposed public

realm improvements, is the Plan's increment of the change between Existing conditions and the 2030 With Plan Area Growth and Public Realm Improvements scenario. The draft Plan's contribution to cumulative impacts is, therefore, the same increment, taken as a fraction of the overall change between Existing Conditions and the 2030 With Plan Area Growth and Public Realm Improvements scenario.

No direct comparison is made between the draft Plan and Existing Conditions, because it is not considered reasonably foreseeable that the full series of changes that would occur under Plan implementation—including both all the potential Plan area growth and all of the public realm improvements—would occur immediately, without other non-Plan-area projects and background growth in San Francisco also having taken place. That is, the draft Plan is a plan for long-term incremental change involving more than a dozen potential development sites across the Plan area, many of which have no proposed projects on file at this time, over the course of 20 years or more, during which time it must be assumed that other growth is also occurring throughout the City and the region. Therefore, the analysis evaluates the change from the 2030 Without-Project scenario to the 2030 plus Plan condition, as well as the change from Existing conditions to 2030 plus Plan conditions, which includes other growth not attributable to the draft Plan. In this way, the analysis captures both the total change from existing to future transportation operations, as well as the specific increment of Plan-attributable growth. As stated, a portion of the change between existing conditions and 2030 with-Plan conditions constitutes the Plan's contribution to cumulative impacts, and is reported as such. In this way, the analysis captures, analyzes, and identifies impacts resulting from both the Plan's distinct increment of growth and the Plan's contribution to cumulative growth.

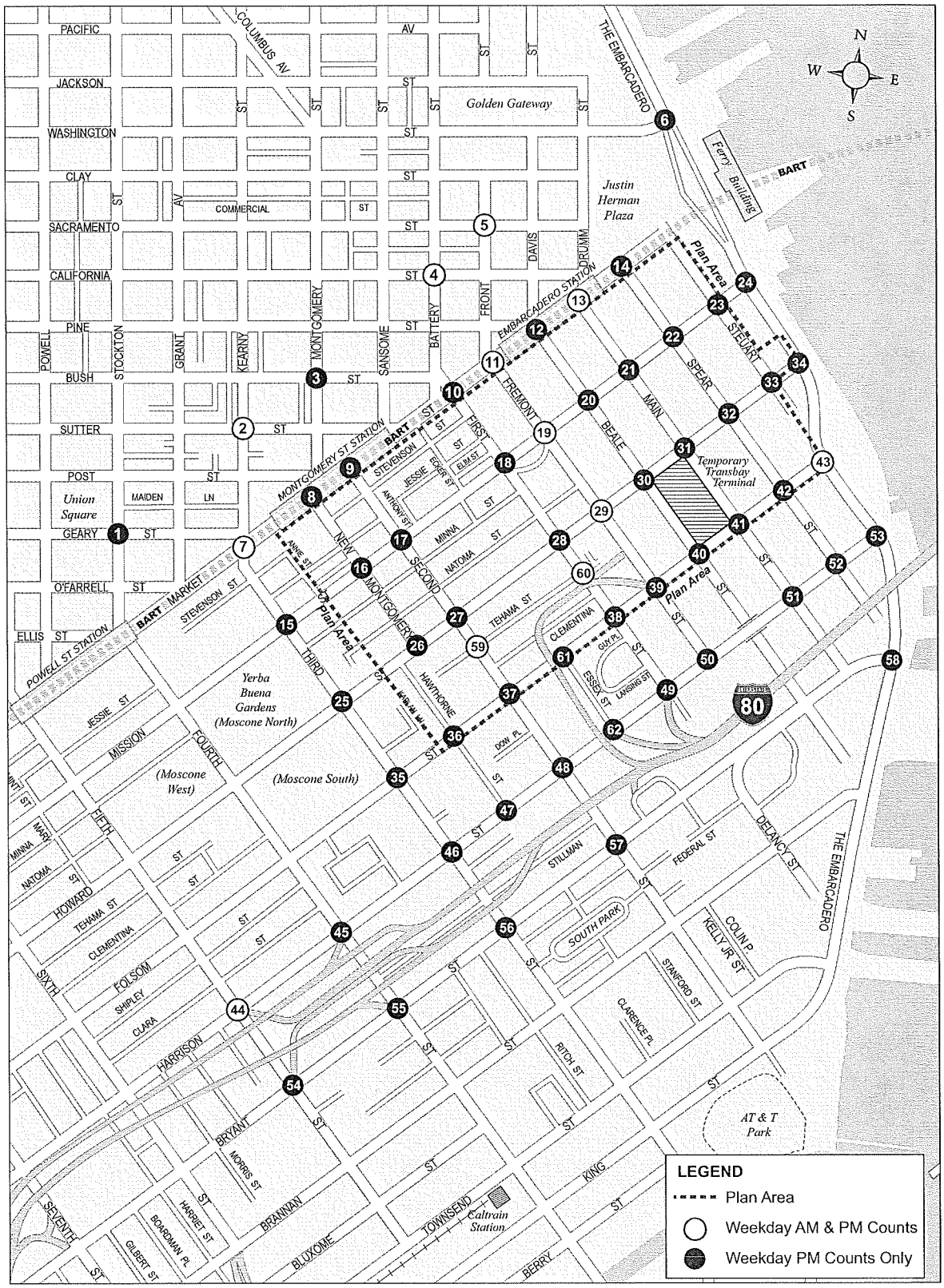
The project-level analysis of the proposed Transit Tower compares that proposed project to existing conditions and also analyzes cumulative conditions, because it is reasonably foreseeable that the Transit Tower may be constructed in the near future, and because such analysis is standard practice in San Francisco for analysis of transportation impacts of a specific building project.

Impacts on Intersection Levels of Service

Impact TR-1: Traffic growth related to the draft Plan, including the street changes, would adversely affect local intersection operation, and therefore would conflict with established measures of effectiveness for the performance of the circulation system. (Significant and Unavoidable with Mitigation)

The traffic analysis evaluated weekday p.m. peak-hour levels of service at 62 intersections in and near the Plan area. Twelve intersections were also evaluated in the a.m. peak hour. Study intersections are shown in **Figure 54**.

Under existing conditions, 47 of the 62 study intersections (see **Tables 17 and 18**, pp. 286 and 287) operate at an acceptable level of service (LOS D or better) during the afternoon (p.m.) peak hour; the 15 intersections operating at unacceptable LOS E or F conditions are primarily those leading to freeway on-ramps (First Street intersections from Market to Harrison Street; Harrison Street intersections at Main,



Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

SOURCE: AECOM

Figure 54
Study Intersections

TABLE 17
INTERSECTION LEVEL OF SERVICE – A.M. PEAK HOUR

Intersection	Existing		2030 w/o Project		2030 + Plan Growth		Growth+Public Realm	
	LOS [1]	Delay [2]	LOS [1]	Delay [2]	LOS [1]	Delay [2]	LOS [1]	Delay [2]
Kearny / Sutter	C	27.1	D	35.3	D	36.9	D	36.5
Battery / California	B	19.6	C	33.2	E	61.9	E	61.9
Front / Sacramento	B	17.5	B	16.8	B	16.8	B	18.1
Third / Kearny / Market / Geary	D	35.4	**F**	**>80.0 (0.93)**	F	>80.0 (0.97)	F	>80.0 (0.96)
Fremont / Market / Front	C	24.3	C	23.7	C	29.9	F	>80.0 (1.05)
Main / Market / Drumm	C	21.2	C	22.5	C	22.6	C	26.4
Fremont / Mission	D	36.1	**F**	**>80.0 (1.14)**	F	>80.0 (1.23)	F	>80.0 (1.26)
Fremont / Howard	D	37.9	**E**	**>75.0 (1.08)**	F	>80.0 (1.31)	F	>80.0 (1.76)
Embarcadero / Folsom	D	36.4	**F**	**>80.0 (0.77)**	**F**	**>80.0 (0.77)**	F	>80.0 (0.83)
Fifth / Harrison / I-80 WB Off	C	23.6	C	29.1	C	29.1	C	29.8
Second / Tehama	C	17.5	B	13.4	F	>50.0)	F	>50.0)
First / Tehama	B	12.4	B	14.4	C	17.6	B	13.4

[1] Intersections at LOS E or LOS F are **bolded;** solid box indicates significant project or project & cumulative impact; dashed box indicates significant cumulative impact.
[2] Delay in seconds per vehicle. Where delay exceeds 80 seconds (50 seconds for unsignalized intersection), volume-to-capacity ratio indicated in parentheses.

Source: AECOM, 2011.

First, Second, Essex, and Fourth Streets; Bryant Street at Second, Fourth, and Fifth Streets; and New Montgomery at Howard Streets), along with the intersections of Kearny/Market/Third/ Geary Streets and Beale and Howard Streets. All 12 intersections analyzed in the morning (a.m.) peak hour operate at an acceptable LOS.

2030 Without-Project Scenario

Under 2030 Without-Project conditions, 44 of the 62 intersections would operate at LOS E or LOS F in the p.m. peak hour, compared with 15 at unacceptable LOS under existing conditions (see Tables 17 and 18). In general, the poor operating conditions would occur along the primary access routes to the I-80/U.S. 101 freeway on-ramps. In the a.m. peak hour, four intersections would operate at LOS E or F, whereas all 12 intersections are at acceptable LOS under existing conditions.

Proposed Plan

With the addition of Plan-related growth only (no street changes), 49 of 62 intersections would operate at LOS E or F in the p.m. peak hour, and six of 12 would be at LOS E or F in the a.m. peak hour. Traffic from assumed Plan-related growth would result in a significant impact, either individually (by degrading LOS) or cumulatively (by making a considerable contribution to already degraded operations) at 33 of 62 intersections in the p.m. peak hour, and at five of 12 intersections in the a.m. peak hour. They are identified in Tables 17 and 18 by boxes around the level of service, delay, and volume-to-capacity ratios.

No mitigation for this significant impact is feasible at the vast majority of intersections, because it is generally not possible to expand vehicular travel capacity at intersections in and near the Plan area (i.e., all available right-of-way is already used for vehicle traffic) and other potential mitigation approaches, such as signal retiming, restriping, provision of right-turn pockets, or prohibition of left/right turns, cannot generally offer sufficient improvement in vehicle LOS to avoid significant impacts, where traffic volumes would exceed intersection capacity by as great a margin as would be the case for most of the study intersections. Additionally, measures that would affect the signal timing or require changes to intersection geometry could require comprehensive review by the Municipal Transportation Agency of

TABLE 18
INTERSECTION LEVEL OF SERVICE – P.M. PEAK HOUR

Intersection	Existing		2030 w/o Project		2030 + Plan Growth		Growth+Public Realm	
	LOS [1]	Delay [2]	LOS [1]	Delay [2]	LOS [1]	Delay [2]	LOS [1]	Delay [2]
Stockton / Geary	D	37.7	**F**	**>80.0 (1.09)**	F	>80.0 (1.11)	F	>80.0 (1.10)
Kearny / Sutter	C	26.5	**F**	**>80.0 (1.05)**	F	>80.0 (1.08)	F	>80.0 (1.05)
Montgomery / Bush	D	36.9	D	48.2	D	52.4	D	52.4
Battery / California	C	32.1	D	54.4	E	65.1	E	65.0
Front / Sacramento	B	13.7	B	14.7	B	14.9	B	15.0
Embarcadero / Washington	D	38.2	**F**	**>80.0 (0.65)**	F	>80.0 (0.67)	**F**	**>80.0 (0.65)**
Third / Kearny / Market / Geary	**E**	**57.6**	**F**	**>80.0 (0.95)**	F	>80.0 (1.00)	**F**	**>80.0 (0.99)**
Montg'y. / Market / N. Montg'y.	D	41.3	**E**	**61.3**	E	68.9	E	66.2
Second / Market	C	21.7	B	18.5	C	20.6	B	19.1
First / Market	**E**	**72.7**	**F**	**>80.0 (1.36)**	F	>80.0 (1.44)	F	>80.0 (1.42)
Fremont / Market / Front	B	19.1	C	30.5	E	67.3	F	>80.0 (1.20)
Beale / Market / Davis / Pine	C	31.6	**E**	**60.4**	**E**	**60.3**	F	>80.0 (1.13)
Main / Market / Drumm	C	21.7	C	23.0	C	23.2	C	26.9
Spear / Market	B	12.5	B	10.6	B	12.4	B	13.1
Third / Mission	C	22.8	**F**	**>80.0 (1.76)**	F	>80.0 (2.14)	F	>80.0 (1.42)
New Montgomery / Mission	B	17.0	C	31.4	E	56.7	F	>80.0 (1.16)
Second / Mission	C	22.5	B	15.9	C	21.6	E	60.2
First / Mission	**E**	**57.2**	**F**	**>80.0 (1.32)**	F	>80.0 (1.69)	F	>80.0 (3.09)
Fremont / Mission	C	24.8	**E**	**65.5**	F	>80.0 (1.20)	F	>80.0 (1.42)
Beale / Mission	D	35.2	**F**	**>80.0 (0.79)**	F	>80.0 (0.88)	F	>80.0 (1.02)
Main / Mission	B	15.0	B	16.5	B	17.1	C	23.3
Spear / Mission	D	39.9	D	41.5	F	>80.0 (1.40)	D	40.8
Steuart / Mission	B	17.4	B	18.0	C	25.1	C	24.5
Embarcadero / Mission	D	42.1	**F**	**>80.0 (1.25)**	**F**	**>80.0 (1.30)**	**F**	**>80.0 (1.26)**
Third / Howard	D	36.1	**F**	**>80.0 (1.29)**	F	>80.0 (1.50)	F	>80.0 (1.63)
New Montgomery / Howard	**E**	**59.4**	**F**	**>80.0 (1.29)**	F	>80.0 (1.57)	F	>80.0 (2.37)
Second / Howard	B	12.3	B	13.2	C	23.6	F	>80.0 (1.62)
First / Howard	**E**	**74.3**	**F**	**>80.0 (1.27)**	F	>80.0 (2.36)	F	>80.0 (2.31)
Fremont / Howard	D	48.6	**E**	**60.9**	F	>80.0 (1.16)	F	>80.0 (1.49)
Beale / Howard	**E**	**76.2**	**F**	**>80.0 (1.20)**	F	>80.0 (1.29)	F	>80.0 (1.62)
Main / Howard	C	32.2	**E**	**65.9**	**E**	**74.0**	F	>80.0 (2.31)
Spear / Howard	C	23.1	D	49.0	D	48.9	F	>80.0 (1.29)
Steuart / Howard	C	23.1	D	38.5	D	39.0	E	67.7
Embarcadero / Howard	D	44.2	**F**	**>80.0 (0.90)**	**F**	**>80.0 (0.91)**	**F**	**>80.0 (0.90)**
Third / Folsom	D	35.2	**F**	**>80.0 (1.42)**	F	>80.0 (1.47)	F	>80.0 (1.34)
Hawthorne / Folsom	D	35.6	**F**	**>80.0 (1.12)**	F	>80.0 (1.19)	F	>80.0 (1.32)
Second / Folsom	D	49.8	**F**	**>80.0 (1.28)**	F	>80.0 (1.93)	F	>80.0 (2.14)
First / Folsom	**E**	**70.1**	**F**	**>80.0 (1.09)**	F	>80.0 (1.31)	F	>80.0 (1.62)
Fremont / Folsom / I-80 WB Off	C	25.9	C	21.4	D	47.5	C	31.7
Beale / Folsom	C	32.8	**F**	**>80.0 (1.23)**	F	>80.0 (1.29)	F	>80.0 (1.30)
Main / Folsom	C	20.1	**F**	**>80.0 (1.24)**	**F**	**>80.0 (1.25)**	**F**	**>80.0 (1.13)**
Spear / Folsom	C	31.7	**F**	**>80.0 (1.39)**	F	>80.0 (1.46)	F	>80.0 (2.52)
Embarcadero / Folsom	D	45.5	**F**	**>80.0 (1.01)**	**F**	**>80.0 (1.02)**	F	>80.0 (0.92)
Fifth / Harrison / I-80 WB Off	D	52.0	**F**	**>80.0 (0.89)**	**F**	**>80.0 (0.91)**	**F**	**>80.0 (0.91)**
Fourth / Harrison / I-80 WB On	**E**	**66.3**	**F**	**>80.0 (1.152)**	F	>80.0 (1.27)	F	>80.0 (1.27)
Third / Harrison	D	37.1	**F**	**>80.0 (1.36)**	F	>80.0 (1.48)	F	>80.0 (1.48)
Hawthorne / Harrison	D	39.4	**F**	**>80.0 (1.21)**	F	>80.0 (1.39)	F	>80.0 (1.39)
Second / Harrison	**E**	**55.9**	**F**	**>80.0 (1.44)**	F	>80.0 (1.50)	F	>80.0 (1.49)
First / Harrison / I-80 EB On	**F**	**>80.0 (1.36)**	**F**	**>80.0 (1.36)**	F	>80.0 (1.50)	F	>80.0 (1.48)
Fremont / Harrison	C	29.9	**E**	**69.6**	**E**	**69.4**	C	27.6
Main / Harrison	**E**	**57.0**	**E**	**77.8**	**E**	**78.0**	D	48.2
Spear / Harrison	D	47.0	**E**	**55.8**	**E**	**55.7**	C	21.3
Embarcadero / Harrison	D	45.4	**F**	**>80.0 (1.19)**	**F**	**>80.0 (1.19)**	**F**	**>80.0 (1.09)**
Fifth / Bryant / I-80 EB On	**E**	**72.3**	**F**	**>80.0 (1.45)**	**F**	**>80.0 (1.46)**	**F**	**>80.0 (1.46)**
Fourth / Bryant / I-80 EB Off	**F**	**>80.0 (0.74)**	**F**	**>80.0 (0.92)**	**F**	**>80.0 (0.94)**	**F**	**>80.0 (1.25)**
Third / Bryant	D	41.2	**F**	**>80.0 (1.29)**	F	>80.0 (1.36)	F	>80.0 (1.36)
Second / Bryant	**E**	**56.6**	**E**	**72.8**	F	>80.0 (1.14)	F	>80.0 (1.16)
Embarcadero / Bryant	D	42.8	**F**	**>80.0 (0.94)**	**F**	**>80.0 (0.94)**	**F**	**>80.0 (0.94)**
Second / Tehama	C	15.3	B	**13.1**	F	>50.0	F	>50.0
First / Tehama	B	11.7	B	12.4	C	16.0	B	12.7
Essex / Folsom	--	--	**F**	**>80.0 (1.17)**	**F**	**>80.0 (1.19)**	**F**	**>80.0 (1.38)**
Essex / Harrison / I-80 EB On	**F**	**>80.0 (1.24)**	**F**	**>80.0 (1.50)**	F	>80.0 (1.52)	F	>80.0 (1.58)

[1] Intersections at LOS E or LOS F are **bolded;** solid box indicates significant project or project & cumulative impact; dashed box indicates significant cumulative impact.
[2] Delay in seconds per vehicle. Where delay exceeds 80 seconds (signalized intersections only), volume-to-capacity ratio indicated in parentheses.
Source: AECOM, 2011.

the entire Plan area network and beyond. As such, implementation of such measures is uncertain. Moreover, in light of the City's Transit First Policy and planning efforts to improve conditions for pedestrian, bicycle, and other non-vehicle modes of travel—including such efforts that are integral to the draft Plan itself—mitigating traffic impacts would often result in degrading conditions for other modes of travel. Therefore, this traffic impact is considered **significant and unavoidable**.

With the street configuration changes in the draft Plan's public realm plan added to the effects of assumed growth, 49 intersections would operate at LOS E or F in the p.m. peak hour, and seven would do so in the a.m. peak hour; most would be the same intersections that would operate at unacceptable levels of service as a result of Plan area growth. Redistribution of traffic from the public realm changes in addition to assumed Plan-related growth would result in a significant impact, either individually (by degrading LOS) or cumulatively (by making a considerable contribution to already degraded operations) at 38 of 62 intersections in the p.m. peak hour (compared to 33 intersections without the public realm plan), and at seven of 12 intersections in the a.m. peak hour (compared to five intersections without the public realm).

As with the Plan growth only scenario, no mitigation for this significant impact is feasible at the vast majority of intersections, because of a lack of available space to expand capacity and/or the insufficiency of other potential mitigation strategies such as signal timing changes or turn prohibitions. Moreover, because the public realm improvements under the draft Plan are explicitly intended to improve pedestrian and bicycle mobility, mitigating traffic impacts that would result in degrading conditions for other non-vehicular modes of travel would be contrary to this stated policy approach under the draft Plan. Therefore, this traffic impact is considered **significant and unavoidable**.

Although the number of intersections operating at unacceptable levels of service would be similar with Plan-related growth only and with assumed growth plus the street network changes, the public realm improvements would alter some of the locations of poor operations by improving vehicular LOS at some intersections and degrading LOS elsewhere. Where improvements in intersection LOS would occur, they would primarily be the result of anticipated redistribution in traffic due to the introduction of two-way traffic on blocks of Howard and Folsom Street that are currently one-way. **Table 19** compares intersection operating conditions for those intersections at which LOS would be acceptable under one Plan-related scenario and unacceptable under the other, as well as those intersections at which operations would change from LOS E to LOS F between scenarios.

In addition to the above, five of the mid-block signalized pedestrian crossings proposed as part of the public realm improvements would result in adverse traffic impacts: Second and Natoma Streets, First and Minna Streets, First and Natoma Streets, Fremont and Natoma Streets, and Fremont Street at the Transit Center Bus Plaza, between Minna and Natoma Streets (these latter signals are discussed in more detail below). No mitigation would be available for these impacts, short of not installing the new signals, and therefore the impacts are considered **significant and unavoidable**.

TABLE 19
INTERSECTIONS AT WHICH PUBLIC REALM IMPROVEMENTS RESULT IN CHANGED LOS

Intersection	2030 with Plan Growth		2030 Plan Growth plus Public Realm	
	LOS [1]	Delay [2]	LOS [1]	Delay [2]
A.M. Peak Hour				
Fremont / Market / Front	C	29.9	**F**	**80.0 (1.05)**
P.M. Peak Hour				
Second / Market	C	20.6	B	19.1
Fremont / Market / Front	**E**	**67.3**	**F**	**>80.0 (1.20)**
Beale / Market / Davis / Pine	**E**	**60.3**	**F**	**>80.0 (1.13)**
New Montgomery / Mission	**E**	56.7	**F**	**>80.0 (1.16)**
Second / Mission	C	21.6	**E**	**60.2**
Main/Mission	B	17.1	C	23.3
Spear / Mission	**F**	**>80.0 (1.40)**	D	40.8
Second / Howard	C	23.6	**F**	**>80.0 (1.62)**
Main / Howard	**E**	**74.0**	**F**	**>80.0 (2.31)**
Spear / Howard	D	48.9	**F**	**>80.0 (1.29)**
Steuart / Howard	D	39.0	**E**	**67.7**
Fremont / Folsom / I-80 WB Off	D	47.5	C	31.7
Fremont / Harrison	**E**	**69.4**	C	27.6
Main / Harrison	**E**	**78.0**	D	48.2
Spear / Harrison	**E**	**55.7**	C	21.3
First / Tehama	C	16.0	B	12.7

[1] Intersections operating at LOS E or LOS F conditions highlighted in **bold**.
[2] Delay in seconds per vehicle. Where delay exceeds 80 seconds, volume-to-capacity ratio indicated in parentheses.

Source: AECOM, 2011.

As described in Chapter II, Project Description, the draft Plan's public realm plan includes establishment of two new signalized locations for pedestrian crossings and for facilitating buses exiting the future Transit Center ground-level bus plaza, located on the east side of Fremont Street to the north of Natoma Street. (The bus plaza, part of the Transit Center now under construction, would have four bays for Muni buses and one bay for Golden Gate Transit buses.)

These two mid-block signals would be coordinated, operating as a single signal, with three separate signal phases: the first for northbound traffic on Fremont Street (and pedestrian traffic along Fremont Street crossing Natoma Street and the bus plaza), the second for the southern three bus bays (and pedestrian traffic crossing Fremont Street at Natoma Street), and the third for the northern two bus bays (and pedestrian traffic crossing Fremont Street at the Bus Plaza). This signal, in combination with the removal of one travel lane and conversion of another travel lane into a transit-only lane as also proposed, would reduce the capacity of Fremont Street between Howard Street and Mission Street. A microsimulation analysis revealed that delays would occur at the new signal, resulting in LOS F conditions on northbound Fremont Street and generating a queue of vehicles stretching back up onto the Bay Bridge off-ramp during the weekday a.m. peak period, when traffic along Fremont Street reaches its peak. During the weekday p.m. peak period, traffic volumes along Fremont Street are lower and could be accommodated with acceptable LOS and no significant queuing. This would be a **significant and**

unavoidable impact to which Plan-generated traffic and the draft Plan's public realm improvements would contribute.[171]

Street Changes due to Proposed Public Realm Improvements

Extension of two-way Howard Street from Fremont Street to New Montgomery Street would cause a substantial increase in delays on westbound approaches at intersections along Howard Street, especially at the intersection of First and Howard Streets (see Table 18), at which the new eastbound approach would conflict with the traffic headed to the Bay Bridge via First Street. In addition, the westbound approaches could experience additional congestion as vehicles attempting to make left turns—such as from Howard Street to First Street to access the Bay Bridge—restrict through capacity along an already constrained westbound Howard Street resulting from the loss of some westbound capacity to the addition of an eastbound traffic lane.

Extension of two-way Folsom Street from Fremont Street to Second Street would result in degraded intersection levels of service along Folsom Street (see Table 18) with the reduction in through capacity in the eastbound direction.

Elimination of one southbound travel lane on Spear Street would not substantially worsen traffic conditions, although the required changes to the signals and additional conflicts would cause delays to increase, such as on the southbound approach at Spear and Howard Streets (see Table 18).

Lane reductions along Fremont Street and Beale Street, both key arterials for Bay Bridge traffic, would exacerbate conditions at intersections that already operate at unacceptable level of service at intersections on these streets (see Table 18). Main Street, however, would continue to operate at acceptable LOS even with the removal of one travel lane.

The removal of one northbound travel lane along Fremont Street between the I-80 Westbound Off-Ramp and Market Street would substantially increase delays along northbound Fremont Street, a major artery for traffic arriving into downtown San Francisco from the Bay Bridge (see Table 18). There would be heavy congestion on the northbound approaches at Howard Street, Mission Street, and Market Street, exacerbated by high volumes of pedestrians crossing north-south across side streets. As a result, some vehicles may shift to Main Street, which would generally operate with much less congestion.

The removal of one southbound travel lane along Beale Street between Market and Mission Street would increase delays along southbound Beale Street, which serves as an access route for Bay Bridge traffic during the weekday p.m. peak period. In particular, there would be substantial degradation in LOS on the southbound approaches at Market / Pine Streets and Mission Street, and some vehicles may shift to

---

171 A two-phase signal would avoid the significant impact but would not provide for adequate safety, as discussed under Mitigation Measures.

parallel streets such as Spear Street or already-congested streets such as First Street and the Embarcadero (see Table 18).

The removal of one northbound travel lane along Main Street between Howard Street and Market Street would not result in substantial degradation to LOS along northbound Main Street at Mission Street or Market Street, although the intersections of Main and Howard Streets and Main and Folsom Streets, when considering side-street approaches, would continue to operate at unacceptable conditions. In particular, the intersection of Main and Howard Streets would degrade from LOS E to LOS F (see Table 18). However, the northbound approaches at Main Street intersections would continue to operate under acceptable conditions with the removal of one travel lane.

No significant impacts were identified for other aspects of the draft Plan's public realm plan not otherwise identified, including closure of Shaw Alley, conversion of operations on Minna and Natoma Streets, extension of Tehama and Clementina Streets, new bulb-outs, median transit islands, and alterations to casual carpool zones.

As described further under Impact TR-7, below, implementation of the draft Plan would result in a shortfall of on-street freight loading spaces, which could further increase congestion on Plan area streets. This impact would be considered **significant and unavoidable**.

Mitigation Measures

Where mitigation would be different for the overall draft Plan (Plan growth plus the public realm improvements) than for Plan growth only, the discussion below focuses on mitigation for effects of the overall draft Plan, to ensure that the proposed project's full impact is mitigated, where feasible.

M-TR-1a **Signal Timing Optimization:** The Municipal Transportation Agency (MTA) could optimize signal timing at the following intersections to reduce impacts on intersection LOS to a less-than-significant level, by either improving conditions to LOS D or better or by avoiding the draft Plan's contribution to increased vehicle delay (mitigated LOS in parentheses):

- Stockton / Geary Streets (LOS F, p.m.)
- Kearny / Sutter Streets (LOS F, p.m.)
- Battery and California Streets (LOS D, a.m. and p.m.)
- Embarcadero / Washington Streets (LOS F, p.m.)
- Third / Folsom Streets (LOS F, p.m. peak)
- Beale / Folsom Streets (LOS F, p.m. peak)
- Embarcadero / Folsom Streets (LOS F, a.m. and p.m. peak)

Significance after Mitigation: Altering signal timing to change the amount of green-light time at the aforementioned intersections would either improve level of service to LOS D or better or, where the intersection would still operate at an unacceptable LOS E or F, avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate

signal progression (timing of related traffic signals) and pedestrian crossing time requirement prior to changing signal timing, impacts at these intersections would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1b **Taxi Left-Turn Prohibition:** At the intersection of Third /Mission Streets, the Municipal Transportation Agency (MTA) could expand existing prohibitions on peak-hour left turn to include taxis, thereby permitting only buses to make left turns.

Significance after Mitigation: Prohibiting eastbound left turns by taxis would either improve LOS or avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1c **Beale / Mission Streets Bulbs and Optimization:** At the intersection of Beale and Mission Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the north and south crosswalks to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the less-congested eastbound / westbound Mission Street approaches to the southbound Beale Street approach.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA and DPW would have to further evaluate signal progression, pedestrian crossing time, and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1d **Steuart / Howard Streets Restriping:** At the intersection of Steuart and Howard Streets, the Municipal Transportation Agency (MTA) could remove two on-street parking spaces on the south side of Howard Street immediately west of the intersection and stripe the eastbound approach as one through lane and one shared through-right lane. The proposed design for eastbound Howard Street after extension of the westbound Howard Street bicycle lane to The Embarcadero calls for one wide curb lane and one parking lane, but a second eastbound travel lane at the intersection could be provided by removing up to two on-street parking spaces.

Significance after Mitigation: Implementation of this measure would improve conditions at Steuart / Howard Streets to LOS D, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1e **Beale / Folsom Streets Left-Turn Prohibition and Signal Optimization:** At the intersection of Beale and Folsom Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound right turns from Folsom Street in the p.m. peak hour and optimize the signal timing by reallocating green time from the eastbound / westbound Folsom Street approaches to the northbound / southbound Beale Street approaches.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate signal progression, pedestrian crossing time requirements, and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1f **Third / Harrison Streets Restriping:** At the intersection of Third and Harrison Streets, the Municipal Transportation Agency (MTA) could convert one of the two eastbound lanes leaving the intersection into an additional westbound through lane by restriping the east (Harrison Street) leg of the intersection. In order to allow sufficient turning radius and clearance for heavy vehicles such as buses and trucks, two on-street parking spaces on the south side of Harrison Street east of the intersection would be removed.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate intersection lane geometry and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1g **Hawthorne / Harrison Streets Restriping:** At the intersection of Hawthorne and Harrison Streets, the Municipal Transportation Agency (MTA) could stripe an additional westbound through lane approaching the intersection by converting one of the two eastbound lanes.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate intersection lane geometry and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1h **Second / Harrison Streets Turn Prohibition and Optimization:** At the intersection of Second and Harrison Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound left turns during the p.m. peak hour.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate

signal progression, pedestrian crossing time requirements, area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1i **Third / Bryant Streets Bulbs and Optimization:** At the intersection of Third and Bryant Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the south crosswalk to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the eastbound Bryant Street approach to the northbound Third Street approach.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate signal progression, pedestrian crossing time requirements, and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1j **Second / Bryant Streets Bulbs and Optimization:** At the intersection of Second and Bryant Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the east and west crosswalks to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the northbound / southbound Second Street approaches to the eastbound Bryant Street approach.

Significance after Mitigation: Implementation of this measure would avoid the draft Plan's contribution to increased vehicle delay, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate signal progression, pedestrian crossing time requirements, and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1k **Second / Tehama Streets Restriping and Optimization:** At the intersection of Second and Tehama Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound and westbound left turns (from Tehama Street) during the a.m. and p.m. peak hours.

Significance after Mitigation: Implementation of this measure would improve operations to LOS D, thereby reducing impacts to a less than significant level. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate signal progression, pedestrian crossing time requirements, and area-wide traffic circulation and volumes, the impacts at this intersection would remain **significant and unavoidable**, due to the uncertainty of implementing this measure.

M-TR-1l **Mid-Block Signalized Intersection Improvements:** At the signalized intersections proposed in the public realm plan at Second / Natoma Streets; First / Minna Streets; First / Natoma Streets; Fremont / Tehama Streets; and Fremont Street / Transit Center Bus Plaza, the following improvements could improve traffic operations:

- At Second / Natoma Streets, the Municipal Transportation Agency (MTA) could install bulb-outs on the north and south crosswalks to reduce pedestrian crossing distances and times, allowing more green time for through traffic along Second Street. The traffic signal could also be designed to give priority to transit vehicles. However, due to two-way traffic along Second Street and the close proximity of the proposed crossing to the Second / Howard Streets intersection, this measure may not be sufficient to reduce the proposed mid-block crossing's impacts to traffic and transit operations. In addition, while bulb-outs would reduce crossing distance, a sufficiently high volume of pedestrians heading to and from the Transit Center may warrant retaining longer pedestrian phases to ensure adequate crossing times and throughput, so as not to introduce substantial queuing or congestion at the crosswalk or surrounding sidewalk. Accordingly, the feasibility of this measure is uncertain, and this impact is considered **significant and unavoidable**.
- At First / Minna Streets and First / Natoma Streets, reducing impacts would require additional lane capacity on First Street, although that would result in increased pedestrian crossing distances that would require longer pedestrian signal phases. This would also preclude the public realm plan's proposed sidewalk widening on First Street adjacent to the Transit Center. Moreover, additional lanes would not alleviate downstream congestion on First Street leading to the Bay Bridge. Eliminating one or both of the mid-block crossings might result in congested sidewalks on First Street. In addition, traffic signals at these two locations may be necessary for freight and passenger loading-related traffic circulation to and from Minna and Natoma Streets, regardless of whether pedestrian crossings are provided. Accordingly, no feasible mitigation was identified and this impact is considered **significant and unavoidable.**
- At Fremont / Natoma Streets and Fremont Street at the Transit Center Bus Plaza, the signal could be designed with two signal phases instead of three. One phase would be for northbound Fremont Street, and the second, for all five bus bays to exit the Bus Plaza, as well as pedestrians crossing Fremont Street at both Natoma Street and at the Bus Plaza. This would increase traffic capacity on Fremont Street and reduce the potential for queues on Fremont Street and the Bay Bridge. However, the Municipal Transportation Agency has determined that a two-phase signal would create operational and safety concerns for transit and pedestrians. Accordingly, no feasible mitigation was identified and this impact is considered **significant and unavoidable.**

Significance after Mitigation: For the reasons noted above, the impacts at these mid-block intersections would remain **significant and unavoidable**.

In addition to the foregoing intersection-specific mitigation measures, the following measure is identified to improve Plan-area traffic flow.

M-TR-1m **Downtown Traffic Signal Study:** As part of a Regional Traffic Signalization and Operations Program project, the Municipal Transportation Agency (MTA) could conduct a study of Downtown-area traffic signal systems, with the aim of recalibrating cycle lengths, offsets, and splits at Downtown-area intersections to optimize traffic flow and minimize unnecessary delays (without impacting other modes of travel).

Significance after Mitigation: Implementation of such a study could improve operations throughout the Plan area and elsewhere in Downtown. However, because the outcome of such an analysis is not known, intersection impacts would remain **significant and unavoidable**.

Mitigation (indicated in parentheses) could reduce average vehicle delay at the following intersections, but not to a less-than-significant level because further mitigation would require increased lane capacity that would preclude one or more proposed sidewalk improvements under the draft Plan's public realm plan, and because further signal timing optimization would require coordination with other signals that could increase overall vehicle delay. Therefore, impacts at the following intersections would be **significant and unavoidable**:

- New Montgomery / Mission Streets (Optimize signal timing)
- Third / Howard Streets (Optimize signal timing)
- New Montgomery / Howard Streets (Optimize signal timing)
- Fremont / Howard Streets (Prohibit eastbound p.m. peak left turns and optimize signal)
- Main / Howard Streets (Prohibit eastbound p.m. peak left turns and optimize signal)
- Spear / Howard Streets (Add northbound and southbound left-turn pockets, prohibit eastbound p.m. peak left turns and optimize signal)

No mitigation is feasible to reduce impacts at the following intersections to a less-than-significant level because, while increased lane capacity and/or signal timing optimization and, in some cases, installation of corner pedestrian bulbs to allow for less green time for pedestrian crossing could improve level of service for one or more approaches, the applicable mitigation strategy would increase delays for transit vehicles on Market and Mission Streets and also cause increased pedestrian delays or, in some instances, precluding proposed sidewalk or transit improvements under the draft Plan's public realm plan. Therefore, impacts at the following intersections would be **significant and unavoidable**:

- Third / Kearny / Market / Geary Streets
- Montgomery / Market / New Montgomery Streets
- First / Market Streets
- Fremont / Market / Front Streets
- Beale / Market / Davis / Pine Streets
- Second / Mission Streets
- First / Mission Streets
- Fremont / Mission Streets
- Second / Howard Streets
- First / Howard Streets

- Beale / Howard Streets
- Hawthorne / Folsom Streets
- Second / Folsom Streets
- First / Folsom Streets
- Spear / Folsom Streets
- Fourth / Harrison Streets / I-80 WB On-Ramp
- First / Harrison Streets / I-80 EB On-Ramp

No mitigation is feasible to reduce impacts at the following intersection to a less-than-significant level because additional lane capacity is unavailable and/or signal timing optimization would not improve level of service to an acceptable level. Therefore, impacts at the following intersection would be **significant and unavoidable**:

- Essex / Harrison Streets / I-80EB On-Ramp

No mitigation is required for the following intersections, which would experience significant impacts only in the absence of the public realm improvements that are part of the draft Plan:

- Spear / Mission Streets (without the public realm improvements, could be mitigated by changing signal phasing and optimizing signal timing)

Impacts on Freeway Ramp Operations

Impact TR-2: Traffic growth related to the draft Plan, including the street changes, would result in a considerable contribution to congested operations at the Fourth/Harrison Streets and First/Harrison Streets freeway on-ramps, and therefore would conflict with established measures of effectiveness for the performance of the circulation system. (Significant and Unavoidable)

Five freeway on-ramps were analyzed for p.m. peak-hour conditions, when traffic from the Plan area, including traffic that passes through the Plan area from elsewhere in San Francisco, would cause or contribute to the greatest amount of congestion. Under existing conditions, four of the five on-ramps operate at LOS D or better; the one ramp operating at a poor LOS is the Fourth/Harrison Streets on-ramp to westbound I-80, which operates at LOS F (see **Table 20**). Under the 2030 Without-Project scenarios, operations at the on-ramps at Sterling/Bryant Streets and First/Harrison Streets would degrade to LOS F, while operations at Fifth/Bryant Streets and Essex/Harrison Streets would remain at acceptable levels.

With the addition of traffic from assumed growth in the Plan area, as well as with the street changes proposed in the public realm plan, Plan area traffic would not change the level of service at any ramps, but would contribute more than 5 percent to the traffic volumes on the Fourth/Harrison Street westbound on-ramp and the First/Harrison Streets eastbound on-ramp. This would be **a significant and unavoidable impact on freeway ramp operations**.

TABLE 20
FREEWAY RAMP LEVELS OF SERVICE, P.M. PEAK HOUR

On-Ramp	Existing		2030 w/o Project		2030 + Plan Growth		Growth+Public Realm	
	LOS [1]	Density[2]	LOS [1]	Density[2]	LOS [1]	Density[2]	LOS [1]	Density[2]
I-80 Westbound Ramps								
Fourth / Harrison Streets[3]	**F**	**47.0**	**F**	**60.2**	F	64.8	F	64.0
Increase in Volume[4]					1.0%	10.9%	0.7%	10.9%
I-80 Eastbound Ramps								
Fifth / Bryant Streets	C	25.0	C	26.8	C	26.8	C	26.8
Sterling / Bryant Streets	D	29.8	**F**	–[5]	**F**	–[5]	**F**	–[5]
Increase in Volume[4]					0.0%	0.7%	0.0%	-1.3%
Essex / Harrison Streets	C	23.5	C	24.8	C	24.8	C	24.8
First / Harrison Streets	D	28.4	**F**	–[5]	F	–[5]	F	–[5]
Increase in Volume[4]					0.4%	**9.4%**	0.2%	**5.4%**

[1] Ramps operating at LOS E or LOS F conditions highlighted in **bold;** solid box indicates significant impact.
[2] Density in passenger cars per lane mile per hour.
[3] Analyzed as a weaving segment (Type B) due to interactions with the downstream off-ramp to Eighth Street / Harrison Street.
[4] First percentage for each scenario is freeway mainline increase in volume attributable to project growth; second percentage is ramp increase.
[5] Density not reported for LOS F merge or diverge areas, as the equations used to compute density do not hold for LOS F conditions.

SOURCE: AECOM, 2011.

The contribution from Plan area growth to the other on-ramp that would operate at unacceptable levels of service, at Bryant/Sterling Streets, would be less than 5 percent of the volume, and there would be no substantial change in freeway on-ramp operations. Therefore, the impact from Plan growth and the public realm improvements at this ramp would be less than significant.

Mitigation Measures

No feasible mitigation is available for the impacts at the Fourth and Harrison Streets and First and Harrison Streets ramps, because there is insufficient physical space for additional capacity without redesign of the I-80 aerial structures. Other potential measures to improve operations would involve reducing the traffic volumes entering the weaving section, either through ramp metering, tolling, or other means. Ramp metering, however, would likely exacerbate congestion on roads leading to the on-ramp (i.e., Fourth Street and Harrison Street), while tolling would need to be implemented as a systemwide improvement in order to prevent concentration of vehicular traffic and increased congestion on non-tolled facilities. Moreover, any changes to the ramps would require approval of Caltrans, which operates the freeways and ramps.

Significance after Mitigation: Significant and Unavoidable, due to physical constraints and the uncertainty of implementing this measure.

Transit Impacts

2030 Without-Project Scenario

Background growth exclusive of ridership generated by the draft Plan would cause peak-hour ridership demand at the four Muni screenlines to increase by about 37 percent in the morning and by about 40 percent in the afternoon, while capacity is projected to increase by about 19 percent and 16 percent, respectively, during these two peaks. While ridership at all four screenlines would be below capacity levels during both the a.m. and p.m. peak hours, Muni lines on certain corridors would operate with ridership greater than Muni's capacity standard of 85 percent. These would include the California (95%), Sutter/Clement (91%), Third Street (89%), and Other Southeast (86%) corridors in the a.m. peak and, in the p.m. peak, the Geary (87%), California (105%), Sutter/Clement (85%+), Third Street (97%), Other Southeast (90%), and Subway (90%) corridors. Overall Muni capacity utilization across the four screenlines would increase from 67 percent and 68 percent in the a.m. and p.m. peak hours, respectively, under existing conditions, to 76 percent and 82 percent in the a.m. and p.m. peak hours, respectively under 2030 conditions without the project. **Table 21** presents projected Muni operations.

TABLE 21
MUNI PEAK-HOUR CAPACITY UTILIZATION

Screenline / Corridor	Existing		2030 w/o Project		2030 + Plan Growth		Growth+Public Realm	
	AM	PM	AM	PM	AM	PM	AM	PM
Northeast Screenline								
Kearny / Stockton	58%	56%	75%	75%	77%	78%	77%	78%
Other	41%	48%	66%	71%	67%	73%	68%	74%
Subtotal	50%	52%	70%	73%	72%	75%	72%	76%
Northwest Screenline								
Geary	63%	76%	77%	81%	85%[1]	**91%**	**86%**	**92%**
California	68%	69%	**89%**	**98%**	**99%**	**110%**	**99%**	**111%**
Sutter / Clement	54%	56%	85%[1]	79%	**94%**	**89%**	**95%**	**90%**
Fulton / Hayes	72%	68%	73%	64%	79%	69%	79%	70%
Balboa	58%	49%	57%	44%	62%	49%	62%	49%
Chestnut / Union	70%	64%	62%	77%	68%	**85%**	69%	**86%**
Subtotal	65%	65%	74%	76%	81%	85%[1]	82%	**86%**
Southeast Screenline								
Third	61%	78%	**86%**	**94%**	**91%**	**99%**	**91%**	**99%**
Mission	65%	53%	46%	64%	50%	68%	50%	69%
San Bruno / Bayshore	78%	74%	81%	80%	84%	83%	84%	83%
Other	62%	70%	84%	**88%**	**88%**	**91%**	**88%**	**91%**
Subtotal	67%	66%	73%	82%	76%	**85%**	77%	**86%**
Southwest Screenline								
Subway	**86%**	**87%**	76%	**87%**	81%	**92%**	81%	**92%**
Haight / Noriega	53%	58%	75%	71%	85%[1]	80%	**85%**	81%
Other	44%	43%	49%	38%	54%	41%	54%	41%
Subtotal	76%	77%	74%	81%	80%	**86%**	80%	**86%**
TOTAL	67%	68%	73%	79%	78%	84%	79%	85%[1]

Notes:
AM Peak Hour represents inbound (to downtown) ridership; **PM Peak Hour** represents outbound (from downtown) ridership.
Bold indicates exceedance of capacity utilization policy standard (85% utilization); solid box indicates significant impact.
[1] Unbolded capacity utilization of 85% indicates actual number is slightly below threshold.

SOURCE: AECOM.

Most new non-residential development within the Plan area (and elsewhere in the City) are subject to the Transit Impact Development Fee ("TIDF"), set forth in *Planning Code* Section 411 *et.seq.* The TIDF attempts to recover the cost of carrying additional riders generated by new development by obtaining fees on a per square foot basis. TIDF funds may be used to increase revenue service hours reasonably necessary to mitigate the impacts of new non-residential development on public transit. As of March 2011, the TIDF is $10 per square foot of office, medical, retail, entertainment, cultural, institutional, and educational floor area, and $8 per square foot of production, distribution and repair and visitor services uses. Funds collected through the TIDF have averaged about $5 million per year over approximately the last 25 years.

Regional transit operators would also see increased ridership due to background growth (see **Table 22**). In particular, ridership to and from the East Bay is projected to more than double during the a.m. peak hour, and to increase by 84 percent in the p.m. peak hour, resulting in both BART and AC Transit operating at ridership levels in excess of capacity, despite anticipated future increases in capacity due to increased frequency of Transbay service on both systems. Capacity utilization for BART in the Transbay Tube would be approximately 115 percent in the a.m. peak hour and 111 percent in the p.m. peak hour. Ridership on Golden Gate Transit buses and ferries is also projected to increase substantially (by 75 percent in the morning peak hour and 82 percent in the afternoon peak hour), and would also operate with ridership in excess of capacity. Caltrain ridership is also forecast to increase substantially, but because the analysis assumes that by 2030 Caltrain will have been extended Downtown to the new Transit Center and the Caltrain system will have been electrified, capacity is forecast to increase substantially, as well, and Caltrain would operate at less than forecast capacity. Other regional carriers would also operate at less than 100 percent capacity under 2030 conditions without the project.

Proposed Plan

As set forth in Chapter II, Project Description, among the draft Plan's "fundamental core goals" are to "capitalize on major transit investment with appropriate land use in the downtown core, with an eye toward long-term growth considerations" and to "create a framework for a network of public streets and open spaces that support the transit system...."

Objective 4.1 of the November 2009 draft Plan states:

> The District's transportation system will prioritize and incentivize the use of transit. Public transportation will be the main, non-pedestrian mode for moving into and between destinations in the Transit Center District.

The draft Plan also states that the "district's transportation system will meet changing transit needs, particularly to support the new Transbay Transit Center and accommodate increased densities. Make changes in the circulation network that ensure delivery of reliable and convenient transit service to the Transbay Transit Center and for district residents, employees, and visitors" (November 2009 Draft Plan, Objective 4.3). Among the other objectives and policies intended to increase transit use and improve transit service, the draft Plan calls for:

TABLE 22
REGIONAL TRANSIT PEAK-HOUR CAPACITY UTILIZATION

Screenline / Operator	Existing		2030 w/o Project		2030 + Plan Growth		Growth+Public Realm	
	AM	PM	AM	PM	AM	PM	AM	PM
East Bay								
BART	80%	83%	**113%**	**110%**	**116%**	**113%**	**117%**	**113%**
AC Transit	55%	60%	**153%**	**113%**	**157%**	**116%**	**157%**	**117%**
Ferries	56%	46%	81%	78%	84%	80%	84%	80%
Subtotal	77%	78%	**117%**	**108%**	**120%**	**111%**	**120%**	**111%**
North Bay								
Golden Gate Transit Bus	57%	63%	98%	**114%**	**100%**	**116%**	**101%**	**118%**
Ferries	56%	53%	96%	96%	98%	98%	99%	99%
Subtotal	56%	59%	98%	**106%**	100%[1]	**108%**	**101%**	**109%**
South Bay								
BART[2]	65%	61%	56%	53%	60%	57%	60%	57%
Caltrain	65%	61%	69%	62%	70%	63%	71%	64%
SamTrans	65%	61%	75%	43%	76%	44%	77%	44%
Ferries	n/a	n/a	50%	25%	51%	25%	51%	25%
Subtotal	65%	61%	60%	55%	62%	57%	63%	58%
TOTAL	70%	70%	92%	86%	95%	89%	96%	90%

Notes:
AM Peak Hour represents inbound (to downtown) ridership; **PM Peak Hour** represents outbound (from downtown) ridership.
Bold indicates exceedance of 100% of seating capacity); solid box indicates significant impact.
[1] Unbolded capacity utilization of 100% indicates actual number is slightly below threshold.
[2] Includes trips to/from stations within San Francisco but outside of downtown (16th / Mission, 24th / Mission, Glen Park, and Balboa Park).
SOURCE: AECOM, 2011.

- Management of Bay Bridge queues to reduce and mitigate impacts of regional traffic on transit circulation (Objective 4.6);
- Prioritizing transit movements through and within the district "over all other transportation modes" (Objective 4.9) and ensuring that regional transit is also given priority when operating on City streets (Policy 4.6);
- Design of transit facilities "to improve the reliability and function of transit movements and to enhance the rider experience" (Objective 4.10); and
- Ensuring that roadway changes, including pedestrian and streetscape improvements, "are designed to support and enhance the operation of transit" (Objective 4.11).

The draft Plan also calls for adding dedicated, self-enforcing transit lanes (Policies 4.1 and 4.2) and enhanced transit stops (Policy 4.4); supports additional funding for local and regional transit and the Transit Center, along with increased BART capacity, especially at the Montgomery and Embarcadero stations (Objectives 4.13 and 4.14 and Policies 4.5 and 4.7); and proposes evaluation of a transit-only zone on the block of Mission Street in front of the new Transit Center (Policy 4.3).[172]

A complete list of all draft transportation policies for the Plan area is provided in Appendix B.

[172] The concept for a transit-only zone on Mission between First and Fremont Street is not evaluated in this EIR, but is identified in the draft Plan for potential future implementation.

Plan Impacts

Impact TR-3: Transit ridership related to the draft Plan, including the street changes, would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. (Significant and Unavoidable with Mitigation)

Growth projected with implementation of the draft Plan would result in an increase, compared to conditions without the Plan, of 7.1 percent in Muni ridership in the a.m. and p.m. peak hours (1,870 and 1,965 new a.m. and p.m. peak-hour riders, respectively) such that capacity utilization at two of the four screenlines—Southeast (85%+) and Southwest (86%)—would exceed Muni's 85 percent standard in the p.m. peak hour. This would be a **significant impact on Muni operations**. Ridership at the Northwest screenline would be just under 85 percent of capacity, while the Northeast screenline would be at 75 percent. The increase in a.m. and p.m. peak-hour ridership by 2030 compared to existing conditions, including growth elsewhere in San Francisco, would be 40 percent and 44 percent, respectively. During that same period, a.m. and p.m. peak-hour capacity is expected to increase by 19 percent and 16 percent, respectively.

The increase in ridership under with-Plan conditions, compared to conditions without the project, would increase capacity utilization by between 3 and 13 percent on each corridor. Overall capacity utilization in the p.m. peak hour would increase to 84 percent, from 79 percent without the project. The Geary, California, Sutter/Clement, Chestnut/Union, Third Street, Other Southeast, and Subway corridors would all exceed 85 percent of capacity, and all but the Third Street, other Southeast, and Subway corridors would result in significant impacts due to Plan increases in ridership. In the a.m. peak hour, all four screenlines would remain at acceptable operations, with the California, Sutter/Clement, Third Street, and Other Southeast corridors exceeding 85 percent capacity. Each of these corridors would result in a significant impact due to the contribution from Plan ridership. Increases in capacity utilization among corridors would range from 0 to 4 percent. Overall a.m. peak-hour capacity utilization would increase to 78 percent, from 73 percent.

With the addition of the street network changes under the public realm plan, overall Muni screenline capacity utilization would increase by an additional approximately 1 percentage point, to 79 percent in the a.m. peak hour and just under 85 percent in the p.m. peak hour. The increase in peak-hour ridership would be about 8 percent, compared to conditions without the project. The a.m. and p.m. peak-hour ridership in 2030 would be 41 percent and 44 percent, respectively, higher than existing ridership. In the a.m. peak hour, the Geary corridor (86%) and the Haight/Noriega corridor (85%+) would newly exceed Muni's standard, although operations at all four screenlines would remain below 85 percent of capacity, and many corridors would not experience an increase in capacity utilization. In the p.m. peak hour, capacity utilization would increase by 1 percentage point on most corridors, compare to with-Plan conditions. The same six corridors affected under the with-Plan scenario would exceed Muni's capacity standard due to the Plan, and ridership at the Northwest Screenline, at 86 percent of capacity, would newly exceed the standard.

In summary, as indicated in Table 21, Plan area ridership would result in significant effects, either because it would increase capacity utilization to beyond 85 percent and/or because it would contribute more than 5 percent of the total ridership, on the following corridors/screenlines and peak hours:

- Geary Corridor (Plan Growth, p.m.; Growth + Public Realm, a.m. and p.m.)
- California Corridor (Plan Growth, a.m. and p.m.; Growth + Public Realm, a.m. and p.m.)
- Sutter/Clement Corridor (Plan Growth, a.m. and p.m.; Growth + Public Realm, a.m. and p.m.)
- Chestnut/Union Corridor (Plan Growth, p.m.; Growth + Public Realm, p.m.)
- Northwest Screenline (Growth + Public Realm, p.m.)
- Third Street Corridor (Plan Growth, a.m.; Growth + Public Realm, a.m. and p.m.)
- Other Southeast Corridor (Plan Growth, a.m.; Growth + Public Realm, a.m.)
- Southeast Screenline (Plan Growth, p.m.; Growth + Public Realm, p.m.)
- Haight/Noriega Corridor (Growth + Public Realm, a.m.)
- Southwest Screenline (Plan Growth, p.m.; Growth + Public Realm, p.m.)

To evaluate the potential for Plan-induced traffic congestion to cause a substantial increase in delays or operating costs to transit, an analysis of the Project's impacts to transit travel times was conducted. The analysis calculated the incremental increase in transit vehicle travel times for Muni lines passing through the Plan area, considering the study intersections and transit ridership increases within the Plan area only. The analysis found that Plan area traffic would generally result in increases in travel times for transit vehicles for each line, compared to 2030 conditions without the project, and that the draft Plan would result in significant travel time impacts to the 41 Union line, in that Muni would have to add an additional bus to this line to maintain current headways. Additionally, delays of several minutes per bus (i.e., per "run"), compared to conditions without Plan development, would be experienced on the 12 Folsom-Pacific route and on the 11 Downtown Connector, a planned new line that would be operate with implementation of Muni's Transit Effectiveness Project and would connect Civic Center BART, South of Market, Downtown, Chinatown, North Beach, and the Marina. Other Muni lines would also experience delays due to increased congestion, ranging from less than 30 seconds to more than one minute per run. This would be a **significant impact on Muni operations**.

Because the public realm plan would make different kinds of changes to street capacity and operations depending on location, it would result in different changes in travel times. With the public realm improvements, an additional vehicle would be required on the planned 11 Downtown Connector line. The 12 Folsom-Pacific line would also experience a substantial increase in travel time. Delays on most other Muni lines serving the Plan area would be greater than those with Plan growth only, although delays would diminish on three lines. This would be a **significant impact on Muni operations**.

The proposed mid-block signalized pedestrian crossing on Second Street at Natoma Street would be located on Second Street, a key local transit corridor. Because of potential disruption of coordination between this signal and nearby signals, and because this signal light would potentially result in additional congestion and vehicle queuing, this signal would result in **a significant impact on Muni operations** on Second Street.

As described in Chapter II, Project Description, the draft Plan's public realm component would include relocation of transit-only lanes on Mission Street between First and Third Streets to the street's center lanes and provide in-street boarding islands at Second Street. This could result in conflicts between Muni vehicles and regional transit (Golden Gate Transit and SamTrans) vehicles using the same boarding islands. This would be a **significant impact on Muni and regional transit operations.**

Regional carriers would see ridership increase by an aggregate of about 3.5 percent during the a.m. and p.m. peak hours with Plan area growth. Capacity utilization (see Table 22) would increase by about 2 to 7 percent for each carrier, and would result in Golden Gate Transit bus service incrementally exceeding the 100 percent capacity utilization standard in the a.m. peak hour. This would be a significant impact. Plan ridership would add less than 5 percent to Golden Gate Transit capacity utilization in the p.m. peak hour, and therefore would have a less-than-significant impact on p.m. peak-hour Golden Gate Transit bus service.

Plan-induced growth would contribute almost 3 percent additional ridership to conditions on BART and AC Transit, both of which would operate with ridership in excess of capacity under 2030 Without-Project conditions, and 6 to 7 percent additional ridership to BART Peninsula service, on the South Bay Screenline. Although BART and AC Transit would operate at conditions well in excess of capacity, Plan ridership would amount to less than 5 percent of future ridership on these operators' service. Therefore, the impact would be less than significant. No other additional carriers would exceed capacity, compared to Without-Project Conditions.

With the addition of the street network changes under the public realm plan, aggregate regional carrier ridership would generally increase by 1 percentage point or less, compared to conditions with Plan growth, although capacity utilization would increase by an additional 2 percentage points on Golden Gate Transit bus service in the p.m. peak hour and by 1.4 percentage points on the North Bay Screenline in the a.m. peak hour. This latter increase would result in this screenline newly exceeding 100 percent of capacity, which would be a significant impact.

Concerning travel-time delays, both SamTrans and Golden Gate Transit buses run on city streets within the Plan area, and would continue to do so in the future. (AC Transit buses will have a direct connection from the Bay Bridge to the new Transit Center, once complete, in a manner comparable to their former operations at the Transbay Terminal.) In particular, SamTrans operates all of its downtown San Francisco routes along Mission Street, while Golden Gate Transit operates its "basic" bus routes along Mission Street and its commuter express bus routes along First Street (a.m. peak period) and Fremont Street (p.m. peak period). Golden Gate Transit buses also use portions of Howard Street and Folsom Street when heading to and from Golden Gate Transit's mid-day yard, at Eighth and Harrison Streets, although they will relocate to a new storage yard beneath the Bay Bridge west approach in 2013. Increased congestion at intersections within the Plan area would be expected to increase travel times for SamTrans and Golden Gate Transit buses; these vehicles could also have increased difficulty reentering traffic lanes due to increased volumes on Plan area streets. The resulting delays could require the deployment of additional buses on some Golden Gate Transit and SamTrans routes in order to maintain headways and appropriate vehicle load, which would be a **significant impact to regional transit (Golden Gate Transit and SamTrans) operations**.

Additionally, the proposed public realm improvements would remove one lane on Fremont Street between the I-80 off-ramp (between Folsom and Howard Streets) and Market Street. This would substantially increase delays and congestion along Fremont Street, which is a key corridor for Golden Gate Transit commuter buses leaving for the North Bay during the weekday p.m. peak hour. While the draft Plan would extend the Golden Gate Transit boarding zone on the east side of Fremont Street between Mission Street and Market Street to occupy the full length of the block, congestion in the northbound direction would make it difficult for buses to re-enter the traffic flow, resulting in delays in bus service. In addition, Golden Gate Transit buses turning left from eastbound Folsom Street onto northbound Fremont Street would experience increased delay due to the proposed two-way operation of Folsom Street (as left-turning vehicles would have to yield to the new westbound approach). Lastly, buses heading northbound at the Fremont/Mission Streets intersection could also experience delays from the new Transbay Transit Center Bus Plaza and associated mid-block signals, as well as from vehicles making the right turn onto Mission Street. As a result, the proposed public realm improvements would result in a **significant impact to regional transit (Golden Gate Transit) operations**.

As noted in the discussion of Muni impacts above, the proposed change to Mission Street transit lanes could result in conflicts between Muni vehicles and regional transit (Golden Gate Transit and SamTrans) vehicles using the same boarding islands. This would be a **significant impact on Muni and regional transit operations.**

In addition to capacity utilization, BART is likely to face peak-hour capacity constraints at its Montgomery Street and Embarcadero stations, each located on the northern boundary of the Plan area. These two stations have the highest passenger load of any stations in the BART system. The Embarcadero station, in particular, which has a narrower platform than other stations, has been identified by BART as having capacity constraints.[173] The Montgomery station experiences of peak-hour congestion, especially in the morning, resulting in passenger queues at the escalators. Because increased ridership from Plan area development would almost all go through these two stations, this would be a **significant and unavoidable impact on regional transit (BART) operations**.

As discussed further under Impact TR-7, below, implementation of the draft Plan would result in a shortfall of on-street freight loading spaces, which could further increase congestion on Plan area streets and hinder transit vehicle operation. This impact would be considered **significant and unavoidable**.

In addition to increases in ridership and congestion, implementation the draft Plan could result in a further, indirect, effect on transit operations, in that the shortfall of parking that would ensue could result in a shift in travel mode as drivers opt to travel using other means, including transit. This indirect effect, which could further increase capacity utilization on both Muni and regional transit, is discussed below on p. 324.

[173] BART, *Comprehensive Station Plan: Embarcadero,* June 2004. Available at: http://www.bart.gov/docs/planning/EmbarcaderoCSP.pdf. Reviewed September 14, 2011.

Mitigation Measures: Transit

Where mitigation would be different for the overall draft Plan (Plan growth plus the public realm improvements) than for Plan growth only, the discussion below focuses on mitigation for effects of the overall draft Plan, to ensure that the proposed project's full impact is mitigated, where feasible.

M-TR-3a: **Installation and Operation of Transit-Only and Transit Queue-Jump Lanes.** To reduce or avoid the effects of traffic congestion on Muni service, at such time as the transit-vehicle delay results in the need to add additional vehicle(s) to one or more Muni lines, the Municipal Transportation Agency (MTA) could stripe a portion of the approach lane at applicable intersections to restrict traffic to buses only during the p.m. peak period, thereby allowing Muni vehicles to avoid traffic queues at certain critical intersections and minimizing transit delay. Each queue-jump lane would require the prohibition of parking during the p.m. peak period for the distance of the special lane.

For the 41 Union, MTA could install a p.m. peak-hour transit-only lane along Beale Street approaching and leaving the intersection of Beale/Mission Street, for a distance of 150 to 200 feet. Five parking spaces on the west side of Beale Street north of Mission Street could be eliminated when the transit lane is in effect to allow for a right-turn pocket. MTA could also install a p.m. peak-hour queue-jump lane on the eastbound Howard Street approach to the intersection of Beale/Howard Streets, for a distance of 100 feet. If the foregoing were ineffective, MTA could consider re-routing the 41 Union to less-congested streets, if available, or implementing actions such as providing traffic signal priority to Muni buses.

For the 11-Downtown Connector and 12 Folsom Pacific, MTA could install a p.m. peak-hour queue-jump lane on the southbound Second Street approach to the intersection to the intersection of Second/Folsom Streets, for a distance of approximately 150 feet. When the lane is in effect, five on-street parking spaces on the west side of Second Street north of Folsom Street could be eliminated, as well as a portion of the southbound bicycle lane approaching the intersection. If the foregoing were ineffective, MTA could consider re-routing the 11-Downtown Connector and 12 Folsom to less-congested streets, if available, or implementing actions such as providing traffic signal priority to Muni buses.

The MTA could also evaluate the effectiveness and feasibility of installing an eastbound transit-only lane along Folsom Street between Second and Third Streets, which would minimize delays incurred at these intersections by transit vehicles. The study would create a monitoring program to determine the implementation extent and schedule, which may include conversion of one eastbound travel lane into a transit-only lane.

Level of Significance after Mitigation

Implementation of the above mitigation measures could reduce the effects of traffic congestion on Muni headways. However, it cannot be determined whether the impact would be reduced to a less-than-

significant level, because the efficacy of the improvements is not certain, pending trial implementation and additional review by MTA. Because the effectiveness of the above mitigation measures is unknown, this impact is considered **significant and unavoidable**.

Moreover, it is noted that, because there is finite right-of-way at Plan area intersections, installation of transit-only lanes and/or transit queue-jump lanes could increase traffic congestion and, possibly, transit delays at other locations.

M-TR-3b: **Exclusive Muni Use of Mission Street Boarding Islands.** To reduce or avoid conflicts between Muni buses and regional transit service (Golden Gate Transit and SamTrans) using the relocated transit-only center lanes of Mission Street between First and Third Streets, MTA could reserve use of the boarding islands for Muni buses only and provide dedicated curbside bus stops for regional transit operators. Regional transit vehicles would still be allowed to use the transit-only center lanes between stops, but would change lanes to access the curbside bus stops. This configuration would be similar to the existing Muni stop configuration along Market Street, where two different stop patterns are provided, with each route assigned to only one stop pattern.

Level of Significance after Mitigation

The feasibility and effectiveness of this mitigation measure in reducing impacts to both Muni and regional transit is uncertain. In particular, relocation of the Mission Street transit-only lanes while still requiring regional transit vehicles to use curbside stops may result in unsafe maneuvers for regional transit vehicles and increase the potential for collisions and conflict between buses and vehicles or bicycles. Alternatively, regional transit operators could use only the curb lane, eliminating increased potential for collisions due to merging in and out of the transit-only lanes, but this would subject regional transit vehicles to substantial travel time delays as a result of traveling in mixed-flow traffic. Accordingly, this impact is considered **significant and unavoidable**.

M-TR-3c: **Transit Improvements on Plan Area Streets.** To reduce or avoid the effects of traffic congestion on regional transit service operating on surface streets (primarily Golden Gate Transit and SamTrans), MTA, in coordination with applicable regional operators, could conduct study the effectiveness and feasibility of transit improvements along Mission Street, Howard Street, Folsom Street, First Street, and Fremont Street to reduce delays incurred by transit vehicles when passing through the Plan area. The study would examine a solutions including, but not limited to the following:

- Installation of transit-only lanes along Howard Street and Folsom Street, which could serve both Muni buses (e.g., 12 Folsom-Pacific) and Golden Gate Transit buses heading to / from Golden Gate's yard at Eighth and Harrison Streets;[174]

[174] It is anticipated that Golden Gate Transit will move midday bus storage to the area beneath the elevated I-80 freeway at Fourth Street in connection with the operation of the Transit Center, in 2013.

- Extension of a transit-only lane on Fremont Street south to Howard Street and installation of transit-actuated queue-jump phasing at the Fremont Street / Mission Street intersection to allow Golden Gate Transit buses to make use of the Fremont Street transit lane (currently only used by Muni vehicles); and
- Transit signal priority treatments along Mission, Howard, and Folsom Streets to extend major-street traffic phases or preempt side-street traffic phases to reduce signal delay incurred by SamTrans and Golden Gate Transit vehicles.
- Golden Gate Transit and SamTrans could consider rerouting their lines onto less-congested streets, if available, in order to improve travel times and reliability. A comprehensive evaluation would need to be conducted before determining candidate alternative streets, considering various operational and service issues such as the cost of any required capital investments, the availability of layover space, and proximity to ridership origins and destinations.

Level of Significance after Mitigation

Implementation of the above mitigation measure could reduce the effects of traffic congestion on regional transit operations. However, it cannot be determined whether the impact would be reduced to a less-than-significant level. Therefore, this impact is considered **significant and unavoidable**.

Moreover, it is noted that, because there is finite right-of-way at Plan area intersections, adding transit-only lanes could increase congestion for other traffic and, possibly, increase transit delays.

M-TR-3d: **Increased Funding to Offset Transit Delays.** Sponsors of development projects within the Plan area could be subject to a fair share fee that would allow for the purchase of additional transit vehicle(s) to mitigate the impacts on transit travel time. In the case of Muni operations, one additional vehicle would be required. For regional operators, the analysis also determined that on-street delays could require the deployment of additional buses on some Golden Gate Transit and SamTrans routes.

Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan, and are projected to be adequate and sufficient to provide for the capital cost to purchase the additional vehicle and facility costs to store and maintain the vehicle.

Level of Significance after Mitigation

Implementation of the above mitigation measure could incrementally reduce the effects of traffic congestion on Muni and regional transit operations. However, inasmuch as operational costs (primarily drivers' salaries) would not be included in this fee, the effect would not be fully mitigated and this impact is considered **significant and unavoidable**.

M-TR-3e: **Increased Funding of Regional Transit.** Sponsors of development projects within the Plan area could be subject to one or more fair share fees to assist in service improvements, such as through the purchase of additional transit vehicles and vessels or contributions to operating costs, as necessary to mitigate Plan impacts. These fee(s) could

be dedicated to Golden Gate Transit, North Bay ferry operators, AC Transit, BART, and/or additional North Bay and East Bay transit operators. Depending on how the fee(s) were allocated, Caltrain and SamTrans might also benefit, although lesser impacts were identified for these South Bay operators.

Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan.

Level of Significance after Mitigation

Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan. However, it would be speculative at this time to presume that sufficient funding could be available to offset project effects. Additional funding would likely have to be identified, whether from public or private sources, or a combination thereof, potentially including project sponsors of individual development projects in the Plan area, in order to purchase and operate additional transit vehicles and, potentially in some cases, to increase rail system capacity. Adoption of the draft Plan is anticipated to be accompanied by additional development impact fees, such as were adopted in the Eastern Neighborhoods and Market Octavia Plan areas. However, because it is not known whether or how much additional funding would be generated for transit, and because no other definite funding sources have been identified, this impact is considered **significant and unavoidable**.

Pedestrian and Bicycle Conditions

Proposed Plan

As set forth in Chapter II, Project Description, one of the draft Plan's "fundamental core goals" is to "create a framework for a network of public streets and open spaces that … provides a wide variety of public amenities and a world-class pedestrian experience."

Objective 4.4 of the November 2009 draft Plan states:

> The District's transportation system will prioritize pedestrian amenity and safety. Invest in circulation modifications and urban design measures that support the creation of an attractive and memorable public realm.

Objective 4.29 of the November 2009 draft Plan states:

> Make cycling a safe, pleasant, and convenient means of transportation throughout the district.

Policy 4.44 of the November 2009 draft Plan states:

Do not compromise pedestrian, bicycle, or transit amenity or service within the District to accommodate or maintain levels of service for regional auto trips.

The draft Plan also strives to "Make walking a safe, pleasant, and convenient means of moving about throughout the district" (November 2009 Draft Plan, Objective 3.1). Among the other objectives and policies intended to increase transit use and improve transit service, the draft Plan calls for:

- Objectives 3.2 and 4.21: Create a high-quality pedestrian environment in the district consistent with the vision for the central district of a world-class city.
- Objective 4.22: Graciously accommodate increases in pedestrian volumes in the district.
- Objective 4.23: Emphasize the importance of streets and sidewalks as the largest component of public open space in the Transit Center District.
- Policy 4.22: Create and implement a district streetscape plan to ensure consistent corridor-length streetscape treatments.
- Policy 4.23: Widen sidewalks to improve the pedestrian environment by providing space for necessary infrastructure, amenities and streetscape improvements.
- Policy 4.24: Facilitate pedestrian circulation by providing sidewalk widths that meet the needs of projected pedestrian volumes and provide a comfortable and safe walking environment.
- Policy 4.25: Continue the Living Streets treatment to create linear plazas along Beale, Main, and Spear streets.
- Policy 4.26: Create additional pedestrian capacity and shorten pedestrian crossing distances by narrowing roadways and creating corner curb bulb-outs.
- Policy 4.27: Enhance crosswalks with special treatments (e.g. paving, lighting, raised crossings) to enhance pedestrian safety and comfort especially at potential conflict locations, such as at new mid-block crosswalks or where bulb-outs cannot be installed.
- Policy 3.7: Develop "quality of place" and "quality of service" indicators and benchmarks for the pedestrian realm in the district, and measure progress in achieving benchmarks on a regular basis.
- Objective 4.24: Restrict curb cuts on key streets to increase pedestrian comfort and safety, to provide a continuous building edge of ground floor uses, to provide a continuous sidewalk for streetscape improvements and amenities, and to eliminate conflicts with transit.
- Objective 4.25: Enhance the pedestrian network with new linkages to provide direct and varied pathways, to shorten walking distances, and to relieve congestion at major street corners.
- Objective 4.27: Ensure that new development enhances the pedestrian network and reduces the scale of long blocks by maintaining and improving public access along existing alleys and creating new through-block pedestrian connections where none exist.
- Policy 4.32: Design new and improved through-block pedestrian passages to make them attractive and functional parts of the public pedestrian network.
- Objective 4.30: Ensure high-quality on-street bicycle connections to the Transbay Transit Center.
- Objective 4.31: Enhance facilities for intra-district bicycle travel.
- Objective 4.32: Ensure local connections to regional bicycle facilities.
- Objective 4.33: Ensure the provision of adequate secure, on- and off-street bicycle parking facilities to accommodate and encourage employees to cycle for commuting and daily needs.

- Policy 4.39: Increase the requirement for secure bicycle parking in new and renovated non-residential buildings to a minimum of five percent of peak on-site employees and visitors.
- Objective 4.34: Facilitate traffic flow to and through the district at levels that are consistent with envisioned improvements for transit, pedestrians and bicycles.

Additionally, as noted in Chapter II, Project Description, the draft Plan proposes an increase in the amount of bicycle parking required in new commercial buildings from a maximum of 12 spaces to the equivalent of at least one bike parking space for every 6,000 square feet of office space.

Pedestrian Impacts

Impact TR-4: Pedestrian activity resulting from implementation of the draft Plan would cause the level of service at sidewalks, street corners, and crosswalks to deteriorate. (Significant and Unavoidable with Mitigation)

Under 2030 conditions without implementation of the draft Plan, pedestrian activity in the Plan area would increase, resulting in increased congestion in crosswalks, on sidewalks, and at street corners, particularly in the vicinity of the new Transit Center and on Second and New Montgomery Streets. Pedestrian level of service (LOS), a measure of crowding, would deteriorate to unacceptable levels at some of the crosswalks at Fremont and Mission Streets in both the midday and afternoon peak hours and First and Mission Streets (p.m. peak only), as well as Beale and Howard Streets (midday only), and New Montgomery and Mission Streets (midday only, although p.m. peak conditions—already at LOS E, would worsen). All sidewalk segments evaluated would continue to operate at acceptable levels of service, as would all but one of the street corners analyzed: the northwest corner of Beale and Howard Streets would reach an unacceptable level of crowding in the midday peak hour.

Development resulting from implementation of the draft Plan would further increase pedestrian activity. Significant impacts would occur at a number of crosswalks due to degraded pedestrian LOS and/or increased congestion: Fremont/Mission Streets (midday peak hour, north crosswalk; and p.m. peak hour, all four crosswalks); First/Mission Streets (midday, north and south; and p.m. peak, east, south, and west); Beale/Howard Streets (midday, west); Second/Howard Streets (midday, east, and p.m. peak, north); Second/Mission Streets (midday and p.m. peak, east); and New Montgomery/Mission Streets (midday and p.m. peak, west). Sidewalks would continue to operate at acceptable LOS. Significant impacts due to street corner congestion would occur at First/Mission Streets (p.m. peak, southwest corner); Beale/Howard Streets (midday, northwest corner); and New Montgomery/Howard Streets (midday, northeast).

With the addition of the proposed public realm improvements (i.e., widened sidewalks and sidewalk bulbs at certain locations, as well as the addition of some mid-block crosswalks), sidewalk conditions, including street corners, would improve incrementally, and all sidewalks and corners would operate at acceptable pedestrian LOS, without excessive crowding, including those that would be adversely affected by Plan area growth without the public realm improvements. Crosswalk impacts would be very similar to those with Plan growth. (Crosswalk widths are not assumed to change, and crosswalk conditions

would therefore be essentially the same as without the public realm plan; if crosswalk widths were to be increased, those locations would have somewhat improved conditions, compared to those reported above.)

Mitigation Measure

M-TR-4 **Widen Crosswalks.** To ensure satisfactory pedestrian level of service at affected crosswalks, the Municipal Transportation Agency, Sustainable Streets Division, could conduct periodic counts of pedestrian conditions (annually, for example) and could widen existing crosswalk widths, generally by 1 to 3 feet, at such times as pedestrian LOS is degraded to unacceptable levels.

Significance after Mitigation: Implementation of Mitigation Measure M-TR-4 would reduce potential LOS impacts to a less-than-significant level at each of the affected crosswalks. However, because the feasibility of these changes is not known at this time, given that MTA would have to further evaluate and consider crosswalk widening in light of other circulation considerations, these impacts are conservatively judged to remain **significant and unavoidable**.

It is noted that the street corner congestion that would occur at First/Mission Streets, New Montgomery/Howard Streets, and Beale/Howard Streets, a significant impact due to Plan growth only but not with the inclusion of the public realm improvements, would be resolved by the sidewalk improvements (bulbs and widening) proposed as part of the draft Plan's public realm improvements. Therefore, no further improvement is required to mitigate impacts of the overall Plan.

Impact TR-5: Development of large projects pursuant to the draft Plan would create potentially hazardous conditions for pedestrians and otherwise interfere with pedestrian accessibility. (Significant and Unavoidable with Mitigation)

In terms of pedestrian safety and access, implementation of the draft Plan would allow for development of a number large projects in the Plan area. In particular, in the vicinity of the new Transit Center, the Transit Tower and several other projects are anticipated, which would increase both vehicular traffic and pedestrian activity in an area with existing high levels of both. It can be anticipated that elements of the public realm plan, such as widened sidewalks and the installation of corner bulb-outs and mid-block crosswalks, would increase pedestrian safety and enhance walkability in the Plan area, even with increased activity.

However, specific pedestrian-vehicle conflicts could arise where individual projects propose driveways and entrance-exit locations for parking and/or loading access. Impacts would depend on project-specific designs and site-specific sidewalk conditions and pedestrian flow. These impacts would include the potential that vehicles entering and exiting project garages and/or loading docks could conflict with pedestrians on the sidewalk crossing project driveways, and could conflict with traffic in the street, including buses, for those locations where driveways would be created near bus stops. Vehicles exiting a

garage or loading dock and waiting for a gap in the traffic flow could potentially block the sidewalk, creating an unsafe condition for pedestrians.

Potential conflicts between pedestrians on the sidewalk and vehicles exiting project parking garages and loading docks could normally be avoided, or at least minimized, by the project having a garage/loading dock attendant on duty, especially during hours of peak traffic and pedestrian activity. Vehicles entering parking garages could block the sidewalk if a queue were present on the garage driveway, or could block traffic lane(s) if the sidewalk were congested (or if there were a lengthy queue ahead on the driveway). Use of a garage/ loading dock attendant could also help minimize pedestrian-vehicle conflicts with incoming cars and trucks (see Mitigation Measure TR-5a).

Depending on the size and design of a particular project's loading dock, if provided, certain longer trucks might not be accommodated because the available maneuvering room would be insufficient. In addition, longer trucks generally require a wider turning movement, and therefore could be required to enter a project's loading area from (and exit to) a traffic lane beyond the curb lane to satisfy turning-radius requirements. Such movements would disrupt vehicle traffic, including transit on transit routes. Accordingly, certain projects might have to impose restrictions on the size of trucks using their dock(s). A parking/loading attendant would have to be on duty to enforce such a restriction (see also Mitigation Measure TR-7a under Impact TR-7, Loading, below).

Mitigation Measure

M-TR-5 **Garage/Loading Dock Attendant.** If warranted by project-specific conditions, the project sponsor of a development project in the Plan area shall ensure that building management employs attendant(s) for the project's parking garage and/or loading dock, as applicable. The attendant would be stationed as determined by the project-specific analysis, typically at the project's driveway to direct vehicles entering and exiting the building and avoid any safety-related conflicts with pedestrians on the sidewalk during the a.m. and p.m. peak periods of traffic and pedestrian activity, with extended hours as dictated by traffic and pedestrian conditions and by activity in the project garage and loading dock. (See also Mitigation Measure M-TR-4b, above.) Each project shall also install audible and/or visible warning devices, or comparably effective warning devices as approved by the Planning Department and/or the Sustainable Streets Division of the Municipal Transportation Agency, to alert pedestrians of the outbound vehicles from the parking garage and/or loading dock, as applicable.

Significance after Mitigation: Because it cannot be stated with certainty that pedestrian conflicts and safety hazards with respect to driveway operation would be fully mitigated, this impact is conservatively judged to be **significant and unavoidable**.

Bicycle Impacts

Impact TR-6: Implementation of the draft Plan would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas. (Significant and Unavoidable with Mitigation)

Under 2030 Without-Project conditions, a number of bicycle improvements are assumed to have been made in the Plan area, consistent with the adopted *Bicycle Plan*. These include the following:

- Second Street bicycle lanes, King Street to Market Street;
- Beale Street bicycle lanes, Bryant Street to Folsom Street;
- Fremont Street bicycle lanes, Folsom Street to Harrison Street; and
- Howard Street Bicycle Lane, The Embarcadero to Fremont Street.

These bicycle improvements would enhance north-south and east-west connections in the bikeway network through the Plan area. In particular, the Second Street and Howard Street bicycle lanes would provide major Class II links in the bikeway network, connecting to major thoroughfares such as Market Street, Mission Street, and The Embarcadero. Travel lanes would be removed along Second Street to accommodate the bike lanes, diverting traffic flow off of Second Street and reducing the potential for vehicle-bicycle conflicts.

Development pursuant to the draft Plan would increase vehicular, pedestrian, and bicycle traffic within the Plan area, but would likely not result in substantial adverse changes to overall bicycle conditions. It is possible that increased congestion could result in a slightly increased potential for vehicle-bicycle and pedestrian-bicycle conflicts and reduced speed for cyclists. However, the draft Plan's public realm plan would institute various traffic calming measures including conversion of one-way streets to two-way traffic and reductions in travel lanes. In general, these measures would enhance bicycling safety within the Plan area by encouraging slower speeds and reducing conflicting right-turn vehicles by eliminating unnecessary circulation movements in a one-way street grid. Although increased on-street parking activity (either occupancy or turnover) could also result in increased potential for injuries to bicyclists as a result of "dooring," the bike lanes planned for several streets within the Plan Area would provide dedicated space for bicyclists and a cushion from both parked vehicles and moving traffic in the adjacent travel lane. Moreover, the draft Plan calls for removal of on-street parking at several locations in the Plan area.

As described further under Impact TR-7, below, implementation of the draft Plan would result in a shortfall of on-street freight loading spaces, which could further increase congestion on Plan area streets and pose safety hazards for bicyclists. This impact would be considered **significant and unavoidable**.

Mitigation Measure

Implement Mitigation Measures M-TR-7 and M-TR-7b (see below).

Significance after Mitigation: Because it cannot be stated with certainty that bicycle conflicts and safety hazards with respect to driveway operation would be fully mitigated, this impact is conservatively judged to be **significant and unavoidable**.

Loading

Impact TR-7: Implementation of the draft Plan would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, and pedestrians. (Significant and Unavoidable with Mitigation)

Freight Loading

Implementation of the draft Plan's public realm plan would result in the removal of approximately 165 on-street freight loading spaces, and create one full-block loading zone, approximately 27 loading pockets, and approximately 11 individual loading spaces (an aggregate total of about 111 new on-street commercial loading spaces), resulting in a net loss of approximately 54 spaces. This would represent a loss of 14 percent of the current supply of 400 on-street loading spaces within the Plan Area, and would force existing delivery and service vehicles using these spaces to seek alternative locations. It would also result in fewer on-street loading spaces being available for future development.

Assumed development in the Plan area would generate a demand for 81 off-street freight loading spaces during an average hour and 106 loading spaces during the peak hour of loading demand. The number of off-street freight loading spaces that would be required under the *Planning Code* to be provided by new buildings in the Plan area would be approximately 86 spaces. This supply would accommodate average hourly demand, but would not meet the estimated peak-hour demand of 106 spaces.[175] Any loading demand that could not be met on-site at a particularly building would need to seek alternative arrangements for loading activities, typically through on-street facilities (yellow zones). Since there is already a substantial amount of existing commercial loading activity within the Plan area, it is expected that the existing supply of on-street loading spaces would not necessarily be able to accommodate the excess loading demand generated. Moreover, not all development sites have sufficient on-street loading spaces nearby.

If the on-street commercial spaces are occupied, drivers of delivery / service vehicles might double-park in order to shorten the distance to their final destination, or may attempt to use any available on-street parking spaces. Any double parking that would occur along streets, especially major commute-related facilities and transit routes, could adversely affect local vehicular and transit circulation and lead to congestion and delays. It could also hinder bicycle traffic and create safety hazards for bicyclists, resulting in adverse secondary impacts to bicycle conditions.

[175] It is noted that this analysis is in the aggregate, and may not reflect specific future projects' design or operation.

A project-specific analysis of the proposed loading facilities for each subsequent development project in the Plan area would be conducted as each project is proposed and evaluated for Planning Code compliance and loading impacts. In particular, Sections 153(a)(6), 154(b)(2), and 161(i) of the *Planning Code* include provisions for providing fewer loading spaces than typically required or undersized loading spaces.

As also noted above under Impact TR-5, depending on the size and design of a project's loading dock, if provided, certain longer trucks longer than might not be able to be accommodated because the available maneuvering room would be insufficient. In addition, longer trucks generally require a wider turning movement, and therefore could be required to enter a project's loading from (and exit to) a traffic lane beyond the curb lane to satisfy turning-radius requirements. Such movements would disrupt vehicle traffic, including transit on transit routes. Accordingly, certain projects might have to impose restrictions on the size of trucks using their locations dock(s). A parking/loading strategy would have to be implemented, which would include enforcement of such a restriction (see Mitigation Measure TR-7a, below).

However, as stated above, an insufficient supply of loading spaces at any individual project site could affect vehicular and transit circulation, as well as bicycles, in the vicinity. Failure to provide an adequate supply of off-street commercial loading spaces at one or more of the specific developments would be expected to further exacerbate such effects. If other nearby developments were also to have a loading space shortfall, these effects could be magnified as delivery and service vehicles compete for a limited supply of on-street spaces.

Given the above, it is conservatively determined that implementation of the draft Plan would result in a **significant and unavoidable impact with respect to loading conditions within the Plan area, with corresponding secondary impacts to traffic, transit, and bicycle circulation**. Mitigation to reduce the magnitude of this impact would involve increasing the number of on-street loading spaces (see Mitigation Measure TR-7b, below).

Mitigation Measure

M-TR-7a **Loading Dock Management:** To ensure that off-street loading facilities are efficiently used and that trucks longer than can be safely accommodated are not permitted to use a building's loading dock, the project sponsor of a development project in the Plan area shall develop a plan for management of the building's loading dock and shall ensure that tenants in the building are informed of limitations and conditions on loading schedules and truck size. Such a management plan could include strategies such as the use of an attendant to direct and guide trucks (see Mitigation Measure M-TR-5), installing a "Full" sign at the garage/loading dock driveway, limiting activity during peak hours, installation of audible and/or visual warning devices, and other features. Additionally, as part of the project application process, the project sponsor shall consult with the Municipal Transportation Agency concerning the design of loading and parking facilities.

Typically, a building property manager dictates the maximum size of trucks that can be accommodated by a building's loading dock, and when trucks may access the project site.

Significance after Mitigation: Significant and Unavoidable because, while loading dock management would improve operations, it cannot be stated with certainty that the impact would be mitigated to a less-than-significant level.

M-TR-7b **Augmentation of On-Street Loading Space Supply:** To ensure the adequacy of the Plan area's supply of on-street spaces, the Municipal Transportation Agency (MTA) could convert existing on-street parking spaces within the Plan Area to commercial loading use. Candidate streets might include the north side of Mission Street between Second Street and First Street, both sides of Howard Street between Third Street and Fremont Street, and both sides of Second Street between Howard Street and Folsom Street. The MTA and Planning Department could also increase the supply of on-street loading "pockets" that would be created as part of the draft Plan's public realm improvements.

Increasing the supply of on-street loading spaces would reduce the potential for disruption of traffic and transit circulation in the Plan Area as a result of loading activities. However, the feasibility of increasing the number of on-street loading spaces is unknown. Locations for additional loading pockets have not been identified, and the feasibility of adding spaces is uncertain, as any such spaces would reduce pedestrian circulation area on adjacent sidewalks. Locations adjacent to transit-only lanes would also not be ideal for loading spaces because they may introduce new conflicts between trucks and transit vehicles. Given these considerations, potential locations for additional on-street loading spaces within the Plan area are limited, and it is unlikely that a sufficient amount of spaces could be provided to completely offset the net loss in supply.

Significance after Mitigation: Significant and Unavoidable with respect to the supply of on-street loading. In particular, because implementation of the draft Plan would reduce the number of available on-street spaces, compared to existing conditions, the loading shortfall would have a **significant and unavoidable effect** on Muni and regional transit operators (primarily Golden Gate Transit and SamTrans) that use City streets. The loading shortfall would also result in a **significant and unavoidable impact** on bicycle movement and safety.

Passenger Loading

Implementation of the public realm improvements proposed under the draft Plan would consolidate the morning casual carpool drop-off area along Howard Street between Fremont Street and First Street (currently both sides of Howard Street) to only the north side of the street because this segment of Howard Street would be converted to two-way traffic. An additional drop-off area would be designated in the proposed loading pocket on the west side of Fremont Street between Howard Street and the Bay Bridge off-ramp (mid-block between Howard Street and Folsom Street), during the a.m. peak hour. Field

observations indicate that the existing casual carpool drop-off zone on both sides of Howard Street is typically less than half occupied during periods of peak use. Most drop-off activities are completed within ten seconds, clearing the zone before one full signal cycle at Fremont Street / Howard Street. The addition of a drop-off area on Fremont Street would offset the loss of part of the Howard Street curb space for drop-off activities, and no substantial impacts to carpool activities or traffic flow along westbound Howard Street are expected with implementation of the draft Plan. This impact would be less than significant.

Should conditions warrant in the future, the Municipal Transportation Agency could designate an additional casual carpool drop-off zone during the weekday a.m. peak period along the north and/or south side of Natoma Street between First Street and Fremont Street, adjacent to the new Transit Center. As private vehicle pick-up / drop-off activities for the Transbay Transit Center are scheduled to be handled along Natoma Street, this curb space could be shared with casual carpool drop-off activities.

Emergency Access

Impact TR-8: Implementation of the draft Plan would not result in inadequate emergency access. (Less than Significant)

Implementation of the draft Plan would not introduce unusual design features, nor would the Plan change the Plan area street network so as to hinder or preclude emergency vehicle access. The physical changes made to the street network, such as closing Shaw Alley and part of Natoma Street to vehicular traffic, would be undertaken in consultation with the Fire Department, and would still allow for emergency vehicle access.

As described in the traffic analysis under Impact TR-1 and the analysis of potential delays to Muni service in the Plan area (p. 303), increased traffic congestion in the Plan area would result in substantial peak-hour delays for passenger vehicles and for transit. Although emergency vehicles are equipped with flashing lights and sirens to facilitate movement through congested streets, and although emergency personnel are typically familiar with the best response routes, it is likely that the projected levels of traffic congestion would occasionally impede emergency vehicle access in the Plan area during periods of peak traffic volumes. However, inasmuch as the traffic analysis focuses on peak-hour conditions (and primarily on the afternoon peak hour, when traffic conditions are generally at their worst), it is not representative of overall traffic conditions that would exist in the Plan area. Moreover, many streets that are highly congested in the a.m. peak hour carry substantially less traffic in the p.m. peak hour, and vice versa. This is particularly true in the Plan area, where many streets are one-way. Thus, while nearly three-fourths of Plan area study intersections would operate at LOS F during at least one peak hour, the same intersections would be expected to operate acceptably during the vast majority of each day. Therefore, while peak traffic periods could result in some delays for emergency responders, the overall effect is not considered substantial, and implementation of the draft Plan would not result in inadequate emergency access in the Plan area.

Mitigation: None required.

Construction Impacts

Impact TR-9: Plan area construction, including construction of individual projects along with ongoing construction of the Transit Center, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation. (Significant and Unavoidable with Mitigation)

In general, the analysis of construction impacts is specific to individual development projects, and includes a discussion of temporary roadway and sidewalk closures, relocation of bus stops, effects on roadway circulation due to construction trucks, and the increase in vehicle trips, transit trips and parking demand associated with construction workers, all in the context of the proposed development.

Construction work may require the temporary closure of travel lanes or sidewalks or the temporary removal of on-street parking, and construction staging and delivery activities may temporarily impede traffic flow on area roadways. Additional parking for construction workers may also need to be provided, or special transportation arrangements made to allow workers to access the site by means other than private automobile. There is also the potential that construction on several different sites could occur simultaneously, requiring that construction traffic plans be coordinated effectively to minimize impacts to the transportation network.

Temporary parking demand from construction workers' vehicles and impacts on local intersections from construction worker traffic would occur in proportion to the number of construction workers who would use automobiles. Parking of construction workers' vehicles would temporarily increase occupancy levels in off-street parking lots, either by those vehicles or by vehicles currently parking in on-street spaces that would be displaced by construction workers' vehicles.

Construction-related activities typically occur Monday through Friday, between 6:00 a.m. and 6:00 p.m., with limited construction activities on weekends (on an as-needed basis). Construction staging typically occurs within project sites and from the adjacent sidewalks. These sidewalks along the site frontages are usually closed throughout the construction duration, with temporary pedestrian walkways constructed in the adjacent parking lanes as needed. Temporary traffic lane closures are required to be coordinated with the City in order to minimize the impacts on local traffic.

During a project's construction period, temporary and intermittent traffic and transit impacts may result from truck movements to and from project sites. Truck movements during periods of peak traffic flow would have greater potential to create conflicts than truck movements during non-peak hours because of the greater number of vehicles on the streets during the peak hour that would have to maneuver around queued trucks. The sponsors of individual projects would have to meet with the Municipal Transportation Agency, Department of Public Works, Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT), and other responsible City agencies to coordinate construction activities so as

to minimize construction impacts on vehicular, transit and pedestrian traffic. Any bus stop relocation would need to be coordinated with the Muni Street Operations / Special Events office, or other respective transit agencies as needed.

Construction-generated traffic generally operates along designated routes (optimized to streamline truck access and minimize temporary secondary noise, air quality, and transportation effects) and occurs outside of the peak hours for commute travel, further reducing the impacts of construction on transportation facilities.

Cumulative Construction Impacts

Demolition of the Transbay Terminal and associated elevated loop structures began in August 2010, with construction of the new Transit Center to begin in early 2012. Completion is scheduled in 2017, and may require relocation of bus stops, closure of sidewalks, removal of on-street parking, or other temporary changes to transportation facilities in the immediate vicinity of the Transit Center.

Several of the assumed development sites—including the Transit Tower, 350 Mission Street, 50 First Street, 181 Fremont Street, TJPA "Parcel F," a nearby site on Howard Street, and 41 Tehama Street—are located adjacent to or within one block of the new Transit Center and associated facilities, and may require special coordination should development proposals move forward and construction commence while the Transit Center is being constructed.

In general, any simultaneous construction activities for the Transit Center and development projects on nearby sites would result in a greater temporary increase in traffic levels, due to construction worker traffic and construction truck traffic (e.g., excavation, demolition, materials delivery). These additional vehicles could result in exacerbated congestion and circulation issues in the immediate vicinity of the Transit Center. Additionally, further disruption of travel lanes and/or sidewalks could occur As a result, sponsors of individual development projects would be required to coordinate with TJPA, MTA, and transit operators (Muni, SamTrans, and Golden Gate Transit) to minimize secondary effects to traffic, transit, pedestrians, bicyclists, and parking and loading activities.

Given the number of relatively large projects proposed in the vicinity and the uncertainty concerning construction schedules, it is conservatively assumed that cumulative construction activities could potentially result in disruptions to traffic, transit, pedestrians, and/or bicycles that could be significant. As noted above, project sponsors and/or their construction contractors would coordinate with construction contractors for any concurrent nearby projects, including the new Transit Center. Nevertheless, despite the best efforts, it is possible that simultaneous construction of multiple projects proximate to one another and to the Transit Center could result in substantial disruption of transit operations, traffic, and pedestrians and bicyclists, which would be **significant and unavoidable**. Mitigation Measure TR-8 would ensure the maximum degree of coordination between project sponsors/construction managers and agencies to minimize potential transit disruption.

Mitigation Measure

M-TR-9 **Construction Coordination.** To minimize potential disruptions to transit, traffic, and pedestrian and bicyclists, the project sponsor and/or construction contractor for any individual development project in the Plan area shall develop a Construction Management Plan that could include, but not necessarily be limited to, the following:

- Limit construction truck movements to the hours between 9:00 a.m. and 4:00 p.m. (or other times, if approved by the Municipal Transportation Agency) to minimize disruption of traffic, transit, and pedestrian flow on adjacent streets and sidewalks during the weekday a.m. and p.m. peak periods.
- Identify optimal truck routes to and from the site to minimize impacts to traffic, transit, pedestrians, and bicyclists; and,
- Encourage construction workers to use transit when commuting to and from the site, reducing the need for parking.

The sponsor shall also coordinate with the Municipal Transportation Agency/Sustainable Streets Division, the Transbay Joint Powers Authority, and construction manager(s)/contractor(s) for the Transit Center project, and with Muni, AC Transit, Golden Gate Transit, and SamTrans, as applicable, to develop construction phasing and operations plans that will result in the least amount of disruption that is feasible to transit operations, pedestrian and bicycle activity, and vehicular traffic.

Significance after Mitigation: Given the proximity of the sites to each other and the Transbay Transit Center, as well as the uncertainty regarding construction schedules, construction activities would likely result in disruptions and secondary impacts to traffic, transit, pedestrians, and bicycles, even with implementation of this mitigation measure. Therefore, this impact is considered **significant and unavoidable**.

Parking

Proposed Plan

Objective 4.5 of the draft Plan states:

> The district's transportation system will build on successful traffic and parking management programs and policies that are in place. Expand and strengthen existing adopted policies (e.g. Downtown Plan, C-3 parking controls) and current planning initiatives (e.g. Transit Effectiveness Project, SFPark).

The draft Plan also contains the following objectives and policies concerning parking:

- Policy 2.24: Prohibit access to off-street parking and loading on key street frontages. Whenever possible, all loading areas should be accessed from alleys.
- Objective 4.16: Create a parking plan that encourages the use of public transit and other modes of transportation that are alternatives to single -occupant vehicles.

- Objective 4.38: Create a parking supply and demand management plan that encourages the use of public transit and other non-single occupant vehicle modes of transportation.
- Objective 4.39: Limit growth in auto trips to the district and congestion through strict limits on the supply of parking.
- Objective 4.40: Establish a parking pricing structure as a primary strategy to manage parking demand and achieve goals for parking turnover and availability.
- Objective 4.41: Implement parking management strategies and technologies that facilitate the dynamic management of parking supply and demand.
- Objective 4.42: Minimize the impacts of parking facilities on transit, pedestrians, and building design by regulating the location and design of parking facilities, including entrance and egress locations.
- Objective 4.43: Limit the continuance of surface parking lots and ensure that lots contribute to the public realm.
- Policy 4.50: Establish an absolute maximum cap on number of parking spaces in the district and adjacent areas based on the established targets for traffic reduction and goals for transit usage.[176]
- Policy 4.51: Scrutinize and restrict new accessory and non-accessory parking in the Plan area until a comprehensive cap on new parking is adopted.
- Policy 4.52: Increase and expand active management of on- and off-street parking, such as SFPark.
- Policy 4.53: Prohibit parking and loading curb cuts on key transit and pedestrian streets, including Mission, Second, and Folsom streets.
- Policy 4.54: Do not permit any new surface parking lots in the district, including as temporary uses.
- Policy 4.55: Ensure that existing surface parking lots provide landscaping and other amenities to improve the public realm and mitigate their ecological impacts.
- Policy 4.56: Require that temporary surface parking lots, as a condition of any re-authorization, include facilities for other non-private auto modes, including parking for car sharing vehicles and bicycles.
- Policy 4.57: Develop an administrative enforcement mechanism and authority to levy administrative fines for the existing Planning Code requirement for short-term parking pricing and prohibitions on discount rates for long-term parking.
- Policy 4.58: Make all non-residential parking, including accessory parking, subject to the City's Parking Tax, regardless of whether such parking is made available to the public for a fee.
- Policy 4.59: Develop a local enforcement mechanism for the existing State of California "parking cash-out" law for parking accessory to commercial development.
- Policy 4.60: Develop a local parking cash-out ordinance to apply to all parking accessory to commercial development.

176 The draft Plan does not identify a proposed numerical limit on parking supply, but instead calls for future consideration of such a cap. Accordingly, no analysis is provided herein of a limit on the number of spaces. It is noted that the concept of a parking cap, while consistent with City policy such as the Transit First Policy, would be subject to separate environmental review at such time as an actual limitation were proposed.

- Policy 4.61: Support the establishment of a multimodal transportation fee for new development based on the number of parking spaces and auto trips generated, and invest the revenue in projects and programs that reduce or mitigate vehicle trips in the District.

San Francisco does not consider parking supply as part of the permanent physical environment and, therefore, does not consider changes in parking conditions to be environmental impacts as defined by CEQA. The Planning Department acknowledges, however, that parking conditions may be of interest to the public and the decision makers. Therefore, this report presents a parking analysis for information purposes.

Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines §15131 (a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The City's Transit First Policy established in the City's Charter Article 8A, Section 8A.115, provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. The traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects.

Parking Supply and Demand

Assumed development in the Plan area would generate a demand for approximately 9,440 parking spaces (610 short-term and 8,830 long-term) during the midday peak period, and a demand for

approximately 8,320 parking spaces (575 short-term and 7,745 long-term) during the evening peak. The number of off-street parking spaces that could be provided as of right by the same assumed development projects is approximately 1,245, or up to approximately 1,585 with valet operations. The maximum amount of parking that could be provided, assuming review and authorization by the Planning Commission, pursuant to Sections 151.1(f) and 309 of the *Planning Code* for parking in excess of principally permitted amounts, is approximately 2,020 spaces, or up to about 2,365 with valet operations. Therefore, the Plan-area-wide parking shortfall could range between about 5,400 and 8,200 spaces. There are currently about 13,500 off-street parking spaces within the Plan Area,[177] with a peak occupancy of approximately 90 percent during the weekday midday period, resulting in about 2,200 available off-street parking spaces, which would be far too few spaces to accommodate all of the unmet off-street parking demand. Additionally, as many as 600 additional surface parking spaces could be lost in the Plan area due to future development on sites currently occupied by parking lots.

Indirect Adverse Effects on Transit Operations

The excess parking demand could result in an increase in the price of off-street parking in and near the Plan area, and could also (possibly in combination with a price increase) result in a mode shift, as drivers decide not to drive and instead utilize other modes of travel, such as by transit, by bicycle, or on foot. While transit and other non-automobile modes of travel are favored by City policy, including the Transit-First Policy, if the mode shift resulted in a substantial amount of additional transit riders, these additional transit trips could cause or exacerbate overcrowded conditions on transit vehicles, which would be over capacity on several parts of the Muni and regional transit system, as described in Impact TR-3, above. While the potential amount of new riders cannot be quantified (because information is not available regarding the likelihood or geographic distribution of potential shifts from vehicles onto transit), it is reasonable to assume that some trips would shift from auto to transit. If such a mode shift were to occur, secondary transit impacts could occur on the following lines either as a result of exacerbating an existing impact or resulting in a new impact on those lines where capacity utilization approaches the standard.

- Muni Corridors (a.m. peak): Geary, California, Sutter/Clement, Third, San Bruno / Bayshore, Other, Subway, and Haight / Noriega.
- Muni Screenlines (a.m. peak): Northwest.
- Muni Corridors (p.m. peak): Geary, California, Sutter / Clement, Chestnut/Union, Third, San Bruno / Bayshore, Other, and Subway. Haight / Noriega.
- Muni Screenlines (p.m. peak): Northwest, Southeast, and Southwest.
- Regional Corridors (a.m. peak): East Bay BART, AC Transit; North Bay GGT Bus and Ferries.
- Regional Screenlines (a.m. peak): East Bay and North Bay.
- Regional Corridors (p.m. peak): East Bay BART, AC Transit; North Bay GGT Bus and Ferries.
- Regional Screenlines (p.m. peak): East Bay and North Bay.

[177] As noted in the setting, about 1,800 off-street parking spaces have been eliminated since the parking survey was conducted for the Transportation Impact Study.

The potential mode shift onto transit would result in **significant, unavoidable impacts** to the transit corridors and screenlines identified above, even with implementation of Mitigation Measures M-TR-3a through M-TR-3e.

California High-Speed Rail

The California High-Speed Rail project, if built, would have a terminal at the new Transit Center. The 2009 Business Plan for the rail project, projects a total of 24,100 daily boardings in 2035 at the Transit Center.[178] Of these passengers, about 80 percent are expected be inter-regional travelers and 20 percent are expected to be local commuters. The Business Plan indicates that 54 percent of the inter-regional trips and 67 percent of the local commuter trips would occur during a 6-hour daily peak period. It is anticipated that during the weekday p.m. peak hour, there would be about 3,370 boardings and 1,780 alightings at the Transit Center.[179] This would generate about 1,80 peak-hour vehicle trips, 1,700 transit trips, 2,215 walking trips (includes to transit and parking) and 50 bicycle trips.

The additional vehicle trips generated by the high-speed rail project would cause further deterioration in conditions at many of the study intersections, including causing some intersections that are expected to operate at acceptable level of service with implementation of the draft Plan to deteriorate to LOS E or F. Because parking is anticipated to be very limited within the vicinity of the Transit Center and within the Plan area in general, it is expected that only taxi and drop-off / pick-up trips would travel through the intersections immediately adjacent to the Transit Center. Traffic on freeway on-ramps would also experience further delays.

Additional riders on Muni could exacerbate the already overcrowded conditions on the Northwest Screenline, Southeast Screenline, and Southwest Screenline. Additionally, the delay to Muni surface vehicles (particularly within the Plan area) could increase with the High-Speed Rail project. Crowding on BART, AC Transit, and Golden Gate Transit buses (and, possibly, ferries) would increase as well.

Pedestrian activity generated by the rail service would primarily affect sidewalks and crosswalks in the immediate vicinity of the Transit Center, some of which could deteriorate to unacceptable service levels. No substantial additional adverse effects would be anticipated with respect to bicycles or loading. Parking occupancy would increase in the Plan area.

---

178 California High-Speed Rail Authority, *Report to the Legislature*, page 72, Table D, December 2009. This document is available online at: http://www.cahighspeedrail.ca.gov/assets/0/152/198/18a28048-f143-4855-b9b4-a9471e50b8ef.pdf. On April 13 2010, the CHSRA published an *Addendum to the California High-Speed Rail Authority's "Report to the Legislature; December 2009"*, which makes minor revisions to the 2009 Plan but does not change the total anticipated daily boardings. The *Addendum* is available online at: http://www.cahighspeedrail.ca.gov/assets/0/152/198/107e685c-4ab8-42b7-b146-543db5fe5aeb.pdf.

179 U.S. Department of Transportation, Federal Railroad Administration, *Transbay Program Final EIS Reevaluation*, Appendix B, May 2010. This document is available online at: http://transbaycenter.org/tjpa/documents/reevaluation-of-transbay-program-final-eis.

Summary – Plan Impacts

In summary, implementation of the draft Plan would result in a significant, unavoidable impact on traffic, on transit, on pedestrian and bicycle circulation, on off-street freight loading, and due to construction-period impacts; and less-than-significant impacts on emergency access. The shortfall in on-street loading spaces would result in a significant and unavoidable impact on traffic, transit service, pedestrians, and bicycles. Although not a CEQA consideration, the impacts on parking would also be less than significant, although the anticipated parking shortfall could indirectly result in adverse effects on transit service.

Transit Tower Impacts

Travel Demand Analysis

The project would generate about 1,968 and 2,115 new person trips during the a.m. and p.m. peak hours, respectively, of which about 27 percent would be vehicle trips (532 in the a.m. peak hour and 551 in the p.m. peak hour).[180] In the a.m. peak hour, there would be 981 transit trips and 282 walking trips, and the remainder (80) would be made by other modes such as bicycle, motorcycle and taxi. Corresponding numbers in the p.m. peak-hour would be 964 transit trips, 424 walking trips, and 75 other-mode trips.

The project would be subject to a variety of transportation management requirements under *Planning Code* Section 163, the intent of which is to assure that adequate measures are undertaken and maintained to minimize the transportation effects of added office employment in the Downtown and South of Market area, by facilitating the effective use of transit, encouraging ridesharing, and employing other practical means to reduce commute travel by single-occupant vehicles.

Traffic Impacts

Impact TR-10: Traffic generated by the proposed Transit Tower would increase average vehicle delay and would degrade level of service at local intersections. (Significant and Unavoidable)

As shown in **Table 23**, five of the 10 signalized intersections studied currently operate at acceptable (LOS D or better) service levels during the p.m. peak hour under existing conditions.[181] The other five intersections—First Street at Market, Mission, Howard, Folsom, and Harrison Streets—operate at an unacceptable LOS E or F. These intersections on First Street are located on the primary approaches to I-80 and the Bay Bridge, and traffic to the bridge causes extensive delays under existing conditions. Three of the study intersections—Fremont Street at Howard, Mission, and Market-Front Streets—were also analyzed for the a.m. peak hour due to heavy morning volumes on Fremont Street. All three Fremont

180 The 532 and 551 vehicle trips represent 625 and 652 person-trips by vehicle in the a.m. and p.m. peak hours, respectively; the number of vehicle trips is less than the number of person trips by vehicle because some person trips are made in vehicles carrying more than one person.

181 Because the Transit Tower could be implemented in the near future, impacts are considered against existing conditions.

TABLE 23
PEAK- HOUR INTERSECTION LEVELS OF SERVICE (TRANSIT TOWER)

Intersection	Existing		Existing + Tower		Cumulative (2030) [b]		Project Contribution
	LOS[d]	Delay[d]	LOS[d]	Delay[d]	LOS[d]	Delay[d]	To Cumul.[c]
P.M. PEAK HOUR							
1. First Street / Market Street	**E**	**72.7**	**E**	**77.1**	**F**	**>80** ***(v/c = 1.42)***	1.4% (SBT) 1.1% (EBR)
2. Fremont / Market / Front Streets	B	19.1	C	21.0	**F**	**>80** ***(v/c = 1.20)***	1.2% (NBTR)
3. Second Street / Mission Street	C	22.5	C	26.6	**E**	**60.2**	1.8% (WBTR)
4. First Street / Mission Street	**E**	**57.2**	**F**	**>80.0** ***(v/c = 1.26)***	**F**	**>80** ***(v/c = 3.09)***	3,2% (SBR) 0.4% (EBTR)
5. Fremont Street / Mission Street	C	24.8	C	26.2	**F**	**>80** ***(v/c = 1.42)***	1.4% (NBTR)
6. Second Street / Howard Street	B	12.3	B	13.1	**F**	**>80** ***(v/c = 1.62)***	2.4% (WBLTR)
7. First Street / Howard Street	**E**	**74.3**	**F**	**>80.0** ***(v/c = 1.46)***	**F**	**>80** ***(v/c = 2.31)***	18.1% (SBR) 6.5% (WBL)
8. Fremont Street / Howard Street	D	48.6	**E**	**59.1**	**F**	**>80** ***(v/c = 1.49)***	3.5% (EBLT) 0.6% (NBR)
9. First Street / Folsom Street	**E**	**70.1**	**F**	**>80.0** ***(v/c = 1.16)***	**F**	**>80** ***(v/c = 1.62)***	0.0%
10. First St. / Harrison St. / I-80 EB On	**F**	**>80.0** ***(v/c = 1.36)***	**F**	**>80.0** ***(v/c = 1.39)***	**F**	**>80** ***(v/c = 1.48)***	3.8% (SBT)
A.M. PEAK HOUR							
5. Fremont / Market / Front Streets	C	24.3	C	25.9	**F**	**>80** ***(v/c = 1.05)***	0.6% (NBTR)
6. Fremont Street / Mission Street	D	36.1	D	39.4	**F**	**>80** ***(v/c = 1.26)***	2.4% (NBTR)
7. Fremont Street / Howard Street	D	37.9	D	50.1	**F**	**>80** ***(v/c = 1.76)***	2.6% (EBLT) 2.3% (NBR)

1 Intersections at LOS E or LOS F are **bolded;** solid box indicates significant project or project + cumulative impact; dashed box indicates significant cumulative impact.
2 Delay in seconds per vehicle. Where delay exceeds 80 seconds (signalized intersections only), volume-to-capacity ratio indicated in parentheses.
3 Project's percent contribution to cumulative volume in critical movement at intersections projected to operate at LOS E or F. NB, SB, EB, WB indicates traffic direction (e.g., northbound); L, T, R indicates traffic movement through intersection (Left Turn, Through, Right Turn).

SOURCE: AECOM

Street intersections operate at acceptable LOS in the a.m. peak hour. The intersections selected for analysis were chosen because they would be the most likely to be affected by project traffic. While project-generated vehicles would also travel through other intersections, they would have less impact on intersections farther from the project site, as vehicles would disperse among the available streets as they travel away from the project site.

With the addition of project traffic to existing conditions,[182] operating conditions at four of the study intersections would degrade from those under existing conditions in the p.m. peak hour: First and Mission Streets, First and

Howard Streets, First and Folsom Streets, and Fremont and Howard Streets, resulting in significant impacts at these four intersections. At the two other intersections currently operating at unacceptable LOS (First and Market and First and Harrison Streets), project traffic would represent less than 5 percent of the volume of any "critical movement" (traffic movements through an intersection that most strongly influence intersection LOS), which is regarded as a less than "considerable" contribution to the existing degraded operation. Therefore, the project would result in less-than-significant impacts on intersection operations at these two intersections. In the a.m. peak hour, project traffic would not result in degradation of any intersection LOS.

Mitigation Measures

No mitigation is feasible to reduce impacts to a less-than-significant level at any of the four intersections that would be adversely affected by the proposed project. At First and Mission Streets, the Municipal Transportation Agency (MTA) could potentially optimize signal timing, which might reduce impacts to LOS E (and better than under existing conditions). However, this measure would require evaluation by the MTA with respect to signal progression and pedestrian timing requirements. Therefore, the feasibility of the mitigation measure is uncertain and the impact would be **significant and unavoidable**.

At First and Howard Streets, signal optimization would not improve conditions to better than LOS F.

At Fremont and Howard Streets, the MTA could potentially stripe an additional westbound through lane along Howard Street by reducing the number of eastbound travel lanes from two to one. However, this measure would require detailed evaluation by the MTA with respect to intersection geometry and other factors. Therefore, the feasibility of the mitigation measure is uncertain and the impact would be **significant and unavoidable**.

At First and Folsom Streets, the MTA could potentially stripe an exclusive southbound left-turn pocket at the intersection by removing approximately four on-street parking spaces on the east side of First Street, and convert the current shared through-left lane into a through lane. However, this measure would require detailed evaluation by the MTA with respect to intersection geometry and other factors. Therefore, the feasibility of the mitigation measure is uncertain and the impact would be **significant and unavoidable**.

Significance after Mitigation: Significant and Unavoidable, due to the uncertainty of implementing this measure.

---

[182] Because the proposed on-site parking garage would not accommodate the peak parking demand, some vehicle-trips generated by the project would need to use other off-street parking facilities; these vehicles were directly assigned to other parking facilities in the Plan area that have available capacity.

Cumulative Traffic Impacts

Cumulative traffic impacts were assessed by evaluating traffic from the proposed Transit Tower in the context of the draft Plan impacts analysis (Impact TR-1). As shown in Table 23, the Transit Tower's contributions to poorly-performing critical movements at one of the ten study intersections operating at LOS E or LOS F under 2030 Cumulative Conditions would exceed five percent. At the intersection of First and Howard Streets, the Transit Tower would make a considerable contribution to the total volumes on the southbound right and westbound left critical movements during the weekday p.m. peak hour, which would be a significant impact.

No mitigation is available for this impact, for the reasons discussed under Impact TR-1, and this impact would, therefore, be **significant and unavoidable**.

Transit

Impact TR-11: Transit ridership generated by the proposed Transit Tower would not result in a substantial increase in transit demand that could not be accommodated by adjacent transit capacity resulting in unacceptable levels of transit service, or cause a substantial increase in delays or operating costs. (Less than Significant)

The Transit Tower project would generate approximately 981 net new a.m. peak-hour transit trips, and about 964 net new transit trips in the p.m. peak hour; more than 90 percent of transit trips would be made in the peak direction (inbound in the morning and outbound in the afternoon). Of these trips, about half would be on Muni in the morning peak hour, and slightly more than half would be entirely on Muni in the afternoon peak hour, with the remainder being made primarily by regional transit. Muni trips would be dispersed over the more than 15 Muni routes (local and express buses, streetcar and Metro trains) that serve the Plan area. Project transit ridership in the peak direction would incrementally increase p.m. peak-period capacity utilization[183] at the four Muni screenlines (which are imaginary cordon lines drawn around the greater downtown area for purposes of analyzing Muni ridership by corridor). All Muni screenlines (see **Table 24**) currently operate better than Muni's service standard of 85 percent capacity utilization in both the morning and afternoon peak hours,[184] although the Metro corridors (Southwest screenline) currently exceed the standard. However, the increase in ridership due to the project would be no more than 2 percentage points on any corridor or screenline, and would not be significant, inasmuch as the increased ridership would be dispersed over dozens of Muni vehicles and would not result in exceedances of Muni capacity. The project would be subject to the Transit Impact Development Fee, which is a one-time fee assessed against downtown office projects to offset increased capital costs to Muni to provide additional capacity to serve the increased demand from new development.

---

183 Capacity utilization is the aggregate number of passengers divided by the aggregate design capacity of the transit vehicles, and may include varying numbers of standees, depending on the transit carrier.

184 Muni's service standard is based on differing capacities of its fleet's various sizes of buses and rail vehicles.

TABLE 24
MUNI PEAK-HOUR CAPACITY UTILIZATION (TRANSIT TOWER)

Screenline / Corridor	Existing		Existing plus Transit Tower		Cumulative		Contribution to Cumulative	
	AM	PM	AM	PM	AM	PM	AM	PM
Northeast Screenline								
Kearny / Stockton	58%	56%	59%	57%	77%	78%	–	–
Other	41%	48%	41%	48%	68%	74%	–	–
Subtotal	50%	52%	50%	53%	72%	76%	–	–
Northwest Screenline								
Geary	63%	76%	65%	78%	**86%**	**92%**	2.0%	2.1%
California	68%	69%	70%	71%	**99%**	**111%**	1.8%	2.0%
Sutter / Clement	54%	56%	56%	58%	**95%**	**90%**	1.9%	2.1%
Fulton / Hayes	72%	68%	73%	70%	79%	70%	–	–
Balboa	58%	49%	59%	50%	62%	49%	–	–
Chestnut / Union	70%	64%	72%	66%	69%	**86%**	–	2.5%
Subtotal	65%	65%	67%	67%	82%	**86%**	–	2.1%
Southeast Screenline								
Third	61%	78%	62%	79%	**91%**	**99%**	0.3%	0.3%
Mission	65%	53%	66%	54%	50%	69%	–	–
San Bruno / Bayshore	78%	74%	79%	75%	84%	83%	–	–
Other	62%	70%	63%	71%	**88%**	**91%**	1.1%	1.0%
Subtotal	67%	66%	68%	67%	77%	**86%**	–	0.8%
Southwest Screenline								
Subway	**86%**	**87%**	**88%**	**88%**	81%	**92%**	–	1.1%
Haight / Noriega	53%	58%	54%	60%	**85%**	81%	2.6%	–
Other	44%	43%	45%	44%	54%	41%	–	–
Subtotal	76%	77%	78%	79%	80%	**86%**	–	1.4%
TOTAL	67%	68%	68%	69%	79%	**111%**	n/a	n/a

Notes:
AM Peak Hour represents inbound (to downtown) ridership; **PM Peak Hour** represents outbound (from downtown) ridership.
Bold indicates exceedance of capacity utilization policy standard (85% utilization).
[1] Unbolded capacity utilization of 85% indicates actual number is slightly below threshold.
Dash (–) indicates corridor or screenline does not exceed 85% threshold.

SOURCE: AECOM.

Project ridership on regional transit carriers would total about 445in the morning peak hour and 405 in the afternoon peak hour (some riders would also take Muni), with about half traveling to and from the East Bay on BART, and another third to and from the Peninsula on BART. Project transit trips would increase East Bay and Peninsula BART p.m. peak-period capacity utilization by 1 percentage point or less, and would not substantially affect capacity utilization on AC Transit, Golden Gate Transit, SamTrans, or Caltrain service (with five or fewer net new riders on each). None of the regional carriers' capacity utilization standards would be exceeded with project transit trips.[185] Therefore, project effects on regional transit ridership would be less than significant.

185 Golden Gate Transit, AC Transit and Caltrain have a passenger-per-seat standard of 100 percent. BART has a peak-hour passenger-per-seat standard of 135 percent.

Cumulative Transit Impacts

As described in Impact TR-3, by 2030, ridership on Muni lines is projected to generally grow faster than increases in capacity, and overall peak-hour ridership across the four screenlines, as a percentage of overall capacity, would increase substantially from existing conditions, with three of four screenlines exceeding Muni's 85-percent standard in the p.m. peak hour, along with several individual corridors in both peak hours. In some cases, capacity utilization on individual corridors would exceed 95 percent, with ridership on vehicles approaching the capacity for seated and standing passengers. However, project-generated ridership would represent less than one percent of the growth in Muni ridership at the four screenlines, and would make up less than 1.5 percent of total 2030 cumulative transit ridership at the screenlines. The maximum contribution to any single corridor or screenline would be 2.6 percent. Therefore, the project would have a less-than-significant cumulative impact on Muni operations.

Similarly, by 2030, ridership levels on regional transit lines (see **Table 25**) are projected to increase faster than increases in capacity, with both East Bay BART service and Golden Gate Transit bus service anticipated to be operating in excess of their respective load factor standards in both the a.m. and p.m. peak hours. BART trains in the Transbay Tube are projected to exceed 115 percent of capacity entering San Francisco in the morning peak hour and approach that figure in the afternoon peak hour, up from 80 percent and 83 percent, respectively, under existing conditions. Project ridership would comprise approximately 1.6percent of the growth in ridership from existing conditions to 2030 in the a.m. peak hour, and about 1.5 percent in the p.m. peak hour (less than three-fourths of one percent of the total in each case). Therefore, the project would have a less-than-significant impact on BART operations.

TABLE 25
REGIONAL TRANSIT PEAK-HOUR CAPACITY UTILIZATION (TRANSIT TOWER)

Screenline / Operator	Existing		Existing plus Transit Tower		Cumulative		Contribution to Cumulative	
	AM	PM	AM	PM	AM	PM	AM	PM
East Bay								
BART	80%	83%	81%	84%	**117%**	**113%**	0.7%	0.6%
AC Transit	55%	60%	55%	61%	**157%**	**117%**	0.2%	0.3%
Ferries	56%	46%	57%	47%	84%	80%	–	–
Subtotal	77%	78%	77%	79%	120%	111%	–	–
North Bay								
Golden Gate Transit Bus	57%	63%	57%	64%	**101%**	**118%**	0.5%	0.5%
Ferries	56%	53%	56%	54%	99%	99%	–	–
Subtotal	56%	59%	57%	59%	101%	109%	–	–
South Bay								
BART[1]	65%	61%	65%	62%	60%	57%	–	–
Caltrain	65%	61%	66%	61%	71%	64%	–	–
SamTrans	65%	61%	65%	61%	77%	44%	–	–
Ferries	n/a	n/a	n/a	n/a	51%	25%	–	–
Subtotal	65%	61%	65%	52%	63%	58%	–	–
TOTAL	70%	70%	71%	71%	96%	90%	–	–

Notes:

AM Peak Hour represents inbound (to downtown) ridership; **PM Peak Hour** represents outbound (from downtown) ridership.

Bold indicates exceedance of 100% of seating capacity, except 150% of seating capacity on BART). Although operators are grouped by screenlines, screenlines are not analyzed as a whole because they are served by different operators.

[1] Includes trips to/from stations within San Francisco but outside of downtown (16th / Mission, 24th / Mission, Glen Park, and Balboa Park).

SOURCE: AECOM, 2011.

AC Transit buses would operate at 157 percent of capacity in the morning and 117 percent in the afternoon (up from 55 to 60 percent at present), and Golden Gate transit buses would operate at as much as 118 percent of seated capacity (p.m. peak hour), an increase from the existing 63 percent. Project ridership would constitute up to 0.5 percent of the growth in AC Transit ridership (0.3 percent of the total), and would make up 1.1 percent of the growth in Golden Gate Transit bus ridership (0.5 percent of the total). Therefore, the project would have a less-than-significant impact on AC Transit and Golden Gate Transit operations.

Effects on transit resulting from operation of the proposed Transit Tower's loading dock are discussed below under Impact TR-14.

Mitigation: None required.

Pedestrian Conditions

Impact TR-12: The proposed Transit Tower would not result in substantial overcrowding on public sidewalks, but would create potentially hazardous conditions for pedestrians or otherwise interfere with pedestrian accessibility to the site and adjoining areas. (Significant and Unavoidable with Mitigation)

Sidewalks on Mission, First, and Fremont Streets operate at LOS A or B in both the midday and p.m. peak hour, and would continue to do so with the addition of pedestrian traffic from the proposed project, as well as under cumulative conditions. No significant effects would ensue.

Crosswalks in the First/Mission Streets and Fremont/Mission Streets intersections operate at a range of between LOS A and LOS D, all of which are considered acceptable, under existing conditions. With the project, the eight crosswalks would see increased usage but no LOS would decline to an unacceptable level, with the exception of the north crosswalk in the Fremont/Mission intersection, which would operation at LOS E. This would be a significant impact. Under cumulative conditions, the north and south crosswalks at First/Mission Streets and the north crosswalk at Fremont/Mission Streets would operate at LOS E in the midday peak hour, and seven of eight crosswalks would operate at LOS E in the p.m. peak hour. (The north crosswalk at First/Mission Streets would operate at LOS C.) Transit Tower pedestrian trip generation would make a considerable contribution (greater than 5 percent) only to the north crosswalk in the Fremont/Mission intersection, discussed above.

Effects on pedestrians resulting from operation of the proposed Transit Tower's loading dock are discussed below under Impact TR-14.

Mitigation Measure

M-TR-12 **Widen North Crosswalk at Fremont / Mission Streets:** To ensure adequate pedestrian level of service under Existing plus Project and Cumulative Conditions, the Municipal

Transportation Agency could widen the north crosswalk at Fremont and Mission Street by approximately 5 feet.

Significance after Mitigation: Significant and Unavoidable, due to the uncertainty of implementing this measure.

Bicycle Conditions

Impact TR-13: The proposed project would not create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas. (Less than Significant)

The Transit Tower would be located in the heart of the Plan area, and in the vicinity of several major bicycle routes, including Route 50 (Market Street), Route 11 (Second Street), Route 30 (Howard Street and Folsom Street), and Route 5 (The Embarcadero), as well as the San Francisco Bay Trail paralleling the Embarcadero along the waterfront. The Transit Tower is expected to increase bicycle traffic on these area bikeways (up to approximately 50 trips during the weekday AM and PM peak hours), but is not expected to result in significant impacts, as there is currently available capacity on these routes to handle additional bicycle traffic.

Bicyclists would be able to access the Transit Tower from all three adjacent streets, either riding directly to the building's driveway and down into the Transit Tower garage via First Street, or walking their bike into the building and / or garage from Mission Street or Fremont Street. There would be the potential for conflicts at the driveway between bicyclists and parking garage vehicles or service / delivery trucks accessing the loading dock, as access to the garage would be shared between all users. However, given the limited capacity of the Transit Tower's garage and the alternative routes available to bicyclists, this is not expected to result in significant impacts to bicycle conditions.

The Transit Tower would also generate new vehicular and pedestrian traffic on city streets, which could increase the potential for vehicle-bicycle and pedestrian-bicycle conflict. However, the Transit Tower would not propose roadway or street modifications that would be inherently dangerous to bicyclists, and given the existing traffic levels (compared to the additional traffic levels generated by the Transit Tower), no significant impacts to bicycle conditions are expected as a result of the Transit Tower's new vehicular and pedestrian traffic.

Because impacts to pedestrians and bicyclists would be less than significant, no mitigation is required.

Effects on bicycles resulting from operation of the proposed Transit Tower's loading dock are discussed below under Impact TR-14.

Mitigation: None required.

Loading

Impact TR-14: The proposed project would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and could create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles and pedestrians. (Significant and Unavoidable with Mitigation)

Under *Planning Code* Section 152.1, the project would be required to provide 15 off-street (standard truck) freight loading spaces (13 for office use and 2 for retail use). The *Planning Code* allows the substitution of two service van spaces for each full-size loading space, provided that at least one-half of the required number of spaces is provided for trucks (ignoring any resulting fraction). Application of that substitution formula for the project would yield a requirement for two truck spaces and two van spaces. Based on current plans, the project would provide six *Planning Code*-complying standard-truck loading spaces in a below-grade loading dock accessible from First Street via a ramp that would also serve the proposed parking garage.

The project would generate a total of about 353 service vehicle stops per day. Calculated average hourly loading demand would be about 16 spaces, and peak demand would be about 21 spaces. The project's six off-street truck loading spaces would not meet the average or peak demand.

If approved by the Municipal Transportation Agency following a public hearing, there would be an on-street commercial loading space directly abutting the building frontage on First Street. This would provide additional loading supply, but this space could not be reserved for exclusive use by the Transit Tower. While there are on-street commercial loading spaces provided along both First Street and Fremont Street within one block of the Transit Tower site, use of these spaces would be impractical for most loading activities due to their distance from the building and the need to cross one or more streets to access the site. Due to the shortfall of off-street loading spaces within the building and the lack of sufficient immediately adjacent on-street loading spaces directly adjacent to the building, delivery and service vehicles would likely double-park illegally along First Street or Mission Street. This would restrict roadway capacity, disrupting traffic flow and resulting in increased congestion that would delay traffic. Additionally, the curbside lane adjacent to the site on Mission Street is a transit-only lane, so illegal parking by delivery / service vehicles would force transit vehicles to merge into the regular travel lanes.

As a result, the deficient loading supply of the Transit Tower would result in a significant impact to loading, and secondary impacts to traffic, transit and bicycle operations.

Driveway and Loading Dock Operations

The Transit Tower would have a single garage driveway off of First Street serving both the building's parking garage and loading dock. Vehicles using the parking garage and trucks using the loading dock would share this driveway to access the underground garage complex. As currently designed, the loading dock would be located between the main control point for the garage and the exclusive control

point serving the parking area. (The second control point would govern access into and out of the parking area, and would include an automated ticketing machine or a parking attendant.)

Trucks would enter the garage via the ramp, pass the first control point, make a left turn, and back into the loading dock. To exit, trucks would make a right turn out of the loading dock, make a second right turn past the first control point, and travel up the ramp back to street level. Due to limited space, however, trucks using the southern four spaces at the dock would have difficulty making the two right turns to clear the primary control point and gain access the exit ramp. Trucks using these spaces would need to make a second reversing movement to adequately align themselves to make the second right turn at the primary control point. During these maneuvers, cars entering and exiting the parking area would be temporarily blocked. Trucks attempting to enter the loading dock would also require traffic to / from the parking area to be temporarily stopped to allow for these maneuvers to take place safely.

Depending on when these dock entry / exit maneuvers take place, there could be some spillback queues during these maneuvers as vehicles attempting to enter the garage are forced to wait for trucks to clear the circulation aisle. If such maneuvers block the circulation aisle for a sufficient length of time (e.g., if separate entry and exit maneuvers were conducted in succession), and/or these maneuvers are performed during peak inbound traffic movements (such as during the a.m. peak hour), queues could spill back up the driveway and onto First Street.

In the future, the First Street sidewalk adjacent to the building is expected to serve as a major pedestrian route to access the new Transit Center. The Transit Tower's proposed driveway and curb cut would disrupt pedestrian flow and could present safety hazards to pedestrians along this section of sidewalk, with approximately 180 vehicles entering the garage and 40 vehicles exiting the garage during the a.m. peak hour and approximately 190 vehicles exiting the garage and 40 trips entering the garage during the p.m. peak hour. In addition, any vehicle queues as described above could extend across the sidewalk, further disrupting pedestrian flow and creating safety hazards for pedestrians along the First Street sidewalk adjacent to the Transit Tower.

First Street is also a major vehicular street. Any queues reaching First Street would block a travel lane, reducing roadway capacity and creating a traffic hazard.

Moreover, the difficulty of the loading maneuvers within the loading dock, combined with the lack of a sufficient number of off-street loading spaces, could encourage some delivery and service vehicles to double-park illegally along the First Street and Mission Street building frontages rather than enter the loading dock, causing increased congestion and delay for both traffic and transit vehicles.

Finally, because First Street is one-way southbound, the driveway configuration as proposed would result in turning movement conflicts between vehicles attempting to enter the garage (south side of the driveway) and vehicles attempting to exit the garage (north side of the driveway). This conflict could lead to an increased potential for collisions, increasing safety hazards to drivers.

Given these considerations, the Transit Tower garage driveway and loading dock would result in significant impacts to traffic, transit, and pedestrian operations.

Mitigation Measures

M-TR-14a **Loading Dock Management:** To ensure adequate off-street loading capacity is provided, the project sponsor shall implement active management of the Transit Tower loading dock, including, but not necessarily limited to, the following:

- Establish a Loading Demand Management Plan. All loading activities would be coordinated through an on-site manager, to ensure that loading docks are available when scheduled trucks arrive. Unscheduled deliveries (which would have to park on the street, likely illegally) would be prohibited access to the building freight elevators;
- During periods when the building's loading dock is fully utilized, the coordinator would direct trucks to return when there is available capacity at the loading dock. Alternatively, a sign could be provided at or near the driveway to the alert truck drivers that the dock is full; and,
- Educate the building's office and retail tenants on the capacity of the loading dock and the loading coordinator's role, and encourage off-peak deliveries or use of smaller van-type vehicles that could be accommodated in standard parking spaces within the building garage.

M-TR-14b **Garage/Loading Dock Driveway Operations:** To ensure that operation of the driveway serving the project's off-street parking garage and off-street loading dock does not result in queues of vehicles that could adversely affect traffic, transit, pedestrians, and bicycles on First Street, the project sponsor shall undertake measures including, but not necessarily limited to, the following:

- Redesign the internal layout of the loading dock to allow for easier entrance / exit maneuvers for all provided loading spaces (e.g., limited need for additional reversing movements). This would be evaluated using a truck-turning template assessment to ensure that vehicles of all sizes could adequately access each space;
- Restrict the use of the loading dock to trucks 35 feet in length or shorter;
- Install a "GARAGE FULL" sign at the garage driveway to alert drivers that the on-site garage is at capacity;
- Between the hours of 6:00 a.m. to 10:00 p.m., station a parking garage attendant at the driveway on First Street to direct vehicles entering and exiting the garage to avoid any safety issues with pedestrians in the sidewalk, prevent delays or disruption to traffic and transit operations along First Street, and minimize conflicts between vehicles entering the garage and vehicles exiting the garage;
- Install visible warning devices at the driveway opening to alert pedestrians of approaching vehicles;
- Limit hours of operation of the loading dock to avoid peak pedestrian and traffic times. No trucks would be permitted to enter or exit the loading dock between the hours of 7:00 a.m. to 9:00 a.m., 12:00 p.m. to 1:00 p.m., and 4:00 p.m. to 6:00 p.m. on weekdays;

- Redesign the garage driveway with the inbound direction (entering the garage) on the north side of the driveway and the outbound direction (exiting the garage) on the south side of the driveway, which would eliminate conflicts between vehicles entering and exiting the garage;
- Signalize the driveway intersection at First Street, so that the driveway would function as the east leg of the First Street / Minna Street signalized intersection. Vehicles exiting the driveway would receive a solid red signal during the green signal for southbound First Street. Signage and striping within the driveway would direct exiting vehicles to stop and wait within the driveway during the red signal phase and not block the sidewalk, and indicate that left turns on red exiting the driveway would be prohibited. When southbound First Street has a red signal (and eastbound Minna Street has a green signal), vehicles exiting the driveway would have a flashing red signal, indicating that they are permitted to exit but must yield to pedestrians on the First Street sidewalk (similar to a typical driveway) as well as pedestrians crossing First Street at Minna Street (similar to a typical signalized intersection). These measures would provide exiting vehicles with a designated phase for egress movements, separate from the First Street phase, which would ensure that they do not block the sidewalk while exiting. Vehicles entering the driveway would proceed along with southbound First Street traffic and would also have to yield to pedestrians on the First Street sidewalk (like at a typical driveway), and left turns on red into the driveway would be prohibited, as indicated by signage. Pedestrians movements on the First Street sidewalk would not be signalized, and vehicles entering and exiting the driveway would have to yield to these pedestrians at all times (similar to a typical driveway);
- Ensure that vehicular queues do not stretch back to the First Street sidewalk or travel lane at any time; and
- As part of the Planning Department project approval process (e.g., Section 309 of the *Planning Code*), the Transit Tower project sponsor shall consult with MTA on the design of the parking garage and access to ensure that it is functional and well-integrated with street operations across all modes.

Significance after Mitigation: Significant and Unavoidable

Because no detailed design is available for the Transit Tower loading dock that indicates how, or if, the building's off-street freight loading and garage operations would function acceptably, and while implementation of Mitigation Measure TR-14b would be expected to reduce the impact, it is uncertain whether the above management and engineering solutions would reduce it to a less-than-significant level. Therefore, this impact is considered **significant and unavoidable.**

Passenger Loading. The project does not propose dedicated curbside passenger loading zones, as there is limited curb space available adjacent to the project site to serve passenger loading needs. However, passenger loading could occur from the on-street parking spaces and current loading spaces along the east curb of Fremont Street, except between 7:00 a.m. and 9:00 a.m. and 3:00 p.m. and 7:15 p.m., when the parking lane is restricted. During these periods, passenger loading would need to occur from other on-street spaces in the vicinity to reduce the potential for private vehicle pick-up and drop-off activities to conflict with Muni operations along Mission Street and Golden Gate Transit operations along Fremont

Street. Assuming enforcement of the No-Stopping restrictions, no significant effect would ensue. Nevertheless, passenger loading should receive additional consideration during the detailed design and entitlement process for the proposed Transit Tower.

Emergency Access

Impact TR-15: The proposed project would not result in inadequate emergency access. (Less than Significant)

The project site is accessible from both First and Mission Streets, and the Transit Tower would also be accessible from Fremont Street, across the planned Mission Square open space. Access directly into the building for emergency vehicles and responding personnel would be provided via the parking garage driveway on First Street, with additional access at street level (from either First Street, Mission Street, or Fremont Street via the Mission Square plaza) on foot through the building lobby. The project also proposes no modifications to the roadway network. Overall, the project would not result in any significant impacts to emergency vehicle access.

Mitigation: None required.

Construction Impacts

Impact TR-16: Project construction, along with construction of the Transit Center and other nearby projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation. (Significant and Unavoidable with Mitigation)

Detailed plans for construction of the Transit Tower have not been finalized. However, in compliance with the San Francisco Noise Ordinance and permit conditions, it is expected that construction would occur primarily on weekdays from 7:00 a.m. to 5:00 p.m., with work occurring on Saturday from 8:00 a.m.to 4:00 p.m. on an as-needed basis only.

The estimated total number of daily truck trips is currently undetermined, but given the building size and the amount of excavation would be expected to be substantial. However, the Transit Tower project sponsor would follow the Regulations for Working in San Francisco Streets ("The Blue Book") and would provide reimbursement to MTA for installation and removal of temporary striping and signage changes required during construction of the Transit Tower.

Construction staging areas have not been identified. Given the constrained site, staging may need to be provided at a nearby off-site location, resulting in additional truck traffic. Adjacent sidewalks and travel lanes may need to be closed for extended periods. Any travel lane or sidewalk closures deemed necessary for construction of the Transit Tower would be coordinated with the City in order to minimize the

impacts on local traffic, but impacts to traffic and pedestrians would be likely. In general, lane and sidewalk closures are subject to review and approval by the Department of Public Works (DPW) and the Interdepartmental Staff Committee on Traffic and Transportation (ISCOTT). Any Muni stop relocation would need to be coordinated with the Muni Street Operations / Special Events office. Any SamTrans or Golden Gate Transit stop relocation would need to be coordinated with the appropriate regional transit agencies.

Based on the confined site, expected intensity and duration of construction, and likely impacts to traffic and pedestrian circulation, construction of the Transit Tower would result in a significant construction impact

In terms of cumulative impacts, other projects may be under construction in the project site vicinity at the same time as the proposed project. Primarily, these would include ongoing construction of the new Transit center, which will last several years, until approximately 2017, as well as the nearby approved project at 350 Mission Street and proposed projects at 50 First Street and 181 Fremont Street, as well as the TJPA-owned Parcel F on Howard Street. Additional potential projects are within two blocks.

If a decision is made to commence construction of the Transit Tower before completion of construction of the new Transit Center, the Transbay Joint Powers Authority may need to coordinate internally and externally, with MTA, SamTrans, and Golden Gate Transit staff and potentially with representatives from other developers proposing projects in the immediate vicinity, to secure sufficient vehicular, transit, pedestrian, and bicycle circulation along Plan Area roadways.

In addition, construction of the Transbay Transit Center and other developments in the area would result in increased traffic levels, due to construction workers, earth moving vehicles, and the delivery of construction materials via trucks. These additional vehicles would result in substantial congestion and circulation issues in the immediate vicinity of the Transit Tower and other individual project sites. Extended closures of travel lanes and sidewalks may be necessary. Based on these issues, construction of the Transit Tower combined with adjacent construction projects would result in a cumulative construction impact.

Given the number of relatively large projects proposed in the vicinity and the uncertainty concerning construction schedules, it is conservatively assumed that cumulative construction activities could potentially result in disruptions to traffic, transit, pedestrians, and/or bicycles that could be significant. The proposed Transit Tower could proceed with construction in advance of some other projects in the vicinity. As noted above, the project sponsor and/or construction contractor would coordinate with construction contractors for any concurrent nearby projects, including the new Transit Center. Nevertheless, despite the best efforts of the project sponsor and project construction contractor, it is possible that simultaneous construction of the proposed Transit Tower and the Transit Center (and, potentially, other nearby projects) could result in substantial disruption to traffic and transit operations, as well as pedestrian and bicycle traffic.

Mitigation Measure

M-TR-16 **Construction Coordination.** To minimize potential disruptions to transit, traffic, and pedestrian and bicyclists, the project sponsor and/or construction contractor shall develop a Construction Management Plan that could include, but not necessarily be limited to, the following:

- Limit construction truck movements to the hours between 9:00 a.m. and 4:00 p.m. (or other times, if approved by the Municipal Transportation Agency) to minimize disruption of traffic, transit, and pedestrian flow on adjacent streets and sidewalks during the weekday a.m. and p.m. peak periods.
- Identify optimal truck routes to and from the site to minimize impacts to traffic, transit, pedestrians, and bicyclists; and,
- Encourage construction workers to use transit when commuting to and from the site, reducing the need for parking.

The project sponsor shall also coordinate with the Municipal Transportation Agency/Sustainable Streets Division, the Transbay Joint Powers Authority, and construction manager(s)/contractor(s) for the Transit Center project, and with Muni, AC Transit, Golden Gate Transit, and SamTrans, as applicable, to develop construction phasing and operations plans that will result in the least amount of disruption that is feasible to transit operations, pedestrian and bicycle activity, and vehicular traffic.

Significance after Mitigation: Given the size of the proposed Transit Tower, the number of relatively large projects proposed in the vicinity of the Transit Tower site, and the uncertainty regarding construction schedules, it is conservatively assumed that construction activities could potentially result in disruptions and secondary impacts to traffic, transit, pedestrians, and / or bicycles, even with implementation of this mitigation measure. Therefore, this impact is considered **significant and unavoidable**.

Parking

The proposed project is in the C-3-O (Downtown Office) zoning district, in which off-street parking is not required for commercial uses, and is permitted for up to 7 percent of gross floor area. (The draft Transit Center District Plan proposes that this limit be reduced to 3.5 percent of gross floor area.) The project parking garage would accommodate up to about 302 parking spaces (capacity for about 480 vehicles through the use of valet parking operations). The project would exceed 7 percent of gross floor area devoted to parking (and also the proposed 3.5 percent limit), and would thereby would not comply with *Planning Code* Section 151.1; parking area in excess of the maximum would be required to be approved as a principal use (major parking garage) in accordance with Sections 158 and 223(p) of the *Planning Code*.

The project would create a parking demand of approximately 1,518 spaces during the weekday midday period. The proposed parking supply of 302 spaces would be inadequate to accommodate the midday parking demand. As discussed in the setting there are approximately 60 off-street parking lots and

garages in the parking survey area that provide publicly accessible parking. It is estimated that approximately 1,500 spaces are available during the midday peak.[186] Based on these conditions, it is anticipated that some of the Transit Tower's parking shortfall of about 1,220 spaces could be accommodated within nearby parking facilities.

It should be noted that project parking shortfalls are not considered to be significant impacts on the environment, and that the city's "Transit First" policy places an emphasis on encouraging alternative transportation. As a result, providing additional parking in an attempt to reduce the parking shortfall would not only fail to comply with the Planning Code, but would also conflict with the Transit First policy by increasing traffic on Plan Area roadways and increasing delays to transit service.

Summary – Transit Tower Impacts

In summary, the proposed Transit Tower would result in a significant and unavoidable impacts related to traffic, transit, loading, and construction, and significant but mitigable impacts related to pedestrian circulation. The project would result in less-than-significant impacts with regard to bicycle conditions. Although not a CEQA consideration, the impacts on parking would also be less than significant.

[186] As noted in the setting, about 1,800 off-street parking spaces have been eliminated since the parking survey was conducted for the Transportation Impact Study.

F. Noise and Vibration

Setting

Sound Descriptors

Decibel

Sound is characterized by various parameters that describe the rate of oscillation (frequency) of sound waves, the distance between successive troughs or crests in the wave, the speed that it travels, and the pressure level or energy content of a given sound. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound, and the decibel (dB) scale is used to quantify sound intensity. Because sound can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called "A-weighting," expressed as "dBA." The dBA, or A-weighted decibel, refers to a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA. A 10-dBA increase in the level of a continuous noise represents a perceived doubling of loudness. The noise levels presented herein are expressed in terms of dBA, unless otherwise indicated. **Table 26** shows some representative noise sources and their corresponding noise levels in dBA.[187]

Planning for acceptable noise exposure must take into account the types of activities and corresponding noise sensitivity in a specified location for a generalized land use type. Some general guidelines[188] are as follows: sleep disturbance can occur at levels above 35 dBA; interference with human speech begins at about 60 dBA; and hearing damage can result from prolonged exposure to noise levels in excess of 85 to 90 dBA.

Leq, CNEL, Ldn

Time variations in noise exposure are typically expressed in terms of a steady-state energy level (called Leq) that represents the acoustical energy of a given measurement. Leq (24) is the steady-state energy level measured over a 24-hour period. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dBA increment be added to "quiet time" noise levels to form a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). CNEL adds a 5-dBA "penalty" during the evening hours (7:00 p.m. to 10:00 p.m.) and a 10-dBA penalty during the night hours (10:00 p.m. to 7:00 a.m.).

---

187 U.S. Department of Housing and Urban Development, *The Noise Guidebook*, 1985. Available on the internet at: http://www.hud.gov/offices/cpd/energyenviron/environment/resources/guidebooks/noise/.

188 U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March, 1974. Available on the internet at: http://nonoise.org/library/levels74/levels74.htm.

TABLE 26
TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT

Examples of Common, Easily Recognized Sounds	Decibels (dBA) At 50 feet	Subjective Evaluations
Near Jet Engine	140	Deafening
Threshold of Pain (Discomfort)	130	
Threshold of Feeling – Hard Rock Band	120	
Accelerating Motorcycle (at a few feet away)	110	
Loud Horn (at 10 feet away)	100	Very Loud
Noisy Urban Street	90	
Noisy Factory	85[1]	
School Cafeteria with Untreated Surfaces	80	Loud
Near Freeway Auto Traffic	60[2]	Moderate
Average Office	50[2]	
Soft Radio Music in Apartment	40	Faint
Average Residence Without Stereo Playing	30	
Average Whisper	20	Very Faint
Rustle of Leaves in Wind	10	
Human Breathing	5	
Threshold of Audibility	0	

[1] Continuous exposure above 85 dBA is likely to degrade the hearing of most people.
[2] Range of speech is 50 to 70 dBA.

SOURCE: U.S. Department of Housing and Urban Development, *The Noise Guidebook.* 1985.

Another 24-hour noise descriptor, called the day-night noise level (Ldn), is similar to CNEL, except that Ldn adds only the 10-dBA nighttime penalty, not the evening penalty. In practice, Ldn and CNEL usually differ by less than 1 dBA at any given location for transportation noise sources, which is generally an imperceptible difference. The San Francisco Noise Ordinance uses the Ldn descriptor.

Health Effects of Environmental Noise

The World Health Organization (WHO) is perhaps the best source of current knowledge regarding health impacts due to the fact that the European nations have continued to study noise and its health effects, while the U.S. Environmental Protection Agency all but eliminated its noise investigation and control program in the 1970s.[189] According to WHO, sleep disturbance can occur when continuous indoor noise levels exceed 30 dBA or when intermittent interior noise levels reach 45 dBA, particularly if background noise is low. With a bedroom window slightly open (a reduction from outside to inside of 15 dB), the WHO criteria would suggest exterior continuous (ambient) nighttime noise levels should be 45 dBA or below, and short-term events should not generate noise in excess of 60 dBA. WHO also notes that

[189] The *San Francisco General Plan* Land Use Compatibility Guidelines for Community Noise, presented below in Figure 19, were created during the same era.

maintaining noise levels within the recommended levels during the first part of the night is believed to be effective for the ability to fall asleep.[190]

Other potential health effects of noise identified by WHO include decreased performance on complex cognitive tasks, such as reading, attention, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, although shorter-term exposure to very high noise levels, for example, exposure several times a year to concert noise at 100 dBA). Noise can also disrupt speech intelligibility at relatively low levels; for example, in a classroom setting, a noise level as low as 35 dBA can disrupt clear understanding. Finally, noise can cause annoyance, and can trigger emotional reactions like anger, depression, and anxiety. WHO reports that, during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, or moderately annoyed with noise levels below 50 dBA.[191]

Fundamentals of Vibration

As described by the Federal Transit Administration (FTA), ground-borne vibration, in contrast to airborne noise, is not a common environmental problem, and it is uncommon for vibration caused by heavy vehicles, such as trucks and buses, to be perceptible, even close to major roads. However, the FTA notes that "ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard." Another common source of vibration is certain construction activities, such as pile-driving and the operation of heavy earthmoving equipment.[192]

Several different methods are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal in inches per second. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.

---

190 World Health Organization, *Guidelines for Community Noise*. Geneva, 1999. Available on the internet at: http://www.who.int/docstore/peh/noise/guidelines2.html. This document is also available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2004.0160E.

191 *Ibid.*

192 Federal Transit Administration, Office of Planning and Environment, *Transit Noise and Vibration Impact Assessment*, May 2006. Available on the internet at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Reviewed May 25, 2011.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of activities such as pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

Existing Noise Environment

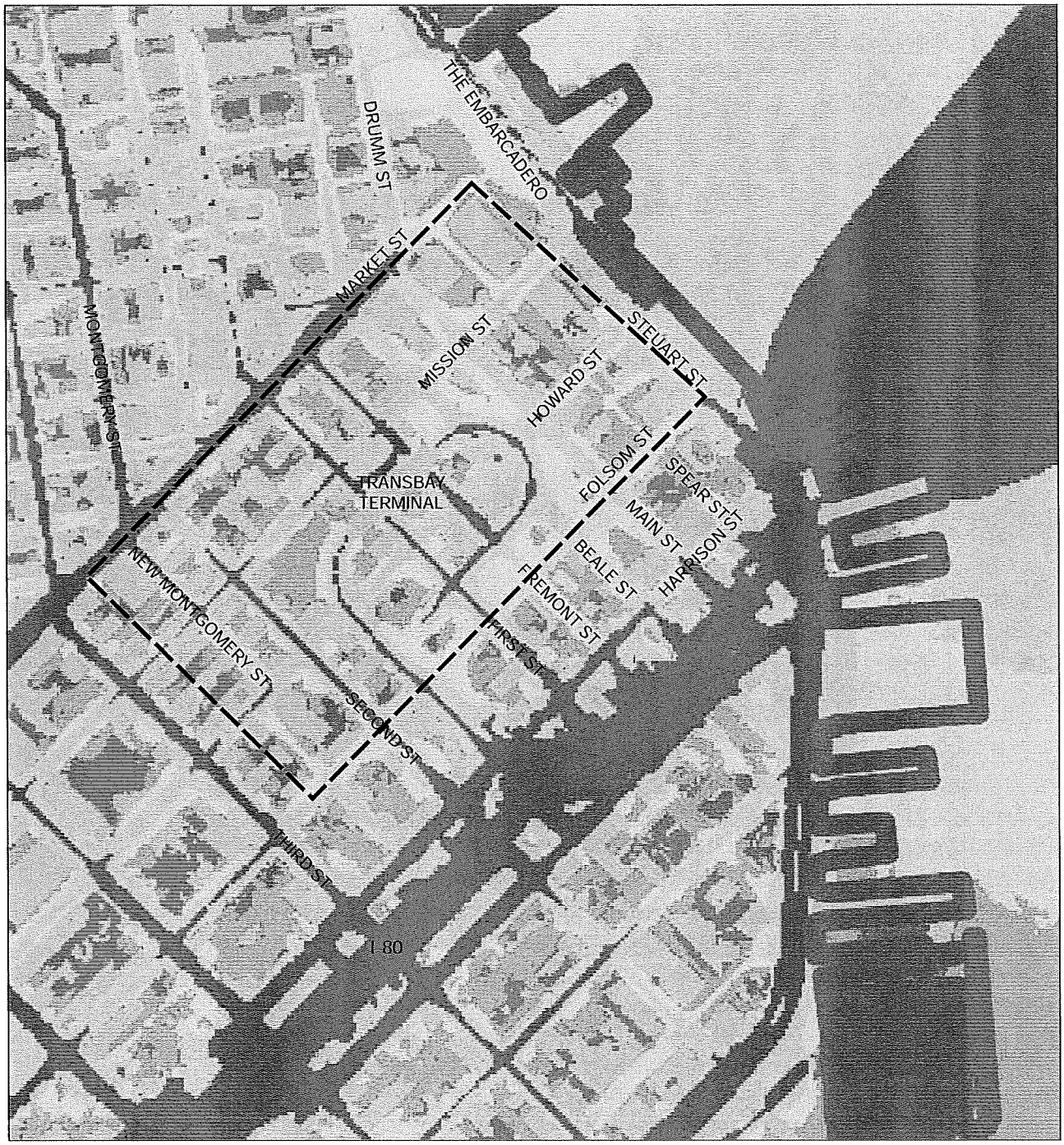
The level of long-term environmental noise in urban areas is, in general, largely dependent on vehicle traffic volumes and travel speeds as well as the mix of vehicle types. The existing ambient noise environment within the Transit Center District Plan area, typical of most urban areas, is dominated by vehicular traffic (autos, trucks, buses) on local roadways. BART and Muni trains operate underground below Market Street, which is the northern boundary of the Plan area, and thus do not generate substantial noise at street level.

The San Francisco Department of Public Health (DPH) has mapped transportation noise throughout the City of San Francisco, based on modeled baseline traffic volumes derived from the San Francisco County Transportation Authority travel demand model. DPH mapping indicates the range of Ldn noise levels that occur on every street within the City. The portion of this map that covers the Plan area is presented as **Figure 55**.

As indicated in this figure, existing noise levels immediately adjacent to most streets in the Plan area from Main Street and west (other than some mid-block "alleys") exceed 70 dBA (Ldn).[193] However, mapping also shows that noise levels decrease with distance from streets, particularly where buildings tend to serve as noise barriers, so that the interiors of some city blocks within the Plan area are subject to lower noise levels (between 55 and 69 dBA (Ldn). The noise map also indicates that the elevated I-80 freeway, located approximately 1,000 feet to the south, does not substantially influence the local noise environment. The highest traffic-generated noise levels (greater than 70 dBA, Ldn) in Plan area primarily occur along First Street, Fremont Street north of Folsom Street, Mission Street, Howard Street, Harrison Street west of Second Street, and New Montgomery Street, as well as on Third Street, just west of the Plan area.

In addition to vehicle traffic, continuous sources of mechanical noise also contribute to ambient noise levels. On the other hand, short-term noise sources, such as truck back-up beepers, the crashing of material being loaded or unloaded, and car doors slamming and engines starting up of parked cars, contribute very little to 24-hour noise levels but are capable sleep disturbance and severe annoyance. The importance of noise to receptors is dependent on both time of day and context. For example, long-term

[193] Note that the noise levels presented in the figure are 24-hour noise levels, in which nighttime noise is given additional weight. These noise levels are not directly comparable to the noise levels discussed under "Health Effects of Environmental Noise," as those noise levels are for specified periods of less than 24 hours.



SOURCE: San Francisco Departmet of Public Health, 2008

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 55

Existing Transportation Noise Levels

high noise levels from large traffic volumes can make conversation at a normal voice level difficult or impossible, while short-term peak noise levels, if they occur at night, can disturb sleep.

The Plan area does not contain a substantial number of stationary sources of noise. Such sources are often associated with heavy commercial and light industrial uses (commercial building contractors, wholesale distribution and trucking facilities, and processing facilities) that do not generally exist in the Plan area, with the notable exception of the Transit Center currently under construction and scheduled for completion in 2017. (Until that time, bus operations are being conducted at the Temporary Transbay Terminal, a surface facility located on the block bounded by Main, Beale, Howard, and Folsom Streets.) The primary stationary noise sources in the Plan area are mechanical (heating, ventilation, and air conditioning) equipment on building roofs.

The San Francisco Department of Public Health (DPH), which is responsible for enforcement of the City's Noise Ordinance related to operational noise from such stationary sources (see discussion of Noise Ordinance below) has responded to a variety of noise complaints in recent years in neighborhoods surrounding the Plan area. In many cases, such complaints have arisen when new residential and live-work buildings have been constructed in areas historically dominated by heavy commercial and light industrial uses. DPH staff reports that, in many such instances, noise measurements taken subsequent to the receipt of complaints revealed that commercial/industrial uses were generating noise levels in excess of those permitted under the City's Noise Ordinance; in many cases, it is possible that the noise level had been a long-time phenomenon that only rose to the level of enforcement action when a new residential or other sensitive use was introduced nearby. According to DPH staff, noise complaints from occupants of new residential projects have revealed that existing, and in some instances long-standing, commercial/industrial uses are in violation of the Noise Ordinance. As a result of DPH response to these complaints, existing facilities have been cited and, in some cases, required to retrofit existing equipment and/or change operations.[194]

Because the Plan area is substantially dominated by existing office uses, such conflicts are less likely to arise in the Plan area, although it is noted that construction of The Infinity residential complex, in Rincon Hill, generated a large number of noise complaints concerning rooftop mechanical equipment on a computer "server farm" on an adjacent parcel. According to DPH staff, the server farm, which existed prior to construction of the new residential building, was required to insulate its mechanical equipment to reduce noise levels at the adjacent residential building. It can be difficult to analyze or predict such conflicts in advance because noise measurements made at ground level often do not accurately reflect noise generated by rooftop equipment, especially when such equipment is many stories above grade. Even tenants of office buildings proximate to such noise sources (such as from a neighboring office building) may not be aware of the noise because nearly all newer office buildings have closed windows. Residential towers, on the other hand, often have operable windows or outdoor balconies, or both, which can expose residents to greater noise levels than office tenants at the same distance from a noise source.

194 Tom Rivard, Senior Environmental Health Specialist, San Francisco Department of Public Health, personal communication.

Transit Tower Site

The proposed Transit Tower would be developed immediately adjacent to the new Transit Center. In addition to bus traffic, the noise environment in the site vicinity is dominated by auto, bus, and truck, traffic on First, Fremont, and Mission Streets.

Sensitive Receptors

Sensitive noise receptors are generally considered to include hospitals, skilled nursing/convalescent care facilities, schools, churches, libraries, and residences. Land uses within the Transit Center District Plan area are described in detail in Section IV.A, Land Use. Residential uses occur in parts of Plan area, with most located in the eastern portion of the Plan area. There are no schools or churches located in the Plan area, although there are several day care centers, as described in Section IV.A, Land Use. There are no hospital or skilled nursing/convalescent care facilities nor are there any public libraries in the Plan area. However, there are several small libraries associated with institutions and agencies (i.e., U.S. Environmental Protection Agency, Golden Gate University School of Law) located within the Plan area.

Regulatory Setting

Federal Regulations

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These controls are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

California Noise Insulation Standards

State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as the California Noise Insulation Standards and are found in Title 24 of the California Code of Regulations (the California Building Code). For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor ceiling assemblies must block or absorb sound. For limiting noise from exterior sources, the noise insulation standards set forth an interior standard of 45 dBA (Ldn) in any habitable room and, where such units are proposed in areas subject to noise levels greater than 60 dBA (Ldn), demonstration of how dwelling units have been designed to meet this interior standard. If the interior noise level depends upon windows being closed, the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment. The typical range of noise reduction provided by residential dwellings is 12 – 18 decibels with windows partially open. An acoustically well-insulated home with windows and doors kept closed

can provide 30 – 35 dB of noise attenuation whereas a more typical, unmodified dwelling might provide 20 – 25 dB of noise level reduction.[195]

San Francisco General Plan

The Environmental Protection Element of the *San Francisco General Plan* contains Land Use Compatibility Guidelines for Community Noise.[196] These guidelines, which are similar to state guidelines promulgated by the Governor's Office of Planning and Research, indicate maximum acceptable noise levels for various newly developed land uses. These guidelines are presented in **Figure 56**. Although this figure presents a range of noise levels that are considered compatible or incompatible with various land uses, the maximum "satisfactory" noise level is 60 dBA (Ldn) for residential and hotel uses, 65 dBA (Ldn) for school classrooms, libraries, churches and hospitals, 70 dBA (Ldn) for playgrounds, parks, office buildings, retail commercial uses and noise-sensitive manufacturing/ communications uses, and 77 dBA for other commercial uses such as wholesale, some retail, industrial/manufacturing, transportation, communications, and utilities. If these uses are proposed to be located in areas with noise levels that exceed these guidelines, a detailed analysis of noise reduction requirements will normally be necessary prior to final review and approval.

San Francisco Noise Ordinance

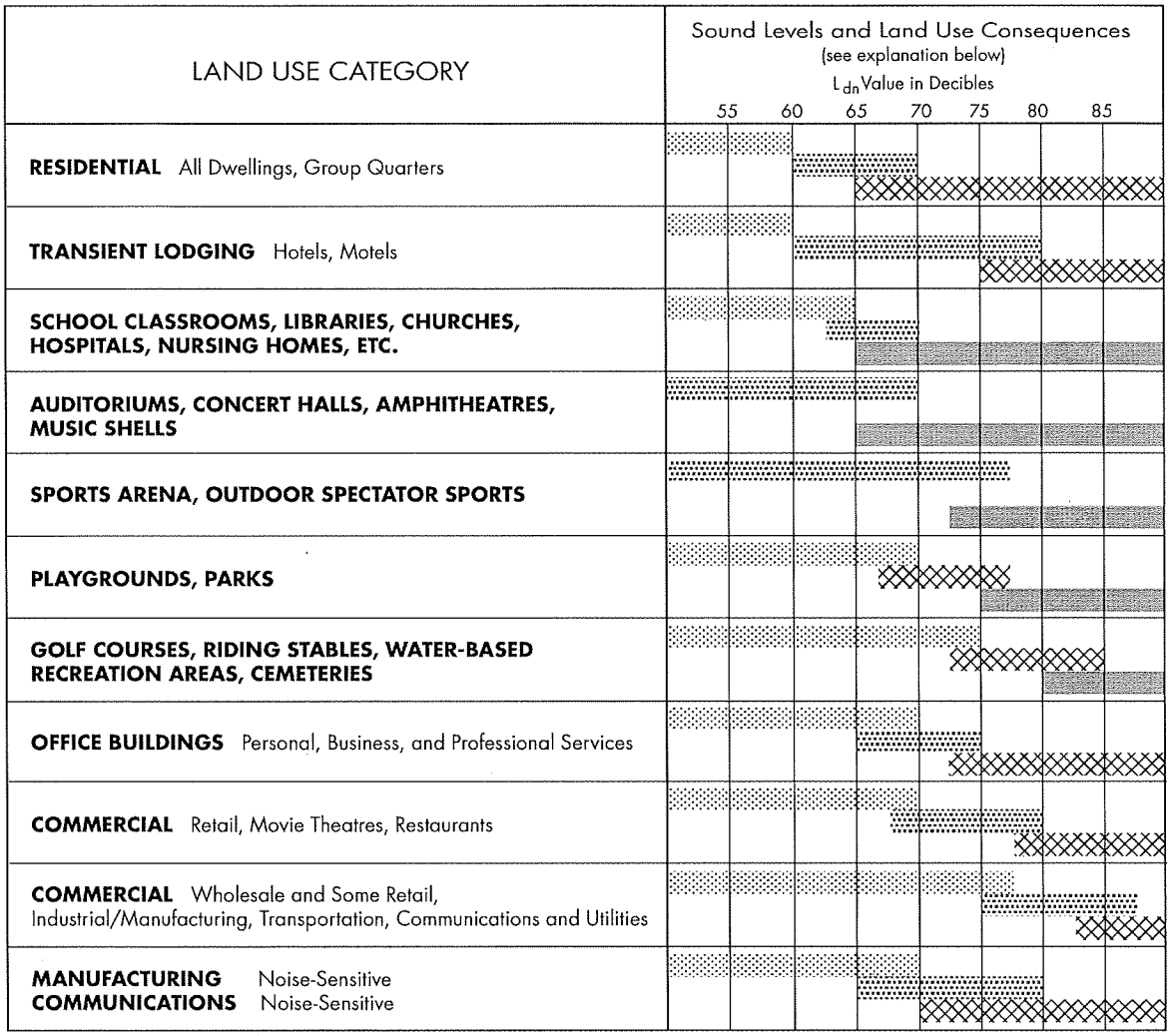
In the City, regulation of noise is stipulated in Article 29 of the Police Code (the Noise Ordinance), which states the City's policy is to prohibit unnecessary, excessive, and offensive noises from all sources subject to police power. Sections 2907 and 2908 of Article 29 regulate construction equipment and construction work at night, while Section 2909 provides for limits on stationary-source noise from machinery and equipment. Sections 2907 and 2908 are enforced by the Department of Building Inspection, and Section 2909 is enforced by the Department of Public Health. Summaries of these and other relevant sections are presented below:

Sections 2900(d) and 2918 establish a Noise Task Force to determine if there are additional adverse and avoidable noise sources not covered in this statute that warrant regulation. The Task Force reports annually to the Board of Supervisors regarding progress in protecting the noise environment, solving complaints, and necessary enabling legislation required to meet its legislative mandate. The issues surrounding new residential construction adjacent to existing commercial and industrial uses has been discussed at task force meetings; however, no decisions have been made as of summer 2011 to address these conflicts. The task force meets quarterly but will sunset in November 2011 unless it decides to continue.

---

195 Wyle Laboratories, Wyle Research Report WR 94-23, "Raleigh-Durham International Airport New Construction Acoustical Design Guide," Prepared for Raleigh-Durham Airport Authority, September 30, 1994. This document is available at the Planning Department, 1650 Mission Street, Suite 500, in Case File No. 2007.0558E.

196 Environmental Protection Element, Policy 11.1.



Satisfactory, with no special noise insulation requirements.

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

New construction or development should generally not be undertaken.

Case No. 2007.0558E: Transit Center District Plan and Transit Tower (207439)

SOURCE: San Francisco General Plan, Environmental Protection Element

Figure 56
Land Use Compatibility Chart for Community Noise

Section 2907(a) of the Police Code limits noise from construction equipment to 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient

distance. Exemptions to this requirement include impact tools with approved mufflers, pavement breakers and jackhammers with approved acoustic shields, and construction equipment used in connection with emergency work. Section 2908 prohibits nighttime construction (between 8:00 p.m. and 7:00 a.m.) that generates noise exceeding the ambient noise level by 5 dBA at the nearest property line unless a special permit has been issued by the City.

Section 2909 generally prohibits noise from fixed mechanical equipment and music in excess of 5 dBA more than ambient noise from residential sources, 8 dBA more than ambient noise from commercial sources, and 10 dBA more than ambient on public property at a distance of 25 feet. Section 2909(d) establishes maximum noise levels for fixed noise sources (e.g., mechanical equipment) of 55 dBA (7:00 a.m. to 10 p.m.) and 45 dBA (10 p.m. to 7 a.m.) inside any sleeping or living room in any dwelling unit located on residential property to prevent sleep disturbance.

Impacts

Significance Criteria

The proposed project would result in a significant impact with respect to noise if it would:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; or
- Be substantially affected by existing noise levels.

A project would also normally result in a significant impact with respect to noise if it would be located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, or if the project would expose people residing or working in the area to excessive noise levels. Additionally, for a project located in the vicinity of a private airstrip, the project would normally have a significant effect if it would expose people residing or working in the Plan area to excessive noise levels. The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip. Therefore, these topics are not applicable.

Methodology

This analysis identifies potential noise impacts associated with future development that could result from implementation of the draft Plan. Noise issues evaluated in this section include: (1) noise generated by

traffic generated by future growth under the Plan; and (2) compatibility of potential future uses with San Francisco Land Use Compatibility Guidelines for Community Noise. Project-specific analysis is also provided for the proposed Transit Tower.

In general, traffic noise increases of less than 3 dBA are barely perceptible to people, while a 5-dBA increase is readily noticeable.[197] Therefore, permanent increases in ambient noise levels of less than 3 dBA are typically considered to be less than significant, except in circumstances in which the resulting noise environment is relatively loud. Some guidance as to the significance of changes in ambient noise levels is provided by the 1992 findings of the Federal Interagency Committee on Noise (FICON), which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations.[198] The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a summary measure of the general adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, they provide guidance with respect to other sources of noise. The FICON report recommended a variable scale of acceptable noise increase, with less increase deemed acceptable the higher the noise environment. This is based on the notion that a higher existing noise level requires a smaller increment to trigger annoyance among observers. Thus, for ambient noise levels of less than 60 dBA, Ldn, FICON recommended a threshold of allowable increase of 5 dBA. For noise environments of between 60 and 65 dBA, a 3-dBA threshold was recommended, while for ambient noise in excess of 65 dBA, the threshold was recommended at 1.5 dBA. This EIR relies on the FICON guidance for determining the significance of transportation noise impacts, as set forth in **Table 27**.

TABLE 27
MEASURES OF SUBSTANTIAL INCREASE FOR TRANSPORTATION NOISE EXPOSURE

Ambient Noise Level Without Project (Ldn)	Significant Impact Assumed to Occur If the Project Increased Ambient Noise Levels By:
60 – 65 dBA	+3.0 dBA or more
>65dBA	+1.5 dBA or more

SOURCE: Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.

The Federal Transportation Administration (FTA) has developed criteria for judging the significance of vibration produced by transportation sources and construction activity. The FTA Guidelines provide screening distances for various transportation-related vibration sources. For a rapid transit railway, such as BART, the screening distance would be 200 feet (measured from source to receptor).

197 California Department of Transportation, Division of Environmental Analysis, "Technical Noise Supplement," November 2009; pp. 2-48 – 2-49. Available on the internet at: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf.

198 Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992. Available on the internet at: http://www.fican.org/pdf/nai-8-92.pdf.

The FTA establishes the threshold of architectural damage for non-engineered timber or masonry structures at 0.2 inches per second PPV, and uses a human annoyance response threshold for ground-borne vibration of 80 VdB, RMS.[199] This is used as the threshold of significance in this EIR.

Impact Analysis

Transit Center District Plan

Impact NO-1: Implementation of the draft Plan, including the proposed Transit Tower, would not result in a substantial permanent increase in ambient noise or vibration levels, but Plan implementation could result in exposure of persons to noise levels in excess of standards in the *San Francisco General Plan* and could introduce new sensitive uses that would be affected by existing noise levels. (Significant and Unavoidable with Mitigation)

Traffic Noise Impacts

As indicated in the Setting, noise levels immediately adjacent to all major streets in the Plan area from Main Street to the west exceed 70 dBA (Ldn) under existing conditions. This exceeds the level at which the *General Plan* noise compatibility guidelines recommend that new residential construction "should generally be discouraged" and should be undertaken only following completion of a detailed noise analysis, with "needed noise insulation features included in the design."[200] At this noise level, very sensitive uses such as schools, libraries, hospitals, religious facilities, and the like "should generally not be undertaken." Such a recommendation would presumably apply to child care facilities as well. Additionally, above 65 dBA (Ldn), the FTA recommends an allowable noise increment of only 1 dBA. It is noted that, because noise diminishes with distance, in areas such as the Plan area with existing or proposed very tall residential buildings, traffic-generated noise levels at residential receptors several hundred feet above grade would be substantially lower than at street level. Therefore, in mixed-use towers where residential uses are located only at the upper levels, traffic noise would have less effect. Rooftop mechanical equipment can also generate noise, although typically at lower levels than traffic (other than large compressors and backup generators, if not sound-proofed).

Changes in noise level were estimated for the major streets in the Plan area, based on traffic volumes developed as part of the Plan transportation analysis. Noise levels generated by traffic in the Plan area would increase by less than 3 dBA, compared to existing conditions, and thus in most instances would not be readily perceptible to most observers. In general, background (cumulative) growth would be responsible for one-half to three-fourths (or more) of the overall change in noise levels between existing conditions and 2030 conditions with full implementation of the Plan, while the incremental increase due to Plan-generated growth would generally represent a much smaller noise increase (see **Table 28**). As shown in this table, the greatest peak-hour noise increases (2 dBA or more) overall would occur along

199 FTA, *Transit Noise and Vibration Impact Assessment*; see footnote 192, p. 344. The threshold is based on potential damage to non-engineered timber and masonry buildings.

200 This recommendation is given for noise levels beginning at 65 dBA (Ldn); it overlaps with a less stringent recommendation in the range between 65 and 70 dBA (Ldn) and becomes exclusive above 70 dBA.

TABLE 28
FUTURE PEAK HOUR NOISE LEVELS ALONG PLAN AREA ROADWAY SEGMENTS

	Noise Level (dBA @ 50 feet from Roadway Centerline)									
Street (Segment Cross Streets)	**Existing**	**2030 Baseline**	**dBA Chg. From Existing**	**Existing + Plan Growth**	**dBA Chg. From Existing**	**dBA Chg. From Baseline**	**Growth + Pub. Realm**	**dBA Chg. From Existing**	**dBA Chg. From Baseline**	**dBA Chg. Fr. Project Growth**
Mission Street (Third-Second)	71.2	71.8	0.5	72.2	1.0	0.5	72.5	1.2	0.7	0.2
Mission Street (Second-First)	70.8	71.2	0.4	72.0	1.2	0.8	71.9	1.2	0.7	0.0
Mission Street (First-Fremont)	69.5	69.8	0.3	70.2	0.7	0.4	69.9	0.4	0.1	-0.3
Mission Street (Fremont-Beale)	69.7	70.0	0.3	70.8	1.1	0.8	71.2	1.5	1.2	0.4
Howard Street (Third-Second)	68.7	69.5	0.8	70.7	2.0	1.2	70.5	1.8	1.0	-0.3
Howard Street (Second-First)	68.7	69.4	0.7	71.1	2.4	1.7	71.0	2.3	1.6	-0.1
Howard Street (First-Fremont)	68.6	69.2	0.6	69.8	1.2	0.6	69.6	1.0	0.4	-0.1
Howard Street (Fremont-Beale)	68.6	69.4	0.8	69.8	1.1	0.4	69.2	0.6	-0.2	-0.6
Howard Street (Beale-Main)	66.5	67.5	1.0	67.6	1.1	0.1	67.1	0.6	-0.3	-0.5
Folsom Street (Third-Second)	67.9	69.5	1.7	69.8	1.9	0.2	69.4	1.5	-0.2	-0.4
Folsom Street (Second-First)	66.8	68.4	1.6	68.7	1.9	0.3	69.2	2.3	0.8	0.4
Folsom Street (First-Fremont)	65.4	66.7	1.3	67.5	2.1	0.8	68.3	2.8	1.5	0.8
Folsom Street (Fremont-Beale)	64.8	66.6	1.8	66.9	2.0	0.2	66.7	1.9	0.1	-0.2
Folsom Street (Beale-Main)	66.5	67.9	1.4	68.1	1.6	0.2	67.6	1.1	-0.3	-0.5
Folsom Street (Spear-Embarc.)	65.0	66.0	1.0	66.4	1.4	0.4	67.2	2.3	1.2	0.8
Harrison Street (Fifth-Fourth)	69.0	70.0	1.0	70.4	1.4	0.4	70.4	1.4	0.4	0.0
Harrison Street (Fourth-Third)	68.4	69.3	0.9	69.8	1.4	0.5	69.8	1.4	0.5	0.0
Harrison Street (Third-Second)	68.6	70.0	1.5	70.6	2.0	0.6	70.6	2.0	0.6	0.0
Harrison Street (Second-First)	67.5	68.5	1.1	68.6	1.2	0.1	68.8	1.4	0.3	0.2
Harrison Street (First-Fremont)	67.9	68.7	0.8	68.8	0.8	0.1	68.1	0.2	-0.6	-0.6
Harrison Street (Fremont-Main)	67.3	68.4	1.2	68.4	1.2	0.0	68.0	0.7	-0.5	-0.5
Harrison Street (Main-Spear)	65.6	66.6	0.9	66.6	1.0	0.0	65.9	0.3	-0.7	-0.7
Fremont Street (Mission-Howard)	70.3	70.7	0.4	71.5	1.2	0.8	71.1	0.9	0.5	-0.4
Fremont Street (Market-Mission)	70.6	71.6	1.0	72.1	1.5	0.5	71.9	1.3	0.3	1.9
Fremont Street (Mission-Howard)	71.1	72.1	1.0	71.6	1.6	0.5	72.1	1.0	0.0	1.2
Fremont Street (Howard-Folsom)	69.1	70.3	1.2	70.8	1.7	0.5	70.0	1.0	-0.3	-0.7
Fremont Street (Folsom-Harrison)	62.8	64.5	1.7	64.6	1.8	0.1	63.1	0.3	-1.3	-1.5
First Street (Market-Mission)	70.5	71.3	0.8	72.2	1.7	0.8	72.1	1.6	0.8	-0.1
First Street (Mission-Howard)	70.7	71.5	0.9	73.4	2.7	1.9	73.1	2.4	1.5	-0.3
First Street (Howard-Folsom)	70.8	71.5	0.7	72.6	1.8	1.1	71.5	0.7	0.0	-1.1
First Street (Folsom-Harrison)	71.2	71.8	0.6	72.4	1.2	0.6	72.6	1.5	0.9	0.3
Second Street (Market-Mission)	67.4	67.0	-0.5	67.4	0.0	0.4	67.4	0.0	0.5	0.0
Second Street (Mission-Howard)	69.4	69.5	0.1	70.1	0.7	0.6	70.1	0.7	0.6	0.0
Second Street (Howard-Folsom)	69.9	67.6	-2.2	70.0	0.1	2.4	71.2	1.4	3.6	1.2
Second Street (Folsom-Harrison)	70.2	69.5	-0.7	71.3	1.1	1.8	71.2	1.0	1.7	-0.1
Second Street (Harrison-Bryant)	71.5	72.1	0.6	72.6	1.1	0.5	72.6	1.1	0.5	0.0
New Montg'y St. (Market-Mission)	68.5	68.9	0.4	69.1	0.5	0.1	69.1	0.5	0.1	0.0
New Montg'y St. (Mission-Howard)	69.5	70.4	0.8	70.7	1.2	0.3	70.7	1.1	0.3	0.0
Third Street (Market-Mission)	71.4	72.7	1.3	73.0	1.6	0.3	72.8	1.5	0.1	-0.2
Third Street (Mission-Howard)	72.6	74.6	2.0	74.8	2.2	0.2	74.8	2.1	0.2	-0.1
Third Street (Howard-Folsom)	72.7	74.9	2.2	75.1	2.3	0.2	75.0	2.3	0.1	0.0
Third Street (Folsom-Harrison)	71.9	74.0	2.1	74.3	2.4	0.3	74.3	2.4	0.3	0.0
Third Street (Harrison-Bryant)	72.8	74.5	1.6	74.6	1.8	0.1	74.6	1.8	0.2	0.0
Beale Street (Market-Mission)	68.2	69.1	0.9	69.3	1.1	0.2	69.2	1.0	0.1	-0.1
Beale Street (Mission-Howard)	68.3	69.2	0.9	69.5	1.2	0.3	69.5	1.2	0.2	-0.1
Beale Street (Howard-Folsom)	65.6	66.6	1.1	66.7	1.1	0.0	67.6	2.1	1.0	1.0
Main Street (Market-Mission)	64.3	65.6	1.2	65.6	1.3	0.0	65.1	0.8	-0.4	-0.5
Main Street (Mission-Howard)	64.9	66.1	1.3	66.3	1.4	0.1	65.6	0.8	-0.5	-0.6
Main Street (Howard-Folsom)	65.6	66.5	0.9	66.6	1.0	0.1	65.7	0.1	-0.8	-0.9

Red values are higher; blue values are lower; values in black are relatively moderate.

NOTES: Assumptions include: Travel speeds on all streets, 30 mph; Vehicle Mix: 90% Autos/ 3% Medium Trucks / 7% Heavy Trucks (including buses) on streets with substantial bus and truck traffic (Mission, First, Second, Third, Fremont north of Howard; south of Howard, Fremont assumed as 93% / 3% / 4%); for other streets, 95% / 3% / 2%); Background noise levels due to traffic on other roadways and non-traffic related activities are not reflected in these noise levels. Noise levels in this table are intended to indicate incremental noise changes due to future growth and project development. Since they do not include background noise levels, they do not necessarily reflect actual noise levels along these roadway segments.

SOURCE: Environmental Science Associates, 2011.

Third Street (just west of the Plan area), Folsom Street, portions of Howard Street, and the block of First Street between Mission and Howard Streets, where the proposed Transit Tower would be located (and traffic from which would be the cause of most of that last increase). The largest incremental increase in noise due to the development resulting from the Plan itself would occur on First Street between Mission and Folsom Streets (adjacent to and south of the Transit Tower), on Mission Street between Fremont and Beale Streets, on Howard Street between First and Third Streets, and on parts of Folsom Street east of Fremont Street and Beale Street between Howard and Folsom Streets; these last two changes would largely be due to changes in circulation resulting from the Plan's proposed alterations to lane configurations on certain streets. The greatest traffic-generated noise levels would continue to be on Third Street, First Street, Fremont Street north of Folsom Street, Mission Street, Howard Street west of First Street, and Harrison Street west of Second Street. Streets such as Mission, Howard, Folsom, Harrison, First, and Third Streets, would also experience the largest increases in traffic noise with implementation of the draft Plan, with increases there (and on part of Beale Street) exceeding 1.5 dBA, when compared to existing conditions.[201] Based on the significance criterion described on p. 352, this would be a significant impact.

There are existing noise-sensitive land uses (residential units and child care centers) on some of these streets, such as Mission, Howard, Second, First, and Beale Streets. Additionally, other such sensitive land uses could be developed on these and nearby streets in the Plan area with implementation of the draft Plan.

The *General Plan* noise guidelines indicate that any new residential construction or development in areas with noise levels above 60 dBA (Ldn) should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. In areas where noise levels exceed 65 dBA (Ldn), new residential construction or development is generally discouraged, but if it does proceed, a detailed analysis of noise reduction requirements must be done and needed noise insulation features included in the design. Therefore, a detailed analysis of noise reduction requirements would typically be required for all future residential uses proposed in the Plan area. Because all new residential development in the Plan area is anticipated to comprise attached, multi-family residential units (i.e., there would not be expected to be any single-family homes constructed in the Plan area, given existing development densities and land costs), new residential development in the Plan area would be subject to Title 24 (*Building Code*) Noise Insulation requirements. This state regulation, adopted by the City, requires that multi-family residential units meet an interior standard of 45 dBA

[201] The modeling reveals one apparently anomalous result: the noise level on Second Street between Howard and Folsom Streets is predicted to *decrease* by more than 2 dBA between existing and future baseline (no project) conditions. The reason for this is that the transportation analysis includes planned changes to Second Street under the *San Francisco Bicycle Plan*, which are anticipated to eliminate left turns on Second Street. As a result, the Municipal Transportation Agency is considering a formal "detour" for Bay Bridge-bound traffic on Second Street, in which southbound vehicles would turn right on Howard Street, left on Hawthorne Street, and left on Harrison Street to reach the bridge. Accordingly, the transportation analysis assumes that the vast majority of traffic that today passes southbound on Second Street through the Howard Street intersection is projected to turn right instead, substantially reducing traffic volume on Second Street between Howard and Folsom Streets. Plan area growth is projected to add traffic back to Second Street, reaching approximately existing volumes, with changes in Plan-area lane configurations adding additional traffic growth to Second Street.

(Ldn) in any habitable room. Where such units are proposed in areas subject to noise levels greater than 60 dBA (Ldn), the project plans must demonstrate how dwelling units have been designed to meet this interior standard. Therefore, compliance with the state noise standards would ensure consistency with the *General Plan* noise standards for interior areas of new residential development in the Plan area. As stated in the Setting, it is noted that in areas with noise levels up to 70 dBA (Ldn), conventional construction can typically provide 25 dBA of noise insulation, while more advanced acoustical insulation can provide up to about 35 dBA insulation. While additional noise attenuation features beyond conventional construction may need to be incorporated into the building design where noise levels exceed 70 dBA (Ldn) to ensure that acceptable interior noise levels can be achieved, it is anticipated that the required interior noise level of 45 dBA can be achieved in new residential construction with incorporation of noise abatement features. Mitigation Measure M-NO-1a would require a noise study be completed for new residential projects prior to the completion of environmental review, to ensure that interior noise levels are suitable for residential use. However, required outdoor open space (decks, patios, gardens, and the like) would typically be subject to higher noise levels than noise-insulated interior areas. Mitigation Measure M-NO-1b would require new residential open spaces be sited to reduce, to the extent feasible, noise impacts associated with such open space. However, existing residential uses, including their open spaces, could be adversely affected by increases in traffic noise.

Other noise-sensitive land uses, such as day care centers (along with schools, libraries, and religious facilities) would also be subject to relatively high levels of traffic-generated noise in the Plan area. Many such special-purpose uses are subject to particular design and construction standards, and would likely meet appropriate interior noise levels as a matter of course. Day care centers, which are typically included in office buildings in the Plan area (and not in separate structures) could require noise insulation to achieve acceptable indoor noise levels; child care centers are also required to provide outdoor play space, and such areas would generally be subject to greater noise levels than those in the building interior. Without appropriate design, child care facilities and other non-residential noise-sensitive land uses could be subject to potentially significant impacts due to traffic-generated noise. To avoid the potential significant impact of exposure of such uses to noise levels in excess of *General Plan* recommendations, Mitigation Measure M-NO-1c would require that such uses would undergo appropriate noise analysis prior to approval and construction. Likewise, Mitigation Measure M-NO-1b would avoid potentially significant noise impacts to other new development in the Plan area by ensuring appropriate noise analysis, consistent with the *General Plan* noise guidelines for land use compatibility. However, existing sensitive uses could be adversely affected by increases in traffic noise.

The planned City Park atop the new Transit Center would be exposed to traffic noise, including increased noise generated by new development in the Plan area. However, noise levels in the park, which would be approximately 70 feet above grade, would be less than those at street level, because the distance above grade would preclude any direct line-of-sight connection between traffic and all areas behind the perimeter of the park. As a result, the bulk of the Transit Center building itself would serve to buffer City Park from street noise. Traffic noise would be further attenuated by the distance between the noise source and the park. Accordingly, noise impacts in City Park would be less than significant.

Other publicly accessible open spaces are or would be at ground level. These include the proposed Mission Square, at Fremont and Mission Streets, adjacent to the Transit Tower, and the proposed open space at the northeast corner of Second and Howard Streets. These open spaces, along with existing and to-be-developed open spaces created as part of office building development in the Plan area, would be exposed to traffic noise, including increased noise levels from subsequent development in the Plan area. To the extent feasible, site design, landscaping, street furniture, and similar features could be used to reduce noise levels in these open spaces. Because these spaces are located in a densely developed urban area, users of these spaces are presumed to be accustomed to noise levels that, under other circumstances, would be considered excessive. Moreover, because the increases in traffic noise described above would generally be limited (less than 3 dBA, or barely perceptible), this impact is considered less-than-significant.

Building Equipment Noise

As noted in the Setting, the primary stationary noise sources in the Plan area are mechanical (heating, ventilation, and air conditioning) equipment on building roofs. Although the Plan area is primarily an office district, and the draft Plan would maintain office space as the predominant land use in the area, there are existing residential units in the Plan area, and other residential buildings and mixed-use projects that would include residential units are anticipated with implementation of the Plan. As stated in the Setting, the City's Noise Ordinance limits noise from commercial properties to 8 dBA over the ambient noise level. Because rooftop equipment noise is not readily apparent to ground-level observers, and in recognition of the existing relatively high noise levels in the Plan area and the fact that the Plan area contains, and will continue to contain, a mix of uses including residential uses, Mitigation Measure M-NO-1d would require that noise from existing rooftop mechanical equipment be considered in the design of noise insulation for new residential uses. Additionally, Mitigation Measure M-NO-1e calls for the Planning Department to require the maximum feasible reduction of building equipment noise, such as through the enclosure of building mechanical equipment. However, existing residences and other sensitive uses could be adversely affected by the operation of new noisy building equipment proximate to those uses.

Vibration

As stated in the Setting, ground-borne vibration from operations of allowable uses in the Plan area is not a common environmental problem and even heavy-vehicle traffic (e.g., trucks and buses) does not generally result in perceptible vibration. Therefore, no significant long-term impacts with respect to vibration are anticipated.

Mitigation Measures

M-NO-1a: **Noise Survey and Measurements for Residential Uses.** For new residential development located along streets with noise levels above 70 dBA Ldn, the Planning Department shall require the preparation of an analysis that includes, at a minimum, a site survey to identify potential noise-generating uses within two blocks of the project

site, and including at least one 24-hour noise measurement (with average and maximum noise level readings taken so as to be able to accurately describe maximum levels reached during nighttime hours), prior to completion of the environmental review for each subsequent residential project in the Plan area. The analysis shall be completed by person(s) qualified in acoustical analysis and shall demonstrate with reasonable certainty that Title 24 standards, where applicable, can be met, and that there are no particular circumstances about the proposed project site that appear to warrant heightened concern about noise levels in the vicinity. Should such concerns be present, the Department may require the completion of a detailed noise assessment by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that acceptable interior noise levels consistent with those in the Title 24 standards can be attained.

M-NO-1b: **Noise Minimization for Residential Open Space.** To minimize effects on residential development in the Plan area, the Planning Department, through its building permit review process and in conjunction with the noise analysis set forth in Mitigation Measure M-NO-1a, shall require that open space required under the Planning Code for residential uses be protected, to the maximum feasible extent, from existing ambient noise levels that could prove annoying or disruptive to users of the open space. Implementation of this measure could involve, among other things, site design that uses the building itself to shield on-site open space from the greatest noise sources, construction of noise barriers between noise sources and open space, and appropriate use of both common and private open space in multi-family dwellings, and implementation would also be undertaken consistent with other principles of urban design.

M-NO-1c: **Noise Minimization for Non-Residential Uses.** To reduce potential effects on new non-residential sensitive receptors such as child care centers, schools, libraries, and the like, for new development including such noise-sensitive uses, the Planning Department shall require, as part of its building permit review process, the preparation of an acoustical analysis by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that daytime interior noise levels of 50 dBA, based on the *General Plan* Environmental Protection Element, can be attained.

M-NO-1d: **Mechanical Equipment Noise Standard.** The Planning Department shall require that, as part of required the noise survey and study for new residential uses (Mitigation Measure M-NO-1a), all reasonable efforts be made to identify the location of existing rooftop mechanical equipment, the predicted noise generated by that equipment, and the elevation at which the predicted noise level would be of potential concern for new residential uses, as well as the necessary noise insulation for the new residential uses, where applicable.

M-NO-1e: **Interior Mechanical Equipment.** The Planning Department shall require, as part of subsequent project-specific review under CEQA, that effects of mechanical equipment noise on adjacent and nearby noise-sensitive uses be evaluated by a qualified acoustic consultant and that control of mechanical noise, as specified by the acoustical consultant,

- be incorporated into the final project design of new buildings to achieve the maximum feasible reduction of building equipment noise, consistent with *Building Code* and Noise Ordinance requirements and CEQA thresholds, such as through the use of quieter equipment, fully noise-insulated enclosures around rooftop equipment, and/or incorporation of mechanical equipment into intermediate building floor(s).

Level of Significance after Mitigation

Implementation of the above mitigation measures would reduce noise impacts to the maximum extent feasible, consistent with the *San Francisco General Plan*, and would render this impact less than significant with respect to new residential development and other new sensitive land uses. However, it cannot be stated with certainty that existing sensitive land uses would not be adversely affected by increased noise levels, particularly with respect to traffic noise. Therefore, because it is not generally feasible to retrofit existing uses to increase noise insulation, this impact is considered **significant and unavoidable**. It should be noted that the identification of this program level potentially significant impact does not preclude the finding of future less-than-significant impacts for subsequent projects, for which project-specific analysis finds that those project(s) would meet applicable thresholds of significance.

Impact NO-2: Construction activities in the Plan area could expose persons to temporary increases in noise levels substantially in excess of ambient levels. (Less than Significant with Mitigation)

Development that could result from implementation of the draft Plan would involve construction of new buildings, demolition, and possibly building rehabilitation and renovation. Limits on daytime construction hours of 7:00 a.m. – 8:00 p.m. are established by the *San Francisco Police Code*. Increased ambient noise levels from construction would be considered short-term and intermittent.

Construction activity noise levels at and near the construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate impulsive noises (such as pile driving), which can be particularly annoying. Due to the programmatic nature of the Draft Plan, it is unknown whether future development within the Plan area would involve pile driving, although it can be reasonably expected that at least some buildings—including the proposed Transit Tower—would require pile-supported foundations. Pile-driving may be more likely east of approximately First Street, where land was historically reclaimed from the margin of San Francisco Bay and soil conditions are typically poorer. **Table 29** shows typical noise levels during different construction stages.

Noise from construction activities generally attenuates at a rate of 6 to 7.5 dBA per doubling of distance. Based on the Plan area terrain, an attenuation of 6 dBA is assumed. Future construction could occur adjacent to sensitive receptors. Based on Table 29, the noise level associated with, for example, excavation is

TABLE 29
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, Leq)[a]
Pile Driving	101 (intermittent)
Excavation	89
Finishing	89
Structural Erection	85
Ground Clearing	84
Foundations	78

[a] Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.

89 dBA at 50 feet. Therefore, if sensitive receptors were located at this distance, construction noise at these levels would be substantially greater than existing noise levels throughout the Plan area. Impacts associated with construction noise, especially if the construction is to occur during the nighttime hours when most people are sleeping, would be significant.

Moreover, there is potential for simultaneous construction of multiple large buildings in a relatively small area under the Plan. For example, the new Transit Center is currently under construction, and construction activity will continue at that site until 2017. Several other projects are proposed (and one was approved in 2011) within about one block of the Transit Center site. Depending on the overlapping phases of construction, noise levels could be greater at certain locations.

In the event that pile driving is determined to be required for a subsequent development project, the sponsor of that project would implement Mitigation Measure M-NO-2a (Noise Control Measures for Pile Driving), which would reduce potential pile-driving noise impacts to a less-than-significant level. Moreover, as noted, the project sponsor would be required to comply with measures required for impact tools in Section 2907(b) of the Police Code. As a result, adverse impacts from pile-driving noise upon sensitive receptors near a particular project site would be reduced to a less-than-significant level.

Closed windows typically can reduce daytime interior noise levels to an acceptable level. Nevertheless, because of the number of sensitive receptors throughout the Plan area, implementation of Mitigation Measure M-NO-2b (General Construction Noise Control Measures), would be required for subsequent development projects to reduce construction noise to a less-than-significant level.

Mitigation Measures

M-NO-2a: **Noise Control Measures During Pile Driving.** For individual projects that require pile driving, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. These attenuation measures shall include as many of the following control strategies, and any other effective strategies, as feasible:

- The project sponsor of a development project in the Plan area shall require the construction contractor to erect temporary plywood noise barriers along the boundaries of the project site to shield potential sensitive receptors and reduce noise levels;
- The project sponsor of a development project in the Plan area shall require the construction contractor to implement "quiet" pile-driving technology (such as pre-drilling of piles, sonic pile drivers, and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- The project sponsor of a development project in the Plan area shall require the construction contractor to monitor the effectiveness of noise attenuation measures by taking noise measurement; and
- The project sponsor of a development project in the Plan area shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses.

M-NO-2b: **General Construction Noise Control Measures.** To ensure that project noise from construction activities is minimized to the maximum extent feasible, the project sponsor of a development project in the Plan area shall undertake the following:

- The project sponsor of a development project in the Plan area shall require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).
- The project sponsor of a development project in the Plan area shall require the general contractor to locate stationary noise sources (such as compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as five dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible.
- The project sponsor of a development project in the Plan area shall require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA.
- The project sponsor of a development project in the Plan area shall include noise control requirements in specifications provided to construction contractors. Such requirements could include, but not be limited to, performing all work in a manner that minimizes noise to the extent feasible; use of equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants, as feasible; and selecting haul routes that avoid residential buildings inasmuch as such routes are otherwise feasible.
- Prior to the issuance of each building permit, along with the submission of construction documents, the project sponsor of a development project in the Plan area shall submit to the Planning Department and Department of Building Inspection (DBI) a list of measures to respond to and track complaints pertaining to construction

noise. These measures shall include (1) a procedure and phone numbers for notifying DBI, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted on-site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction; (3) designation of an on-site construction complaint and enforcement manager for the project; and (4) notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating noise levels of 90 dBA or greater) about the estimated duration of the activity.

Level of Significance after Mitigation

Implementation of Mitigation Measures M-NO-2a and M-NO-2b would reduce the noise impact from future construction throughout the Plan area to a less than significant level.

Impact NO-3: Construction activities in the Plan area could expose persons to temporary increases in vibration levels substantially in excess of ambient levels. (Significant and Unavoidable with Mitigation)

Construction in the Plan area could potentially expose people to the impacts of excess groundborne vibration or noise levels. Specifically, vibration created through construction activities including pile driving could occur adjacent to sensitive receptors.

As shown in **Table 30**, pile driving can generate vibration levels as high as 1.518 inches per second (in/sec) PPV (112 Vdb RMS). Where pile driving is not required, use of heavy equipment for project construction generates vibration levels up to 0.089 in/sec PPV or 87 Vdb RMS at a distance of 25 feet, for the largest typical construction equipment such as a large bulldozer. Because most streets in the Plan area are 82.5 feet wide, vibration from construction would most affect receptors on adjacent parcels. Vibration levels, measured as PPV, across the street from construction sites would be reduced by more than 80 percent. Other pieces of equipment, such as a small bulldozer, would result in vibration impacts resulting in lesser PPV and RMS. Therefore, with the exception of pile driving, most construction activities would generate ground-borne vibration levels that would not exceed the FTA criteria of 0.2 in/sec PPV for structural damage but could exceed 80 RMS for human annoyance. Moreover, construction could adversely affect adjacent properties (i.e., those closer than 82.5 feet).

Groundborne vibration impacts associated with construction activities on historic resources, and mitigation for those effects, are addressed in Section IV.D, Cultural and Paleontological Resources, p. 270. Mitigation identified in that section would require contractors to undertake best practices during construction and to conduct pre-construction surveys of historical resources within 125 feet of proposed construction (to allow for a 25 percent safety factor) and to conduct construction-period monitoring of these resources to ensure that potential construction impacts would be reduced as feasible.

TABLE 30
VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT

Equipment/Activity	PPV at 25 ft (inches/second)[a]	PPV at 82.5 feet	RMS at 25 ft (Vdb)[c]	RMS at 82.5 feet
Pile Driver (upper range)	1.518	0.265	112	106
Pile Driver (typical)	0.644	0.113	104	98
Large Bulldozer	0.089	0.016	87	72
Loaded Trucks	0.076	0.013	86	71
Small Bulldozer	0.003	0.00	58	43

[a] Buildings can be exposed to ground-borne vibration levels of 0.2 PPV without experiencing structural damage.
[b] Assumes receptor is across the street.
[c] The human annoyance response level is 80 Vdb RMS.

SOURCE: ESA, 2010; Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

Mitigation Measures

Implement Mitigation Measure M-NO-2a, Noise Control Measures During Pile Driving.

- **Implement Mitigation Measure M-CP-5a, Construction Best Practices for Historical Resources, p. 270, and Mitigation Measure and M-CP-5b, Construction Monitoring Program for Historical Resources, p. 270.**

Level of Significance after Mitigation

- Implementation of Mitigation Measures M-NO-2a, M-CP-5a and M-CP-5b would reduce the vibration impact from future construction throughout most of the Plan area to a less than significant level. However, certain uses in close proximity to construction sites could, depending on the source and nature of the vibration, experience construction-related vibration that would be considered **significant and unavoidable**. It should be noted that the identification of this program level potentially significant impact does not preclude the finding of future less-than-significant impacts for subsequent projects, for which project-specific analysis finds that those project(s) would meet applicable thresholds of significance.

Transit Tower

Impact NO-4: The proposed Transit Tower project would not result in a substantial permanent increase in ambient noise levels in the project vicinity, and it would not expose persons to noise levels in excess of standards established in the local general plan or noise ordinance. (Less than Significant with Mitigation)

The *General Plan* Land Use Compatibility Guidelines indicate that, for office uses, the maximum "satisfactory" noise level without incorporating noise insulation into a project is 70 dBA (Ldn). The Guidelines indicate that office development should be discouraged at noise levels above 75 dBA (Ldn).

Where noise levels that exceed satisfactory level (i.e., 70 dBA), a detailed analysis of noise reduction requirements will normally be necessary prior to final review and approval. As noted in the Setting, traffic is the primary noise source in the Plan area, and the traffic noise level on all major streets in the project vicinity exceeds 70 dBA (Ldn). A 24-hour noise measurement at the intersection of Mission and Fremont Streets, diagonally across the intersection from the project site, measured the existing noise level (including all sources, not just traffic) at 76.5 dBA (Ldn), with a daytime (7:00 a.m. to 10:00 p.m. noise level of 73.3 dBA (Leq).[202] Hourly noise levels ranged from 63.8 dBA at 3:00 a.m. hour. to 77.4 dBA during the 8:00 a.m. hour. Given that the proposed project would contain primarily office use, with some retail space, and that these uses are not considered sensitive receptors for noise, it is anticipated that conventional construction techniques, including the use of noise-insulated glass, would result in reduction of interior noise levels of up to 30 dBA, resulting in levels adequate for the proposed uses. Accordingly, the impact of interior noise on the proposed project would be less-than-significant, and no further analysis is required.

Traffic Noise

Generally, traffic must double in volume to produce a noticeable increase in noise levels. Based on trip generation calculations prepared for the project, most trips to the project site would be made via transit and by foot. As described in the Plan analysis of traffic noise (Impact NO-1, above), the peak-hour traffic noise level would increase on First Street between Mission and Howard Streets (where the Transit Tower garage entrance/exit would be located) by almost 3 dBA. A portion of this increase would be due to traffic destined to and from the Transit Tower, which would generate approximately 5,500 daily vehicle trips (about 540 peak-hour vehicle trips). First Street currently has, and would continue to have, the highest noise levels in the Plan area, in large part because of the heavy traffic volume that uses First Street to reach the Bay Bridge on-ramp at First and Harrison Streets. Because traffic generated by the Transit Tower would result in an approximately 2 dBA increase in traffic noise, the impact is considered less than significant.

Although the proposed Transit Tower would be constructed adjacent to the planned City Park atop the new Transit Center, noise effects in the park would be less than significant, because the park would be approximately 70 feet above grade and would therefore be buffered from street noise by the Transit Center itself. Street noise would be further attenuated by distance.

Because the trip generation calculations on which the noise analysis is based are specific to travel activity in downtown San Francisco and already reflect robust transit use and a substantial number of bicycling and walking trips, it is not considered feasible to reduce vehicle trip generation by the more than 50 percent that would be required to avoid a project-specific significant impact. However, implementation of Mitigation Measures M-NO-1a, M-NO-1b, and M-NO-1c, p. 357, above, would avoid exposing sensitive receptors to this increased noise level.

[202] Noise measurements record all noise, not just traffic noise, and thus can result in higher numbers than the modeled results.

Level of Significance after Mitigation

With implementation of Mitigation Measures M-NO-1a, M-NO-1b, and M-NO-1c, project-specific effects of traffic noise would be less than significant.

Building Operation Noise

The proposed Transit Tower project would include mechanical equipment, such as air conditioning units and chillers, which could produce operational noise. These operations would be subject to Section 2909 of the San Francisco Noise Ordinance, Article 29 of the *San Francisco Police Code*. As amended in November 2008, this section establishes a noise limit from mechanical sources, such as building equipment, specified as a certain noise level in excess of the ambient noise level at the property line: for noise generated by residential uses, the limit is 5 dBA in excess of ambient, while for noise generated by commercial and industrial uses, the limit is 8 dBA in excess of ambient and for noise on public property, including streets, the limit is 10 dBA in excess of ambient.[203] In addition, the Noise Ordinance provides for a separate fixed-source noise limit for residential interiors of 45 dBA at night and 55 dBA during the day and evening hours. Compliance with Article 29, Section 2909, would minimize noise from building operations.

No detailed design information is available for the Transit Tower with respect to the location of mechanical equipment. Without mitigation, building equipment noise could be disruptive to existing and potential future residents in the Plan area, and, for purposes of a conservative assessment, this impact is considered potentially significant. Implementation of Mitigation Measures M-NO-1d and M-NO-1e, above, would further restrict the noise level for mechanical equipment in the Plan area and would require the project sponsor to fully enclose and noise-proof building mechanical equipment.

Mitigation Measures

Implement Mitigation Measure M-NO-1d, Mechanical Equipment Noise Standard, and Mitigation Measure M-NO-1e, Interior Mechanical Equipment.

Level of Significance after Mitigation

With implementation of Mitigation Measures M-NO-1d and M-NO-1e, operational noise from building equipment would be less than significant.

Impact NO-5: Construction of the proposed Transit Tower project would result in a temporary and/or periodic increase in ambient noise levels and vibration in the project vicinity above levels existing without the project. (Less than Significant with Mitigation)

Demolition, excavation, and building construction would temporarily increase noise in the project vicinity. Construction equipment would generate noise and possibly vibrations that could be considered an annoyance by occupants of nearby properties, or that could result in harm to individuals and/or surrounding buildings. The construction period for the Transit Tower would last approximately

[203] Entertainment venues are also subject to a separate criterion for low-frequency (bass) noise.

36 months. Construction noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers. Impacts would generally be limited to the period during which new foundations and exterior structural and facade elements would be constructed. Interior construction noise would be substantially reduced by the presence of exterior walls.

The Transit Tower would have a concrete slab foundation supported by driven piles anticipated to be founded on bedrock more than 200 feet below grade. The tower's structural system is anticipated to employ the concept of "megacolumns," which are very large structural columns several feet in width. The concentrated load supported by these megacolumns would be sustained by large diameter piles approximately 10 feet in diameter, with additional piles driven to support the building's foundation slab. Pile driving can generate noise levels in excess of 100 dBA at 50 feet each time the hammer strikes the pile. While potentially more startling than constant noise levels, pile driving noise is intermittent, occurring only when a pile is being driven, with breaks when driving one pile is complete and another is being placed in position. Therefore, the project sponsor would be required implement Mitigation Measure M-NO-2a (Noise Control Measures for Pile Driving), p. 360, above, which would reduce potential pile-driving noise impacts to a less-than-significant level. Moreover, as noted, the project sponsor would be required to comply with measures required for impact tools in Section 2907(b) of the *Police Code.* As a result, adverse impacts from construction noise upon sensitive receptors near the project site would be reduced to a less-than-significant level.

Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of the *Police Code*), amended in November 2008. The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Impact tools (jackhammers, hoerammers, impact wrenches) must have both intake and exhaust mufflers as well as be equipped with acoustically attenuating shields or shrouds to the satisfaction of the Director of Public Works or the Director of Building Inspection. Section 2908 of the Ordinance prohibits construction work between 8:00 p.m. and 7:00 a.m., if noise would exceed the ambient noise level by five dBA at the project property line, unless a special permit is authorized by the Director of Public Works or the Director of Building Inspection. The project must comply with regulations set forth in the Noise Ordinance.

The closest sensitive noise receptors to the project site that have the potential to be adversely affected by construction noise are the residential units in the Millennium Tower, across Fremont Street from the project site, and two child care facilities located about one block away, one in the PG&E building at 77 Beale Street, and a second at 342 Howard Street. Closed windows typically can reduce daytime interior noise levels to an acceptable level. Nevertheless, because of the proximity to these receptors, implementation of Mitigation Measure M-NO-2b (General Construction Noise Control Measures), p. 361, above, would be required to reduce construction noise to a less-than-significant level. Therefore, although construction noise could be annoying at times, with mitigation, construction noise would not be expected to exceed noise levels commonly experienced in an urban environment, and would not be considered significant.

Concerning vibration, because there are no sensitive uses closer than across the street (i.e., greater than 82.5 feet) from the Transit Tower site, vibration impacts would be anticipated to be less than significant,

- as described in Impact NO-3, except for potential impacts to historical resources, for which Mitigation Measures M-CP-5a and M-CP-5b would reduce impacts to a less-than-significant level.

Mitigation Measures

- **Implement Mitigation Measure M-NO-2a, Noise Control Measures for Pile Driving, Mitigation Measure M-NO-2b, General Construction Noise Control Measures, Mitigation Measure M-CP-5a, Construction Best Practices for Historical Resources, p. 270, and Mitigation Measure and M-CP-5b, Construction Monitoring Program for Historical Resources, p. 270**

Level of Significance after Mitigation

- With implementation of Mitigation Measures M-NO-2a, M-NO-2b, M-CP-5a, and M-CP-5b, project-specific construction noise and vibration impacts would be reduced to a less-than –significant level.

Impact NO-6: The proposed Transit Tower project would not be substantially affected by existing noise levels. (Less than Significant)

Ambient noise levels in the project vicinity are typical of noise levels in downtown San Francisco, which are dominated by vehicular traffic, including trucks, cars, Muni buses, and emergency vehicles. Mission, First, and Fremont Streets all experience relatively heavy traffic and generate moderate to high levels of traffic noise. Observation during weekday business hours by the environmental consultant indicates that surrounding land uses do not conduct noticeably noisy operations.

With regard to effects of the ambient area noise on project occupants, the proposed project would include a noise-reducing dual-pane glass assembly in its glazing system, which would reduce outdoor noise levels by up to 30 dBA, sufficient to ensure an adequately quiet interior noise environment for office use.

Mitigation: None required.

Cumulative Impacts

Impact C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts. (Significant and Unavoidable with Mitigation)

The traffic noise analysis in Impact NO-1, above, includes noise from traffic increases due to background (cumulative) development. As indicated there, this cumulative growth would be responsible for one-half to three-fourths (or more) of the overall change in noise levels between existing conditions and 2030 conditions with full implementation of the Plan, while the incremental increase due to Plan-generated growth would represent a smaller noise increase. Mitigation Measures M-NO-1a, M-NO-1b, and M-NO-1c, p. 357, would reduce traffic noise impacts, but not necessarily to a less-than-significant level.

Therefore, cumulative increases in ambient noise, generally from traffic, are considered significant and unavoidable.

Cumulative construction impacts would occur from other projects in the vicinity, most notably the new Transit Center itself, which is currently under construction immediately south of the Transit Tower site. There are several other projects for which the Planning Department has applications on file in proximity to the Transit Tower site, including a project approved in 2011 at 350 Mission Street, diagonally across the Fremont and Mission Streets intersection from the proposed Mission Square park. Other potential development includes a high-rise project with three towers at the northwest corner of First and Mission Streets, a mixed-use tower on Fremont Street south of the new Transit Center, and a mid-rise residential building on Tehama Street between First and Second Streets. Other potential projects identified in the analysis for the Transit Center District Plan include towers on Mission Street between First and Second Street (Golden Gate University site) and on the north side of Howard Street between First and Second Streets. Each of these projects would generate construction noise. To the extent that simultaneous construction is undertaken in close enough proximity to the Transit Tower project site, or that two or more of the above projects are undertaken at the same time, such that cumulative effects related to construction noise would be anticipated, noise effects would be greater or last longer, or both. Additionally, the proposed underground extension of Caltrain service to the Transit Center, while it would occur beneath Second Street (two blocks east of the project site) would cause additional noise and vibration impacts if it is funded and built.

The construction of the proposed Caltrain Downtown Extension would temporarily introduce a new source of noise and vibration into the project area. However, this work would be primarily underground and more than 300 feet from the Transit Tower project site, At this distance, noise and vibration from the Caltrain Downtown Extension would not, along with the Transit Tower, result in significant cumulative impacts. The ongoing construction of the Transit Center will include construction of a lower level to accommodate future Caltrain (and potential high-speed rail) service. However, train track tunneling and construction would not occur until a later date, which is dependent on funding.

In the event that one or more nearby projects were to be undertaken at the same time as the proposed project, the Planning Department and the Departments of Building Inspection, Public Works, and Public Health, along with the Transbay Joint Powers Authority (sponsor of the Transit Center) and the Peninsula Joint Powers Board (sponsor of the Caltrain extension), would be expected to work to ensure that all projects comply with the San Francisco Noise Ordinance and that project construction schedules are coordinated so as to minimize, to the extent feasible, construction noise that could be disruptive. However, it is anticipated that, because of the large amount of construction ongoing and proposed in the Plan area, construction noise and vibration impacts could be significant for at least some existing, and possibly future, sensitive receptors.

Mitigation Measure

Implement Mitigation Measure M-NO-2a, Noise Control Measures for Pile Driving, and Mitigation Measure M-NO-2b, General Construction Noise Control Measures.

M-C-NO **Cumulative Construction Noise Control Measures.** In addition to implementation of Mitigation Measure NO-2a and Mitigation Measure NO-2b (as applicable), prior to the time that construction of the proposed project is completed, the project sponsor of a development project in the Plan area shall cooperate with and participate in any City-sponsored construction noise control program for the Transit Center District Plan area or other City-sponsored areawide program developed to reduce potential effects of construction noise in the project vicinity. Elements of such a program could include a community liaison program to inform residents and building occupants of upcoming construction activities, staggering of construction schedules so that particularly noisy phases of work do not overlap at nearby project sites, and, potentially, noise and/or vibration monitoring during construction activities that are anticipated to be particularly disruptive.

Level of Significance after Mitigation

With implementation of Mitigation Measures M-NO-2a, M-NO-2b, and M-C-NO, cumulative construction noise impacts would be reduced, but not necessarily to a less-than–significant level. It is also noted that the limitation on annual office development codified in *Planning Code* Section 321 could result in some "metering" of office development over time. While there is enough available space in the inventory of space available for large buildings to accommodate all Plan area buildings with applications currently on file, the entire amount of office space anticipated under the Plan represents about six years of annual allocations, or twice the amount of the current inventory. Therefore, if a number of additional projects—either in or outside of the Plan area—were to be proposed soon, not all could be approved at the same time. This could incrementally reduce the potential for cumulative construction noise in the Plan area. For purposes of a conservative assessment, however, this impact is considered **significant and unavoidable**. It should be noted that the identification of this program level potentially significant impact does not preclude the finding of future less-than-significant impacts for subsequent projects, for which project-specific analysis finds that those project(s) would meet applicable thresholds of significance.

G. Air Quality

This section addresses air quality impacts that could result from implementation of the Transit Center District Plan and Transit Tower project. The analysis estimates potential increases in criteria air pollutants that would be associated with project implementation.

Environmental Setting

The Plan area and the Transit Tower site are within the San Francisco Bay Area Air Basin, which includes all of San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa counties, and the southern and southwestern portions, respectively, of Sonoma and Solano counties. The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for air quality planning in the Air Basin.

Ambient Air Quality – Criteria Air Pollutants

As required by the 1970 federal Clean Air Act, the United States Environmental Protection Agency (EPA) has identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. EPA calls these pollutants criteria air pollutants because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are the six criteria air pollutants.

The BAAQMD's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. **Table 31** is a five-year summary of highest annual criteria air pollutant concentrations (2006 to 2010), collected at the BAAQMD's air quality monitoring station at 10 Arkansas Street in San Francisco, which is located approximately 1.3 miles south of the Plan area.[204] Table 31 compares measured pollutant concentrations with the most stringent applicable ambient air quality standards (state or federal).

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath

[204] Data from this single location does not describe pollutant levels throughout San Francisco, as these levels may vary depending on distance from key emissions sources and local meteorology. However, the BAAQMD monitoring network does provide a reliable picture of pollutant levels over time.

TABLE 31
SUMMARY OF SAN FRANCISCO AIR QUALITY MONITORING DATA (2006–2010)

Pollutant	Most Stringent Applicable Standard	Number of Days Standards were Exceeded and Maximum Concentrations Measured				
		2006	2007	2008	2009	2010
Ozone						
- Days 1-hour Std. Exceeded	9 pphm [a]	0	0	0	0	0
- Max. 1-hour Conc. (pphm) [b]		5.3	6.0	8.2	7.2	7.9
- Days 8-hour Std. Exceeded	7 pphm [a]	0	0	0	0	0
- Max. 8-hour Conc. (pphm) [b]		4.6	5.3	6.6	5.6	5.1
Carbon Monoxide (CO)						
- Days 8-hour Std. Exceeded	9 ppm [a]	0	0	0	0	0
- Max. 8-hour Conc. (ppm)		2.1	1.6	2.3	2.9	1.4
Suspended Particulates (PM_{10})						
- Days 24-hour Std. Exceeded [c]	50 µg/m^3 [a]	3	2	0	0	0
- Max. 24-hour Conc. (µg/m^3)		**61**	**70**	41	35	39
Suspended Particulates ($PM_{2.5}$)						
- Days 24-hour Std. Exceeded [d]	35 µg/m^3 [b]	3	5	0	1	3.2
- Max. 24-hour Conc. (µg/m^3)		**54.3**	**45.5**	29.4	**35.5**	**45.3**
- Annual Average (µg/m^3)	12 µg/m^3 [a]	9.7	8.9	11.7	ND	10.5 [e]
Nitrogen Dioxide (NO_2)						
- Days 1-hour Std. Exceeded	25 pphm [a]	0	0	0	0	0
- Max. 1-hour Conc. (pphm) [b]		11	7	6	6	9
Sulfur Dioxide (SO_2)						
- Days 24-hour Std. Exceeded	40 ppb [a]	0	0	0	ND	ND
- Max. 24-hour Conc. (ppb) [b]		6	6	4	ND	ND

Notes: Bold values are in excess of applicable standard.
conc. = concentration; ppm = parts per million; pphm = parts per hundred million; ppb=parts per billion;
µg/m3 = micrograms per cubic meter
ND = No data or insufficient data.

[a] State standard, not to be exceeded.

[b] Federal standard, not to be exceeded.

[c] Based on a sampling schedule of one out of every six days, for a total of approximately 60 samples per year.

[d] Federal standard for $PM_{2.5}$ was reduced from 65 µg/m3 to 35 µg/m3 in 2006.

[e] Annual average based on federal method; state average not available.

SOURCE: California Air Resources Board

and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Table 31 shows that, according to published data, the most stringent applicable standards (state 1-hour standard of 9 parts per hundred million (pphm) and the federal 8-hour standard of 8 pphm) were not exceeded in San Francisco between 2004 and 2008.

Carbon Monoxide (CO)

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the

oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table 31, no exceedances of state CO standards were recorded between 2006 and 2010. Measurements of CO indicate hourly maximums average 14 percent of the more stringent state standard, and maximum 8-hour CO levels approximately 20 percent of the allowable 8-hour standard. According to BAAQMD, CO emissions have decreased dramatically since the introduction of the catalytic converter in 1975, and there have been no local exceedances of state or federal standards since 1991.[205]

Particulate Matter (PM10 and PM2.5)

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. Particulate matter is measured in two size ranges: PM_{10} for particles less than 10 microns in diameter, and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the Air Basin's particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction, as well as demolition and agricultural activities, are other sources of such fine particulates. PM_{10} and $PM_{2.5}$ are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. $PM_{2.5}$ poses an increased health risk because the particles can deposit deep in the lungs and contain substances that are particularly harmful to human health. These fine particulates are strongly associated with premature deaths, respiratory diseases and reduced lung development in children, hospital admissions, and cardiopulmonary disease.[206]

Among the criteria pollutants that are regulated, particulates represent a serious ongoing health hazard. As long ago as 1999, the BAAQMD was reporting, in its CEQA Guidelines published that year, that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay Area. High levels of particulates have also been known to exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions. Current evidence suggests that $PM_{2.5}$ "is by far the most harmful air pollutant in [the Bay Area] in terms of the associated impact on public health."[207]

Table 31 shows that exceedances of the state PM_{10} standard have occurred periodically in San Francisco. The state 24-hour PM_{10} standard is estimated to have been exceeded between 3 and 21 days in 2006, and 2 and 14 days in 2007, but not exceeded in 2008 through 2010. The BAAQMD began monitoring $PM_{2.5}$

---

205 Bay Area Air Quality Management District (BAAQMD), *California Environmental Quality Act (CEQA) Air Quality Guidelines*, Updated May 2011; p. 6-1. http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed August 18, 2011.

206 Bhatia, Rajiv and Thomas Rivard, San Francisco Department of Public Health, Occupational & Environmental Health Section, Program on Health, Equity, & Sustainability, "Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review," p. 5, May 6, 2008. Available on the internet at: http://www.sfdph.org/dph/files/EHSdocs/AirQuality/MitigateRoadAQLUConlicts.pdf. This document is also available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E.

207 BAAQMD, *CEQA Air Quality Guidelines*, May 2011 (see footnote 205, above); p. 5-2.

concentrations in San Francisco in 2002.[208] The federal 24-hour $PM_{2.5}$ standard was exceeded on three days in 2006 and five days in 2007, but not exceeded in 2008. It was exceeded on one day in 2009 and about 3 days in 2010. The state annual average standard was not exceeded between 2006 and 2010.

Nitrogen Dioxide (NO_2)

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. Table 31 shows that the standard for NO_2 is being met in the Bay Area, and pollutant trends suggest that the Air Basin will continue to meet these standards for the foreseeable future.

Sulfur Dioxide (SO_2)

SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.[209] Table 31 shows that the standard for SO_2 is being met in the Bay Area, and pollutant trends suggest that the Air Basin will continue to meet these standards for the foreseeable future.

Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses, cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects; children are at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

In the Plan area, the primary source of TACs is on-road mobile sources (vehicles traveling on freeways and local roadways). Mobile source air toxics are known or suspected to cause cancer or other serious health or environmental effects. Engine exhaust from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

---

208 PM concentrations are not measured daily; hence, the number of annual exceedances is estimated by extrapolating sampling data for approximately 60 days per year.

209 BAAQMD, *CEQA Guidelines*, op. cit.; p. B-2.

Vehicle tailpipe emissions includes criteria air pollutants such as particulate matter and carbon monoxide, ozone precursor compounds such as nitrogen oxides (NOx) and other hazardous air pollutants (e.g., air toxics) not regulated by EPA as criteria pollutants. Criteria air pollutant levels in the Plan area are described above in Table 31. Motor vehicles also emit air toxics. The EPA has identified seven priority mobile source air toxics, including benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, naphthalene, and diesel exhaust. Similarly, the California Air Resources Board (CARB) has identified 10 air toxics of concern, five of which are emitted by on-road mobile sources: benzene, 1,3-butadiene, formaldehyde, acetaldehyde, and diesel exhaust particulate matter. Benzene is of particular concern because it is a known carcinogen and most of the nation's benzene emissions come from mobile sources. Diesel particulate matter is a toxic air contaminant and known lung carcinogen resulting from combustion of diesel fuel in heavy duty trucks and heavy equipment.[210]

In addition to monitoring criteria pollutants (Table 31), both the BAAQMD and CARB operate TAC monitoring networks in the San Francisco Bay Area. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air, and therefore tend to produce the most significant risk. The BAAQMD operates an ambient TAC monitoring station at its Arkansas Street facility in San Francisco. When TAC measurements at this station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole.[211]

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.[212]

Diesel particulate matter (DPM), which is emitted in diesel engine exhaust, was identified as a toxic air contaminant by CARB in 1998. Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment are not relevant to San Francisco, while construction equipment typically operates for a limited time at changeable locations. As a result, the readily identifiable locations where DPM is emitted in the Plan area include high-traffic roadways and other areas with substantial truck and bus traffic. Therefore, diesel

210 Bhatia, Rajiv, and Thomas Rivard, "Assessment and Mitigation of Air Pollutant Health Effects ..."; p. 5 (see note 206, p. 373).

211 BAAQMD, Toxic Air Contaminant Control Program, Annual Report 2003, Volume I and Appendix B-3. August 2007.

212 In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk, then the applicant is subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, calculating the increased risk of cancer as a result of exposure to one or more TACs.

particulate matter is discussed further under "Roadway-Related Health Effects," p. 376, below. Additionally, temporary emissions of DPM and $PM_{2.5}$ are associated with construction activities, notably building demolition and site excavation and grading, as off-road diesel equipment is prevalent in both of these phases of construction work.

Recently completed air toxics modeling determined that northeastern San Francisco, including the Plan area, has the highest annual DPM concentrations in the Bay Area.[213] Of the estimated annual DPM concentration of 18.3 micrograms per cubic meter, almost 93 percent of the DPM exposure was attributable to transportation sources. Because of the complex interaction between exact source locations and often vigorous localized mixing, this value should be considered more of an indicator of DPM exposure potential in the project vicinity rather than any specific risk.

Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, population subgroups with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g. indoor air quality) that affect cardiovascular or respiratory diseases such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g. indoor air quality) that affect cardiovascular or respiratory diseases. The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, poorer residents may be more likely to live in crowded substandard housing and be more likely to live near industrial or roadway sources of air pollution.

Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions.

Land uses within the Plan area are described in detail in Section IV.A, Land Use. Residential uses occur in the Plan area, with most located in the eastern portion of the Plan area. Recreational uses would also be considered sensitive compared to commercial and industrial areas due to the greater exposure to ambient air quality conditions. Parks and playgrounds in active recreational use may be considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; also, children are frequent users. However, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, for example, which typically

[213] Environ International Corp., *Demonstration Toxics Modeling for the Bay Area Using CAMx*, February 14, 2008. The grid resolution was 2 km x 2 km such that localized variations could not be determined.

reduces overall exposure to pollutants. While there are no existing public parks in the Transit Center District Plan area, there are privately owned, publicly accessible plazas and open space areas, with most located in the central and eastern portions of the Plan area. However, none of these open spaces offer space for active recreational activities. The lack of active uses and the fact that exposure times in Plan area open spaces are typically relatively short means that parks and open spaces are not considered sensitive air quality receptors for purposes of this analysis. (As noted above, day care centers, however, are considered sensitive; this includes the outdoor play areas at such facilities.)

In the vicinity of the proposed Transit Tower, the closest sensitive residential receptors are in the Millennium Tower, a high-residential structure at the southeast corner of Fremont and Mission Streets. This building has commercial and (non-public) community uses on the first two floors and residential uses beginning on the third floor; it is located approximately 82 feet east of the proposed Mission Square park, which would be developed adjacent to the Transit Tower, and approximately 180 feet east of the site of the Transit Tower itself. The licensed child-care facility closest to the Transit Tower site is located at 342 Howard Street (in the office building at 199 Fremont Street), at the northwest corner of Fremont and Howard Streets, some 400 feet southeast of the Transit Tower site. There is another child-care center in the PG&E Building at 77 Beale Street, with an outdoor play area on Mission Street at Main Street. This facility is about 600 feet east-northeast of the Transit Tower site.

Roadway-Related Health Effects

Both criteria pollutants and toxic air contaminants can result in adverse health impacts. Among criteria pollutants, fine particulate ($PM_{2.5}$) is of greatest concern. According to the BAAQMD, "A large body of scientific evidence indicates that both long-term and short-term exposure to $PM_{2.5}$ can cause a wide range of health effects (e.g., aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardiovascular symptoms, and contributing to heart attacks and deaths). According to the San Francisco Department of Public Health, epidemiological research that indicates that a concentration of 0.2 micrograms per cubic meter of $PM_{2.5}$ can result in an approximately 0.28 percent increase in non-injury mortality, or an increase of approximately 21 "excess deaths" per year (e.g., deaths that would occur sooner than otherwise expected) per one million population in San Francisco.[214,215]

Epidemiologic studies have consistently demonstrated that children and adults living in proximity to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children. Air pollution monitoring done in conjunction with epidemiological studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and nitrogen dioxide. At this time, it is not possible to attribute roadway-related health effects to a single type of roadway, vehicle, or type of fuel. Vehicle tailpipe emissions contain diverse forms of particulate matter as well as well as

[214] "Excess deaths" (also referred to as premature mortality) refer to deaths that occur sooner than otherwise expected, absent the specific condition under evaluation; in this case, exposure to $PM_{2.5}$.

[215] Bhatia and Rivard, "Assessment and Mitigation of Air Pollutant Health Effects...."; see note 206, p. 373.

ozone precursor compounds such as nitrogen oxides (NOx) and volatile organic compounds (VOC). Vehicles also contribute to particulates by generating road dust and through tire wear.

Air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. CARB community health risk assessments and regulatory programs have produced air quality information about certain types of facilities for consideration by local authorities when siting new residences, schools, day care centers, and medical facilities (i.e., sensitive land uses).[216] Sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the non-cancer effects of air pollution. There is also substantial evidence that children are more sensitive to cancer-causing chemicals.[217]

In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet. California freeway studies show about a 70 percent drop-off in particulate pollution levels at 500 feet from the roadway. Therefore, CARB recommends that new sensitive land uses (e.g., residences, schools, daycare centers, and medical facilities) not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day. This recommendation is put forth to minimize potential non-cancer health effects of exposure to pollutants known to increase incidence of asthma and other respiratory ailments, particularly fine particulates, as well as cancer risk from exposure to diesel particulates from truck and bus exhaust (discussed below) and benzene and 1,3-butadine from automobile exhaust.

CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones." CARB acknowledges that land use agencies must balance other considerations, including housing and transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, CARB's position is that infill development, mixed-use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.[218]

The closest freeway to the Plan area is located approximately 1,000 feet to the south. However, surface streets in the Plan area also carry high volumes of traffic that can generate substantial levels of pollutants, including $PM_{2.5}$. Modeling conducted by the Department of Public Health in connection with implementation of Article 38 of the *San Francisco Health Code* (discussed below on p. 385 under Air Quality Regulations and Plans) indicates that traffic volumes on some three-fourths of the blocks along major streets (i.e., excluding mid-block alleys) in the Plan area are high enough to potentially result in a roadside concentration of $PM_{2.5}$ that is in excess of the Code's "action level."

---

216 As noted previously, parks and playgrounds are not normally considered sensitive receptors because of the lack of long-term exposure and active uses.

217 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective,* April 2005. Available on the internet at: http://www.arb.ca.gov/ch/handbook.pdf.

218 *Ibid.*

Diesel Particulate Matter and other Organic Gases

Diesel exhaust is a toxic air contaminant (TAC) that is of concern throughout California. CARB identified diesel particulate matter (DPM) as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.[219] The exhaust from diesel engines include hundreds of different gaseous and particulate components, many of which are toxic. Many of these toxic compounds adhere to the diesel particles, which are very small and can penetrate deeply into the lungs. Mobile sources such as trucks, buses, and, to a much lesser extent, automobiles are some of the primary sources of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily traveled highways and intersections. DPM is the TAC most relevant to the draft Plan because of the high levels of bus traffic associated with the Transit Center.

The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. CARB estimated the average Bay Area cancer risk from diesel particulate, based on a population-weighted average ambient diesel particulate concentration, at about 480 in one million, as of 2000. The risk from diesel particulate matter has declined from 750 in one million in 1990 and 570 in one million in 1995. CARB estimated the average statewide cancer risk from DPM at 540 in one million in 2000.[220,221] Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the cumulative cancer risk from airborne toxics in California. Diesel exhaust also contains pulmonary irritants and hazardous compounds that could affect non cancer health effects in sensitive receptors such as young children, senior citizens, or those susceptible to chronic respiratory disease such as asthma, bronchitis, and emphysema.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The Plan aims to develop and implement specific statewide regulations designed to reduce DPM emissions and the associated health risk 85 percent by 2020. In addition to implementing more stringent engine controls (diesel engines produced today have one-eighth the tailpipe exhausts of a truck or bus built in 1990), diesel fuel is required to have lower sulfur levels. As of June 1, 2006, at least 80 percent of on-road diesel fuel refined in the United States must be ultra-low sulfur diesel, which reduces sulfur emissions by 97 percent. All of the diesel fuel sold in California for use with on-road trucks is now ultra-low sulfur diesel.

Despite these dramatic reductions in emission rates, reducing DPM emissions will take time since older trucks will need to be retrofitted or phased out as part of fleet turnover. While these efforts are reducing

---

219 California Air Resources Board, Fact Sheet, "The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines." October 1998. Available on the internet at: http://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf.

220 CARB, *California Almanac of Emissions and Air Quality - 2009 Edition*, Table 5-44 and Figure 5-14. Available on the internet at http://www.arb.ca.gov/Aqd/almanac/almanac.htm. Viewed April 28, 2011.

221 This calculated cancer risk values from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which is more than 40 percent (based on a sampling of 17 regions nationwide), or greater than 400,000 in one million, according to the National Cancer Institute.

diesel particulate emissions on a statewide basis, they do not yet capture every site where diesel vehicles and engines operate.

Beyond DPM, other TACs emitted by non-diesel vehicles result in similar health risks, and each TAC has specific risk factors that are used when modeling health risk. BAAQMD recommends that when conducting health risk assessments to evaluate risk from traffic-generated pollutants, both DPM and other organic gases be considered.

Regulatory Setting

Air Quality Regulations and Plans

Federal Ambient Air Quality Standards

The 1970 Clean Air Act (last amended in 1990, 42 United States Code [USC] 7401 et seq.) required that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all standards by the deadlines specified in the Clean Air Act. The ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, the elderly, people weak from other illness or disease, persons engaged in strenuous work or exercise, and residential areas, where people spend longer periods of time. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above the ambient air quality standards before adverse health effects are observed.

The current attainment status for the San Francisco Bay Area Air Basin with respect to federal standards is summarized in **Table 32**. In general, the Bay Area Air Basin experiences low concentrations of most pollutants when compared to federal standards, except for ozone and particulate matter (both PM_{10} and $PM_{2.5}$), for which standards are exceeded periodically. The Air Basin's attainment status for ozone has changed several times over the past decade, but is now "nonattainment" for the 1-hour federal ozone standard. The Bay Area Air Basin is also "nonattainment" for the federal $PM_{2.5}$ standard and "unclassified" for the federal PM_{10} standard. In 1998, after many years without violations of any CO standards, the attainment status for CO was upgraded to "attainment." The Air Basin is also in attainment for other criteria pollutants.

State Ambient Air Quality Standards

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards by the time that federal standards were established, and because of the unique meteorological problems in California, there are some differences between the state and national ambient air quality standards, as shown in Table 32. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

TABLE 32
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

		(State) SAAQS[a]		(Federal) NAAQS[b]	
Pollutant	**Averaging Time**	**Standard**	**Attainment Status**	**Standard**	**Attainment Status**
Ozone	1 hour	0.09 ppm	**N**	NA	See Note c
	8 hour	0.07 ppm	**N**	0.075 ppm	**N**[d]
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	A	NA	NA
	Annual	0.030 ppm	A	0.053 ppm	A
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	A	NA	NA
	24 hour	0.04 ppm	A	0.14 ppm	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM_{10})	24 hour	50 $\mu g/m^3$	**N**	150 $\mu g/m^3$	U
	Annual[e]	20 $\mu g/m^3$	**N**	NA	NA
Fine Particulate Matter ($PM_{2.5}$)	24 hour	NA	NA	35 $\mu g/m^3$	**N**[f]
	Annual	12 $\mu g/m^3$	**N**	15 $\mu g/m^3$	A
Sulfates	24 hour	25 $\mu g/m^3$	A	NA	NA
Lead	30 day	1.5 $\mu g/m^3$	A	NA	NA
	Cal. Quarter	NA	NA	1.5 $\mu g/m^3$	A
Hydrogen Sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8 hour	See Note g	U	NA	NA

NOTES: A = Attainment; **N** = Nonattainment; U = Unclassified; NA = Not Applicable, no applicable standard;= ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

[a] SAAQs = state ambient air quality standards (California). SAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

[b] NAAQs = national ambient air quality standards. NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM_{10} standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour $PM_{2.5}$ standard is attained when the three-year average of the 98th percentile is less than the standard.

[c] The EPA revoked the national 1-hour ozone standard on June 15, 2005.

[d] In 2008, the EPA lowered the 8-hour federal standard for ozone to 0.075 ppm. The EPA will issue final designations based on this standard, at which point it is expected that the Bay Area Air Basin will be designated as nonattainment.

[e] State standard = annual geometric mean.

[f] The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. The EPA issued attainment status designations for the 35 $\mu g/m^3$ standard on December 22, 2008. The EPA has designated the Bay Area as nonattainment for the 35 $\mu g/m^3$ $PM_{2.5}$ standard.

[g] Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

SOURCE: Bay Area Air Quality Management District (BAAQMD), Standards and Attainment Status. Website Accessed on January 15, 2010: http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the federal standards. As indicated in Table 32, the Bay Area Air Basin is designated as "nonattainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards. The Air Basin is designated as "attainment" for all other pollutants listed in the table.

California Air Resources Board

CARB is the state agency responsible for regulating air quality. CARB's responsibilities include establishing state ambient air quality standards, emissions standards, and regulations for mobile emissions sources (e.g., autos, trucks, etc.), as well as overseeing the efforts of countywide and multi-county air pollution control districts, such as the BAAQMD, which have primary responsibility over stationary sources.

Bay Area Air Quality Management District

The BAAQMD regulates air quality through its planning and review activities. The district has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits; it can also impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The BAAQMD regulates new or expanding stationary sources of toxic air contaminants. However, the district has no direct regulatory authority over mobile sources (e.g., cars and trucks), nor does it have permit authority over transportation terminals, such as the new Transit Center, currently under construction to replace the Transbay Terminal.

Air Quality Plans to Achieve Compliance with State Standards

Air quality plans developed to meet federal requirements are referred to as State implementation Plans. The federal Clean Air Act and the California Clean Air Act require plans to be developed for areas designated as non-attainment (with the exception of areas designated as non-attainment for the State particulate matter standards plans for which are not required by California Code of Regulations). In September 2010, BAAQMD adopted the *2010 Bay Area Clean Air Plan*, which updated the *2005 Ozone Strategy*, and also to function as a "multi-pollutant plan to protect public health and the climate."[222] This plan includes ozone control measures and also consider the impacts of these control measures on particulate matter (PM), air toxics, and Greenhouse Gas Emissions (GHGs) in a single, integrated plan.

The *2010 Clean Air Plan* explains how the Basin will achieve compliance with the State one-hour air quality standard for ozone as expeditiously as practicable and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The Strategy also discusses related air quality issues of interest including the BAAQMD's public involvement process, climate change, fine particulate matter, BAAQMD's Community Air Risk Evaluation program, local benefits of ozone control measures, the environmental review process, national ozone standards, and photochemical modeling.

222 BAAQMD, *2010 Clean Air Plan*, September 2010. Available on the internet at: http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx.

In 1999, BAAQMD adopted its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. These BAAQMD Guidelines were revised and updated in June 2010, as the *BAAQMD CEQA Air Quality Guidelines*.

The 2010 *BAAQMD CEQA Air Quality Guidelines* is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein, but the document is commonly relied upon by local agencies, including the San Francisco Planning Department.[223] The document describes the criteria that BAAQMD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. In practice, most local agencies rely on the *BAAQMD CEQA Air Quality Guidelines* when assessing the significance of air quality impacts.

Air Quality Plans to Achieve Compliance with Federal Standards

In response to the EPA re-designation of the basin for the 1-hour federal ozone standard to nonattainment, the BAAQMD, ABAG, and MTC were required to develop an ozone attainment plan to meet this standard. The *1999 Ozone Attainment Plan* was prepared and adopted by these agencies in June 1999. However, in March 2001, the EPA proposed and took final action to approve portions of the 1999 ozone plan and disapprove other portions, while also making the finding that the Bay Area had not attained the national 1-hour ozone standard. As a result, a revised Ozone Attainment Plan was prepared and adopted in October 2001. The 2001 Ozone Attainment Plan amends and supplements the 1999 plan. The 2001 Ozone Attainment Plan contains control strategies for stationary and mobile sources. The adopted mobile-source control program was estimated to substantially reduce volatile organic compound and NOx emissions between 2000 and 2006, reducing emissions from on- and off-road diesel engines (including construction equipment). In addition to emission reduction requirements for engines and fuels, the 2001 Ozone Attainment Plan identified 28 transportation control measures to reduce automobile emissions, including improved transit service and transit coordination, new carpool lanes, signal timing, freeway incident management, and increased state gas tax and bridge tolls.

San Francisco Policies and Ordinances

San Francisco General Plan Air Quality Element

The Air Quality Element of the *San Francisco General Plan* is composed of six sections, each of which focuses on different aspects of air quality improvement efforts. They are: (1) adherence to air quality standards, (2) improvements related to mobile sources, (3) land use planning, (4) public awareness, (5) reduction of dust, and (6) energy conservation. The overarching goal of the Air Quality Element is to "Give high priority to air quality improvement in San Francisco to protect its population from adverse

[223] BAAQMD, *CEQA Guidelines*, May 2011. See footnote 205, p. 373.

health and other impacts of air pollutants." No express conflict with policies of the Air Quality Element were identified in Chapter III, Plans and Policies, with the possible exception of Policy 3.5, which states that the City should "Ensure that growth will not outpace capital improvements to transit or the circulation system." The analysis in Section IV.E, Transportation, indicates that, in combination with other growth downtown, the Plan would result in ridership on BART, Golden Gate Transit buses, and certain Muni screenlines and corridors that would exceed capacity, and would cause most intersections in the Plan area to operate at unacceptable levels of service.

San Francisco Dust Control Ordinance

San Francisco Health Code Article 22B, and *San Francisco Building Code* Section 106.A.3.2.6, collectively the Construction Dust Control Ordinance, requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from the Department of Building Inspection (DBI). The Director of DBI may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.

The project sponsor and the contractor responsible for construction activities at the project site shall use the following practices to control construction dust on the site or other practices that result in equivalent dust control that are acceptable to the Director of DBI. Dust suppression activities may include watering all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the *San Francisco Public Works Code.* If not required, reclaimed water should be used whenever possible. Contractors shall provide as much water as necessary to control dust (without creating run-off in any area of land clearing, and/or earth movement). During excavation and dirt-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil shall be covered with a 10 millimeter (0.01 inch) polyethylene plastic (or equivalent) tarp, braced down, or use other equivalent soil stabilization techniques.

For project sites greater than one half-acre in size, the Ordinance requires that the project sponsor submit a Dust Control Plan for approval by the San Francisco Health Department. DBI will not issue a building permit without written notification from the Director of Public Health that the applicant has a site-specific Dust Control Plan, unless the Director waives the requirement. Interior-only tenant improvements, even if over one-half acre, that will not produce exterior visible dust are exempt from the site-specific Dust Control Plan requirement.

Toxic Air Contaminant (TAC) Regulations

State

In 2005, CARB approved a regulatory measure to reduce emissions of toxic and criteria pollutants by limiting the idling of new heavy-duty diesel vehicles, which altered five sections of Title 13 of the California Code of Regulations. The relevant changes are Sections 2480 and 2485, which limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than five consecutive minutes or periods aggregating more than five minutes in any one hour.[224] Buses or vehicles also must turn off their engines upon stopping at a school and must not turn their engines on more than 30 seconds before beginning to depart from a school. As noted above under Public Health Effects Related to Air Quality, state law prohibits locating public schools within 500 feet of a freeway or busy traffic corridor.

CARB has also adopted rules for new diesel trucks and for off-road diesel equipment. Along with rules adopted by the EPA, these regulations have resulted in substantially more stringent emissions standards for new diesel trucks and new off-road diesel equipment, such as construction vehicles. Effective January 2011, both federal (EPA) and CARB so-called Interim Tier 4 standards take effect in 2011 for new equipment with diesel engines of 175 hp or greater. The interim Tier 4 emissions standards for particulate matter are about 85 percent more restrictive than previous emissions standards (Tier 2 or Tier 3, depending on the size of the engine) for these larger off-road engines. As a result, use of engines that meet the interim Tier 4 standards would reduce diesel exhaust emissions by approximately 85 percent, compared to new engines produced under the previous standards. Tier 2 or Tier 3 engines (for larger equipment, those manufactured since 2006) can achieve generally the same reduction through retrofitting by installation of a diesel particulate filter (a CARB-certified Level 3 Verified Diesel Emissions Control System).

Regarding equipment already in use, CARB adopted rules for in-use off-road diesel vehicles—including construction equipment—in 2007. Those rules also limit idling to five minutes, require a written idling policy for larger vehicle fleets, and require that fleet operators provide information on their engines to CARB and label vehicles with a CARB-issued vehicle identification number. The off-road rules require the retrofit or replacement of diesel engines in existing equipment. This "repowering" was originally to be required beginning in 2010 (for the largest fleets). However, in early 2010, CARB suspended implementation of this aspect of the rule, and in December 2010, CARB formally delayed the start of repowering to 2014 for large fleets, 2017 for medium-sized fleets, and 2019 for small fleets.[225] CARB stated that the delayed implementation was justified because the recession had dramatically reduced emissions, and because the board staff found that the data on which the original rule was based had

[224] There are 12 exceptions to this requirement (e.g., emergency situations, military, adverse weather conditions, etc.), including: when a vehicle's power takeoff is being used to run pumps, blowers, or other equipment; when a vehicle is stuck in traffic, stopped at a light, or under direction of a police officer; when a vehicle is queuing beyond 100 feet from any restricted area; or when an engine is being tested, serviced, or repaired.

[225] Fleet size is based on total horsepower (hp): large fleets are those with more than 5,000 hp; medium fleets have 2,501 to 5,000 hp, and small fleets are those with less than 2,500 hp.

overestimated emissions. According to CARB, under the revised rules, diesel particulate emissions from off-road equipment will decrease by more than 40 percent from 2010 levels by the year 2020, and by 2030, they decrease by more than 75 percent.[226]

Local

The 2010 *BAAQMD CEQA Air Quality Guidelines*, adopted in June 2010, include quantitative CEQA significance thresholds for construction-related and operational emissions of TACs (see discussion under Significance Criteria and Impact Methodology).

In 2008, the City and County of San Francisco adopted an ordinance (*San Francisco Health Code*, Article 38, Air Quality Assessment and Ventilation Requirement for Urban Infill Residential Development). Article 38 requires that public agencies in San Francisco take regulatory action to prevent future air quality health impacts on new residential uses of 10 units or more proposed near busy roadways. The regulation requires a screening analysis of new residential projects for proximity to traffic and a calculation of the concentration of $PM_{2.5}$ from traffic sources where traffic volumes suggest a potential hazard. If modeled levels of traffic-attributable $PM_{2.5}$ at a project site exceed an action level (currently set at 0.2 micrograms per cubic meter), the project sponsor is required to incorporate ventilation systems, with particulate filtration if necessary, to remove 80 percent of $PM_{2.5}$ from outdoor air. The regulation does not place any requirements on proposed residential uses if modeled air pollutant levels fall below the action level. This ordinance only considers impacts from on-road motor vehicles, not impacts related to construction equipment or stationary sources.

As described above under Roadway-Related Health Effects, p. 376, most major streets in the Plan area have traffic volumes that could at least potentially result in a roadside concentration of $PM_{2.5}$ that exceeds the action level contained in Article 38. This means that, under Article 38, nearly any subsequent development project in the Plan area that proposes to introduce new residential units would be required to conduct dispersion modeling, based on traffic volumes on nearby streets, to determine whether the action level of 0.2 micrograms per cubic meter of $PM_{2.5}$ would be exceeded at the project site. If the modeling shows that this level would be exceeded, an enhanced ventilation system, potentially with filtration, would be required to be incorporated into the project design. In some cases, placement of a building's fresh-air intake at a level well above the ground (for example, on a building roof), along with installation of an enhanced ventilation system, can sufficiently reduce the $PM_{2.5}$ for new residential receptors; under Article 38, the Department of Public Health reviews the modeling results and the ventilation system to determine its adequacy.

The City is developing a Community Risk Reduction Plan (CRRP) to help identify locations and neighborhoods at particular risk of adverse health effects due to exposure to toxic air contaminants, including diesel particulate matter, and to fine particulate matter generally (i.e., $PM_{2.5}$). A CRRP is

226 California Air Resources Board, "Staff Report: Initial Statement of Reasons for Proposed Rulemaking: Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets and the Off-Road Large Spark-Ignition Fleet Requirements," October 2010; p. 44. Available on the internet at: http://www.arb.ca.gov/regact/2010/offroadlsi10/offroadisor.pdf. Reviewed May 6, 2011.

designed to improve air quality, especially in neighborhoods and "hotspots" affected by poor air quality. The plan would set forth a variety of strategies designed to improve air quality, with emphasis focused upon those locations with poorest air quality. The plan would bring together governmental agency projects and plans and focus them in the direction of gradually improving air quality over the next 10 years. Transportation planning, truck routing, energy conservation, traffic speed control and enforcement, bicycle and pedestrian enhancement, use of alternate fuels and many other tools can be used in a CRRP to improve existing poor air quality. In addition, the plan will identify where new residential development can occur without project-specific air quality mitigation and where such development must provide protection for new residents; for example, by installation of a mechanical ventilation system with particulate filtration in new residential units. A CRRP would also likely require new sources of pollution to include the best available control technology and, potentially, to offset new sources of emissions through reduction in other sources or other controls. In San Francisco, the Planning Department and Department of Public Health are working with BAAQMD on development of a CRRP. The timeline for completion and implementation of the plan is not certain.

Odors

BAAQMD Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The limitations of this regulation limit the "discharge of any odorous substance which causes the ambient air at or beyond the property line...to be odorous and to remain odorous after dilution with four parts of odor-free air." The BAAQMD must receive odor complaints from ten or more complainants within a 90-day period in order for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the BAAQMD if a test panel of people can detect an odor in samples collected periodically from the source.

Impacts

Significance Criteria

Transit Center District Plan

Criteria Air Pollutants

As noted in the setting, in 2010, BAAQMD published an update to its *CEQA Air Quality Guidelines* and adopted new significance thresholds for CEQA analysis; this document has been updated as of May 2011. Under the 2011 BAAQMD *CEQA Air Quality Guidelines* and thresholds,[227] the significance thresholds for assessment of a planning document, such as the draft Plan, involve an evaluation of the following questions:

(1) Would the plan be consistent with the "control measures" contained in the current regional air quality plan (the *2010 Bay Area Clean Air Plan*); and

[227] BAAQMD, *CEQA Guidelines*, May 2011. See footnote 205, p. 373.

(2) Would the projected rate of increase in vehicle miles traveled or vehicle trips under the plan would be less than or equal to the projected rate of population increase under the plan.

If the two foregoing questions can be answered in the affirmative, the plan would neither:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation; nor
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).[228]

Community Risk and Hazard Impacts

This analysis also responds to the criterion that asks whether the proposed plan would:

- Expose sensitive receptors to substantial pollutant concentrations.

For plan-related health risks and hazards resulting from emissions of toxic air contaminants, BAAQMD recommends that overlay zones be established around existing and proposed land uses that emit TACs. These overlay zones should be included in proposed plan policies, land use maps, and implementing ordinances. Additionally, the plan must "identify goals, policies, and objectives to minimize potential impacts."[229]

Odors

For odors, a plan must identify the location of existing and planned odor sources in the Plan area. The plan must also include policies to reduce potential odor impacts in the Plan area. Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. Given that the draft Plan would not locate sensitive receptors within close proximity to these types of facilities and would not include development of such facilities, it can be reasonably concluded that no odor impact would occur. Therefore, impacts related to odor are not discussed further in this EIR.

Transit Tower

Project level thresholds of significance set by the BAAQMD reflect the level at which a project's individual emissions would result in a cumulatively considerable contribution to an existing air quality problem; therefore, if project impacts identified are significant, impacts would also be cumulatively considerable. As stated in the BAAQMD *CEQA Air Quality Guidelines*:

> Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact.

---

228 The bulleted statements are the first three significance criteria in the City's CEQA Initial Study checklist.
229 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 373); p. 9-71.

> No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.[230]

According to BAAQMD, no further cumulative analysis should be required beyond the analysis of whether a proposed project's impacts would contribute considerably to ambient levels of pollutants or greenhouse gases,[231] with the exception of the above-noted cumulative risk and hazard analysis for toxic air contaminants.

Criteria Air Pollutants

The BAAQMD-recommended significance thresholds for criteria pollutant emissions from operations of an individual project, such as the proposed Transit Tower, are as follows: for ROG, NOx and $PM_{2.5}$, a net increase of 54 pounds per day or 10 tons per year would be considered significant, while for PM_{10}, a net increase of 82 pounds per day or 15 tons per year would be considered significant. For CO, an increase would be considered significant if it leads to or contributes to CO concentrations exceeding the State Ambient Air Quality Standard, although quantification would not be required if a project is consistent with the local congestion management program and plans and traffic volumes at affected intersections are below 24,000 vehicles per hour. For construction-period impacts, the same thresholds apply for ROG, NOx, $PM_{2.5}$, and PM_{10}, except that the thresholds for $PM_{2.5}$ and PM_{10} apply only to exhaust emissions, and thresholds are specifically based on average daily emissions. There are no quantitative thresholds for construction dust emissions; instead, impacts are considered less than significant if standard best management practices are employed to control dust during construction activities, including demolition and excavation.

Community Risk and Hazard Impacts

With respect to risk and hazard impacts. BAAQMD recommends either that a project be found to be in compliance with a "qualified Community Risk Reduction Plan," or that significance thresholds be used for both construction and operational emissions based on commonly used standards employed in health risk assessment. The thresholds for project-specific impacts are: an increase in lifetime cancer risk of 10 chances in one million, an increase in the non-cancer risk equivalent to a chronic or acute "Hazard Index" greater than 1.0,[232] or an increase in the annual average concentration of $PM_{2.5}$ in excess of 0.3 micrograms per cubic meter. BAAQMD also recommends cumulative thresholds of 100 in one million cancer risk, a chronic Hazard Index greater than 10.0, and a $PM_{2.5}$ concentration greater than 0.8 micrograms per cubic meter. Unlike the volume-based thresholds for criteria pollutants noted above, the toxic air contaminant thresholds are used for specific receptor locations when a risk analysis is required for specific project components, such as permitted stationary sources (boilers, emergency generators, etc.), non-permitted sources such as the new Transit Center, or the use of diesel-powered

230 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 373); p. 2-1.
231 *Ibid.*
232 Hazard Index represents the ratio of expected exposure levels to an acceptable reference exposure levels.

equipment, including construction equipment. Projects that do not exceed the project-level thresholds would not be considered to contribute considerably to cumulative health risks.

As stated on p. 385, the City is developing a Community Risk Reduction Plan, although the timeline for implementation is not certain.

Odors

- Would the proposed project create objectionable odors affecting a substantial number of people.

As stated above with respect to odor impacts for the draft Plan, the Plan would not locate sensitive receptors within close proximity to odor-generating facilities, nor would it include development of facilities commonly known to generate annoying odors. Because the same is true for the Transit Tower, the tower would not result in significant odor impacts. Therefore, impacts related to odor are not discussed further in this EIR.

Methodology

The above-noted quantitative significance thresholds also apply to long-term operational impacts of the proposed project. Construction exhaust emissions and operational emissions of criteria air pollutants were estimated using the URBan EMISsions (URBEMIS) 2007 model (version 9.2.4) for the expected project buildout and compared to BAAQMD significance thresholds. The model combines information on trip generation with vehicular emissions data specific to different types of trips in the San Francisco area (home-to-work, work-other, etc.) from the ARB's EMFAC 2007 BURDEN model to create an estimated daily emissions burden for travel within the San Francisco Bay Area Air Basin. The resulting quantification is compared against the BAAQMD's recommended thresholds.

For the health risk assessment related to use of diesel-powered construction equipment, the BAAQMD has prepared "screening tables" that allow a project to be found to have a less-than-significant impact if construction activities would occur at least 100 meters (330 feet), in most cases, from sensitive receptors. Because many projects in urban areas, including the Plan area and the site of the proposed Transit Tower, would be closer than this to sensitive receptors, a quantitative risk evaluation is conducted that involves dispersion modeling, using the AERMOD model, accounting for the construction equipment to be used, local meteorology, and nearby sensitive receptors, to determine whether the BAAQMD thresholds would be exceeded at any receptor location. For cancer risk and Hazard Index calculations, further computation is undertaken to convert the model's pollutant concentration outputs to risk numbers. Modeling was also employed to derive quantitative health risks for operational stationary sources, such as the new Transit Center and an emergency generator in the Transit Tower.

Impact Analysis

Transit Center District Plan

Criteria Air Pollutants: Consistency with the 2010 Clean Air Plan

Impact AQ-1: The draft Plan would not conflict with or obstruct implementation of the *2010 Clean Air Plan* or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. (Less than Significant)

Consistency with *2010 Clean Air Plan* Control Measures

The BAAQMD *CEQA Air Quality Guidelines* requires that consistency of a plan be evaluated based on the extent to which it implements, or does not hinder implementation of, the Air Quality Plan Control Measures outlined in the *2010 Clean Air Plan.* The *Clean Air Plan* contains 55 control measures aimed at reducing air pollution in the Bay Area. Some (18) of these measures address stationary sources (such as printing facilities and cement kilns, but also including residential and commercial heating systems), and will be implemented by BAAQMD using its permit authority and are therefore not suited to implementation through local planning efforts.[233] The remaining 37 measures are grouped into Transportation, Mobile Source, Land Use and Local Impact, and Energy and Climate measures. the Air Quality Plan Control Measures are discussed in detail below.[234]

The Control Measures most applicable to the draft Plan are the Transportation Control Measures. The Transportation measures concern improvements to transit systems, improving efficiency of the region's transportation system, encouraging residents and employees to exhibit "sustainable transportation behavior," improving bicycle and pedestrian facilities and supporting high-density growth. The draft Plan, through implementation of existing City policies and new programs in the draft Plan, would also further the *Clean Air Plan's* Energy and Climate Measures. The Land Use and Local Impact and Mobile Source measures primarily address the BAAQMD's own programs and regional air quality planning, and are less applicable to local agencies' decisions and projects.

Transportation Control Measures in the *2010 Clean Air Plan* (CAP) are identified in **Table 33**. Inasmuch as the Transportation measures are generally those most applicable to an individual plan or development project, the table identifies each measure or group of measures and correlates the measures to specific elements of the draft Plan or explains why the strategy does not apply to the Plan. As indicated in the table, the draft Plan directly addresses many of the Transportation Control Measures, particularly those that emphasize higher-density development, a mix of uses, and increased transit ridership and pedestrian and bicycle use.

---

233 For example, Stationary Source Measures 11 and 12 will ultimately require that new furnaces in the Air Basin emit lower levels of NOx.

234 Eighteen other measures are included in a list of measures for further study and are not yet identified as feasible for implementation under the *2010 Clean Air Plan.*

TABLE 33
TRANSPORTATION CONTROL MEASURES OF THE *2010 CLEAN AIR PLAN*

2010 CAP Control Measure	Elements of the Proposed Project Consistent with the Measure or Explanation of Non-applicability
Transportation Control Measures (TCMs)	
TCM A-1 and A-2: Improve Local and [Regional Bus and Rail Services	The Plan proposes increased residential density in proximity to an extensive array of bus and rail transit, including the new Transit Center currently under construction, which is planned as the terminus of the state's high-speed rail system draft Plan Objective 4.1 states, "The district's transportation system will prioritize and incentivize the use of transit. Public transportation will be the main, non-pedestrian mode for moving into and between destinations in the Transit Center District." Objective 4.3 states, "The district's transportation system will meet changing transit needs, particularly to support the new Transbay Transit Center and accommodate increased densities. Make changes in the circulation network that ensure delivery of reliable and convenient transit service to the Transbay Transit Center and for district residents, employees, and visitors." Objective 4.9 states, "Prioritize transit movements through and within the district over all other transportation modes." And Objective 4.11 states, "Ensure that changes to the circulation network, including pedestrian and streetscape improvements, are designed to support and enhance the operation of transit." Additional objectives and policies in the draft Plan support regional transit improvements, including the Transit Center. Phase 2 of Measure TCM-A-1 includes partial funding for Muni's Van Ness Avenue Bus Rapid Transit project. Phase 2 of Measure TCM-A-2 includes partial funding for the new Transit Center, the Muni Metro Central Subway now under construction and for the downtown extension and system-wide electrification of Caltrain.
TCM B-1 through B-4: Improve Transportation System (freeways and arterials; transit; express lanes; goods movement) Efficiency	Although these measures addresses infrastructure improvements to increase operational efficiencies such as common fare payment systems and are geared primarily toward regional agencies such as the Metropolitan Transportation Commission and Caltrans, San Francisco (Muni) participates in the 511 transit information system). Freeway and arterial improvements are less relevant to the proposed Plan. Objective 4.6 of the draft Plan states, "The district's transportation system will require management of Bay Bridge queues to reduce and mitigate impacts of regional traffic on transit circulation and the public realm in the district." Objective 4.15 states, "Use demand management strategies to reduce overall levels of auto traffic in the plan area and downtown, particularly in the peak hours, in order to reduce auto impacts on other transportation modes and enable the creation of a high quality public realm."
TCM C-1: Voluntary Employer-Based Trip Reduction Programs	San Francisco employers operate (or contract for) numerous shuttle bus services, most of which serve the Plan area's transit hubs. The City's Commuter Benefits Ordinance (Section 421 of the *Environment Code*) requires that employers with more than 20 employees provide pre-tax purchase of transit passes, employer-paid passes, or employer-provided transit.
TCM C-2: Safe Routes to School and Safe Routes to Transit	This measure funds pedestrian and bicycle improvements. While there are no elementary or secondary schools in the Plan area, the Plan does propose extensive improvements to transit access and pedestrian and bicycle circulation. Moreover, Objective 4.4 of the draft Plan states, "The district's transportation system will prioritize pedestrian amenity and safety. Invest in circulation modifications and urban design measures that support the creation of an attractive and memorable public realm." Objective 4.12 states, "Provide high-quality facilities and experience for transit passengers," and Policy 4.4 states, "Provide sidewalk space and facilities for enhanced transit stops with passenger amenities on Mission Street and other primary transit streets."
TCM C-3: Ridesharing Services and Incentives	Through the 511 commuter information program, preferential vanpool parking, guaranteed ride home in emergencies, and carpool parking permits are provided in San Francisco. The *Planning Code* (Sec. 166) requires that car-share parking be provided in new parking garages. (See also the next measures.)

TABLE 33 (Continued)
TRANSPORTATION CONTROL MEASURES OF THE *2010 CLEAN AIR PLAN*

2010 CAP Control Measure	Elements of the Proposed Project Consistent with the Measure or Explanation of Non-applicability
TCM C-4 and C-5: Public Outreach/Education and Smart Driving	These measures concern efforts to influence commuters' and drivers' behavior and are not directly relevant to the draft Plan. However, subsequent development projects in the Plan area would be required under Section 163 of the *Planning Code* to participate in transportation brokerage services to facilitate the use of transit, ridesharing, and other means of minimizing the use of single-occupant vehicles in commuting. Objectives 4.15 through 4.19 and Policies 4.9 through 4.20 of the draft Plan discuss transportation demand management. Also, the draft Plan proposes to reduce the size of projects to which *Planning Code* Section 163 is applicable from 100,000 square feet to 25,000 square feet.
TCM D-1 and D-2: Improvements to Bicycle and Pedestrian Facilities and Access.	The draft Plan encourages pedestrian activity and bicycle use and would make streetscape and other improvements to encourage both. Objectives 4.20 through 4.28 and Policies 4.21 through 4.35 of the draft Plan discuss enhancements to pedestrian activity, while Objectives 4.29 through 4.33 and Policies 4.36 through 4.43 are concerned with improving bicycle circulation.
TCM D-3: Local Land Use Strategies (to encourage higher density and mixed uses).	The draft Plan would continue and intensify the high-density and mixed-use character of the Plan area.
TCM E-1: Value Pricing Strategies	This measure primarily addresses congestion pricing, which is in effect on Bay Area bridges that charge higher tolls during rush hour. The measure also references a proposal for "congestion pricing" that has been proposed for downtown San Francisco, including the Plan area (this is not proposed in the draft Plan).
TCM E-2: Promote Parking Policies to Reduce Motor Vehicle Travel	The *Planning Code* currently requires that new off-street parking provided for uses other than residential units and hotels in the downtown, including the Plan area, be priced so as to discourage long-term commuter parking, while still providing adequate short-term parking. Section 155(g) of the Code requires that the cost for four hours of parking be no more than four times the rate charged for the first hour, and that the rate charge for eight or more hours of parking be no less than 10 times the rate charged for the first hour. Further, weekly or monthly discounts are prohibited. Code Section 167 requires that residential parking be priced separately from dwelling units themselves. The draft Plan would maintain these requirements. The draft Plan also proposes an absolute cap on off-street parking in the Plan area and, until the appropriate number for such a cap is determined, that the maximum amount of building floor area devoted to non-residential be reduced from the current 7 percent of gross floor area (GFA) to 3.5 percent of GFA. The draft Plan further proposes to prohibit new surface parking in the Plan area and to apply the City's existing parking tax to all non-residential spaces, even those not available to the general public.
TCM E-3: Implement Transportation Pricing Reform	While not directly applicable to the proposed Plan, this measure calls for increasing the cost of driving to reflect "external" costs such as air pollution. Higher gasoline taxes or other taxes or fees would be necessary to implement this measure. The Plan area is well-positioned to benefit from such potential changes due to its high level of transit service and the draft Plan's emphasis on pedestrian and bicycle travel.

SOURCE: *2010 Clean Air Plan*; Environmental Science Associates, 2011.

Based on the analysis in Table 33, Implementation of the draft Plan would promote implementation of, and in some cases, go beyond, these measures, and therefore **the draft Plan would be consistent with the applicable Transportation Control Measures in the *2010 Clean Air Plan*.**

Energy and Climate Measures, newly added in the *2010 Clean Air Plan*, are "designed to reduce ambient concentrations of criteria pollutants, reduce emissions of CO2, and protect our climate" by promoting

building energy conservation and efficiency and renewable energy; reducing "urban heat island" effects by increasing reflectivity of roofs and parking lots; and promoting (low-VOC) tree planting.[235] Many of the City plans and programs that achieve consistency with and promote these measures are discussed in detail in Section IV.H, Greenhouse Gas Emissions. In general, consistency with these measures is directly promoted by the City's energy-efficiency requirements and programs, including the San Francisco Green Building Requirements for Energy Efficiency, Stormwater Management, Water Reduction, Renewable Energy, Solid Waste, and Construction and Demolition Debris Recycling, all of which are contained in Chapter 13C of the *San Francisco Building Code* (the green building regulations), as well as the street tree planting requirement of *Planning Code* Section 138.1(c)(1). Subsequent development projects in the Plan area would be required to comply with these City requirements, and therefore **the draft Plan would be consistent with the Energy and Climate Control Measures in the *2010 Clean Air Plan*.** Subsequent development projects in the Plan area would also be subject to Plan policies concerning sustainability, many of which would reduce emissions. For example, the draft Plan proposes that "all major development in the Plan Area to produce a detailed Energy Strategy document outlining how the design of the building minimizes its use of fossil fuel driven heating, cooling and power—through energy efficiency, efficient supply, and no or low carbon generation" (November 2009 Draft Plan, Policy 6.8); that all new buildings in the Plan area be "of leading edge design in terms of sustainability" (Objective 6.4); and that "all major buildings in the Plan Area … achieve the minimum LEED levels established in the SF Green Building Ordinance, not including credits for the given inherent factors of location, density, and existing City parking controls, in order to achieve high-performance buildings" (Policy 6.12).

Land Use and Local Impact Control Measures are also newly added in the *2010 Clean Air Plan*, are "designed to (1) promote mixed-use, compact development to reduce motor vehicle travel and emissions, and (2) ensure that we plan for focused growth in a way that protects people from exposure to air pollution from stationary and mobile sources of emissions."[236] These measures include reducing diesel particulate and greenhouse gas emissions from trucks; development of an "indirect source review rule" primarily aimed at reducing emission from transportation and from construction equipment by imposing limitations on emissions from a particular site; updating the BAAQMD's *CEQA Air Quality Guidelines* and enhancing the district's review of CEQA documents to help new projects reduce emissions; assisting local governments in adopting "smart growth" land use patterns to reduce mobile source emissions, exposure of persons to toxic air contaminants, and emissions related to energy use and waste disposal; reducing and tracking health risk in communities affected disproportionately by pollution exposure; and enhancing the district's air quality monitoring program. Although all of the Land Use and Local Impact Control Measures address BAAQMD programs and are not directly applicable to the draft Plan, by increasing development density in proximity to transit, the draft Plan would strongly further the District's goals of reducing emissions from commuter travel and would not conflict with any of the

235 BAAQMD, *2010 Clean Air Plan*, p. 4-10.
236 BAAQMD, *2010 Clean Air Plan* (see note 222, p. 382), p. 4-9.

foregoing measures. Therefore, **the draft Plan would be consistent with the Land Use and Local Impact Control Measures in the *2010 Clean Air Plan*.**

Mobile Source Control Measures (MSMs) are those intended to reduce emissions by accelerating the replacement of older, dirtier vehicles and equipment through programs such as the BAAQMD's Vehicle Buy-Back and Smoking Vehicle Programs, as well as promoting advanced-technology vehicles. Such region-wide measures are not directly applicable to the draft Plan, although it is noted that the City is cooperating in the implementation of MSM A-2 (Zero-Emission Vehicles and Plug-In Hybrids) by installing electric vehicle charging stations; the implementation of MSM A-3 (Green Fleets) by incorporation into the City vehicle fleet of both hybrid vehicles and vehicles that use biodiesel fuel; and the implementation of MSM C-1 (Construction and Farm Equipment) by requiring, through its Clean Construction Ordinance, that most equipment on city-contracted construction projects use biodiesel fuel (minimum of 20 percent biodiesel, or B20) and employ Tier 2 diesel engines or employ "best available control technology." The draft Plan would not conflict with any of these measures, and therefore **the draft Plan would be consistent with the Mobile Source Control Measures in the *2010 Clean Air Plan*.**

Moreover, the draft Plan would not otherwise disrupt or hinder implementation of any of the Air Quality Plan Control Measures by, for example, precluding extension or expansion of bicycle paths or routes (on the contrary, the draft Plan would foster implementation of the City's Bicycle Plan in the Transit Center District Plan area through proposed streetscape improvements); precluding extension of a transit line (the draft Plan aims to enhance transit use); or provision of excessive parking beyond parking requirements (the draft Plan proposes to decrease the amount of parking that is permitted in office buildings, the Plan area's predominant land use).

Finally, to demonstrate consistency with the *2010 Clean Air Plan*, the *BAAQMD CEQA Air Quality Guidelines* state that the a plan should support the primary goals of the *Clean Air Plan*, which are as follows:

- Attain air quality standards;
- Reduce population exposure and protecting public health in the Bay Area; and
- Reduce greenhouse gas emissions and protect the climate.

As described above, the draft Transit Center District Plan would strongly support a large number of the applicable control measures in the *2010 Clean Air Plan* that are intended to help the Bay Area attain state and federal air quality standards. Implementation of the draft Plan, including implementation of mitigation measures identified in this EIR, would also help reduce population exposure to air pollutants, thereby protecting public health.

Greenhouse gas emissions are discussed in Section IV.H, where it is determined that the draft Plan would be consistent with a Greenhouse Gas Reduction Strategy approved by the BAAQMD, and therefore would result in less than significant impacts with regard to greenhouse gas emissions.

In light of the above, the draft Plan **would be consistent with the Air Quality Plan Control Measures in the *2010 Clean Air Plan* and would support the primary goals of the *2010 Clean Air Plan*.**

Growth in Vehicle Trips Compared to Growth in Population

Consistency of the draft Plan must also be demonstrated by comparing the projected population growth in the Plan area with the forecast growth in vehicle trips. Growth projections prepared by the Planning Department (and discussed in detail in Section IV, Population and Housing, Business Activity and Employment, indicate that the Plan area household population would increase from approximately 1,465 to 10,730 by 2030, the analysis horizon year. This represents an increase of 632 percent. This percentage increase is extremely high because the Plan area currently supports a very small residential population, and therefore the rate of population increase would far outstrip the rate of increase in vehicle trips, since most travel to and from the Plan area is generated by employment uses, primarily office. Moreover, much of the population increase is expected to occur through growth on sites in Zone 1 of the approved Transbay Redevelopment Area, which was established through a separate planning process from the current Transit Center District Plan. Accordingly, for purposes of a more realistic and more conservative assessment, this analysis compares the growth in both population and employment to the growth in traffic. Employment is projected to increase from 77,630 under existing conditions to approximately 106,915 by 2030. The combined population-employment ("service population") increase would therefore be approximately 49 percent ([106,915 + 10,730] ÷ [77,630 + 1,465] = 1.49).

Based on output from the County Transportation Authority travel demand model, the number of person-trips made by vehicle to and from the Plan area would increase by approximately 20.2 percent by 2030. Because the increase in vehicle trips would be less than the increase in "service population," the draft Plan would result in a less-than-significant impact, in accordance with the BAAQMD-recommended criteria.

The draft Plan includes goals and policies that would apply to development within the Plan area. These policies would reduce criteria pollutant emissions, compared to other potential development in the City or in the region by providing for additional high-density mixed-use development in an area with the most extensive array of transit service in the Bay Area, and by improving pedestrian and bicycle access within and to and from the Plan area. The draft Plan seeks to improve transit, pedestrian, and bicycle accessibility and connections, thereby minimizing the need for automobile travel. The transportation analysis for the proposed Plan reveals that vehicle trip generation would be substantially less than would be anticipated for a comparable level of development elsewhere in the Bay Area. In light of the above, implementation of the draft Plan would result in a less-than significant impact with respect to regional emissions of criteria air pollutants.

As noted, the threshold of significance for evaluation of a Plan's emissions of criteria air pollutants is based on consistency with regional air quality planning. On the other hand, the significance of a subsequent individual development project—while ultimately based on the same concept—is determined by a quantitative comparison to the significance thresholds established by BAAQMD. (See the analysis of the Transit Tower, p. 419.) It is possible that individual development projects, if large enough, could result in significant effects related to emissions of criteria air pollutants, even if the overall Plan is determined to have a less-than-significant impact.

Carbon Monoxide

Unlike other criteria pollutants, whose effects are regional, carbon monoxide (CO) impacts are evaluated locally. However, BAAQMD recommends intersection-specific modeling of CO concentrations only for intersections where traffic volumes would exceed 44,000 vehicles per hour, or 24,000 vehicles per hour in areas, like much of the Plan area, where mixing of the air is substantially limited, such as in "urban canyons" created by tall buildings. Based on the traffic analysis completed for the draft Plan, the maximum future (with project) peak-hour traffic volume at any of the study intersections in the Plan area would be less than 5,000 vehicles, and the maximum at any of the study intersections would be fewer than 6,500 vehicles. Therefore, modeling of CO concentrations is not required, and the draft Plan would not be anticipated to exceed the state one-hour or 8-hour CO standards. Therefore, effects related to CO would also be less than significant.

Mitigation: None required.

Community Risk and Hazard Impacts

Impact AQ-2: The draft Plan would expose new sensitive receptors to substantial concentrations of $PM_{2.5}$ and toxic air contaminants. (Significant and Unavoidable with Mitigation)

As described in the Setting, epidemiologic studies have demonstrated that people who live near freeways and high-traffic roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children. Health effects, both chronic and acute, may result from exposure to both criteria air pollutants and mobile source air toxics. Health effects of air pollutant exposures may also involve synergistic effects among air pollutants, traffic noise and other traffic-related stressors. The evidence relating proximity to roadways and a range of non-cancer and cancer health effects provides the basis of the ARB's guidance on locating sensitive land use in proximity to such roadways.[237]

As noted in the Regulatory Setting discussion of Article 38 of the *San Francisco Health Code*, subsequent residential development projects that include 10 or more dwelling units in most locations in the Plan area would be required to undergo modeling for $PM_{2.5}$ concentrations and, if necessary, incorporate enhanced ventilation systems into building design and construction. Compliance with Article 38 would, in some cases, result in subsequent residential projects being subject to lesser concentrations of $PM_{2.5}$ concentrations and cancer and non-cancer health risks, compared to conditions without implementation of Article 38 requirements. However, the BAAQMD *CEQA Air Quality Guidelines* analysis of $PM_{2.5}$ concentrations and risk- and hazard-related significance determinations, including both cancer risk and chronic and acute hazard index, from both roadway- and stationary-source-generated emissions, not just roadway emissions as is the case with Article 38. These potential risks in the Plan area would arise from both permitted and non-permitted sources. In the case of permitted sources, impacts would be caused

[237] California Air Resources Board, *Air Quality and Land Use Handbook* (see footnote 217, p. 378).

mostly by diesel emissions from standby generators regulated by BAAQMD. Non-permitted-source risks would be generated in large part by operation of the new Transit Center (which will be served by buses primarily fueled by diesel engines), with an additional increment generated by traffic on Plan area streets, including both diesel and non-diesel powered vehicles.

It is noted that much of the future emissions of $PM_{2.5}$, diesel particulate matter, and other toxic air contaminants would come from many sources currently operating in the Plan area: diesel buses currently travel to and from (and through) the Plan area, with the Temporary Transbay Terminal on the block bounded by Howard, Main, Folsom, and Beale Streets serving as a major terminal and, therefore, resulting in a concentration of diesel emissions. (Essentially the same bus operations formerly took place at and around the old Transbay Terminal, on Mission between First and Fremont Streets, prior to that facility's demolition in 2010.) Large volumes of other traffic also travel through the Plan area under existing conditions, particularly commuter traffic heading to and from the Bay Bridge. And, as noted above, many existing high-rise buildings are equipped with backup generators, mostly diesel-fueled.[238] However, inasmuch as the draft Plan would allow for new sensitive receptors (i.e., residential units) to be developed in the Plan area and thus to be exposed to the pollutants generated by these sources, this analysis focuses on the exposure of *new* sensitive receptors to future levels of $PM_{2.5}$ and various toxic air contaminants, even if most of those pollutants are emitted in the Plan area today.

There are dozens of individual permitted sources of toxic air contaminants (TACs) in the Plan area. Most of these are diesel-powered emergency (standby) generators, which are installed in nearly all high-rise buildings to allow for emergency lighting and elevator operations in the event of a power failure. Generators, like most stationary sources of pollutants, require a permit from BAAQMD; under existing regulations, a permit for a new generator is generally not issued unless the generator would result in emissions that would create a lifetime cancer risk from exposure to diesel exhaust of less than 10 in one million (i.e., 10 cases per one million exposed persons, or "receptors"). Older generators, however, may continue to operate even if they have greater emissions. (For purposes of BAAQMD permitting, generator emissions are those emitted during routine testing, which typically involves operating the generator no more than 50 hours per year. Emissions during power failures or other "emergencies" are not subject to permit requirements.) Other common permitted sources of toxic air contaminants in an urban setting include gasoline stations (none are present in the Plan area) and dry cleaners that produce TACs as a byproduct of the cleaning process, and therefore these facilities do not pose health risks locally. Although there are "dry cleaners" in the Plan area, none is permitted to operate a cleaning plant on-site. In the Plan area, some large office buildings operate their own cogeneration (combined heat and electricity) facilities or hot-water boilers; in general, these facilities are fueled by natural gas. Therefore, the permitted stationary sources of TAC emissions in the Plan area are almost exclusively diesel generators and natural gas-fired boilers and cogeneration plants.

238 Section 403.4.7 of the 2010 *San Francisco Building Code* requires provision of a "standby power system" in high-rise buildings (those with occupied floors above 75 feet above grade).

A major unpermitted source is the new Transit Center (replacement for the Transbay Terminal), which will be served by buses from Muni, AC Transit, Golden Gate Transit, SamTrans, and the Western Contra Costa Transit Authority ("Lynx"), along with Greyhound and Amtrak buses.[239] The Transit Center and other individual stationary sources would result in potential health risks (primarily lifetime cancer risk) to "sensitive receptors" in new development projects, which would be expected to consist mostly of persons living in new residential projects developed in the Plan area.[240] Because of the large number of stationary sources within the Plan area, and because of the relatively high traffic volumes on many Plan area streets, there is no location within the Plan area that is not within 1,000 feet—the BAAQMD-recommended distance from a receptor at which sources should be included in dispersion modeling—of at least one such source, and most locations are within 1,000 feet of several sources.

Exposure of new sensitive receptors, such as residents and children in day-care centers, to roadway-generated concentrations of $PM_{2.5}$ and TACs, and exposure of such receptors to TACs generated by stationary sources such as the Transit Center and individual buildings' diesel generators, boilers, and cogeneration plants would potentially result in significant impacts resulting from implementation of the draft Plan. It is also possible that new buildings constructed in the Plan area could include one or more of these emissions sources, although it would be speculative to try to quantify or otherwise analyze in detail those emissions, absent any detailed design proposals.

Likewise, it is not feasible at this time to quantify or provide detailed analysis of any potential district-wide combined heat and power (cogeneration) facility that might at some point be developed to serve multiple buildings in the Plan area. As noted in Chapter II, Project Description, a cogeneration plant generates both electricity and heat from the same equipment, with exhaust heat given off during electricity generation being captured to heat, cool, and/or dehumidify interior air or provide hot water or steam. Such a system in the Plan area, which could entail development of one or more power/heat generating plants, is called for in the draft Plan's Chapter 6, District Sustainability. However, no combined heat and power plant is currently proposed, nor is there any information available as to the size, configuration, or operation of any such facility at some possible time in the future. As stated above, such a facility would be subject to review by the BAAQMD, at a minimum, and could be subject to further CEQA analysis.

In general, a cogeneration plant would likely be fueled by natural gas, and would generate emissions from combustion of that gas. The natural gas engine—whether a traditional reciprocating (piston and cylinder) engine, a combustion turbine (analogous to a jet airplane engine), or a microturbine (a newer,

239 During construction of the new Transit Center, these buses are operating to and from the Temporary Transbay Terminal, at Beale and Howard Streets.

240 Under standard health risk assessment protocols, lifetime cancer risks to residents are calculated based on assumed exposure for 24 hours per day over a 70-year period, with additional risk factors included for infants and children. In contrast, employee risks are normally calculated based on exposure for 8 hours per day over 40 years. Therefore, for the same receptor location, resident risks are always higher than worker risks, and residents are considered "sensitive receptors," while workers are not. Other sensitive receptors likely to be found in the Plan are include children and infants at child-care centers, of which there are several in the Plan area. Hotel occupants are not considered sensitive receptors because they are transient, meaning they are exposed to risks at a particular location for only a few days at a time under most circumstances.

more compact and quieter engine)[241] —would be required to meet current emissions standards established by the EPA and CARB. Because a combined heat and power plant is generally more efficient than separate electricity and heating/cooling facilities, such a facility would be expected to generate lesser emissions, and therefore result in lesser health risks, than separately operating facilities of comparable size. However, to the extent that such a district-wide plant were to be placed in new operation, it could result in an increase in emissions of criteria air pollutants and toxic air contaminants, compared to existing conditions. A project-specific health risk assessment would likely be undertaken for any combined heat and power facility that might be proposed in the Plan area in the future.

Regarding operation of the Transit Center, because bus operations can be estimated, air quality modeling of diesel buses that will serve the Transit Center was undertaken. The analysis focused on the new Transit Center, because that is where there will be the greatest concentration of diesel-powered buses in the Plan area. The analysis revealed that those bus operations could generate a lifetime cancer risk in excess of 10 in one million at locations proximate to the Transit Center and the ramp linking the terminal to the Bay Bridge, and at elevations from at grade to approximately 100 feet (30 meters) above street level (see **Figure 57**). Subsequent residential development projects (and other projects with sensitive receptors) in these areas, therefore, would be subject to a potential significant impact from diesel bus emissions, exceeding the 10 in one million BAAQMD project-specific guideline for a single source impact on new receptors. Therefore, these projects would likely have to implement mitigation measures, such as installation of a filtration system as described in Mitigation Measure M-AQ-2.

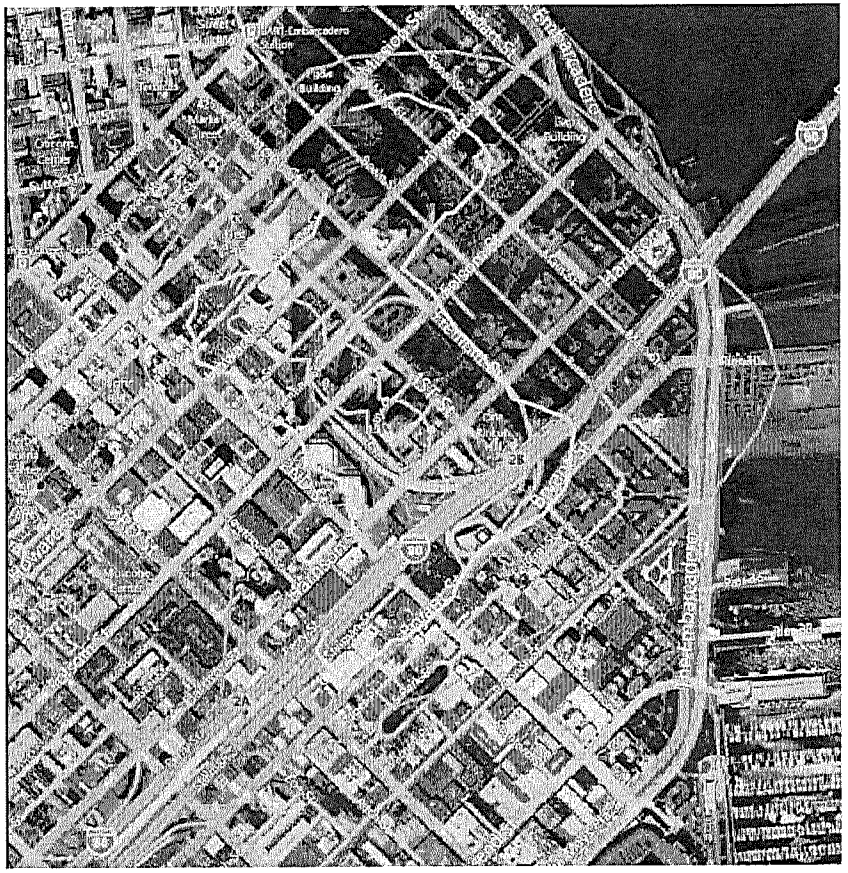
These potential significant air-quality impacts due to exposure to roadway pollutants and stationary source risks, including $PM_{2.5}$ concentrations and cancer and non-cancer health risks, would be reduced with implementation of Mitigation Measure AQ-2, which would require that the final Transit Center

- District Plan provide that the entire Plan area be encompassed within an area in which site-specific analysis or refined modeling would be required in advance of the approval of subsequent development projects that would include sensitive receptors, and that the Transit Center District Plan include "goals, policies, and objectives to minimize potential impacts."[242] Mitigation Measure M-AQ-2 would also require that residential development projects in the Plan area be designed to reduce air quality impacts to residents through building design (e.g., ventilation and air filtration systems). This measure would apply to the entire Plan area because of the large number of permitted and unpermitted stationary sources—mostly diesel generators and boilers—and the high percentage of streets with traffic volumes that could generate relatively high concentrations of $PM_{2.5}$ throughout the Plan area and vicinity. Because the pollutant concentrations vary by location, it is not possible to conclude that Mitigation Measure M-AQ-2 would bring concentrations or the resulting health risks below the BAAQMD-specified levels for each subsequent project with sensitive receptors. Therefore, this impact would remain significant at the Plan level after mitigation.

241 A hydrogen fuel cell can power a cogeneration plant, but this equipment is not in common use at present.
242 BAAQMD, *CEQA Air Quality Guidelines* (see footnote 205, p. 373); p. 9-7.



Cancer Risk at Ground Level



Cancer Risk at 33 feet above grade (10 meters)

5
10 Cancer Risk (chance in one million)
25

SOURCE: Environ International

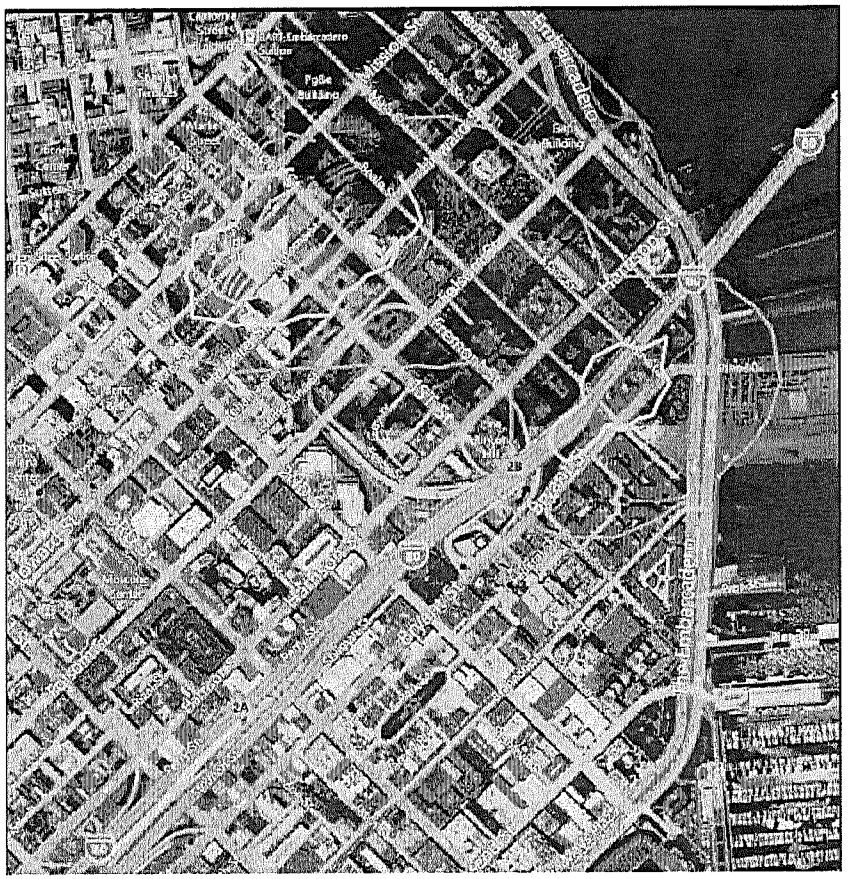
Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower. 207439

Figure 57A

Cancer Risk Due to Transit Center Bus Operations



Cancer Risk at 66 feet above grade (20 meters)



Cancer Risk at 98 feet above grade (30 meters)

5
10 Cancer Risk (chance in one million)
25

SOURCE: Environ International

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower. 207439

Figure 57B
Cancer Risk Due to Transit Center Bus Operations



Cancer Risk at 131 feet above grade (40 meters)



Cancer Risk at 164 feet above grade (40 meters)

5
10 Cancer Risk (chance in one million)
25

SOURCE: Environ International

Figure 57C
Cancer Risk Due to Transit Center Bus Operations

In addition to the overlay zone, the final Plan should also include "goals, policies, and objectives to minimize potential impacts." The BAAQMD *CEQA Air Quality Guidelines* refer to recommendations included in the CARB *Air Quality and Land Use Handbook* for policy recommendations with respect to locating sensitive receptors near uses, such as high-volume roadways, associated with TACs. (Other such sources, such as gas stations, dry cleaners, and industrial facilities, are not present in the Plan area). Because these recommendations, in general, call for establishing buffer zones between such uses and new residential buildings, and because such buffer zones are not feasible in a high-density neighborhood such as the Plan area, the aforementioned ventilation and filtration requirements are considered the most feasible approach to mitigating potential health risks to new residents and other sensitive receptors.

It is noted that application of Mitigation Measure M-AQ-2 could, in the future, be superseded by a City-prepared Community Risk Reduction Plan (see p. 385).

Mitigation Measure

- M-AQ-2 **Implementation of Risk and Hazard Overlay Zone and Identification of Health Risk Reduction Policies:** To reduce the potential health risk resulting from exposure of new sensitive receptors to health risks from roadways, and stationary sources, and other non-permitted sources $PM_{2.5}$ and TACs, the Planning Department shall require analysis of potential site-specific health risks for all projects that would include sensitive receptors, based on criteria as established by the Planning Department, as such criteria may be amended from time to time. For purposes of this measure, sensitive receptors are considered to include dwelling units; child-care centers; schools (high school age and below); and inpatient health care facilities, including nursing or retirement homes and similar establishments. Parks and similar spaces are not considered sensitive receptors for purposes of this measure unless it is reasonably shown that a substantial number of persons are likely to spend three hours per day, on a daily basis, at such facilities.

- Development projects in the Plan area that would include sensitive receptors shall undergo, during the environmental review process and no later than the first project approval action, a screening-level health risk analysis, consistent with methodology approved by the Planning Department, to determine if health risks from pollutant concentrations would exceed BAAQMD thresholds or other applicable criteria as determined by the Environmental Review Officer. If one or more thresholds would be exceeded at the site of the subsequent project where sensitive receptors would be located, the project (or portion of the project containing sensitive receptors, in the case of a mixed-use project) shall be equipped with filtration systems with a Minimum Efficiency Reporting Value (MERV) rating of 13 or higher, as necessary to reduce the outdoor-to-indoor infiltration of air pollutants by 80 percent. The ventilation system shall be designed by an engineer certified by the American Society of Heating, Refrigeration and Air-

Conditioning Engineers, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. The project sponsor shall present a plan to ensure ongoing maintenance of ventilation and filtration systems and shall ensure the disclosure to buyers and/or renters regarding the findings of the analysis and inform occupants as to proper use of any installed air filtration.

Level of Significance After Mitigation

The above measure would require development projects in the Plan area to undergo site-specific evaluation and to incorporate the maximum feasible mitigation for impacts resulting from $PM_{2.5}$ or toxic air contaminant levels in excess of adopted thresholds. However, because it cannot be determined with certainty that this mitigation measure would reduce impacts to below BAAQMD's significance thresholds, this impact is considered **significant and unavoidable**. However, it is noted that, in the case of individual development projects in the Plan area, site- and project-specific equipment and other considerations may lead to a conclusion that the project-specific effect can be mitigated to a less-than-significant level.

Impact AQ-3: The draft Plan would expose existing and future sensitive receptors to substantial levels of $PM_{2.5}$ and toxic air contaminants from new vehicles and equipment. (Significant and Unavoidable with Mitigation)

Certain development projects in the Plan area would generate potential health risks for existing sensitive receptors (primarily residents) in or near the Plan area by the inclusion in these projects of sources of toxic air contaminants. Most commonly, these sources would be anticipated to be diesel-powered emergency generators and boilers, which, as noted in the Setting, are installed in most high-rise buildings, and also in mid-rise structures. Operation of these generators and other sources could expose nearby sensitive receptors to elevated concentrations of TACs.

Other potential sources of health risk could include dry cleaning establishments, gasoline stations, distribution centers (warehouses) or other commercial operations that accommodate more than 100 trucks or more than 40 refrigerator trucks per day, and industrial or light industrial uses such as auto body shops, metal plating shops; photo processing, furniture upholstery, appliance repair, printing, hospitals and clinics, biotechnology research, warehousing and distribution centers, and processing of textiles and leather. For the most part, the nature of land use in the Plan area and the area's high land costs mean that the great majority of these uses are unlikely to locate within the Plan area. As noted in the Setting, even dry cleaners in the Plan area do not generally operate on-site facilities that use cleaning chemicals, instead serving as storefronts for pickup and drop-off of items to be cleaned.

In addition to specific types of land uses, all development projects in the Plan area would generate car and truck traffic that would contribute to health risks from traffic-generated pollutants, including $PM_{2.5}$, DPM, and other organic gases.

Implementation of Mitigation Measure AQ-3, Siting of Uses that Emit DPM and Other TACs, would require that such uses, including standby generators, located within 1,000 feet of existing residential units and other sensitive receptors, including schools, day-care centers, hospitals, nursing and convalescent homes, and like uses be the subject of an analysis prior to approval that includes, at a minimum, a site survey to identify such sensitive uses within 1,000 feet of the project site and site-specific dispersion modeling of health risks. Implementation of this measure would reduce impacts of uses generating DPM and other TACs, but not necessarily to a less-than-significant level.

Mitigation Measure

- **M-AQ-3** **Siting of Uses that Emit DPM and Other TACs:** To minimize potential exposure of sensitive receptors to diesel particulate matter (DPM), for new development including warehousing and distribution centers, and for new development including commercial, industrial or other uses that would be expected to generate substantial levels of toxic air contaminants (TACs) as part of everyday operations, whether from stationary or mobile sources, the Planning Department shall require, during the environmental review process but no later than the first project approval action, the preparation of an analysis that includes, at a minimum, a site survey to identify residential or other sensitive uses within 1,000 feet of the project site, and an assessment of the health risk from potential stationary and mobile sources of TACs generated by the project. If risks to nearby receptors are found to exceed applicable significance thresholds, then emissions controls would be required prior to project approval to ensure that health risks would not be significant.

Level of Significance After Mitigation

The above measure would require development projects in the Plan area to undergo site-specific evaluation and to incorporate maximum feasible mitigation for impacts resulting from or toxic air contaminant levels in excess of adopted thresholds. Because it cannot be determined with certainty that mitigation would result in health risks that would be below applicable BAAMQD significance thresholds, this impact is considered **significant and unavoidable**. However, it is noted that, in the case of individual development projects in the Plan area, site- and project-specific equipment and other considerations may lead to a conclusion that the project-specific effect can be mitigated to a less-than-significant level.

Construction Impacts

Implementation of the Transit Center District Plan would allow for development of new office, residential, hotel, and retail space, including a greater amount of development than that currently permitted under existing land use controls. Additionally, the draft Plan proposes streetscape improvements such as bicycle and pedestrian circulation enhancements and reconfiguration of the travel lanes in certain streets. Most development projects in the Plan area would entail demolition and removal of existing structures or parking lots, excavation, and site preparation and construction of new buildings. Emissions generated during construction activities would include exhaust emissions from heavy duty construction equipment, trucks used to haul construction materials to and from sites, worker vehicle emissions, as well as fugitive dust[243] emissions associated with earth disturbing activities.

The BAAQMD *CEQA Air Quality Guidelines* do not include a threshold of significance for evaluating construction-related impacts at the plan level. Instead, subsequent individual development projects in the plan area would be required to meet thresholds of significance for criteria pollutant emissions associated with construction equipment exhaust. The project-specific construction thresholds are 54 lbs per day of reactive organic gases, nitrogen oxides, and $PM_{2.5}$ (exhaust only) and 82 pounds per day for PM_{10} (exhaust only). The BAAQMD Guidelines also contain health-based standards for exposure to toxic air contaminants that are the same as those for project operations, described above on page 388.

Impact AQ-4: Implementation of the draft Plan would result in construction-period emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial levels of construction dust. (Significant and Unavoidable with Mitigation)

BAAQMD has identified screening thresholds that would allow specified projects to be deemed to have less-than-significant construction-generated emissions without a detailed air quality analysis, with respect to emissions of criteria air pollutants, and assuming that District-recommended "basic" emissions control measures are incorporated into project construction. Examples of projects that would be

243 "Fugitive dust" is dust that is generated during construction and that escapes from a construction site.

considered less than significant under BAAQMD's screening approach include an office building of no more than 277,000 square feet, a high-rise condominium project of no more than 252 dwelling units, and a hotel of no more than 554 rooms.[244] It is noted that the screening thresholds do not consider effects of demolition of existing structures or projects for which construction schedules call for overlapping construction phases (e.g., paving and building construction occurring simultaneously) that could result in greater emissions than assumed by default assumptions used by the so-called URBan EMISsions (URBEMIS) air quality model, nor do they account for mixed-use projects. Additionally, the screening thresholds were determined based on modeling for "typical" construction projects in the Bay Area, which primarily involve low- and mid-rise construction, and assume a larger construction size to accommodate the same square footage or number of residential units than would be the case for projects in downtown San Francisco. Therefore, some development projects in the Plan area, even if they do not exceed the development size screening thresholds set forth by BAAQMD, would require a detailed construction air quality analysis that demonstrates compliance with applicable guidelines at the time of development. On the other hand, such a detailed assessment might reveal that a project that does exceed the BAAQMD screening thresholds would result in less-than-significant construction impacts with respect to criteria air pollutants.

As noted, the BAAQMD has recommended that Basic Construction Mitigation (emissions control) Measures be applied to all construction projects.[245] These measures include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8 Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Measure No. 6 (minimized idling times) is required by regulation, and therefore need not normally be applied as a project-specific mitigation measure. Likewise, Measure No. 2 (covering haul trucks) is

244 BAAQMD, *CEQA Air Quality Guidelines* (footnote 205, p. 373); Table 3-1, pp. 3-2 – 3-3.
245 BAAQMD, *CEQA Air Quality Guidelines* (footnote 205, p. 373); Table 8-1, p. 8-3.

generally required by law.[246] In San Francisco, Measures No. 1 (exposed surfaces shall be watered twice daily) and No. 3 (wet sweeping of streets) are required of all construction projects by the City's Dust Control Ordinance (see p. 383). Measure No. 4 (limit speeds to 15 miles per hour on unpaved roads) is not applicable to most projects in San Francisco because few in-City projects are developed on sites large enough to have unpaved roads. However, this and Measures No. 5 (pave graded areas as soon as possible or use soil binders) and No. 8 (designate a contact person) are included in the suggested measures for a site-specific Dust Control Plan that the Ordinance requires for projects on sites larger than one-half acre.

Mitigation Measure

M-AQ-4a **Construction Vehicle Emissions Minimization:** To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications:

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Fugitive Dust

As explained above, any project that is subject to the City's Construction Dust Control Ordinance (discussed on p. 383) would be compliant with the BAAQMD Basic Construction Mitigation Measures with respect to construction dust. Moreover, the Dust Control Plan required for projects larger than one-half acre mandates that the project sponsor: submit a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and secure soils with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.

As noted, the Construction Dust Control Ordinance requires preparation of Dust Control Plan only for projects on sites larger than one-half acre (21,780 square feet). Mitigation Measure M-AQ-4b would

[246] *California Vehicle Code* Sec. 23114(a) states that "...a vehicle shall not be driven or moved on any highway unless the vehicle is so constructed, covered, or loaded as to prevent any of its contents or load ... from dropping, sifting, leaking, blowing, spilling, or otherwise escaping from the vehicle."

require that development projects in the Plan area that are not subject to the Construction Dust Control Ordinance requirement to prepare a site-specific Dust Control Plan but that would require more than 5,000 cubic yards of excavation and that would entail ground-disturbing activity lasting four weeks or longer, also prepare and implement a Dust Control Plan, to further minimize fugitive dust emissions from construction. The 5,000-cubic-yard threshold is based on the Dust Control Ordinance threshold of one-half acre, and on approximately 6 feet of excavation (assumed for a slab foundation) over a site of that size (21,780 sq. ft. x 6 feet ÷ 27 cu. ft./cu. yd. = approximately 5,000 cu. yd.). The 5,000-cubic-yard threshold would ensure that projects with excavation greater than the foregoing (e.g., 9 feet of excavation on a 15,000-square-foot site) would be subject to the same requirements and would thus result in lesser emissions of fugitive dust, compared to unmitigated excavation.

Mitigation Measure

M-AQ-4b **Dust Control Plan:** To reduce construction-related dust emissions, the project sponsor of each development project in the Plan area and each public infrastructure project (such as improvements to the public realm) in the Plan area on a site of one-half acre or less but that would require more than 5,000 cubic yards of excavation lasting four weeks or longer shall incorporate into construction specifications the requirement for development and implementation of a site-specific Dust Control Plan as set forth in Article 22B of the *San Francisco Health Code*. The Dust Control Plan shall require the project sponsor to: submit a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and secure soils with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.

Detailed construction information, such as construction techniques and scheduling, that would be utilized for each individual development project is not currently known, and therefore estimation of emissions from individual development projects would be too speculative to warrant evaluation in this EIR. However, implementation of Mitigation Measure M-AQ-4b would require implementation of fugitive dust control measures. Along with compliance with the regulations and procedures set forth by

the *San Francisco Building Code* and *San Francisco Health Code*, this measure would ensure that impacts from fugitive dust would be less than significant.

In addition to reducing fugitive dust, implementation of Mitigation Measure M-AQ-4b would also help reduce construction exhaust emissions from equipment to the maximum extent feasible.

Level of Significance After Mitigation

Notwithstanding implementation of Mitigation Measure M-AQ-4a, it is possible that one or more of the development projects in the Plan area could result in project-specific significant construction exhaust emissions impacts, even with this mitigation measure. Therefore, impacts associated with construction equipment exhaust emissions of criteria pollutants that would result from implementation of the draft Plan are considered **significant and unavoidable**. It should be noted that the identification of this program level potentially significant impact does not preclude the finding of future less-than-significant impacts for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance.

Even though implementation of Mitigation Measure M-AQ-4b would reduce construction dust emissions to less-than-significant levels, emissions of criteria pollutants from construction could exceed applicable thresholds for individual projects, despite implementation of Mitigation Measure M-AQ-4a. Therefore, as state above, this impact would be **significant and unavoidable**. As noted, identification of this program level potentially significant impact does not preclude the finding of future less-than-significant impacts for subsequent development projects in the Plan area that comply with BAAQMD screening criteria or meet applicable thresholds of significance.

Impact AQ-5: Implementation of the draft Plan could expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment. (Significant and Unavoidable with Mitigation)

Diesel-powered construction equipment generates emissions of diesel particulate matter (DPM), which is identified as a carcinogen by CARB. The BAAQMD has published a guide for a screening-level analysis of construction health risk that has determined that a potentially significant impact related to health risk from DPM would be attributable to construction of virtually any project, other than a residential project of five or fewer units, that is within 100 meters (330 feet) of a sensitive receptor (e.g., residence, child-care center, hospital, and the like).[247] BAAQMD notes that its screening methodology incorporates "many worst-case and conservative assumptions," and states that a project-specific health risk assessment would likely produce more accurate results. Nevertheless, it is clear that the new BAAQMD CEQA guidance leads to a determination of at least a potential significant impact for construction of many potential

247 BAAQMD, "Screening Tables for Air Toxics Evaluation During Construction," May 2010. On the internet at: http://www.baaqmd.gov/Home/Divisions/Planning%20and%20Research/CEQA%20GUIDELINES/Tools%20and%20Methodology.aspx. Reviewed September 1, 2010.

projects in San Francisco and other densely developed Bay Area communities. (It is noted that a typical South-of-Market block west of First Street measures 825 by 550 feet, while a typical North-of-Market block measures 412.5 by 275 feet; thus, a construction project north of Market Street would be within the 330-foot screening distance of most, and in some cases all, other parcels on its block, while a project south of Market Street would be within at least 25 percent of the other parcels on its block.) Project-specific screening-level health risk assessments for construction of individual projects in San Francisco have identified significant impacts resulting from construction in proximity to sensitive receptors, in the form of an incremental increase in lifetime cancer risk in excess of 10 in one million and/or incremental increase in concentration of $PM_{2.5}$ in excess of 0.3 micrograms per cubic meter, both of which are BAAQMD-recommended significance thresholds.

Modeling of construction equipment emissions has revealed that both cancer risk and concentration of $PM_{2.5}$ could be reduced to a less-than-significant level at many, and in some cases, all receptor locations near construction sites (that is, the greatest risk and the greatest concentration would both be less than the BAAQMD thresholds) if all diesel construction equipment were to meet the interim Tier 4 diesel engine standards. As described in the Regulatory Setting, under Toxic Air Contaminant Regulations, p. 384, new diesel engines meeting the interim Tier 4 emissions standards, and Tier 2 or Tier 3 engines retrofitted with a Level 3 Verified Diesel Emissions Control System, can reduce diesel particulate by approximately 85 percent, and would result in a cancer risk that would not exceed 10 chances in one million at many sensitive receptor locations near a particular construction site.

However, depending on the construction schedules for subsequent development projects, retrofitted Tier 2 and Tier 3 equipment/Tier 4 equipment may not readily available. Because the Interim Tier 4 standard only took effect in January 2011 for most diesel equipment, and because retrofits are not yet required by CARB, it will take some time—probably several years—for these new engines to become a large part of construction equipment fleets. And, as also noted in the Regulatory Setting, CARB has delayed implementation of standards for diesel-powered engines already in use by several years. Accordingly, Mitigation Measure M-AQ-5 is required to reduce construction-period emissions to the minimum practicable level.

Mitigation Measure

- **M-AQ-5** **Construction Vehicle Emissions Evaluation and Minimization:** To reduce the potential health risk resulting from project construction activities, the project sponsor of each development project in the Plan area shall undertake a project-specific health risk analysis, or other appropriate analysis as determined by the Environmental Planning Division of the Planning Department, for diesel-powered and other applicable construction equipment, using the methodology recommended by the Planning Department. If the analysis determines that construction emissions would exceed applicable health risk significance threshold(s) identified by the Planning Department, the project sponsor shall include in contract specifications a requirement that the contractor use the cleanest possible construction equipment and exercise best practices for limiting construction exhaust. Measures may include, but are not limited to,the following:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes;
- The project shall develop a Construction Emissions Minimization Plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to the maximum extent feasible. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards, the use of other late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available;
- All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use;
- All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and
- The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available.

During the environmental review process, the project sponsor shall submit a Construction Emissions Minimization Plan demonstrating compliance with the requirements of this mitigation measure.

Level of Significance After Mitigation

Implementation of the Mitigation Measure M-AQ-5 would result in the maximum feasible reduction of diesel emissions that would contribute to construction-period health risk, thereby lowering both lifetime cancer risk and the concentration of $PM_{2.5}$ to which sensitive receptors near certain subsequent development projects would be exposed. Although in many cases, the use of interim Tier 4 or Tier 2/ Tier 3 equipment with Level 3 VDECS diesel construction equipment would reduce the health risk to a level that would not exceed any of the significance thresholds identified by the BAAQMD, because it cannot be stated with certainty that either cancer risk or $PM_{2.5}$ concentration would be reduced to below the BAAQMD-recommended significance thresholds, and because of the uncertainty concerning the availability and feasibility of using construction equipment that meets the requirements of Mitigation Measure M-AQ-5, this impact is conservatively judged to be **significant and unavoidable**. However, identification of this program level potentially significant impact does not preclude the finding of future less-than-significant impacts for subsequent development projects in the Plan area that meet applicable thresholds of significance.

Transit Tower

Air quality impacts from the proposed Transit Tower would fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. These potential impacts are consistent with those described above for development in the Plan area as a whole. First, during project construction, the project would affect local particulate concentrations primarily due to fugitive dust

sources, and would also generate emissions of both criteria air pollutants and toxic air contaminants in construction equipment exhaust. Over the long term, the project would result in an increase in emissions primarily due to increased motor vehicle trips, as well as from operation of on-site stationary sources—in this case, a backup generator. Area sources (such as landscaping and use of consumer products) would result in lesser quantities of pollutant emissions.

Construction Air Quality Impacts

Impact AQ-6: Construction of the Transit Tower would result in emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to construction dust. (Less than Significant)

Demolition, grading and new construction activities would temporarily affect local air quality during the project's proposed 3-year construction schedule, causing temporary increases in particulate dust and other pollutants. Emissions generated from construction activities include combustion emissions of criteria air pollutants (reactive organic gases [ROG], nitrogen oxides [NOx], carbon monoxide [CO], sulfur oxides [SOx], and PM_{10} and $PM_{2.5}$) primarily from operation of construction equipment and worker vehicles, evaporative criteria pollutant emissions (ROG) from asphalt paving and architectural coating applications, and dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources; that is, dust generated by construction activities and that escapes from the construction site.

Criteria Air Pollutants

Criteria pollutant emissions of ROG, NOx, PM_{10}, and $PM_{2.5}$ from construction equipment would incrementally add to the regional atmospheric loading of these pollutants during project construction. The BAAQMD *CEQA Air Quality Guidelines* recommend the quantification of project related exhaust emissions and comparison of the emissions to its new significance thresholds. Therefore, daily project construction exhaust emissions that would be associated with the proposed project have been estimated and are presented in **Table 34**.

As indicated in Table 34, emissions from project construction would not exceed the BAAQMD's significance thresholds. Even though construction-related emissions would not exceed the BAAQMD's significance thresholds for criteria pollutants, Implementation of Improvement Measure I-AQ-6 would further reduce the less-than-significant emissions from construction vehicles, and would be consistent with the BAAQMD's basic emissions control measures for all projects.

Improvement Measure

I-AQ-6 **Construction Vehicle Emissions Minimization:** To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications:

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

TABLE 34
TRANSIT TOWER PROJECT CONSTRUCTION EXHAUST EMISSIONS ESTIMATES

	Estimated Daily Emissions (pounds per day)[a]			
Construction Phase and Year	**ROG**	**NOx**	**PM10[b]**	**PM2.5[b]**
2013	14.4	43.1	1.9	1.7
2014	2.9	12.1	0.6	0.6
2015	40.5	11.0	0.6	0.5
2016	37.18	0.0	0.0	0.0
BAAQMD Threshold	54	54	82	54
Significant?	No	No	No	No

[a] Project construction emissions estimates are based on output from URBEMIS 2007 v.9.2.4 air quality model, using the model's default assumptions. Assumes construction starts in mid-2013 and ends in mid-2016.
[b] Vehicle exhaust only.

SOURCE: Environmental Science Associates, 2011

Fugitive Dust

For fugitive dust, the BAAQMD recommends a "best management practices" approach for dust control. Project-related demolition, excavation, grading and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board, reducing ambient particulate matter from 1998 – 2000 levels to natural background concentrations in San Francisco would prevent over 200 premature deaths.

Dust can be an irritant causing watering eyes or irritation to the lungs, nose and throat. Demolition, excavation, grading and other construction activities can cause wind-blown dust to add to particulate matter in the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

In response, as noted under Regulatory Setting (p. 383), the San Francisco Board of Supervisors approved a series of amendments to the *San Francisco Building* and *Health Codes* generally referred hereto as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, minimize public nuisance complaints, and to avoid orders to stop work by the Department of Building Inspection (DBI).

Implementation of a Dust Control Plan as provided for in the Construction Dust Control Ordinance would be consistent with the BAAQMD *CEQA Air Quality Guidelines'* recommendation that all construction projects employ basic emissions control measures, including watering all exposed surfaces (e.g., staging areas, soil piles, graded areas) twice daily; covering all haul trucks transporting loose material; daily wet street sweeping of visible mud or dirt onto adjacent public streets; minimizing the time that soils are uncovered; and posting contact information for dust complaints.

At approximately 50,000 square feet, the proposed Transit Tower project site is approximately 1.1 acres in size, and therefore is subject to the Dust Control Plan requirement. Accordingly, the Transit Tower projects sponsor would be required to prepare a Dust Control Plan as called for in the Construction Dust Control Ordinance. The Dust Control Plan would require the project sponsor to: submit a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and secure soils with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.

The regulations and procedures set forth by the *San Francisco Building Code* and *San Francisco Health Code,* including preparation of a Dust Control Plan, would ensure that potential dust-related air quality impacts would be less than significant.

Mitigation: None required.

Impact AQ-7: Construction of the Transit Tower would expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment. (Significant and Unavoidable with Mitigation)

To determine if construction emissions could result in adverse health effects at nearby receptors, a screening-level health risk assessment and $PM_{2.5}$ analyses were conducted.[248] The analysis considered the nearest residential units to the Transit Tower site, which is the Millennium Tower, across Fremont Street, and the nearest child-care center, which is at 342 Howard Street (in the office building at 199 Fremont

[248] Health risk assessment calculations are included in Appendix B.

Street). The analysis calculated mass emissions of PM_{10}, which was used as a surrogate for diesel particulate matter, and $PM_{2.5}$ exhaust from on-site heavy-duty diesel-powered construction equipment.[249] The estimated mass emissions were entered into the AERMOD dispersion model to estimate ambient concentrations of PM_{10} (diesel particulate matter) and $PM_{2.5}$ associated with the project's construction activities. As recommended by BAAQMD, concentrations of the toxic air contaminant Acrolein were also estimated, because this chemical has the greatest non-cancer health risks for toxic air contaminants contained in diesel exhaust.

The analysis determined that the proposed project's construction-related emissions would generate a cancer risk of 17 in one million for child (infant) receptors at the nearest residential building, the Millennium tower.[250] At the child care center on Howard Street, the analysis identified an incremental lifetime cancer risk of 31 in one million as a result of project construction. Each class of calculated incremental lifetime cancer risk, other than the adult resident, exceeds the BAAQMD significance threshold of 10 in one million, and the impact would therefore be significant.[251]

The maximum concentration of $PM_{2.5}$ at any of the sensitive receptors associated with the project's construction activities would reach an annual average of 0.2 micrograms per cubic meter. This would not exceed the significance threshold of 0.3 micrograms per cubic meter, and would be less than significant.

The Hazard Indices associated with exposure to the toxic air contaminant Acrolein would be less than 1 (0.5 Chronic Hazard Index and 0.1 Acute Hazard Index), and would be less than significant.

It is noted that the foregoing discussion does not represent an impact unique to the proposed Transit Tower project. Rather, as noted, the assessment of construction emission health risk is part of the BAAQMD's 2010 CEQA guidance, and the resulting impacts would be similar for any comparably sized construction project in a densely developed area that contains a mix of land uses.

The project-specific screening-level health risk analysis for the proposed Transit Tower project includes a number of conservative assumptions. For example, for exposure of children at the child care center on Howard Street, the analysis assumes exposure for 10 hours per day, meaning that children are present and exposed to ambient outdoor air for 10 hours per day. In reality, children may spend perhaps half or

249 Diesel-powered construction equipment was assumed to be used primarily during excavation, whereas tower crane(s) and other heavy equipment during building construction was assumed to be electrically powered.

250 For the child receptor, recommended BAAQMD assumptions concerning infants (up to two years of age) were used for purposes of a conservative analysis. These assumptions include a ten-fold "age sensitivity factor" that accounts for infants' greater sensitivity to toxic pollutants. The residential receptor are located on the third story of the adjacent tower as commercial uses occupy the first two stories.

251 According to BAAQMD, the estimated lifetime cancer risk from all toxic air contaminants in the Bay Area is approximately 400 in one million, while the total lifetime cancer risk for all causes is approximately 400,000 in one million (BAAQMD, *Bay Area 2010 Clean Air Plan* [see note 222, p. 382]; p. 1-17). (http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx.) Reviewed September 2, 2010.

more of the day indoors.[252] Depending on the source of the air inside the building—the building in which the child care center is located has fixed windows at all levels, meaning the building has a forced-air ventilation system—indoor air could be substantially cleaner. However, without detailed knowledge of the building or the operation of the child care center, the project health risk assessment defaulted to more conservative exposure assumptions.

The health risk assessment determined that both cancer risk and concentration of $PM_{2.5}$ could be reduced to a less-than-significant level at all receptor locations (that is, the greatest risk and the greatest concentration would both be less than the BAAQMD thresholds) if all diesel construction equipment were to meet the California Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA) Interim Tier 4 standards for Off-Road Compression-Ignition (Diesel) Engines. As described in the Regulatory Setting, under Toxic Air Contaminant Regulations, p. 384, new diesel engines meeting the interim Tier 4 emissions standards and Tier 2/Tier 3 engines with a CARB-certified Level 3 Verified Diesel Emissions Control System (VDECS) can reduce diesel particulate by approximately 85 percent. Use of these would result in a cancer risk that would not exceed 10 chances in one million at any of the nearby sensitive receptors. For child (infant) receptors at the Millennium tower, the lifetime cancer risk would be 2.6 in one million, compared to 17 in one million in the unmitigated condition. For an infant at the child care center, the risk would decrease to 4.5 in one million, from an unmitigated risk of 30 in one million. Use of Tier 4 diesel equipment or Tier 2/Tier 3 equipment with Level 3 VDECS would also reduce the $PM_{2.5}$ concentration at all receptors to 0.12 micrograms per cubic meter, which is less than the significance threshold of 0.3 micrograms per cubic meter.

However, Tier 4 equipment is not readily available at this time. Both federal (EPA) and CARB Interim Tier 4 standards take effect in 2011 for new equipment. Meanwhile, as also noted above under Toxic Air Contaminant Regulations, ARB has delayed implementation of emissions standards for existing off-road diesel engines, including requirements that construction equipment use so-called Best Available Control Technology or the each operator's fleet of equipment meet a specified average emissions standard, and retrofitting of off-road equipment with Level 3 VDECS is not yet required by CARB. Accordingly, Mitigation Measure M-AQ-7 is identified below to minimize construction emissions.

Mitigation Measure

M-AQ-7 **Construction Vehicle Emissions Minimization:** To reduce the potential health risk resulting from project construction activities, the project sponsor shall include in contract specifications a requirement for the following BAAQMD-recommended measures:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes;

252 The State of California requires that child care centers have outdoor play space, and that this space be "open to air and light," which the Child Care Licensing Division of the state Department of Social Services generally interprets as meaning that the outdoor space must be open to the sky (Mardi Lucich, Citywide Childcare Administrator, San Francisco Department of Children, Youth, and Their Families; personal communication, August 24, 2010).

- The project shall develop a Construction Emissions Minimization Plan demonstrating that emissions from the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to a less-than-significant level, if feasible. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards, the use of other late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available;
- All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use;
- All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and
- The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available. All diesel generators used for project construction shall meet Tier 4 emissions standards.

For the purposes of this mitigation measure, "feasibility" refers to the availability of newer equipment in the contractor's or a subcontractor's fleet that meets these standards, or the availability of older equipment in the contractor's or a subcontractor's fleet that can be feasibly retrofitted. It should be noted that for specialty equipment types (e.g. drill rigs, shoring rigs and concrete pumps) it may not be feasible for construction contractors to modify their current, older equipment to accommodate the particulate filters, or for them to provide newer models with these filters pre-installed. Therefore, this mitigation measure may be infeasible.

Should it be determined by the construction contractor or its subcontractor(s) that compliance with the emissions control requirements of this mitigation measure is infeasible for any one of the above listed construction equipment, the construction contractor must demonstrate an alternative method of compliance that achieves an equivalent reduction in the project's fleet-wide DPM and other TAC emissions. If alternative means of compliance with the emissions exhaust requirements are further determined to be infeasible, the construction contractor must document, to the satisfaction of the Environmental Review Officer, that the contractor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.

Level of Significance After Mitigation

Implementation of the above measure would result in the maximum feasible reduction of diesel emissions that would contribute to construction-period health risk, thereby lowering both lifetime cancer risk and the concentration of $PM_{2.5}$ to which receptors would be exposed. Furthermore, the above analysis indicates that use of interim Tier 4 diesel construction equipment or Tier 2/ Tier 3 equipment with Level 3 VDECS would reduce the health risk to a level that would not exceed any of the significance thresholds identified by the BAAQMD. It is also noted that construction emissions could be lower if newer equipment is employed or less powerful or smaller diesel equipment is used than assumed in the analysis. Emissions could also be higher if more or larger diesel equipment is used. Depending on the regulations in place at the time construction begins, and depending on the precise mix of diesel-powered construction equipment employed, it is possible that the impact would be reduced to a less-than-significant level. However, because it cannot be stated with certainty that either cancer risk or $PM_{2.5}$ concentration would be reduced to below the BAAQMD-recommended significance thresholds, and because of the uncertainty concerning the availability and feasibility of using construction equipment that meets the requirements of Mitigation Measure M-AQ-7, this impact is conservatively judged to be **significant and unavoidable.**

Operational Air Quality Impacts

Impact AQ-8: Operation of the proposed Transit Tower would not conflict with *2010 Clean Air Plan*, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment, either individually or cumulatively. (Less than Significant)

Based on the project transportation analysis,[253] the proposed project would generate approximately 4,000 vehicle trips per day. Operational emissions from project traffic and from operation of the proposed building were calculated using the URBEMIS 2007 (version 9.2.4) model, and are presented in **Table 35.** As shown in Table 6, emission increases attributable to the proposed project would be substantially below the significance thresholds established by the BAAQMD. Therefore, the project's effects of regional criteria pollutant emissions would be less than significant.

The proposed project would be generally consistent with the San Francisco General Plan, as proposed for amendment by the draft Transit Center District Plan. Additionally, the General Plan, Planning Code, and City Charter implement various Transportation Control Measures identified in the 2010 Bay Area Clean Air Plan through the City's Transit First Program, bicycle parking requirements, transit development impact fees applicable to commercial uses, and other actions. The draft Plan would also be consistent with the Transportation Control Measures in the 2010 Clean Air Plan, as described in the analysis under Impact AQ-1, above, and the Transit Tower would be an integral part of the proposed Plan. In light of the above, the project would not make a considerable contribution to cumulative air quality impacts, nor

253 AECOM, *Transit Tower Transportation Impact Study* (see footnote 155, p. 274).

TABLE 35
TRANSIT TOWER ESTIMATED DAILY REGIONAL EMISSIONS (2016)

	Projected Emissions (Pounds per Day)[1,2]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Area-Source Emissions	1.1	7.4	0.02	0.02
Mobile-Source (Vehicle) Emissions	23.7	26.5	55.1	10.4
TOTAL	24.7	33.9	55.1	10.4
BAAQMD Threshold	54	54	82	54

NOTES:
1 Emission factors were generated by the URBEMIS 2007 (v. 9.2.4) model for San Francisco County, and assume a default vehicle mix. All daily estimates are the average of summer and winter conditions. Traffic generated emissions based on trip generation from the project transportation study.
2 Columns may not total due to rounding.

SOURCE: Environmental Science Associates, 2011.

would it interfere with implementation of the 2010 Clean Air Plan, which is the applicable regional air quality plan developed to improve air quality and to effectively meet the state and federal ambient air quality standards.

Mitigation: None required.

Local Air Quality Impacts

Impact AQ-9: Operation of the proposed Transit Tower would not result in emissions of carbon monoxide that would exceed state or federal standards, either individually or cumulatively. (Less than Significant)

The San Francisco Bay Area Air Basin is designated as "attainment" for carbon monoxide (CO). As stated in the 2010 update of the BAAQMD *CEQA Air Quality Guidelines*, "Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area Air Basin with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991."[254] Accordingly, as noted in the Significance Criteria, BAAQMD states that CO impacts may be determined to be less than significant if a project is consistent with the applicable congestion management plan and would not increase traffic volumes at local intersections to more than 24,000 vehicles per hour, for locations, such as the project site, in heavily urban areas, where "urban canyons" formed by buildings tend to reduce air circulation. The project would be consistent with applicable congestion management planning and, as described under Impact AQ-1, above, the greatest

254 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 373); p. 6-1.

volume at any of the study intersections would be fewer than 6,500 vehicles per hour. Therefore, effects related to CO concentrations would be less than significant.

Mitigation: None required.

Impact AQ-10: Operation of the proposed Transit Tower would not expose sensitive receptors to substantial levels of toxic air contaminants. (Less than Significant)

As noted in the Setting, Article 38 of the *San Francisco Health Code* requires air quality modeling for new residential projects of 10 or more units located in proximity to high-traffic roadways. The proposed project would not include any such sensitive land uses, and because the proposed project would develop office and restaurant/retail uses, which are not considered sensitive receptors, the project would not be subject to Article 38, and the project would not result in adverse effects with regard to exposure of sensitive receptors to DPM or $PM_{2.5}$.

In terms of the effect of project traffic and stationary source (generator) emissions on existing sensitive receptors, as noted in the discussion of Sensitive Receptors, p. 375, the nearest residential building is the Millennium tower, located to the east across Fremont Street from the project site's planned Mission Square park, and the nearest licensed child care center is at 342 Howard Street.

The streets surrounding the Transit Tower site—First, Fremont, and Mission Streets—have all been identified by the San Francisco Department of Public Health as having traffic volumes that place them within "Potential Roadway Exposure Zones"; these zones are areas that, due to proximity to freeways and major roadways, may be subject to relatively high concentrations of $PM_{2.5}$ from local traffic.[255] (These are the locations at which new residential projects are subject to Article 38.) Based on the traffic analysis for the proposed project, project-generated traffic would add up to about 400 peak-hour vehicles on the streets closest to the Transit Tower site, such as First, Fremont, Mission, and Howard Streets. (There would be fewer project vehicles on streets farther away, as traffic is dispersed.) Based on project-generated traffic volumes from the transportation analysis, cancer risk and $PM_{2.5}$ concentrations were calculated for Transit Tower traffic at the Millennium residential tower, the closest sensitive receptor, using the BAAQMD roadway screening tables. The results are shown in **Table 36**.

As stated above, the proposed Transit Tower would include a diesel-powered standby generator to provide emergency electricity to the building in the event of a power outage. Consistent with BAAQMD permit requirements, the standby generator would be limited to 50 hours per year of operations for maintenance and reliability testing. BAAQMD would conduct a screening-level health risk assessment prior to granting a permit for the generator and would not issue the permit if the generator would result

---

255 A map of "Potential Roadway Exposure Zones" is included in the recently published EIR for the *San Francisco General Plan* Housing Element, available as FigureV.H-1 in the DEIR Air Quality section, on the internet at: http://www.sf-planning.org/ftp/files/MEA/2007.1275E_SFHE_DEIR_SectionV.H.pdf, at p. V.H-45.

TABLE 36
HEALTH RISKS FROM TRANSIT TOWER OPERATIONAL EMISSIONS[1]

Project Traffic[2]

Street	Direction	Daily Volume	Distance	Cancer Risk[3]	$PM_{2.5}$ Conc.[4]	Exceeds Individual Threshold?
First Street	North-South	2,555	365	0.11	0.004	No
Fremont Street	North-South	522	40	0.11	0.004	No
Beale Street	North-South	0	40	0.00	0.000	No
Main Street	North-South	0	350	0.00	0.000	No
Spear Street	North-South	0	700	0.00	0.000	No
Market Street	East-West	25	685	0.00	0.000	No
Mission Street	East-West	715	40	0.21	0.006	No
Howard Street	East-West	3,575	415	0.13	0.003	No
Folsom Street	East-West	700	1,000	0.02	0.001	No
Sum of Roadway Health Risks				**0.56**	**0.017**	

Project Stationary Source(s)[5]

Source	Cancer Risk[3]	$PM_{2.5}$ Conc.[4]	Non-Cancer Risk		Exceeds Individual Threshold?
			Acute	Chronic	
Emergency Generator (diesel)	0.07	0.001	0.1	0.0003	No
Total of Project Risk	**0.63**	**0.018**	**0.1**	**0.0003**	
					Exceeds T'holds?
Thresholds	**10.0**	**0.3**	**1.0**	**1.0**	**No**

NOTES:
1 Risks calculated for residential (child) receptor at Millennium residential tower.
2 Roadway risk estimated using BAAQMD roadway screening tables.
3 Cancer risk in chances (cases) per one million
4 $PM_{2.5}$ concentration in micrograms per cubic meter
5 Generator risk modeled in AERMOD

SOURCE: Environmental Science Associates, Environ International

in a cancer risk greater than 10 chances in one million. As explained above, this is also the BAAQMD's project-specific significance threshold for toxic air contaminants. Because of this permit requirement, the standby generator would not result in adverse health effects. Nevertheless, a screening-level risk assessment was conducted for the proposed generator, and is included in Appendix D. The results, also provided in Table 36, indicated that the cancer risk due to the generator would be 0.07 in one million, or well below the threshold of 10 in one million. Non-cancer risk, as indicated by an Acute Hazard Index of 0.1 and a chronic Hazard Index of 0.0003, would also be well below the threshold of 1.0, and would be less than significant. The maximum concentration of $PM_{2.5}$, at 0.001 micrograms per cubic meter, would be below the threshold of 0.2 micrograms per cubic meter, and would be less than significant, as well. As shown in the table, total project risks to residential receptors at the Millennium residential tower would be: a lifetime cancer risk of 0.63 in one million; a 24-hour $PM_{2.5}$ concentration of 0.018 micrograms per cubic meter; and acute and chronic hazard indices of 0.1 and 0.0003, respectively. Based on these results, the project's contribution to any potential cumulative impact, on receptors that would also be affected by

project generator emissions, would not be cumulatively considerable. Therefore, project effects related to new sources of toxic air contaminants would be less than significant, both individually and cumulatively.

Similar to the requirements of Article 38, the BAAQMD 2010 *CEQA Air Quality Guidelines* also recommend analysis of "local community risk and hazard impacts"; that is, assessment of effects related to toxic air contaminants (TACs) both from placement of a new sensitive receptor (for example, a residential project) proximate to source(s) of TACs, and from siting of a new source of TACs. As stated above, the proposed Transit Tower would not include any such sensitive land uses, and therefore would not expose new sensitive receptors to substantial concentrations of TACs, nor would the project generate sufficient traffic to newly expose existing sensitive receptors to substantial concentrations of TACs. Therefore, this impact would be less than significant

Mitigation: None required.

Cumulative Impacts

Impact C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts. (Significant and Unavoidable with Mitigation)

As stated on p. 386, the BAAQMD recommends evaluation of a plan, such as the draft Transit Center District Plan, with respect to whether the plan would be consistent with the regional air quality plan—as of this writing, the *2010 Bay Area Clean Air Plan.*

With regard to individual development projects, as stated on p. 387, the BAAQMD has established significance thresholds at the levels at which a project's individual emissions would result in a cumulatively considerable contribution to an existing air quality problem; therefore, if project impacts identified are significant, impacts would also be cumulatively considerable.[256] The proposed Transit Tower would result in significant, unavoidable impacts with respect to construction-generated emissions of toxic air contaminants, including diesel particulate matter, and of $PM_{2.5}$. As noted under Impact AQ-5, construction on multiple projects in the Plan area could result in emissions at sensitive receptors proximate to several future project sites that would exceed the BAAQMD's significance criteria for cumulative impacts, which are 100 in one million cancer risk, non-cancer hazard index of 10, and a $PM_{2.5}$ concentration of 0.8 micrograms per cubic meter.

Cumulative construction impacts would occur from other projects in the vicinity, most notably the new Transit Center itself, which is currently under construction immediately south of the Transit Tower site. There are several other projects for which the Planning Department has applications on file in proximity to the Transit Center and the proposed Transit Tower site, including a project approved in 2011 at 350 Mission Street, diagonally across the Fremont and Mission Streets intersection from the proposed

256 BAAQMD *CEQA Air Quality Guidelines* (see footnote 205, p. 373); p. 2-1.

Mission Square park. Other development projects with applications on file include a high-rise project with three towers at the northwest corner of First and Mission Streets, a mixed-use tower at 181 Fremont Street, south of the new Transit Center, and a high-rise residential building at 41 Tehama Street, between First and Second Streets. Other potential projects identified on development sites assumed in the analysis of the draft Plan include towers on Mission Street between First and Second Street (Golden Gate University site) and on the north side of Howard Street between First and Second Streets. Each of these projects would result in emissions of diesel particulate matter and other TACs, as well as $PM_{2.5}$. Because concentrations of TACs and $PM_{2.5}$ tend to decrease rapidly with distance from the source, projects more than 100 meters (330 feet) from the sensitive receptors that would be affected by construction of the Transit Center and/or Transit Tower project would contribute substantially less to health risks at these receptors; likewise, the ongoing construction of the Transit Center and proposed construction of the Transit Tower project would make lesser contributions to health risks at receptors more than 330 feet distant. However, particularly given the adjacency of the new Transit Center, where construction will be ongoing until 2017, there is the potential that cumulative construction emissions at sensitive receptors proximate to several future project sites would exceed the BAAQMD's significance criteria for cumulative impacts, which are 100 in one million cancer risk, non-cancer hazard index of 10, and a $PM_{2.5}$ concentration of 0.8 micrograms per cubic meter. For example, the Millennium residential project at Fremont and Mission Street is within 330 feet of the Transit Center, the proposed Transit Tower, the approved building site at 350 Mission Street, and the proposed project at 181 Fremont Street. The Millennium is also within 500 feet of the proposed project at First and Mission Streets, and within 1,000 feet of the proposed project at 41 Tehama Street, an approved building at 535 Mission Street, and potential developments at the Golden Gate University site and on the north side of Howard Street between First and Second Streets. Implementation by the Transbay Joint Powers Authority or a subsequent developer of controls comparable to those identified in Mitigation Measure M-AQ-7 for the proposed Transit Tower project, and implementation of Mitigation Measures M-AQ-4a, M-AQ-4b, and M-AQ-5 for the Transit Center District Plan, would likewise result in the maximum feasible reduction of construction emissions and health risk for these other projects. However, as with the proposed project, because it cannot be stated with certainty that either cancer risk or $PM_{2.5}$ concentration would be reduced to below the BAAQMD-recommended significance thresholds, the cumulative impact is likewise conservatively judged to be **significant and unavoidable**.

Mitigation Measures

Implement Mitigation Measures M-AQ-2, M-AQ-3, M-AQ-4a, M-AQ-4b, M-AQ-5, and M-AQ-7.

Even with implementation of all identified mitigation measures, cumulative impacts with respect to both the draft Plan and the proposed Transit Tower would be **significant and unavoidable**.

H. Greenhouse Gas Emissions

Setting

Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases (GHGs) because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs has been implicated as a driving force for global climate change. The primary GHGs are carbon dioxide, methane, nitrous oxide, ozone, and water vapor.

While the primary GHGs in the atmosphere are naturally occurring, carbon dioxide (CO_2), methane, and nitrous oxide are largely emitted from human activities, accelerating the rate at which these compounds occur within the earth's atmosphere. Emissions of carbon dioxide are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Emissions of GHGs are typically reported in "carbon dioxide-equivalent" (CO_2E) measures.[257]

There is international scientific consensus that human-caused increases in GHGs have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.[258] Secondary effects are likely to include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

The California Air Resources Board (ARB) estimated that in 2008 California produced about 478 million gross metric tons ($MMTCO_2E$; about 525 million U.S. tons) of CO_2E GHG emissions.[259] The ARB found that transportation is the source of 37 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 24 percent and industrial sources at 19 percent. Commercial and residential fuel use (primarily for heating) accounted for 9 percent of GHG emissions.[260] In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) and the industrial/ commercial sector were the two largest sources of GHG emissions, each accounting for about 36 percent of the Bay Area's 95.8 $MMTCO_2E$ (105.4 million U.S. tons) of GHG emissions in 2007. Industrial and commercial sources (including office and retail uses) were

257 Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

258 California Climate Change Portal. Frequently Asked Questions About Global Climate Change. Available online at: http://www.climatechange.ca.gov/publications/faqs.html. Accessed January 1, 2011.

259 The abbreviation for "million metric tons" is MMT; thus, "million metric tons of CO_2 equivalents is written as $MMTCO_2E$.

260 California Air Resources Board, "California Greenhouse Gas Inventory for 2000-2008—by Category as Defined in the Scoping Plan." http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-08_2010-05-12.pdf. January 1, 2011.

the second largest contributors of GHG emissions with about 34 percent of total emissions. Electricity production accounts approximately 16 percent of the Bay Area's GHG emissions, followed by residential fuel usage (e.g., home water heaters, furnaces, etc.) at 7 percent, off-road equipment at 3 percent, and agriculture at 12 percent. Among industrial sources, oil refining currently accounts for more than 40 percent of GHG emissions, or approximately 15 percent of the total Bay Area GHG emissions.[261]

California has taken a leadership role in addressing the trend of increasing GHG emissions, with the passage in 2006 of California Assembly Bill 32 (AB 32), the Global Warming Solutions Act. This legislation is discussed below, under Regulatory Setting.

Regulatory Setting

Federal Actions

Currently, there is no federal legislation requiring reductions in GHG emissions. Rather, the United States Environmental Protection Agency (EPA) administers a variety of voluntary programs and partnerships with GHG emitters in which the EPA partners with industries producing and utilizing synthetic GHGs to reduce emissions of particularly potent GHGs. There are federal actions requiring increasing automobile efficiency, an endangerment finding for CO_2, and a recently finalized regulation requiring large sources of GHG emissions to report their emissions to the EPA. In addition, there are several bills pending in Congress that are attempting to regulate GHG emissions in the United States; most of these bills require a cap and trade program in which GHG emissions would be reduced overall through a market-driven approach.

In December 2009, in response to a U.S. Supreme Court ruling, the EPA made a finding under the Clean Air Act that current and projected atmospheric concentrations of the six generally recognized GHGs—CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—"threaten the public health and welfare of current and future generations," and that emissions of these gases from new cars and trucks "contribute to the greenhouse gas pollution which threatens public health and welfare."[262] While not in itself imposing any regulatory requirements, this "endangerment finding" under the Clean Air Act was required before EPA could issue regulations, and allowed the agency to adopt GHG emissions standards that it proposed in September 2009, in conjunction with new fuel economy standards simultaneously proposed by the National Highway Traffic Safety Administration (NHTSA) of U.S. Department of Transportation. The standards, published in the Federal Register in May 2010, and effective in July 2010, apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016, and require automakers to improve fleet-wide fuel economy and reduce fleet-wide greenhouse gas emissions by approximately five percent each year. They require these vehicles to meet an estimated combined average emissions level of 250 grams of

261 BAAQMD, *Source Inventory of Bay Area Greenhouse Gas Emissions: Base Year 2007*, December 2008. Available on the internet at: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_003_000_000_000.ashx.

262 EPA website: http://www.epa.gov/climatechange/endangerment.html. Reviewed January 2, 2011.

carbon dioxide (CO_2) per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg) if the automotive industry were to meet this CO_2 level entirely through fuel economy improvements.[263]

In May 2010, EPA issued a final rule that establishes thresholds for GHG emissions that define when permits are required for new and existing industrial facilities. Facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities. The rule took effect in 2011.

In September 2010, EPH and NHTSA published a Notice of Intent for the development of new GHG and fuel economy standards for model year 2017-2025 vehicles. The agencies published a Supplemental Notice of Intent in December 2010. Draft regulations are anticipated in 2011, with a final rule due to be adopted in 2012.[264]

In a related action, in June 2009, EPA granted California a waiver under the federal Clean Air Act, allowing the state to impose its own, stricter GHG regulations for vehicles beginning in 2009 (see below).

Statewide Actions

As early as 2002, with the passage of Assembly Bill 1493, the California legislature directed ARB to adopt regulations to reduce greenhouse gas (GHG) emissions from cars and light trucks beginning in 2009. Because the so-called Pavley standards (named for the bill's author, current state Senator Fran Pavley) would impose stricter standards than those under the federal Clean Air Act, California applied to the EPA for a waiver under the Clean Air Act; this waiver was denied by the Bush Administration in 2008. As noted above, in 2009, EPA granted the waiver. California has now agreed to cooperate with the federal GHG and Corporate Average Fuel Economy standards under development so that there will be a single national standard.

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 458 $MMTCO_2E$); by 2020, reduce GHG emissions to 1990 levels

263 National Highway Traffic Safety Administration, "NHTSA and EPA Establish New National Program to Improve Fuel Economy and Reduce Greenhouse Gas Emissions and for Passenger Cars and Light Trucks," fact sheet, May 2010. Available on the internet at:http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/CAFE-GHG_Fact_Sheet.pdf. Reviewed June 12, 2010.

264 75 Federal Register 76337, December 8, 2010. Available on the internet at: http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/Supplemental_Notice_FR_12082010.pdf; Fact Sheet, "NHTSA and EPA Issue a Supplemental Notice in the Process for Setting Future Greenhouse Gas and Fuel Economy Standards for Passenger Cars and Light Trucks, November 2010. Available on the internet at: http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/Supplemental_NOI_CAFE_2017_Fact_Sheet.pdf. Reviewed January 2, 2011.

(an estimated 427 MMTCO$_2$E); and by 2050, reduce GHG emissions to 80 percent below 1990 levels (approximately 85 MMTCO$_2$E).[265]

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the California Air Resources Board (ARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions).

Pursuant to AB 32, ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet these goals, California must reduce its GHG emissions by almost 30 percent below projected 2020 business as usual emissions levels, or about 11 percent from today's levels. The Scoping Plan estimates a reduction of 174 MMT (about 191 million U.S. tons) of CO$_2$E. Approximately one-third of the emissions reductions strategies fall within the transportation sector and include the following: California Light-Duty Vehicle GHG standards, the Low Carbon Fuel Standard, Heavy-Duty Vehicle GHG emission reductions and energy efficiency, and medium and heavy-duty vehicle hybridization, high speed rail, and efficiency improvements in goods movement. These measures are expected to reduce GHG emissions by 57.3 MMT (63 million U.S. tons) of CO$_2$E. Emissions from the electricity sector are expected to reduce another 49.7 MMT (55 million U.S. tons) of CO$_2$E. Reductions from the electricity sector include building and appliance energy efficiency and conservation, increased combined heat and power, solar water heating (AB 1470), the renewable energy portfolio standard (33 percent renewable energy by 2020), and the existing million solar roofs program. Other reductions are expected from industrial sources, agriculture, forestry, recycling and waste, water, and emissions reductions from cap-and-trade programs. Regional GHG targets are also expected to yield a reduction of 5 MMT (5.5 million U.S. tons) of CO$_2$E.[266] Measures that could become effective during implementation of projects in the Transit Center District Plan area, including the proposed Transit Tower, pertain to construction-related equipment and building and appliance energy efficiency. Some proposed measures will require new legislation to implement, some will require subsidies, some have already been developed, and some will require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA). Some applicable measures that are ultimately adopted will become effective during construction and operation of the proposed project and the proposed project would be subject to these requirements.

Most of the Scoping Plan's GHG reduction measures (excepting those for Agriculture, Forestry, and Industry, which would not be applicable to the proposed project) are set forth in **Table 37**. While ARB has identified a GHG reduction target of 15 percent from current levels for actions by local governments

265 California Air Resources Board, Climate Change Scoping Plan: A Framework for Change, December 2008. Available on the internet at: http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm. Accessed January 2, 2011.

266 Ibid.

TABLE 37
GHG REDUCTION MEASURES IN ARB SCOPING PLAN[1]

Measure No.	Measure Description	GHG Reductions (Annual MMT CO_2e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15.0
T-3[2]	Regional Transportation-Related Greenhouse Gas Targets	5.0
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7, 8	Medium- and Heavy-Duty Vehicle Measures • Aerodynamic Efficiency (Discrete Early Action) • Hybridization	1.4
T-9	High Speed Rail	1.0
		62.3
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
		49.7
Green Buildings		
GB-1	Green Buildings	26
Recycling and Waste		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane	TBD†
RW-3	High Recycling/Zero Waste	9†
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†

1 Table excludes GHG reduction measures for Agriculture, Forestry, and Industry (including high-global warming potential gases).
2 This is not the SB 375 regional target. ARB will establish regional targets for each Metropolitan Planning Organization (MPO) region following the input of the regional targets advisory committee and a consultation process with MPOs and other stakeholders per SB 375.
† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target.

SOURCE: ARB, 2008

themselves, it has not yet determined what amount of GHG emissions reductions it recommends from local government land use decisions. However, the Scoping Plan does state that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. ARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. As can be seen in Table 37, many of the measures in the Scoping Plan—such as implementation of increased fuel efficiency for vehicles (the "Pavley" standards), increased efficiency in utility operations, and development of more renewable energy sources—require statewide action by government, industry, or both. Some of the measures are at least partially applicable to development projects, such as increasing energy efficiency in new construction, installation of solar panels on individual building roofs, and a "green building" strategy. The City has already implemented several of these measures that require local government action, such as implementing a Green Building Ordinance, a Zero Waste strategy, a Construction and Demolition Debris Recovery Ordinance, and a solar energy generation subsidy program, to realize meaningful reductions in GHG emissions. (See discussion under Local Actions, below.)

In addition to policy directly guided by AB 32, the legislature in 2008 passed Senate Bill (SB) 375, which provides for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 requires regional transportation plans developed by the state's 18 Metropolitan Planning Organizations (in the Bay Area, the Metropolitan Transportation Commission (MTC)), to incorporate a "sustainable communities strategy" in their regional transportation plans that will achieve GHG emission reduction targets set by ARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. MTC's 2013 RTP will be its first plan subject to SB 375.

SB 375 requires ARB to establish regional GHG reduction targets. ARB appointed a 21-member Regional Targets Advisory Committee to recommend factors to be considered and methodologies used in setting the regional goals; this committee provided its recommendations to ARB in September 2009.

In addition, the state establishes energy standards for new construction. First adopted in June and most recently revised in 2008, these standards are part of the California Building Standards Code (Title 24 of the California Code of Regulations). In general, Title 24 standards require the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The state Building Code and other standards for appliances and other consumer products apply throughout California, and they limit GHG emissions in California by reducing energy demand.

CEQA Guidelines

Senate Bill 97 (SB 97) required the Office of Planning and Research (OPR) to amend the state CEQA Guidelines to address the feasible mitigation of GHG emissions or the effects of GHGs. In response, OPR

amended the CEQA Guidelines to provide guidance for analyzing GHG emissions. Among other changes to the CEQA Guidelines, the amendments add a new section to the CEQA Checklist (CEQA Guidelines Appendix G) to address questions regarding the project's potential to emit GHGs.

These revisions include a new section (Sec. 15064.4) specifically addressing the significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions; Section 15064.4 further states that the significance of GHG impacts should include consideration of the extent to which the project would increase or reduce greenhouse gas emissions; exceed a locally applicable threshold of significance; and comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The revisions also state that a project may be found to have a less-than-significant impact if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (Sec. 15064(h)(3)).

Regional Actions

The Bay Area Air Quality Management District (BAAQMD) is the regional air district with jurisdiction over the nine-county region located in the Bay Area Air Basin. BAAQMD is responsible for attaining and/or maintaining air quality in the Air Basin within federal and State air quality standards. BAAQMD has established a Climate Protection Program with the goal of integrating climate protection activities into the district's existing programs. The BAAQMD provides recommendations for lead agencies to follow in protecting air quality, including reducing GHG emissions, through implementation of CEQA review. Notably, in June 2010, the District adopted revised *CEQA Air Quality Guidelines* that include quantitative thresholds for determining significance of GHG emissions and provides an extensive list of mitigation measures that can be applied to reduce operational emissions, including of GHGs. The District recommends that local agencies adopt a Greenhouse Reduction Strategy consistent with AB32 goals.

Specifically, the BAAQMD 2010 *CEQA Air Quality Guidelines* set forth the requirements for a GHG Reduction Strategy to be considered consistent with the State's GHG reduction goals as codified through AB 32. Projects that are consistent with such qualified GHG Reduction Strategies can be found to have a less-than-significant impact in terms of GHG emissions and climate change. BAAQMD standards for a qualified GHG Reduction Strategy include:

a) Quantification of GHGs for existing (baseline) and future years (2020 or other forecast year) that includes future emissions under a "business-as-usual" scenario;

b) An adopted GHG reduction goal of (i) 1990 GHG emission levels, (ii) 15 percent below baseline (2008 or earlier) emission levels, or (iii) a per-service-population emissions rate of 6.6 $MMTCO_2E$, the specified general plan significance criterion in the BAAQMD *CEQA Air Quality Guidelines*;

c) Analysis of anticipated GHG emissions resulting from local and state policies and regulations that may be planned or adopted but not implemented;

d) Identification of specific feasible reduction measures to meet the identified target on a project-by-project basis, including quantification of each measure's effectiveness in GHG reduction;

e) Establishment of a monitoring program, including identification of which measures apply to different types of new development projects, a mechanism for reviewing and determining if all applicable mandatory measures are being applied, implementation steps and parties responsible for ensuring implementation of each action and a schedule for implementation, procedures for monitoring and updating the GHG inventory and reduction measures at three- to five-year intervals, and annual review and reporting on the progress of implementation; and

f) Adoption through a public process following environmental review.

Because few local agencies have completed all of these steps, BAAQMD recognizes that a local agency can demonstrate equivalency with a qualified GHG Reduction Strategy if its climate change ordinances, policies, and programs are consistent with AB 32 and include requirements or feasible measures to reduce GHG emissions to 1990 levels, 15 percent below 2008 levels, or 6.6 MMTCO_2E.

Local Actions

In August 2010, the San Francisco Planning Department submitted to the BAAQMD a draft of the City and County of San Francisco's *Strategies to Address Greenhouse Gas Emissions*. This document presents a comprehensive assessment of policies, programs and ordinances that collectively represent San Francisco's Qualified Greenhouse Gas Reduction Strategy. The BAAQMD reviewed San Francisco's GHG reduction strategy and concluded that the strategy meets the criteria for a Qualified GHG Reduction Strategy as outlined in BAAQMD's CEQA Guidelines (2010).[267] Therefore, projects that are consistent with San Francisco's GHG reduction strategy would result in less than significant GHG emissions.

The City's *Strategies to Address Greenhouse Gas Emissions* ("GHG Reduction Strategy") includes, following an introduction, chapters that address each of the requirements, a through f, noted above. Chapter II of the GHG Reduction Strategy sets forth the City's GHG inventory as contained in the City's *Climate Action Plan: Local Strategies to Reduce Greenhouse Gas Emissions* (*Climate Action Plan*), published in 2004 by the City's Department of the Environment and Public Utilities Commission.[268] The *Climate Action Plan* was called for in the City's 2002 Greenhouse Gas Emissions Reduction Resolution. The Plan provides the context of climate change in San Francisco and examines strategies to meet the 20 percent GHG reduction target.

The *Climate Action Plan* estimated that in 1990 San Francisco's GHG emissions were approximately 8.26 MMT of CO_2 equivalent (about 9.1 million U.S. tons). Just over half of these emissions in 1990 were from motor vehicles, with the remainder generated by building energy use. The Plan estimated year 2000 GHG emissions at 8.8 MMT of CO_2E (about 9.7 million U.S. tons) and projected 2012 GHG emissions at 9.8 MMT of CO_2E (about 10.8 million U.S. tons) based on a business-as-usual scenario (without citywide actions to reduce GHG emissions). The *Climate Action Plan* estimated that GHG emissions are projected to rise approximately 9 percent from 2000 levels in the transportation sector, and 14 percent from 2000 levels

267 San Francisco's *Strategies to Address Greenhouse Gas Emissions* and BAAQMD's letter are available online at: http://www.sfplanning.org/index.aspx?page=1570.

268 San Francisco Department of the Environment and San Francisco Public Utilities Commission, Climate Action Plan for San Francisco, Local Actions to Reduce Greenhouse Emissions, September 2004.

in the building energy sector. In 2008, San Francisco commissioned an independent third party to conduct a review the City's baseline community-wide GHG emissions for years 1990, 2000 and 2005. The independent report generally confirmed the Plan's 1990 and 2000 emissions estimates and found that 2005 GHG emissions were approximately 7.8 MMT of CO_2e (about 8.6 million U.S. tons), a decrease of about 5 percent from 1990.[269]

Chapter II of the GHG Reduction Strategy also sets forth the City's GHG reduction targets, established by the 2008 Greenhouse Gas Reduction Ordinance:

- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;
- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

Chapter III of the GHG Reduction Strategy lists objectives and policies within the *San Francisco General Plan* that address climate change, categorizing the policy language into one or more of five GHG emission sectors: Transportation, Energy Efficiency, Renewable Energy, Waste, and Environment/Conservation. Policies from both plan elements and area plans are included.

Chapter IV of the Strategy describes "actions or categories of actions that, when implemented, will achieve a specified GHG emissions level." This includes the four categories of actions set forth in the *Climate Action Plan*, which are the same as the first four sectors identified in the preceding paragraph, and the added category of Environment/Conservation, which includes "other climate change-related policies, such as street planting and landscaping, policies that increase carbon sequestration, and those that encourage conservation of the natural environment."

Chapter IV identifies six main Transportation-related actions to reduce GHG emissions by more than 874,000 metric tons of CO_2e (963,000 U.S. tons) per year, including increasing the use of public transit; increasing ridesharing; increasing bicycling and walking; support of employer-based trip-reductions programs; "discourage driving"; and increasing the use of clean air vehicles and improving fleet efficiency. In Chapter VI, Progress Towards Emissions Reductions, the Strategy recognizes declines in per-capita vehicle ownership and vehicles per household, as well as decreases in driving and small increases in transit use and bicycling and a greater increase in persons working at home.

Energy Efficiency Actions include increasing incentives, direct installation, and technical assistance for improvements to residential, commercial, and municipal buildings; expanding education and outreach; and strengthening legislation, codes, and standards (estimated reduction of 727,000 metric tons (800,000 U.S. tons) CO_2e per year). The Strategy notes that the Department of the Environment's Energy Watch Program, in 2009, saved 27,000,000 gross kWh and 53,000 therms of gas.

Renewable Energy Actions include development of renewable solar, wind, and biomass projects; conducting pilot projects for emerging technologies; and supporting and developing green power

[269] Contained in Appendix C to the GHG Reduction Strategy; http://www.sfplanning.org/index.aspx?page=1570.

projects (estimated reduction of 500,000 metric tons (550,000 U.S. tons) of CO_2e per year). Accomplishments noted in Chapter VI include progress in the development of solar power and biodiesel; closure of the Hunters Point Power Plant in 2006 (the Potrero Power Plan closed in 2011); installation of more than 1,600 photovoltaic systems (capacity of 8.5 megawatts); installation of solar panels at the Sunset Reservoir to generate 5 megawatts of electricity; the use and development of biofuels, including the SFGreasecycle program in which the City picks up used cooking oil and grease from local establishments and converts the oil into biodiesel; and biodiesel use by City fleets.

Solid Waste Actions include increasing residential recycling and composting; increasing commercial recycling and composting; and expansion of construction and demolition debris recycling (estimated reduction of 270,000 metric tons (300,000 U.S. tons) of CO_2e per year). Chapter VI notes that the City has recently mandated recycling and composting program for all residents and businesses.

In the area of Environment/Conservation, Chapter VI states, "The City's efforts to design a more sustainable streetscape have culminated in the Better Streets Plan [that] provides design guidelines for streetscape improvement projects, including guidelines for the number and placement of street trees and guidelines for increasing the City's permeable surfaces."

Additional GHG reduction strategies are set forth in Chapter V. These include the 2008 GHG ordinance noted above, which calls upon the San Francisco Department of the Environment to coordinate GHG reduction efforts; implementation of various City departments' climate action plans; specific actions by the Planning Department, Department of Building Inspection, and Department of Public Works with respect to project review; City Administrator and San Francisco Public Utilities Commission efforts to reduce municipal GHG emissions; and consideration of future legislation to develop or utilize available market-based compliance mechanism. In 2008, the Department of the Environment released *SForward*, an environmental plan for the City that identifies eight policy areas to be developed: climate action, renewable and efficient energy, clean transportation, green buildings, urban forest, zero waste, environmental justice, and toxics reduction. The San Francisco Carbon Fund, created in response to Executive Directive 07-13 and codified in Chapter 52 of the City *Administrative Code*, will fund carbon-offset activities exclusively within San Francisco. Programs funded have included a waste grease biodiesel facility in the Dogpatch neighborhood, the planting of fruit trees in, among other places, one of San Francisco's larger public housing developments, and kiosks at San Francisco International Airport that the calculation of a flight's carbon footprint and the purchase carbon offsets to support local projects.

Other key GHG reduction strategies described in Chapter V include San Francisco's Transit First Policy (Section 16.102 of the City Charter), instituted in 1973 with the goal of reducing the City's reliance on freeways and meeting transportation needs by emphasizing mass transportation (the Transit First Policy gives priority to public transit investments; adopts street capacity and parking policies to discourage increased automobile traffic; and encourages the use of transit, bicycling and walking rather than use of single-occupant vehicles); the Green Taxi Fleet (the Taxi Commission passed a resolution in 2007 calling for the San Francisco taxi industry to reduce GHG emissions by 20 percent from 1990 levels and 50 percent from current levels by 2012, as well as to work to offset remaining emissions with investments

in renewable energy or energy efficiency by 2015, and to move to a Zero Emissions taxi fleet by 2020); the Municipal Transportation Agency (MTA) Zero Emissions 2020 (hybrid diesel-electric buses have replaced older diesel buses, newer diesel vehicles have been retrofitted, and certain vehicles are using a blend of 20 percent biodiesel with regular diesel) and draft MTA Climate Action Plan.

Chapter V of the GHG Reduction Strategy also discusses the contribution of the City's denser-than-typical land use pattern to reducing vehicle travel and vehicular GHG emissions; other environmental policies and programs such as tree planting and protection, and business programs such as the City's Green Business Program that helps San Francisco businesses adopt environmental practices that are sustainable and profitable.

Chapter VI of the GHG Reduction Strategy discusses progress made to date, including the 5 percent reduction in community-wide GHG emissions from 1990 to 2005 discussed above. Also discussed are increases in bicycling, walking, and transit ridership, energy savings, and reductions in waste disposed of at landfills.

Chapter VII sets forth a future GHG emissions monitoring strategy.

Chapter VIII of the Strategy identifies other ongoing GHG reduction efforts, including the Department of the Environment 2010-2012 Strategic Plan and the Climate Action Plans of San Francisco International Airport and the Public Utilities Commission, while Chapter IX describes a large number of regulations that are applicable to new development and renovations that are expected to yield greenhouse gas (GHG) reductions. These include, among others, the Transit Impact Development Fee, Commuter Benefits Ordinance, Transportation Management Program requirement for larger projects, bicycle parking and car-sharing requirements, limitations on vehicle parking, the City's Green Building Ordinance, newly enacted stormwater controls, and mandatory recycling and composting.

As stated previously, the BAAQMD has determined that the GHG Reduction Strategy is a Qualified GHG Reduction Strategy as set forth in the BAAQMD 2010 *CEQA Air Quality Guidelines*. The District found that, in some areas, "the City has surpassed the minimum standard elements of a Qualified GHG Reduction Strategy," and concluded that "Aggressive GHG reduction targets and comprehensive strategies like San Francisco's help the Bay Area move toward reaching the State's AB 32 goals, and also serve as a model from which other communities can learn."[270]

To evaluate whether a project is consistent with the City's GHG Reduction Strategy, the Planning Department has prepared a Greenhouse Gas Analysis Compliance Checklist that is used to compare a project's attributes with various components of the Strategy. This compliance checklist is discussed further in the Impacts Analysis, below.

[270] BAAQMD letter contained in Appendix A of the GHG Reduction Strategy. Available on the internet at: http://www.sf-planning.org/index.aspx?page=1570.

Impacts

Significance Criteria

The proposed project would have a significant air quality impact if it were to:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Methodology

Quantification of greenhouse gas (GHG) emissions was conducted using a combination of the URBEMIS 2007 model (version 9.2.4), the BAAQMD Greenhouse Gas Model, and other emissions factors.

Impact Analysis

Transit Center District Plan

Impact GG-1: Implementation of the proposed Plan would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. (Less than Significant)

Adoption and implementation of the draft Plan would not directly result in GHG emissions; however, implementation of development projects in the Plan area, including the proposed Transit Tower, would result in GHG emissions (see separate analysis of Transit Tower under Impact GG-2, below). The draft Plan includes goals and policies that would apply to development within the Plan area, including any potential future combined heat and power facility (although no such facility is currently proposed). These policies are generally consistent with the City's *Strategies to Address Greenhouse Gas Emissions*. The draft Plan would support reductions in GHG emissions by providing for additional high-density mixed-use development in an area with the most extensive array of transit service in the Bay Area, and by improving pedestrian and bicycle access within and to and from the Plan area. Of the GHG reduction sectors listed in the City's *Strategies to Address Greenhouse Gas Emissions* (i.e., Transportation, Energy Efficiency, Renewable Energy, Waste, and Environment/Conservation), many of the draft Plan policies relate to improving transportation through improved transit, pedestrian, and bicycle accessibility and connections. In particular, the following objectives and policies from the draft Plan would serve to reduce potential GHG emissions by concentrating growth near transit, discouraging use of single-occupancy vehicles for commuter travel and encouraging alternative forms of travel.

> **Objective 1.1:** Maintain downtown San Francisco as the region's premier location for transit-oriented job growth within the Bay Area.
>
> **Objective 1.2:** Reinforce the role of downtown within the city as its major job center by protecting and enhancing the central district's remaining capacity, principally for employment growth.

Policy 1.4: Prevent long-term under-building in the area by requiring minimum building intensities for new development on major sites.

Policy 2.6: Establish a minimum height requirement for the Transit Tower site, as well as other adjacent sites zoned for a height limit of 750 feet or greater.

Policy 2.7: Do not limit the floor plate or dimensions of the lower tower for buildings taller than 550 feet.

Policy 2.23: Eliminate the Floor Area Ratio penalty for tall floors. Section 102.11 of the *Planning Code* currently requires creating and counting "phantom floors" in square footage calculations when average floor-to-floor height exceeds 15 feet. This discourages tall ground floor spaces that add variety and grandeur to a streetscape.

Policy 2.26: Maximize daylight on streets and open spaces and reduce heat-island effect, by using materials with high light reflectance, without producing glare.

Policy 2.27: Encourage the use of green, or "living," walls as part of a building design in order to reduce solar heat gain as well as to add interest and lushness to the pedestrian realm.

Objective 3.1: Make walking a safe, pleasant, and convenient means of moving about throughout the district.

Objective 3.2: Create a high-quality pedestrian environment in the district consistent with the vision for the central district of a world-class city.

Objective 3.4: Emphasize the importance of streets and sidewalks as the largest component of public open space in the Transit Center District.

Policy 3.1: Create and implement a district streetscape plan to ensure consistent corridor-length streetscape treatments.

Policy 3.2: Widen sidewalks to improve the pedestrian environment by providing space for necessary infrastructure, amenities and streetscape improvements.

Policy 3.3: Facilitate pedestrian circulation by providing sidewalk widths that meet the needs of projected pedestrian volumes and provide a comfortable and safe walking environment.

Policy 3.5: Create additional pedestrian capacity and shorten pedestrian crossing distances by narrowing roadways and creating corner curb bulb-outs.

Policy 3.6: Enhance pedestrian crossings with special treatments (e.g. paving, lighting, raised crossings) to enhance pedestrian safety and comfort, especially where bulb-outs cannot be installed.

Objective 3.6: Enhance the pedestrian network with new linkages to provide direct and varied pathways, to shorten walking distances, and to relieve congestion at major street corners,

Objective 3.8: Ensure that new development enhances the pedestrian network and reduces the scale of long blocks by maintaining and improving public access along existing alleys and creating new through block pedestrian connections where non e exist.

Objective 3.9: Ensure that mid-block crosswalks and through-block passageways are convenient, safe, and inviting.

Policy 3.9: Create convenient pedestrian access by providing signalized mid-block crosswalks, especially on blocks longer than 300 feet.

Policy 3.10: Prohibit the elimination of existing alleys within the District. Consider the benefits of shifting or re-configuring alley alignments if the proposal provides an equivalent or greater degree of public circulation.

Policy 3.11: Design new and improved through-block pedestrian passages to make them attractive and functional parts of the public pedestrian network.

Objective 4.1: The district's transportation system will prioritize and incentivize the use of transit. public transportation will be the main, non-pedestrian mode for moving into and between destinations in the Transit Center District.

Objective 4.2: The district's transportation system will implement and require transportation demand management strategies to minimize growth in auto trips and reduce volumes as necessary. actively manage the transportation system to optimize person-carrying capacity.

Objective 4.3: The district's transportation system will meet changing transit needs, particularly to support the new Transbay Transit Center and accommodate increased densities. make changes in the circulation network that ensure delivery of reliable and convenient transit service to the Transbay Transit Center and for district residents, employees, and visitors.

Objective 4.4: The district's transportation system will prioritize pedestrian amenity and safety. Invest in circulation modifications and urban design measures that support the creation of an attractive and memorable public realm.

Objective 4.7: The district's transportation system will further sustainability goals. Advance the goals of the city's climate action plan, by reducing greenhouse gas emissions generated by vehicular transportation.

Objective 4.9: Prioritize transit movements through and within the district over all other transportation modes.

Objective 4.10: Design transit facilities to improve the reliability and function of transit movements and to enhance the rider experience.

Objective 4.11: Ensure that changes to the circulation network, including pedestrian and streetscape improvements, are designed to support and enhance the operation of transit.

Objective 4.13: Support enhanced funding and capacity for regional transit service to support increases in population and employment growth as well as shifts from auto to public transit travel.

Policy 4.5: Support funding and construction of the Transbay Transit Center project to further goals of the District Plan, including completion of the Downtown Extension for Caltrain and High Speed Rail.

Policy 4.6: Ensure that regional transit carriers operating on city streets are prioritized along with local transit by implementing the surface transit priority improvements proposed in this plan.

Policy 4.7: Work with BART to identify and fund measures to increase capacity as necessary to serve the District, particularly at the Montgomery and Embarcadero stations.

Objective 4.14: Support enhanced funding and capacity for local transit service to support increases in population and employment growth as well as shifts from auto to public transit travel.

Policy 4.8: Support revenue measures and investments essential to enhancing Muni's capacity, reliability and operational efficiency in providing service to and within the District.

Objective 4.15: Use demand management strategies to reduce overall levels of auto traffic in the plan area and downtown, particularly in the peak hours, in order to reduce auto impacts on other transportation modes and enable the creation of a high quality public realm.

Objective 4.17: Create and ensure compliance with mechanisms that provide workers and residents with incentives to take transit and use modes of transportation other than single-occupant autos.

Objective 4.18: Encourage the use of non-auto modes of transportation by requiring participation in a transportation demand management program in new buildings throughout the district.

Policy 4.15: Expand the TMA [Transportation Management Association] requirement to include non-office uses, including hotels, large retail, cultural, and institutional uses.

Policy 4.18: Expand the purview and funding of the existing downtown Transportation Management Association (TMA) or create a district-specific TMA.

Objective 4.29: Make cycling a safe, pleasant, and convenient means of transportation throughout the district.

Objective 4.30: Ensure high-quality on-street bicycle connections to the Transbay Transit Center.

Objective 4.31: Enhance facilities for intra-district bicycle travel.

Objective 4.32: Ensure local connections to regional bicycle facilities.

Objective 4.33: Ensure the provision of adequate secure, on- and off-street bicycle parking facilities to accommodate and encourage employees to cycle for commuting and daily needs.

Policy 4.44: Do not compromise pedestrian, bicycle, or transit amenity or service within the District to accommodate or maintain levels of service for regional auto trips.

Policy 4.50: Establish an absolute maximum cap on number of parking spaces in the district and adjacent areas based on the established targets for traffic reduction and goals for transit usage.[271]

Policy 4.51: Scrutinize and restrict new accessory and non-accessory parking in the Plan area until a comprehensive cap on new parking is adopted.

Policy 4.58: Make all non-residential parking, including accessory parking, subject to the City's Parking Tax, regardless of whether such parking is made available to the public for a fee.

Policy 4.60: Develop a local parking cash-out ordinance to apply to all parking accessory to commercial development.

Objective 4.47: Ensure that adequate space is provided for car sharing services throughout the district accessible to residents, employees, and visitors.

Objective 6.1: Increase energy efficiency, reduce carbon intensiveness of energy production, and enhance energy reliability in the district.

Policy 6.1: Create efficient, shared district-scale energy systems in the district.

Policy 6.2: Pursue a Combined Heat and Power (CHP) system or series of systems for the Transit Center District and the Transbay Redevelopment Area (Zone 1).[272]

Policy 6.3: Require all new buildings to be designed to plug into such a system in the future.

Policy 6.6: Require all major development to demonstrate that proposed heating and cooling systems have been designed in accordance with the following order of diminishing preference:

- Connection to sources of waste heat or underutilized boiler or CHP plant within the Transit Center District or adjacent areas
- Connection to existing district heating, cooling, and/or power plant or distribution networks with excess capacity
- Site-wide CHP powered by renewable energy

---

271 No numerical parking limit is proposed for adoption as part of the draft Plan, but could be evaluated and subject to CEQA review at such time as a specific proposal is developed and presented for review.

272 No physical improvements have been defined to implement a district-wide heat and power system in the Plan area, and any district-wide energy system proposed in the future would be subject to subsequent CEQA review at such time as a specific proposal is developed and presented for review.

- Site-wide CHP powered by natural gas
- Building level communal heating and cooling powered by renewable energy
- Building level communal heating and cooling powered by natural gas

Objective 6.4: All new buildings developed in the plan area will be of leading edge design in terms of sustainability, both high performance for their inhabitants and low impact for the environment.

Policy 6.9: Take maximum advantage of San Francisco's moderate year-round climate by integrating passive solar features into building design.

Policy 6.10: Reduce the need for mechanical air conditioning through the use of natural ventilation.

Policy 6.11: Use on-site renewable energy systems to reduce the use of fossil fuel generated energy.

Policy 6.12: Require all major buildings in the Plan Area to achieve the minimum LEED levels established in the SF Green Building Ordinance, not including credits for the given inherent factors of location, density, and existing City parking controls, in order to achieve high-performance buildings.

Objective 6.6: Reduce stormwater runoff from the district into the sewer system to improve bay water quality and reduce strain on treatment plants during wet weather events.

Objective 6.7: Take advantage of significant concentrated development and infrastructure reconstruction in the district and adjacent areas to create district-scale water efficiency and reuse measures.

Policy 6.14: Create a reliable supply of non-potable water that can be used throughout the plan area to reduce potable water demand.

Policy 6.15: Pursue a variety of potential sources of non-potable water, including municipally-supplied recycled water and district-based graywater, blackwater, stormwater, and foundation drainage water.

Policy 6.16: Create infrastructure in the Transit Center District and immediately adjacent areas for non-potable water use, including treatment and distribution.[273]

Policy 6.17: Include distribution pipes and other necessary infrastructure for non-potable water when undertaking any major streetscape or other infrastructure work in the right-of-ways in the Transit Center District and immediately vicinity.

Policy 6.18: Identify and protect suitable sites within the Plan Area or immediate vicinity for locating a treatment facility for creating a local non-potable supply.

Policy 6.19: All new and large redevelopment projects in the city should adhere to the following hierarchical approach to maximize resources and minimize use of potable water:

- Reduce demands by installing efficient water fixtures and behaviors;
- Identify all on-site sources (rainwater, cooling tower blow down, fog, graywater, blackwater, stormwater, and foundation drainage water);
- Install appropriate on-site collection, treatment, storage and conveyance systems for toilet flushing, irrigation and additional identified nonpotable applications;

[273] No defined recycled water system is proposed for development as part of the draft Plan. Such a system would be evaluated and subject to CEQA review at such time as a specific proposal is developed and presented for review.

- Meet surplus non-potable demands using district non-potable water or municipal recycled water; and
- Meet all other remaining demands using potable water.

Policy 6.20: Ensure projects use Low Impact Design (L.I.D.) techniques in all streetscape, public space, and development projects to reduce the quantity of stormwater runoff and slow its flow into the sewer system, and to harvest this water for on-site uses.

The foregoing policies in the draft Plan would, if implemented, ensure that development projects in the Plan area would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would these projects conflict with the City's GHG Reduction Strategy. Therefore, the draft Plan would be consistent with the GHG Reduction Strategy, and effects of Plan implementation related to GHG emissions would be less than significant.

Mitigation: None required.

Transit Tower

The proposed project would be required to comply with the local ordinances and regulations discussed above, including the Green Building Ordinance and Mandatory Recycling and Composting Ordinance and employer provision of transit benefits to employees, as well as the *Planning Code* limitation on the amount of on-site parking and *Planning Code* requirements for the provision of bicycle parking and showers and lockers; transportation management and transportation brokerage services; and planting of street trees; as well as transit development impact fees under Article 38 of the *Administrative Code*. In addition, as noted in the Project Description, the Transit Tower is proposed for LEED Gold (Version 2.2) certification, which would reduce energy consumption and water use (and thereby reduce emissions from electricity production and consumption of natural gas for heating) to levels below what would otherwise be used with traditional construction.

Impact GG-2: The proposed Transit Tower would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment, nor would the project conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. (Less than Significant)

In its *CEQA Air Quality Guidelines*, the BAAQMD recommends that the determination of the significance of a project's contribution to climate change be evaluated by comparing the project to the applicable jurisdiction's Climate Action Plan or equivalent policy framework; where the project is found consistent, the project would have a less-than-significant impact. In the absence of such a conclusion, the BAAQMD recommends a quantitative threshold of 1,100 metric tons per year or a "service population" (residents plus employees) threshold of 4.6 metric tons per year per person.[274]

[274] BAAQMD, CEQA Guidelines, May 2011 (see footnote 205, p. 373).

This evaluation relies on the proposed BAAQMD approach to determining significance, and also follows the State CEQA Guidelines, as revised in 2010, which provide general direction with regard to analysis of GHG emissions. These revisions include a new section (Sec. 15064.4) specifically addressing the significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions; Section 15064.4 further states that the significance of GHG impacts should include consideration of the extent to which the project would increase or reduce greenhouse gas emissions; exceed a locally applicable threshold of significance; and comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The revisions also state that a project may be found to have a less-than-significant impact if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (Sec. 15064(h)(3)).

The following analysis evaluates the proposed Transit Tower for consistency with the City's GHG Reduction Strategy and also presents a quantification of estimated project GHG emissions.

As noted above under Regulatory Setting, p. 435, the Planning Department has developed a Greenhouse Gas Analysis Compliance Checklist for use in evaluating a project's consistency with the City's GHG Reduction Strategy, which the BAAQMD has determined is a "Qualified GHG Reduction Strategy" for purposes of assessing the significance of GHG emissions in the context of the BAAQMD's *CEQA Air Quality Guidelines.*

Table 38 presents City regulations and programs that are referenced in the GHG Reduction Strategy and that are applicable to the proposed Transit Tower project. Because the proposed Transit Tower would be consistent with these requirements and programs, the project would be consistent with the City's GHG Reduction Strategy, and thus GHG emissions from the proposed project would be less than significant.

Moreover, as infill development, the proposed project would be constructed in an urban area with good transit access, reducing regional vehicle trips and vehicle miles traveled, and therefore the project's transportation-related GHG emissions would tend to be less relative to the same amount of population and employment growth elsewhere in the Bay Area, where transit service is generally less available than in the central city of San Francisco.[275] Additionally, through the process of LEED® Certification under the Gold category and the project's "green" building components and compliance with the City's regulations discussed above, GHG emissions produced by the proposed project would be reduced compared to what would otherwise be the case for conventional construction. Moreover, the project would generate 3.7 metric tons of CO_2E/year per service population (employee). Given that San Francisco has implemented binding and enforceable programs to reduce GHG emissions applicable to the proposed project and that San Francisco's sustainable policies have resulted in the measured success of reduced GHG emissions levels, the proposed project's GHG emissions would result in a less than significant impact.

[275] The California Air Pollution Control Officers' CEQA and Climate Change (January 2008) white paper identifies infill development as yielding a "high" emissions reduction score (between 3-30%). This paper is available online at: http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf. Accessed April 15, 2008.

TABLE 38
CITY GHG REGULATIONS APPLICABLE TO THE PROPOSED TRANSIT TOWER PROJECT

Regulation or Program	Requirement	Project Consistency
Commuter Benefits Ordinance (*Environment Code*, Section 421)	Employers in the proposed new building with more than 20 employees in San Francisco would be required to provide at least one of the following programs: 1. A Pre-Tax Election consistent with 26 U.S.C. § 132(f), allowing employees to elect to exclude from taxable wages and compensation, employee commuting costs incurred for transit passes or vanpool charges, or (2) Employer Paid Benefit whereby the employer supplies a transit pass for the public transit system requested by each Covered Employee or reimbursement for equivalent vanpool charges at least equal in value to the purchase price of the appropriate benefit, or (3) Employer Provided Transit furnished by the employer at no cost to the employee in a vanpool or bus, or similar multi-passenger vehicle operated by or for the employer.	Applies to individual employers, not a project (building) as a whole. All employers in the Transit Tower with more than 20 employees would be required by law to participate. Therefore, the project would be consistent with this requirement.
Emergency Ride Home Program	Administered by the San Francisco Department of the Environment, this program allows participating employers to be reimbursed by the Department for the cost to reimburse employees who travel to work by transit, carpool, bicycle, or other method other than single-occupancy auto and who are unable to return home by their normal travel means due to unexpected circumstances.	Applies to individual employers, not a project (building) as a whole. Employers located in the Transit Tower could participate voluntarily. Therefore, the project would be consistent with this program.
Transportation Management Programs (*Planning Code*, Section 163)	Requires new buildings or additions of greater than 100,000 square feet in the C-3 Use District, including the proposed project, to implement a Transportation Management Program and provide on-site transportation management brokerage services for the life of the building. The program must be designed to promote transit and ridesharing, reduce parking demand, and allow for flexible work schedules.	The Transit Tower would be required by law to implement a Transportation Management Program. Therefore, the project would be consistent with this requirement. [COA-CO]
Transit Impact Development Fee (*Administrative Code*, Chapter 38)	Establishes a fee of $5.00 per square foot for downtown office space and $10.00 per square foot for retail space, paid to the Municipal Transportation Agency to improve local transit services.	The Transit Tower would be required by law to pay this fee. Therefore, the project would be consistent with this requirement.
Jobs-Housing Linkage Program (*Planning Code* Section 413)	The Jobs-Housing Linkage Program is designed to provide housing for those new uses within San Francisco, thereby allowing employees to live close to their place of employment. The program requires a developer to pay a fee or contribute land suitable for housing to a housing developer or pay an in-lieu fee.	The Transit Tower would be required by law to comply with this section of the *Planning Code*. Therefore, the project would be consistent with this requirement. [COA-BP]
Bicycle Parking (*Planning Code*, Section 155.4)	For office uses of 10,000 – 20,000 square feet, 3 bicycle spaces are required; for 20,000– 50,000 square feet, 6 bicycle spaces are required. For floor area in excess of 50,000 square feet, 12 bicycle spaces are required. For retail uses of 25,000– 50,000 feet, 3 bicycle spaces are required. For 50,000 – 100,000 feet, 6 bicycle spaces are required. For floor area in excess 100,000 square feet, 12 bicycle spaces are required. The draft Transit Center District Plan would increase required bicycle parking for office buildings larger than 50,000 square feet to one space for every 6,000 square feet.	The Transit Tower would provide approximately 225 bicycle spaces, which would exceed the requirement of Planning Code Section 155.4(d), and would meet the proposed requirement of the draft Transit Center District Plan. [COA-CO]
Bicycle parking in parking garages (*Planning Code*, Section 155.2)	Every garage must provide at least 6 bicycle spaces. Garages with 120 – 500 automobile spaces must provide 1 bicycle space for every 20 auto spaces. Garages with more than 500 auto spaces must provide 25 bicycle spaces plus 1 space for every 40 auto spaces in excess of 500, up to a maximum of 50 bicycle spaces.	No parking garages are proposed within the Plan area, with the possible exception of some portion of the Transit Tower parking garage, which may be classified as a Major Parking Garage. Any parking garages proposed must comply with this requirement. (Parking proposed in new buildings would typically be accessory parking.)

TABLE 38 (continued)
CITY GHG REGULATIONS APPLICABLE TO THE PROPOSED TRANSIT TOWER PROJECT

Regulation or Program	Requirement	Project Consistency
Bicycle parking in Residential Buildings (*Planning Code*, Section 155.5)	For projects up to 50 dwelling units, one Class 1 space for every 2 dwelling units. For projects over 50 dwelling units, 25 Class 1 spaces plus one Class 1 space for every 4 dwelling units over 50.	Not applicable to the proposed Transit Tower, which would contain no residential units.
Car Sharing Requirements (*Planning Code*, Section 166)	New residential projects or renovation of buildings being converted to residential uses and new non-residential buildings are required to provide car share parking spaces if parking is provided.	The proposed Transit Tower would be required to provide a minimum of 6 car-share spaces for its 300 parking spaces, to comply with this section of the *Code*.
San Francisco Green Building Requirements for Energy Efficiency (*Building Code*, Chapter 13C)	Projects such as the proposed Transit Tower that are registered under LEED v2.2 must use the published LEED v2.2 rules to demonstrate the proposed building has an annual energy cost at least 14.0% less than a LEED baseline building.	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement. As a LEED Gold building, the proposed Transit Tower would comply with this requirement.
San Francisco Green Building Requirements for Stormwater Management (*Building Code*, Chapter 13C)	All projects in San Francisco are required to comply with the SFPUC's stormwater design guidelines, which emphasize low impact development using a variety of Best Management Practices for managing stormwater runoff and reducing impervious surfaces, thereby reducing the volume of combined stormwater and sanitary sewage requiring treatment. The proposed project would comply with this requirement.	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement. As a LEED Gold building, the proposed Transit Tower would comply with this requirement.
San Francisco Green Building Requirements for water reduction (*Building Code*, Chapter 13C)	New large commercial buildings (over 25,000 square feet), such as the proposed project, are required to reduce the amount of potable water used for landscaping by 50% and reduce the amount of potable water used for the building by 20% (increasing to 30% in 2011), compared to conventional construction (baseline fixture performance requirements of the federal Energy Policy Act of 1992).	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement. As a LEED Gold building, the proposed Transit Tower would comply with these requirements.
San Francisco Green Building Requirements for renewable energy (*Building Code*, Chapter 13C)	These provisions require that a LEED version 2.2 certified building be documented to use 14% less energy than a convention building.	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement. As a LEED Gold building, the proposed Transit Tower would comply with this requirement.
Commercial and Residential Water Conservation Ordinances (*Building Code*, Chapters 13A and Housing Code, Chapter 12A)	Requires projects to meet minimum standards for water conservation, including use of low-flow (2.5 gallons per minute [gpm]) showerheads, use of no more than one showerhead per valve, use of low-flow (2.2 gpm) faucets, use of low-flow toilets (1.6 gal./flush) and urinals (1 gal./flush), and repair of all water leaks.	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement. As a LEED Gold building, the proposed Transit Tower would comply with these requirements.
San Francisco Green Building Requirements for solid waste (*Building Code*, Chapter 13C)	Pursuant to Section 1304C.0.4 of the Green Building Ordinance, all new construction, renovation and alterations subject to the ordinance are required to provide recycling, composting and trash storage, collection, and loading that is convenient for all users of the building.	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement. As a LEED Gold building, the proposed Transit Tower would comply with this requirement.
Mandatory Recycling and Composting Ordinance (*Environment Code*, Chapter 19)	All persons in San Francisco must separate their refuse into recyclables, compostables, and trash, and place each type of refuse in a separate container designated for that type of refuse.	The Transit Tower would be required by law to comply with the *Environment Code*. Therefore, the project would be consistent with this requirement.

TABLE 38 (continued)
CITY GHG REGULATIONS APPLICABLE TO THE PROPOSED TRANSIT TOWER PROJECT

Regulation or Program	Requirement	Project Consistency
San Francisco Green Building Requirements for construction and demolition debris recycling (*Building Code*, Chapter 13C)	Large buildings (over 25,000 square feet), such as the proposed project, must divert at least 75% of construction debris from landfills.	The Transit Tower would be required by law to comply with the *Building Code*. Therefore, the project would be consistent with this requirement.
Construction Demolition and Debris Recovery Ordinance (*Environment Code*, Chapter 14)	This ordinance requires that at least 65 percent of all construction and demolition material to be diverted from landfills.	The Transit Tower would be required by law to comply with the *Environment Code*. As noted above, the proposed Transit Tower would be subject to the more stringent Green Building requirements of the *Building Code*, and so would also comply with this requirement.
Street Tree Planting Requirements for New Construction (*Planning Code* Section 138.1(c)(1))	New construction, significant alterations or relocation of buildings within many of San Francisco's zoning districts requires planting one 24-inch box tree for every 20 feet along the property street frontage.	The Transit Tower would be required by law to comply with the *Planning Code*. The proposed project would include planting of new street trees on the First and Mission Street project frontages, consistent with *Planning Code* requirements, and would also include street trees on the Fremont Street frontage of the proposed Mission Square open space. Therefore, the project would be consistent with this requirement.
Regulation of Diesel Backup Generators (*Health Code*, Article 30)	Requires (among other things) that all diesel generators to be registered with the Department of Public Health and be equipped with the best available air emissions control technology.	The Transit Tower would be required by law to comply with the *Health Code*. Therefore, the project would be consistent with this requirement.

NOTES:
COA-BP – This requirement would be made a Condition of Approval by the Planning Commission if the project is approved, and the condition would have to be met prior to issuance of a Building or Site Permit, or Final Addendum thereto.
COA-CO – This requirement would be made a Condition of Approval by the Planning Commission if the project is approved, and the condition would have to be met prior to issuance of a Certificate of Occupancy.

As noted above, this analysis also quantifies estimated GHG emissions. The calculation presented below includes CO_2E GHG emissions from the construction period, as well as annual CO_2E GHG emissions from increased vehicular traffic and energy consumption, including both natural gas and electricity, from electricity used to transport water and treat wastewater, and from solid waste generation.

The proposed project would increase the activity onsite by developing a new 61-story building containing approximately 1.35 million square feet of office space and about 16,500 square feet of retail space. Therefore, the proposed project would contribute to annual long-term increases in GHGs as a result of traffic increases (mobile sources) and commercial operations associated with heating, energy use, water usage and wastewater treatment, and solid waste disposal (area sources). Construction of the proposed project would emit approximately 3,634 metric tons (4,005 U.S. tons) of CO_2E.[276] Annualized over a 40-

276 Construction emissions and annual emissions are not intended to be additive as they occur at different points in the project's lifecycle. Construction emissions are one-time emissions that occur prior to building occupancy. Annual emissions are incurred only after construction of the proposed project and are expected to occur annually for the life of the project.

year lifespan of the proposed building (a conservative assumption, as many buildings last far longer), construction emissions would total approximately 91 metric tons per year.

Direct project CO_2E emissions (including CO_2, methane, and nitrous oxide emissions) would include approximately 4,522 metric tons (4,983 U.S. tons) of CO_2E/year from transportation and about 1,339 metric tons (1,476 U.S. tons) of CO_2E/year from heating, for a total of about 5,861 metric tons (6,459 U.S. tons) of CO_2E/year of project-emitted GHGs. The project would also indirectly result in GHG emissions from off-site electricity generation at power plants (approximately 6,140 metric tons, or 6,776 U.S. tons, of CO_2E/year, including electricity associated with water transport and treatment) and about 4,713 metric tons (5,194 U.S. tons) of CO_2E from anaerobic decomposition at landfills, for a GHG operational emissions total of approximately 16,714 metric tons (about 18,419 U.S. tons of CO_2E/year. Annual emissions would represent two-tenths of one percent (0.02 percent) of total Bay Area GHGs emitted in 2007.[277] GHG emissions are shown in **Table 39**.

TABLE 39
TRANSIT TOWER TOTAL CO_2-EQUIVALENT EMISSIONS (METRIC TONS/YEAR)[1]

Transportation	4,522
Heating	1,339
Water and Wastewater	58
Electricity Generation	6,082
Solid Waste[2]	4,713
Total Operation Emissions (CO_2E) (annual)	**16,714**
Annual Operational Emissions per Service Population[3]	**3.4**
Total Construction Emissions (CO_2E) (one-time)	**3,634**
Annualized Construction Emissions[4]	**90.9**

[1] Emissions are unmitigated.
[2] Solid waste emissions conservatively assume 50 percent diversion from landfill.
[3] Service population emissions based on total project employment of approximately 4,938.
[4] Based on assumed 40-year lifetime of proposed building.

SOURCE: Environmental Science Associates, 2011

As noted in Table 39, project emissions of GHGs would exceed the 1,100 metric tons per year threshold, but would fall below 4.6 metric tons per year per service population. Therefore, the proposed project would not exceed the BAAQMD's proposed significance threshold. This is indicative of the fact that development in San Francisco, with its extensive transit network, limited parking, mix of uses, and proximity of services is, in general, inherently more likely to generate a reduced volume of GHG emissions than development of a comparable project elsewhere in the Bay Area, where the foregoing factors are less prevalent or lacking.

To the extent feasible, the emissions presented above incorporate assumptions regarding emission reductions due to compliance with the City's regulations that would reduce project GHG emissions.

277 The Bay Area Air Quality Management District reported regional Bay Area GHGs emissions in 2007 at approximately 95.8 MMT (105.3 million U.S. tons) CO2E.

Specifically, the proposed project would include the features described in Table 38, which would result in a reduction in GHG emissions.

As noted above in the discussion of the Regulatory Setting, the AB 32 Scoping Plan states that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The Air Resources Board acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. While some of the GHG reduction measures contained in the Scoping Plan, such as increasing energy efficiency in new construction, installation of solar panels on individual building roofs, and a "green building" strategy, are at least partially applicable to development projects, many measures in the Scoping Plan (increased fuel efficiency, increased efficiency by utilities, increased use of renewable energy) require statewide action by government, industry, or both, that is outside the purview of the City and individual developers.

As described above, the City has developed its own strategy to address greenhouse gas emissions on a local level. The vision of the strategy is expressed in the City's Climate Action Plan, however implementation of the strategy is appropriately articulated within other citywide plans (*General Plan,*

Sustainability Plan, etc.), policies (Transit-First Policy, Precautionary Principle Policy), and regulations (Green Building Ordinance, *Building Code*, *Planning Code*), and other provisions as well.

The proposed project would be required to comply with all San Francisco ordinances and regulations that are aimed at reducing GHG emissions (see Table 38). The project would also be required to comply with other GHG reduction regulations, such as applicable AB 32 Scoping Plan measures that are ultimately adopted and become effective during implementation of proposed project. Given that the City has adopted an extensive array of GHG reduction strategies recommended in the AB 32 Scoping Plan, that the City's GHG reduction strategy includes binding, enforceable measures to be applied to development projects, such as the proposed project, and that the City's GHG reduction strategy has produced measurable reductions in GHG emissions, the proposed project would not conflict with either the state or local GHG reduction strategies. In addition, the proposed project would not conflict with any plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, the proposed project would have a less than significant impact with respect to plans for reduction of GHG emissions.

Mitigation: None required.

I. Wind

This section describes potential wind effects of the proposed project, based upon wind-tunnel testing and computational analysis of the potential changes in building massing in the Plan area.[278]

Setting

Tall buildings and structures can strongly affect the wind environment for pedestrians. Groups of structures tend to slow the winds near ground level, due to the friction and drag of the structures themselves on winds. Buildings that are much taller than their surrounding buildings intercept and redirect winds that might otherwise flow overhead, and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence. These redirected winds can be relatively strong and also relatively turbulent, and can be incompatible with the intended uses of nearby ground-level spaces. In addition, building designs that present tall flat surfaces square to strong winds can create ground-level winds that can prove to be hazardous to pedestrians in the vicinity.

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to 4 miles per hour (mph) have no noticeable effect on pedestrian comfort. With velocity from 4 to 8 mph, wind is felt on the face. Winds from 8 to 13 mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole, while winds from 13 to 19 mph will raise loose paper, dust and dry soil, and will disarrange hair. For wind velocities from 19 to 26 mph, the force of the wind will be felt on the body. At 26 to 34 mph, umbrellas are used with difficulty; hair is blown straight; there is difficulty in walking steadily; and wind noise is unpleasant. Winds over 34 mph increase difficulty with balance and gusts can blow people over.

Regulatory Framework

In order to provide a comfortable wind environment for people in San Francisco, the City has established comfort criteria to be used in the evaluation of proposed buildings. Section 148 of the *Planning Code* specifically outlines these criteria for the Downtown Commercial (C-3) Districts, including the project site.[279] The comfort criteria are based on pedestrian-level wind speeds that include the effects of turbulence; these are referred to as "equivalent wind speeds" (defined in the *Planning Code* as "an hourly mean wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians").

Planning Code Section 148 establishes equivalent wind speeds of 7 mph as the comfort criterion for seating areas and 11 mph as the comfort criterion for areas of substantial pedestrian use, and states that new buildings and additions to buildings may not cause ground-level winds to exceed these levels more

278 Rowan Williams Davies & Irwin, Inc., *Pedestrian Wind Study: Transit Tower,* June 24, 2011. This report is presented in Appendix E.

279 Additional *Planning Code* sections apply the same criteria to the Rincon Hill, Van Ness Avenue, and South of Market areas.

than 10 percent of the time year round between 7:00 a.m. and 6:00 p.m.[280] If existing wind speeds exceed the comfort level, or when a project would result in exceedances of the comfort criteria, an exception may be granted, pursuant to Section 309, if the building or addition cannot be designed to meet the criteria "without creating an unattractive and ungainly building form and without unduly restricting the development potential" of the site, and it is concluded that the exceedance(s) of the criteria would be insubstantial "because of the limited amount by which the comfort level is exceeded, the limited location in which the comfort level is exceeded, or the limited time during which the comfort level is exceeded." Section 148 also establishes a hazard criterion, which is a 26 mph equivalent wind speed for a single full hour, or approximately 0.0114% of the time. Under Section 148, new buildings and additions may not cause wind speeds that meet or exceed this hazard criterion.[281] Under Section 148, no exception may be granted for buildings that result in winds that exceed the hazard criterion.[282]

Section 148 applies to approval of individual development projects, but not to areawide plans such as the draft Plan. Because wind conditions in the Plan area will be affected by the combination of building forms resulting from existing and future buildings, a planning-level study, using computational fluid dynamics, supplemented by knowledge gleaned from wind-tunnel analysis of certain projects in the Plan area (including the proposed Transit Tower), is considered an appropriate methodology for evaluation of areawide wind impacts.

Project-specific wind-tunnel test results are provided for the Transit Tower, which this EIR evaluates at a project level of detail. This wind-tunnel test included a cumulative scenario that is used to evaluate effects of the draft Plan in the portion of the Plan area within about one block of the Transit Tower site, consistent with accepted wind-tunnel testing methodology.

It is also noted that individual building projects that are subsequently considered for approval will be required to comply with Section 148, and that subsequent high-rise buildings will undergo project-specific wind-tunnel testing.

280 The *Planning Code* specifies the hours of 7:00 a.m. to 6:00 p.m. In contrast, the available weather data, as aggregated, cover the hours of 6:00 a.m. to 8:00 p.m. Thus, observations from two additional evening hours and one additional morning hour are included in the wind speed distribution data.

281 Because the hazard criterion is stated in terms of 1 hour of exceedance, it is most appropriate to report exceedances of this criterion in terms of the number of hours per year that the excess occurs, rather than the accompanying wind speeds. Thus, for each wind analysis, the number of locations and the total sum of the durations of exceedances of the hazard criterion are important measures of effect. This differs from reporting of both comfort criteria, for which wind speeds exceeded 10% of the time are examined and presented, but statistics other than the number of locations are not detailed.

282 The comfort criteria are based on wind speeds that are measured for one minute and averaged. In contrast, the hazard criterion is based on winds that are measured for one hour and averaged; when stated on the same basis as the comfort criteria winds, the hazard criterion speed is a one-minute average of 36 mph, to distinguish between the wind comfort conditions and hazardous winds. Therefore, the hazard criterion is reported here as 36 mph, because the results are therefore consistent across test scenarios.

Existing Wind Conditions

For purposes this analysis, the new Transit Center, which is currently under construction, is considered part of the "existing setting" in order that the wind analysis most accurately represent the changes that would occur as a result of implementation of the proposed Plan and the Transit Tower.

Transit Center District Plan Area

In general, based on the wind-tunnel testing for the Transit Tower and previous tests for other projects in the vicinity, the northern portion of the Plan area is windier than the southern portion: areas along Market Street and on the blocks of streets perpendicular to and just south of Market Street have higher winds than areas south of the new Transit Center site. This is a common phenomenon along Market Street, where the street grids north and south of Market Street join together. The offsetting street grids result in downwind buildings south of Market Street facing directly into northerly and westerly winds that are channeled along north-of-Market streets; when these winds reach the facades of tall south-of-Market buildings, the winds tend to accelerate as they move down the building walls, resulting in relatively higher winds at pedestrian level in this part of the Plan area. Moreover, winds tend to be accelerated along Market Street by the tall towers that line both sides of the street. Winds are somewhat less strong in the center portion of the block of Market Street between First and Second Streets, where closely spaced buildings block some of the oncoming wind flow. This blockage, however, results in relatively high turbulence between the buildings within this area, and relatively stronger winds around the perimeter.

In contrast to the northern part of the Plan area, the southern part of the Plan area has relatively fewer tall buildings to intercept the winds and bring them down to ground level. Accordingly, pedestrian wind speeds are lower south of the new Transit Center site. Some areas of the western edge of the Plan area also experience relatively stronger winds because southwesterly winds, in particular, are first intercepted by tall buildings just west of the Plan area, along Third Street (buildings southwest of Third Street are considerably shorter, for the most part), resulting in turbulence and sometimes strong winds, particularly around the base of the most western tall buildings, such as the two residential/hotel towers at Third and Mission Streets, the W Hotel at Third and Howard Street, and the former Pacific Telephone Building on New Montgomery Street.

Additional information about existing wind conditions is provided in the following discussion of the area around the Transit Tower project site.

Transit Tower Project Site

Wind-tunnel testing was conducted for the proposed Transit Tower. Under the existing setting, the vicinity of the Transit Tower project site is moderately windy; the average wind speed for the 172 points tested for existing conditions is 9.3 mph.[283] Wind speeds in pedestrian areas range from 5 to 24 mph, and

283 "Wind speed" refers to equivalent wind speed (including the effects of turbulence) that is exceeded 10 percent of the time.

in seating areas, from 6 to 20 mph.[284] Wind speeds in excess of the 11-mph pedestrian comfort criterion currently occur at 18 of the 102 locations tested (17 percent of sidewalk locations tested) and exceedances of the 7-mph seating comfort criterion currently occur at 90 percent (62 of 69) of the seating locations tested (winds at five of these locations also exceed the 11-mph pedestrian criterion), for a total of 80 exceedances of the Section 148 wind speed criteria (47 percent of all points tested under existing conditions). Of 50 test points in the City Park, wind speeds exceed the 7-mph seating criterion at 45, or 90 percent of the test points. The highest wind speed in the vicinity (24 mph) occurs on the south sidewalk of Mission Street east of Second Street, between the existing high-rise buildings at 101 Second Street and 555 Mission Street, and across the street from 560 Mission Street [test point #149]. Test points are shown on Figure 58, p. 455, in the impacts section.

The Code's wind hazard criterion of 26 mph (reported as 36 mph in the test results)[285] is exceeded at a single test location under existing conditions—the location on Mission Street east of Second Street.

Impacts

Significance Criteria

Wind impacts of the draft Plan would be considered significant if development pursuant to the Plan would cause large increases in pedestrian wind speeds or wind speeds in publicly accessible open spaces over a substantial portion of the Plan area.

The Transit Tower project would have a significant wind impact if it would cause the 26-miles-per-hour wind hazard criterion to be exceeded for more than one hour per year. A project that would cause exceedances of the comfort criteria, but not the wind hazard criterion, would not be considered to have a significant impact.

Methodology

As noted in the Setting, two separate analyses were conducted to evaluate wind conditions in the Plan area and potential wind effects of implementation of the draft Plan and development of the proposed Transit Tower. For the Transit Tower, the analysis used the same approach as is used in analyses routinely conducted for tall structures in San Francisco. This methodology involves testing of the proposed project in a wind tunnel. To undertake the test, a scale model of the proposed building is created, in this instance at a scale of 1 inch equals approximately 33 feet. (The resulting Transit Tower model is therefore approximately 32 inches tall.) A scale model is also created for each surrounding building and, where applicable, topography, for a circular area within a radius of approximately

284 For purposes of this analysis, all privately owned, publicly accessible open spaces are considered seating areas, even if they are effectively passageways between buildings, with no provision for formal seating. Pedestrian areas include all sidewalks. Thus, the analysis is conservative. Because the existing condition includes the new Transit Center, there are 50 test points in the City Park open space atop the Transit Center, covering the entire park except the western edge, which was deemed too close to the edge of the test model to attain accurate results.

285 See footnote 282, p. 450.

1,500 feet of the project site. The model is fitted with sensors that measure wind speeds and placed inside a device known as a wind tunnel, where fan-generated air flow is used to simulate actual winds. As noted above, the sensors are placed at distances representing locations no further than about one block (about 800 feet) from the center of the model. This is because locations closer to the edges of the model, and particularly locations near the upwind edges, can report wind speeds with less accuracy, since they are not adequately "protected" by upwind building masses that exist beyond the edge of the model. Because actual winds blow from variable directions and the wind tunnel can test only one direction at a time, a series of tests is run to simulate winds blowing from different directions, and the sensor readings are then run through a computer program to generate the ultimate results.

To satisfy the criteria of *San Francisco Planning Code* Section 148, two sets of results are produced: one that indicates, for each test location, the wind speed that is exceeded 10 percent of the time, year-round, and the second, that indicates whether a wind speed of 26 miles per hour is exceeded for one full hour of the year. The former results determine whether the project would meet the *Planning Code's* "comfort criteria," while the latter results determine whether the project would cause an exceedance of the *Code's* "hazard criterion." As stated above, a significant impact would occur if the hazard criterion is exceeded.

The wind-tunnel test built upon testing that was conducted of the new Transit Center in 2010 for the Transbay Joint Powers Authority, which is building the new terminal. As noted above in the Setting, the new Transit Center is considered part of the "existing setting" in the wind analysis in this EIR. This is consistent with the approach to wind-tunnel testing in San Francisco, which includes buildings that are under construction as part of the existing condition, because those buildings can normally be assumed to have been completed by the time that a project under analysis will be built. Therefore, and in order that the wind analysis most accurately represent the effect of the Transit Tower and other growth pursuant to the draft Plan, the Transit Center is included in the existing conditions scenario.

Under the existing conditions scenario, 171 individual locations were tested on sidewalks and in publicly accessible, primarily privately owned, open spaces in the vicinity of the Transit Tower site, including 50 locations in the City Park that will be developed atop the Transit Center. For the project (Transit Tower) and cumulative (Transit Center District Plan) scenarios, an additional 35 test locations were included. Ten of these locations were around the base of the Transit Tower and, when added to the 14 points also tested in the existing condition, allow for a detailed characterization of anticipated winds around the base of the tower. Most of the other added test points are at locations north of Mission Street that are generally upwind or "crosswind" of the Transit Tower site but within the Plan area. Additionally, a few additional points were added in publicly accessible open spaces to evaluate winds in those locations.

For the Plan area as a whole, the wind-tunnel analysis also provided information with respect to wind conditions in the central portion of the area, in the vicinity of the Transit Tower site, relying on the cumulative scenario from the wind-tunnel test. This cumulative scenario includes generalized massing models of all buildings currently proposed within the Plan area; generalized massing models on other Plan area sites assumed to be developed; and massing models of projects near the Plan area that are

either proposed or anticipated to be developed (i.e., are considered "reasonably foreseeable"). The wind-tunnel analysis was supplemented, for the outlying portions of the Plan area, by a planning-level, computational (i.e., computer-based, as opposed to measurement-based) wind study. This analysis results in qualitative, rather than quantitative, results (i.e., winds are described in relative terms, with areas characterized as having "low," "moderate," or "high" winds, but without actual wind speeds calculated). This analysis considers factors including regional meteorological data, previous wind tunnel studies undertaken in the vicinity, and the analysts' engineering judgment and knowledge of wind flows around buildings, and makes use of specialized computer software developed for estimating the potential wind conditions around generalized building forms and a Computational Fluid Dynamics software for visualizing wind flow patterns.[286] For this analysis, generalized building massing models were studied.

It is noted that the results of this planning-level study do not, and are not intended to, satisfy the criteria of *Planning Code* Section 148. Pedestrian-level wind speeds are dependent on specific building designs and surrounding conditions at the time of development, so the programmatic analysis does not lend itself to wind speed computation. This EIR is not intended to analyze the impacts of specific development proposals (other than the Transit Tower), including building form, but rather to assess the effects of adoption and implementation of the draft Plan. Each individual building proposed for development in the Plan area that is tall enough to result in potential adverse wind impacts will be required to undergo project-specific (and design-specific) wind-tunnel testing, just as was undertaken for the proposed Transit Tower. Nevertheless, it is anticipated that cumulative conditions in the vicinity of a particular project will be able to be derived from this analysis.

Because the wind-tunnel test is the basis for this analysis, in this section, unlike the remainder of this EIR, the project-specific analysis of the proposed Transit Tower is presented first.

Wind-Tunnel Analysis

Transit Tower Project Analysis

Impact WI-1: The proposed Transit Tower would not result in a new exceedance of the wind hazard criterion. (Less than Significant)

Wind tunnel testing was performed for the proposed project, the results of which are summarized in the following discussion.[287] **Table 40** presents a summary of the test results. **Figure 58**, p. 455, depicts the wind test point locations. The complete report describing the wind-tunnel test results is included in Appendix E.

286 Rowan Williams Davies & Irwin, Inc., *Transit Center District Plan Final Report: Pedestrian Wind Assessment,* April 29, 2011. This report is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E.

287 Rowan Williams Davies & Irwin, Inc., *Pedestrian Wind Study: Transit Tower,* June 24, 2011. This report is presented in Appendix E.

TABLE 40
SUMMARY OF WIND-TUNNEL TEST RESULTS

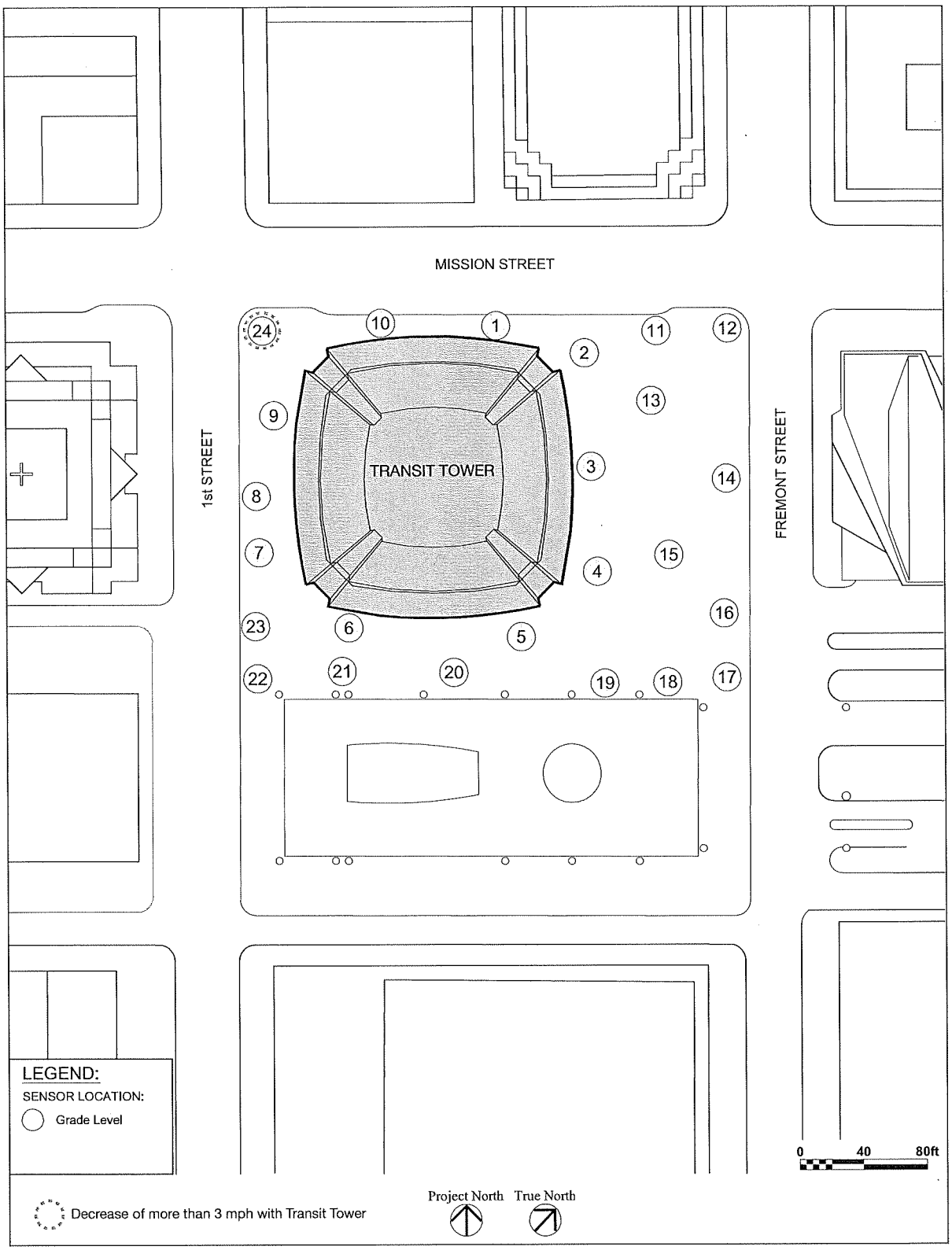
	Existing		Existing plus Transit Tower							Existing plus Transit Tower plus Cumulative (Draft Plan)										
					Change from Existing[3]							Change from Existing[3]					Change from Tower Only[3]				
	Speed[1]	Exceed-ances[2]	Speed[1]	Exceed-ances[2]	Speed[1]	+	-	0	>3	Speed[1]	Exceed-ances[2]	Speed[1]	+	-	0	>3	Speed[1]	+	-	0	>3
All Test Points																					89
	9.3	80	9.8	101	0.5	84	56	32	7	10.9	117	1.5	95	59	18	42	1.0	89	76	42	39
No. of pts.	172	47%	207	49%						207	57%										
Max. Spd.	24		19							20											
Min. Spd.	5		4							4											
City Park Test Points																					
	8.7	45	9.9	37	1.1	34	13	3	5	12.5	45	3.8	40	5	5	22	2.6	26	14	10	20
No. of pts.	50	90%	50	74%						50	90%										
Max. Spd.	12		14							20											
Min. Spd.	6		4							5											
Other Open Space Test Points																					
	11.8	17	11.7	34	-0.1	10	7	3	0	11.3	32	-0.6	7	11	2	1	-0.5	7	17	12	0
	20	85%	36	94%						36	89%										
Max. Spd.	24		19							18											
Min. Spd.	7		7							6											
Sidewalk Points																					
	9.3	18	9.4	30	<0.1	59	37	26	21	10.2	40	0.8	67	44	11	38	0.8	56	46	20	19
No. of pts.	103	17%	122	25%						122	33%										
Max. Spd.	24		19							19											
Min. Spd.	5		4							4											

[1] Speed refers to wind speed exceeded 10 percent of the time; in miles per hour

[2] Exceedances indicates number of exceedances of applicable Planning Code Section 148 comfort criteria, and percentage of test points that exceed the criteria.

[3] + / - / 0 indicate number of points where speed increases / decreases / does not change from previous scenario. >3 indicates number of points where speed increase by more than 3 mph.

SOURCE: RWDI, Environmental Science Associates

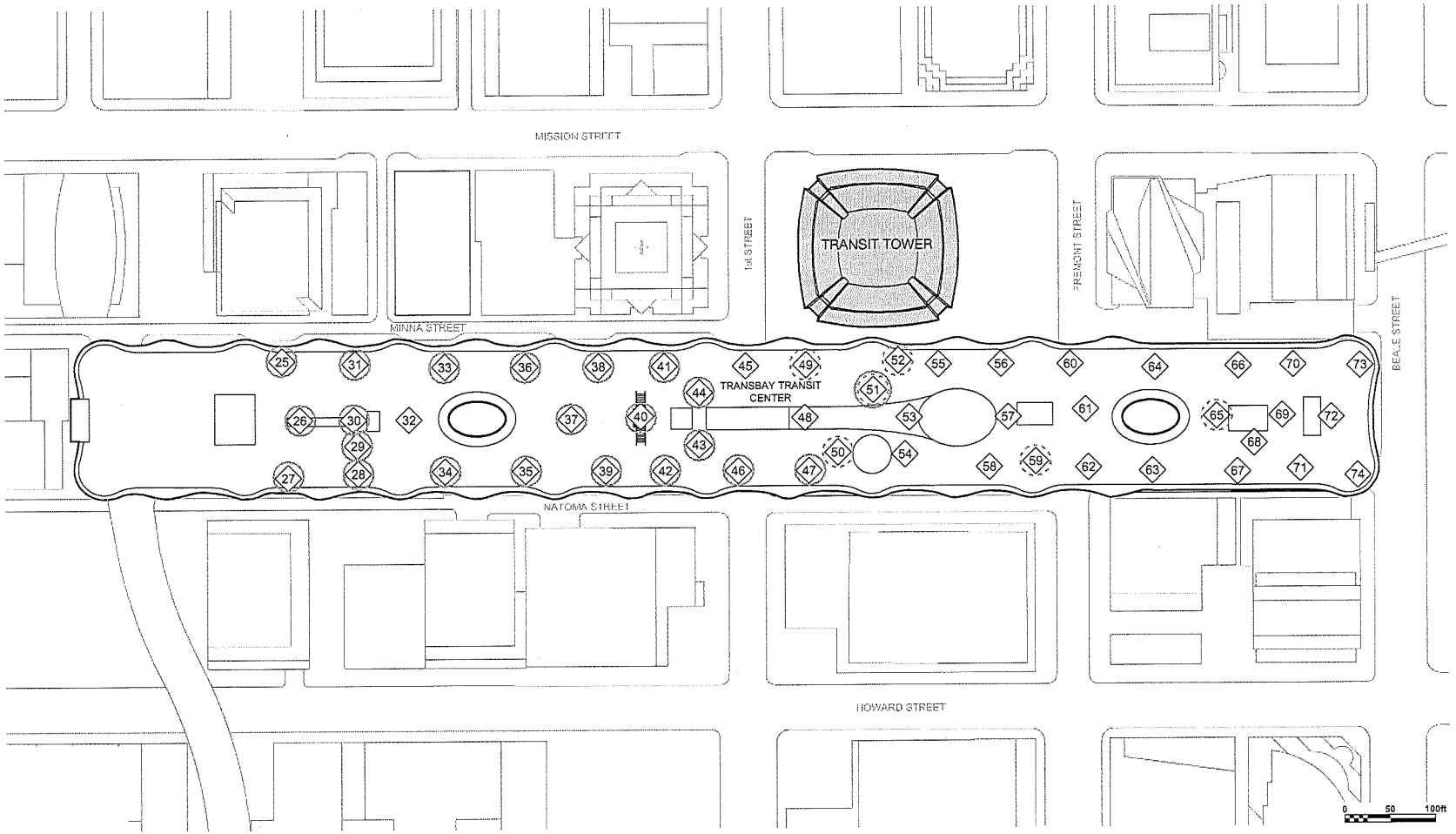


SOURCE: RWDI

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 58A

Wind Tunnel Test Points - Mission Square



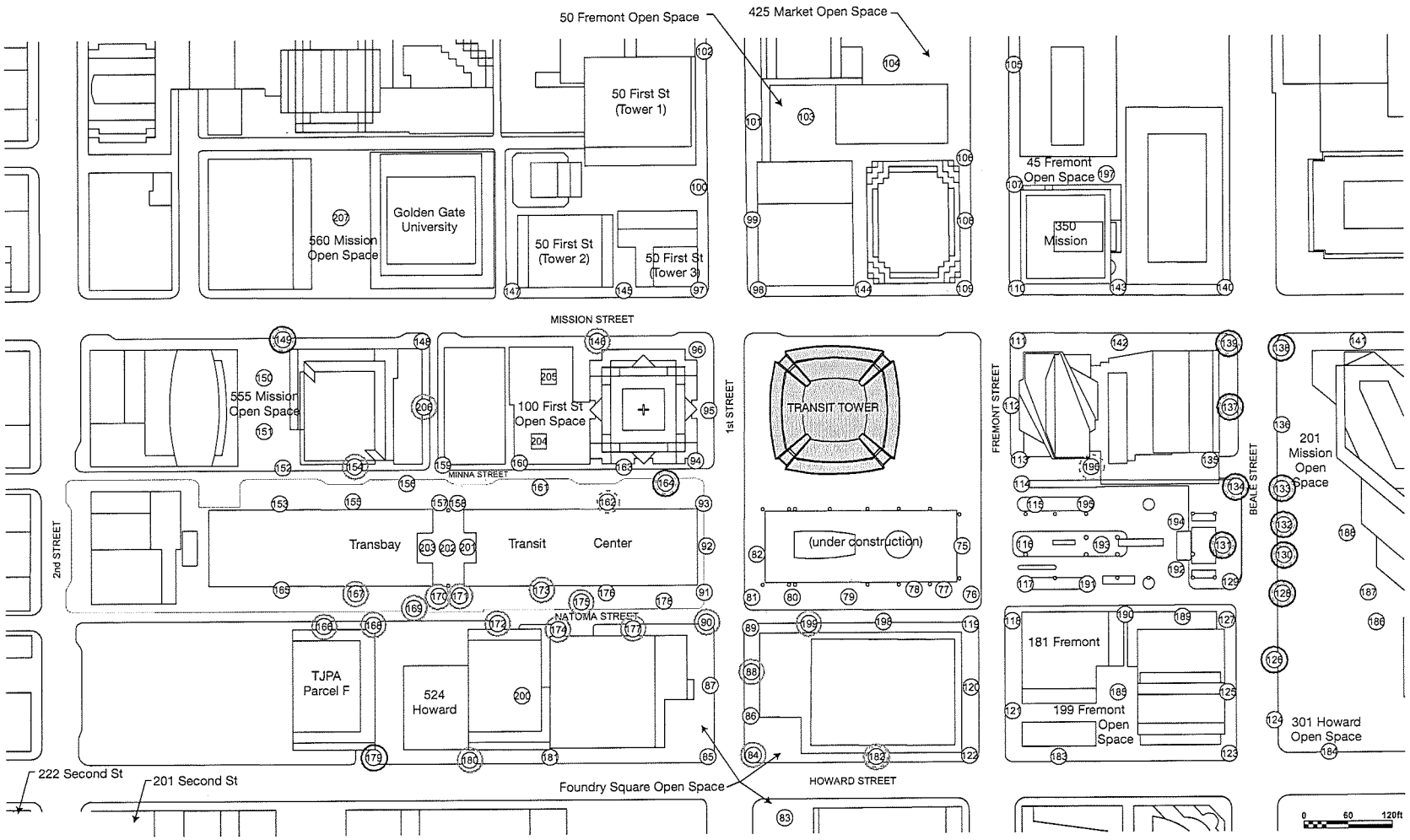
◇ Roof Level ◌ Increase of more than 3 mph with Transit Tower ◌ Decrease of more than 3 mph with Transit Tower ◯ Increase of more than 3 mph from existing with Plan development

SOURCE: RWDI

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 58B

Wind Tunnel Test Points - Transit Center Roof (City Park)



Grade Level

Podium Level

Increase of more than 3 mph with Transit Tower

Decrease of more than 3 mph with Transit Tower

Increase of more than 3 mph from existing with Plan development

Decrease of more than 3 mph from existing with Plan development

Note:
Labeled sites denote Plan-Area development sites in Transit Tower vicinity

SOURCE: RWDI

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan and Transit Tower . 207439

Figure 58C

Wind Tunnel Test Points - Transit Tower Vicinity

The wind-tunnel testing demonstrated that the project would result in relatively modest changes in ground-level winds. Wind conditions would continue to be moderately windy; the average wind speed would increase from 9.3 mph to 9.8 mph; this degree of change generally would not be noticeable at any given location, although the change would be greater at certain spots, and would be apparent. Wind speeds at the 207 test points would range from 4 to 19 mph, with the highest speed continuing to be the location on Mission Street east of Second Street. A wind speed of 19 mph would also be exceeded 10 percent of the time at two locations in the privately owned, publicly accessible open space at 555 Mission Street.

Wind speeds with the Transit Tower in place would increase at 84 locations where winds were also tested in the existing condition, and would decrease at 56 locations. At 32 locations, there would be no change in the average wind speed. The increase in wind speeds would be small—1 to 3 mph—at a large majority of points. At seven of 172 locations, the increase in average wind speed would be greater than 3 mph: five of these locations are in the City Park atop the Transbay Terminal, proximate to the Transit Tower, where the average wind speed would increase by 4 mph at each location. At two pedestrian locations east and south of the Transit Tower (points 182 and 196), wind speeds would also increase by 4 mph. Around the base of the Transit Tower itself, wind speeds would change little, with increases or decreases of 2 mph to 3 mph at most locations except at the southeast corner of First and Mission Streets, where the wind speed exceeded 10 percent of the time would decrease by 5 mph, from 16 mph to 11 mph. Locations east of the Tower, in the planned Mission Square park, would increase or decrease by 2 mph or 3 mph. Wind speeds at all test points in Mission Square would exceed the seating comfort criterion of 7 mph, as is the case for all points tested there under existing conditions.

City Park

The Transit Tower would incrementally increase winds in the City Park atop the Transit Center, although not to a substantial degree that is considered significant. As noted above, five locations in City Park would experience increases of 4 mph with the addition of the Transit Tower. At these locations, winds accelerating down the façade of the tower would be most noticeable. Wind speeds exceeded 10 percent of the time in these locations would be 12 to 14 mph, up from 8 to 10 mph without the Tower. The higher speeds would be comparable to recent wind-tunnel test results for locations on New Montgomery Street between Market and Mission Streets, and would exceed not only the seating criterion but also the 11-mph pedestrian comfort criterion. The average wind speed in City Park would increase from 8.7 mph to 9.9 mph, and winds would increase at 34 of 50 test locations. Wind speeds would decrease at 13 locations (mostly in the western half of the park, upwind from the Transit Tower) and would remain unchanged at three locations. However, the number of locations in City Park at which the 7-mph *Planning Code* comfort criterion for seating areas would be exceeded would decline from 45 of the 50 test points (90 percent) under existing conditions, to 37 of 50 points (74 percent) with the Transit Tower in place. With the Transit Tower, wind speeds in City Park would range from 4 to 14 mph, compared to 6 to 12 mph under existing conditions.

Other Open Spaces

In other seating locations (open spaces) tested and depicted on Figure 58C, wind speeds would increase incrementally. Of 19 locations tested under both existing and Transit Tower (project) conditions, wind speeds would increase at 10 locations (by up to 3 mph), and would decrease at six locations (also by up to 3 mph); there would be no change at three locations. Wind speeds at these locations would range from 7 to 19 mph, compared to 7 to 20 mph under existing conditions. The 7-mph Section 148 seating criterion would be exceeded at 34 of 35 test locations (97 percent), compared to 17 of 19 locations (89 percent) tested under existing conditions.[288] The average wind speed at open space locations (other than City Park) would increase slightly under conditions with the Transit Tower, to 11.5 mph, from 11.2 mph for open space points tested under existing conditions.

All Test Points, Including Sidewalk Locations

With implementation of the Transit Tower project, there would be 101 exceedances of the Section 148 wind-speed criteria at 207 test locations (49 percent); this compares to exceedances at 80 of 172 locations (47 percent) under existing conditions. Of the 101 total exceedances, 37 would exceed the 7-mph seating criterion in City Park and 34 would exceed the 7-mph seating criterion in other publicly accessible open spaces. Of 122 sidewalk locations, 30 (25 percent) would exceed the 11-mph pedestrian criterion, compared to 18 of 103 sidewalk locations (17 percent) under existing conditions.

Wind speeds would generally decrease along Beale Street between Mission and Howard Streets.

The Transit Tower project would result in no exceedances of the *Planning Code* wind hazard criterion, and therefore would have no significant effect related to wind. The one hazard exceedance found under existing conditions—on Mission Street east of Second Street—would experience a decrease in average wind speed, from 24 mph to 19 mph, which would be sufficient to eliminate the existing hazard criterion exceedance.

Although the Transit Tower would not result in a significant effect with respect to wind, the project sponsor would seek, and would be required to obtain, an exception to the requirements of *Planning Code* Section 148 because the project would result in a net increase in the number of increase of the pedestrian and seating comfort criteria and would not eliminate all existing wind speed exceedances of the comfort criteria.

Mitigation: None required.

---

[288] As noted in the discussion of Methodology, additional points in publicly accessible open spaces were tested in the project (Transit Tower) and cumulative (Transit Center District Plan) scenarios.

Transit Tower Cumulative Analysis and Transit Center District Plan

Impact WI-2: Implementation of the draft Plan would not cause large increases in pedestrian wind speeds or wind speeds in publicly accessible open spaces over a substantial portion of the Plan area. (Less than Significant with Mitigation)

The cumulative scenario tested in the wind tunnel represents a cumulative condition for the Transit Tower and also represents assumed buildout under the draft Plan, in that this test scenario included massing models of all projects in the Plan area within the Transit Tower test area (within about one block) for which plans are currently on file with the Planning Department, as well as massing models on sites in the Plan area assumed for ultimate development, and massing models of projects in Zone 1 of the approved Transbay Redevelopment Plan, primarily along the southern edge of the Plan area. This cumulative test scenario included the following potential future developments in the vicinity of the Transit Tower project site: an approved 360-foot-tall building at 350 Mission Street, diagonally across the Mission/Fremont Streets intersection from the Transit Tower site;[289] two towers on a site a the northwest corner of First and Mission Streets (915 feet [including sculptural elements] and 605 feet); a 700-foot tower on the Golden Gate University site; a 700-foot tower at 181 Fremont Street; a 400-foot building at 41 Tehama Street, an approved 350-foot building at 222 Second Street, a 350-foot building at 201 Second Street, two towers on the north side of Howard Street between First and Second Streets (750 feet and 400 feet), a 600-foot tower addition to the southwest corner of the Palace Hotel on New Montgomery Street, and six towers in Zone 1 of the Redevelopment Plan. As stated previously, the actual building designs proposed were not included in this analysis; instead, models used simulated the anticipated generalized massing. (Because of physical limitations on the size of the wind-tunnel test equipment, other potential development in the far western portion of the Plan area, west of New Montgomery Street, and cumulative projects farther west, were not included because their locations are too far from the center of the test area.)

Under this cumulative scenario, the average wind speed would increase by about 1 mph, compared to with-Tower conditions, and by 1.5 mph, compared to existing conditions, to 10.9 mph. Compared to the Tower-only scenario, wind speeds would increase at 89 of 207 test locations and decrease at 76 locations, while remaining unchanged at 42 locations. Compared to existing conditions, wind speeds would increase under cumulative conditions at 95 locations, decrease at 59 locations, and remain unchanged at 18 locations. Under the cumulative scenario, wind speeds would exceed the comfort criteria at 117 of the 207 test points (57 percent), an increase of 16 exceedance locations compared to existing-plus-Tower conditions. The wind speeds exceeded 10 percent of the time at the 207 test points would range from 4 to 20 mph, similar to the range of 4 to 19 mph under Tower-only conditions, and a lesser maximum wind speed than the range of 5 to 24 mph under existing conditions. The highest winds speed would be at a location along the southern edge of City Park atop the Transit Terminal (point #28), proximate to two development sites immediately south of the Transit Center: a site known as Parcel F, a site owned by the

[289] It is noted that the Transit Center District Plan calls for a 700-foot-tall building on the 350 Mission Street project site. However, because a shorter building was approved by the Planning Commission in February 2011, that approved project was included in the cumulative wind-tunnel analysis.

Transbay Joint Powers Authority that is proposed under the draft Plan for a height limit of 750 feet, and a site referred to as 524 Howard Street. At these locations, winds would exceed 20 mph 10 percent of the time. Winds at these locations would increase by the greatest amount—up to a 12 mph increase—and would range between 12 mph and 20 mph, compared to 8 mph to 11 mph under existing conditions. Winds at three of these locations would approach the hazard criterion. However, there would be no exceedances of the hazard criterion at any location in City Park, under any of the three test scenarios.

The models of these buildings were regular, rectilinear shapes and did not incorporate façade articulation or setbacks called for in the draft Plan, and therefore the wind-tunnel test results likely present a conservative picture of potential future wind conditions. It is likely that actual building designs, when proposed, could be sculpted to reduce wind speeds, compared to those reported here.

City Park

In City Park, wind speeds would range from 5 to 20 mph, compared to 4 to 14 mph with the Transit Tower alone and 6 to 12 mph under existing conditions. Wind speeds would increase, compare to Tower-only conditions, at 40 of 50 points, and at 26 of 40 points, compared to existing conditions. The 7-mph seating comfort criterion would be exceeded at 90 percent (45 of 50) of the test locations in City Park. The wind speed exceeded 10 percent of the time would increase by more than 3 mph, compared to existing conditions, at almost all of the points from the Transit Center to the west. In particular, wind speeds would increase by more than 5 mph at 16 locations in City Park, compared both to conditions with the Transit Tower, and to existing conditions. All of these increases would be at locations upwind of the Transit Tower and near TJPA Parcel F and 524 Howard Street. As noted above, the cumulative scenario was analyzed using massing models (i.e., rectilinear shapes to represent the height and bulk of potential future building) that do not reflect specific design or sculpting that may be proposed for specific projects. In the case of Parcel F and 524 Howard Street, there is neither a project sponsor nor an actual design on file with the Planning Department. Therefore, the analysis is considered conservative, and it is possible that specific building designs, especially if they were to include a podium, setbacks, and/or substantial articulation of the facades, could perform substantially better, in terms of effects on wind speeds in City Park, than the results here indicate. This analysis does indicate, however, that the design of buildings on these two sites should carefully consider potential wind effects in City Park and incorporate wind-tunnel testing as part of design development.

Other Open Spaces

Concerning wind speeds at other seating (open space) locations, the cumulative scenario found that the average wind speed at these locations would decrease slightly (by less than 1 mph), compared to both the Tower-only condition (with the Transit Tower only) and existing conditions. Wind speeds would decrease at more locations than where speeds would increase, and the number of exceedances of the comfort criterion would drop, compared to the Tower-only scenario, from 34 to 32. (Compared to existing conditions, the number of exceedances would increase from 17 to 32 because of the increased number test points, but the percentage would be similar—91 percent, compared to 89 percent under the existing scenario.)

Sidewalk Locations

At sidewalk locations, compared to conditions with the Transit Tower, wind speeds would increase by more than 3 mph at 19 locations, and by more than 5 mph, at five locations. Compared to existing conditions, wind speeds would increase by more than 3 mph at 19 sidewalk locations, and by more than 5 mph, at nine locations. All but one of the nine largest increases, like the greatest increases in City Park, were identified adjacent to the Parcel F and 524 Howard Street sites. At these eight locations, average wind speeds would increase by as much as 10 mph, compared to the Tower-only scenario, and by up to 12 mph, compared to existing conditions. As stated above, these results can be considered conservative, given the massing of the models tested in the wind tunnel, but are indicative of the potential for strong winds near these sites. The ninth location with an increase of more than 5 mph was on Howard Street between First and Fremont Streets, where the increase was 3 mph, compared to Tower-only conditions, and 7 mph, compared to existing conditions. No hazard criterion exceedances were identified at any of these nine locations.

As with the Transit Tower scenario, under the cumulative (Plan) scenario, wind speeds would generally decrease along Beale Street between Mission and Howard Streets.

Under the cumulative scenario, one exceedances of the wind hazard criterion was identified. This location is on the east side of First Street between Mission and Market Streets (point #101), where the *Planning Code* 26-mph hazard criterion would be exceeded for three hours per year. However, wind-tunnel testing undertaken for the 50 First Street project (Case No. 2006.1523E) shortly after the Transit Tower wind-tunnel test was conducted—and using a scale model of the actual project proposed at 50 First Street, which features a sculpted form and not the rectilinear design included in the cumulative scenario test for this analysis—identified no hazard exceedance at either of two test points within approximately 50 feet of the location where a hazard exceedance was identified in this cumulative analysis. Additionally, the 50 First Street test consistently identified average wind speeds some 3 mph or more lower along both sides of First Street than were identified in this cumulative scenario. Such a finding is consistent with the design of the 50 First Street project as proposed, which does not comprise rectilinear shapes but instead has irregular, curved facades, and would thus be expected to perform better, in terms of its effects on ground-level winds, than the massing model included in the cumulative scenario tested for this analysis. Accordingly, although the cumulative test indicates that the Plan could result in a new exceedance of the *Planning Code* hazard criterion, this effect is judged to be avoidable through design of subsequent projects, in compliance with Section 148 of the *Planning Code* and with implementation of Mitigation Measure M-WI-2.

Mitigation Measure

M-WI-2: **Tower Design to Minimize Pedestrian Wind Speeds:** As part of the design development for buildings on Parcel F and at the 524 Howard Street, 50 First Street, 181 Fremont Street and Golden Gate University sites, the project sponsor(s) shall consider the potential effect of these buildings on pedestrian-level winds and on winds in the City Park atop the Transit Center. If wind-tunnel testing identifies adverse impacts, the project sponsor(s)

shall conduct additional mitigation testing to resolve impacts to the maximum degree possible and to the satisfaction of Planning Department staff. Design features could include, but not be limited to, setting a tower atop a podium, which can interfere with "downwash" of winds from higher elevations toward the ground; the use of setbacks on tower facades, particularly those facades facing into prevailing winds, which can have similar results; using chamfered and/or rounded corners to minimize the acceleration of upper-level winds as they round corners; façade articulation; and avoiding the placement of large, unbroken facades into prevailing winds.

Level of Significance After Mitigation

Implementation of the above measure, along with compliance, as required, with Section 148 of the *Planning Code*, would reduce potential wind impacts of the draft Plan to a less-than-significant level.

Cumulative Plan Area Analysis

Impact C-WI: Implementation of the draft Plan and the proposed Transit Tower, along with cumulative development, would neither cause large increases in ground-level wind speeds over a substantial portion of the Plan area, nor result in a new exceedance of the wind hazard criterion. (Less than Significant with Mitigation)

Concerning portions of the Plan area outside the area covered by the wind-tunnel test, the qualitative analysis found that wind conditions would not be expected to change substantially in the northwest portion of the Plan area, except in the immediate vicinity of a project that would add a residential tower to the southwest corner of the existing Palace Hotel; however, while pedestrian wind speeds would increase on Jessie and Annie Streets at the base of the proposed tower, no new exceedances of the *Planning Code* hazard criterion are anticipated, based on preliminary wind-tunnel analysis for a proposed project at 706 Mission Street at Third Street, just west of the Plan area (Case No. 2008.1084).

The qualitative analysis found that wind speeds could increase, compared to existing conditions, in the southwestern part of the Plan area, in the area between Howard and Folsom Streets and west of New Montgomery Street. These increases would largely result from potential cumulative development outside the Plan area, including a potential project at Third and Folsom Streets that might include three mixed-use towers in conjunction with expansion of Moscone Convention Center. However, wind-tunnel testing undertaken in connection with the proposed expansion of the Museum of Modern Art (Case Nos. 2009.0291E and 2010.0275E), to a site on Howard Street east of Third Street, indicates that no significant effects would ensue on Howard Street or elsewhere from cumulative development. Testing did not extend as far south as Folsom Street; however, the mixed-use project proposed in connection with Moscone Center expansion would be subject to project-specific wind-tunnel testing and compliance with Section 148 to ensure that no significant impacts would occur.

The qualitative analysis found that northeast portion of the Plan area, east of Beale Street, could experience increased wind speeds, compared to existing conditions, as a result of development north of the new Transit Center, between Fremont and Second Streets. However, the more detailed results of the wind-tunnel test undertaken for this analysis, as well as detailed project-specific wind-tunnel testing for the approved 350 Mission Street project, reveal a less-than-significant overall anticipated increase in wind speeds proximate to the anticipated new development, including the Transit Tower. Farther east, along Main and Spear Streets, the Plan area is largely built out, and no new towers exceeding prevailing building heights are anticipated. Therefore, no significant wind impacts are expected.

The southeast portion of the Plan area could also experience increased wind speeds, compared to existing conditions, particularly from development approved in Zone 1 of the Transbay Redevelopment Area. However, wind-tunnel testing conducted for the EIR for the redevelopment plan (Case No. 2000.0048E) found that wind speeds in Zone 1 were anticipated to increase by 3 to 4 mph at most, and would not result in any exceedances of the *Planning Code* hazard criterion. Accordingly, no significant impacts were identified in that EIR.

It is noted that fog plays a major role in San Francisco's weather, and in the comfort that pedestrians experience on the sidewalk and in seating areas. Wind-tunnel testing is performed based on actual wind-speed data collected over a five-year period at the Old Federal Building in the Civic Center. The correlation between fog and wind speed is implicit in the actual wind speed – frequency distributions used in the analysis methodology; that is, fog is more likely to be present during the summer, when westerly winds prevail, whereas there is less chance of fog during strong winter storm winds. However, because the wind test results represent conditions over a full year, it is not possible to confirm the presence or absence of fog at a given time during the year.

Mitigation Measure

M-C-WI: Implement Mitigation Measure M-WI-2.

Level of Significance After Mitigation

Implementation of the above measure, along with compliance, as required, with Section 148 of the *Planning Code*, would reduce potential wind impacts of the draft Plan to a less-than-significant level.

Summary

In summary, neither the proposed Transit Tower project nor the Transit Center District Plan would significantly affect ground–level winds such that mitigation would not be feasible. Although both average wind speeds and the number of exceedances of the pedestrian comfort criteria would increase from existing conditions to and existing-plus-project and cumulative conditions, the increases would not be large and would not be expected to affect the use of sidewalks or publicly accessible open spaces, with the possible exception of areas proximate to Parcel F and the 524 Howard Street site. As stated above, implementation of

the Mitigation Measure M-WI-2, along with compliance, as required, with Section 148 of the *Planning Code*, would reduce potential wind impacts of the draft Plan to a less-than-significant level.

Under existing, project (Transit Tower), and cumulative (draft Plan) conditions, the Plan area would be moderately windy. Under existing and project conditions, just over one-half of the test points meet the applicable *Planning Code* comfort criterion; this figure would decrease to 44 percent under cumulative (Plan) conditions. Under existing conditions, 90 percent of the test points in City Park on the roof of the Transit Center exceed the 7-mph seating criterion. The Transit Tower (project) scenario would increase the average wind speed in City Park by about 1.2 mph but, because wind speeds would decrease at about several locations where the existing speed is just above 7 mph, the Transit Tower (project) scenario would have fewer exceedances of the seating comfort criterion—37 of 50 locations, compared to 45 of 50 under existing conditions. In the cumulative (Plan) scenario, 45 of 50 points in City Park would exceed the 7-mph seating criterion, the same number as under existing conditions, but the average wind speed would be nearly 4 mph greater than under existing conditions and 2.6 mph greater than with the Transit Tower. There would be no exceedances of the hazard criterion at any location in City Park, under any of the three test scenarios.

Other publicly accessible open spaces would be windier under the project (Transit Tower) scenario than under the cumulative scenario; in both cases, more than 90 percent of points tested would exceed the 7-mph seating criterion, compared to 89 percent under existing conditions. The average wind speed at these points would increase from 11.2 mph under existing conditions to 11.5 mph with the proposed Transit Tower, and would decrease to 11.1 mph with Plan area development. Concerning pedestrian locations where the applicable comfort criterion is 11 mph, the percentage of test points where the 11-mph criterion is exceeded would increase from 17 percent under existing conditions to 25 percent with the Transit Tower and 33 percent with Plan area development. The average wind speed at the sidewalk test points would increase from 9.3 mph under existing conditions to 9.4 mph with the proposed Transit Tower, and to 10.1 mph with Plan area development.

The Transit Tower project would not result in any new exceedances of the wind hazard criterion. Under cumulative conditions, one hazard exceedance was identified, which appears to be avoidable through design of subsequent towers, notably a proposed project at 50 First Street.

As explained in the discussion of Methodology, above, the cumulative (Plan) scenario tested in the wind tunnel was based on simplified massing models of potential development on specified sites in the Plan area. These models were regular, rectilinear shapes and did not incorporate façade articulation of setbacks called for in the draft Plan, and therefore the wind-tunnel test results likely present a conservative picture of potential future wind conditions. It is likely that actual building designs, when proposed, could be sculpted to reduce wind speeds, compared to those reported here.

Based on the foregoing, effects related to wind would be less than significant with incorporation of mitigation identified in this EIR.

J. Shadow

This section describes shadow effects on publicly accessible areas, including public parks, publicly-accessible private open spaces, and sidewalks.

Setting

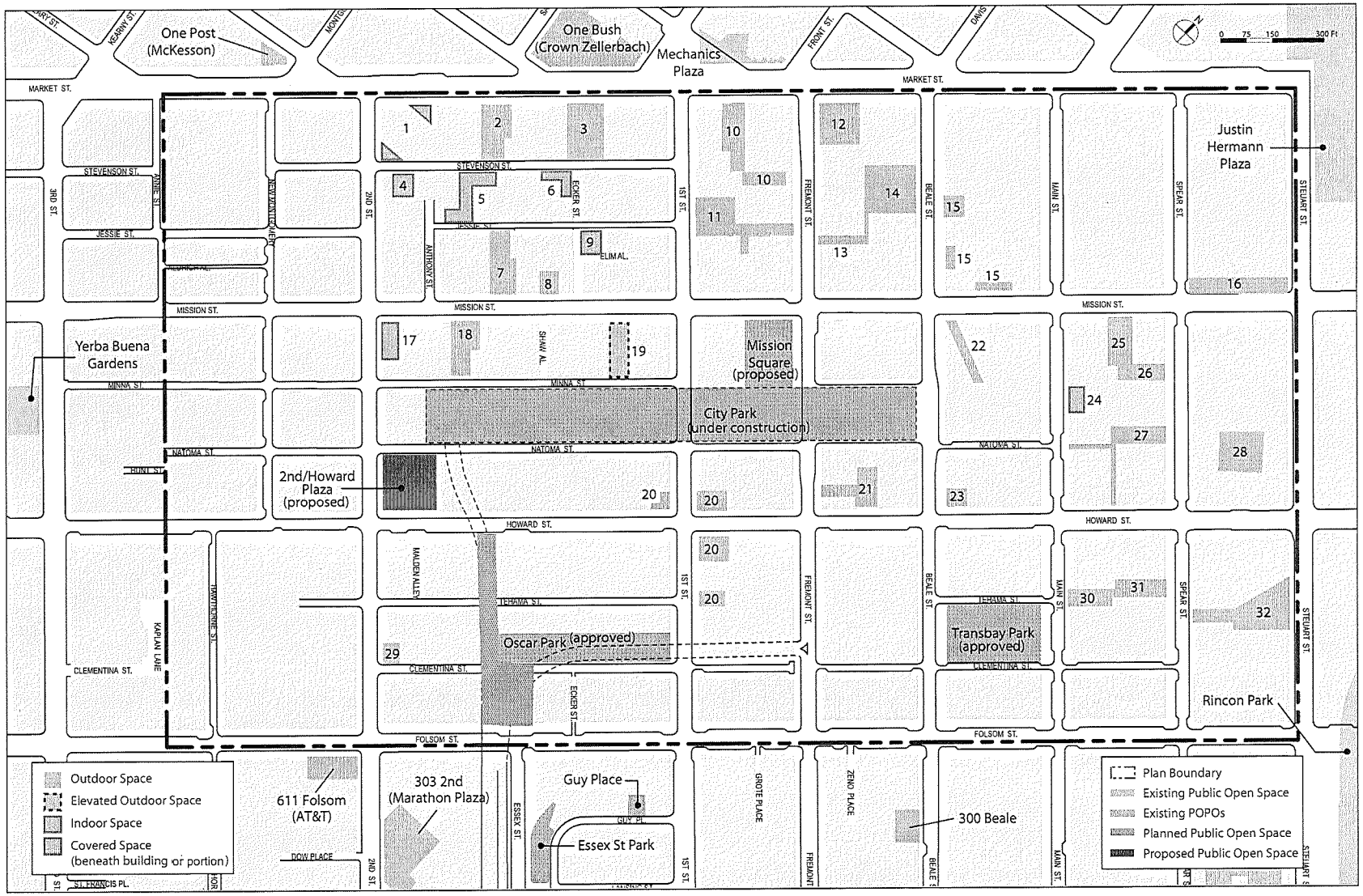
Open space in the Plan area is limited. Generally, the open space that exists nearby is in the form of publicly accessible, privately owned open space developed, in accordance with the Downtown Plan and *Planning Code*, in conjunction with newer office buildings. **Figure 59** depicts open spaces in the Plan area. There are no public parks or other public open spaces in the immediate project vicinity. The nearest public open space is Yerba Buena Gardens, a San Francisco Redevelopment Agency property, at Third and Howard Streets, one block west of the project site. Across Mission Street to the north of Yerba Buena Gardens is Jessie Square, an open space south of the Contemporary Jewish Museum. The new Transit Center will include a public park ("City Park") located on the roof of the terminal, approximately 70 feet above grade level. Rincon Park, a Redevelopment Agency property, is located along the Embarcadero between Mission and Harrison Streets.[290] Ferry Plaza is a Port-owned public open space on the Bay side of the Ferry Building. Smaller public open spaces include Hallidie Plaza at Powell and Market Streets and the Mechanics Plaza at Battery, Bush, and Market Streets. The Plan area and vicinity also contains numerous privately owned publicly accessible open spaces (sometimes known as POPOS) that have been developed in conjunction with office towers built over approximately the last 40 years. These open spaces are shown on Figure 59.

Regulatory Framework

Sunlight Ordinance

Section 295 of the Planning Code, the Sunlight Ordinance, was adopted through voter approval of Proposition K in November 1984 to protect certain public open spaces from shadowing by new structures. Section 295 generally prohibits the issuance of building permits for structures or additions to structures greater than 40 feet in height that would shade property under the jurisdiction of or designated to be acquired by the Recreation and Park Commission, during the period from one hour after sunrise to one hour before sunset. Section 295(b) states that the Planning Commission, following a public hearing, "shall disapprove" any project governed by this section that would have an "adverse effect" due to shading of a park subject to Section 295, "unless it is determined that the impact would be insignificant." The Planning Commission's decision under Section 295 cannot be made "until the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission has had an opportunity to review and comment to the City Planning Commission upon the proposed project." None of the open spaces in the Plan area identified above is subject to Section 295.

[290] This park contains two buildings housing restaurants that occupy much of the park south of Folsom Street.



NOTE: Open Spaces Not to Scale and Locations May not be Exact

1 595 Market Street
2 555 – 575 Market Street (former Chevron buildings)
3 525 Market Street
4 55 Second Street
5 71 Stevenson Street
6 49 Stevenson Street
7 560 Mission Street
8 Golden Gate University
9 25 Ecker Street
10 425 Market Street
11 50 Fremont Street (Fremont Center Plaza)
12 333 Market Street
13 45 Fremont Street
14 50 Beale Street (Bechtel Plaza)
15 PG&E (77 Beale Street)
16 One Market Plaza
17 101 Second Street
18 555 Mission Street
19 100 First Street Plaza
20 Foundry Square
21 199 Fremont Street
22 201 Mission Street
23 301 Howard Street
24 135 Main Street
25 123 Mission Street
26 Spear Street
27 180 Howard Street
28 Rincon Center
29 235 Second Street (CNet/CBS Interactive)
30 211 Main Street
31 221 Main Street
32 201 Spear Street (Gap Building)

SOURCE: San Francisco Planning Department; ESA

Figure 59
Open Space in Plan Area

In 1989, the two Commissions adopted shadow criteria for 14 downtown parks, including an Absolute Cumulative Limit for new shadow for each open space and qualitative criteria for assessing new shadow. The sunlight on a park is measured in terms of "square-foot-hours" of sunlight, while the shadow load is measured in terms of "shadow-foot-hours." A square-foot-hour of sunlight is one hour of sunlight on one square foot of ground, while a shadow-foot-hour represents one hour of shade on one square foot of ground. For projects that would affect parks for which a quantitative limit was established, shadow impacts have typically been judged less than significant if the project would not exceed the Absolute Cumulative Limit. In establishing the Absolute Cumulative Limits for the downtown parks, the commissions generally relied upon the following guidelines: for smaller parks (of less than two acres) on which more than 20 percent of the potential "Prop. K" sunlight was in shadow under then-existing conditions, no additional shadow was to be permitted. (This standard was applied to nine downtown parks.) For larger parks (of two acres or more) with between 20 percent and 40 percent existing shadow, the Absolute Cumulative Limit was to be set at 0.1 percent; that is, an additional 0.1 percent new shadow, measured in shadow-foot-hours, would be permitted beyond existing conditions.[291] The increment permitted as the Absolute Cumulative Limit—0.1 percent, in this case—is measured as a percentage of the theoretical annual available sunlight.[292] For larger parks shadowed less than 20 percent of the time,[293] an additional 1.0 percent new shadow was to be permitted.[294] No guideline was provided for parks of less than two acres that have less than 20 percent existing shadow.[295]

There are no parks subject to Section 295 within the Plan area. Yerba Buena Gardens, just west of the Plan area, is under the jurisdiction of the San Francisco Redevelopment Agency and is not subject to Section 295. The nearest parks subject to Section 295 are Union Square; Justin Herman Plaza, at the foot of Market Street; St. Mary's Square, on Pine Street near Kearny Street; Portsmouth Square, at Clay and Kearny Streets; Willie "Woo Woo" Wong Playground (formerly Chinese Playground), between Sacramento and Clay Streets and Stockton Street and Grant Avenue; Chinese Recreation Center, a partially indoor facility at Washington and Mason Streets (under renovation and scheduled to reopen in 2012); Woh Hei Yuen Recreation Center and Park, on Powell Street between Jackson Street and Pacific Avenue; Maritime Plaza, an elevated park between Battery and Davis Streets and Clay and Washington Streets; Sue Bierman Park, between the Embarcadero and Drumm Streets at Clay Street; Boeddeker Park, on the block bounded by Ellis, Eddy, Jones, and Taylor Streets; Huntington Park, between California and

291 This criterion applied to Union Square and Embarcadero Plaza II (Justin Herman Plaza). Two other parks, Washington Square and North Beach Playground, were not permitted new shadow because height limits precluded the possibility of new shadow on those parks.

292 The theoretical annual available sunlight is the amount of sunlight, measured in square-foot-hours, that would fall on a given park during the hours covered by Section 295. It is computed by multiplying the area of the park by 3,721.4, which is the number of hours in the year subject to Section 295. Thus, this quantity is not affected by shadow cast by existing buildings, but instead represents the amount of sunlight that would be available with no buildings in place. Theoretical annual available sunlight calculations for each downtown park were used by the Planning and Recreation and Park Commissions in establishing the allowable Absolute Cumulative Limit for downtown parks in 1989.

293 Civic Center Plaza was the only park in this category.

294 The guidelines for new shadow were presented in a memorandum to the Planning and Recreation and Parks Commissions, from their staffs, dated February 3, 1989, and referred to in Joint Resolution 11595 of the two commissions, adopted February 7, 1989.

295 None of the 14 downtown parks for which Absolute Cumulative Limits were established met these criteria.

Sacramento Streets and Taylor and Mason Streets; Gene Friend Recreation Center, at Sixth and Folsom Street; and South Park, in the center of the block bounded by Second, Third, Bryant, and Brannan Streets. The latter two parks, because they are well south of the Plan area, would not be affected by shadows from development in the Plan area.

Other Planning Code Regulations

Planning Code Section 146(a), applicable to certain streets in the C-3 zoning districts, requires that buildings and additions fit within an envelope defined by a plane sloping away from the street at a prescribed angle above a prescribed height "in order to maintain direct sunlight on public sidewalks in certain downtown areas during critical periods of use." In the Plan area, Section 146(a) applies to the west side of New Montgomery Street and the west side of Second Street (to a point 300 feet south of Folsom Street), specifying that buildings be within an envelope that slopes away from the street at an angle of 62 degrees from horizontal beginning at 132 feet above grade. Section 146(a) also applies to portions of Bush, Sutter, Post, Geary, O'Farrell, Ellis, Powell, Stockton, and Kearny Streets and Grant Avenue. Under Section 146(b), an exception to the foregoing may be granted, pursuant to the procedures of Section 309, Permit Review in C-3 Districts, if no new shadow is created, or if "the shadow created by the penetration of the plane is deemed insignificant because of the limited extent or duration of the shadow or because of the limited public use of the shadowed space." Section 146(c) states that, on other streets in the C-3 districts, "New buildings and additions to existing buildings shall be shaped, if it can be done without creating an unattractive design and without unduly restricting the development potential of the site in question, so as to reduce substantial shadow impacts on public sidewalks." A determination of compliance with Section 146(c) is made as part of the Section 309 project consideration process.

Planning Code Section 147, applicable to the C-3, RSD, SLR, SLI, or SSO zoning districts, where height limits are greater than 40 feet, requires that all new development and additions to existing structures where the height exceeds 50 feet must be shaped to minimize shadow on public plazas or other publicly accessible open spaces other than those protected by Section 295, "in accordance with the guidelines of good design and without unduly restricting the development potential of the property." The following factors must be taken into account in determining compliance with this criterion: the amount of area shadowed, the duration of the shadow, and the importance of sunlight to the type of open space being shadowed. A determination of compliance with Section 147 is made as part of the Section 309 project consideration process.

Impacts

Significance Criteria

The proposed project would have a significant shadow impact if it were to create new shadow in a manner that would:

- Affect, in an adverse manner, the use of any park or open space under the jurisdiction of the Recreation and Park Department; or

- Substantially affect the usability of other existing publicly accessible open space or outdoor recreation facilities or other public areas.

Plan Analysis

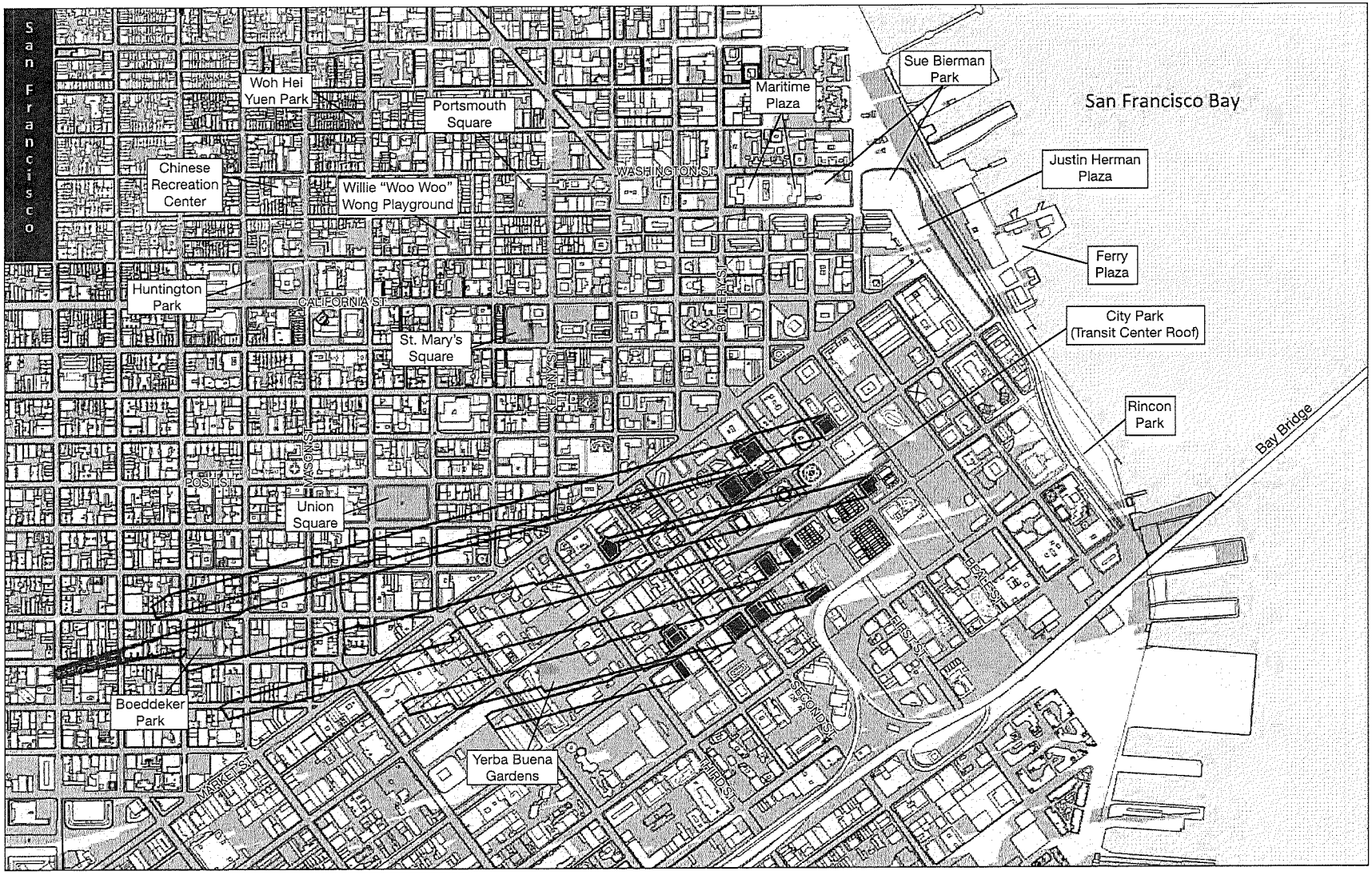
Impact SH-1: The draft Plan would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces. (Significant and Unavoidable)

Shadow effects of the draft Plan were analyzed by computer generation of shadows that would be cast by the proposed Transit Tower as well as shadows that would be cast by other buildings that could be built with implementation of the draft Plan, as described in the discussion of Analysis Assumptions at the start of Chapter IV (p. 72). For potential future buildings other than the Transit Tower, shadows analyzed are based on massing models representative of potential future development in the Plan area. Each individual development project that is proposed in the Plan area would be subject to *Planning Code* Sections 295, 146, and 147, and therefore project-specific shadow impacts would be analyzed at such a time as a subsequent project is being reviewed by the Planning Department.

As described below and depicted in **Figures 60 – 62**, shadow from several potential future Plan area buildings at 500 feet in height or greater would reach a number of parks subject to Section 295 controls, including Union Square, Justin Herman Plaza, Portsmouth Square, St. Mary's Square, Maritime Plaza, and Boeddeker Park. Figures 60 through 62 depict shadow from the proposed project for representative times of day during the four seasons: in December, on the winter solstice, the midday sun is at its lowest and shadows are at their longest, while on the summer solstice in June, the midday sun is at its highest and shadows are at their shortest. Shadows are also shown at the spring equinox, when shadows are midway through a period of shortening, and at the fall equinox, when shadows are midway through a period of lengthening. Shadows on any other day of the year would be within the range of shadows presented in Figures 60 through 62. In some cases, new shadow would fall on parks during times not portrayed in the figures. **Table 41**, p. 523, summarizes shadow impacts on the affected parks.

With one exception, shadow from any given potential building would cover part of any affected Section 295 park for less than 90 minutes per day over a period of time ranging from 2 to 16 weeks (one-half to almost four months) per year; the exception would be that Union Square would be newly shaded by up to about one hour per day, over a period of six months, by a 600-foot tower addition to the southwest corner of the Palace Hotel on New Montgomery Street.[296] Most new shadow on Section 295 parks would be in the early morning hours, except that Justin Herman Plaza would be newly shaded in the early afternoon in late fall and early winter.

[296] A project on file at this location (Case No. 2005.1101E) proposes a 710-foot-tall residential tower at this location. This project is discussed under Alternative C, Developer-Proposed Scenario, in Chapter VI, p. 665.

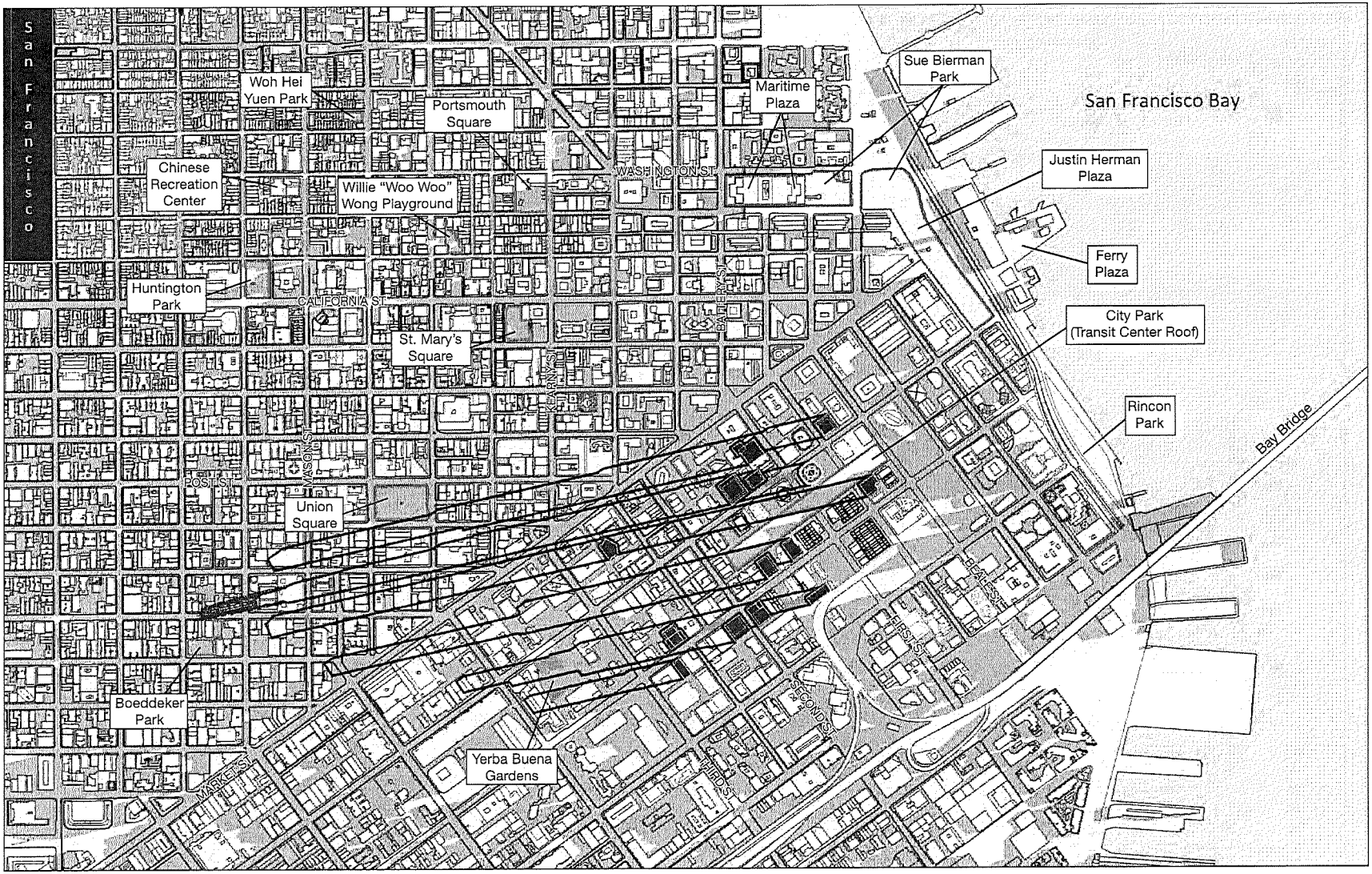


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 60-A

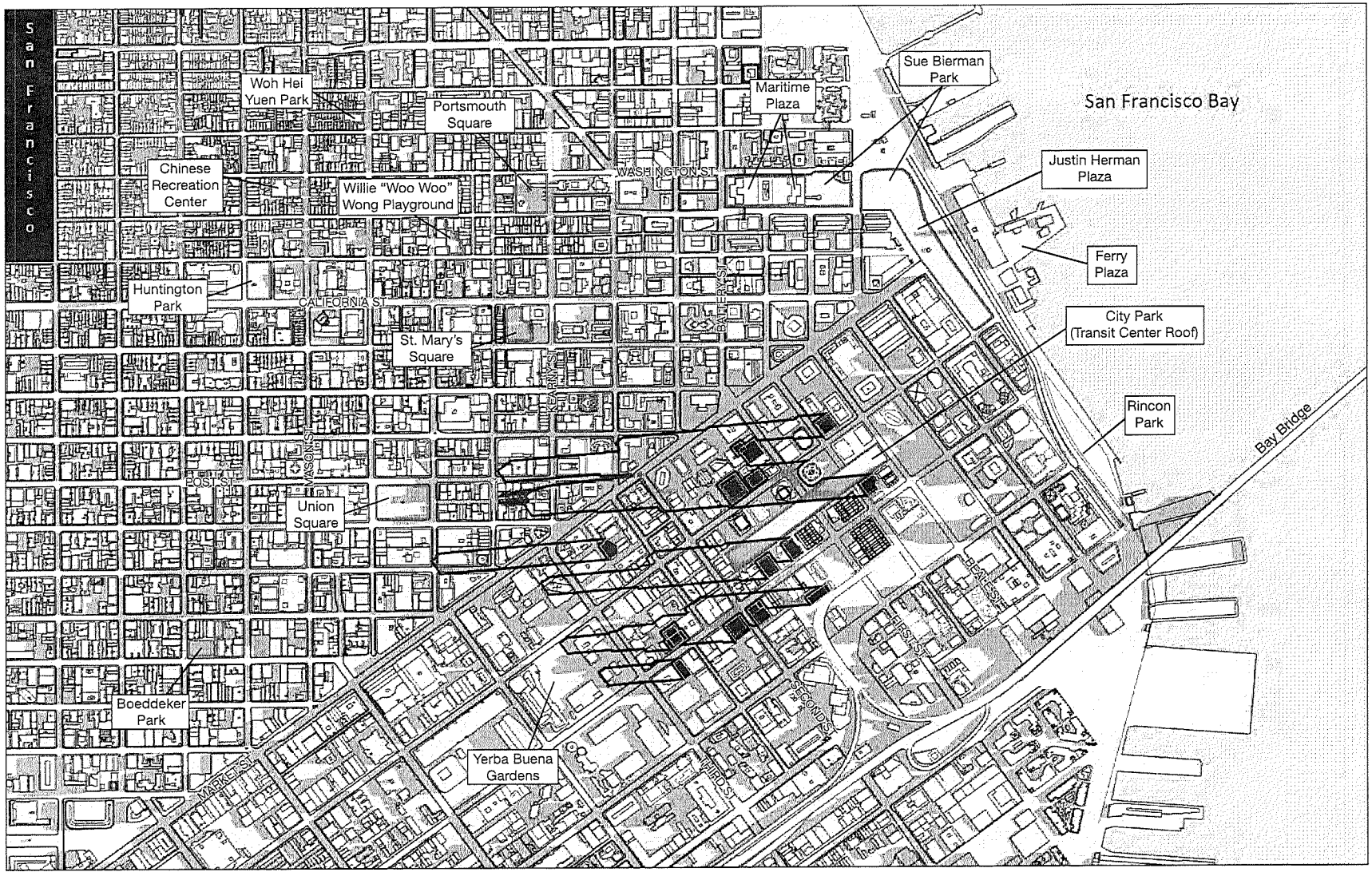
June 21 - Sunrise + 1 Hour



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

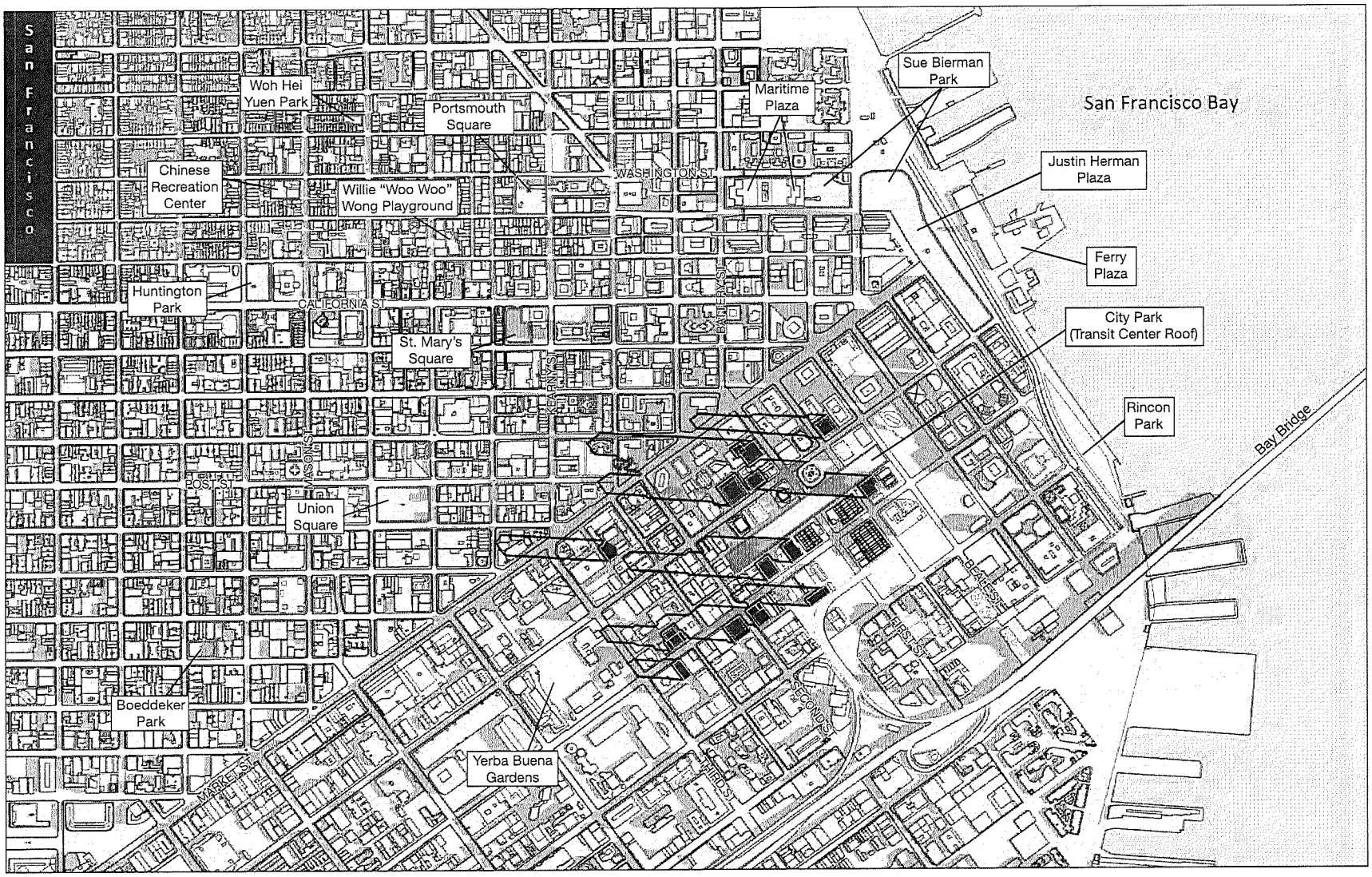
Figure 60-B
June 21 - 7AM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

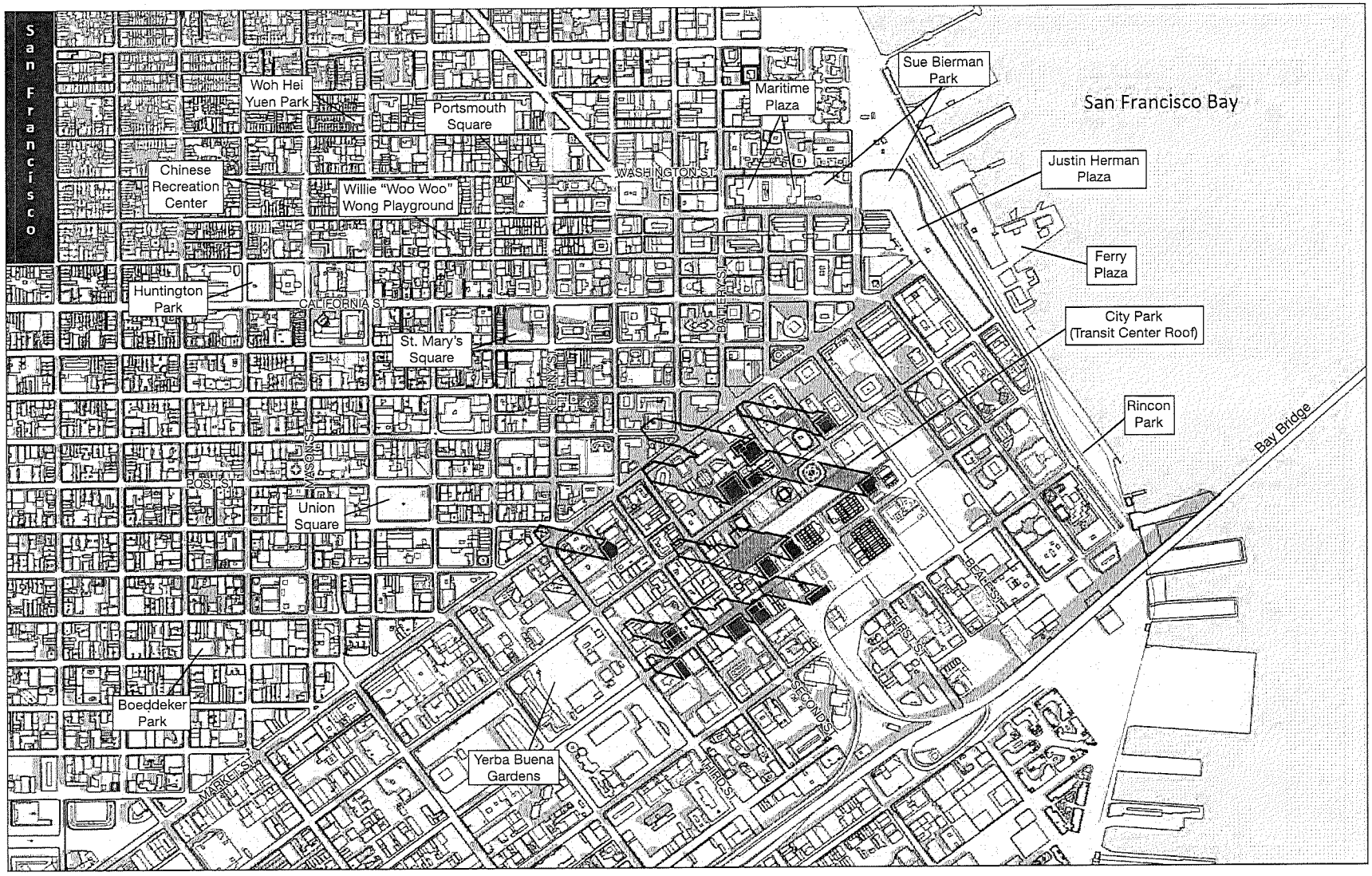
Figure 60-C
June 21 - 8AM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

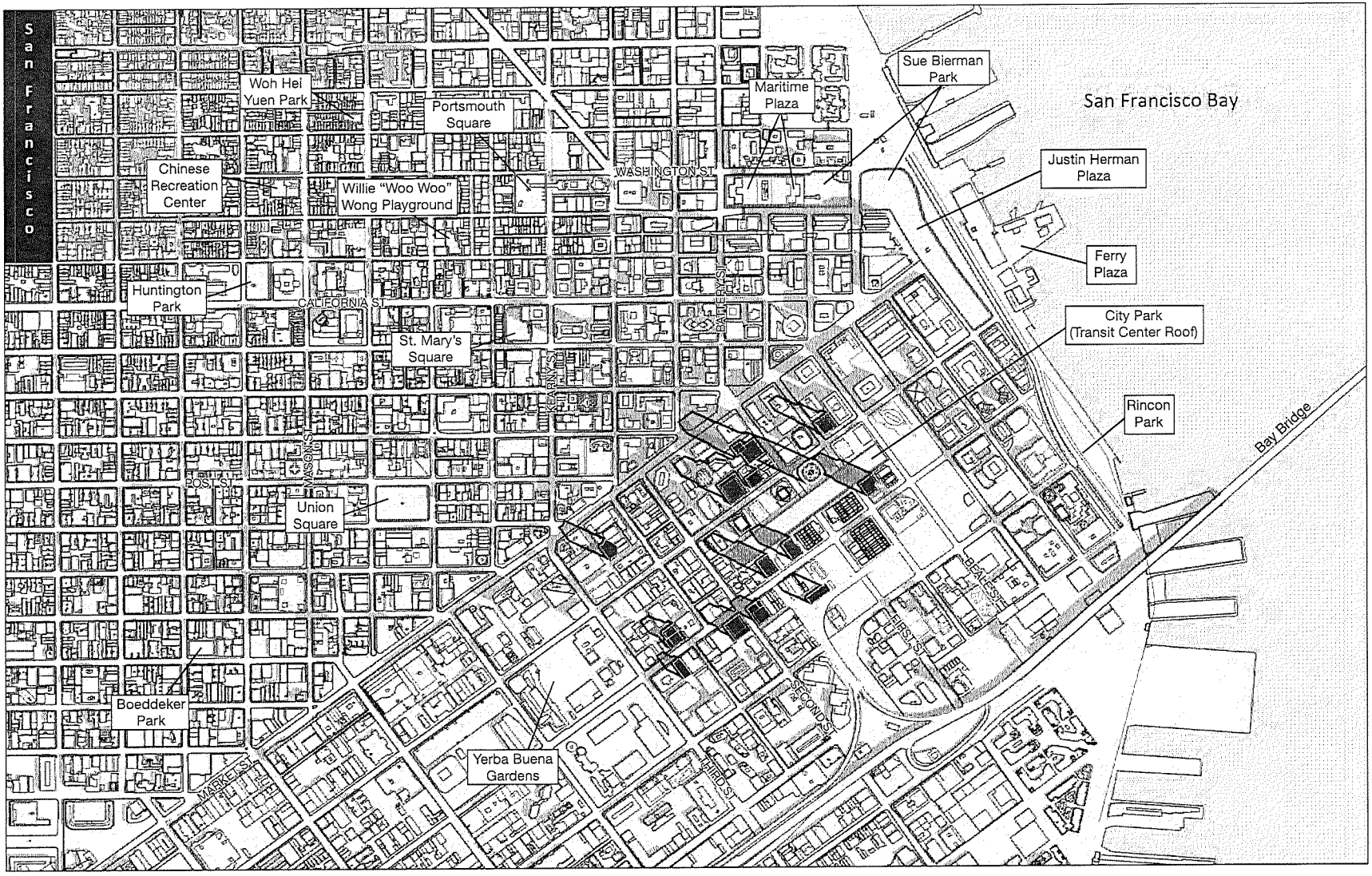
Figure 60-D
June 21 - 9AM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

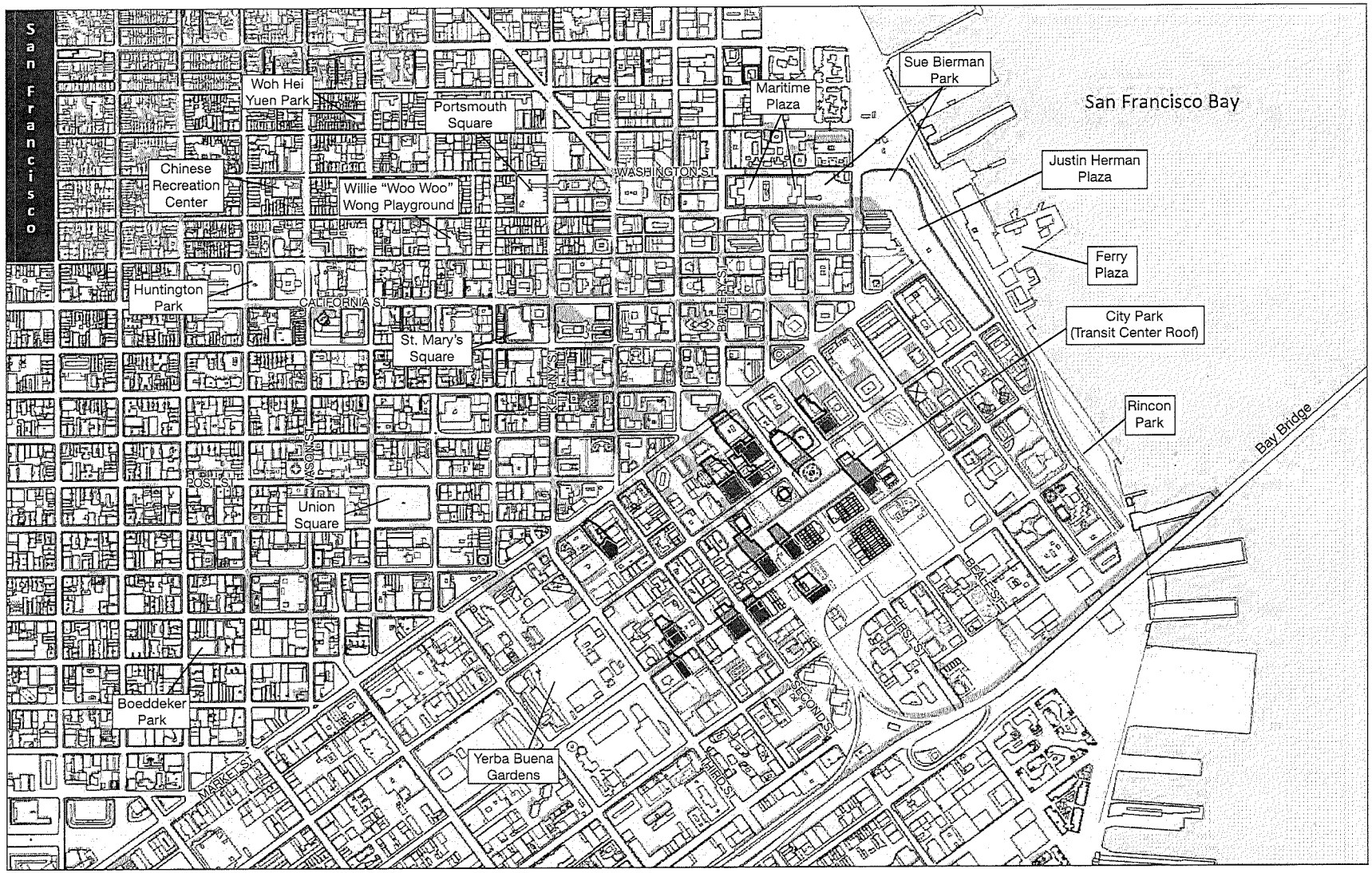
Figure 60-E
June 21 - 10AM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 60-F
June 21 - 11AM

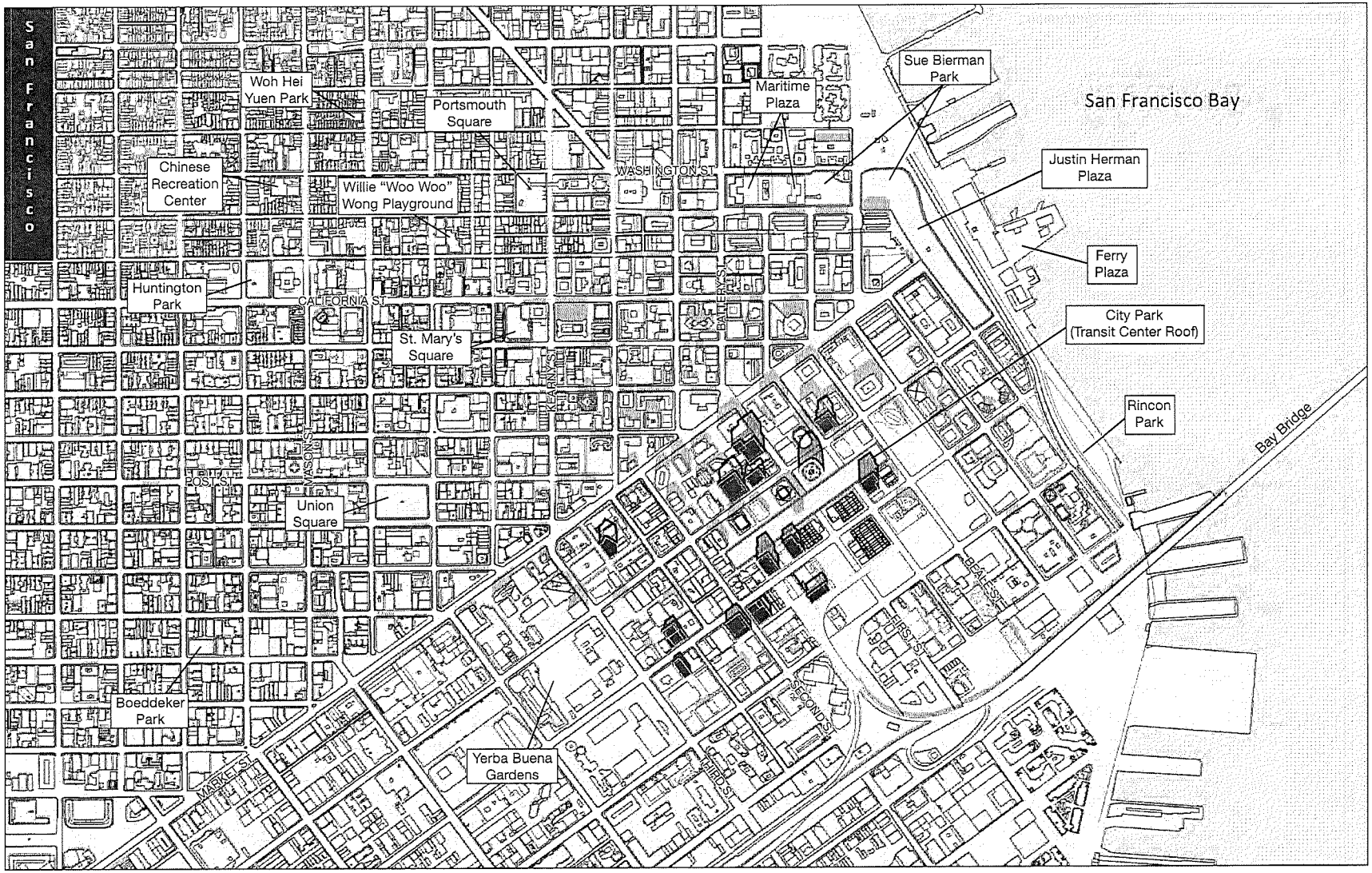


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 60-G

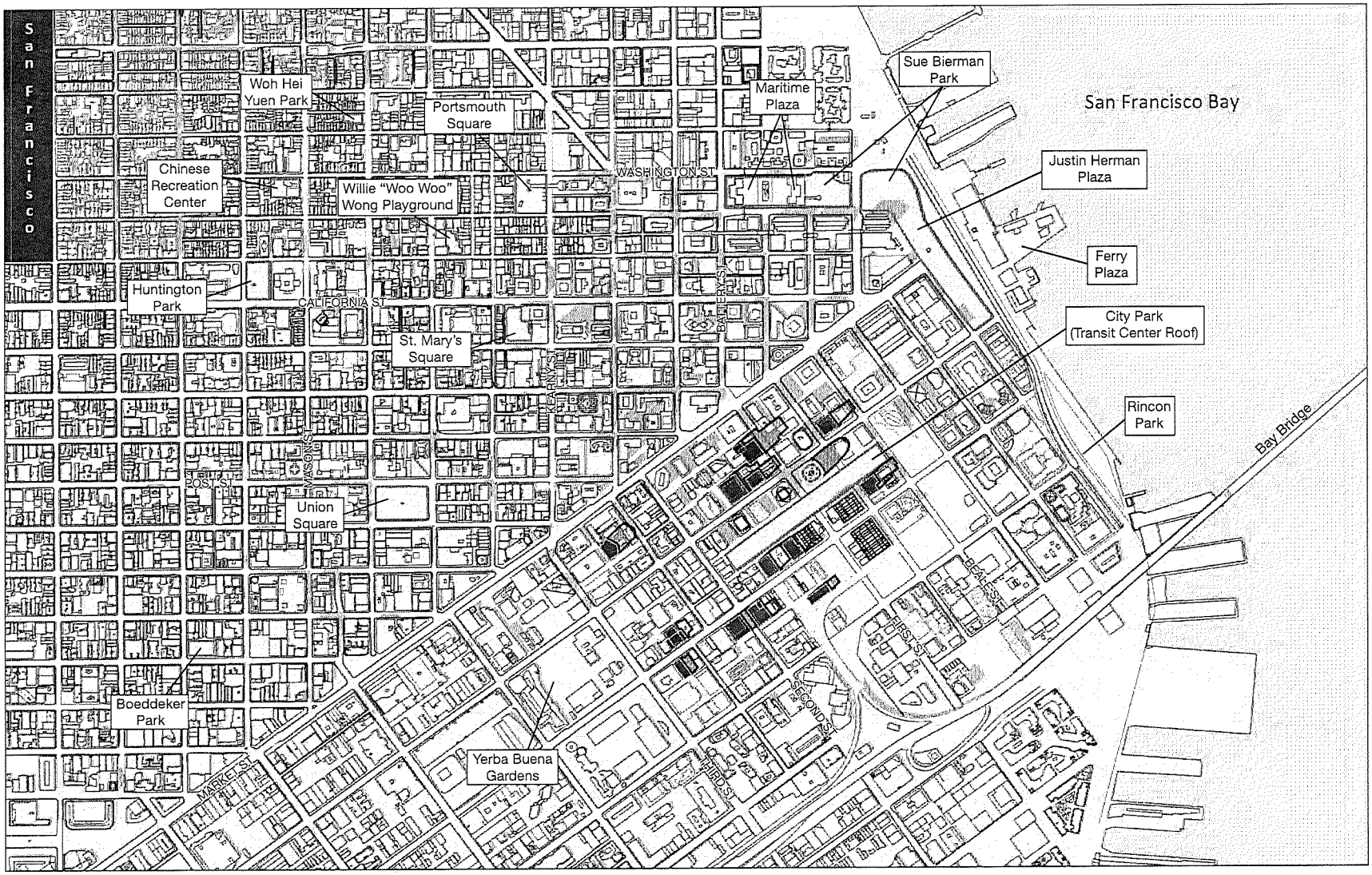
June 21 - 12 Noon



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

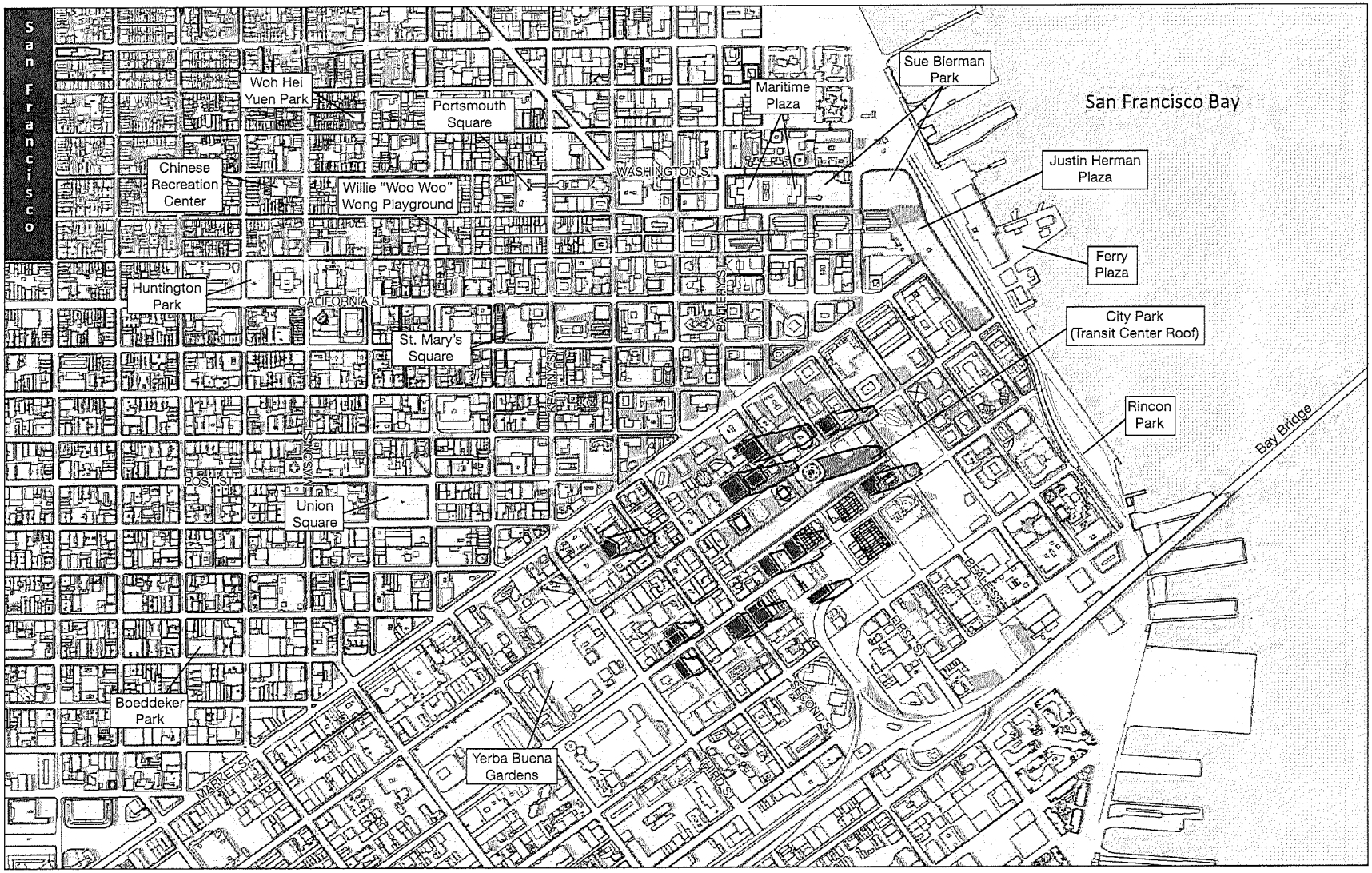
Figure 60-H
June 21 - 1PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

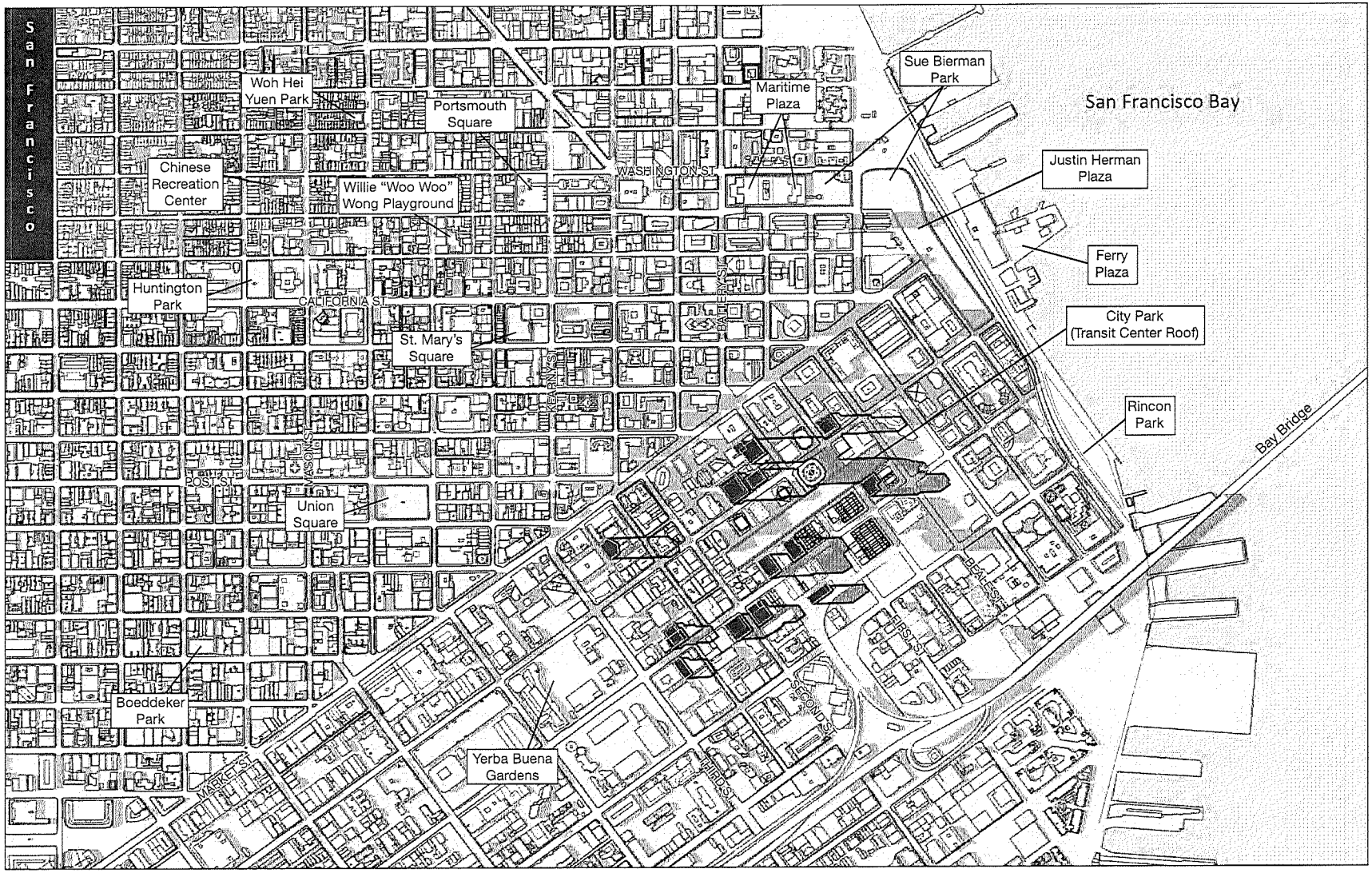
Figure 60-I
June 21 - 2PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

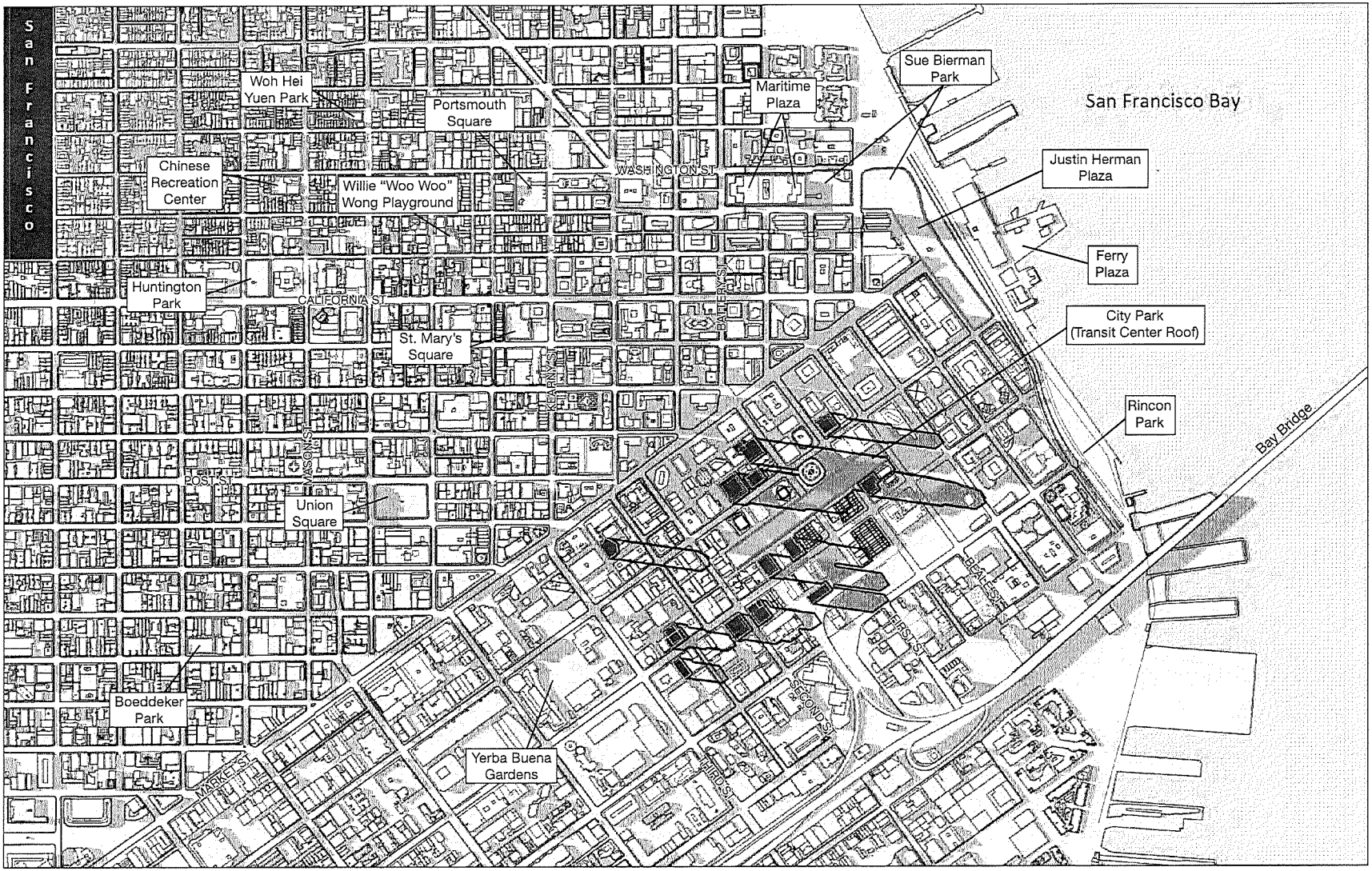
Figure 60-J
June 21 - 3PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

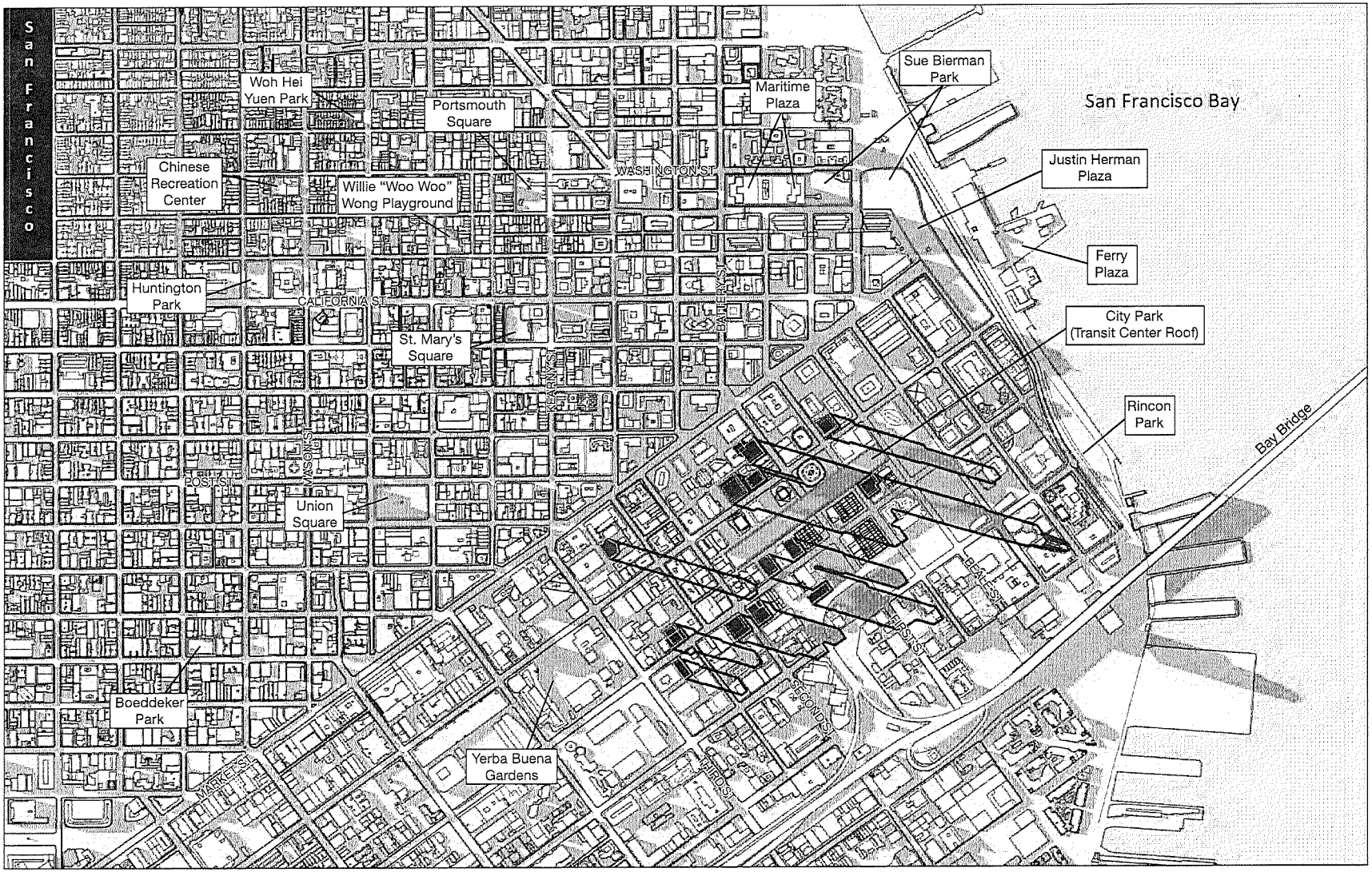
Figure 60-K
June 21 - 4PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

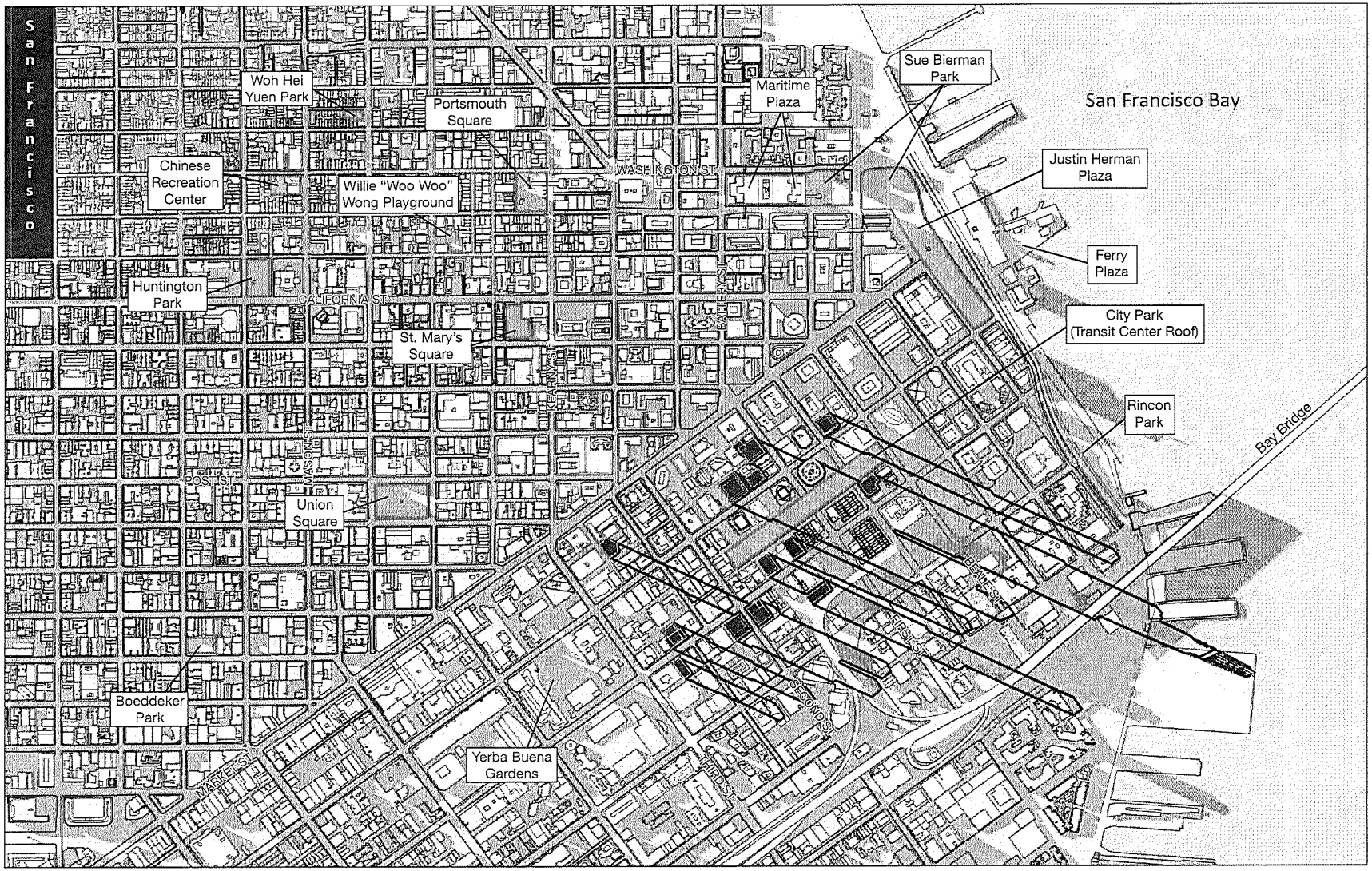
Figure 60-L
June 21 - 5PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

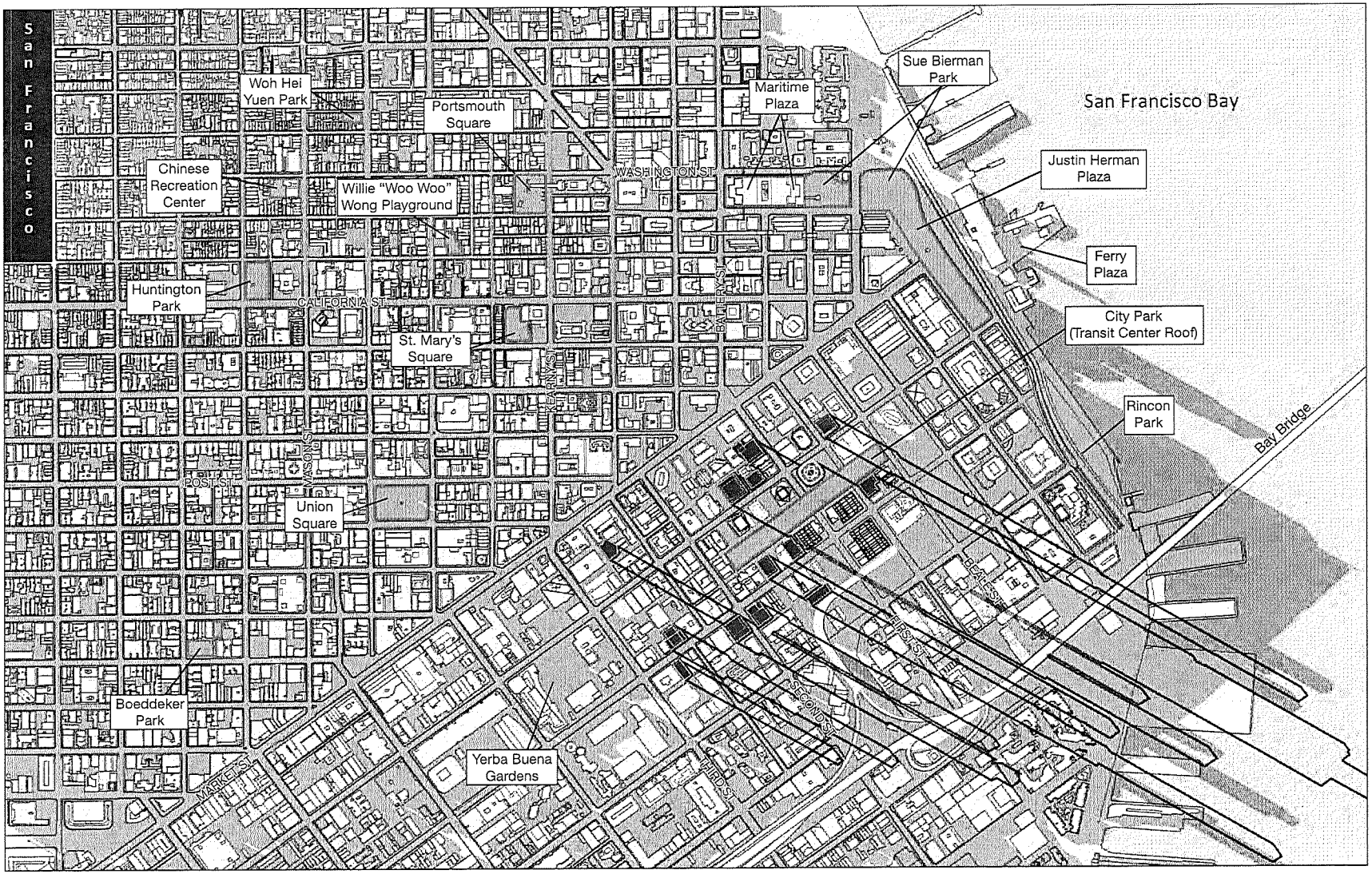
Figure 60-M
June 21 - 6PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 60-N
June 21 - 7PM

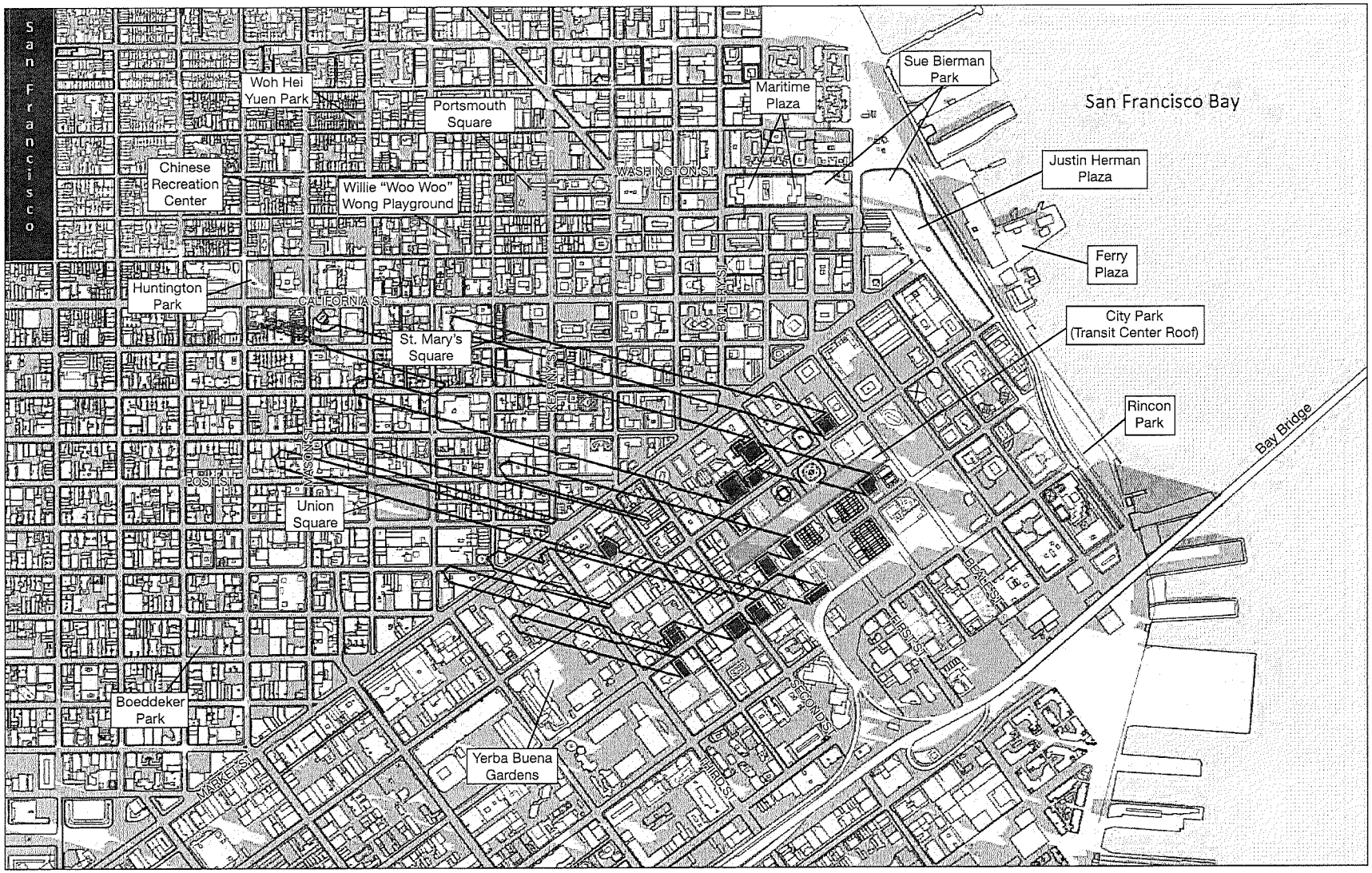


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 60-O

June 21 - Sunset -1 Hour

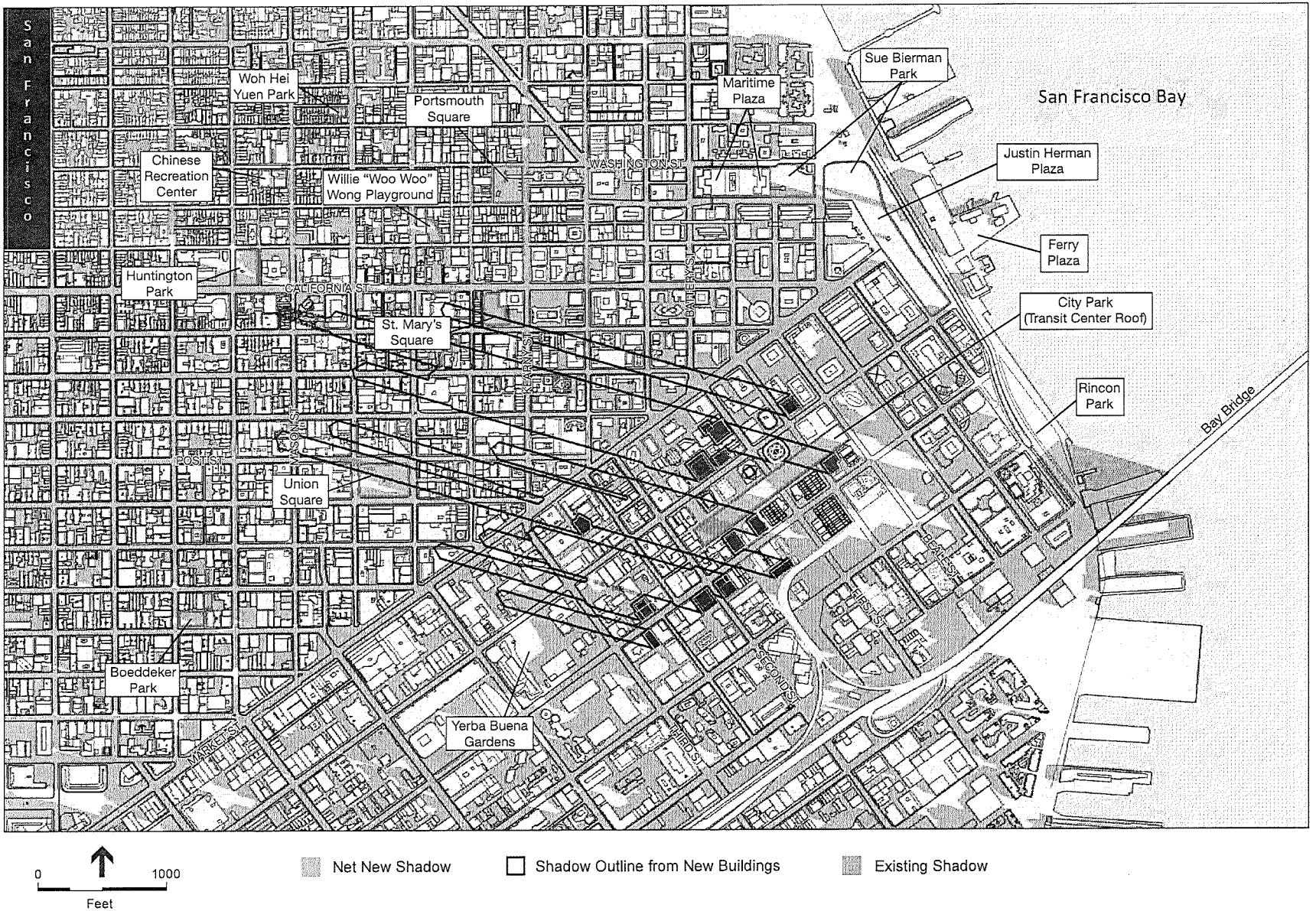


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 61-A

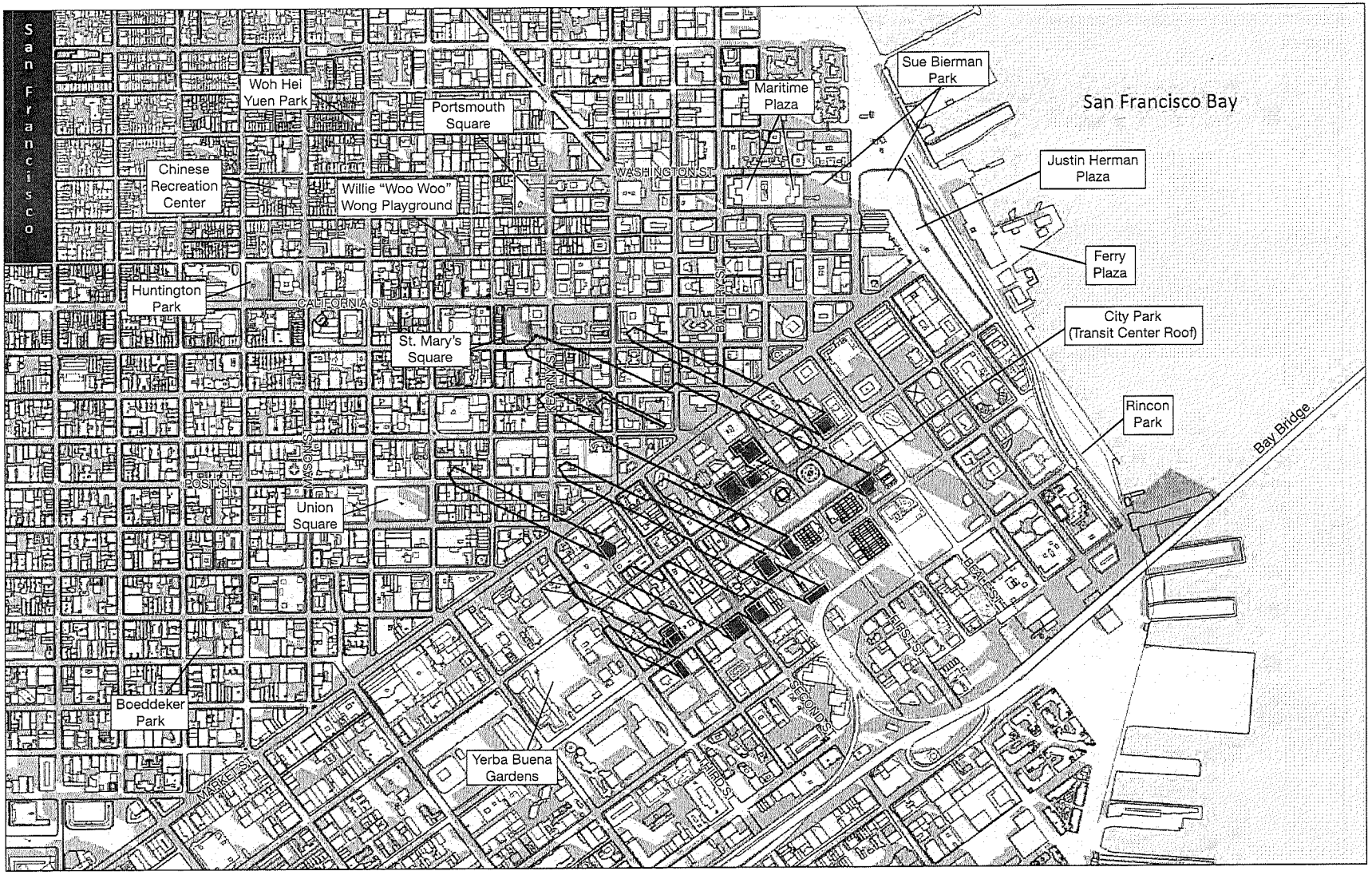
September 21 - Sunrise +1 Hour
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

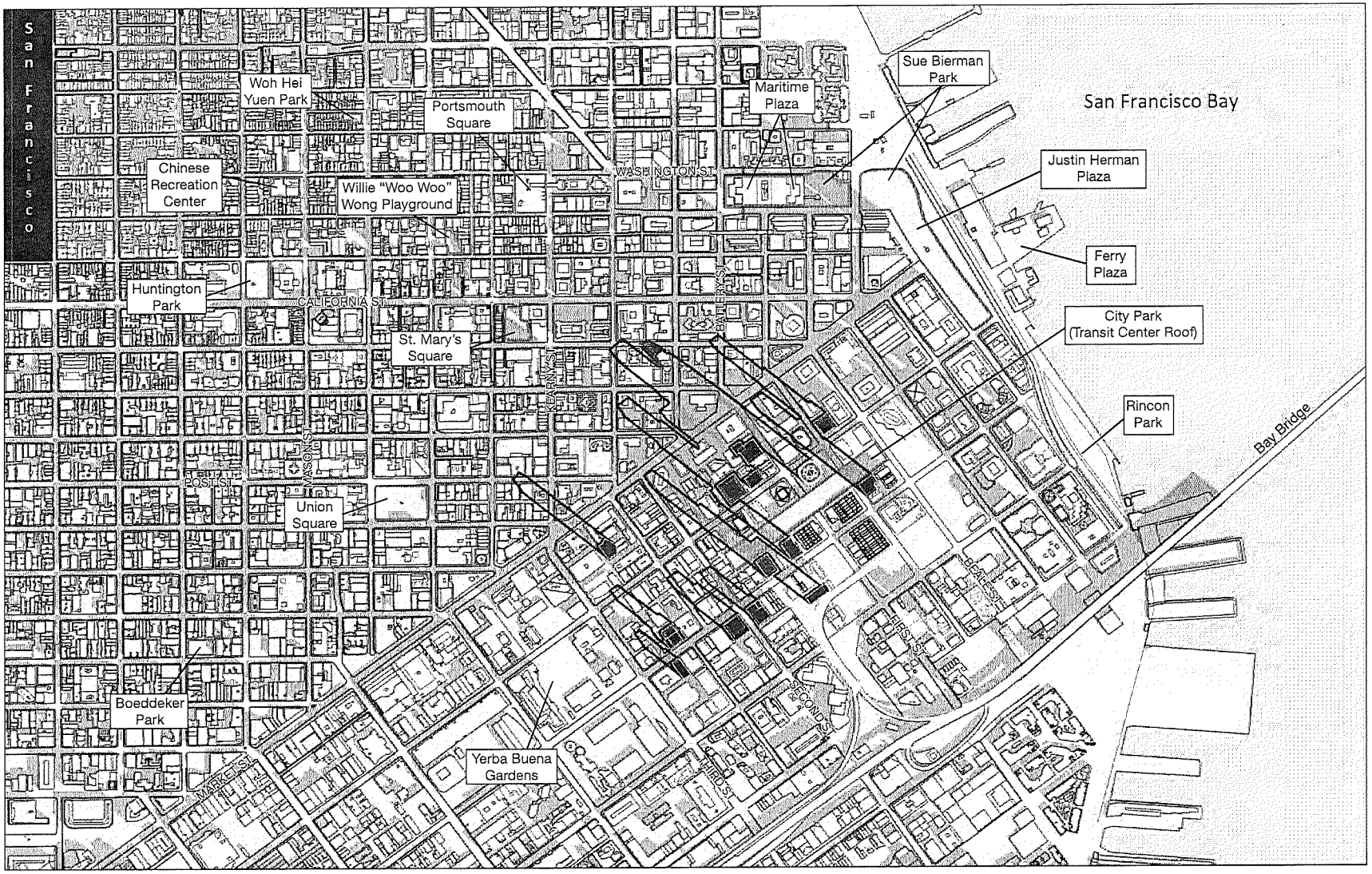
Figure 61-B
September 21 - 8AM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

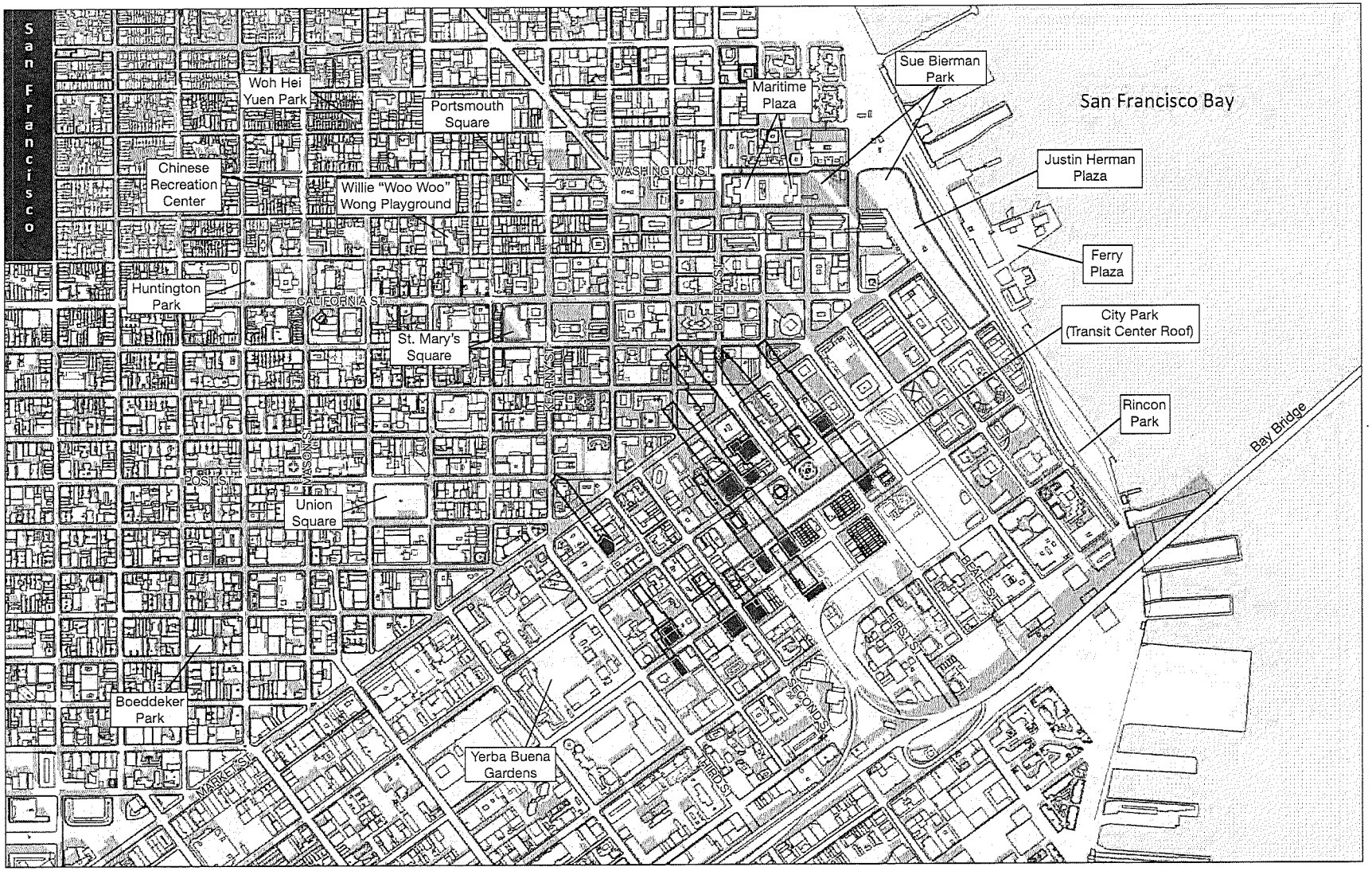
Figure 61-C
September 21 - 9AM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

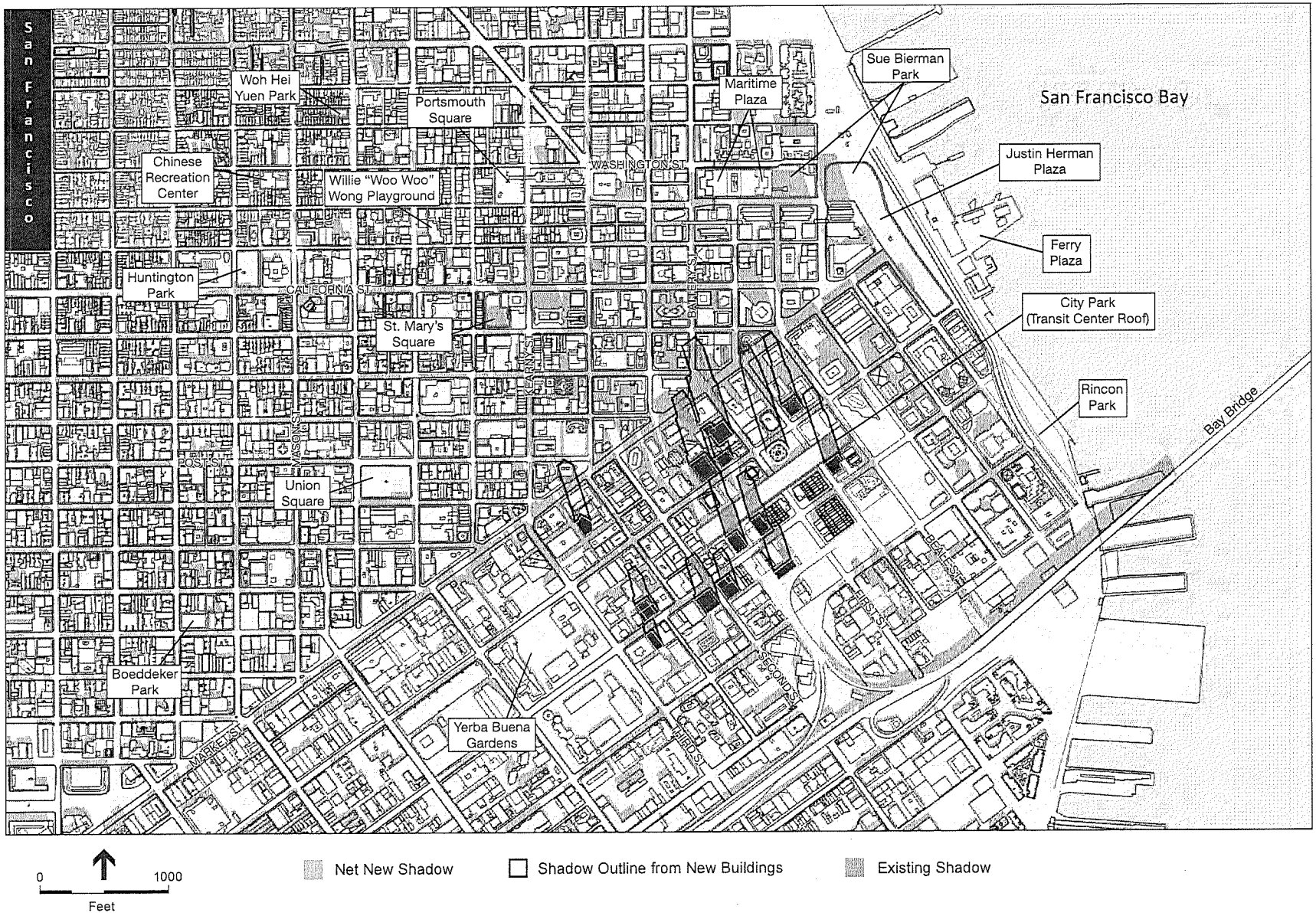
Figure 61-D
September 21 - 10AM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

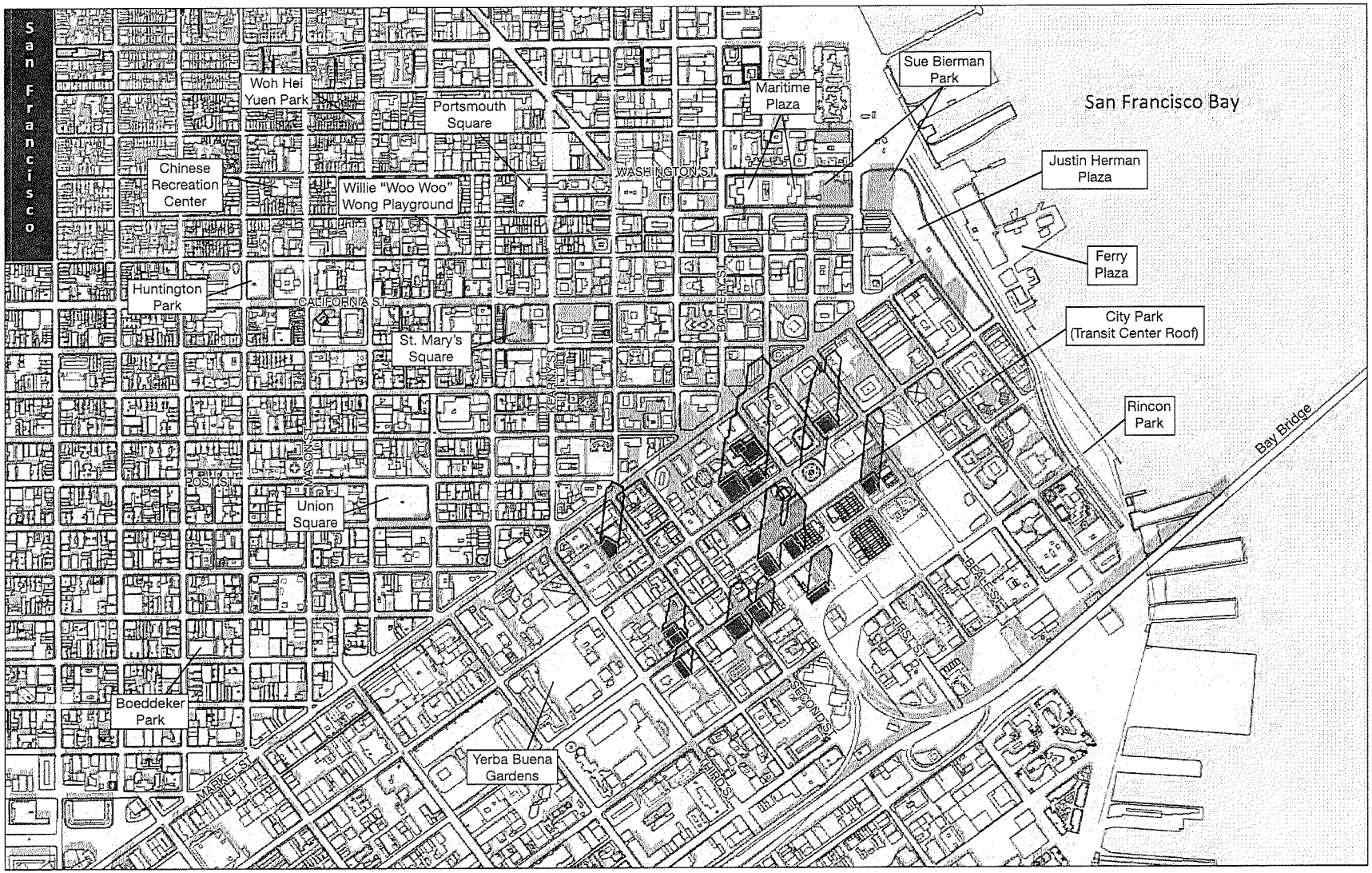
Figure 61-E
September 21 - 11AM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

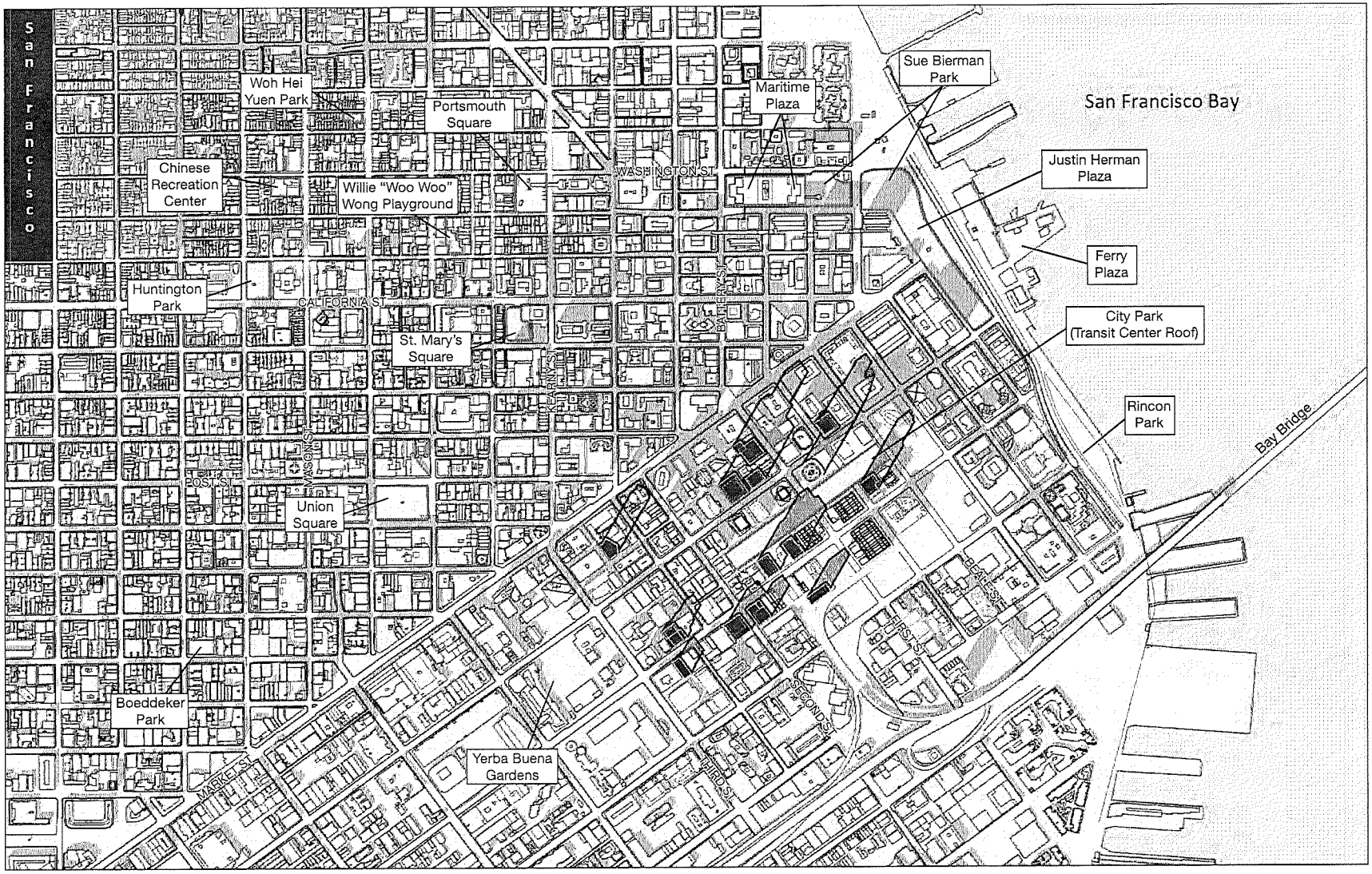
Figure 61-F
September 21 - 12 Noon
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

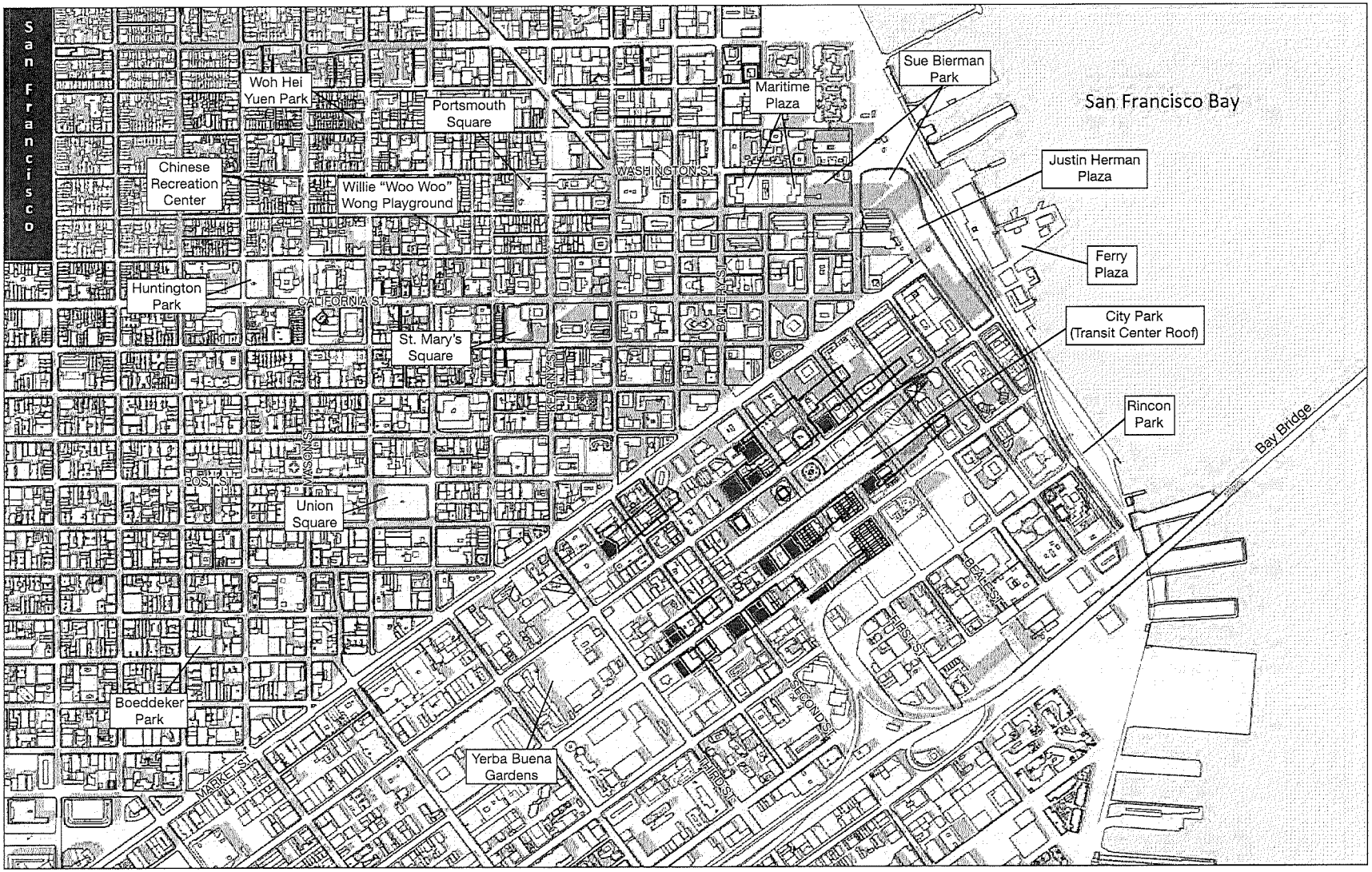
Figure 61-G
September 21 - 1 PM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

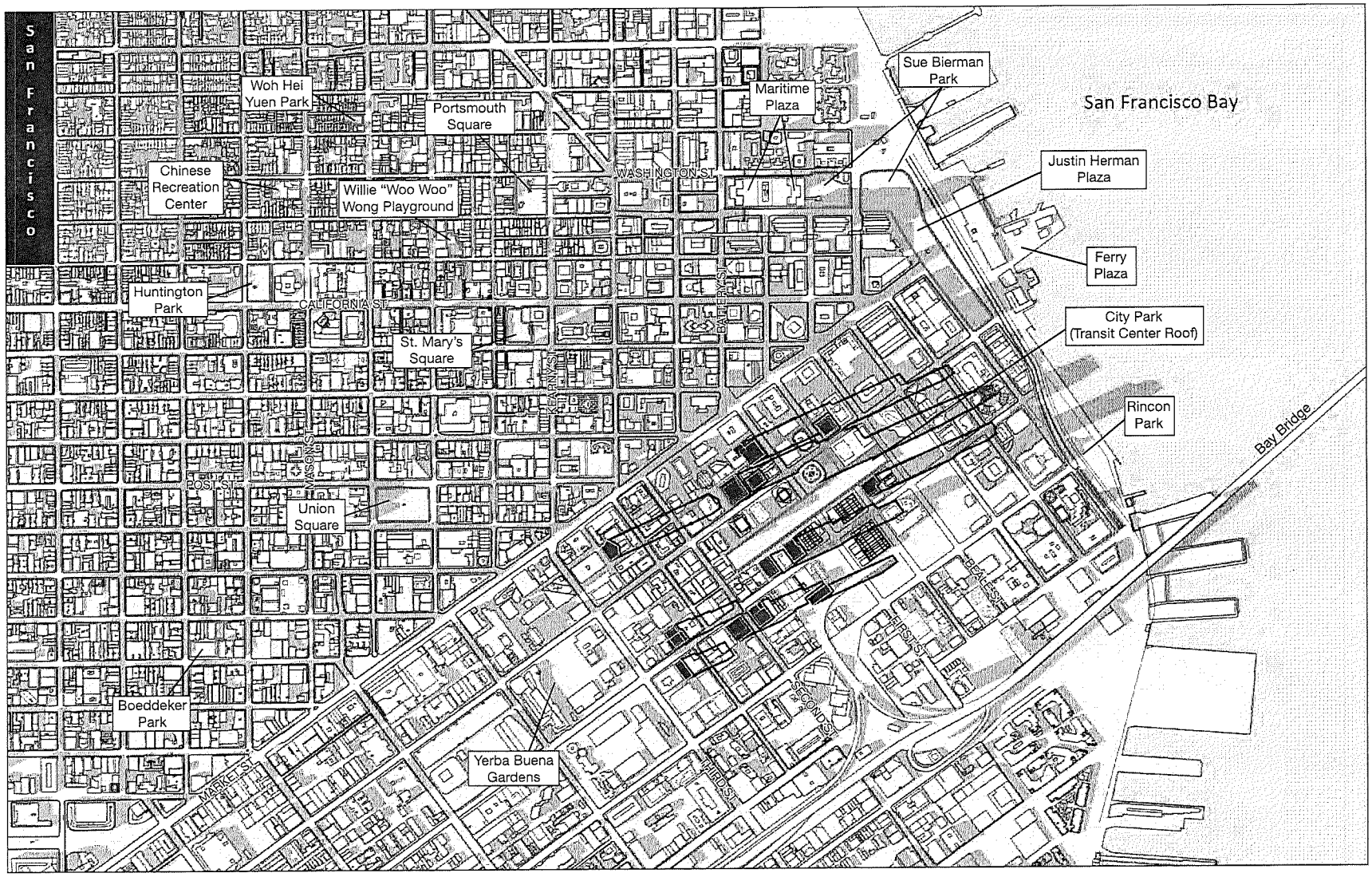
Figure 61-H
September 21 - 2 PM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

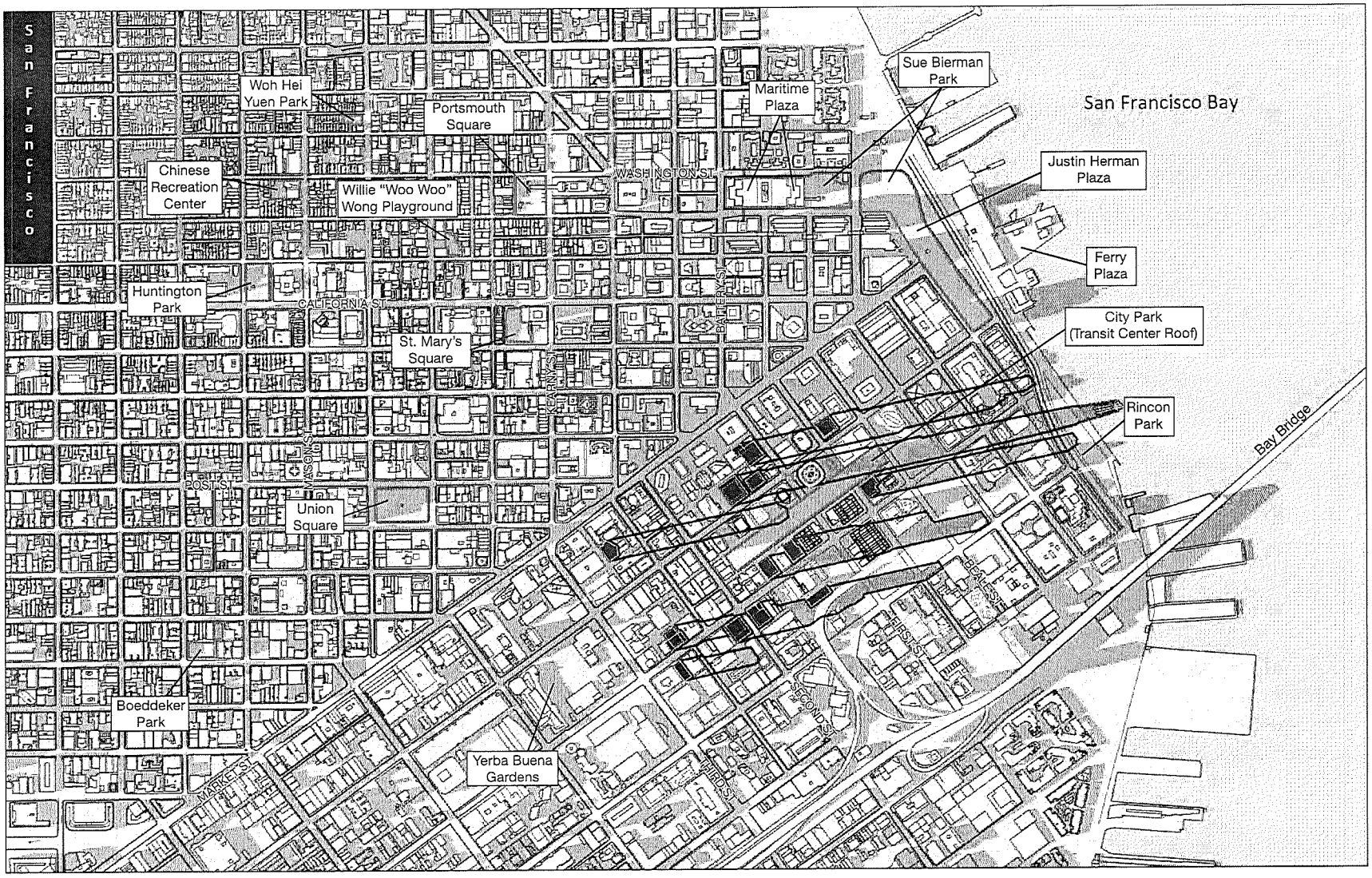
Figure 61-I
September 21 - 3PM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

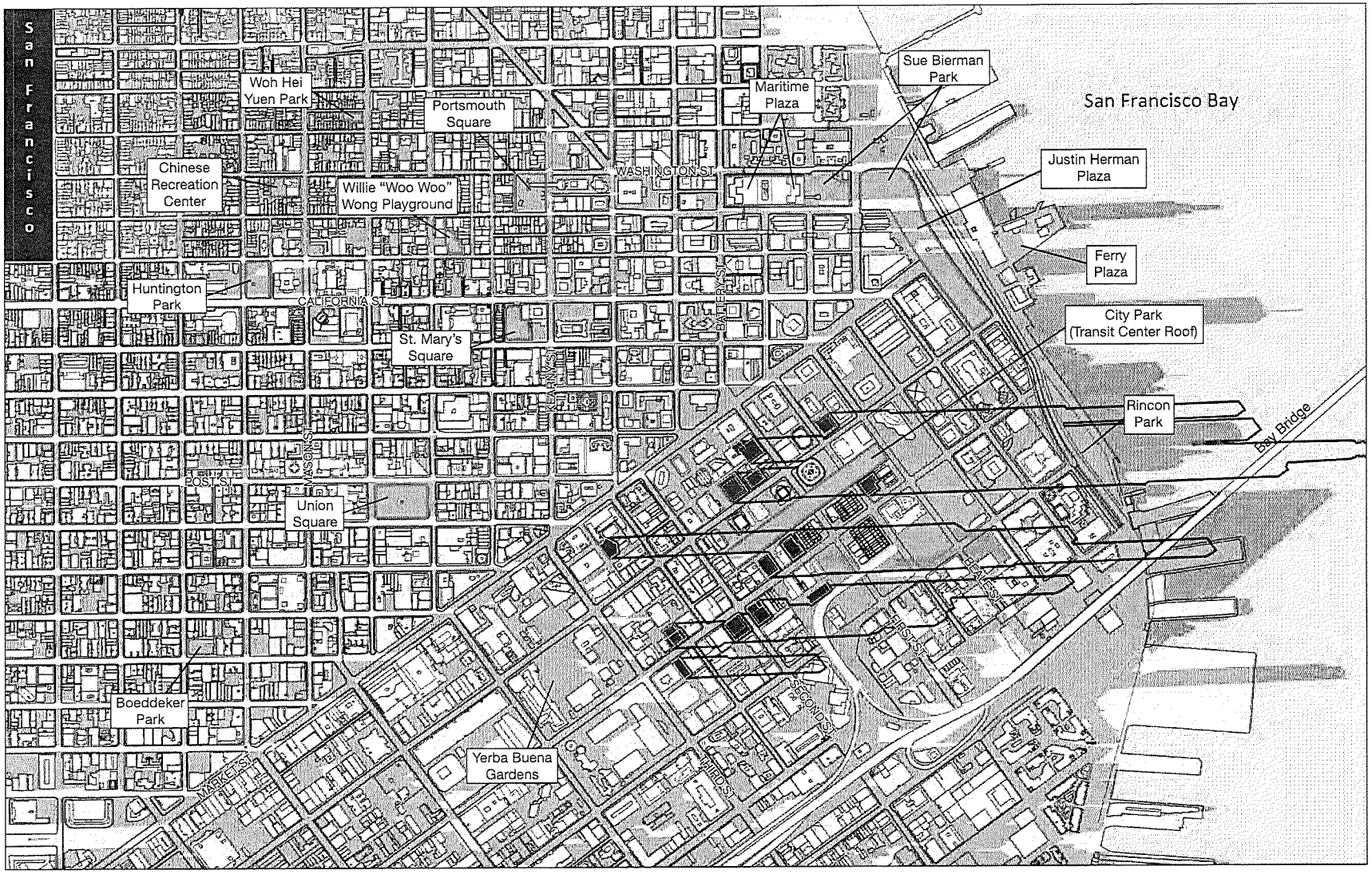
Figure 61-J
September 21 - 4PM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

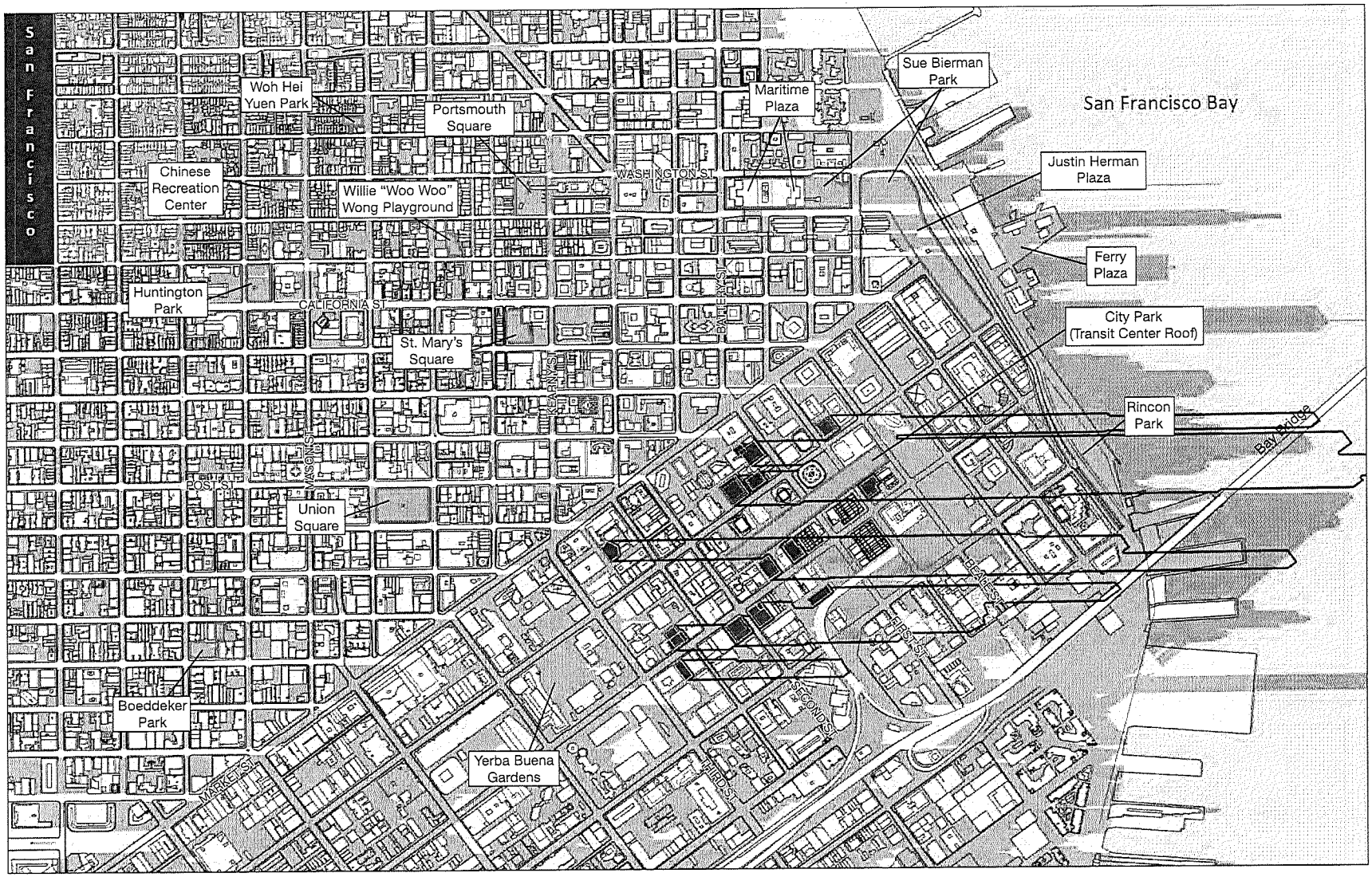
Figure 61-K
September 21 - 5PM
(March 21 Similar)



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 61-K
September 21 - 6PM
(March 21 Similar)

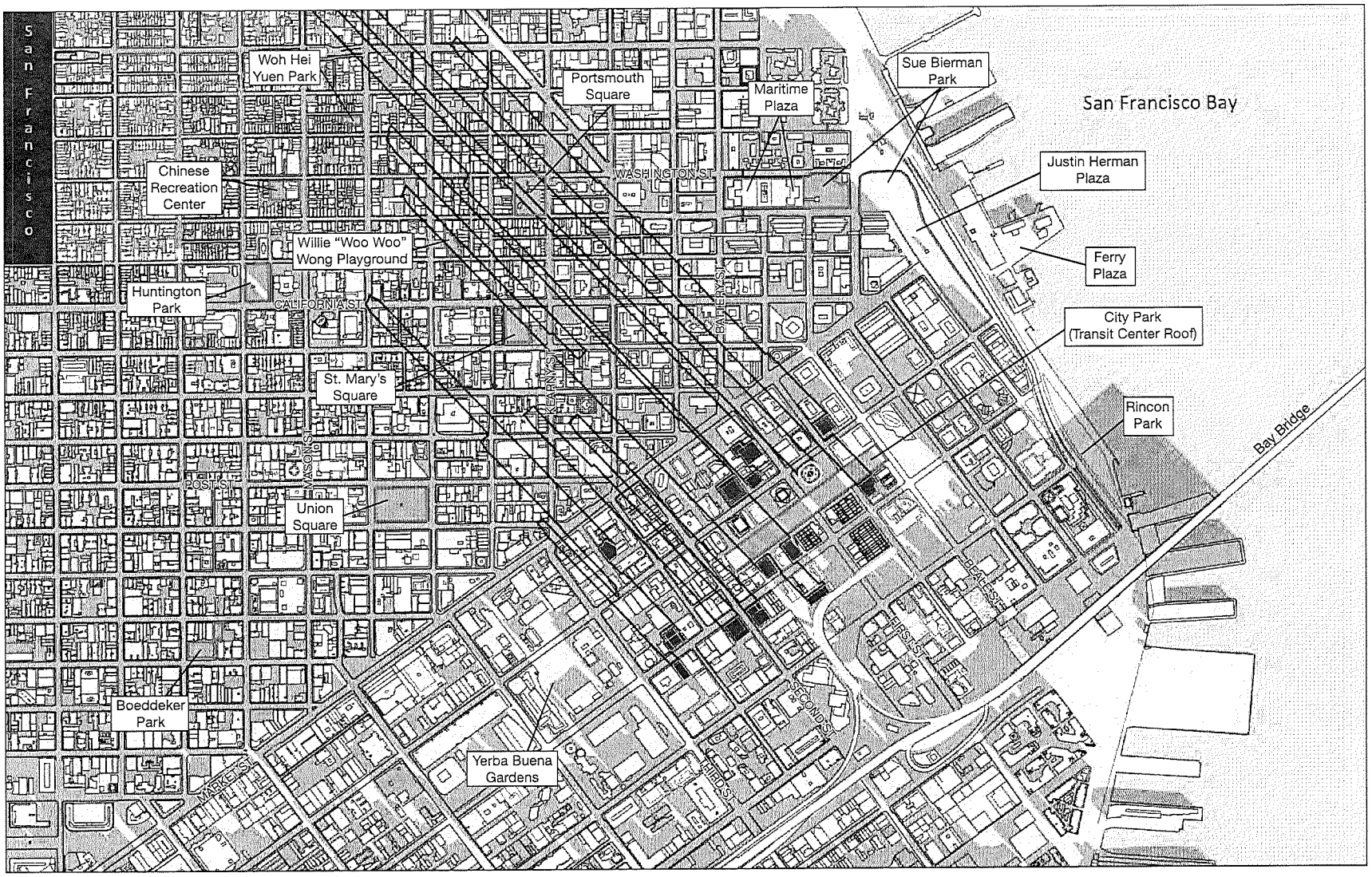


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 61-M

September 21 - Sunset -1 Hour
(March 21 Similar)

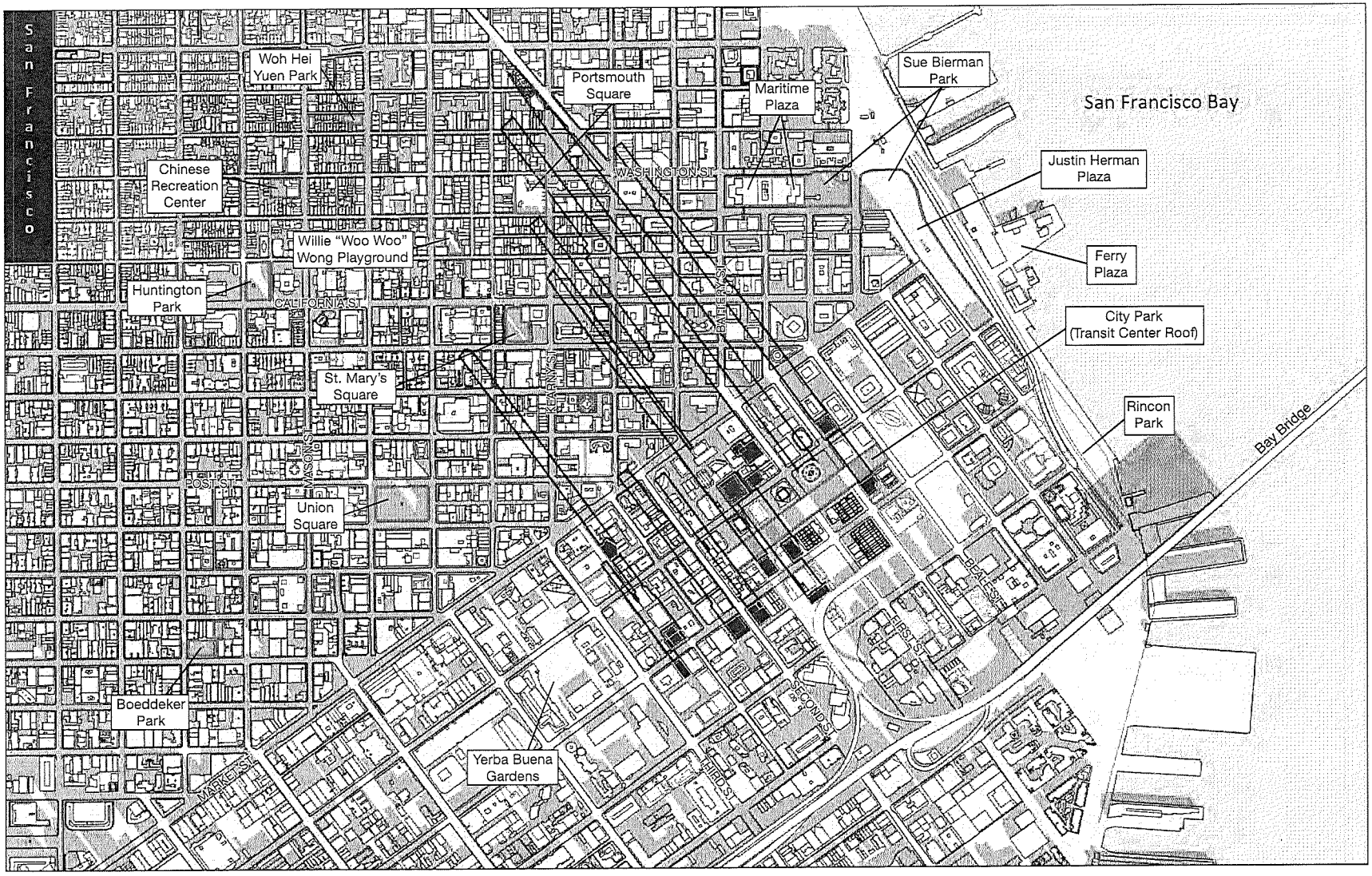


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-A

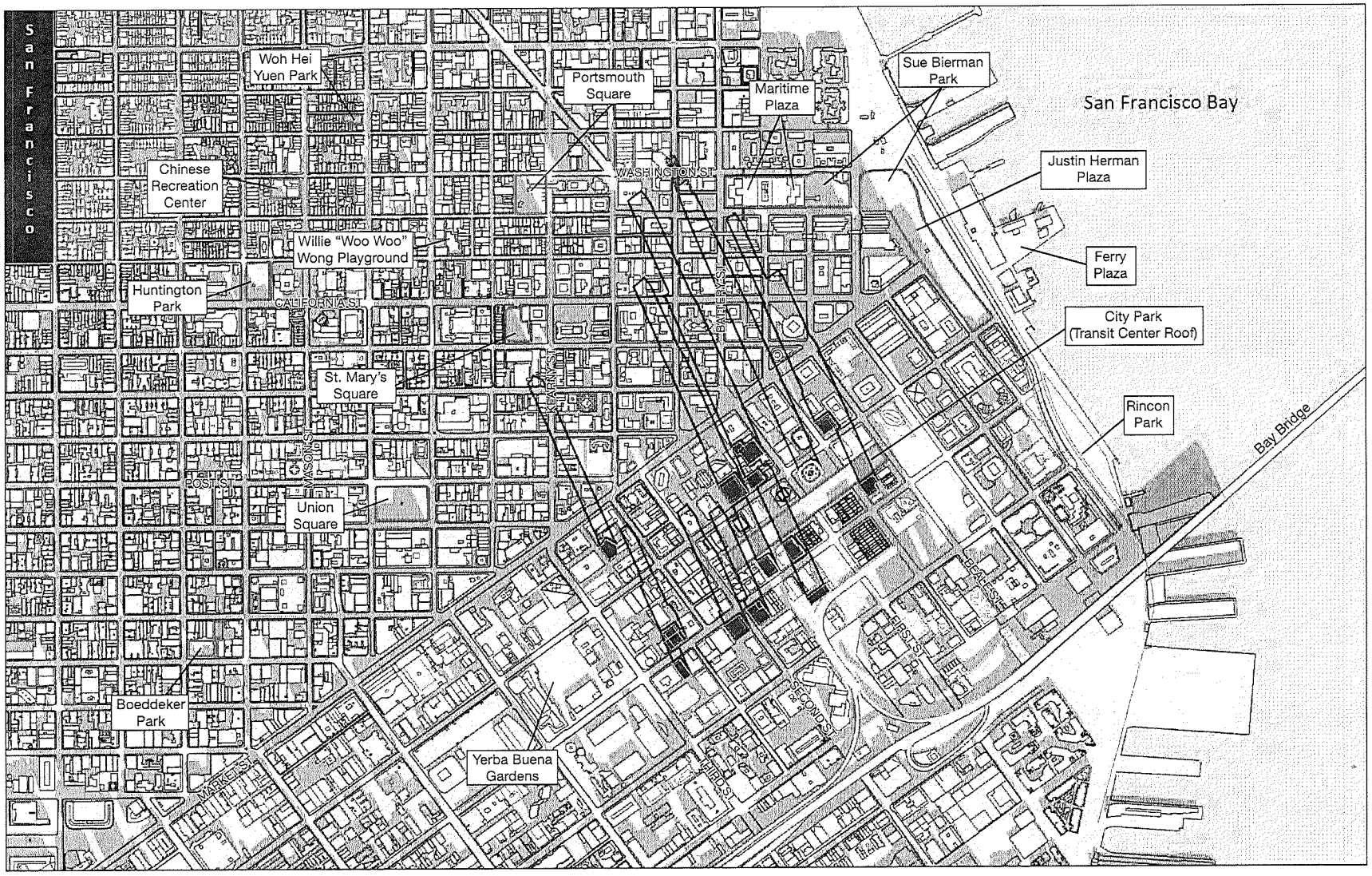
December 21 - Sunrise +1 Hour



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

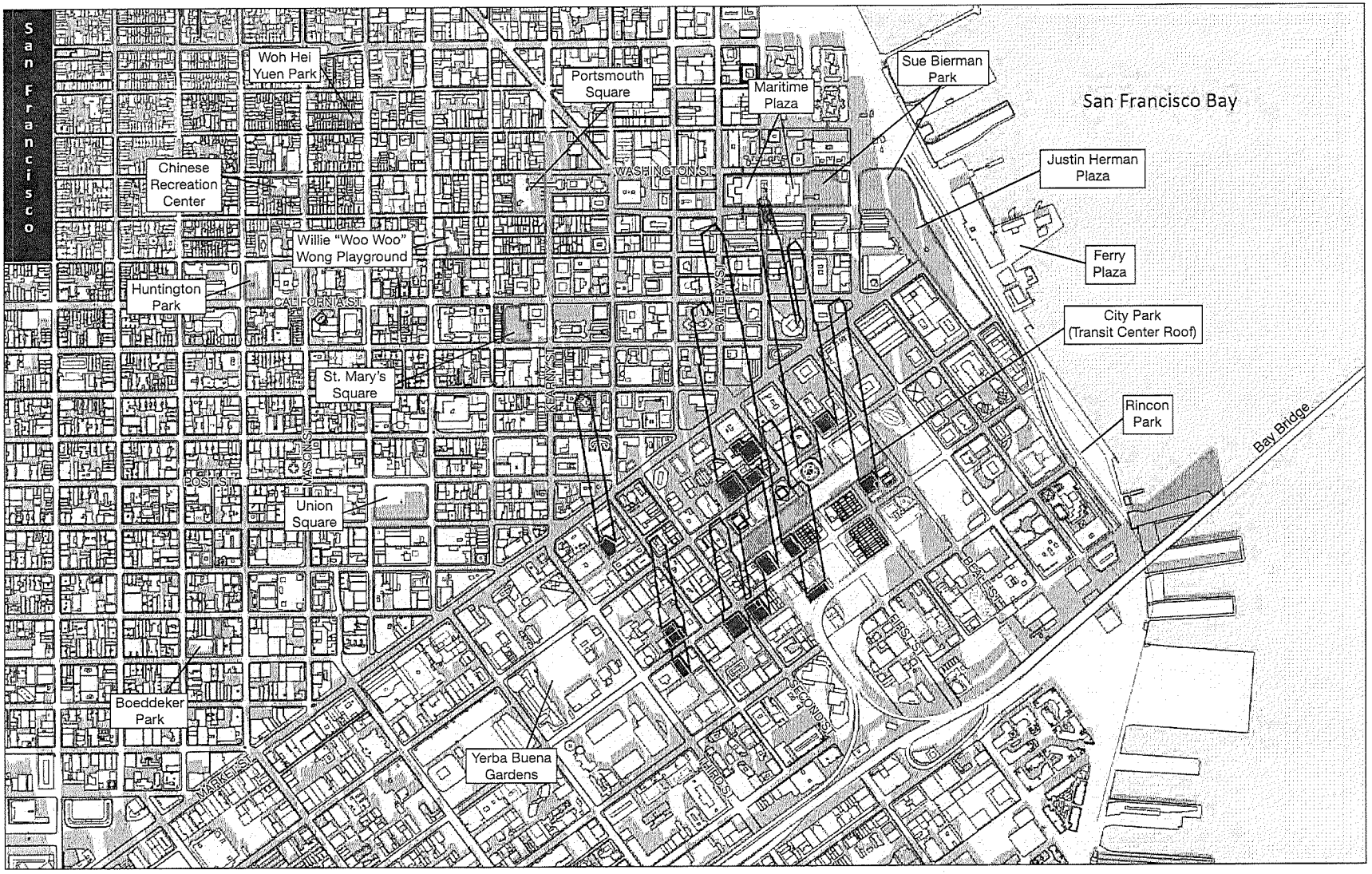
Figure 62-B
December 21 - 9AM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

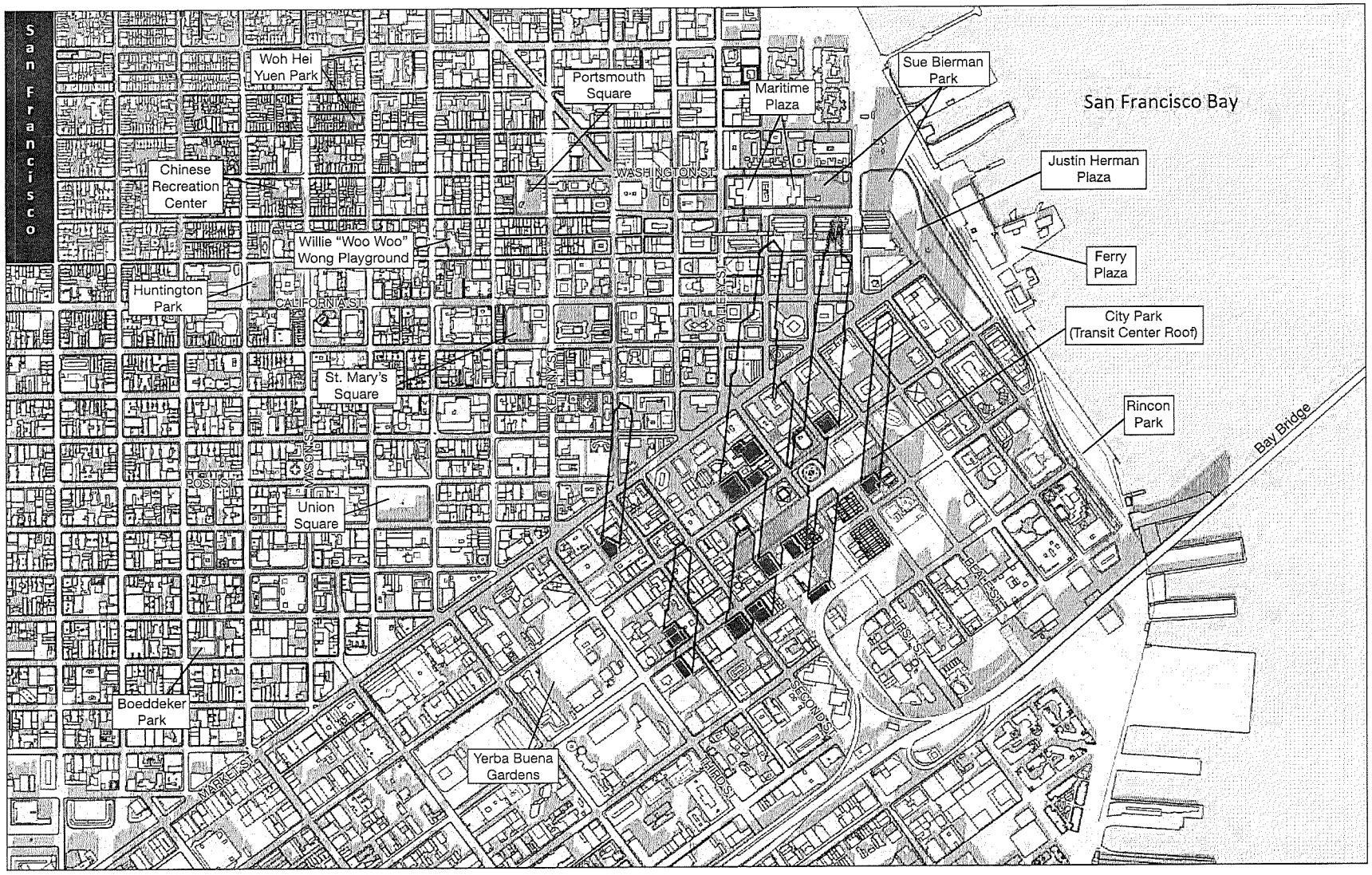
Figure 62-C
December 21 - 10AM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-D
December 21 - 11AM

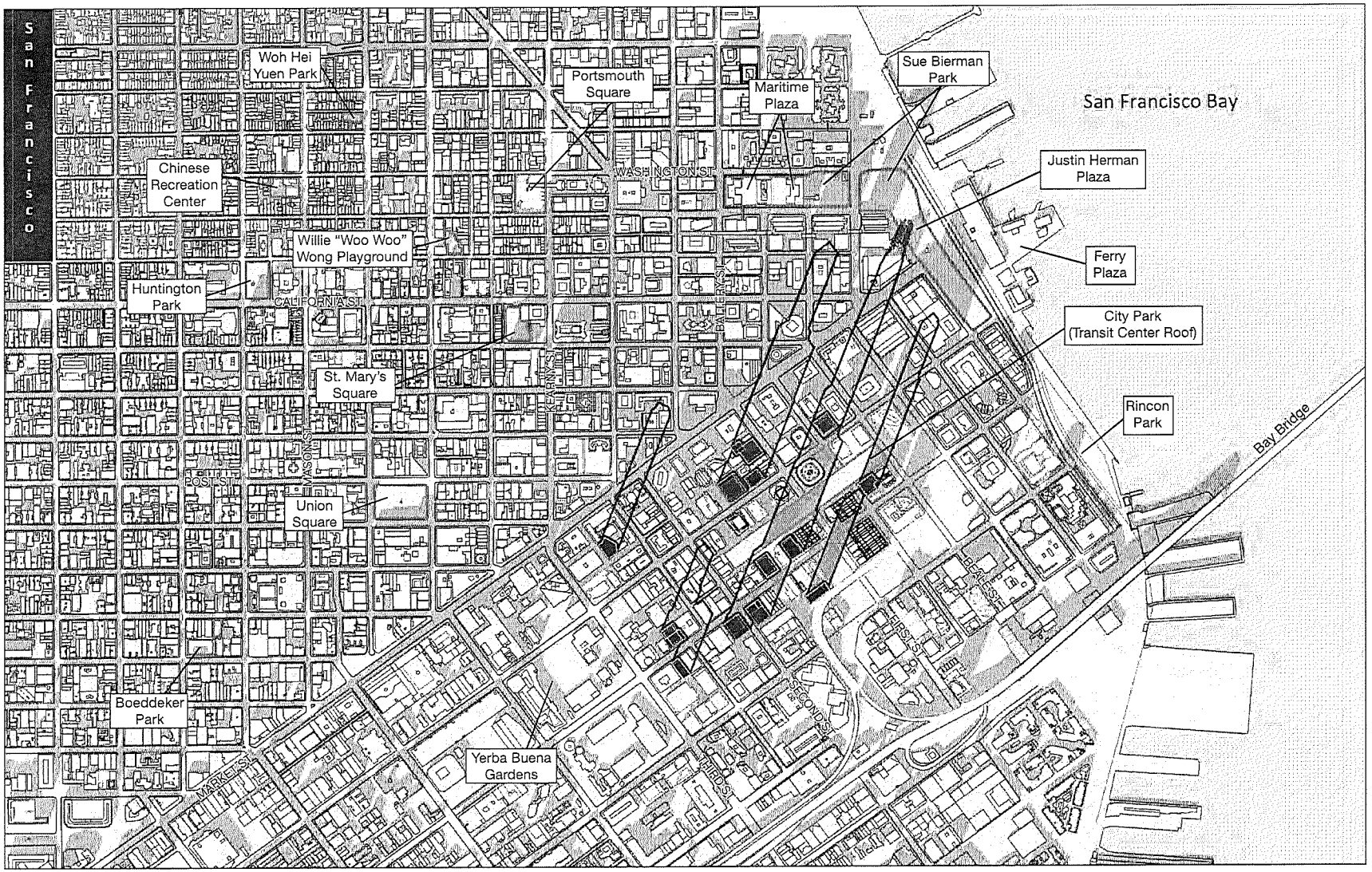


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-E

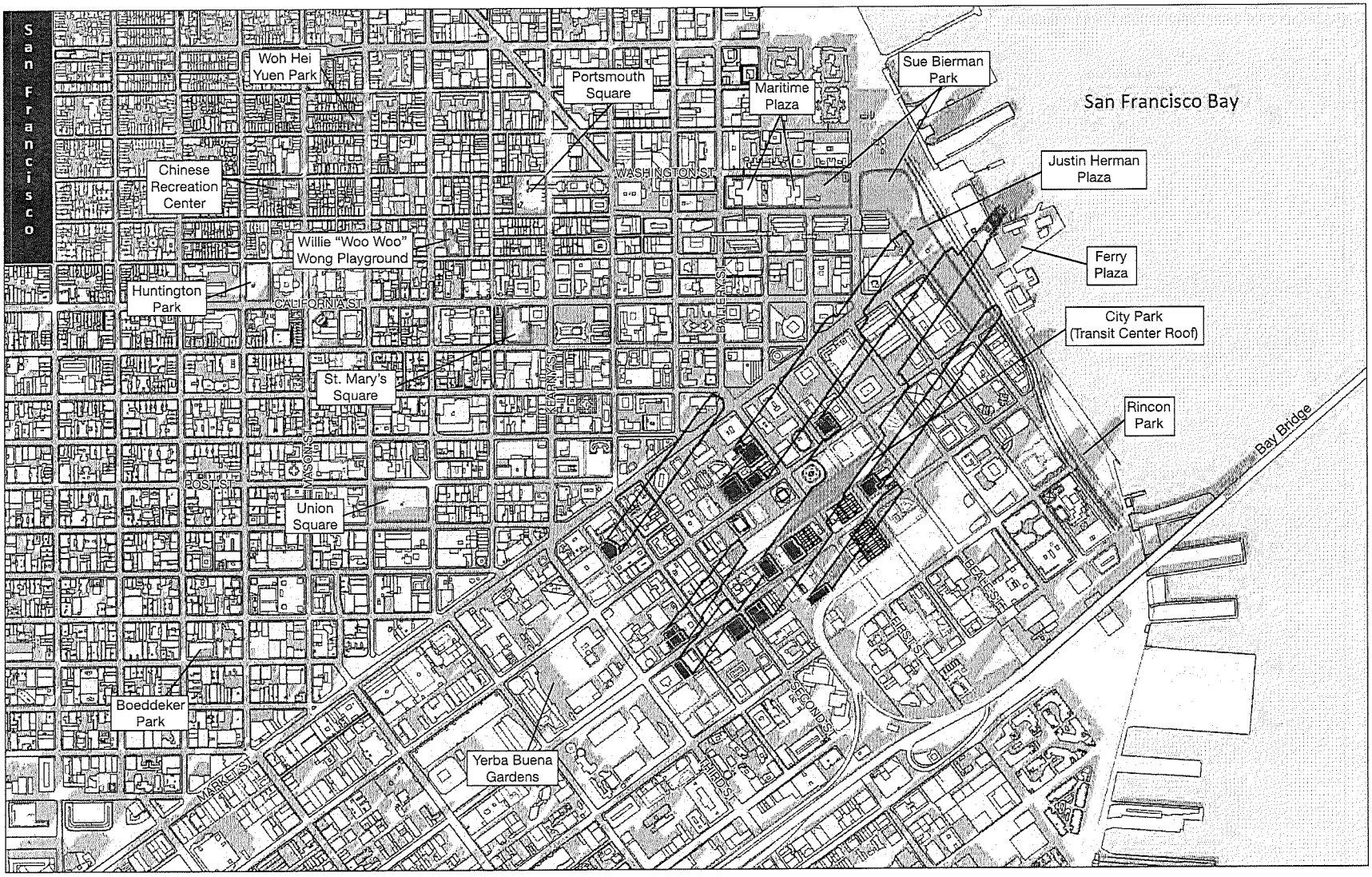
December 21 - 12 Noon



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-F
December 21 - 1 PM

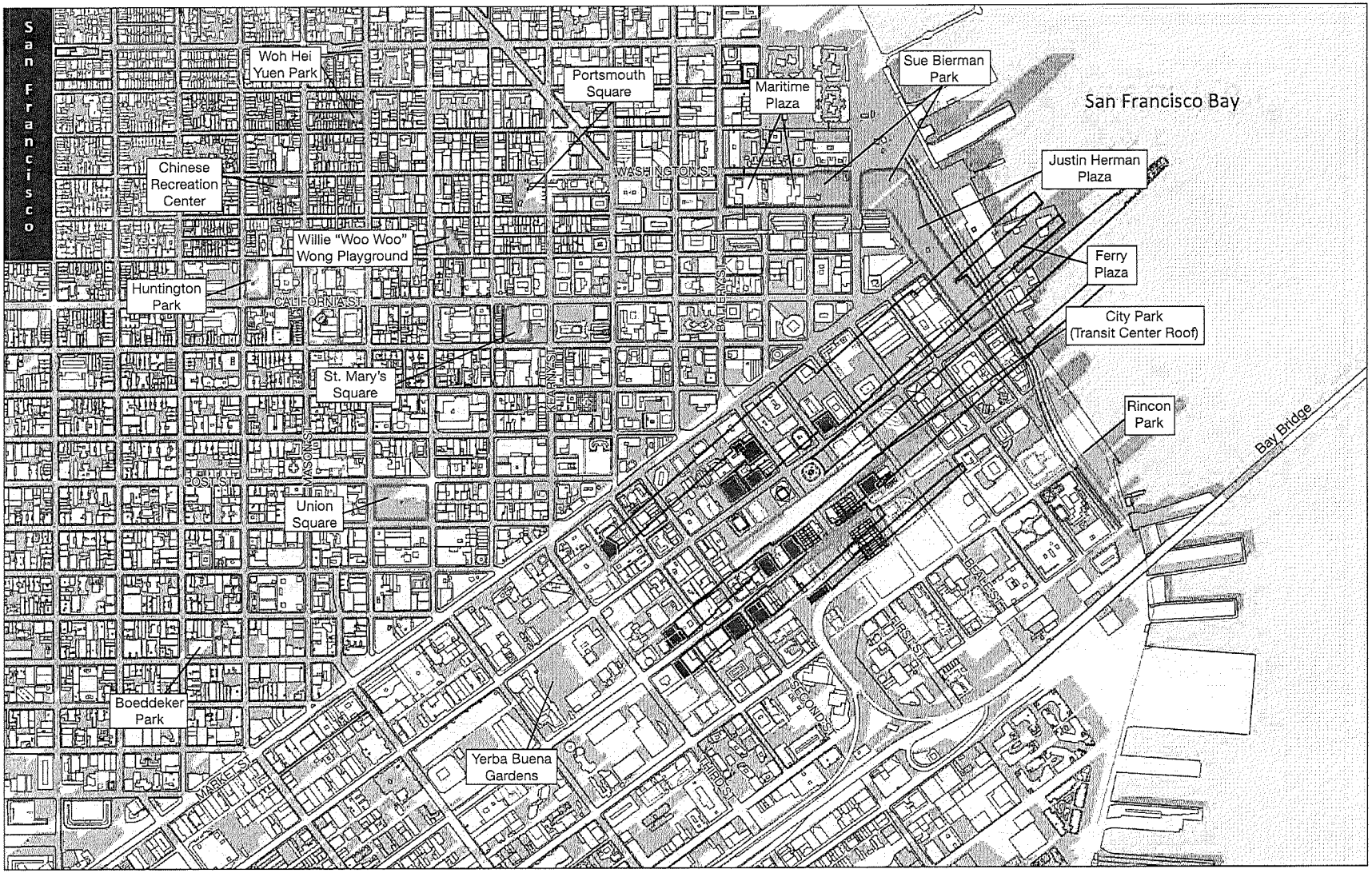


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-G

December 21 - 2 PM

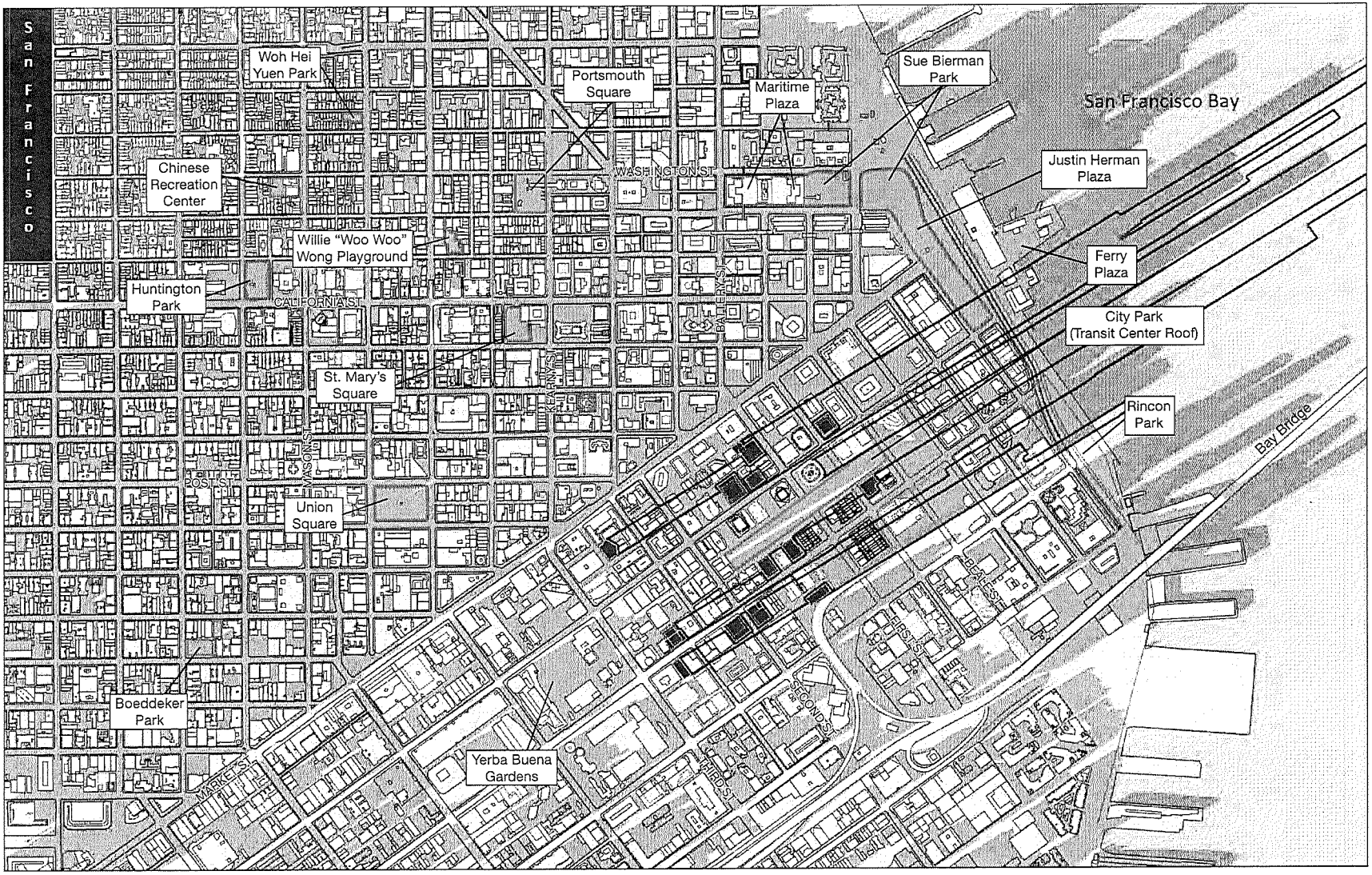


SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-H

December 21 - 3 PM



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 62-I

December 21 - Sunset -1 Hour

TABLE 41
SHADOW ON SECTION 295 PARKS FROM DEVELOPMENT IN THE PLAN AREA

Open Space	Existing Shadow[1]	Permitted Shadow[2]	Shaded By:[3]	Plan Shadow[4]	Shadow w/Plan[5]	Time/Date of Net New Shadow	Maximum Shadow[6]
Union Square[7]	38.30%	0.1% (0.08%)	Pal., 50 F, TT, GGU, 181 Frmt.	0.19%	38.5%	mid-March – late September – 7:10 - 8:40 a.m.	24.5% (8:00 am, early Apr. & early Sept.)
St. Mary's Square[8]	51.90%	0.0%	TT, 50 F, GGU	0.09%	52.0%	mid- Sep – mid-October; late February – late March –8:10 - 9:10 a.m.	26.3% (8:45 am, mid-Mar. & late Sept.)
Portsmouth Square	39.00%	0.0%	TT, 50 First	0.41%	39.4%	late October – mid-February – 8:00 - 9:10 a.m.	42.5% (8:30 am, mid-Jan. & late Nov.)
Justin Herman Plaza[9]	37.60%	0.1% (0.007%)	TT, 50 F, 350 Msh.	0.09%	37.7%	early November - early February – 1:00 - 2:40 p.m.	10.1% (1:15 pm, early Jan. & early Dec.)
Willie "Woo Woo" Wong Plgrd.	52.80%	0.0%	P-F; GGU	0.03%	52.83%	early November. - early December; January – 8:00 - 8:20 a.m.	15.1% (8:15 am, mid-Jan. & late Nov.)
Maritime Plaza	68.40%	0.0%	Transit Tower	<0.01%	68.4%	early to mid-December; late December- early January – 10:40 to 11:05 a.m.	1.9% (10:45 am, late December)
Woh Hei Yuen Park[10]	n/a	n/a	Transit Tower	<0.01%	n/a	Early November and early February, approximately 7:45 a.m.	1.9% (7:44 am,* late Jan. & early Nov.)
Chinese Recreation Ctr.	n/a	0.0%	Transit Tower	<0.01%	n/a	Mid-October and mid-February, approximately 8:25 a.m.	36.5%(8:23 am,* late Feb. & mid-Oct.)
Boeddeker Park[11]	37.70%	0.244% (0.000%)	Transit Tower	<0.01%	37.70%	early June – early July, from 6:50 to 7:00 a.m.	2.9% (6:47 am,* late June)

1 Existing Shadow is the existing amount of shadow cast by existing buildings, measured by the percentage of theoretical annual available sunlight (TAAS) that would be available if no existing buildings were present (based on 1989 Planning Department analysis). TAAS is computed by multiplying the area of each park by 3,721.4 (number of hours covered by Sec. 295). n/a – Not Available

2 Permitted Shadow is the additional amount of **net new** shadow allowed (the Absolute Cumulative Limit) under Sec. 295 for each park. This includes any changes that have occurred since 1989. Bottom figure (in parentheses) indicates remaining budget available, if applicable.

3 Shaded By indicates Plan area buildings that would shade each park: TT – Transit Tower; Pal. – Palace Hotel tower addition; 50 F – 50 First Street; 181 Frmt. – 177 – 187 Fremont; GGU – Golden Gate University site tower; P-F – TJPA Parcel F; 350 Msh. – 350 Mission Street tower (at 700 feet, in accordance with the draft Plan height; this is taller than the 375-foot-tall approved project at this site).

4 Plan Shadow is the amount of net new shadow, given as an approximate percentage of the theoretical annual available sunlight, that would be cast on each park on an annual basis.

5 Shadow w/Plan is the percentage of theoretical annual available sunlight that would be shaded by existing building ***plus*** the proposed project, on an annual basis. Top number is entire Transit Tower; bottom number excludes rooftop element.

6 Maximum Shadow is the greatest amount of each park that would be newly shaded by Plan area buildings at any one moment. Percent of park area that would be shaded is given first; dates and time in parentheses. Asterisk (*) indicates time is first minute subject to Section 295.

7 The shadow budget remaining within the Absolute Cumulative Limit (ACL) for Union Square has been partially reduced since 1989. In 2004, 69,540 square foot hours was allocated to a project at 690 Market Street, which rehabilitated and expanded the historic De Young (Chronicle) Building, now the Four Seasons Residences, reducing the 0.1 percent budget by 0.02 percent.

8 Existing sunlight and existing shadow coverage for St. Mary's Square, as calculated by the Planning Department, assumed future expansion of this park.

9 The shadow budget remaining within the Absolute Cumulative Limit (ACL) for Justin Herman Plaza has been reduced since 1989, when an ACL for this park was established at 0.1 percent, by the allocation of most of the shadow budget. In 2000, the Planning Commission allocated more than nine-tenths of the available shadow under the 0.1 percent ACL to the Hotel Vitale at Spear and Mission Streets, reducing the remaining available shadow to 0.008 percent of theoretical annual available sunlight. In 2008, the Commission allocated an additional 0.001 percent of the available shadow to a proposed vertical expansion of an office building at 100 California Street (Case No. 2006.0660K), reducing the remaining available shadow to 0.007 percent of theoretical annual available sunlight. This latter project has not been constructed.

10 No Absolute Cumulative Limit has been established for Woh Hei Yuen Park.

11 The Absolute Cumulative Limit (ACL) for Boeddeker Park has been adjusted three times since 1989, to accommodate the Emporium/Bloomingdales project (amendment to the Yerba Buena Center Redevelopment Project, for which the ACL was increased from 0.0%to 0.007%); the Tenderloin Neighborhood Development Center (TNDC) Curran House residential project at 145 Taylor Street (0.087%); and, most recently, in 2009, the TNDC Eddy & Jones Family Housing Project (0.244%). This latter project has not yet been constructed.

SOURCE: San Francisco Planning Department; CADP; Environmental Science Associates

Among Recreation and Park Department parks, development pursuant to the draft Plan would most substantially affect Union Square, Portsmouth Square, and St. Mary's Square, both in terms duration (time of day and year) and amount of shadow (increased shadow coverage).

Union Square

Union Square would be newly shaded by up to five potential projects—the Transit Tower and private developments including the Palace Hotel residential tower, a mixed-use project consisting of two towers at 50 First Street, and a residential-office tower at 181 Fremont Street (also known as 177 – 187 Fremont Street)—applications are on file for all of these sites—as well as potential development of a 700-foot-tall building at the existing location of Golden Gate University, on Mission Street between First and Second Streets, as called for in the draft Plan.[297] Because of the location of Union Square relative to the Plan area and to the position of the sun in the sky, shadow from development in the Plan area would fall on Union Square from late March through late September, about 6 months in all, between about 7:10 a.m. and 8:40 a.m.; on any given day during that period, new shadow would fall on Union Square for between a few minutes and about one hour, with the duration being less than 30 minutes on most days except between late August and mid-September and between late March and mid-April, when shadows would last up to about one hour. Most of the new shadow on Union Square would be cast by the Palace Hotel tower, which is proposed for a site that is considerably closer to Union Square than other development in the Plan area.

New shadow from potential Plan area buildings would eliminate less than 0.2 percent of the theoretical annual available sunlight from Union Square, increasing the annual shadow load from approximately 38.3 percent to about 38.5 percent. Under the criteria adopted by the Planning and Recreation and Park Commissions in 1989, Union Square has an Absolute Cumulative Limit of 0.1 percent, meaning that one-tenth of one percent of additional shadow may be permitted, relative to theoretical annual available sunlight. Union Square has had the most development activity relative to the creation of net new shadow of any of the parks that would be affected by tall buildings in the Plan area. Changes have included the addition to the Macy's store facing Union Square at 235-281 Geary Street (Case No. 1996.228K; approved November 21, 1996), which involved the demolition of two six-story buildings and construction of a new eight-story structure of the south side of Geary Street between Powell and Stockton Streets; because of setbacks at the upper story, this project resulted in a net decrease in shadow on Union Square during the hours covered by *Planning Code* Section 295 of approximately 194,293 shadow-foot-hours; however, this amount was not formally "added back" to Union Square's shadow budget. New shadow was added to Union Square by the vertical expansion of the historic DeYoung (Chronicle) Building at 690 Market Street for development of the Ritz-Carlton Residences project (Case No. 2004.0584K; approved March 18, 2004). That project added approximately 69,540 shadow-foot-hour hours of new shade on Union Square, approximately 17.7 percent of the annual shadow hours available for use under the absolute cumulative limit. Therefore, in order for Plan area buildings that would add new shadow to Union Square to be

[297] No application is on file for the Golden Gate University site, although it is assumed in this analysis to be redeveloped in the future.

approved, the Absolute Cumulative Limit would have to be increased—as part of individual building approvals—to approximately 0.2 percent, if all Plan area buildings were to be approved.[298]

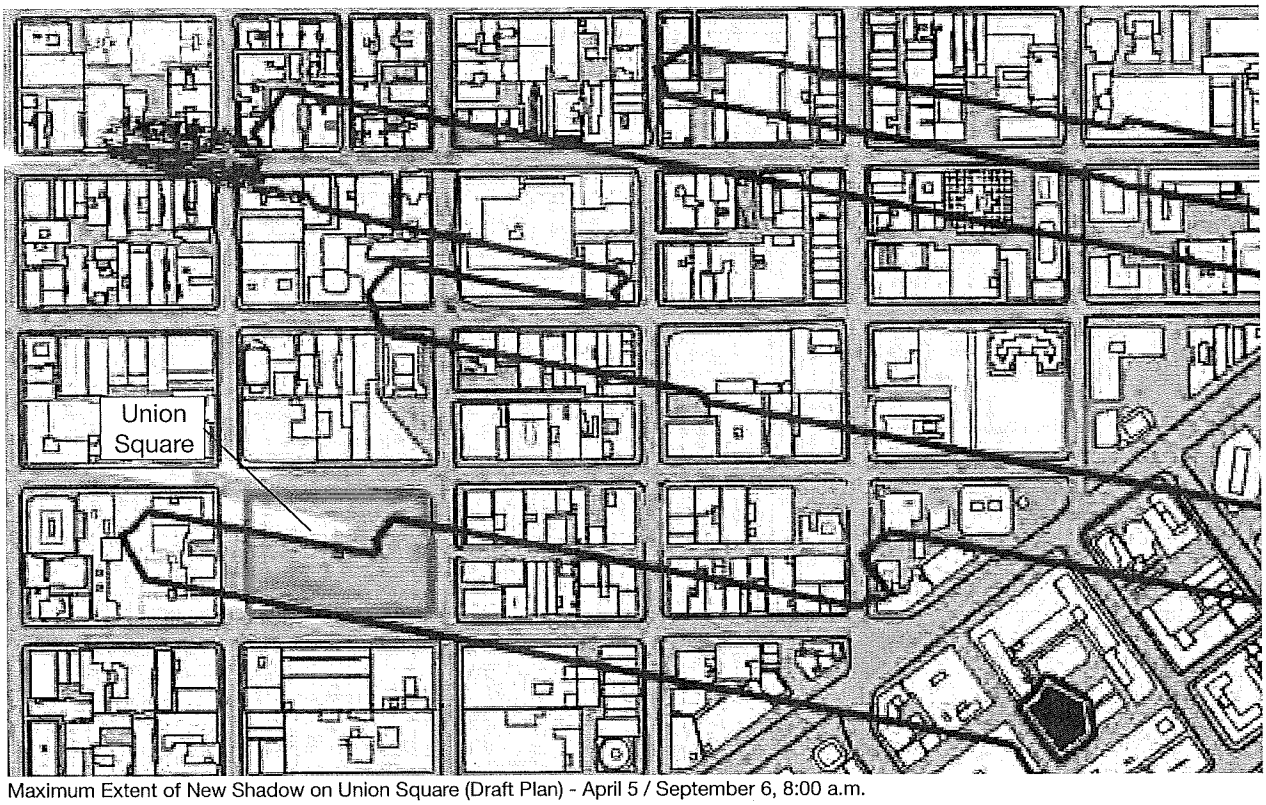
The greatest area of net new shadow at any one time would be approximately 27,500 square feet (about 24.5 percent of the total area of Union Square), at 8:00 a.m. in early September and early April, from the Palace Hotel tower (see **Figure 63**). At these times, shadow on Union Square would increase from about 67 percent shadow coverage to over 90 percent shading. Because most of the Plan area buildings (with the exception of the Palace Hotel tower) that would shade Union Square would do so in the very early morning, additional shadow would generally be cast on Union Square when the park is already three-fourths or more shaded, and often when existing shadow covers more than 90 percent of the park; in some instances, new shadow would complete the shading of Union Square, although for only a few minutes per day. The Palace Hotel tower, being farther west than the other building sites, would add shadow to Union Square when the park is as little as one-third in shadow under existing conditions, and would never result in full shading of the park.

Portsmouth Square

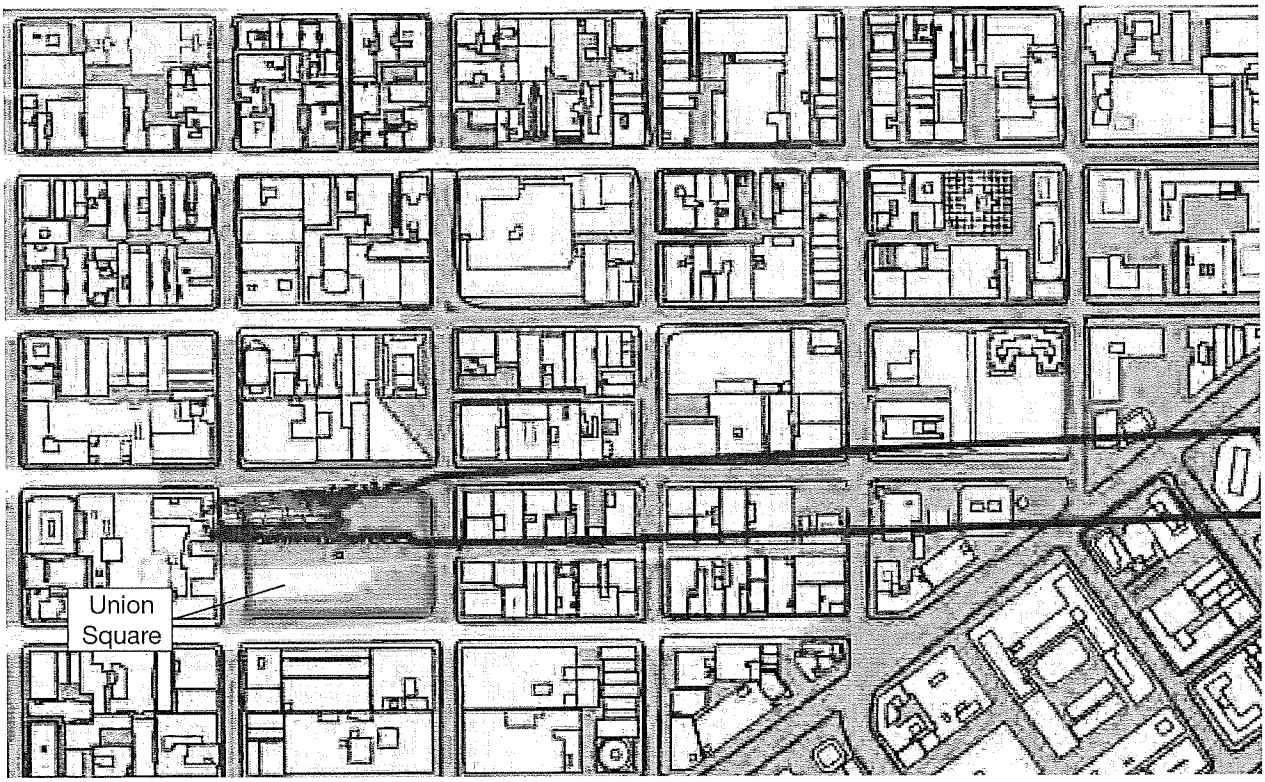
Two potential buildings (the Transit Tower and the project at 50 First Street) would newly shade Portsmouth Square. The park's location to the northwest of these project sites means that new shadow would fall on Portsmouth Square in the late fall and early winter, when shadows are longer. New shadow would reach Portsmouth Square between late October and mid-February (almost 4 months in all), from about 8:00 a.m. until just after 9:00 a.m. Because of the locations of the Transit Tower and the 50 First Street tower relative to Portsmouth Square, shadow from these two projects would fall on the park in sequence during November and early December and again during January and early February. For these approximately 10 weeks, shadow from the First Street project would begin to fall on Portsmouth Square just as shadow from the Transit Tower is leaving the park, meaning that new shadow would be cast for about one hour each morning between about 8:00 and 9:00 a.m. On any given day during the rest of the time when Portsmouth Square would be newly shaded, new shadow would last less than 30 minutes. The greatest area of net new shadow at any one time would be approximately 27,600 square feet (about 43 percent of the total area of Portsmouth Square), at 8:30 a.m. in late November and mid-January, from the project at 50 First Street; at these times, shadow on Portsmouth Square would increase from about 50 percent to more than 90 percent shadow coverage (see **Figure 64**).

New shadow from potential Plan area buildings would eliminate about 0.41 percent of the theoretical annual available sunlight from Portsmouth Square, increasing the annual shadow load from approximately 39 percent to about 39.4 percent. Under the criteria adopted by the Planning and Recreation and Park Commissions in 1989, Portsmouth Square has an Absolute Cumulative Limit of

[298] A pending case, 706 Mission Street (Case No. 2008.1084), proposes to exhaust the remaining shadow budget for Union Square, and to increase the budget by 0.004 percent. Should this project be approved, additional adjustments in the Absolute Cumulative Limit would be necessary to accommodate Plan area buildings.



Maximum Extent of New Shadow on Union Square (Draft Plan) - April 5 / September 6, 8:00 a.m.



Maximum Extent of New Shadow on Union Square (Transit Tower) - Mayt 10 / August 2, 7:45 a.m.

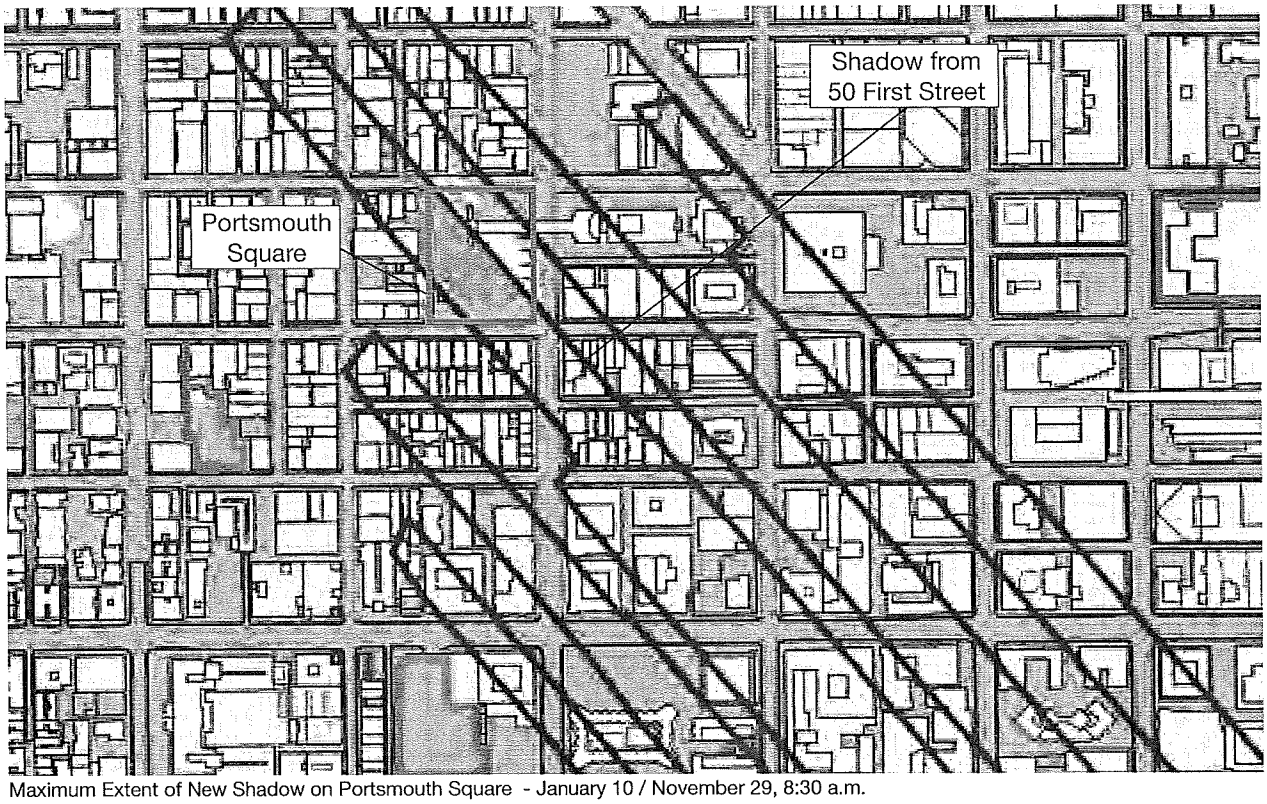
Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

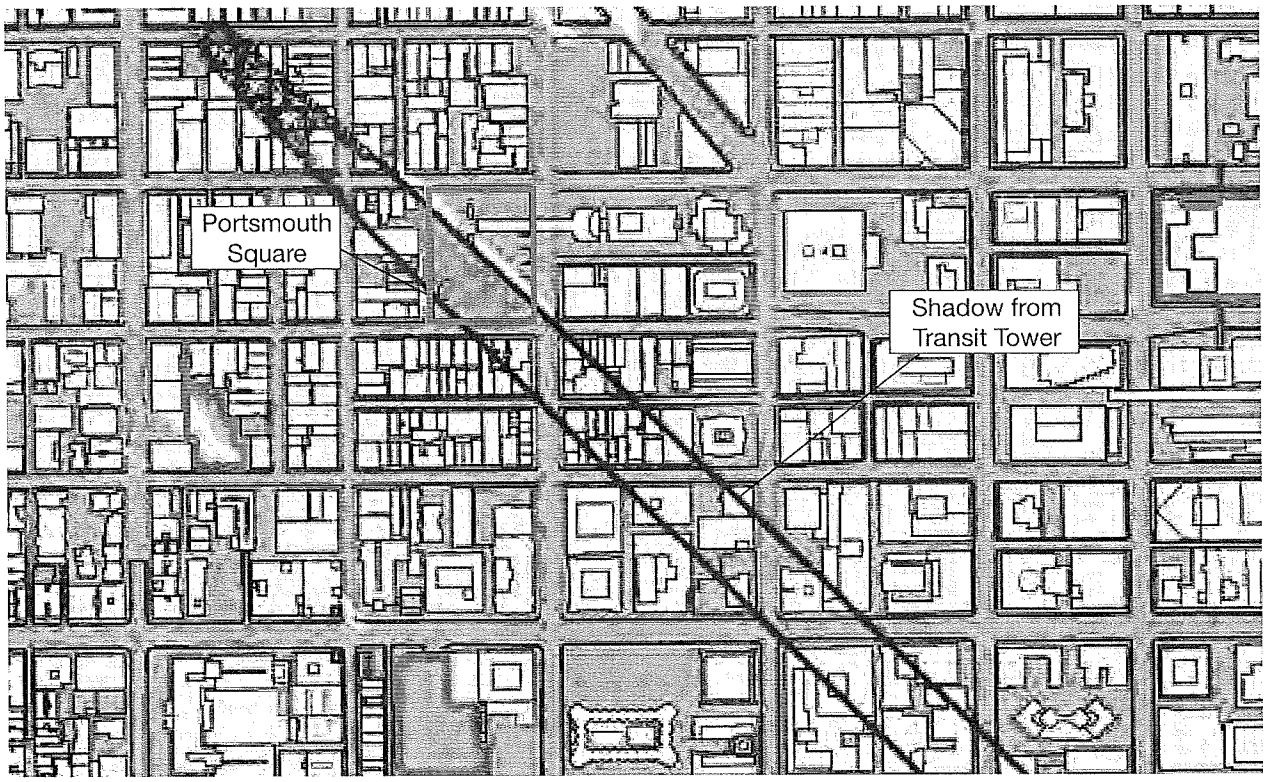
SOURCE: CADP

Figure 63

Maximum Extent of New Shadow on Union Square



Maximum Extent of New Shadow on Portsmouth Square - January 10 / November 29, 8:30 a.m.



Maximum Extent of New Shadow on Portsmouth Square - January 31 / November 8, 8:15 a.m.

Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: CADP

Figure 64 (revised)

Maximum Extent of New Shadow on Portsmouth Square

0.0 percent, meaning that no additional shadow may be permitted. Therefore, in order for Plan area buildings that would add new shadow to Portsmouth Square to be approved, the Absolute Cumulative Limit would have to be increased—as part of individual building approvals—to approximately 0.41 percent, if all Plan area buildings were to be approved.

St. Mary's Square

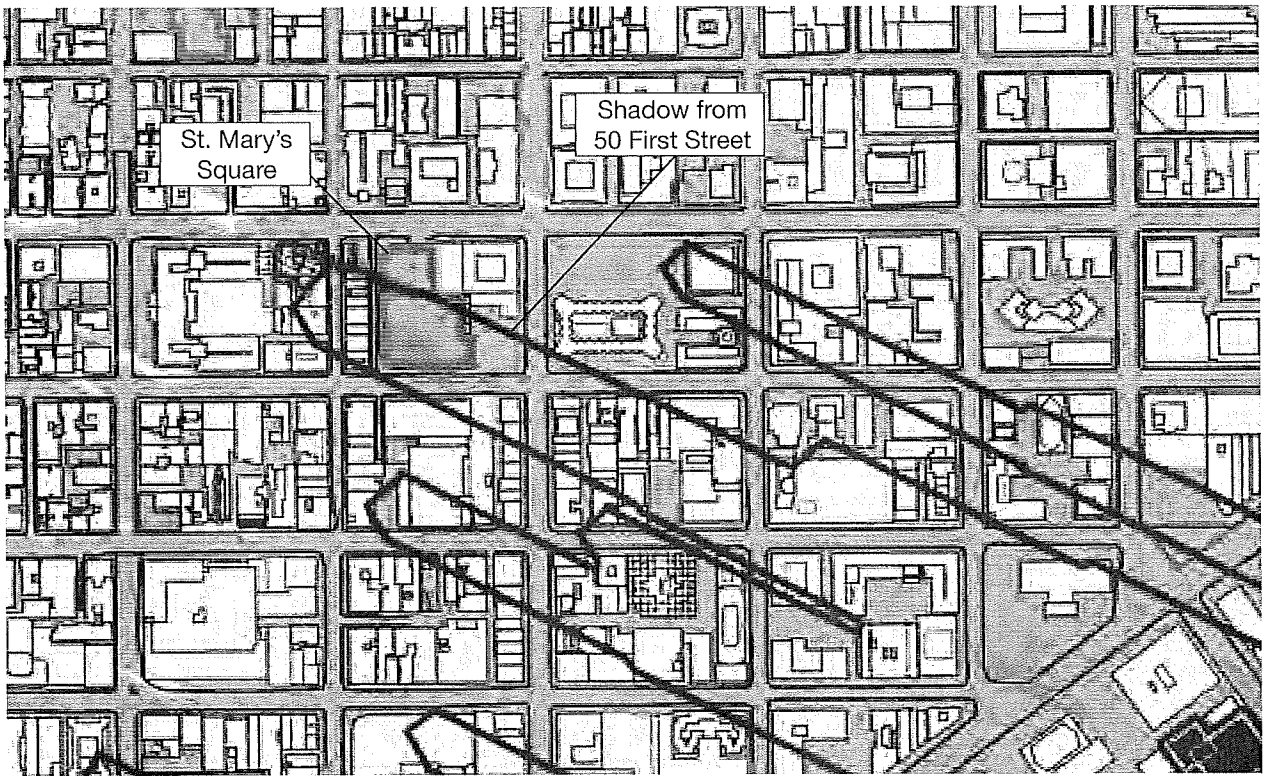
St. Mary's Square has the greatest existing shadow load of the parks that would be most substantially affected, with nearly 52 percent of theoretical annual available sunlight already lost to building shadows. St. Mary's Square would be newly shaded by the Transit Tower, the 50 First Street project, and a potential 700-foot building at 350 Mission Street, as called for in the draft Plan.[299] New shadow would fall on St. Mary's Square from mid-September to mid-October, and during March (about 1.5 months in all), between about 8:10 a.m. and 9:10 a.m. As with Portsmouth Square, St. Mary's Square would be consecutively shaded by the Transit Tower and the 50 First Street project. This would occur in late September and early October, and in mid- to late March. During these times of the year, new shadow would last more than 30 minutes. At other times when new shadow would fall on St. Mary's Square, the duration on any particular day would be 20 minutes or less. The greatest area of net new shadow at any one time would be approximately 10,500 square feet (about 26 percent of the total area of St. Mary's Square), at 8:45 a.m. in late September and mid-March, from the project at 50 First Street; at these times, shadow on St. Mary's Square would increase from about 75 percent to 100 percent shadow coverage (see **Figure 65**).

New shadow from potential Plan area buildings would eliminate less than 0.1 percent of the theoretical annual available sunlight from St. Mary's Square, increasing the annual shadow load from approximately 51.9 percent to about 52.0 percent. Under the criteria adopted by the Planning and Recreation and Park Commissions in 1989, St. Mary's Square has an Absolute Cumulative Limit of 0.0 percent, meaning that no additional shadow may be permitted. Therefore, in order for Plan area buildings that would add new shadow to St. Mary's Square to be approved, the Absolute Cumulative Limit would have to be increased—as part of individual building approvals—to approximately 0.09 percent, if all Plan area buildings were to be approved.

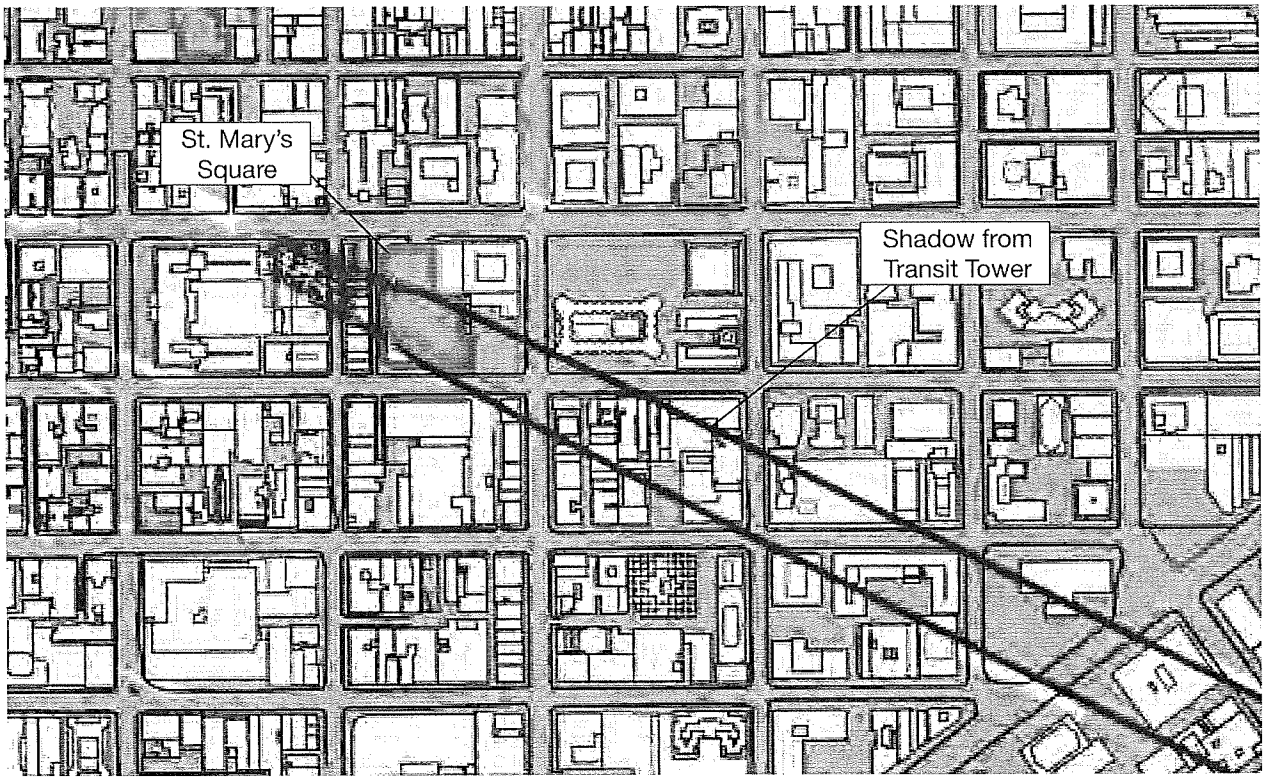
Justin Herman Plaza

The only other Proposition K park that would be affected by more than one building in the Plan area would be Justin Herman Plaza. Justin Herman Plaza is also the only Proposition K open space that would be affected at a time of day other than early morning. This park would be shaded by the Transit Tower, the 50 First Street project, and a building at 350 Mission Street developed at the draft Plan's proposed height limit of 700 feet. Justin Herman Plaza would be newly shaded between early November and early February (about 2.5 months in all), from about 1:00 p.m. to 2:40 p.m. New shadow would fall on Justin

[299] As stated in the Project Description, a 375-foot-tall building was approved at this site in 2011. However, the Plan proposes that the height limit on this site be increased to 700 feet.



Maximum Extent of New Shadow on St. Mary's Square - March 15 / September 27, 8:45 a.m.



Maximum Extent of New Shadow on St. Mary's Square - March 15 / September 27, 8:45 a.m.

Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: CADP

Figure 65 (revised)

Maximum Extent of New Shadow on St. Mary's Square

Herman Plaza for between 15 minutes and 50 minutes per day. The greatest area of new shadow at any one time would be approximately 16,400 square feet (about 10 percent of the total area of Justin Herman Plaza), at 1:15 p.m. in early December and early January, from the Transit Tower; at these times, shadow on Justin Herman Plaza would increase from about 86 percent to about 96 percent shadow coverage (see **Figure 66**).[300]

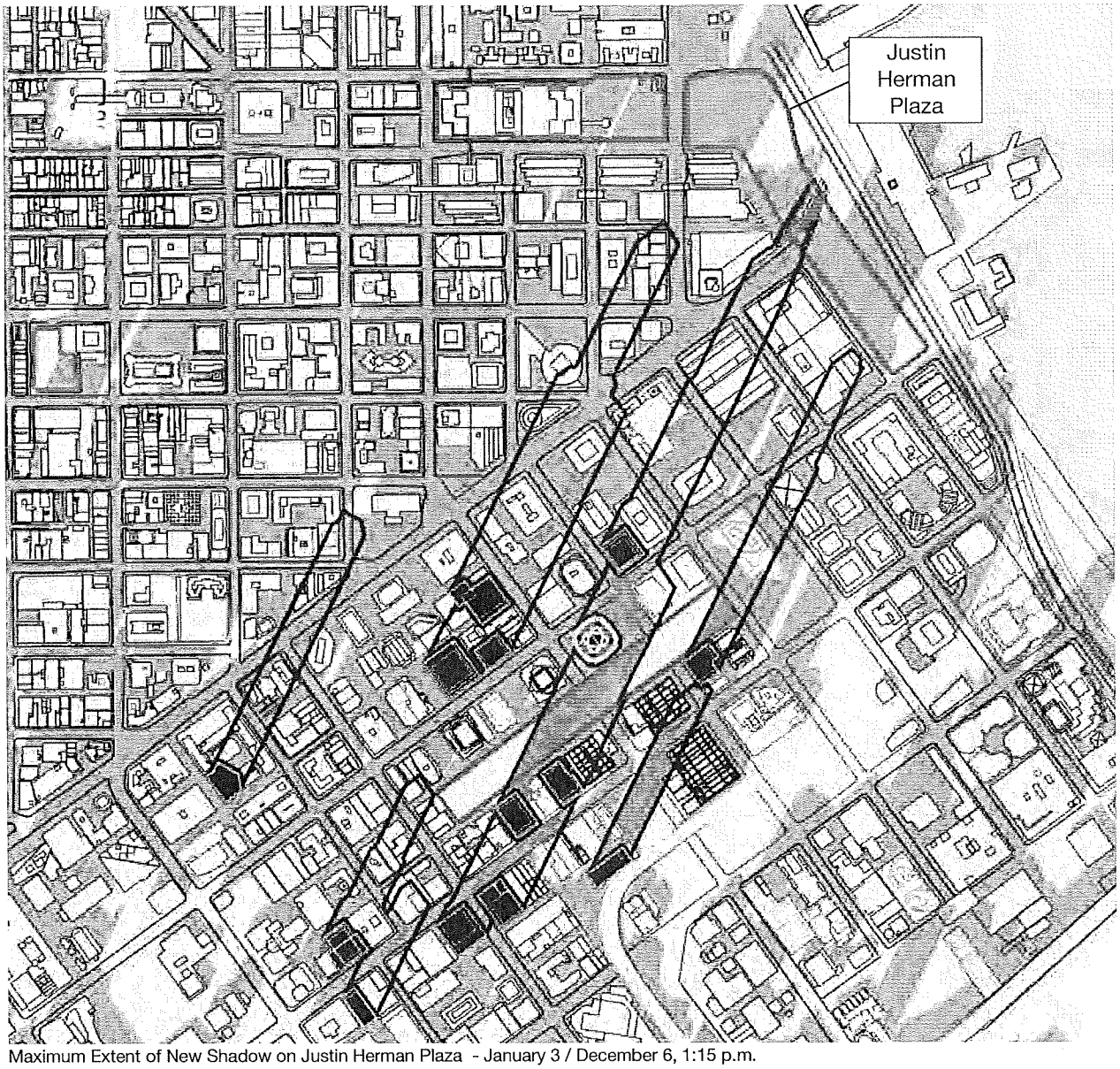
New shadow from potential Plan area buildings would eliminate about 0.1 percent of the theoretical annual available sunlight from Justin Herman Plaza, increasing the annual shadow load from 37.6 percent to about 37.7 percent. Under the criteria adopted by the Planning and Recreation and Park Commissions in 1989, Justin Herman Plaza has an Absolute Cumulative Limit of 0.1 percent, meaning that one-tenth of one percent of additional shadow may be permitted. However, most of the 0.1 percent increment of new shadow was consumed by the Hotel Vitale, which was approved and constructed at Mission Street and the Embarcadero subsequent to adoption of the shadow criteria in 1989. According to the Final EIR for the Hotel Vitale, that project added approximately 510,544.8 square-foot-hours of shadow to Justin Herman Plaza, representing approximately 92 percent of the allowable new shadow (0.092 percent of potential sunlight), as established in 1989.Therefore, in order for Plan area buildings that would add new shadow to Justin Herman Plaza to be approved, the Absolute Cumulative Limit would have to be increased to approximately 0.2 percent.

Willie "Woo Woo" Wong Playground

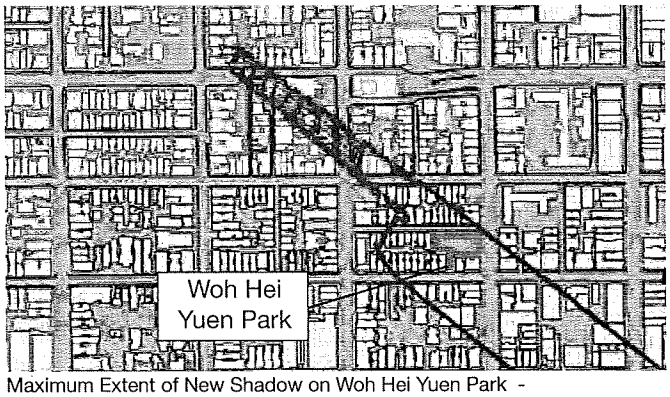
Plan area development would add new shadow to Willie "Woo Woo" Wong Playground (formerly Chinese Playground); this shadow would be cast by a potential 700-foot building on the Golden Gate University site and by a potential 700-foot building on the TJPA's "Parcel F" (on the south side of the Transit Center east of Second Street), and would occur from early November to early December and during January (about 2 months in all), from about 8:00 to 8:20 a.m. New shadow would fall on Willie Wong Playground for about 20 minutes per day. The greatest area of new shadow at any one time would be approximately 4,000 square feet (about 15 percent of the total area of Willie Wong Playground), at 8:15 a.m. in late November and mid-January, from the building on TJPA Parcel F; at these times, shadow on the playground would increase from about 80 percent to about 97 percent shadow coverage (see **Figure 67**).

New shadow from potential Plan area buildings would eliminate about 0.06 percent of the existing sunlight on an annual basis from Willie Wong Playground (about 0.03 percent of the theoretical annual available sunlight), increasing the annual shadow load only incrementally (from 52.80 percent to about 52.83 percent. Under the criteria adopted by the Planning and Recreation and Park Commissions in 1989, Willie Wong Playground has an Absolute Cumulative Limit of 0.0 percent, meaning that no additional shadow may be permitted. Therefore, in order for Plan area buildings that would add new shadow to

300 As described below under Impact SH-2, the shadow analysis includes shadow potentially cast by the rooftop sculptural element atop the proposed Transit Tower. This element was modeled as a series of discrete vertical columns and horizontal beams, and the shadow from each discrete column and beam was included in the analysis, even though this shadow would, in most cases, not be readily perceptible on the ground.



Maximum Extent of New Shadow on Justin Herman Plaza - January 3 / December 6, 1:15 p.m.



Maximum Extent of New Shadow on Woh Hei Yuen Park -
January 31 / November 8, 7:44 a.m. (First Prop. K minute)

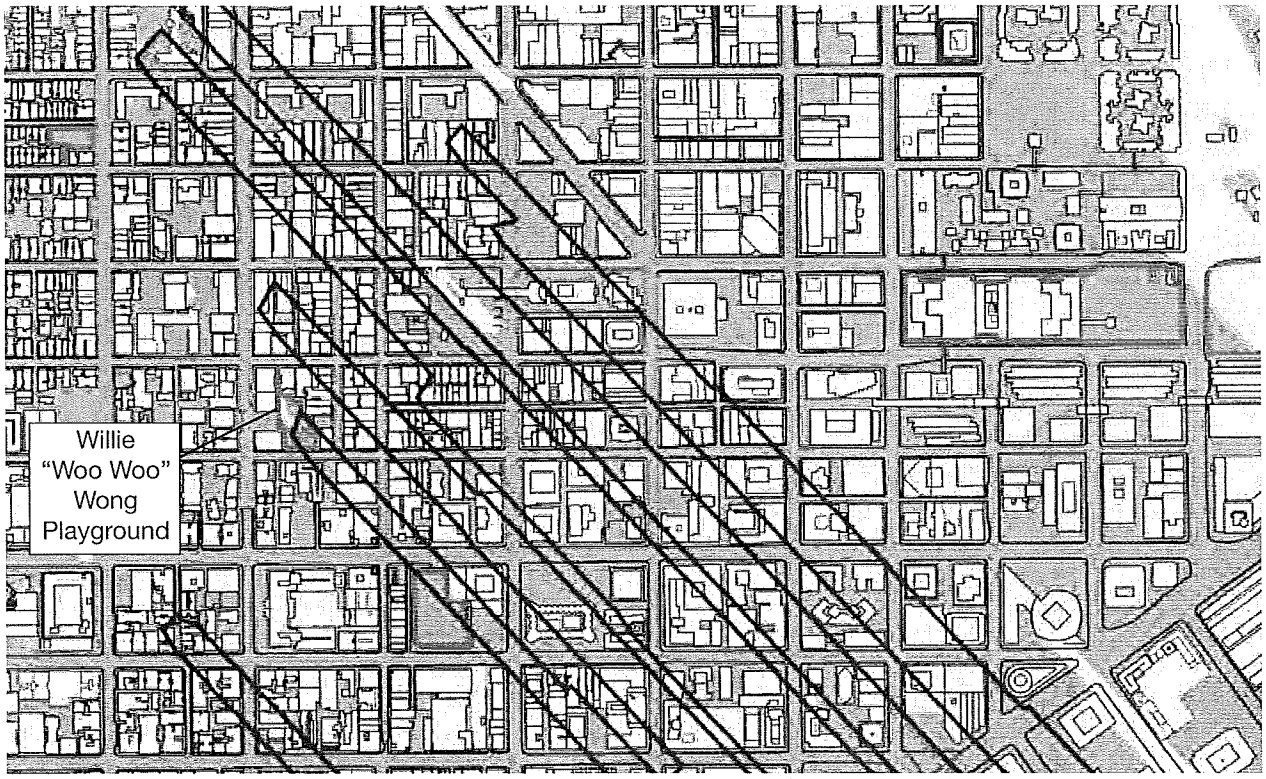
Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

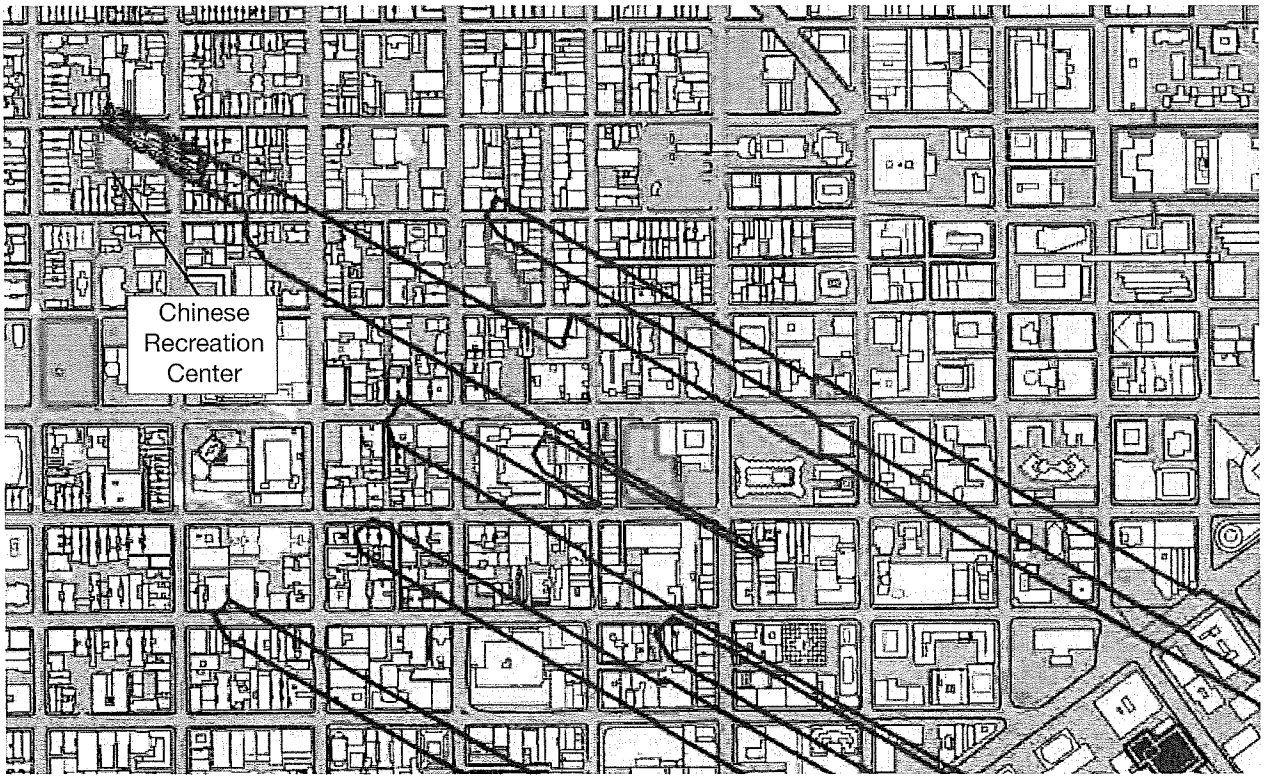
SOURCE: CADP

Figure 66

Maximum Extent of New Shadow on Justin Herman Plaza and Woh Hei Yuen Park



Maximum Extent of New Shadow on Willie "Woo Woo" Wong Playground - January 10 / November 29, 8:15 a.m.



Maximum Extent of New Shadow on Chinese Recreation Center - February 21 / October 18, 8:23 a.m. (First Prop. K minute)

Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: CADP

Figure 67

Maximum Extent of New Shadow on Willie "Woo Woo" Wong Playground and Chinese Recreation Center

Willie Wong Playground to be approved, the Absolute Cumulative Limit would have to be increased to approximately 0.03 percent.

Other Section 295 Parks

Development pursuant to the draft Plan would also result in net new shadow falling on Maritime Plaza (about 0.004 percent of theoretical annual available sunlight), Chinese Recreation Center (about 0.008 percent of theoretical annual available sunlight; see Figure 67), Boeddeker Park (about 0.003 percent of theoretical annual available sunlight), and Woh Hei Yuen Recreation Center and Park (about 0.001 percent of theoretical annual available sunlight). The first three of these parks have an Absolute Cumulative Limit of 0.0 percent, meaning that no additional shadow may be permitted; no Absolute Cumulative Limit has been established for Woh Hei Yuen Park, as this facility was developed subsequent to the 1989 action that set these limits for 14 downtown parks. Therefore, in order for Plan area buildings that would add new shadow to Maritime Plaza, Boeddeker Park, Chinese Recreation Center, or Woh Hei Yuen Park to be approved, the Absolute Cumulative Limit would have to be increased to between 0.001 percent and 0.008 percent, depending on the park. Because only the proposed Transit Tower would shade these parks, those shadows are discussed in detail under impact SH-2, below.

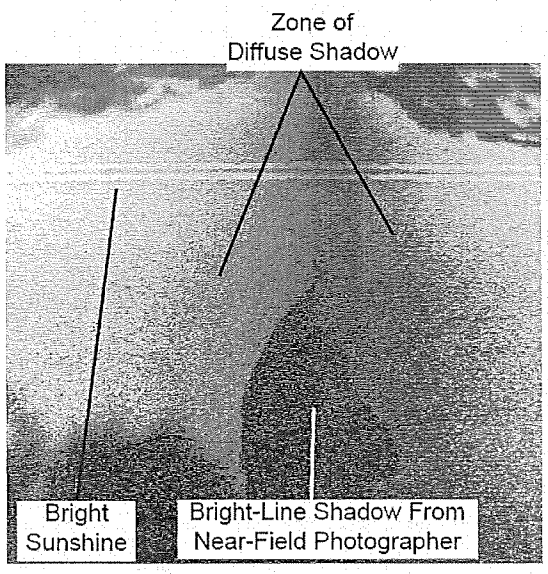
It is important to note that, because of the distance between many of the parks and the buildings whose shadow would fall on the parks, the great majority of new shadow from Plan area buildings on Section 295 parks would not have an edge defined by a clear divide between sunlight and shadow. Instead, the observer would see on the ground an area that would gradually change from fully sunlit to fully shaded, with no evident "edge" do the shadow. The reason for this is that the sun, when observed from earth at any given moment, is seen as a disk that occupies approximately one-half of one degree (0.53 degrees) of a 360-degree circle that represents the sun's path across the sky. Because light emanates from the entire surface of the disk, sunlight can "pass around" objects that are occupy less than 0.53 degrees of the sky. For example, a finger held at arm's length is not wide enough to obscure the sun. Accordingly, in the case of a building more than a few hundred feet from a particular park, the edge of the building intercepts only a portion of the sunlight at any given moment, and therefore the shadow from that building is cast as a diffuse "line" on the distant park. **Figure 68** illustrates this phenomenon, depicting shadow cast by Sutro Tower on Marview Way (about 900 feet distant) and by the residential tower at One Rincon Hill onto the corner of Howard and Fremont Streets, approximately 1,500 feet (one-quarter mile) distant. Because the parks that are subject to Section 295 and that would be shaded by Plan area buildings are all at least one-quarter mile from the building that would cast shadow—many are one-third to one-half a mile away, or even more—the actual area than an observer on the ground would see as being shaded would generally be less than is reported above. For this reason, actual effects of shadow as perceived by park users could be less substantial than indicated by the calculations.

For the same reason, individual elements of a building, such as a spire or a small mechanical penthouse, cast no solid shadow on a distant park if they obscure less than the 0.533-degree angle. Thus, at a distance of one-third of a mile (1,750 feet), a 16-foot wide object will cast no discernible shadow at all because, like the finger at arm's length, this object will not obscure the entirety of the sun's disk, and the sun's rays

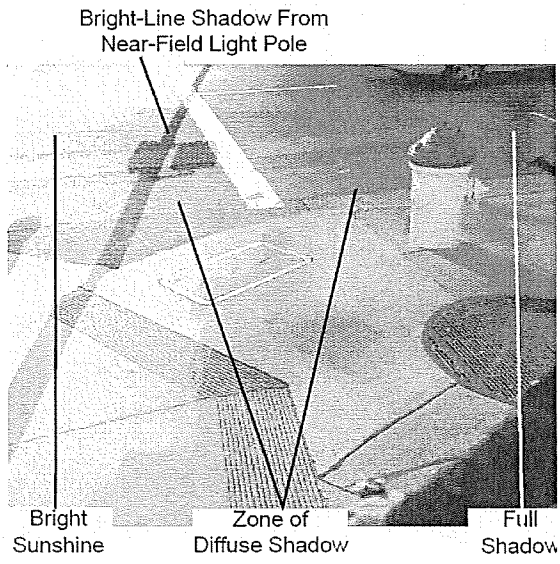
therefore can pass around the object to light the location one-third of a mile distant from the object. This phenomenon is the reasoning behind the decorative sculptural element at the top of the proposed Transit Tower.

Impacts on Use of the Affected Parks

Union Square, because it is in a retail and tourist hotel neighborhood, is generally not heavily used during the early morning hours (before 8:00 a.m.) when much of the new shadow from Plan area buildings would fall on the park. Between 8:00 a.m. and 9:00 a.m., when shadow from the Palace Hotel tower would fall on Union Square, activity is increased, although there is substantially more pedestrian activity on the sidewalks surrounding Union Square at this time than in the park itself, as many people pass Union Square when walking to work and other destinations.



Sutro Tower Shadow on Marview Way (900 feet distant)



One Rincon Hill Shadow at Fremont and Howard Streets (1,500 feet distant)

Figure 68
Diffuse Shadow

Portsmouth Square, at the eastern edge of Chinatown, a very dense residential neighborhood, is relatively heavily used even between 8:00 a.m. and 9:00 a.m., when new shadow from Plan area buildings would fall on the park. Much of the activity in Portsmouth Square at this time of day consists of individuals, many elderly, exercising.

St. Mary's Square, although near the southern edge of Chinatown, is not as heavily used as Portsmouth Square. However, it is used by people exercising in the early morning, when new shadow from Plan area buildings would fall on the park.

Justin Herman Plaza, which would be newly shaded in the early afternoon in late fall and early winter, is heavily used during the midday period by persons traveling to and from the Ferry Building, tourists, street vendors, and lunchtime office workers and strollers.

In general, due to the relatively small area that would be newly shaded and the limited times of the day that would be affected at most parks, shadow from the buildings that could be developed in the Plan area pursuant to the draft Plan would not be likely to result in major changes in usage of the affected parks, such that the use of any of the parks would be dramatically affected. In some cases, such as Portsmouth Square and Justin Herman Plaza, new shadow would be expected to be readily noticeable to park users. However, given that approval of the Plan area buildings would require that the Absolute Cumulative Limit be increased on eight downtown parks, the impact is considered adverse, and this impact would therefore be **significant and unavoidable**, with the Plan-proposed building heights. No mitigation is available for shadow impacts on existing parks, because it not possible to lessen the intensity or otherwise reduce the shadow cast by a building at a given height and bulk. Additionally, it is not normally possible to relocate an existing park or to add park space to existing parks. It is noted, however, that the draft Plan proposes to create or fund the creation of up to 11 acres of new open space (including the City Park atop the Transit Center) and to set aside funds from fees generated by new development in the Plan area to make improvements to parks that would be shaded by Plan area buildings, notably Portsmouth Square and St. Mary's Square. Chapter VI, Alternatives, discusses shadow impacts of alternatives that would reduce building heights from those proposed in the draft Plan.

In terms of shadow effects on sidewalks and open spaces not subject to *Planning Code* Section 295, development pursuant to the draft Plan would result in relatively greater impacts on sidewalks in the Plan area and on nearby non-Section 295 open spaces, compared to impacts on the Section 295 open spaces described above. This is because shadow effects are typically greater for closer-in locations than locations very far away because—assuming existing shadow loads are comparable—closer-in spaces will tend to be shaded for more days and more hours of the year than distant locations.

The non-Section 295 public open space that would be most greatly affected by Plan area development is Rincon Park along the Embarcadero. This open space would be newly shaded in the late afternoon throughout much of the year, except from mid-fall through mid-winter, by the Transit Tower, 181 Fremont, the 50 First Street project, and potential 700-foot buildings at the Golden Gate University site and at 350 Mission Street. Rincon Park is currently in substantial late afternoon shadow, cast primarily by office towers at 201 Spear Street, 2 Harrison Street (the GAP building), and 211 and 221 Main Street, as well as by the parking garage at Howard and Steuart Street and by Hills Plaza. New buildings in the Plan area would add additional shadow between the shadow cast by existing buildings, obscuring some of the existing sunlight. Several Plan area buildings, including the Transit Tower, 50 First Street project, and potential buildings at the Golden Gate University site and 350 Mission Street, would add new shadow to Ferry Plaza in the late afternoon in late fall and early winter. Much of the plaza is already shaded by the Ferry Building at this time; net new shadow would be limited to the southern portion of Ferry Plaza. Portions of Herb Caen Way (the pedestrian promenade along the Embarcadero) would also be shaded by Plan area buildings in the afternoon, year-round, with the precise location, extent, and

duration varying by season. The 50 First Street project and the Transit Tower would each add new shadow to Mechanics Plaza, on the north side of Market Street at Battery Street, in the late morning in spring and fall. None of the Plan area buildings discussed above, including the Transit Tower, would add new shadow to Yerba Buena Gardens during the hours covered by Section 295 (from one hour after sunrise to one hour before sunset), because this open space is too far south of the Plan area building sites. Yerba Buena Gardens would be newly shaded in the early morning by buildings proposed and approved near the southwestern corner of the Plan area, such as the approved building at 222 Second Street and potential buildings at the southeast corner of Second and Howard Streets and on either side of Howard Street near Hawthorne Street.

Development pursuant to the draft Plan would also add new shadow to privately owned, publicly accessible open spaces (POPOS), such as the open spaces at 555 – 575 Market Street, 525 Market Street, 560 Mission Street, 50 Fremont Street (Fremont Center Plaza), 45 Fremont Street, and 50 Beale Street (Bechtel Plaza), as well as Crown Zellerbach Plaza (at One Bush Street) and McKesson Plaza (at one Post Street); this last open space would be shaded during the noon hour in spring and fall by the proposed Palace Hotel Tower. Plan area buildings, including the Transit Tower, would also add new shadow to the planned City Park atop the new Transit Center and to Mission Square, adjacent to the proposed Transit Tower (see Figures 60 through 62).

The only assumed development sites in the Plan area subject to *Planning Code* Section 146(a), which requires that buildings and additions fit within an envelope defined by a plane sloping away from the street at a prescribed angle above a prescribed height, are sites at the southwest corner of Second and Howard Streets, the proposed Palace Hotel tower at New Montgomery and Jessie Streets, and as site on the west side of Second Street between Natoma and Howard Streets. Regarding the first site, an office tower was approved in 2010 at 222 Second Street and, as part of that approval, the Planning Commission granted an exception to the shadow angle requirement of Section 146(a), pursuant to Section 309. The Palace Hotel tower and the other Second Street site would require the granting of similar exceptions if the Planning Commission finds that "the shadow created by the penetration of the plane is deemed insignificant because of the limited extent or duration of the shadow or because of the limited public use of the shadowed space." For all subsequent projects in the Plan area, a determination would have to be made, under Section 146(c), that each building is shaped "so as to reduce substantial shadow impacts on public sidewalks in the C-3 Districts" if this can be done "without creating an unattractive design and without unduly restricting the development potential of the site in question."

Planning Code Section 147 requires that all new development and additions to existing structures where the height exceeds 50 feet must be shaped to minimize shadow on public plazas or other publicly accessible open spaces other than those protected by Section 295, "in accordance with the guidelines of good design and without unduly restricting the development potential of the property." As indicated above and in Figures 60 through 62, Plan area buildings would add new shadow to various POPOS. A separate determination concerning Section 147 compliance would be required to be made for each subsequent project in the Plan area.

Impact SH-2: The proposed Transit Tower would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces. (Significant and Unavoidable)

As stated under Impact SH-1, the proposed 1,070-foot-tall Transit Tower would cast new shadow on eight parks that are governed by Section 295 of the *Planning Code*: Union Square, Portsmouth Square, St. Mary's Square, Justin Herman Plaza, Maritime Plaza, Woh Hei Yuen Recreation Center and Park, Chinese Recreation Center, and Boeddeker Park. **Table 42** summarizes the impacts of the Transit Tower on each of these parks.

To evaluate the year-round Proposition K impact from the Transit Tower, a quantitative analysis of sunlight and shade was conducted for net new shadow. The analysis consisted of calculating the amount of shadow coverage resulting from existing buildings at 15-minute intervals on one day per week, for six months of the year. The shadow coverage at the 15-minute intervals was averaged to calculate hourly shadow coverage (in shadow-foot-hours), and the hourly figures for each day were added and resulting numbers extrapolated to weekly figures through averaging with the preceding week's total. Because the sun's path from January through June essentially mirrors its path from July through December, the six months' shadow-foot-hour totals were doubled to return a yearly figure.[301]

It is noted that the proposed Transit Tower would consist of a 920-foot-tall building with 150-foot-tall sculptural element atop the roof (and a 20-foot-tall mechanical penthouse within the sculptural element, set back from the perimeter of the roof). Because the sculptural element is proposed as a lattice-like structure, the sculptural element would not cast a solid shadow on the ground at distant locations, such as the Section 295 parks included in this analysis. This analysis considers shadow cast by the sculptural element as part of the total building shadow; the sculptural element was included in the shadow model as a series of discrete vertical columns and horizontal beams, as is proposed. As discussed above in Impact SH-1, building components that are narrower than the apparent width of the sun in the sky do not cast actual shadow that can be seen on the ground at distant locations, because the sun's rays pass around the object. Because the sculptural element would consists of a steel lattice with individual columns and beams no more than 2 feet wide, none of the individual steel members would cast discernible shadow on any of the Section 295 parks, and the only actual shadow that would be cast by the 150-foot-tall sculptural element would occur if the sun were to be at an angle relative to the building such that several of the steel members were lined up next to one another, like a closely spaced picket fence. This condition would not be expected to generally arise, except at discrete locations in a park that would be much smaller than the theoretical shadow from the sculptural element, were it to be a solid object. **Figures 63 and 66** illustrate this potential for representative times at Union Square and Justin Herman Plaza. Although these figures depict shadow from the entire sculptural element, the single "strands" of shadow illustrated in the figures are artifacts of the computer modeling program, and would not, under actual conditions, be visible on the ground. Moreover, the drawing program uses lines that appear thicker in the shadow images than the theoretical shadow on the ground. Nevertheless, for purposes of a conservative analysis,

[301] This is the same methodology used by the Planning Department to calculate shadow and establish the Proposition K baseline shadow coverage for other San Francisco parks.

TABLE 42
TRANSIT TOWER SHADOW ON SECTION 295 PARKS

Open Space	Existing Shadow[1]	Permitted Shadow[2]	Project Shadow[3]	Pct. new Shadow[4]	Shadow w/Project[5]	Time/Date of Net New Shadow includes Rooftop Element)	Maximum Shadow Sq. Ft.[6]	Maximum Shadow Percent[7]	Maximum Shadow Date/ Time[8]
Union Square[9]	38.30%	0.1% (0.08%)	47,165 22,935	0.011% 0.005%	38.31% 38.31%	Mid-July – mid-August; May, from approx. 7:30 to 8:00 a.m.	7,565 3,882	6.7% 3.4%	7:45 am, mid-May & early Aug.
St. Mary's Square[10]	51.90%	0.0%	70,928 52,120	0.048% 0.035%	51.95% 51.94%	Mid- September – early October; March – 8:30 - 9:10 a.m.	7,442 6,579	18.8% 16.6%	8:45 am, mid-Mar. & late Sept.
Portsmouth Square	39.00%	0.0%	321,553 277,780	0.133% 0.115%	39.13% 39.12%	Mid-October - early Dec.; early Jan. - mid-Feb. – 8:00 - 8:40 a.m.	22,523 22,523	34.7% 34.7%	8:15 am, late Jan. & early Nov.
Justin Herman Plaza[11]	37.60%	0.1% (0.007%)	277,935 119,665	0.046% 0.020%	37.65% 37.62%	Mid-November - late January – 1:00 - 1:40 p.m.	16,381 8,263	10.1% 5.1%	1:15 pm, early Jan. & early Dec.
Maritime Plaza	68.40%	0.0%	19,110 0	0.004% 0.000%	68.40% 68.40%	Early December – early January, from 10:40 to 11:10 a.m.	2,659 0	1.9% 0.0%	10:45 am, late December
Woh Hei Yuen Park[12]	n/a	n/a	510 510	0.001% 0.001%	n/a n/a	Early November and late January, approximately 7:45 a.m.	275 275	1.9% 1.9%	7:44 am,* late Jan. & early Nov.
Chinese Recreation Ctr.	n/a	0.0%	8,415 0	0.008% 0.000%	n/a n/a	Mid-October and mid-February, approximately 8:25 a.m.	10,386 0	36.5% 0.0%	8:23 am,* late Feb. & mid-Oct.
Boeddeker Park[13]	37.70%	0.244% (0.000%)	3,900 3,900	0.003% 0.003%	37.70% 37.70%	early June – early July, from 6:50 to 7:00 a.m.	1,188 1,188	2.9% 2.9%	6:47 am,* late June

1 Existing Shadow is the existing amount of shadow cast by existing buildings, measured by the percentage of theoretical annual available sunlight (TAAS) that would be available if no existing buildings were present (based on 1989 Planning Department analysis). TAAS is computed by multiplying the area of each park by 3,721.4 (number of hours covered by Sec. 295). n/a – Not Available

2 Permitted Shadow is the additional amount of **net new** shadow allowed (the Absolute Cumulative Limit) under Sec. 295 for each park. This includes any changes that have occurred since 1989. Bottom figure (in parentheses) indicates remaining budget available, if applicable.

3 Project Shadow is the amount of net new shadow, measured in shadow-foot-hours, that would be cast on each park on an annual basis. Top number is entire Transit Tower; bottom number excludes rooftop element.

4 Pct. new Shadow is the percentage of theoretical annual available sunlight (TAAS) that would be lost due to project shadow, on an annual basis. Top number is entire Transit Tower; bottom number excludes rooftop element.

5 Shadow w/Project is the percentage of theoretical annual available sunlight that would be shaded by existing building ***plus*** the proposed project, on an annual basis. Top number is entire Transit Tower; bottom number excludes rooftop element.

6 Sq. Ft. is the greatest amount of each park that would be newly shaded by the proposed project at any one moment. Top number is entire Transit Tower; bottom number excludes rooftop element.

7 Percent Coverage is the percent of each park that would be newly shaded by the proposed project at any one moment. Top number is entire Transit Tower; bottom number excludes rooftop element.

8 Date/Time indicates the date(s) during the year and the time of day when the maximum shadow would fall on each park. Asterisk (*) indicates time is first minute subject to Section 295.

9 The shadow budget remaining within the Absolute Cumulative Limit (ACL) for Union Square has been partially reduced since 1989. In 2004, 69,540 square foot hours was allocated to a project at 690 Market Street, which rehabilitated and expanded the historic De Young (Chronicle) Building, now the Four Seasons Residences, reducing the 0.1 percent budget by 0.02 percent.

10 Existing sunlight and existing shadow coverage for St. Mary's Square, as calculated by the Planning Department, assumed future expansion of this park.

11 The shadow budget remaining within the Absolute Cumulative Limit (ACL) for Justin Herman Plaza has been reduced since 1989, when an ACL for this park was established at 0.1 percent, by the allocation of most of the shadow budget. In 2000, the Planning Commission allocated more than nine-tenths of the available shadow under the 0.1 percent ACL to the Hotel Vitale at Spear and Mission Streets, reducing the remaining available shadow to 0.008 percent of theoretical annual available sunlight. In 2008, the Commission allocated an additional 0.001 percent of the available shadow to a proposed vertical expansion of an office building at 100 California Street (Case No. 2006.0660K), reducing the remaining available shadow to 0.007 percent of theoretical annual available sunlight. This latter project has not been constructed.

12 No Absolute Cumulative Limit has been established for Woh Hei Yuen Park.

13 The Absolute Cumulative Limit (ACL) for Boeddeker Park has been adjusted three times since 1989, to accommodate the Emporium/Bloomingdales project (amendment to the Yerba Buena Center Redevelopment Project, for which the ACL was increased from 0.0%to 0.007%); the Tenderloin Neighborhood Development Center (TNDC) Curran House residential project at 145 Taylor Street (0.087%); and, most recently, in 2009, the TNDC Eddy & Jones Family Housing Project (0.244%). This latter project has not yet been constructed.

SOURCE: San Francisco Planning Department; CADP; Environmental Science Associates

these narrow shadows are considered in the quantitative analysis below. For information, Table 42 also indicates the amount of new shadow that would be cast by the solid portion of the Transit Tower, excluding shadow from the rooftop sculptural element.

As can be seen in Table 42, the quantitative analysis found that the proposed Transit Tower would result in an increase in shadow on the eight affected open spaces of between 0.003 percent and 0.133 percent of the Theoretical Annual Available Sunlight (TAAS). The greatest impact would occur on Portsmouth Square (0.133 percent of TAAS), followed by St. Mary's Square (0.048 percent of TAAS), Justin Herman Plaza (0.046 percent), Union Square (0.011 percent), Chinese Recreation Center (0.008 percent), Maritime Plaza (0.004 percent), Boeddeker Park (0.003 percent), and Woh Hei Yuen Recreation Center and Park (0.001 percent). Approval of the proposed Transit Tower would require that the Absolute Cumulative Limit for six of these eight parks be increased to accommodate project shadow, in general by the amount of new shadow that would be cast by the Transit Tower.[302] Union Square has sufficient available shadow remaining within its Absolute Cumulative Limit to allow for the shadow from the Transit Tower, although approval would require a finding by the Planning Commission, upon the advice of the Recreation and Park Commission or General Manager, that project shadow would not adversely affect the use of Union Square. Woh Hei Yuen Park has no Absolute Cumulative Limit; however, effects on this park would also have to be found to not adversely affect its use.

As with the impacts of buildings that could be developed pursuant to the draft Plan, most net new shadow from the Transit Tower would occur in the early morning hours—before 8:45 a.m. at three of the eight parks and before 9:15 a.m. at three others. As with Plan impacts, Justin Herman Plaza would be the only park shaded in the midday period: new shadow from the Transit Tower would fall on Justin Herman Plaza between mid-November and late January, from about 1:00 - 1:40 p.m.[303] The Transit Tower would add new shadow to Maritime Plaza in the late morning—between early December and early January, from about 10:40 to 11:10 a.m.

The greatest one-time effect would be on Portsmouth Square. The Transit Tower would add about 22,500 square feet of shadow, covering about 35 percent of the park, at 8:15 a.m. in early November and late January (see **Figure 64**). The largest impact on Justin Herman Plaza would be about 16,400 square feet (10 percent of the park) in early December and early January (see **Figure 66**), while the largest single area shaded at Union Square and St. Mary's Square would be about 7,500 square feet on each park (see **Figures 63** and **65**). At Union Square, this would represent about 7 percent of the park area, and would occur in early August and mid-May, while at St. Mary's Square, this would amount to about 19 percent of the park, and would occur in late September and mid-March. The Transit Tower would add a small amount of new shadow to Woh Hei Yuen Recreation Center and Park, for about two weeks of the year, in early November and late January, for less than 15 minutes after the "first Proposition K minute"; that is, approximately 7:45 a.m. At these times, the Tower would delay for a few minutes the sunlight beginning

302 Justin Herman Plaza has approximately 0.007 percent of theoretical available annual sunlight remaining to be allocated; thus, the Absolute Cumulative Limit for this par, would have to be increased to 0.167 percent in order for the Transit Tower to be approved.

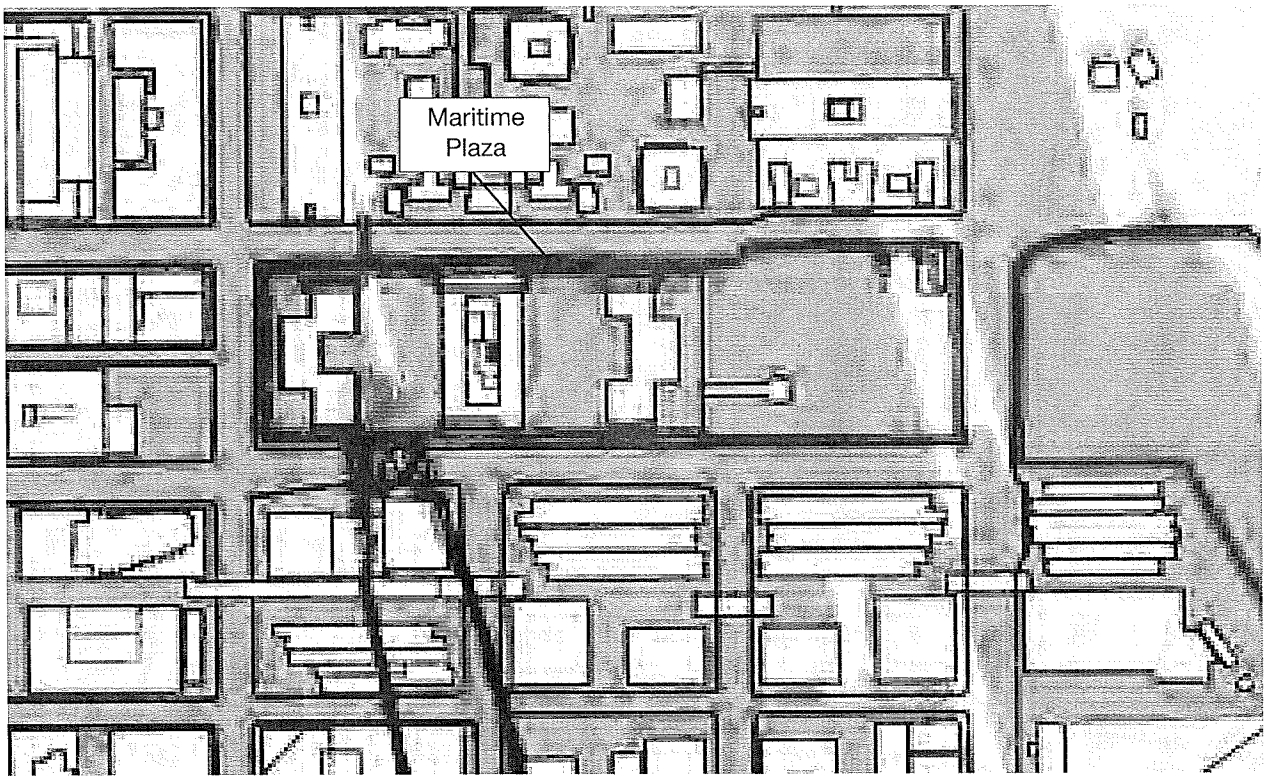
303 Shadow from the solid portion of the building, excluding the rooftop sculptural element, would occur at generally the same times, but only in December and early January, and for a few minutes less each day.

to fall on this park, casting shadow on the 2 percent of the park that is not then shaded—but only for about 10 minutes (see Figure 66). Likewise, the maximum one-time shadow on Chinese Recreation Center would occur for less than 15 minutes after the "first Proposition K minute" (8:23 a.m.) for one week in late February and one week in mid-October, when the Transit Tower would shade about 35 percent of the park's area (see **Figure 67**). The maximum one-time shadow on Maritime Plaza and Boeddeker Park would each be less than 3 percent of the parks' areas, and each would be shaded by the Transit Tower for less than one month of the year (see **Figure 69**).

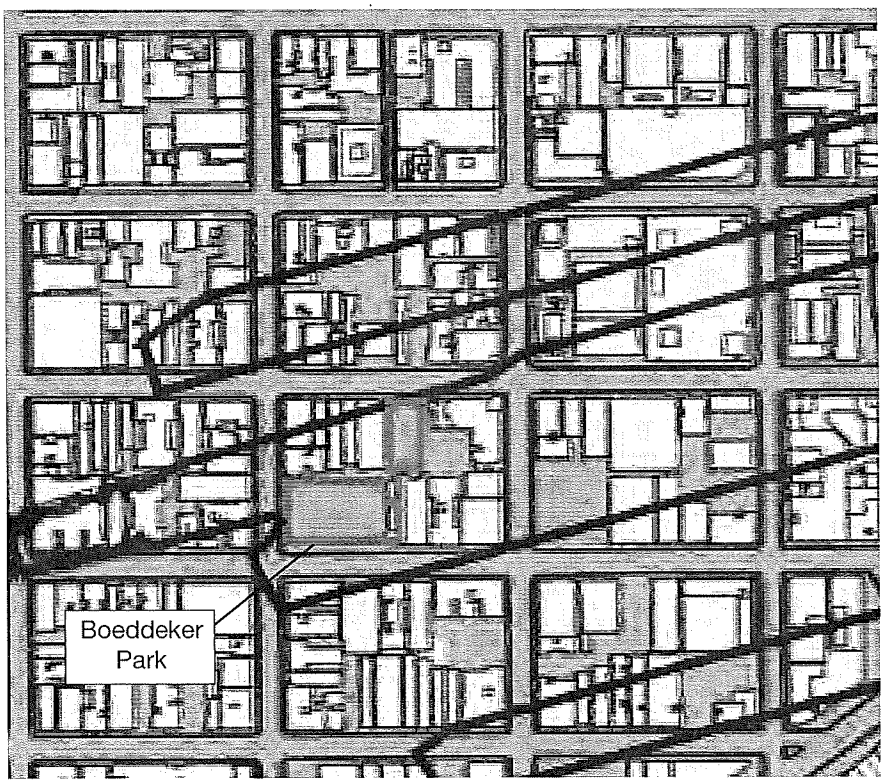
As with the effects of Plan area buildings discussed above in Impact SH-1, shadow from the proposed Transit Tower would not be likely to result in major changes in usage of the affected parks, such that the use of any of the parks would be dramatically affected, because the areas that would be newly shaded would be relatively small at most times of the day and year. However, in many instances, the new shadow would be noticeable to park users. Therefore, given that approval of the Transit Tower would require that the Absolute Cumulative Limit be increased on six downtown parks, the impact of the Transit Tower with respect to shading of Section 295 parks is considered adverse. This impact would be significant and unavoidable, with the Transit Tower as proposed, because design solutions would not entirely reduce this impact to a less-than-significant level. Chapter VI, Alternatives, discusses shadow impacts of alternatives that would develop the Transit Tower at a lesser height, which would reduce shadow impacts.

As described above in Impact SH-1, the proposed Transit Tower would add new shadow to Mission Square, which would be adjacent to and east of the Tower. Accordingly, the Transit Tower (and the 181 Fremont Street and 50 First Street projects building to the southeast and northwest, respectively) would shade Mission Square to varying degrees in the late morning and the afternoon throughout the year (see Figures 50-F, 60-H through 60-M, 61-D, 61-G through 61-K, 62-D and 62-E, and 66). (Mission Square is not proposed to be under the jurisdiction of the Recreation and Park Commission, and therefore would not be subject to *Planning Code* Section 295.) The Transit Tower would also add shadow to the planned City Park, atop the Transit Center. However, because the Transit Tower would be northwest of this park, the Tower would shade only the eastern end of City Park (east of the Tower), and only in the late afternoon (see Figures 60-J through 60-M, 61-J, and 61-K). (No shadow from the Transit Tower shadow would fall on City Park in late fall and early winter, when the sun does not move far enough to the north, relative to the earth.)

The Transit Tower would cast new shadow on nearby sidewalks and POPOS, as well. For example, new Tower shadow would fall on the open space at 333 Market Street in the morning in winter (see Figure 62-B); on the open spaces at 525 Market Street and 50 Fremont Street at mid-morning in spring, summer, and fall (see Figures 60-E, 60-F, 61-C, 61-E, 61-F); on the 50 Fremont Street at noon in summer (see Figure 60-G); and on the open spaces at 199 Fremont Street and 301 Howard Street during summer afternoons (see Figure 60-K).



Maximum Extent of New Shadow on Maritime Plaza - December 20, 10:45 a.m.



Maximum Extent of New Shadow on Boeddeker Park- June 21 / September 21, 6:47 a.m. (First Prop. K minute)

Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: CADP

Figure 69

Maximum Extent of New Shadow on Maritime Plaza and Boeddeker Park

Impact C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces. (Significant and Unavoidable)

In addition to shadow from development in the Plan area, a 550-foot-tall residential tower is proposed at 706 Mission Street (Case No. 2008.1084E), just west of the Plan area. This tower, which is part of a project that would also rehabilitate the historic Aronson Building at Third and Mission Streets and provide a permanent location for the Mexican Museum, would add new shadow to Union Square. This project would add new shadow to Union Square from mid-October to mid-November, and during the month of February, between about 7:20 a.m. and 9:20 a.m. This shadow would fall on Union Square at different times of the year than shadow from Plan area buildings, due to the fact that the 706 Mission Street project is east of the Plan area. As noted previously in Impact SH-1, the 706 Mission Street project proposes to exhaust the reminder of the 0.1 percent shadow budget for Union Square, and to increase the budget by 0.004 percent. Therefore, in order for the 706 Mission Street project and all Plan area buildings that would add new shadow to Union Square to be approved, the Absolute Cumulative Limit would have to be increased—as part of individual building approvals—to approximately 0.2 percent (subject to variation in individual building designs), if all Plan area buildings and the 706 Mission Street project were to be approved. The draft Plan, in combination with the 706 Mission Street project, would contribute considerably to a significant cumulative shadow impact on Union Square; this impact, as with the draft Plan and Transit Tower, would be **significant and unavoidable**. It is noted that design changes to the building might reduce impacts, but not necessarily to a less-than-significant level.

Mitigation Measures

None available.

Chapter VI, Alternatives, discusses shadow impacts of alternatives that would allow for development of the Transit Tower and other Plan area buildings at lesser heights, which would reduce shadow impacts.

K. Recreation and Public Space

Setting

Citywide Recreational Resources

The San Francisco Recreation and Park Department maintains more than 200 parks, playgrounds, and open spaces throughout the City. The City's park system also includes 15 recreation centers, nine swimming pools, five golf courses as well as tennis courts, ball diamonds, athletic fields and basketball courts. The Recreation and Park Department manages the Marina Yacht Harbor, Candlestick Park, the San Francisco Zoo, and the Lake Merced complex. In total, the Department currently owns and manages roughly 3,400 acres of parkland and open space within the San Francisco city limits. Together with other city agencies and state and federal open space properties within the city, about 5,250 acres of recreational resources (a variety of parks, walkways, landscaped areas, recreational facilities, playing fields and unmaintained open areas) serve San Francisco.[304]

In addition to local resources, San Franciscans benefit from the Bay Area regional open spaces system. Regional resources include public open spaces managed by the East Bay Regional Park District in Alameda and Contra Costa counties; the National Park Service in Marin, San Francisco and San Mateo counties as well as state park and recreation areas throughout. In addition, thousands of acres of watershed and agricultural lands are preserved as open spaces by water and utility districts or in private ownership.

Within San Francisco, publicly accessible open spaces and recreational facilities are categorized according to their size and particular amenities as serving the city, district, neighborhood, or sub-neighborhood. Several larger open space areas, including Golden Gate Park (1,017 acres), the Lake Merced complex (700 acres; 368-acre lake) and John McLaren Park (317 acres) compose about one-half of the total city-owned acreage in recreational use. Unlike neighborhood facilities, these larger areas provide programs, activities or recreation opportunities that serve the city as a whole. These spaces, in addition to smaller areas with unique attributes such as water features or hilltop vista points, function as city-serving open spaces because they attract residents from the entire city.

In addition to the larger open spaces, Recreation and Park Department land comprises more than one hundred parks and recreational facilities (both outdoor and indoor), which function mainly for neighborhood use. These smaller facilities are primarily used by residents in the immediate surrounding area and are categorized by size and intended service area. District-serving parks are generally larger than 10 acres and have a service area consisting of a three-eighths-mile radius around the park, while neighborhood-serving parks are generally one to 10 acres and have a service area of one-quarter of a mile. Sub-neighborhood-serving open spaces, often referred to as mini parks, are too small to accommodate athletic facilities. These parks tend to include seating areas, small landscaped spaces, tot lots targeting

304 Recreational resource acreages taken from: City and County of San Francisco, *General Plan Draft Recreation and Open Space Element*, San Francisco Planning Department, May 2009.

pre-school age children, and playgrounds with amenities generally for elementary school age children. The service area for sub-neighborhood parks is one-eighth of a mile.

As applied by the San Francisco Recreation and Park Department, the San Francisco Sustainability Plan defines the need for open space capacity at 5.5 acres per 1,000 residents. The San Francisco Department of Public Health, in its Healthy Development Measurement Tool (HDMT) Development Checklist, includes a benchmark for publically accessible open space as 10 acres per 1,000 residents that is based on National Parks and Recreation Association (NPRA) guidelines.[305] However, the HDMT recognizes that other indicators, such as accessibility, safety, park maintenance, and usability, are also appropriate measures for appraising open space.

Plan Area Recreational Resources

Although no publicly-managed facilities exist within the Plan area, several parks and open spaces are located within an approximately three-block radius of its boundary. Facilities under the jurisdiction of the Recreation and Park Department include the following:

- South Park – located between Bryant and Brannan Streets and between Second and Third Streets (approximately two blocks south of the Plan area's southern boundary), the South Park contains a tree-lined oval garden with two play areas, which contain sand pits and climbing structures.
- Union Square – located at Post and Stockton Streets (about three blocks northwest of the Plan area's northern boundary), the square takes up a full block and is elevated above the street level. It features a large performance stage, landscaped areas, seating around the perimeter, seasonal ice skating, a restaurant and an open air café. Special events are occasionally held here and the park is often used by shoppers and office workers as a place of mid-day rest and relaxation.
- Justin Herman/Embarcadero Plaza – located at the foot of the Embarcadero Center complex (about one block north of the Plan area's northern boundary), the Justin Herman/Embarcadero Plaza features large-scale art sculptures, seating areas, limited landscaping, and seasonal ice skating.

The San Francisco Redevelopment Agency has jurisdiction over the following two facilities in the vicinity of the Plan area:

- Yerba Buena Gardens – located at Mission and Howard Streets, between Third and Fourth Streets (approximately one half block west of the Plan area's western boundary), the gardens are part of the 87-acre redevelopment project, and contain extensive landscaping and seating areas, a child care center, an ice rink, a bowling center, an arts and technology center for youth, a carousel and a two-acre interactive play garden.
- Rincon Park – located along the Embarcadero and extending from just north of Howard to approximately Harrison Street (within one half block of the Plan area's eastern boundary), this park contains landscaped areas for passive recreational activities and features a large-scale art installation, commonly known as "bow and arrow." The park offers unobstructed views of the bay and the Bay Bridge and provides passive recreation areas.

- The Port of San Francisco has jurisdiction over the following facility in the vicinity of the Plan area:
  - Embarcadero Promenade – extending along the length of much of the City's eastern waterfront, the Embarcadero Promenade is located about a block east of the Plan area's eastern boundary. The

[305] San Francisco Department of Public Health, Healthy Development Measurement Tool Development Checklist, Version 3.02, January, 2010.

paved pathway is used for active and passive recreation by joggers, bikers and urban hikers to enjoy unobstructed views of the bay and the Bay Bridge.

In addition, the Plan area is interspersed with numerous privately owned publicly accessible open spaces, most of which are associated with adjacent office and mixed-use towers. A map of these "pocket parks" is provided in Figure 59, p. 467. These spaces typically contain seating areas and limited landscaping, and some also featuring art installations. They are typically used by office workers during weekdays.

As part of the Transit Center project being implemented by the TJPA (separate from this environmental review process), a new 5-acre "City Park" would also be sited atop the new Transit Center; this park is planned as part of the initial construction of the Transit Center and is not dependent on a potential future extension of Caltrain and high-speed rail service to the new terminal.

Transit Tower Project Site

The Transit Tower Project site would be located adjacent to the new Transit Center on the south side of Mission Street between Fremont and First Streets. As stated in the Project Description, the Transit Tower project site is approximately 50,000 square feet in size and was most recently used as the passenger waiting and loading and Muni drop-off/layover area for the old Transbay Terminal, which was demolished beginning in August 2010. No parks or recreation facilities are located at the site.

Impacts and Mitigation Measures

Approach to Analysis

The city, state and federal property permanently dedicated to open space uses total approximately 5,250 acres, which is about five acres per 1,000 San Francisco residents. This is about half the standard of the NPRA, which as stated above, called for 10 acres of open space per 1,000 residents in cities. However, the NPRA no longer recommends a single absolute "average" of park acreage per population. Other factors are now considered to be of greater importance, such as location and walking distance, and whether a facility provides needed services to the population it is intended to serve.

The *San Francisco General Plan* Recreation and Open Space Element recognizes that San Francisco is likely to provide less open space acreage than many communities, given land constraints, high population density, and existing urban development. The City does not have an established level of service standard related to population density in terms of district-, neighborhood- and sub-neighborhood-serving parks or provision of recreational facilities.

Significance Criteria

The proposed project would have a significant impact on the environment if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facilities would occur or be accelerated;

- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment; or,
- Physically degrade existing recreational resources.

Transit Center District Plan

Impact RE-1: The implementation of the draft Plan would result in an increased use of existing neighborhood parks and recreational facilities, but not to a degree that would lead to or accelerate their physical deterioration or require construction of new facilities. (Less than Significant)

As described in the Project Description, the draft Plan would rezone a number of sites within the Plan area, which would change height and bulk limits and floor-area ratio limits and, as a result, accommodate a more intensified development potential than is allowed under current allowable limits. The redevelopment of the 17 specifically identified "opportunity sites" would generate approximately 6.35 million sq. ft. of office space, 86,500 sq. ft. of retail space, 985 hotel rooms, and 1,298 housing units within the Plan area. Because the proposed draft Plan is a regulatory program, it would not directly physically degrade any existing recreational resources within the Plan area. However, additional daytime and permanent population would likely be generated as a result of the more intensified development under the Plan. The additional population would increase the use of parks and recreational facilities within the Plan area, but not to a level that would be considered **significant and unavoidable**, for reasons discussed below.

In terms of physical deterioration resulting from population increases and/or use attributable to the draft Plan's rezoning program, this would also be considered less than significant. Any unmet demand for parks and recreational resources that currently exists within the Plan area is not, in and of itself, considered to be a significant impact on the environment. Based on the CEQA significance criteria, the proposed project would have an adverse environmental impact if it were to cause the deterioration of existing recreational resources through increased use or require the construction or expansion of recreational facilities that may have an adverse effect on the environment.

The draft Plan would noticeably increase the amount of office space within the Plan area. While office workers often use local open spaces as, for example, spots to take a lunch break, this type of use generates relatively little impact and does not tend to result in substantial deterioration of open spaces that could rise to the level of significance. Thus, while some increases in park uses could occur with Plan implementation, it is not expected that the increase in office space throughout the Plan area would lead to heavy use of local parks and recreational facilities in a way that would result in their deterioration. Moreover, the 1,298 housing units that could be developed under the draft Plan would also likely generate some increased demand in park use, but such demand would also not be considered substantial. While the combination of all potential park and recreational facility users that would be generated as a result of the draft Plan could result in proportionately greater use of such facilities in the Plan area, population increases are only one factor in determining whether parks and recreational facilities would deteriorate through increased used. Other variables include park design, age, infrastructure, how the park is being used, as well as whether adequate levels of upkeep are maintained.

As noted above, under Setting, one major new open spaces would be established within the Plan area as a result of separate planning efforts – the new 5-acre "City Park" atop the new Transit Center. In addition, the draft Plan proposes to create a new public space at the northeast corner of Second and Howard Streets that would include a vertical circulation feature connecting to the City Park and the Transit Center, which would facilitate public access from the south to both the new open space and transit service (November 2009 Draft Plan, Policy 3.15). These open spaces would alleviate some of the demand that would be generated by the increased population within the Plan area. In addition, new development under the draft Plan would be required to provide public and private open space in accordance with existing residential and non-residential open space *Planning Code* requirements. The draft Plan proposes several flexible strategies in meeting these requirements within the Plan area, particularly in the vicinity of the Transit Center's City Park (November 2009 Draft Plan, Objective 3.13). One approach included in the Plan is for future projects adjacent to the City Park to provide direct pedestrian connections to the City Park rather than incorporating privately owned, publicly accessible open spaces into project designs, as is typically the case with downtown buildings, in fulfillment of the requirements of *Planning Code* Section 138 (November 2009 Draft Plan, Policies 3.17 and 3.20). Any such specific physical improvement would be subject to CEQA review at such time as it is proposed for consideration. A payment of in-lieu fees is another measure proposed in the Plan to allow for greater flexibility in meeting open space requirements for individual projects within the Plan area (November 2009 Draft Plan, Policy 3.19); the draft Plan specifically identifies the proposed Second and Howard Streets plaza as an improvement that would be funded with such fees. In addition to providing exterior open space adjacent to new developments, the draft Plan would also require that open space also be provided within the interior of new buildings (see Project Description for the various specifications that such interior open space would be subject to). The draft Plan also proposes new impact fees to create and/or improve open space.

Subsequent individual development proposals that include open space as part of the programming would be subject to project-level environmental review. Thus, to the extent that construction or expansion of recreational facilities or connections to the City Park that are associated with such projects result in any adverse physical impacts, such impacts would be studied further and mitigated to the extent feasible through project-specific environmental analysis. In general, however, the creation of privately-owned publicly-accessible open spaces within the Plan area is expected to result in beneficial effects as most would involve minor physical changes (introduction of landscaping, installation of pedestrian amenities, etc.) which are not expected to degrade the environment in any significant way.

The Planning Department, in conjunction with the Recreation and Park Department, the Mayor's Office, and the Neighborhood Parks Council is currently evaluating the open space needs of the entire City over the next 100 years. As part of the Open Space 2100 project, a Draft Open Space Framework is being developed that includes two components: the draft Citywide Vision for Open Space, which provides a broad outline of the City's ideal open space network over the next 100 years, and the draft update of the Recreation and Open Space Element (ROSE) of the City's *General Plan*.

These documents were released for public review in May 2009 and comments were accepted through October 2009. During the summer of 2009, a series of community focus groups was conducted to discuss

specific comment areas for inclusion into a final draft for adoption. An Action Plan will also be drafted consisting of a set of five and ten year programs that describe how the City will implement the vision for open space as well as the objectives and policies of the ROSE.

Specific goals and objectives from these documents applicable to Transit Center District Plan area include the development of new open spaces in high need areas; promotion of higher quality experiences in existing open spaces; use of residual spaces in proximity to freeways as a system of linear green buffers; "green connector streets" designed to calm and/or divert vehicular traffic and prioritize pedestrian and bicycle travel with connections to larger open spaces; and "living streets" in which sidewalks are expanded on streets with excess right-of-way to accommodate open spaces or pocket parks.

Based on the above, the implementation of the draft Plan is not expected to result in any significant unavoidable impacts to parks and recreational facilities.

Mitigation: None required.

Transit Tower Impacts

Impact RE-2: The proposed Transit Tower would result in the increased use of existing neighborhood parks and recreational facilities, but not to such a degree that would lead to or accelerate their deterioration, nor require the construction of new facilities. (Less than Significant)

The Transit Tower would account for a portion of the growth described above in the discussion of Plan impacts. Therefore, all effects of the Transit Tower would be subsumed within the effects described in Impacts RE-1. Because all of those impacts were determined to be less than significant, effects related to the Transit Tower would likewise be less than significant.

Mitigation: None required.

L. Utilities and Service Systems

Setting

The project site is within an urban area that is served by utilities and service systems, including water, wastewater and storm water collection and treatment, solid waste collection and disposal, gas, and electricity.

Water

The San Francisco Public Utilities Commission (SFPUC) provides water services to approximately 2.5 million people in San Francisco, Santa Clara, Alameda, and San Mateo Counties; SFPUC also provides wastewater collection and treatment within the City. Eighty-five percent of the water delivered to SFPUC customers comes from Sierra Nevada snowmelt stored in the Hetch Hetchy Reservoir on the Tuolumne River in Yosemite National Park. The remaining 15 percent comes from runoff in the Alameda and Peninsula watersheds captured in reservoirs located in San Mateo and Alameda Counties. The entire regional system delivers approximately 265 million gallons of water per day (mgd) to its customers.[306]

The local water system provides distribution and storage for water and fire protection within the City. This system includes 10 reservoirs, 8 water tanks, 18 pump stations, and approximately 1,250 miles of transmission lines and water mains within the City.[307] SFPUC manages distribution of potable water through two systems: a low-pressure water main system provides water for domestic and commercial uses at about 1,000 gallons per minutes (gpm), and a high-pressure system provides a dedicated water source for fire suppression at about 10,000 gpm. Citywide water use totaled approximately 71 mgd in 2010, a figure that was lower than previously projected, due to factors including cool weather, water use reductions due to earlier dry years, and the economic downturn that resulted in decreased non-residential consumption.[308]

In an effort to streamline the water supply planning process, the SFPUC adopted resolutions in 2002 and 2006 to allow for all development projects requiring a Water Supply Assessment (WSA) under Water Code Section 10910 et seq. to rely on the adopted Urban Water Management Plan (UWMP) as long as the anticipated growth was contained in the current UWMP. Likewise, in connection with the adoption of the *2010 UWMP* in June 2011, the SFPUC adopted a similar resolution, finding that *2010 UWMP* accounts for projected growth in the City through the year 2035 and thereby satisfies the water supply and demand assessment requirements for specified developments pursuant to the CEQA and the *California Water Code*.[309] According to the 2010 UWMP, the SFPUC can meet the current and future demand in years of average or above average precipitation. However, during a multiple dry year event, the SFPUC would not be able to meet 100 percent of demand in 2030 and would therefore have to impose reductions on its

306 San Francisco Public Utilities Commission (SFPUC), *2010 Urban Water Management Plan (UWMP) for the City and County of San Francisco*, June 2011.
307 *2010 UWMP*, p. 10.
308 *2010 UWMP*, p. 34.
309 San Francisco Public Utilities Commission Resoltion No. 11-0090, approved June 14, 2011.

supply to wholesale water users outside San Francisco. Accordingly, the SFPUC adopted a Water Shortage Allocation Plan, which outlines procedures for allocating water from the SFPUC regional system during system-wide shortages up to 20 percent.

The ability to meet the demand of the customers is in large part due to the anticipated development of 10 mgd of local supplies in the City through implementation of the Water Supply Improvement Program (WSIP). These additional sources of groundwater, recycled water, and conservation supplies are essential to provide the City with adequate supply in dry year periods, as well as improving supply reliability during years with normal precipitation. With the Water Shortage Allocation Plan in place, and the addition of local WSIP supplies, the SFPUC concluded that it has sufficient water available to serve existing customers and planned future uses in San Francisco.

Wastewater

Combined Sewer System

The San Francisco Public Utilities Commission (SFPUC) maintains and operates the existing Combined Sewer System. This system combines stormwater runoff and wastewater flows in the same network of pipes. It conveys flows to the City's three treatment plants, where wastewater is treated prior to discharge through outfalls into the Bay or Pacific Ocean. Wastewater from the Plan area is treated at the Southeast treatment plant, in the Bayview District, with additional wet-weather capacity provided by the North Point plant, on the northeast waterfront. Discharges into the system are regulated under two National Pollution Discharge Elimination System (NPDES) permits, which are described in Section IV.P, Hydrology and Water Quality.

Solid Waste

San Francisco generated 5,870 tons of solid waste per day in 2008, and an average of 1,535 tons of that went to a landfill.[310] According to the California Integrated Waste Management Act of 1989 (AB 939), San Francisco is required to adopt an integrated waste management plan, implement a program to reduce the amount of waste disposed, and have its waste diversion performance periodically reviewed by the California Department of Resources Recycling and Recovery (CalRecycle). The City achieved a 77 percent landfill diversion rate for 2008, up from 70 percent in 2006, and the highest of any city in the country. San Francisco diverted more than 1.6 million tons of waste material in 2008 through recycling, composting, and re-use. The City sent 560,000 tons of waste to the landfill in 2008, the lowest total recorded.[311] The San Francisco Department of the Environment estimates that the City will generate 2.15 million tons of waste in 2010, 60 percent of which will be recycled and 20 percent of which will be composted.

---

310 Dmitriew, Alex, Commercial Recycling Assistant Coordinator, San Francisco Department of the Environment, Response to Transit Center District Plan EIR SF Environment Questionnaire, August 4, 2010.

311 Office of the Mayor, City and County of San Francisco, Press Release, "Mayor Newsom Announces San Francisco's Waste Diversion Rate At 77 Percent, Shattering City Goal And National Recycling Records," August 27, 2010.

Solid waste generated in San Francisco is transported to the Altamont Landfill in Alameda County. The landfill has a permitted peak maximum daily disposal of 11,150 tons per day and accepted 1.29 million tons in 2007. The landfill has an estimated remaining capacity of approximately 46 million cubic yards or 74 percent of its permitted capacity. The estimated closure date of the landfill is 2025.[312] However, the City's remaining contracted capacity at the landfill is anticipated to be reached as soon as 2015. In July 2011, upon the recommendation of the San Francisco Department of the Environment, the Board of Supervisors approved a 10-year contract with Recology to ship the City's solid waste to the Ostrom Road Landfill in Yuba County when the current agreement with the Altamont Landfill expires. The Ostrom Road Landfill has an estimated capacity of approximately 39 million tons (90 percent of permitted capacity) and an estimated closure date of 2066. The Ostrom Road landfill has a permitted capacity of 3,000 tons of solid waste per day.[313]

Energy

Electrical and natural gas service in San Francisco is provided by Pacific Gas and Electric Company (PG&E). PG&E provides natural gas and electricity to approximately 13 million people throughout a 70,000 square mile service area in Northern and Central California. Under deregulation, other companies may also provide electricity, but PG&E delivers the service.

The California Energy Commission (CEC) indicates that San Francisco County consumed 5,550 gigawatt hours (GWh) of electricity in 2009, down from 5,694 GWh in 2008.[314] In the area served by PG&E, total consumption in 2009 was approximately 108,503 GWh, compared to 111,228 GWh in 2008; in 2018, total consumption is estimated to be 119,644 GWh with a peak of approximately 24,600 MW.[315] Currently, 12 kilovolt (kV) electric distribution lines and 2-inch and 3-inch diameter high-pressure gas mains serve the Transit Center District Plan area.[316, 317]

The California Independent System Operator (California ISO) is charged with managing the flow of electricity along the State's open market wholesale power grid. The California ISO Energy Demand Forecast (2008–2018) estimates that residential, commercial, and industrial sectors represented 85 percent of statewide electricity demand in 2008, while the mining sector represented 2 percent. Statewide

312 California Department of Resources Recycling and Recovery (CalRecycle), "Active Landfills Profile for Altamont Landfill and Resource Recovery (01-AA-0009)." Accessed September 2, 1011. Available on the internet at: www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=1&FACID=01-AA-0009.

313 California Department of Resources Recycling and Recovery (CalRecycle), "Active Landfills Profile for Recology (Norcal) Ostrom Road LF Inc. (58-AA-0011)." Accessed September 2, 1011. Available on the internet at: http://www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=58&FACID=58-AA-0011.

314 California Energy Consumption Data Management System, http://www.ecdms.energy.ca.gov/elecbyplan.aspx

315 The CEC defines the PG&E Planning Area to include PG&E bundled retail customers, customers served by energy service providers using the PG&E distribution system to deliver electricity to end users, and customers of publicly owned utilities and irrigation districts in PG&E transmission system (with the exception of the Sacramento Municipal Utility District).

316 Lam, William, Supervisor, PG&E San Francisco Division Gas Planning Department, Response to Transit Center District Plan EIR PG&E Questionnaire, July 1, 2010.

317 Cannon, Tom, Supervisor, PG&E San Francisco Division Electric Planning Department, Response to Transit Center District Plan EIR PG&E Questionnaire, July 1, 2010.

consumption is expected to increase 11.6 percent by 2018, due primarily to growth in the residential and commercial sectors.

Impacts

Significance Criteria

The proposed project would result in a significant impact with respect to utilities and service systems if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements;
- Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Comply with federal, state, and local statutes and regulations related to solid waste.

Plan Impacts

Water

Impact UT-1: The draft Plan and Transit Tower would not require or result in the construction or substantial new water treatment facilities, and SFPUC would have sufficient water supply available from existing entitlements. (Less than Significant)

The addition of 6,100 additional households with 9,500 residents, as well as 30,000 jobs would generate additional water demand in the Plan area. The Plan is estimated to generate 1.9 mgd of water demand, based on the land use program. Of this amount, as much as one-third could be for non-potable uses, including landscape irrigation, toilet flushing, and boilers and chillers, and could be supplied by non-potable water (recycled water, rain water, etc.) once a distribution system is in place.

All but the very northwest corner of the Plan area (northwest of the corner of Second and Mission Streets) is within the Eastside Reclaimed Water Use Area designated by Section 1029 of the Reclaimed Water use Ordinance (approved November 7, 1991), which added Article 22 to the *San Francisco Public Works Code*. In this area, non-residential projects over 40,000 square feet in floor area that require a site permit, building permit, or other authorization, must provide for the construction and operation of a reclaimed water system for the transmission of the reclaimed water within buildings and structures. That is, the building would

need to be designed with separate plumbing (typically purple pipes) to service uses that could employ reclaimed water (e.g., toilets). The ordinance also requires that owners, operators, or managers of all development projects register their projects with the San Francisco Public Utilities Commission (SFPUC). The SFPUC will issue a certificate of intention to use reclaimed water, and reclaimed water shall be used unless the SFPUC issues a certificate exempting compliance because reclaimed water is not available, an alternative water supply is to be used, or the sponsor has shown that the use of reclaimed water is not appropriate. (To date, no area-wide recycled water system has been developed.)

The draft Plan includes several policies that, if adhered to, would reduce overall water demand. Policies 6.14 through 6.20 would encourage developers and the City to install non-potable water delivery infrastructure and distribution pipes and to pursue a reliable supply of non-potable water to reduce potable water demand. In particular, Policy 6.18 encourages the City to identify a location for a treatment facility to increase recycled water generation near the Plan area. Policies 6.19 and 6.20 encourage the reduction of water demand through on-site measures at the level of individual developments.

According to the *2010 UWMP*, which incorporated Planning Department 2009 growth projections inclusive of the draft Plan and the proposed Transit Tower project, the SFPUC would continue to meet the current and future demand in years of average or above average precipitation. However, during a multiple dry year event, the SFPUC would not be able to meet 100 percent of demand in 2030 and would therefore have to impose reductions on its supply. Accordingly, the SFPUC adopted the Water Shortage Allocation Plan, which outlines procedures for allocating water from the SFPUC regional system during system-wide shortages up to 20 percent. The SFPUC concluded that under the Water Shortage Allocation Plan, and with additional local Water System Improvement Program (WSIP) supplies, sufficient water is available to meet existing demand and planned future uses within San Francisco, although wholesale customers (outside the City) would experience shortfalls in both single dry years and multiple dry-year scenarios.[318] Therefore, implementation of projects pursuant to the Transit Center District Plan would not require major expansion of the SFPUC's water facilities; nor would it adversely affect the City's water supply. Therefore, the impact would be less than significant.

Mitigation: None required.

Wastewater

Impact UT-2: The draft Plan and Transit Tower would increase sanitary wastewater flows, but it would not require or result in the construction or substantial new wastewater treatment or stormwater facilities, or exceed the wastewater treatment requirements of the Regional Water Quality Control Board. (Less than Significant)

As stated in Section IV.P, Hydrology and Water Quality, the Transit Center District Plan area currently comprises primarily impervious surfaces. Therefore, construction of new buildings and paved areas

[318] SFPUC, 2010 UWMP, Sections 5.6 and 5.7.

would not result in a substantial increase in impervious surfaces or stormwater runoff. Buildout pursuant to the Plan Policies 6.19 and 6.20—including the implementation of on-site collection, treatment, storage and conveyance systems for rainwater, fog, graywater, blackwater, stormwater, and foundation drainage water and Low-Impact Development techniques for public spaces—would reduce storm water flow as compared to existing conditions.

As stated above, the draft Plan would result in up to 1.9 mgd of water demand. Conservatively assuming that 90 percent of water used would be expelled as sanitary wastewater, the draft Plan would result in an additional 1.7 mgd of sanitary flow. The Southeast Water Pollution Control Plant has an average dry weather flow (ADWF) capacity of 84.5 mgd, and it treats approximately 67 mgd during dry weather to a secondary treatment standard, with a total capacity to treat up to 150 mgd to that standard. The addition of 1.7 mgd generated by the proposed project would be accommodated within the dry-weather capacity of the Southeast Plant.

Regarding wet weather flow, the Transit Center District Plan would not result in an increase in stormwater flow due to compliance with the stormwater management requirements of the San Francisco Public Utilities Commission. Therefore, the only increase in wet weather flow would be from sanitary sewage generation. The up to 1.7 mgd of additional wastewater flow would be accommodated within the existing system during all but the most severe storm events, and it would not be so large as to exceed waste discharge requirements of the NPDES permit. The impact would be less than significant.

As noted, the Transit Center District Plan includes several policies that may lower anticipated flows to the combined system. These policies encourage reuse of greywater and cooling tower blow down, as well as installation of water-efficient water fixtures.[319]

In light of the above, effects related to wastewater collection and treatment would be less than significant.

Mitigation: None required.

Energy

Impact UT-3: The draft Plan and Transit Tower would increase demand for electricity and natural gas, but not to an extent that would result in a significant impact. (Less than Significant)

Construction of projects pursuant to the Transit Center District Plan and Transit Tower would require temporary planned outages with customers notified prior to the outage. However, these outages would not be expected to significant affect service for existing or future customers.

---

[319] Although plan policies encourage the city to locate of a potential new treatment facility for creating a local non-potable water supply, such a facility would require a separate, project-level environmental review.

Operation of projects constructed pursuant to the Transit Center District Plan would increase demand for electric service within the Plan area, but not to levels that could not be met by PG&E.[320] The PG&E Electric Planning Department monitors load growth at each substation in the city, and project projected loads are forecasted based on load trends and known projects—such as those projects planned pursuant to the Transit Center District Plan—to accommodate the system growth. PG&E also has adequate capacity and reliability within the gas system to service the Plan area. [321]

In addition, the Transit Center District Plan includes several policies that, if implemented, would lower overall energy demand. Policies 6.1 through 6.7 call for the City and project developers to implement a Central Heat and Power (District Heating/Energy) system, through which waste and excess heat and energy would be shared among new and refurbished projects within the Plan area.[322] Policies 6.8 through 6.12 call for individual projects to be designed not only to meet LEED levels established in the San Francisco Green Building Ordinance, but also to take advantage of specific energy-saving measures, such as on-site renewable energy systems, natural ventilation, and passive solar heating and lighting. Adherence to such policies would lower overall energy demand. The Transit Center District Plan would result in less-than-significant impacts to energy generation and distribution systems.

Mitigation: None required.

Solid Waste

Impact UT-4: The draft Plan and Transit Tower would be served by a landfill with sufficient permitted capacity to accommodate solid waste generated by projects constructed pursuant to the plan. Individual building owners and tenants would comply with federal, state, and local statutes and regulations related to solid waste. (Less than Significant)

According to growth projections, the Plan area would comprise 6,100 additional households and 9,500 residents. In addition, a total of about 30,000 jobs would be generated in new developments, most of which would be Management, Information, and Professional Services jobs in commercial uses. Nonetheless, the San Francisco Department of the Environment predicts a flat rate of solid waste generation through 2030 based on current and projected economic conditions.[323]

Although the increased employee and visitor population and business activities would incrementally increase the total waste generated by the City, this waste would be accommodated within these projections. In addition, the increasing rate of waste diversion from landfills would ensure that the waste

320 Cannon, Tom, Supervisor, PG&E San Francisco Division Electric Planning Department, Response to Transit Center District Plan EIR PG&E Questionnaire, July 1, 2010.

321 Lam, William, Supervisor, PG&E San Francisco Division Gas Planning Department, Response to Transit Center District Plan EIR PG&E Questionnaire, July 1, 2010.

322 No design has been developed for such a system, and therefore its implementation would be subject to subsequent review under CEQA.

323 Dmitriew, Alex, Commercial Recycling Assistant Coordinator, San Francisco Department of the Environment, Response to Transit Center District Plan EIR SF Environment Questionnaire, August 4, 2010.

generated by the projects constructed pursuant to the Transit Center District Plan would not result in a significant impact to landfill capacity.

Projects built pursuant to the Transit Center District Plan would be required to comply with San Francisco Ordinance No. 27-06 regarding the recycling of construction and demolition (C&D) debris. This ordinance requires the diversion from landfills of a minimum 65 percent of C&D debris. Given this fact, and given the long-term capacity available at these landfills, the Transit Center District Plan and Transit Tower would not result in either landfill exceeding its permitted capacity; therefore, the impact would be less than significant.

Mitigation: None required.

Transit Tower Impacts

Impact UT-5: The proposed Transit Tower would not result in the need for new or physically altered facilities related to water or wastewater, energy, or solid waste. (Less than Significant)

The Transit Tower would account for a portion of the growth described above in the discussion of Plan impacts. Therefore, all effects of the Transit Tower would be subsumed within the effects described in Impacts UT-1 through UT-4. Because all of those impacts were determined to be less than significant, effects related to the Transit Tower would likewise be less than significant.

Mitigation: None required.

Cumulative Impacts

Impact C-UT: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of utilities and service systems. (Less than Significant)

The analysis above concludes that the development pursuant to the draft Plan, including the Transit Tower, would not adversely affect the provision of utilities and service systems in the Plan area. Because there is no shortfall identified in water supply or wastewater treatment capacity, and because there is no projected shortfall with respect to energy or solid waste, neither the Plan nor the Transit Tower project would result in significant cumulative effects with respect to utilities or service systems.

Mitigation: None required.

M. Public Services

Setting

Police Protection

The San Francisco Police Department (SFPD) provides police protection services in San Francisco and within the Plan area, including the Transit tower project site. SFPD's headquarters is located at the Hall of Justice at 850 Bryant Street. Southern Station is located on the first floor of the building; this district station provides police services to the area bounded by Market Street to the northwest, the Embarcadero to the east, Mission Creek, Berry Street, and 16th Street to the south, and Division Street/Duboce Avenue to the southwest, which includes the Plan area.[324] Treasure Island and Yerba Buena Island are also served by the Southern District. The Station is staffed by approximately 115 officers.

The Transit Center District Plan is located in an area staffed by approximately 12 officers who provide coverage 24 hours per day. The crime rate in this area is average relative to the entire Southern Station service area. Due to the relatively high density, it requires more police services than other areas of the city. In the first five months of 2010, there were 100 violent crimes, 253 property crimes, and 354 other crimes in the area bounded by Market, Main, Folsom, and Third Streets.[325]

In 2007, Southern Station received 8,050 Priority A calls (life-threatening emergency); 18,297 Priority B calls (potential for harm to life and/or property); and 20,416 Priority C calls (crime committed with no threat to life or property).[326] Southern Station received more calls for service and reported more crimes than any other district station. The Southern District accounts for approximately 19 percent of the crimes that occur citywide.

Fire Protection and Emergency Medical Services

The San Francisco Fire Department (SFFD), headquartered at 698 Second Street, provides fire suppression and emergency medical services to the City and County of San Francisco, including the Plan area and the Transit Tower site. The SFFD consists of 3 divisions, which are subdivided into 10 battalions and 42 active stations located throughout the City. Fire protection for the Transit Center District Plan area is provided primarily by the three closest fire stations. Station 1, at 676 Howard Street at Third Street, has one engine company, with one officer and three firefighters; one aerial (ladder) truck company, with one officer and four firefighters, and a Heavy Rescue Squad, with one officer and three firefighters. Station 1 is scheduled to be relocated to 935 Folsom Street, between Fifth Street and Sixth Street, in the next several years[327]; this move would occur in conjunction with the proposed expansion of the San Francisco Museum of Modern

---

324 Acting Captain Arthur J. Borges, Jr., San Francisco Police Department, Response to Transit Center District Plan EIR Police Services Questionnaire, June 9, 2010.

325 *Ibid.*

326 San Francisco Police Department, *2007 Annual Report*, 2008.

327 Doudiet, Thomas, Assistant Deputy Chief, Division of Support Services, San Francisco Fire Department, Response to Transit Center District Plan EIR Fire Protection Services Questionnaire, November 12, 2010.

Art, a separate project just outside the Plan area that is undergoing its own CEQA review (Case Nos. 2009.0291E and 2010.0275E). Station 8, at 36 Bluxome Street, at Fourth Street, has one engine company and one truck company, and a battalion chief. Station 35, at Pier 22½ on the Embarcadero at Harrison Street, currently has no firefighting vehicles or crews pending renovation of the facility, but is the docking location of the SFFD fireboats. Station 13, at Washington and Sansome Streets (one engine and one truck) is the next closest station to the Plan area. There is also a new station planned to be incorporated into the Public Safety Building at Third Street and Mission Rock in the Mission Bay neighborhood, the construction of which is slated to begin in early 2012. Other stations serve the Plan area on an as-needed basis. For example, in the absence of Engine Company 35, Engines 13, 36 (Oak and Franklin Streets), or 29 (Vermont Street in Showplace Square) can respond along with units from Station 1 and Station 8.

For the Plan area in 2009, there were a total of 857 alarms, 92 fire-related calls, 932 non-emergency medical calls, and 1,458 medical calls. For all calls except non-emergency calls, average response time was about 5 minutes 10 seconds.

The Auxiliary Water Supply System (AWSS), which provides a dedicated high-pressure water system for fire suppression, serves the entire Plan area. It includes five underground cisterns located at the following locations: Howard Street at Beale Street, First Street at Folsom Street, First Street at Harrison Street, First Street at Howard Street, and Second Street at Folsom Street. There are no currently existing water deficiencies in the Plan area related to firefighting concerns, and there are no Fire Department water supply improvements proposed or planned.

The SFFD provides emergency medical services (EMS) in the City, including basic life support (BLS) and advanced life support (ALS) ambulance services. In addition, several privately operated ambulance companies are authorized to provide BLS and ALS services. The City's emergency dispatch (911) center routes fire and medical emergency calls to the appropriate station and units best able to respond to the particular address and situation.

San Francisco Division of Emergency Services is currently planning a process to re-structure the contracts for EMS Service Providers, as the prior "exclusivity" exemption, under which City ambulances handles all EMS calls, has ended. A request for proposals will be released, likely in 2011, and eligible service providers will be considered for contracts. It is projected that the overall effect of this change will be to increase the "floor" number of ambulances available for dispatch at any given time in San Francisco from the current level. This increase will lead to an overall improvement in call response intervals.

SFFD ambulances are deployed to the City at large in order to be most flexible to changes in call volume and distribution changes throughout the day and week, and there are no subdivision of ambulance zones within the City. There were 82,678 calls for medical assistance in 2009, and the most common calls were for "breathing problems," "sick persons" "unconscious/fainting," and "falls."[328] For Code 3 (life-

[328] Mercer, Mary, Fellow, EMS & Disaster Management, UCSF-SFGH Department of Emergency Medicine, San Francisco EMS Agency, San Francisco Department of Emergency, Response to Transit Center District Plan EIR EMS Services Questionnaire, August 30, 2010.

threatening emergency) calls, average response time was 5 minutes, 12 seconds, and 90th percentile response time was 7 minutes 27 seconds. For Code 2 calls, average response time was 10 minutes 16 seconds, and 90th percentile response time was 18 minutes 26 seconds.

Schools

The San Francisco Unified School District (SFUSD) operates San Francisco's public schools. SFUSD managed 112 schools during the 2009 – 2010 academic year, including: 73 elementary schools, 13 middle schools, 19 high schools, and nine charter schools, with a total enrollment of 55,140.[329] From 1995 to 2007, student enrollment within the SFUSD declined from 61,889 to 55,069, a drop of 11 percent. Enrollment has stabilized since 2007, and has actually increased slightly, by just over 0.1 percent, since then.[330] Overall capacity exceeds current enrollment, but in some areas of the city the enrollment exceeds capacity for elementary, middle, and high schools.[331] SFUSD anticipates that elementary school enrollment will grow due to the large birth cohorts earlier in the decade. Middle school enrollment is anticipated to rise, as well, but remain below current enrollment through 2013. High school enrollment will experience a continuous decline through 2013 due to the declining birth rates of the 1990s.[332] SFUSD has held discussions to build additional school sites in Mission Bay, Treasure Island, and Bayview Hunter's Point, as well as building a campus for the Asawa School of the Arts in the Civic Center, but no final decisions have been made.

Bessie Carmichael Elementary School at 275 Seventh Street, John Yehall Chin Elementary School at 350 Broadway, and the Chinese Education Center at 657 Merchant Street are the nearest schools to the Transit Center District Plan area. In March 2009, the SFUSD Board of Education approved new guidelines for attendance boundaries around schools. Under this new policy, Bessie Carmichael will become a "city-wide" school with no attendance area beginning with the 2011-2012 academic year.[333]

Past enrollment figures at individual schools are not an indication of potential enrollment trends because SFUSD will implement a new student assignment plan for the 2011-12 school year. According to initial proposals for school attendance boundaries and elementary to middle school feeder patterns, students living at Mission and First Street would attend either John Yehall Chin Elementary School or Daniel Webster Elementary School (at 465 Missouri Street), depending on the side of the street on which they live. Most students that attend Chin Elementary School would go to Francisco Middle School (2190 Powell Street), and most students attending Webster would attend Mann Middle School (3351 23rd Street) based on the current recommendations, which are in draft form and are subject to approval by the Board of Education. Students would be able to apply for any high school across the city.

---

329 San Francisco Unified School District Overview, http://www.sfusd.edu/en/about-sfusd/overview.html; Education Data Partnership, Fiscal, Demographics, and Performance Data on California's K-12 Schools, www.ed-data.k12.ca.us; accessed May 12, 2011.

330 California Department of Education, Educational Demographics Office, http://dq.cde.ca.gov/dataquest, accessed May 12, 2011.

331 Waymack, Nancy. San Francisco Unified School District, Director of Policy & Operations, Response to Transit Center District Plan EIR SFUSD Questionnaire, September 3, 2010.

332 San Francisco Unified School District (SFUSD), *Capital Plan, FY 2010-2019*, September 2009.

333 SFUSD, *Student Assignment Redesign: Report on City-Wide Schools*, July 2010.

Parks and Recreational Facilities

Parks and recreational facilities are discussed in Section IV.K of this document.

Impacts

Significance Criteria

The proposed project would result in a significant impact with respect to public services if it would:

- Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services.

Impact Analysis

The project would increase development on the site. Thus, the project would increase the demand for, and use of, public services, but not in excess of amounts expected and provided for in this area. As discussed in the previous section, no need for expansion of public services facilities is anticipated due to the proposed project. The draft Plan would increase demand for police and fire services, but not in excess of amounts provided for in the Plan area. The project would not be expected to have a substantial impact on police and fire services and would not necessitate the need for new or physically altered governmental facilities.

The incremental daytime residential population growth that would result from the draft Plan and the new office, hotel, and retail space that would be developed in the Plan area would not necessitate the need for new or physically altered parks or other governmental facilities.

Plan Impacts

Police Protection

Impact PS-1: The draft Plan and Transit Tower would not result in the need for new or physically altered police protection facilities. (Less than Significant)

According to growth projections, the Transit Center District Plan area, inclusive of the Transit Tower, would comprise 6,100 additional households with 9,500 residents by 2030. In addition, almost 30,000 jobs would be added to the Plan area.[334] This increase in employment and residential population would increase demand for police protection services such that additional police protection services would be needed.[335] SFPD

334 Hausrath Economics Group, *Transit Center District Plan Development Fee Nexus Study: Preliminary Draft Report.* Prepared for the San Francisco Planning Department, August 9, 2010.

335 Acting Captain Arthur J. Borges, Jr., San Francisco Police Department, Response to Transit Center District Plan EIR Police Services Questionnaire, June 9, 2010.

would assess the need not based just on population growth, but also on calls for service, types and times of traffic and pedestrian flow patterns, and operational hours of uses within the Plan area.

As part of the permit review process, building planners would work with the San Francisco Police Department and the Department of Emergency Management to ensure that emergency communication systems within new high-rise buildings are functional and appropriately designed. Such strategies may include police access to control systems, surveillance cameras and other technology, evacuation procedures and live drills, high-rise crime prevention through environmental design, disaster preparedness, access and egress points of identification, and private security offices, if appropriate. SFPD also recommends close-circuit monitoring, wireless and mesh networks, perimeter security systems, access control systems, weapons and explosion detection systems, and anti-terrorism and blast mitigation systems and designs. These systems would be incorporated into the new towers, including the Transit Tower, to the extent practicable based on consultation with SFPD.

According to SFPD, the existing police infrastructure would accommodate this additional growth through re-deployment of resources from other areas of the city, if needed. For example, the boundaries of the Southern District could be modified depending on demand for police protection services. Southern Station may also be relocated to an as-yet-to-be-determined site, which may necessitate redefining the district's boundaries. The Transit Center District Plan and Transit Tower's impact on police protection services would be less than significant.

Mitigation: None required.

Fire Protection and Emergency Medical Services

Impact PS-2: The draft Plan and Transit Tower would not result in the need for new or physically altered fire protection facilities, but may delay emergency medical response. (Less than Significant)

The addition of 6,100 additional households with 9,500 residents, as well as 30,000 jobs primarily located in high-rise buildings, would affect fire protection services in the Plan area. SFFD would require additional personnel, equipment, and facilities to maintain adequate levels of fire protection and emergency medical services. As the worker and employee population within the Transit Center District Plan area increases, additional revenues would be paid into the City's General Fund to support personnel growth at the SFFD. There are currently no plans to increase SFFD personnel beyond the new station at Third Street and Mission Rock.

Studies have shown that buildings greater than three stories in height increase the length of emergency medical service (EMS) response times up to twice as long as average response times for single occupancy residencies or those three stories or less. Response times showed significant improvement when EMS responders were greeted on arrival or had access to an "emergency mode" of elevator transport (preventing

non-critical elevator stops). However, commercial and office space have relatively low utilization rates of the pre-hospital (emergency medical services) system, compared to residential spaces.[336]

Construction of high-rise buildings (taller than 75 feet), including the proposed Transit Tower and other tall buildings, both those with applications on file and other anticipated development, would be required to conform to the provisions of the *Building Code* and *Fire Code* which require additional life-safety protections for such structures.

Standard fire-fighting techniques applicable in high-rise buildings would apply to fire-fighting, and adherence to all applicable *Building Code* and *Fire Code* provisions would ensure that new high-rise buildings are constructed to allow for efficient emergency response, avoiding the majority of problems associated with emergency response.[337] Nonetheless, the overall height of new high-rise buildings could delay fire and emergency medical response. However, commercial and office space have relatively low utilization rates of the pre-hospital system, compared to residential spaces.[338] Although compliance with the existing *Fire Code* would address this effect, [339] the overall height of the high-rises that may be developed on the opportunity sites pursuant to the Transit Center District Plan could delay emergency medical response.

The City's EMS Agency recommends that all new high-rise buildings have in place a system to assist entry of Fire Department and/or EMS personnel, including a protocol to greet paramedics at the door to the building or in the street, to assist in navigation to the patient, as well as to provide express elevator service when necessary. Methods for assisting EMS staff could include designation of qualified building staff (ideally with first-responder or first aid training) who are familiar with evacuation plans and can assist the entry of pre-hospital personnel; placement of first aid kits, automatic emergency defibrillators, and fire response equipment (hoses, air tanks, forcible entry tools, etc.) throughout buildings (every 10 floors or 500 occupants); and appointment of floor-based "safety wardens" to assist in first aid, single person medical evacuation, or evacuation for larger disasters. These measures would ensure that any potential delay by fire or emergency medical response due to building height would be minimized, and that care would be provided prior to their arrival. Combined with strict adherence to Fire Codes, fire and medical emergency response would not be significantly affected.

Mitigation: None required.

---

336 Mercer, Mary, Fellow, EMS & Disaster Management, UCSF-SFGH Department of Emergency Medicine, San Francisco EMS Agency, San Francisco Department of Emergency, Response to Transit Center District Plan EIR EMS Services Questionnaire, August 30, 2010.

337 Doudiet, Thomas, Assistant Deputy Chief, Division of Support Services, San Francisco Fire Department, Response to Transit Center District Plan EIR Fire Protection Services Questionnaire, November 12, 2010.

338 Mercer, Mary, Fellow, EMS & Disaster Management, UCSF-SFGH Department of Emergency Medicine, San Francisco EMS Agency, San Francisco Department of Emergency, Response to Transit Center District Plan EIR EMS Services Questionnaire, August 30, 2010.

339 Doudiet, Thomas, Assistant Deputy Chief, Division of Support Services, San Francisco Fire Department, Response to Transit Center District Plan EIR Fire Protection Services Questionnaire, November 12, 2010.

Schools

Impact PS-3: The draft Plan and Transit Tower would not result in the need for new or physically altered school facilities. (Less than Significant)

The addition of 6,100 households and 30,000 jobs would both directly and indirectly increase student population in the SFUSD. Based on student generation rates of 0.70 students for all-affordable building units, 0.25 students for inclusionary units, and 0.05 students for market rate units, the Transit Center District Plan area's 6,100 new households could generate about 965 students for SFUSD. Of this, about 100 new students would result from development outside Zone 1 of the approved Transbay Redevelopment Area, including about 60 students that would result from taller residential buildings permitted by the draft Plan and proposed rezoning that would accompany the Plan. Because the draft Plan's emphasis is on ensuring adequate space to accommodate office development, 90 percent of new student generation in the Plan would not be attributable to the Plan, but to projects in the existing redevelopment area.

In addition to growth in Plan area housing units, as described in Section IV.C, Population, Housing, Business Activity, and Employment, the increment of 8,000 jobs that would be accommodated by the draft Plan and rezoning would result in the need for about 2,800 housing units in San Francisco, generating an enrollment increase of an additional approximately 230 students. The total employment growth in the Plan area, about 29,300, would similarly generate enrollment of some 820 students. (To the extent the Plan area employees would live in the Plan area, some of these students would be the same as those generated by Plan-area housing.) Depending on the grade level distribution of the students and whether they are new to the district or already enrolled, it is likely SFUSD would need to expand capacity in the elementary and middle school levels.[340]

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), restricts the ability of local agencies such as the City and County of San Francisco to deny land use approvals on the basis that public school facilities are inadequate. SB 50 establishes the base amount of allowable developer fees at $2.97 per square foot of residential construction and $0.47 per square foot of commercial construction. These fees are intended to address local school facility needs resulting from new development. Public school districts can, however, impose higher fees provided they meet the conditions outlined in the act. Private schools are not eligible for fees collected pursuant to SB 50.

SFUSD has approval from the Board of Education to levy the following School Facilities Impact Fees to be collected for residential, commercial, and industrial developments as of Summer 2010. These rates are subject to change based on updated studies.

Residential Development:	$2.24/sq. ft for new residential construction
Office:	$0.27/sq. ft
Retail:	$0.18/sq. ft

340 Waymack, Nancy. San Francisco Unified School District, Director of Policy & Operations, Response to Transit Center District Plan EIR SFUSD Questionnaire, September 3, 2010.

Industrial/Warehouse/Manufacturing:	$0.21/sq. ft.
Lodging/Hotel/Motel:	$0.09/sq. ft.
Hospitals:	$0.22/sq. ft.
Research and Development:	$0.24/sq. ft.

Local jurisdictions are precluded under state law (SB 50) from imposing school-enrollment–related mitigation beyond the school development fees. Therefore, potential effects associated with additional development that could result from construction, tenanting, and operation of the Transit Tower, would be considered less than significant.

Mitigation: None required.

Transit Tower Impacts

Impact PS-4: The proposed Transit Tower would not result in the need for new or physically altered facilities related to police, fire protection, or emergency medical services. (Less than Significant)

The Transit Tower would account for a portion of the growth described above in the discussion of Plan impacts. Therefore, all effects of the Transit Tower would be subsumed within the effects described in Impacts PS-1 through PS-3. Because all of those impacts were determined to be less than significant, effects related to the Transit Tower would likewise be less than significant.

Specific recommendations related to provision of fire and emergency medical services in high-rise buildings, described under Impact PS-2, would also apply to the Transit Tower.

Mitigation: None required.

Cumulative Impacts

Impact C-PS: The draft Plan, including demand on public services from the proposed Transit Tower, would not result in a considerable contribution to any significant impacts related to provision of public services. (Less than Significant)

The analysis above concludes that the development pursuant to the draft Plan, including the Transit Tower, would not adversely affect the provision of public services in the Plan area. Because neither the Police Department nor the Fire Department or Emergency Medical Services Agency has identified a citywide service gap, and because there is no projected shortfall with respect to school capacity citywide, neither the Plan nor the Transit Tower project would result in significant cumulative effects with respect to public services.

Concerning relocation of Fire Station No. 1, proposed in conjunction with the expansion of the Museum of Modern Art, the DEIR for that project (Case Nos. 2009.0291E and 2010.0275E) identifies no significant effect on Fire Department response times due to the proposed relocation.

Mitigation: None required.

N. Biological Resources

This section describes the biological resources that occur or have the potential to occur within or adjacent to the Transit Center District Plan area and the Transit Tower project site and evaluates the possible project-related impacts on these resources. Mitigation measures to reduce adverse impacts on biological resources to less than significant levels are identified.

Information on existing vegetation, wildlife, and special-status species was obtained from regional plans and reports, records from the California Natural Diversity Database, California Native Plant Society Electronic Inventory, the U.S. Fish and Wildlife Service (USFWS), aerial photo interpretation, and other biological literature.[341]

Regional Setting

The Transit Center District Plan area and the Transit Tower project site are located in the Bay-Delta Bioregion[342]. This bioregion consists of a variety of natural communities that range from the open waters of the Bay and Delta to salt and brackish marshes to grassland, chaparral and oak woodlands. The temperate climate is Mediterranean in nature, with relatively mild, wet winters and warm, dry summers. The high diversity of vegetation and wildlife found in the region is a result of soil, topographic, and micro-climate diversity that combine to promote relatively high levels of endemism.[343] This, in combination with a long history of uses resulting in alteration of the natural environment, and the increasingly rapid pace of development in the region, has resulted in a relatively high degree of endangerment for local flora and fauna.

The San Francisco Bay-Delta is the second largest estuary in the United States and supports numerous aquatic habitats and biological communities. It encompasses 479 square miles, including shallow mudflats, tidal marshes, and open waters. The San Francisco Bay-Delta is an important wintering and migratory stop-over site for the Pacific Flyway. More than 300,000 wintering waterfowl use the region.

---

341 CNDDB. 2010. California Natural Diversity Data Base, Rarefind 3 computer application, Sacramento, CA; CNPS. 2010. Online Inventory of Rare and Endangered Plants. Version 7-08b (04/02/08), http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi, accessed 07/20/10; USFWS. 2010. Official List of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in San Francisco County and the San Francisco North USGS 7.5 Minute Quadrangle, Document Number: 100730110200, retrieved July 30, 2010.

342 A bioregion is an area defined by a combination of ecological, geographic and social criteria, that consists of a system of related, interconnected ecosystems. The Bay-Delta bioregion is considered the immediate watershed of the Bay Area and the Delta, not including the major rivers that flow into the Delta. Bounded on the north by northern edge of Sonoma and Napa counties and the Delta and extending east to the edge of the valley floor. Bounded on the south by the southern edge of San Joaquin County, the eastern edge of the Diablo Range, and the southern edge of Santa Clara and San Mateo counties.

343 *Endemism* refers to the degree to which organisms or taxa are restricted to a geographical region or locality and are thus individually characterized as endemic to that area.

Project Setting

Transit Center District Planning Area

The CEQA baseline for biological resources analysis comprises an area of downtown San Francisco that is nearly fully developed with structures and roadways.[344] Although the district is currently zoned for building heights ranging from 30 feet to 550 feet, the heart of the district (south of the old Transbay Terminal site) is largely occupied by buildings less than 10 stories tall, with the exception of two office towers near the intersection of Fremont and Howard Streets. Taller building are prevalent along Mission and Market Streets in the north, Main, Spear, and Steuart Streets to the east, and Hawthorne and Third Streets to the west. Many existing buildings in the center of the district are older, less than five stories in height, and are have masonry exteriors and "punched" windows, without large continuous expanses of glass. There are no natural communities remaining within the Plan area and there are currently only small pockets of open space, such as Yerba Buena Gardens and a number of small privately owned, publicly accessible open spaces created in conjunction with various development projects.[345]

Vegetation Communities

There are no natural vegetation communities within the Plan area. Vegetation within the Plan area consists of street trees and landscaping, on the street and in occasional back yards or courtyards and POPOS throughout the area. These types of vegetated areas generally provide habitat only for species habituated to urban life and high disturbance levels. Typical urban wildlife are usually generalists,[346] and often non-native species, that are tolerant of human presence and activities, such as house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), rock dove (*Columba livia*), house finch (*Carpodacus mexicanus*), Norway rat (*Rattus norvegicus*), house mouse (*Mus musculus*), and pocket gopher (*Thomomys bottae*).

Sensitive Natural Communities

Sensitive natural communities are designated as such by various resource agencies, such as the California Department of Fish and Game (CDFG), or in local policies and regulations, and are generally considered to have important functions or values for wildlife and/or are recognized as declining in extent or distribution and are considered threatened enough to warrant some sort of protection. For example, many local agencies in California consider protection of oak woodlands important and federal, state, and most local agencies also consider wetlands and riparian habitat as sensitive communities. The California

344 The primary exception is the land along the north side of Folsom Street and between Beale and Main Streets formerly occupied by the Terminal Separator Structure (Bay Bridge on- and off-ramps and Embarcadero Freeway ramps). Approved for mixed-use development as part of the Transbay Redevelopment Plan, many of these parcels were in use as staging areas for construction of the new Bay Bridge west approach and most remain unbuilt upon.

345 Not all of these spaces, referred to as POPOS, are planted; many are primarily hardscape, with limited vegetation.

346 Generalist species are able to use a variety of habitats and food sources, unlike many special-status species that are closely restricted to a specific habitat type or food source.

Natural Diversity Data Base (CNDDB; administered by CDFG) tracks communities it believes to be of conservation concern and these communities are typically considered sensitive for the purposes of CEQA analysis. There are no sensitive communities within the Plan area, nor is there any riparian habitat.

Jurisdictional Waters and Wetlands

The Plan area is fully developed, with no waterways, lakes or other impoundments of water. There are no potentially jurisdictional waters or wetlands within the Plan area.

Special-Status Species

A number of species known to occur in the vicinity of the proposed Plan area are protected pursuant to federal and/or State endangered species laws, or have been designated Species of Special Concern by the CDFG. In addition, Section 15380(b) of the state CEQA Guidelines provides a definition of rare, endangered or threatened species that are not currently included in an agency listing but that whose "survival and reproduction in the wild are in immediate jeopardy" (endangered) or that "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens" or "is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the Federal Endangered Species Act" (rare).[347] Species recognized under these terms are collectively referred to as "special-status species." For the purposes of this EIR, special-status species include:

- Plant and wildlife species listed as rare, threatened or endangered under the federal or State endangered species acts;
- Species that are candidates for listing under either federal or State law;
- Species formerly designated by the USFWS as Species of Concern or by CDFG as Species of Special Concern;
- Species designated as "special animals" by the state;[348]
- Species designated as "fully protected" by the state (of which there are about 35, most of which are also listed as either endangered or threatened);[349]

347 For example, CDFG interprets Lists 1A, 1B, and 2 of the California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* to consist of plants that, in a majority of cases, would qualify for listing as rare, threatened, or endangered. However, the determination of whether an impact is significant is a function of the lead agency, absent the protection of other laws.

348 Species listed on the current CDFG Special Animals List (July 2009), which includes 883 species. This list includes species that CDFG considers "those of greatest conservation need." The list is available at http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp; reviewed December 16, 2010.

349 The "fully protected" classification was "the State's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction." The designation exists in the state *Fish and Game Code*. (CDFG, Fully Protected Animals, http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html. Reviewed December 6, 2010.

- Raptors (birds of prey), which are specifically protected by the *California Fish and Game Code* Section 3503.5, which prohibits the take, possession, or killing of raptors and owls, their nests, and their eggs;[350] and
- Species such as candidate species that may be considered rare or endangered pursuant to Section 15380(b) of the CEQA *Guidelines*.

Appendix F provides comprehensive lists of the special-status species that have been documented from, or have potential to occur in suitable habitat within San Francisco County. These lists were obtained from the California Natural Diversity Database, California Native Plant Society Electronic Inventory, and the U.S. Fish and Wildlife Service. Data requests were made for the San Francisco North USGS 7.5 minute topographic quadrangle (in which the Plan area is located). Based on ESA's review of the biological literature of the region, previous EIRs, and an evaluation of the habitat conditions of the Plan area, most of these species were eliminated from further evaluation because the Plan area does not provide suitable habitat for them.

Species Assessed in Detail

Potential impacts of the Project on special status species were assessed based on the literature review, professional judgment, and the following criteria:

1) A determination of susceptibility. This determination is a three-level process that evaluated for each species: a) potential occurrence in the Plan area (generally, the habitats of the Plan area, including the Transit Tower project site); b) potential occurrence within the footprint of one or more development projects that could occur in the Plan area; or, c) absence from either the Plan area or proposed development sites. If the species was determined unlikely to be found in the Plan area, (e.g., if no potential habitat exists for the species in the Plan area), then the species was given no further consideration.

2) If a species was determined to have the potential to occur in the Plan area, further analyses were made of life history and habitat requirements, as well as the suitability of habitat for the species found within the Plan area or its immediate vicinity.

3) If suitable habitat was determined present within the Plan area or vicinity and the species has been documented as observed within the Plan area or has some potential to occur, additional analysis considered whether the species would be adversely affected by the draft Plan or Transit Tower project. Both direct effects (e.g., displacement of habitat) and indirect effects (e.g. noise) were considered. In addition, life history and habitat requirements were evaluated to ascertain the likelihood and severity of impact.

[350] The inclusion of birds protected by Fish & Game Code Section 3503.5 is in recognition of the fact that these birds are substantially less common in California than most other birds, having lost much of their habitat to development, and the recognition that the populations of these species are therefore substantially more vulnerable to further loss of habitat and to interference with nesting and breeding than are most other birds. It is noted that a number of raptors and owls are already specifically listed as threatened or endangered by state and federal wildlife authorities.

Of the special-status plants and animals presented in **Appendix F**, only the following six species, which were determined to have some potential to occur within the Plan area, were fully considered in the impact analysis:

- American peregrine falcon
- American kestrel
- Cooper's hawk
- Red-tailed hawk
- Western red bat
- Townsend's big-eared bat

These species are described in further detail below.

Special-Status Plants

No special-status plant species are expected to occur in the Plan area. Although a number of special-status plant species are identified in **Appendix F** as occurring within the Plan area vicinity, there are no intact natural communities remaining within the Plan area. Vegetation in the few scattered open space areas within the Plan area is dominated by landscaping, turf, or weeds. In addition, some of plant species presented in **Appendix F** are considered by CNPS (2010) to be extirpated from the Plan area vicinity due to a long-standing history of disturbance and lack of habitat.

Special-Status Animals

Birds

Peregrine falcon (*Falco peregrinus anatum*). Listed as Fully Protected[351] under the *California Fish and Game Code*, the peregrine falcon is known throughout California and is a year-around resident along the Pacific coast. The peregrine is a specialist, preying primarily on mid-sized birds, such as pigeons and doves, in flight. Occasionally these birds will take insects and bats. Although typical nesting sites for the species are tall cliffs, preferably over or near water, peregrines are also known to use urban sites, including the Bay Bridge and tall buildings in San Francisco and San Jose.[352] The San Francisco financial district has been considered a peregrine falcon territory since the late 1980s. The Santa Cruz Predatory Bird Research Group placed a nest box on the northwest corner of the PG&E building at 77 Beale Street when falcons were seen perching there often. Peregrine falcons first nested on the building in 2003 and have used PG&E and other nest structures, including the Bay Bridge, within their territory each year since then.[353] The PG&E building lies within the Plan area, at Mission and Beale Streets.

American kestrel (*Falco sparverius)* is a relatively small member of the falcon family that preys on small birds and on mammals, lizards, and insects. The kestrel is most common in open habitats, such as grasslands or pastures. American kestrels nest in cavities, primarily in trees (Sibley, 2001), but may also

351 A fully protected species cannot be taken at any time, except, under certain circumstances, in association with a species recovery plan.

352 Peeters, H. and J. Peeters, Raptors of California, University of California Press, Berkeley, CA, 2005, [California Natural History Guides: 82].

353 Santa Cruz Predatory Bird Research Group, http://www2.ucsc.edu/scpbrg/pefa.htm, accessed July 28, 2010.

use buildings for nesting. Two breeding pairs were observed in San Francisco during data collection for the San Francisco Breeding Bird Atlas (SFBBA)[354]. While these were not located within the Plan area, both nests were located in cavities or crevices in buildings and the Breeding Bird Atlas indicates it is possible that the species could nest in and around downtown San Francisco. American kestrel is protected under Section 3503.5 of the *California Fish and Game Code.*

Cooper's hawk (*Accipiter cooperi*). Cooper's hawk ranges over most of North America and may be seen throughout California, most commonly as a winter migrant. Nesting pairs have declined throughout the lower-elevation, more populated parts of the state. Cooper's hawk generally forage in open woodlands and wooded margins and nests in tall trees, often in riparian areas. This species is known to nest locally in Bay Area urban neighborhoods but has not been documented as breeding in San Francisco.[355] This species occasionally may forage in and around the Plan area; however, there is no suitable nesting habitat for this species there. Cooper's hawk is protected under Section 3503.5 of the California Fish and Game Code.

Red-tailed hawk (*Buteo jamaicensis*). Red-tailed hawks are commonly found in woodlands and open country with scattered trees. These large hawks feed primarily on small mammals, but will also prey on other small vertebrates, such as snakes and lizards, as well as on small birds and invertebrates. Red-tailed hawks nest in a variety of trees in urban, woodland, and agricultural habitats and has been observed throughout the City. Breeding for this species within San Francisco has only been confirmed in areas that included sufficient grassland habitat for foraging.[356] This hawk may forage in and around the Plan area, however it is highly unlikely to nest there. Red-tailed hawk is protected under Section 3503.5 of the *California Fish and Game Code.*

Mammals

Special-status bat species. Surveys for bats have been conducted in San Francisco, focusing on natural areas and parks. Findings were that the three most commonly encountered species in the area are: Mexican free-tailed bat (*Tadaridia brasiliensis*), Yuma myotis (*Myotis yumanensis*), and western red bat (*Lasiurus blossevillii*), a California species of concern. While Mexican free-tailed bat were widespread and abundant throughout the sampled natural areas, Yuma myotis and western red bat were much less abundant and generally restricted to parks with lakes.[357] Knowing that these bats do occur in natural areas of the City, it is noted that the Plan area provides limited potential roosting habitat for two special-status bat species. However, foraging opportunities in such an urbanized area are relatively low, with few open or vegetated areas and no areas of standing water to host insect populations. The **western red bat** has a widespread distribution throughout California. These bats are generally solitary and roost in trees with dense foliage. They are tolerant of cold temperatures and are not known to hibernate, although

354 San Francisco Field Ornithologists, San Francisco Breeding Bird Atlas, 2001-2003, available: http://www.sffo.org accessed July 26, 2010.
355 *Ibid.*
356 *Ibid.*
357 Krauel, J.K. 2009. Foraging Ecology of Bats in San Francisco. M.S. Thesis, San Francisco State.

it is possible that they do in colder climates.[358] This species may use larger trees within the Plan area for roosting but the potential for their presence is low, given the lack of water bodies in the area. **Townsend's big-eared bats** (*Corynorhinus townsendii townsendii)* occur in a variety of habitats and utilize caves, mines, tunnels, buildings, or other human-made structures for roosting. While the potential for their occurrence within the Plan area is low, it is possible that this species could be found in abandoned or underutilized buildings.

Other Breeding and Migratory Birds

The City of San Francisco and surrounding Bay waters provide habitat for well over 200 species of birds, with some species as year-round residents, other species as winter residents, and still others passing through along the Pacific Flyway during spring and fall migrations. Avian diversity in the City is highest in areas with relatively large sized, diverse patches of habitat remaining. Nonetheless, trees, shrubs, and buildings within the Plan area provide nesting habitat for a variety of birds as well as patches of habitat for potential use by migrants as stop-over sites. The most common species documented as nesting in the general Downtown area[359] include Brewer's blackbird (*Euphagus cyanocephalus*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*), rock dove, house finch, house sparrow, European starling, and brown-headed cowbird (*Molothrus ater*). Less frequently found nesters include Anna's hummingbird (*Calypte anna*), common bushtit (*Psaltriparus minimus*), white-crowned sparrow (*Zonotrichia leucophrys*), chestnut backed chickadee (*Poecile rufescens*), and hooded oriole (*Icterus cucullatus*). As discussed below under Regulatory Setting, most migratory birds are protected from harm by the federal Migratory Bird Treaty Act.

Designated Critical Habitat

USFWS designates critical habitat for certain species that it has listed as threatened or endangered. 'Critical habitat' is defined in Section 3(5)(A) of the federal Endangered Species Act as those lands within a listed species' current range that contain the physical or biological features that are considered essential to the species' conservation, as well as areas outside the species' current range that are determined to be essential to its conservation. Critical Habitat has been designated for Central Coast steelhead trout (*Oncorhychus mykiss*), winter-run chinook salmon (*Oncorhynchus tshawytscha*), and Steller sea-lion (*Eumetopias jubatus*) in the waters off San Francisco's shoreline. However, the Plan area is not located within designated critical habitat for any federally-listed species.

Transit Tower Project Site

The Transit Tower site consists of an urban parcel covered in asphalt and concrete, with some landscaped areas containing trees and shrubs. The 645-foot tall Millennium Tower is to the east, other tall buildings are located to the north and west, and the site of the former Transbay Terminal—demolished beginning in August 2010—is to the south.

---

358 Jameson, E.W., Jr., and H.J. Peeters, *Mammals of California: California Natural History Guides No. 66* (revised edition, 2004). Berkeley: University of California Press. 2004.

359 San Francisco Field Ornithologists. *Op. cit.*

Vegetation Communities

There are no natural vegetation communities within the project site. Existing vegetation within or immediately adjacent to the project site consists of landscaping that had been planted in front of the former Transbay Terminal, and that remained in front of the demolition site as of December 2010. Otherwise the site consists of concrete and asphalt.

Sensitive Natural Communities

As defined earlier in the Plan setting, there are no sensitive communities within the project site.

Jurisdictional Waters and Wetlands

The project site is fully developed in an urban setting and there are no water features of any kind at the site. There are no potentially jurisdictional waters or wetlands within the project site.

Special-status Species

The consideration process for special-status species for this EIR was discussed in detail earlier in the Plan setting.

Special-Status Plants

No special-status plant species are expected to occur at the project site. This is a fully developed site in an urban setting, with no vegetation present except for some landscape trees and shrubs.

Special-Status Animals

Of the special-status plants and animals presented in **Appendix F**, only the following four species, which were determined to have some potential to occur within the vicinity of project site, were fully considered in the project-level impact analysis:

- American peregrine falcon
- American kestrel
- Cooper's hawk
- Red-tailed hawk

These species were described in detail in the Plan setting (see p. 555). While there is no suitable breeding habitat available for these birds at the project site, there is marginally suitable foraging habitat as these species all are known to prey on other birds. These raptors may also use buildings adjacent to the project site for loafing and roosting.

Other Breeding and Migratory Birds

As was described in the Plan setting, it is possible some species may nest in or on buildings on, or adjacent to, the Transit Tower project site. The Plan setting provides further details on the species most likely to use such areas for breeding.

Designated Critical Habitat

As defined earlier in the Plan setting, project site is not located within designated critical habitat for any federally-listed species.

Bird Strikes and Their Effects on Bird Populations

It is estimated that, in North America alone, between 100 million and 1 billion birds are killed due to collisions with buildings and other structures each year.[360] Collisions are currently recognized as one of the leading causes of bird population declines worldwide.[361] Daytime collisions occur most often when birds fail to recognize window glass as a barrier. Regardless of overall building height, the ground floor and first few stories of buildings present the greatest hazards to most birds; reflections of attractive ground-level features like vegetation draw birds toward glass surfaces and often result in collisions. Recent increases in glass surfaces used to better daylight buildings can be considered a "biologically significant" issue, potentially affecting the viability of local and regional bird populations.[362] Transparent features – especially buildings where birds can see through two glass surfaces to vegetation on the other side – also attract birds and cause collisions. Vegetated areas and bodies of water provide potentially valuable stopover habitat for migratory birds. Open space areas adjacent to developed areas create bird habitats in the vicinity of proposed buildings, potentially resulting in higher bird collision risks.

Many collisions are induced by artificial night lighting, particularly from large buildings, which can be especially problematic for migrating songbirds since many are nocturnal migrants.[363] The tendency of birds to move towards lights at night when migrating, and their reluctance to leave the sphere of light influence for hours or days once encountered, has been well documented.[364] It has been suggested that structures located at key points along migratory routes may present a greater hazard than those at other locations.[365] Other research suggests that fatal bird collisions increase as light emissions increase, that weather often plays an important part in increasing the risk of collisions, and that nights with heavy cloud cover and/or precipitation present the conditions most likely to result in high numbers of collisions.[366] The type of light used may affect its influence on the birds: for example, studies have indicated that blinking lights or strobe lights affect birds significantly less than non-blinking lights.[367]

---

360 San Francisco Planning Department, *Standards for Bird-Safe Buildings*, Adopted July 14, 2011. Reviewed August 18, 2011.Available on the internet at: http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf.

361 Brown, H., Caputo, S., McAdams, E.J., Fowle, M., Phillips, G., Dewitt, C., Gelb, Y., Bird-safe Building Guidelines, New York Audubon, available online: http://nycaudubon.org, accessed 08/24/10.

362 *Ibid.*

363 Ogden, L.E., Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds, Special Report for the World Wildlife Fund and the Fatal Light Awareness Program, September 1996, available online: www.flap.org, accessed 08/25/10.

364 *Ibid.*

365 *Ibid.*

366 Ogden, L.E., Summary Report on the Bird Friendly Building Program: Effect of Light Reduction on Collision of Migratory Birds, Special Report for the Fatal Light Awareness Program, available online: www.flap.org, January 2002, accessed 08/24/10.

367 Gauthreaux, S.A., Belser, C.G., Effects of Artificial Night Lighting on Migrating Birds, In: Rich, C. and Longcore, T., Ecological Consequences of Night Lighting, Island Press, Covelo, CA, pp. 67-93, 2006.

Power lines, communications towers, and wind turbines ("windmills") have also been implicated in bird strikes.

As the DEIR was being published, the San Francisco Board of Supervisors unanimously approved, and the mayor subsequently signed, legislation amending the *Planning Code* to incorporate bird-safe building standards into the Code. The Commission also approved *Standards for Bird-Safe Buildings.*[368] The amendments, reviewed and recommended by the Planning Commission, introduced a new *Planning Code* Section 139, Standards for Bird-Safe Buildings, that focuses on buildings, both public and private, that create location-specific hazards and building feature-related hazards. Location-specific hazards apply to buildings in, or within 300 feet of and having a direct line of sight to, an Urban Bird Refuge; such a Refuge includes "open spaces two acres and larger dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, or wetlands, or open water." Section 139 requires that 90 percent of glazing in the "Bird Collision Zone" (60 feet above grade, plus 60 feet above an adjacent vegetated roof two acres or larger) be treated (fritted, stenciled, frosted, or covered with netting, screens, grids, or bird-visible UV patterns). Lighting must also be minimized, and any wind generators must comply with Planning Department requirements, "including any monitoring of wildlife impacts that the Department may require."

In addition to buildings in and near an Urban Bird Refuge, Section 139 applies similar standards to certain building features citywide, including "free-standing glass walls, wind barriers, skywalks, balconies, and greenhouses on rooftops that have unbroken glazed segments 24 square feet and larger in size."

The *Standards for Bird-Safe Buildings* include guidelines for use and types of glass and façade treatments, wind generators and grates, and lighting treatments. The standards impose requirements for both location-related hazards and feature-related hazards, which are the same hazards identified in *Planning Code* Section 139.[369] Required treatments are generally as specified in Section 139:

For location-related hazards involving new buildings or additions to existing buildings (and replacement of 50 percent or more of the existing glazing within the Bird Collision Zone on façade(s) facing the Urban Bird Refuge), the following requirements apply:

- **Façade Treatments:** Bird-Safe Glazing Treatment is required such that the Bird Collision Zone consists of no more than 10 percent untreated glazing. Building owners are encouraged to concentrate permitted transparent glazing on the ground floor and lobby entrances to enhance visual interest for pedestrians.
- **Lighting Design:** Minimal lighting shall be used. Lighting shall be shielded. No uplighting shall be used. No event searchlights should be permitted for the property.

368 San Francisco Planning Department, *Standards for Bird-Safe Buildings*, Adopted July 14, 2011. Available on the internet at: http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf. Reviewed August 18, 2011.

369 Ordinance No. 199-11, approved by the Board of Supervisors on September 27, 2011 (Board File No. 110785), and signed by the Mayor on October 7, 2011.

- **Wind Generators:** Sites must not feature horizontal access windmills or vertical access wind generators that do not appear solid.

For building feature-related hazards involving new buildings and new additions to existing buildings, the entirety of the hazard must be made bird-safe through such treatments as fritting, netting, permanent stencils, frosted glass, exterior screens, physical grids placed on the exterior of glazing or ultraviolet patterns visible to birds. Vertical elements of the window patterns should be at least 1/4 inch wide at a minimum spacing of 4 inches, or have horizontal elements at least 1/8 inch wide at a maximum spacing of 2 inches, according to the Standards.

The Standards prescribe the use of a checklist to educate project sponsors and their future tenants on potential hazards and applicable treatments. They also provide that treatments for designated historic buildings meet the *Secretary of the Interior's Standards for Rehabilitation*, and they exempt residential buildings less than 45 feet in height with limited glass facades. The Standards also recommend educational guidelines and voluntary programs.

Regulatory Setting

This section briefly describes federal, state, and local regulations, permits, and policies pertaining to biological resources and wetlands as they apply to the proposed project.

Special-Status Species

Federal Endangered Species Act

The USFWS, which has jurisdiction over plants, wildlife, and most freshwater fish, and the National Marine Fisheries Service (NMFS), which has jurisdiction over anadromous fish, marine fish, and mammals, oversee implementation of the federal Endangered Species Act. Section 7 of the Act mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agencies actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A federal agency is required to consult with USFWS and NMFS if it determines a "may effect" situation will occur in association with the proposed project. The federal Endangered Species Act prohibits the "take"[370] of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

370 "Take," as defined in Section 9 of the Act, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

California Endangered Species Act

Under the California Endangered Species Act, CDFG has the responsibility for maintaining a list of threatened and endangered species (*California Fish and Game Code* Sec. 2070). CDFG also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, CDFG maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of the Act, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFG encourages informal consultation on any proposed project that may impact a candidate species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed CDFG to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The California Endangered Species Act expanded upon the original NPPA and enhanced legal protection for plants. The California Endangered Species Act established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

Special-Status Natural Communities

Special-status natural communities are identified as such by CDFG's Natural Heritage Division and include those that are naturally rare and those whose extent has been greatly diminished through changes in land use. The California Natural Diversity Database (CNDDB) tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site in terms of its location, extent, habitat quality, level of disturbance, and current protection measures. CDFG is mandated to seek the long-term perpetuation of the areas in which these communities occur. While there is no statewide law that requires protection of all special-status natural communities, CEQA requires consideration of the potential impacts of a project to biological resources of statewide or regional significance.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

California Fish and Game Code

Under Section 3503 of the *California Fish and Game Code*, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.3 of the *Code* prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. *Code* Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) allow the designation of a species as Fully Protected. This is a greater level of protection than is afforded by the California Endangered Species Act, since such a designation means the listed species cannot be taken at any time, except, under certain circumstances, in association with a species recovery plan.

Waters of the United States and the State (Wetlands)

The Plan area is fully developed, with no waterways, lakes or other impoundments of water. There are no potentially jurisdictional waters or wetlands within the Plan area. Therefore, federal and state regulations concerning wetlands are not discussed.

San Francisco's Urban Forestry Ordinance

The City and County of San Francisco's Urban Forestry Ordinance (Article 16 of the Public Works Code) protects San Francisco's street trees, significant trees and landmark trees regardless of species. The three categories of trees protected by the ordinance are defined as follows:

Street trees are "any tree growing within the public right-of-way, including unimproved public streets and sidewalks, and any tree growing on land under the jurisdiction of the Department [of Public Works]" as defined in Section 802 of the Ordinance. The removal of street trees by persons other than the Department of Public Works is restricted by Section 806b, whereby a permit is required for removal.

Significant trees are defined in Section 810A of the Ordinance as trees (1) on property under the jurisdiction of the Department of Public Works or on privately owned-property with any portion of its trunk within 10 feet of the public right-of-way, and (2) that satisfies at least one of the following criteria: (a) a diameter at breast height (DBH) in excess of 12 inches, (b) a height in excess of 20 feet, or (c) a canopy in excess of 15 feet. The removal of significant trees by persons other than the Department of Public works requires a permit from the Department, according to the process described in Section 806b.

Landmark trees are trees that have been nominated as landmark trees by a member of the public, the landowner, the Planning Commission, the Board of Supervisors, or the Historic Preservation Commission, and that have been subsequently recommended as a landmark tree by the Urban Forestry Council (within the Department of the Environment), and then must be designated a landmark tree by ordinance approved by the Board of Supervisors. Trees that have been nominated and are undergoing review are protected according to the same standards as designated landmark trees while going through the review process, according to Section 810 of the Ordinance. There are no Landmark trees in the Plan area.

San Francisco's Bird-Safe Building Ordinance

The City's newly adopted *Planning Code* provisions regarding bird-safe building design and *Standards for Bird-Safe Buildings* are discussed above, on p. 560.

Impact Analysis

Significance Criteria

The proposed project would have a potentially significant impact related to biological resources if they were to:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFG, the USFWS, or NOAA Fisheries;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;
- Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) or "navigable waters" as defined in Section 10 of the Rivers and Harbors Appropriation Act, through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan; or
- Substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, substantially reduce the number or restrict the range of an endangered, rare or threatened species (consistent with CEQA Guidelines Sections 15065(a)(1) and (c).

Project Impacts

As noted in the Setting, there is no riparian habitat in the Plan area, nor are there any wetlands. None of the Plan area is within the jurisdiction of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan. Neither the draft Plan nor the proposed Transit Tower would conflict with the City's Urban Forestry Ordinance. Policy conflicts, if any, are addressed in Chapter III, Plans and Policies. Therefore, these issues are not discussed below.

Transit Center District Plan

Impact BI-1: Development under the draft Plan has the potential to adversely impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Less than Significant with Mitigation)

The Plan area and surrounding environs are developed and covered with structures and other largely impermeable surfaces. Because the Plan area is in a developed urban area with no natural vegetation communities remaining, development under the draft Plan would not affect any special-status plants.

As discussed in the Setting there are several special-status animals that may potentially use habitat in the Plan area, including the American peregrine falcon, red-tailed hawk, American kestrel, western red bat, and Townsend's big-eared bat. In addition there are a number of native resident and migratory bird species with potential to use trees, shrubs, and buildings within the Plan area for nesting.

Moreover, disruption of nesting native birds is not permitted under the federal Migratory Bird Treaty Act or the *California Fish and Game Code*. The loss of any active nest (i.e., removing a tree or shrub or demolishing a building containing a nest) must thus be avoided under federal and state law.

The loss of an active nest also would be considered a significant impact under CEQA if that nest were being occupied by a special-status bird species. The mortality of special-status bats through tree removal or building demolition would also be considered potentially significant. However, implementation of Mitigation Measures M-BI-1a and M-BI-1b, which would require pre-construction surveys for nesting birds and bats, would reduce potential impacts to a less-than-significant level. Additionally, through implementation of these measures, compliance would be achieved with the federal Migratory Bird Treaty Act and the *California Fish and Game Code*.

Mitigation Measure

M-BI-1a: **Pre-Construction Bird Surveys:** Conditions of approval for building permits issued for construction within the Plan area shall include a requirement for pre-construction breeding bird surveys when trees or vegetation would be removed or buildings demolished as part of an individual project. Pre-construction nesting bird surveys shall be conducted by a qualified biologist between February 1st and August 15th if vegetation (trees or shrubs) removal or building demolition is scheduled to take place during that period. If special-status bird species are found to be nesting in or near any work area or, for compliance with federal and state law concerning migratory birds, if birds protected under the federal Migratory Bird Treaty Act or the *California Fish and Game Code* are found to be nesting in or near any work area, an appropriate no-work buffer zone (e.g., 100 feet for songbirds) shall be designated by the biologist. Depending on the species involved, input from the California Department of Fish and Game (CDFG) and/or the U.S. Fish and Wildlife Service (USFWS) Division of Migratory Bird Management may be warranted. As recommended by the biologist, no activities shall be conducted within the

no-work buffer zone that could disrupt bird breeding. Outside of the breeding season (August 16 – January 31), or after young birds have fledged, as determined by the biologist, work activities may proceed. Birds that establish nests during the construction period are considered habituated to such activity and no buffer shall be required, except as needed to avoid direct destruction of the nest, which would still be prohibited.

M-BI-1b: **Pre-Construction Bat Surveys:** Conditions of approval for building permits issued for construction within the Plan area shall include a requirement for pre-construction special-status bat surveys when large trees are to be removed or underutilized or vacant buildings are to be demolished. If active day or night roosts are found, the bat biologist shall take actions to make such roosts unsuitable habitat prior to tree removal or building demolition. A no disturbance buffer shall be created around active bat roosts being used for maternity or hibernation purposes at a distance to be determined in consultation with CDFG. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would necessary.

Level of Significance after Mitigation

With implementation of Mitigation Measures M-BI-1a and M-BI-1b, requiring pre-construction surveys for special-status nesting birds and bats prior to construction of individual buildings or projects under the Plan, the impacts on special-status species resulting from development under the draft Plan would be less than significant.

Impact BI-2: Implementation of the draft Plan could interfere substantially with the movement of native resident wildlife species and with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

As stated in the Setting, bird strikes result in millions of bird deaths annually and are a leading cause of worldwide declines in bird populations. Direct effects from bird strikes include death or injury as the birds collide with lighted structures and other birds that are attracted to the light, as well as collisions with glass during the daytime, while indirect effects include delayed arrival at breeding or wintering grounds, and reduced energy stores necessary for migration, winter survival, or subsequent reproduction.[371] Avian collisions are a potentially significant impact, inasmuch as they may affect special-status bird species. Moreover, as more research is undertaken with respect to bird collisions, the findings raise the potential that these collisions could be implicated in, and contribute to, the decline of some bird populations below self-sustaining levels or the substantial elimination of some bird communities in certain locales.

The existing environment is one of high ambient disturbance due to human activity and noise generated by City and freeway traffic. Therefore, nesting by raptors such as peregrine falcon, hawks, and kestrels is

371 Gauthreaux and Belser. *Op. cit.*

not expected to be common within the Plan area (although, as noted above, peregrine falcons do nest atop the PG&E building in the Plan area); however, raptors may use the area for foraging purposes. Because the draft Plan calls for increasing open space within the Plan area, foraging opportunities may increase for these birds due to increased planting of trees and other vegetation, which could be a beneficial effect. However, changes in building heights and density, as well as construction of new buildings in the current prevailing architectural style, which are often characterized by large glazed expanses, could have a potentially adverse effect on raptors, as well as resident and migratory passerines, by increasing the risk for avian collisions with buildings. These effects could be exacerbated by increasing areas of open space in proximity to buildings, as called for under the draft Plan. These potentially adverse impacts are discussed in detail under Impact BI-4.

The Plan area currently contains street lights, parking lot lights, and building lights and is located in a generally urban setting, surrounded by other light sources. Therefore, existing lighting sources already provide a substantial source of illumination throughout the Plan area. Overall, development under the draft Plan is not expected to significantly increase the amount of light generated from the Plan area over baseline levels (see Section IV.B, Aesthetics, for a discussion of lighting impacts). However, new lighting sources in the form of tall buildings, combined with the fact that most night-traveling migratory birds fly at heights lower than 1,640 feet,[372] has the potential to significantly heighten the risk of avian collisions over existing levels, particularly because the Plan would allow for substantially taller buildings than currently exist.

The Plan area is surrounded by other urban development and is not proximate to, nor does it contain, large expanses of open space or water representing potentially attractive migratory bird stopovers. Specific avian flight routes in and out of the area are not known, and there is little local data available on bird kills due to building collisions. However, both resident and migratory birds are known to use the area for breeding and foraging. Increases in building heights and density throughout the Plan area, as well as construction of new buildings, especially those with glass facades, or other large areas of glazing, could heighten the risk for avian collisions with buildings. These effects could be exacerbated by increasing areas of vegetated open space in proximity to buildings, as called for under the draft Plan. The potential for development under the draft Plan to increase the risk of avian collisions over the existing baseline is considered a significant impact.

San Francisco has a policy encouraging the installation of on-site renewable energy systems, such as wind generators, and Policy 6.11 of the draft Plan calls for use of "on-site renewable energy systems" to reduce fossil-fuel consumption. Wind generators can result in additional bird and bat mortality, including that of special-status species—a significant impact—and birds protected by the federal Migratory Bird Treaty Act and the *California Fish and Game Code*.[373]

372 Brown et al. *Op. cit.*

373 This discussion is specific to the potential impact of wind generators; other policies and laws concerning biological resources are discussed in the Setting.

As stated in the Setting, the Board of Supervisors in September 2011 approved *Planning Code* amendments to incorporate bird-safe building standards into the Code, and adopted *Standards for Bird-Safe Buildings*.[374] The new *Planning Code* Section 139, Standards for Bird-Safe Buildings, focuses on buildings that create location-specific hazards and building feature-related hazards. Location-specific hazards apply to buildings within 300 feet of and having a direct line of sight to, an Urban Bird Refuge, including open spaces two acres and larger dominated by vegetation, wetlands, or open water. In such areas, 90 percent of glazing in the 60 feet above grade or above a vegetated roof two acres or larger be treated (fritted, stenciled, frosted, or covered with netting, screens, grids, or bird-visible UV patterns). Lighting must be minimized, and wind generators must be vertical, with a solid-blade appearance. Similar controls apply to certain building features citywide, including glass walls, wind barriers, skywalks, balconies, and rooftop greenhouses with 24 square feet of continuous glazing.

The *Standards for Bird-Safe Buildings* include guidelines for use and types of glass and façade treatments, wind generators and grates, and lighting treatments, for both location-related hazards and feature-related hazards, which are the same hazards identified in *Planning Code* Section 139. Required treatments are generally as specified in Section 139.

In the Plan area, because the City Park atop the new Transit Center will be considered an Urban Bird Refuge, buildings that would be subject to Section 139 and the *Standards for Bird-Safe Buildings* would likely include, in addition to the proposed Transit Tower, proposed buildings at 181 Fremont Street, 50 First Street (Mission Street tower and possibly First Street tower), on the Golden Gate University site, on TJPA Parcel F, and at 524 Howard Street. An approved but unbuilt project at 535 Mission Street could also be subject to Section 139 and the *Standards*, should it require re-authorization by the Planning Commission.

Compliance with *Planning Code* Section 139 and the adopted *Standards for Bird-Safe Buildings* would ensure that potential impacts related to bird hazards would be less than significant.

Mitigation Measures

Because no significant impacts were identified, no mitigation is required. However, the following improvement measure is identified to reduce potential effects on birds from night lighting at the site. Implementation of this measure would further reduce the draft Plan's less-than-significant impacts on resident and migratory birds.

I-BI-2: **Night Lighting Minimization.** In compliance with the voluntary San Francisco Lights Out Program, the Planning Department could encourage buildings developed pursuant to the draft Plan to implement bird-safe building operations to prevent and minimize bird strike impacts, including but not limited to the following measures:

- Reduce building lighting from exterior sources by:

374 San Francisco Planning Department, *Standards for Bird-Safe Buildings*; see footnote 360, p. 562.

  - Minimizing amount and visual impact of perimeter lighting and façade up-lighting and avoid up-lighting of rooftop antennae and other tall equipment, as well as of any decorative features;
  - Installing motion-sensor lighting;
  - Utilizing minimum wattage fixtures to achieve required lighting levels.
- Reduce building lighting from interior sources by:
  - Dimming lights in lobbies, perimeter circulation areas, and atria;
  - Turning off all unnecessary lighting by 11:00 p.m. through sunrise, especially during peak migration periods (mid-March to early June and late August through late October);
  - Utilizing automatic controls (motion sensors, photo-sensors, etc.) to shut off lights in the evening when no one is present;
  - Encouraging the use of localized task lighting to reduce the need for more extensive overhead lighting;
  - Scheduling nightly maintenance to conclude by 11:00 p.m.;
  - Educating building users about the dangers of night lighting to birds.

Level of Significance after Mitigation

Less than significant.

Transit Tower

Impact BI-3: Development of the Transit Tower has the potential to adversely impact species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Less than Significant with Mitigation)

The Transit Tower project site is an urban parcel covered in asphalt and concrete, with some small landscaped areas containing trees and shrubs. As noted in the discussion of Plan effects in Impact BI-1, the surrounding environs are developed and covered with structures and other impermeable surfaces. As with Plan effects, because the project site is in a developed urban area with no natural vegetation communities remaining, development of the Transit Tower would not affect any special-status plants.

As with Plan effects described in Impact BI-1, construction of the Transit Tower project could likewise result in adverse impacts on special-status birds. Development of the Transit Tower could disturb nesting birds, including special-status birds and those protected by the federal Migratory Bird Treaty Act and the *California Fish and Game Code*. The loss of any active nest (i.e., removing a tree or shrub or demolishing a building containing a nest) would be potentially significant. However, there is no habitat for special-status bats at the Transit Tower project site.

Mitigation Measure

M-BI-3: Implement Mitigation Measure M-BI-1a, **Pre-Construction Bird Surveys**, for construction of the Transit Tower project.

Level of Significance after Mitigation

With implementation of Mitigation Measure M-BI-1a, to conduct pre-construction surveys for special-status nesting birds prior to construction of the Transit Tower, the impacts on special-status species from the Transit Tower would be less than significant.

Impact BI-4: Implementation of the Transit Tower Project could interfere substantially with the movement of native resident wildlife species and with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

As stated in the Setting, bird strikes result in millions of bird deaths annually and are a leading cause of worldwide declines in bird populations. Direct effects from bird strikes include death or injury as the birds collide with lighted structures at night and/or with glass during the daytime, while indirect effects include delayed arrival at breeding or wintering grounds, and reduced energy stores necessary for migration, winter survival, or subsequent reproduction. Avian collisions are a potentially significant impact, inasmuch as they may affect special-status bird species. Moreover, as more research is undertaken with respect to bird collisions, the findings raise the potential that these collisions could be implicated in, and contribute to, the decline of some bird populations below self-sustaining levels or the substantial elimination of some bird communities in certain locales.

As with the remainder of the Plan area, the Transit Tower project site and vicinity is well lit by street lights and building lights and is located in a developed urban setting, and thus existing lighting sources already provide substantial nighttime illumination. Overall, development of the proposed Transit Tower would not change the fact that the area is well-lit at night. However, the proposed Transit Tower would be the tallest building in San Francisco, and would be taller than the current tallest structure in the City, which is Sutro Tower (although Sutro Tower's elevation of 834 feet means that the top of this communications tower would remain the highest built point in San Francisco). Because the Tower would be substantially taller than other structures, new lighting from a tall building has the potential to substantially increase the risk of avian collisions over existing baseline levels, which could affect both resident and migratory birds. The largely glass façade of the Transit Tower would mean that interior light from the building would be readily apparent to nearby birds and, as noted in the Setting, the glazing itself would likely result in bird collisions. Moreover, the proposed Transit Tower would be constructed adjacent to the planned City Park, a 5-acre open space atop the Transit Center that would include extensive landscaping.

As noted previously, the Planning Commission in July 2011 adopted *Standards for Bird-Safe Buildings*. The Standards impose requirements for both location-related hazards and feature-related hazards, as described above under Impact BI-2. In addition, the Planning Commission recommended approval of *Planning Code* amendments to incorporate Standards for Bird-Safe Buildings as a new Section 139 of the *Code*, and those amendments were approved by the Board of Supervisors in September 2011. That section

would require treatment, as in the Standards, for both location-specific hazards and building feature-related hazards, as described above under Impact BI-2.

Compliance with *Planning Code* Section 139 and the adopted *Standards for Bird-Safe Buildings* would ensure that potential impacts related to bird hazards would be less than significant.

Mitigation Measures

Because no significant impacts were identified, no mitigation is required.

Additionally, although it is not part of the project analyzed in this EIR, the planned City Park atop the new Transit Center could create adjacent open space that increases the potential for bird collisions at the Transit Tower. As noted above, bird collisions with glass tend to occur in proximity to planted spaces. Accordingly, Improvement Measure I-BI-4 is identified to further reduce potential effects of bird collisions.

Improvement Measures

I-BI-4a: **Bird-Safe Standards for City Park.** The Transbay Joint Powers Authority, as sponsor of the Transit Center and City Park, could incorporate, as feasible, into the design of City Park bird-safe standards that are applicable to parks and open spaces, as described in the newly adopted *Standards for Bird-Safe Buildings.*

I-BI-4b: **Night Lighting Minimization.** The Transbay Joint Powers Authority, as sponsor of the Transit Center and City Park and the owner of the Transit Tower site, could incorporate, as feasible, into the design of City Park, and could require incorporation, as feasible, in the design of the proposed Transit Tower, the light minimization features identified in Improvement Measure I-BI-2.

Cumulative Impacts

Impact C-BI: Implementation of the Transit Center District Plan and the Transit Tower project would not make a considerable contribution to adverse effects on biological resources. (Less than Significant)

Past projects, including the development of civic facilities, residences, commercial and industrial areas, and infrastructure have already caused substantial adverse cumulative changes to biological resources in the Plan area. The Plan area is a nearly fully developed urban district with no remaining natural communities, wetlands, riparian areas, or other sensitive habitat. In short, the biological environment of the Plan area has been substantially degraded since at least the mass arrival of Euro-Americans in mid-19th century. The same can be said for the Transit Tower project site.

Environmentally protective laws and regulations have been applied with increasing rigor since the early 1970s. These include the California Endangered Species Act, Federal Endangered Species Act, and the

Clean Water Act, as described in the Regulatory Setting section, above. The draft Plan, the Transit Tower project, and other likely future projects within the vicinity of the Plan area would be required to comply with local, state, and federal laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources. Additionally, future projects would be required to demonstrate that they would not have significant effects on these biological resources, although it is possible that some projects may be approved even though they would have significant, unavoidable impacts on biological resources.

The current impact analysis has shown that the draft Plan and the Transit Tower Project, after mitigation, would result in relatively minor, less-than-significant impacts on biological resources. When considered relative to the existing state of biological resources in the Plan area, the draft Plan and the Transit Tower Project would add only a minor, incremental contribution. Development of the planned 5-acre City Park atop the new Transit Center will create an Urban Bird Refuge within the meaning of the City's *Standards for Bird-Safe Buildings* and *Planning Code* Section 139, because City Park will be both a vegetation-dominated open space two acres or larger and a green roof of the same size. The new park will potentially contribute to cumulative effects with respect to bird-strike impacts, with respect to existing and future buildings. However, compliance by new buildings, including the Transit Tower and other buildings adjacent to City Park, with *Planning Code* Section 139 and the adopted *Standards for Bird-Safe Buildings* would ensure that potential cumulative impacts related to bird hazards would be less than significant.

In the context of the urbanized and developed Plan area, the draft Plan and the Transit Tower Project's contribution would not make a considerable contribution to impacts on biological resources, and therefore the cumulative effect of the draft Plan and the Transit Tower Project on biological resources would be less than significant, with mitigation measures identified in this section.

Mitigation: None required.

O. Geology, Soils, and Seismicity

This section addresses the geology and soils impacts that would result from implementation of the Transit Center District Plan and Transit Tower project. Construction-related impacts include potential erosion, excavation instability, settlement from excavation dewatering, and heave from pile installation. Potential seismic impacts related to the draft Plan include seismically induced groundshaking and ground failure. Evaluation of these impacts is based on and published geologic maps and reports cited in this section and an analysis of site geology and seismicity prepared in support of the proposed plan which included review of available subsurface data from previous investigations within the Transit Center District Plan area.[375]

Environmental Setting

Regional Physiography

The Plan area is in the northeast portion of the San Francisco Peninsula, within the California Coast Ranges geomorphic province which is characterized by a series of northwest trending ridges and valleys. San Francisco Bay and the San Francisco Peninsula result from tectonic forces developed along the margin between the Pacific Plate and the North American Plate where the Pacific Plate slowly creeps northward past the North American Plate on the San Andreas, Hayward, and subsidiary faults. The Bay and northern portion of the San Francisco Peninsula are within a structural down-dropped block between the Northern Santa Cruz Mountains to the west and Diablo Mountain Range to the east.

Site Geology

The Plan area is relatively flat, with ground slopes that are typically less than 2-percent grade.[376] The street with the steepest ground slope is the section of Second Street between Howard and Folsom Streets with a slope of approximately 4.5 percent. The location with the highest ground surface is at Folsom and Second Street with an approximate elevation 45 feet, San Francisco City Datum (SFD).[377] The area with the lowest ground surface is bound by Market, Spear, Howard, and Beale Streets, at an approximate elevation of 1 foot.

The Plan area is underlain by up to approximately 280 feet of Quaternary age sediments deposited in the last 1.8 million years, including (from youngest to oldest) Dune Sand, Bay Mud, Marsh Deposit, Marine Sand, the Colma formation, Old Bay Clay (also referred to as the Yerba Buena Mud or the San Antonio Formation), and the Alameda Formation. Bedrock beneath San Francisco consists of sedimentary and volcanic rocks of the Jurassic and Cretaceous age (approximately 65 to 213 million years old) Franciscan

375 Treadwell & Rollo. Geotechnical Consultation, EIR Preparation, Downtown San Francisco Developments, San Francisco, California. October 17, 2008.

376 *Ibid*

377 San Francisco City Datum establishes the City's zero point for surveying purposes at approximately 8.6 feet above the mean sea level established by 1929 U.S. Geological Survey datum, and approximately 11.3 feet above the current 1988 North American Vertical Datum. Because tides are measured from mean lower low water, which is about 3.1 feet below mean sea level (MSL), an elevation of 0, SFD, is approximately 8.2 feet above MSL.

complex. The bedrock outcrops on the hills and mountains surrounding the west side of the bay, including some locations in San Francisco such as Rincon Hill to the southeast of the Plan area. Since the mid-19th century, substantial amounts of fill have been placed around the bay margin to reclaim land.

As shown on **Figure 70** (Geologic Map), the entire Plan area is immediately underlain by artificial fill and Dune Sand, the youngest geologic units within the Plan area. These units are underlain by varying thickness of Quaternary age sediments and Franciscan Complex bedrock as shown in the cross section provided in **Figure 71**. The geologic units underlying the Plan area are described as follows:

- **Artificial Fill** – along Market Street and to the south the artificial fill comprises Dune Sand that was dumped randomly to fill Yerba Buena Cove and San Francisco Bay in the 19th century.[378] The fill varies in thickness between 0 and about 25 feet, and consists of loose to dense sand with varying amounts of silt and building debris.

- **Dune Sand** – primarily consists of yellow-brown to gray, fine- to medium-grained and relatively clean sand that is medium dense to dense. The Dune Sand generally underlies the artificial fill and is present beneath the western three-quarters of the Plan area, but is generally absent east of Fremont Street. The Dune Sand is approximately 10 to 20 feet thick at the western portion of the Plan area and become thinner toward the east.

- **Bay Mud** – is a highly compressible and weak clay, containing varying amounts of shells and organic matter (peat) as well as localized sand lenses. In the Plan area, Bay Mud was formed by marine deposition in the shallow waters of Yerba Buena Cove and subjected to consolidation by the presence of Dune Sand and fill. The Bay Mud is present beneath the eastern three-quarters of the Plan area and is highly variable in thickness and bottom elevation. Within the Plan area, the Bay Mud layer is up to approximately 80 feet thick; it is under to normally consolidated.[379] The Bay Mud overlies the Marine Sand layer, and to a limited extent the Colma formation, where the Marine Sand has been eroded away.

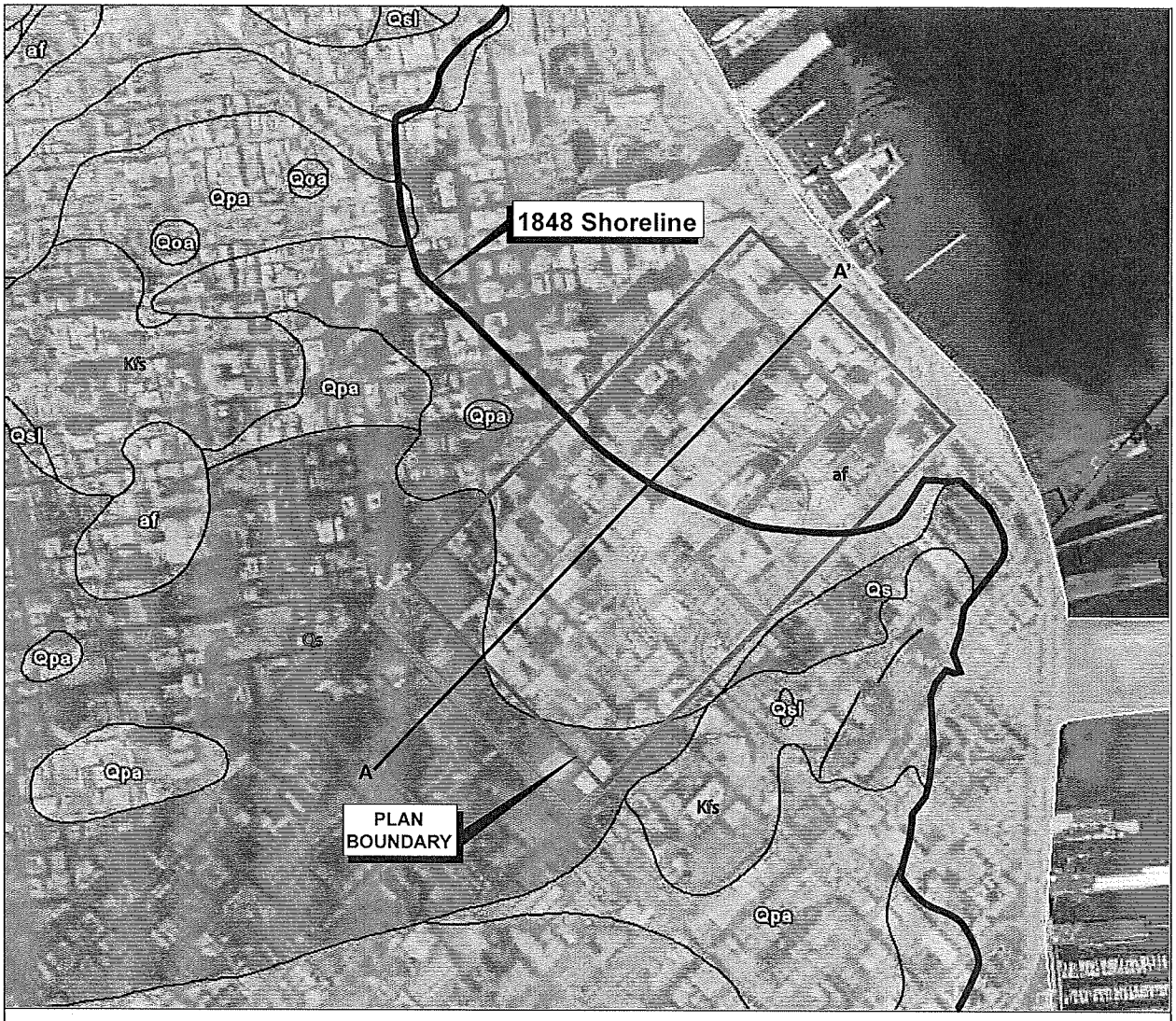
- **Marsh Deposit** – is an interbedded soft to stiff and loose to medium dense soil, consisting of high plasticity clay, sandy clay, sandy silt, and clayey sand with high organic content. Within the Plan area, the Marsh Deposit is up to about 10 feet thick and underlies the Dune Sand in the western one quarter of the Plan area.

- **Marine Sand** – is a gray or gray-green, loose to very dense sand, deposited under marine conditions. The Marine Sand underlies the Bay Mud. It is generally not present west of New Montgomery Street and thickens toward the east. Within the Plan area, the Marine Sand is up to approximately 40 feet thick.

---

[378] Yerba Buena Cove was located in the area at the foot of the present Market Street, northeast of the 1848 shoreline. At the time the City of San Francisco (then known as Yerba Buena) was founded, the cover extended from approximately the present-day intersection of First and Market Streets, inland to approximately Montgomery Street, between California and Clay Streets, and north to approximately the present-day intersection of Broadway and Battery Street.

[379] Under-consolidated clay has not yet achieved equilibrium under the current overburden load. Normally consolidated clay has achieved equilibrium under the current overburden load. Over-consolidated clay has experienced a pressure greater than its current overburden load.



Base: Graymer, et al; 2006; Geologic Map of the San Francisco Bay Region.
Source: David Rumsey Historical Map Collection "Official Map of San Francisco 1849".

EXPLANATION

af	- Artificial Fill
Qs	- Beach and Dune Sand (Holocene)
Qsl	- Hillslope Deposits (Holocene)
Qpa	- Alluvium (Pleistocene)
Qoa	- Alluvium (early Pleistocene)
Kfs	- Franciscan Complex sedimentary rocks (Jurassic/Cretaceous)

Geologic contact

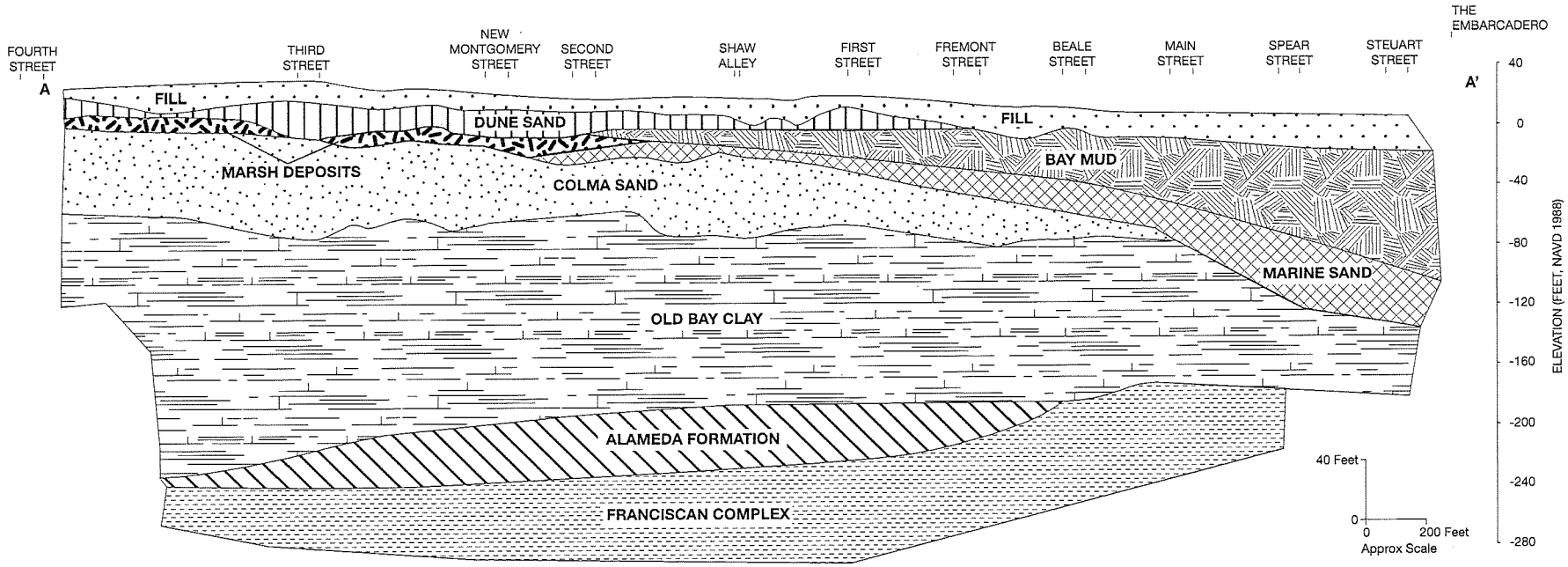
A ——— A' Location of geologic cross-section shown on Figure N-2

Not to scale

SOURCE: Treadwell & Rollo

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 70
Geologic Map



FILL
SAND/SILTY SAND/GRAVEL (SP/SM/GP)
loose to dense, with brick, concrete and gravel fragments

DUNE SAND
SAND/SILTY SAND (SP/SM)
medium dense to dense

BAY MUD
CLAY/SANDY CLAY/SANDY SILT (CH/CL/ML)
soft to stiff

MARSH DEPOSIT
mixture of SILT, CLAY, and SAND with organics (ML/CL/SC/SM/OL/OH/PT)
soft to stiff/medium dense

MARINE SAND
CLAYEY SAND/SILTY SAND/SAND (SC/SM/SP)
loose to very dense

COLMA SAND
SAND/SILTY SAND/CLAYEY SAND (SP/SM/SC)
dense to very dense

OLD BAY CLAY
CLAY (CH/CL) with SAND layers
stiff to hard

ALAMEDA FORMATION
SAND/CLAY and Weathered Rock (SM/SC/CL)
very dense and hard

FRANCISCAN ROCK
SANDSTONE, SHALE, SERPENTINE
deeply to moderately weathered

SOURCE: Treadwell & Rollo; ESA

Figure 71
Generalized Geologic Cross-Section

- **Colma formation** – is typically brown and orange, dense to very dense sand, underlying the Marsh Deposit, Marine Sand, and Bay Mud, where present. Generally, the Colma formation is not present east of Main Street and thickens toward the west. It is approximately 60 feet thick in the western portion of the Plan area.

- **Old Bay Clay** –generally consists of over-consolidated, stiff to hard clay with layers of dense, alluvial sand. This moderately compressible clay layer underlies the Colma formation and Marine Sand, where present. It is relatively thick, and within the Plan area the thickness ranges from approximately 60 to 170 feet.

- **Alameda Formation** – is a very stiff gravelly clay or dense gravelly sand. The gravel-size particles are angular and are remnants of the parent bedrock. This formation is of colluvial (gravity deposited) origin. Within the Plan area, this formation is up to approximately 40 feet thick.

- **Franciscan Complex** – consists primarily of highly fractured and sheared sandstone and shale, usually at depths of over 200 feet below the existing ground surface. The bedrock surface dips toward the northwest, forming a trough approximately paralleling Mission Street, bounded by Rincon Hill to the southeast and Telegraph Hill/Russian Hill to the northwest. The borings reviewed for the analysis of site geology and seismicity prepared in support of the proposed plan encountered bedrock at elevations of -139 to -250 feet.

As indicated on Figure 70, the historic (1848) shoreline of San Francisco bisects the Plan area along a line located between First and Fremont Streets. The filling of Yerba Buena Cove, to the east of the historic shoreline, began in the late 1840s and was completed by 1900.[380] The depth to groundwater is expected to be 8 to 20 feet below ground surface.

Soils

Problematic soils, such as those that are expansive, can damage structures and buried utilities and increase maintenance requirements. Expansive soils are characterized by their ability to undergo significant volume change (i.e., to shrink and swell) due to variations in moisture content. Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater.[381] Expansive soils are typically very fine grained and have a high to very high percentage of clay. Expansion and contraction of expansive soils in response to changes in moisture content can lead to differential and cyclical movements that can cause damage and/or distress to structures and equipment.

The U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) has mapped the surface and near-surface subsurface soils in the Plan area, and characterizes key properties for each soil type, including the shrink/swell potential. Based on the NRCS web soil survey, soils in the Plan area are

380 Treadwell & Rollo. Geotechnical Consultation, EIR Preparation, Downtown San Francisco Developments, San Francisco, California. October 17, 2008.

381 Perched groundwater is a local saturated zone above the water table that typically exists above an impervious layer (such as clay) of limited extent.

mapped as Urbanland-Orthents, reclaimed complex, 0 to 2 percent slopes, Unit ID 134.[382] This soil unit forms on reclaimed land and generally exhibits a low shrink/swell potential. However, soil conditions in the Plan area may have been altered by ground-disturbing activities, including construction of the existing buildings and infrastructure.

Regional Faulting and Seismic Hazards

Seismicity

The San Francisco Bay Area is situated near the boundary between two major tectonic plates, the Pacific Plate to the southwest and the North American Plate to the northeast. Since the Miocene epoch (approximately 23 million years ago), about 200 miles of right-lateral movement[383] has occurred along the San Andreas Fault Zone to accommodate the relative movement between these two plates. The movement between the Pacific Plate and the North American Plate generally occurs across a 50-mile zone extending from the San Gregorio fault in the southwest to the Great Valley Thrust Belt to the northeast. In addition to the right-lateral slip movement between the two tectonic plates, portions of the North American Plate have moved towards each other during the last 3.5 million years, resulting in compressional forces at the latitude of San Francisco Bay.[384]

Figure 72 shows the locations of active[385] and potentially active[386] faults in the San Francisco Bay region. The San Andreas, San Gregorio, Hayward, Rodgers Creek, Calaveras, and Greenville strike-slip faults[387] are active faults of the San Andreas system that predominantly accommodate lateral movement between the North American and Pacific tectonic plates. Active blind- and reverse-thrust faults[388] in the San Francisco Bay region that accommodate compressional movement include the Monte Vista–Shannon and Mount Diablo faults. The closest faults to the Plan area are the San Andreas, Hayward, San Gregorio, and Calaveras faults.

382 Natural Resources Conservation Service, Web Soil Survey. Accessed at http://websoilsurvey.nrcs.usda.gov on January17, 2010.

383 The Pacific Plate and the North American Plate are moving past each other along the San Andreas Fault Zone, "right-lateral movement" means that they are moving to the right relative to each other.

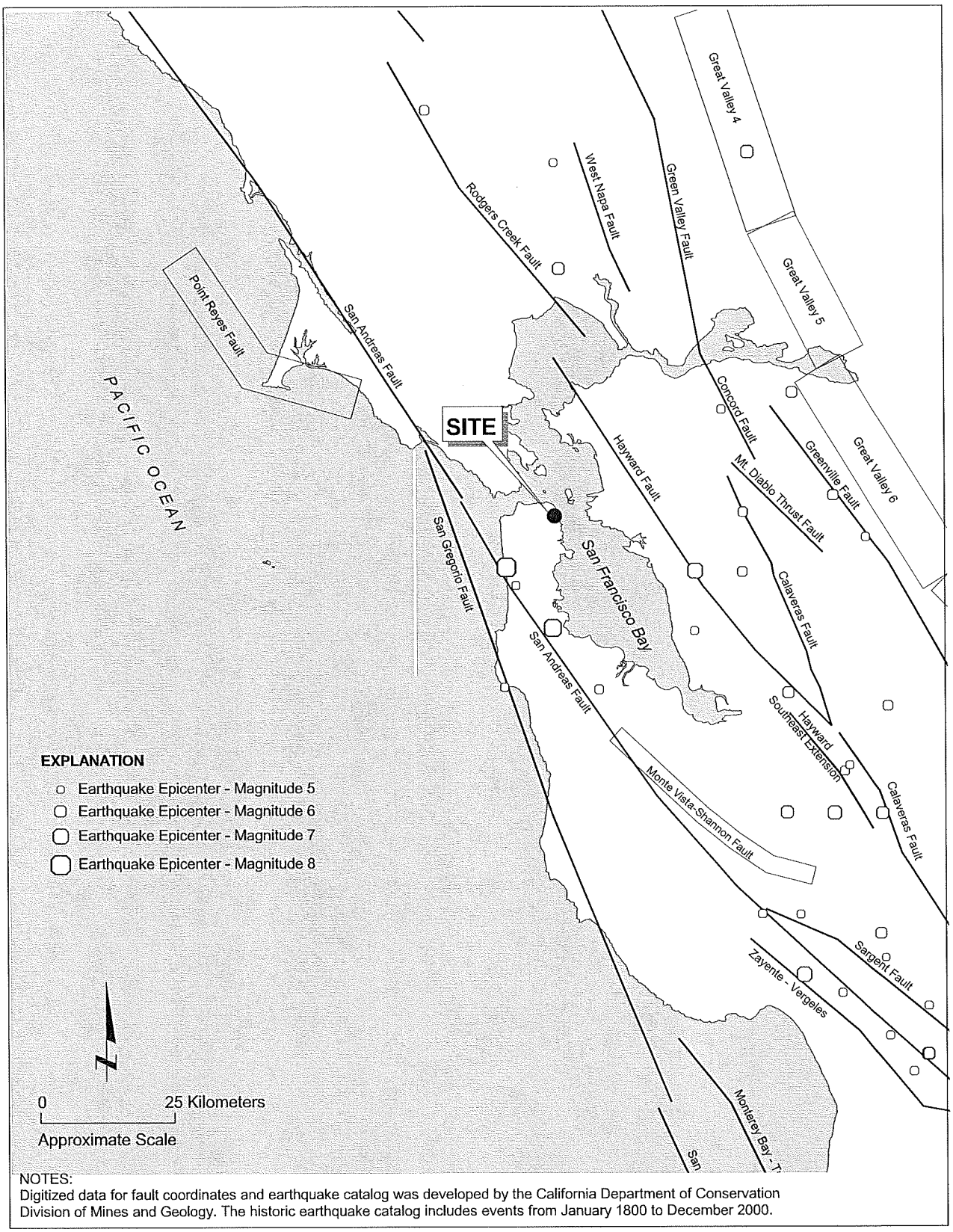
384 Fenton, C.H. and C.S. Hitchcock, Recent geomorphic and paleoseismic investigations of thrust faults in Santa Clara Valley, California, in H. Ferriz and R. Anderson (eds.), Engineering Geology Practice in Northern California: California Division of Mines and Geology Bulletin 210, 2001.

385 An active fault is one that shows geologic evidence of movement within Holocene time (approximately the last 11,000 years).

386 A potentially active fault is one that shows geologic evidence of movement during the Quaternary (approximately the last 1.6 million years).

387 Strike-slip faults involve the two blocks moving parallel to each other without a vertical component of movement.

388 A reverse fault is one with predominantly vertical movement in which the upper block moves upward in relation to the lower block; a thrust fault is a low-angle reverse fault. Blind-thrust faults are low-angled subterranean faults that have no surface expression.



Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: Treadwell & Rollo, 2008

Figure 72
Regional Fault Map

Table 43 summarizes the distance from the Plan area, direction to fault, and the estimated mean characteristic Moment magnitude (M_w)[389] for each fault located within approximately 30 miles (50 kilometers) of the Plan area. Figure 72 also shows the earthquake epicenters for events with magnitude greater than 5.0 on these faults from January 1800 through January 2000. Since 1800, four major earthquakes have been recorded on the San Andreas Fault. In 1836 an earthquake with an estimated M_w of 6.25 occurred east of Monterey Bay on the San Andreas Fault.[390] In 1838, an earthquake with an M_w of about 7.5 occurred.

TABLE 43
REGIONAL FAULTS AND SEISMICITY

Fault Name	Approximate Distance (miles)	Direction from Site	Mean Characteristic Moment Magnitude
San Andreas – 1906 Rupture	8	West	7.90
San Andreas – Peninsula	8	West	7.15
San Andreas – North Coast South	9	West	7.45
North Hayward	9	East	6.49
Total Hayward	9	East	6.91
Total Hayward-Rodgers Creek	9	East	7.26
South Hayward	10	East	6.67
Northern San Gregorio	11	West	7.23
Total San Gregorio	11	West	7.44
Rodgers Creek	21	North	6.98
Mt Diablo	21	East	6.65
Total Calaveras	21	East	6.93
Concord/Green Valley	23	East	6.71
Monte Vista-Shannon	25	Southeast	6.80
Point Reyes	26	West	6.80
West Napa	27	Northeast	6.50
Greenville	31	East	6.94

SOURCE: Treadwell & Rollo. Geotechnical Consultation, EIR Preparation, Downtown San Francisco Developments, San Francisco, California. October 17, 2008.

The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of loss of lives and property damage. This earthquake created a surface rupture along the San Andreas Fault from Shelter Cove to San Juan Bautista, approximately 290 miles in length. It had a M_w of about 7.9, and was felt 350 miles away in Oregon, Nevada, and Los Angeles. The most recent large

389 An earthquake is classified by the amount of energy released, expressed as the magnitude of the earthquake. Traditionally, magnitudes have been quantified using the Richter scale. However, seismologists now use a moment magnitude (Mw) scale because it provides a more accurate measurement of the size of major and great earthquakes. Moment magnitude is directly related to the average slip and fault rupture area.

390 Treadwell & Rollo. Geotechnical Consultation, EIR Preparation, Downtown San Francisco Developments, San Francisco, California. October 17, 2008.

earthquake to affect the Bay Area was the Loma Prieta Earthquake on October 17, 1989, approximately 60 miles from the Plan area in the Santa Cruz Mountains, with an M_w of 6.9.

On the Hayward fault, an earthquake with an estimated M_w of 7.0 occurred in 1868 on the southern segment (between San Leandro and Fremont). In 1861, an earthquake of unknown magnitude (probably an M_w of about 6.5) was reported on the Calaveras Fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill earthquake with an M_w of 6.2.

The United States Geological Survey (USGS) estimates that there is a 63 percent probability of a strong earthquake (M_w 6.7 or higher) occurring on one of the regional faults in the 30-year period between 2007 and 2036.[391] More specific estimates of the probabilities for different faults in the Bay Area are presented in **Table 44**.

TABLE 44
ESTIMATES OF THE 30-YEAR PROBABILITY OF A MAGNITUDE 6.7 OR GREATER EARTHQUAKE

Fault Name	Mean Characteristic Moment Magnitude
Hayward-Rodgers Creek	31
San Andreas	21
Calaveras	7
San Gregorio	6
Concord-Green Valley	3

SOURCE: U.S. Geologic Survey (USGS), The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2), by the Working Group on California Earthquake Probabilities, Open File Report 2007-1437, 2008.

Fault Rupture

Fault rupture almost always follows pre-existing faults, which are zones of weakness, and surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures associated with the 1906 San Francisco earthquake extended for more than 290 miles, with displacements of up to 21 feet. There is a low potential for fault rupture within the Plan area because no active faults cross the Plan area.

Groundshaking

The intensity of the seismic shaking, or strong ground motion, in the Plan area during an earthquake is dependent on the distance between the Plan area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the Plan area. Earthquakes occurring on faults closest to the Plan area would most likely generate the largest ground motions.

391 U.S. Geologic Survey (USGS), The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2), by the Working Group on California Earthquake Probabilities, Open File Report 2007-1437, 2008.

The intensity of earthquake-induced ground motions and the potential forces affecting structures within the Plan area can be described in terms of "peak ground acceleration," which is represented as a fraction of the acceleration of gravity (g).[392] The California Geological Survey (CGS) estimates the peak ground accelerations for the 10 percent probability of exceedance in 50 years (475-year return period) at 0.47 to 0.49g.[393] However, these estimates of peak ground accelerations are used primarily for formulating building codes and for designing buildings, and are not intended for site-specific hazard analysis. Therefore, it would be necessary to conduct a site-specific evaluation to estimate peak ground accelerations at a level suitable for project design.

Based on shaking hazard mapping done by the Association of Bay Area Governments (ABAG), it is expected that the Plan area would experience very strong to violent ground shaking due to an earthquake along the peninsula segment of the San Andreas fault, and strong to very strong ground shaking due to an earthquake along the northern Hayward fault, which are the faults closest to the Plan area.[394]

Liquefaction

Liquefaction is a phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced, strong groundshaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude of earthquakes likely to affect the site. Saturated, unconsolidated silts, sands, silty sands, and gravels within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include vertical settlement from densification, lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects.

As shown on **Figure 73**, most of the Plan area is located within a potential liquefaction hazard zone identified by the CGS.[395] The analysis of site geology and seismicity prepared in support of the proposed plan concludes that the loose to medium dense sand present in the artificial fill, Dune Sand, Marsh Deposit, and Marine Sand beneath much of the Plan area could be subject to liquefaction in the event of a major earthquake on one of the nearby faults.[396] Within the western three quarters of the Plan area, between Third and Beale Streets, the settlement resulting from earthquake induced settlement (described below) and liquefaction could be up to about 6 inches. In the eastern one quarter of the Plan area,

392 Acceleration of gravity (g) = 980 centimeters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

393 California Geologic Survey. Seismic Shaking Hazards in California, Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model, 2002 (revised April 2003). Accessed at http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp, on January 17, 2010.

394 Association of Bay Area Governments, Hazard Maps, Shaking Maps, 2003, www.abag.ca.gov, accessed July 6, 2010.

395 California Geological Survey, State of California Seismic Hazard Zones, City and County of San Francisco, Official Map, November 17, 2000.

396 Treadwell & Rollo. Geotechnical Consultation, EIR Preparation, Downtown San Francisco Developments, San Francisco, California. October 17, 2008.



Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: Treadwell & Rollo

Figure 73
Liquefaction Hazard Zone

between Beale and Spear Street, the settlement could be up to about 12 inches, absent measures taken to improve soil stability and/or adequately support individual structures.[397]

Lateral Spreading

Of the liquefaction hazards, lateral spreading generally causes the most damage. This is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied substrate of large aerial extent.[398] The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and this movement can occur on slope gradients as gentle as 1 degree. The analysis of site geology and seismicity prepared in support of the proposed plan concludes, based on previous studies, that the area within the old Yerba Buena Cove could experience lateral spreading during a major earthquake on the San Andreas fault. Lateral displacements within the area between Third and Beale Street would be small. However, between Beale and Spear Streets, lateral displacements may be up to 6 inches.[399] (It is noted that this eastern portion of the Plan area is largely built out and no new development is currently anticipated there.)

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments). Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or bay mud. The analysis of site geology and seismicity prepared in support of the proposed plan concludes that the loose to medium dense sand present in the artificial fill, Dune Sand, Marsh Deposit, and Marine Sand beneath much of the Plan area could be subject to earthquake-induced settlement in the event of a major earthquake on one of the nearby faults.[400] The degree of settlement would be the same as described above under Liquefaction.

Regulatory Framework

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the state geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and has published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately

397 Typical construction techniques in areas of liquefiable soils include supporting new buildings on pile foundations or excavating below the level of the liquefiable soils.

398 Youd, T.L. and D.M. Perkins, "Mapping Liquefaction Induced Ground Failure Potential," Proceedings of the American Society of Civil Engineers, Journal of the Geotechnical Engineering Division, 1978.

399 Treadwell & Rollo. Geotechnical Consultation, EIR Preparation, Downtown San Francisco Developments, San Francisco, California. October 17, 2008.

400 *Ibid*

200 to 500 feet on either side of the mapped fault trace because many active faults are complex and consist of more than one branch that may experience ground surface rupture. This act does not apply to the proposed project because no active faults cross the Plan area, or anywhere else in San Francisco. [401]

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. The act directs the California Geological Survey to identify and map areas prone to the earthquake hazards of liquefaction and earthquake-induced landslides. For structures intended for human occupancy,[402] the act requires that project sponsors perform site-specific geotechnical investigations to identify potential seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy within the zones of required investigation. Projects proposed under the draft Plan would be subject to this act if they are located within a zone of required investigation. There are no earthquake-induced landslide zones of required investigation mapped within the Plan area, but as described above, much of the Plan area is located within a liquefaction zone of required investigation.[403]

California Building Code

The California Building Code (CBC), which is codified in Title 24, Part 2, of the California Code of Regulations, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

The CBC is based on the International Building Code. The 2011 CBC is based on the 2009 International Building Code published by the International Code Conference. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion in building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

---

401 California Geological Survey, Table 4, Cities and Counties Affected by Alquist-Priolo Earthquake Fault Zones as of May 1, 1999, from http://www.conservation.ca.gov/cgs/rghm/ap/affected.htm, accessed July 24, 2006.

402 Title 14 of the California Code of Regulations, Section 3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year.

403 California Geological Survey, State of California Seismic Hazard Zones, City and County of San Francisco, Official Map, November 17, 2000.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

San Francisco Building Code

The *San Francisco Building Code* is an amendment to the CBC. It includes seismic safety performance standards that apply to all new construction in the City. In accordance with this code, the San Francisco Department of Building Inspection (DBI) could, in its review of building permit applications, require the project sponsor to prepare a geotechnical report pursuant to the State Seismic Hazards Mapping Act. The report would assess the nature and severity of the ground shaking hazard(s) on the site and recommend project design and construction features that would reduce the hazard(s). All new construction within the Plan area would be subject to the permitting requirements of DBI to ensure compliance with applicable laws and regulations.

As part of this permitting process, the final building plans would be reviewed by DBI. In reviewing building plans, DBI refers to a variety of information sources to determine existing hazards and assess requirements for reducing or avoiding those hazards. Sources reviewed include maps of Special Geologic Study areas and known landslide areas in San Francisco, as well as the building inspectors' working knowledge of areas of special geologic concern. If the need were indicated by available information, DBI would require that additional site-specific soils reports be prepared by a California-licensed geotechnical engineer prior to construction, and may require additional consultation with the project sponsor and peer review of the proposed design of the proposed project to ensure that it meets the seismic safety requirements of the *San Francisco Building Code.*

Project applicants can comply with *Building Code* requirements either prescriptively (by following exactly the requirements of the code), or non-prescriptively (designing buildings to perform to the standards specified in the code). A non-prescriptive design may specify alternative materials and/or methods of construction to meet the requirements of the *Building Code,* but cannot use an alternative method for establishing the seismic forces on the building or the distribution of those forces unless the corresponding internal forces and deformations in the building members are determined using a model that is consistent with adopted procedures. If a non-prescriptive design is used, then substantiating evidence is required to demonstrate that the proposed design and materials will be at least equivalent to what is prescribed in the *Building Code* regarding suitability, strength, effectiveness, fire resistance, durability, safety, and sanitation.

Administrative Bulletin 083 (AB-083), Requirements and Guidelines for the Seismic Design of New Tall Buildings using Non-Prescriptive Seismic-Design Procedures, implemented by DBI, specifies the requirements and guidelines for the non-prescriptive design of new tall buildings that are over 160 feet

high to ensure that the design meets the standards of the *San Francisco Building Code*. AB-083 requires a three-step process to demonstrate that a non-prescriptive building design provides for a seismic performance of the building that is equivalent to the code-specific seismic performance. The first step of this process includes a code-level evaluation to identify any exceptions taken to the prescriptive requirements of the *Building Code* and to define the minimum required strength and stiffness for earthquake resistance. The second step is a service-level evaluation to demonstrate acceptable performance for moderate earthquakes, and the third step is an evaluation to verify that the structure has an acceptably low probability of collapse under severe earthquake ground motions. The design must be reviewed and approved by the Structural Design Reviewer and director of DBI, and the Structural Design Reviewer must provide a written statement that, in their professional opinion, the building elements under their review are equivalent in strength, durability, and seismic resistance of the building to those of a building designed according to the prescriptive provisions of the *Building Code*. DBI may also require a peer review of the proposed design to ensure adequacy of the non-prescriptive design. The details of any action granting approval of the non-prescriptive design are recorded and entered into the records of DBI. In the event of an earthquake, buildings designed to the requirements and guidelines of AB-083 would demonstrate a seismic performance at least equivalent to that of a building designed according to the code-prescriptive seismic standards of the San Francisco Building Code.

Impact Analysis

Significance Criteria

The proposed project would have a significant geology and soils impact if it were to:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)
  - Strong seismic ground shaking?
  - Seismic-related ground failure, including liquefaction?
  - Landslides?
- Result in substantial soil erosion or the loss of topsoil?
- Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- Change substantially the topography or any unique geologic or physical features of the site?

Project Impacts

Neither the draft Plan nor the proposed Transit Tower would result in any adverse effect with respect to earthquake-induced landslides because the Plan area is located in a flat area that is not an area of mapped landslide susceptibility identified by the California Department of Conservation under the Seismic Hazards Mapping Act of 1990. Therefore, landslide risk is not discussed further below. Likewise, the presence of expansive soils is not an issue because the artificial fill and Dune Sand beneath the Plan area is sandy and would not be expansive, and because the Bay Mud and Marsh Deposits beneath the Plan area are generally below the groundwater table, and thus are permanently saturated. Therefore, impacts related to expansive soils are not discussed further below. Finally, because the Plan area is generally flat, with no unique topographic, geologic, or physical features, construction of individual development projects that could be proposed and approved pursuant to the proposed Plan, including the proposed Transit Tower, would not alter the topography of the Plan area. Therefore, the draft Plan would have no impact with respect to changes in topography or any unique geologic or physical features, and this issue is not discussed in more detail below.

Impact Analysis: Transit Center District Plan

Impact GE-1: The proposed Transit Center District Plan would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides. (Less than Significant)

Fault Rupture

As discussed in the Setting, the Plan area is not located within an Alquist-Priolo Earthquake Fault Zone (defined in the Setting), and no active or potentially active faults exist on or in the immediate vicinity of the site. Therefore, the potential for surface fault rupture is low, and this impact is considered less than significant.

Groundshaking

As discussed in the Setting, the USGS concluded that there is a 63 percent probability of a strong earthquake (Mw 6.7 or higher) occurring in the San Francisco Bay region in the 30-year period between 2007 and 2036. The faults nearest the Plan area are the San Andreas fault, located within 8 miles; the Hayward fault, located within 9 miles; the San Gregorio fault, located within 11 miles; and the Calaveras, Mt. Diablo and Rodgers Creek faults, located within 21 miles. Based on shaking hazard mapping done by ABAG, the Plan area would experience very strong to violent ground shaking due to an earthquake along the peninsula segment of the San Andreas fault, and strong to very strong ground shaking due to an earthquake along the northern Hayward fault, which are the faults closest to the Plan area. Further, the CGS estimates that peak ground accelerations within the Plan area would range from 0.47 to 0.49g.

Although the Plan area would be subject to strong to violent ground shaking in the event of a major earthquake, the project would not expose people or structures to substantial adverse effects related to

ground shaking. Development projects built within the Plan area would be designed and constructed in accordance with the most current *San Francisco Building Code*, which incorporates *California Building Code* requirements. The *Building Code* specifies definitions of seismic sources and the procedure used to calculate seismic forces on structures during groundshaking. During its review the Department of Building Inspection (DBI), in consultation with the project sponsor, would determine necessary engineering and design features for a structure to reduce potential damage to structures from groundshaking and to ensure compliance with all *San Francisco Building Code* provisions regarding structural safety. The proposed design could also be subject to compliance with AB-083 for non-prescriptive design and peer review. Incorporation of these features would ensure that the structure would not suffer substantial damage, substantial debris such as building exterior finishes or windows would not separate from the building, and that building occupants would be able to safely vacate the building following an earthquake, and that pedestrians and other bystanders would not be injured. While some damage could occur, building occupants could reoccupy the building after an earthquake and the completion of any necessary repairs. Therefore, impacts related to ground shaking are considered less than significant.

Liquefaction, Lateral Spreading, and Earthquake-Induced Settlement

Strong shaking during an earthquake can result in ground failure associated with soil liquefaction, lateral spreading, and seismically induced densification. As discussed in the Setting and shown on Figure 73, most of the Plan area is located in an area of liquefaction potential identified by the California Department of Conservation under the Seismic Hazards Mapping Act of 1990. The Plan area is primarily underlain by artificial fill containing loose and medium dense sand, as well as Dune Sand, Marsh Deposit, and Marine Sand. The western three quarters of the Plan area (between Third and Beale Streets) could be subject to up to about 6 inches of settlement due to earthquake-induced settlement and liquefaction. In the eastern one quarter of the Plan area (between Beale and Spear Streets), the settlement could be up to 12 inches. Further, the area of the former Yerba Buena Cove could experience up to about 6 inches of lateral displacement.

Soils that could liquefy or experience earthquake-induced settlement or lateral displacement would be removed during construction of the basement levels of Plan-area buildings, which would be supported on mat foundations or driven piles supported in the stiff clays, dense sands, and bedrock that underlie the site, as determined appropriate by site-specific geotechnical investigations that would be required by DBI. Removal potentially liquefiable materials and appropriate foundation design would reduce the potential for settlement within the building footprints, even if shallow groundwater levels were to rise as a result of global warming. However, adjacent streets and unimproved properties may experience settlements and lateral displacements which would affect utilities and surface improvements such as sidewalks.

To address the potential for liquefaction, earthquake-induced settlement, and lateral displacement, DBI would, in its review of the building permit application, refer to a variety of information sources to determine existing hazards and assess requirements for mitigation. Sources reviewed include maps of

Special Geologic Study Areas and known liquefaction areas in San Francisco as well as the building inspectors' working knowledge of areas of special geologic concern. If a subsequently proposed development project is located in an area of potential liquefaction, DBI would require the project sponsor to prepare a geotechnical report pursuant to the State Seismic Hazards Mapping Act. The report would assess the nature and severity of the hazard(s) on the site and recommend project design and construction features that would reduce the hazards(s). The building plans and geotechnical report would be reviewed by DBI to determine that the necessary engineering and design features are included in the project to reduce potential damage to structures from liquefaction, earthquake-induced settlement, and lateral displacement, and to ensure compliance with all *San Francisco Building Code* provisions regarding structural safety. The proposed design could also be subject to compliance with AB-083 for non-prescriptive design and peer review. Therefore, impacts related to liquefaction, earthquake-induced settlement, and lateral spreading are considered less than significant.

Mitigation: None required.

Impact GE-2: The proposed Transit Center District Plan would not result in substantial erosion or loss of top soil. (Less than Significant)

The Plan area is primarily built out and covered with impervious surfaces, including buildings, streets, and sidewalks that would have involved removal of any top soil during construction. Soil movement for foundation excavation could create the potential for wind- and water-borne soil erosion. However, the Plan area is relatively flat; therefore, substantial erosion and loss of soil would not be expected to occur during site preparation and construction. Furthermore, the project sponsors would be required to implement an erosion and sediment control plan for construction activities in accordance with Article 4.1 of the San Francisco Public Works Code (discussed in Section O, Hydrology and Water Quality) to reduce the impact of runoff from the construction site. The City must review and approve the erosion and sediment control plan prior to implementation, and would conduct periodic inspections to ensure compliance with the plan. Therefore, impacts related to soil erosion and the loss of top soil are considered less than significant.

Mitigation: None required.

Impact GE-3: Development sites within the proposed Transit Center District Plan area would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project. (Less than Significant)

Ground settlement could result from excavation for construction of subsurface parking or basement levels, from construction dewatering, from heave during installation of piles, and from long-term

dewatering. These potential effects are described below, followed by Department of Building Inspection (DBI) procedures in place to ensure that unstable conditions do not result.

Excavation

As described in Chapter II, project description, excavation for the Transit Tower would be to a depth of approximately 60 feet below grade, consistent with the depth of the Transit Center. Some 72,000 cubic yards of soil would be removed to allow construction of subsurface parking and basement levels beneath the Transit Tower. During excavation, the artificial fill, Dune Sand, Marsh Deposit, and Marine Sand (described in Impact GE-1), could become unstable, potentially causing settlement of adjacent structures, including buildings, sidewalks, streets, and utilities. Shoring, such as rigid and water-tight internally braced secant walling,[404] would be required to prevent this soil from becoming unstable. Further, a monitoring program utilizing an inclinometer would be required to monitor for movement at the face of the excavation. The monitoring program would include a baseline survey and frequent surveying of the excavation as construction progresses to evaluate the effects of construction and ensure that the soil does not become unstable.

Construction-Related Dewatering

Groundwater is relatively shallow throughout the Plan area (encountered at a depth of 8 to 20 feet), which is near San Francisco Bay. Therefore, there is the potential for substantial water inflow into the excavations during construction of individual development projects that could be proposed and approved pursuant to the proposed zoning controls. Dewatering could potentially result in settlement of adjacent structures, including buildings, sidewalks, streets, and utilities. Although a water tight shoring system could be used during excavation of structures, dewatering of excavations for installation of utilities and compaction of soil could be required. For each development project in the Plan area, a site-specific dewatering plan could be necessary.

Heave as a Result of Pile Driving

Driving of displacement piles may cause the ground to heave up to several inches, and the heave could adversely affect adjacent structures. A preconstruction survey and monitoring during pile driving should be used to monitor these effects. The final building plans would be reviewed by DBI, which would determine if a preconstruction survey and subsequent monitoring would be required.

Permanent Dewatering

Groundwater could exert hydrostatic pressure on subsurface parking or basement levels constructed as part of the individual development projects that could be proposed and approved pursuant to the proposed Plan, and permanent dewatering could be required to relieve this pressure. Dewatering could

[404] A secant wall, in simplified form, is built by drilling a series of holes and filling them with concrete, resulting in a continuous series of concrete cylinders that form a water-tight barrier that retains soil behind it.

potentially result in settlement of adjacent structures, including buildings, sidewalks, streets, and utilities. For each development project, a site-specific dewatering plan could be necessary.[405]

DBI Requirements

DBI would require that the detailed geotechnical report address the potential settlement and subsidence impacts of excavation, dewatering, and pile driving. DBI would also require that the report include a determination as to whether a lateral movement and settlement survey should be done to monitor any movement or settlement of surrounding buildings and adjacent streets during construction. If a monitoring survey were recommended, the Department of Public Works would require that a Special Inspector be retained by the project sponsor to perform this monitoring. Groundwater observation wells could be required to monitor potential settlement and subsidence during dewatering. If, in the judgment of the Special Inspector, unacceptable movement were to occur during construction, corrective actions would be used to halt this settlement. Groundwater recharge could be used to halt settlement due to dewatering. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor. Further, the final building plans would be reviewed by DBI, which would determine if additional site-specific reports would be required.

With implementation of the recommendations of the detailed geotechnical study, subject to review and approval by DBI, and monitoring by a DBI Special Inspector (if required), impacts related to the potential for settlement and subsidence due to construction on soil that is unstable, or could become unstable as a result of the project, are less than significant.

Mitigation: None required.

Impact GE-4: The proposed Transit Center District Plan would not be located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. (Less than Significant)

Development projects that could be proposed and approved pursuant to the proposed zoning controls would connect to the combined sewer system which is the wastewater conveyance system for San Francisco, and would not use septic tanks or other on-site land disposal systems for sanitary sewage. However, stormwater controls implemented in accordance with the San Francisco Stormwater Design Guidelines (described in Section P, Hydrology and Water Quality) could include stormwater best management practices (BMPs) that would promote infiltration of stormwater that would otherwise be discharged to the combined sewer system. The design and performance of these BMPs would be subject to approval and inspection by the San Francisco Public Utilities Commission (SFPUC) to ensure that adverse effects do not occur. Some wastewater would also be reused for non-potable purposes, as

[405] As discussed in Section O, Hydrology and Water Quality, the draft Plan proposes that water pumped from permanent dewatering systems that are necessary be reused for non-potable uses such as irrigation and toilet flushing.

discussed in Impact HY-1 in Section O, Hydrology and Water Quality. However, this water would not be disposed of on-site, but would rather be reused. Therefore, impacts related to the presence of soils capable of supporting the use of septic tanks or alternative waste disposal systems are considered less than significant.

Mitigation: None required.

Impact Analysis: Transit Tower

Impact GE-5: The proposed Transit Tower would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides. (Less than Significant)

Seismic impacts associated with construction of the Transit Tower are similar to those described above for development projects that could be proposed and approved pursuant to the draft Plan. The potential for fault rupture at the Transit Tower site would low because the no active faults cross the project site. The project site would be subject to strong to violent groundshaking in the event of an earthquake on one of the regional faults, and could also be subject to liquefaction, earthquake-induced settlement, or lateral displacement because it is located in an area of liquefaction potential identified by the California Department of Conservation under the Seismic Hazards Mapping Act of 1990. However, impacts related to these phenomena would be less than significant with compliance with the Seismic Hazards Mapping Act of 1990, the California Building Code, and the *San Francisco Building Code* as enforced by DBI through its permit review and approval process, which can include consultation with the project sponsor, compliance with AB-083 for non-prescriptive design, and peer review of the proposed design. Therefore, effects related to earthquake fault rupture, seismic groundshaking, seismically induced ground failure, and landslides would be less than significant.

Mitigation: None required.

Impact GE-6: The proposed Transit Tower would not result in substantial erosion or loss of top soil. (Less than Significant)

Similar to the development projects that could be proposed and approved pursuant to the proposed zoning controls, the Transit Tower would be constructed on a previously developed site that does not have a substantial top soil layer. Although construction-related erosion could occur, impacts related to soil erosion would be less than significant with implementation of an erosion and sediment control plan for construction activities in accordance with Article 4.1 of the San Francisco Public Works Code. Therefore, any erosion would result in a less-than-significant impact.

Mitigation: None required.

Impact GE-7: The proposed Transit Tower site would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project. (Less than Significant)

Similar to development projects that could be proposed and approved pursuant to the proposed zoning controls, ground settlement at the Transit Tower site could result from excavation for construction of subsurface parking or basement levels, from construction dewatering, from heave during installation of piles, and from long-term dewatering. However, these potential effects would be less than significant with implementation of DBI procedures described above, including preparation of a detailed geotechnical report and site specific reports as needed to address the potential settlement and subsidence impacts of excavation, dewatering, and pile driving; implementation of a lateral movement and settlement survey to monitor any movement or settlement of surrounding buildings and adjacent streets during construction and monitoring by a Special Inspector, if needed; and implementation of corrective actions, as necessary. Thus, the proposed Transit Tower would result in less-than-significant impacts with respect to soil stability.

Mitigation: None required.

Impact GE-8: The draft Plan would not result in development located on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. (Less than Significant)

Similar to development projects that could be proposed and approved pursuant to the proposed Plan, the Transit Tower would connect to the combined sewer system and would not use septic tanks or other on-site land disposal systems for sanitary sewage. The design and performance of stormwater BMPs that would promote infiltration of stormwater would be subject to approval and inspection by the SFPUC to ensure that adverse effects do not occur, and wastewater captured for reuse would not be disposed of. Therefore, impacts related to having soils capable of supporting the use of septic tanks or alternative waste disposal systems are considered less than significant for the Transit Tower.

Mitigation: None required.

Cumulative Impacts

Impact C-GE: The proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to geology and soils. (Less than Significant)

As discussed previously, implementation of the Transit Tower project and development projects that could be proposed and approved pursuant to the draft Plan could result in ground settlement from excavation for construction of subsurface parking or basement levels, from construction dewatering, from heave during installation of piles, and from long-term dewatering. However, these potential effects would be less than significant with implementation of DBI procedures described above, including preparation of a detailed geotechnical report and site specific reports as needed to address the potential settlement and subsidence impacts of excavation, dewatering, and pile driving; implementation of a lateral movement and settlement survey to monitor any movement or settlement of surrounding buildings and adjacent streets during construction and monitoring by a Special Inspector, if needed; and implementation of corrective actions, as necessary. With implementation of these requirements, the draft Plan would not contribute to cumulative impacts related to ground settlement.

With regard to seismically induced groundshaking and other earthquake hazards, development pursuant to the draft Plan, including development of the proposed Transit Tower, would contribute to an increase in the number of persons potentially exposed to seismic risks in the Plan area and in greater downtown San Francisco, compared to existing conditions. As noted above, the Plan area is not subject to fault rupture, as there are no known earthquake faults in the Plan area. The Plan area and the Transit Tower would be subject to strong to violent groundshaking in the event of an earthquake on a nearby fault. However, new buildings that would be permitted pursuant to the Plan, including the Transit Tower, would be developed in accordance with the most current building code requirements for seismic safety, providing for increased life-safety protection of residents and workers, compared to those in older buildings.

Mitigation: None required.

P. Hydrology and Water Quality

This section describes the existing hydrology and water quality conditions of the Plan area and evaluates potential physical environmental effects related to combine sewer overflows, flooding, drainage, and groundwater and surface water quality. This section also presents applicable water quality regulations and regulatory agencies.

Setting

Water Features and Uses

There are no natural surface water bodies or streams in the Plan area. San Francisco Bay, approximately one block to the northeast of the Plan area, is the only major water feature in the vicinity. Historically, there were small creeks flowing from the east side of the City to the Bay, but nearly all of these creeks were filled during development of the City; none of these creeks were in the Plan area (the nearest ran through what is now Hayes Valley, the Civic Center, and the South of Market, and emptied into Mission Bay near Fourth and Brannan Streets). The area of San Francisco Bay northeast of the Plan area is referred to as the Central Bay.

Freshwater flows into the Central Bay (including areas adjacent to the Plan area and portions of San Francisco to the north) from the Sacramento-San Joaquin Delta result in constant mixing of freshwater and ocean water. In contrast, areas generally south of San Francisco experience much less freshwater inflow and the limited circulation and mixing of waters here is governed mainly by tidal influence.

Average annual precipitation in the San Francisco Bay Area is about 21 inches, which primarily occurs from November through April.

Drainage and Combined Sewer System

Freshwater flow to the Bay from the City has been almost entirely diverted to the City's combined sewer and stormwater system, a system that collects and transports both sanitary sewage and stormwater runoff in the same set of pipes. San Francisco is roughly divided into two major drainages: the eastern and the western basins. Within the eastern basin, including the entire Plan area, combined stormwater and sewage flows are transported to the Southeast Water Pollution Control Plant (Southeast plant), located in the Bayview District. This plant treats up to 150 million gallons per day (mgd) of wastewater to a secondary level.[406] During dry weather, wastewater flows consist mainly of municipal and industrial sanitary sewage and wastewater and the annual average wastewater flow during dry weather is 65 to 70 mgd; therefore all dry weather wastewater flow is treated to a secondary level at the Southeast plant. The

406 Secondary treatment involves removal of organic matter using biological and chemical processes. This is a higher level of treatment than primary treatment, which is removal of floating and settleable solids using physical operations such as screening and sedimentation. Secondary treatment is less intensive than tertiary treatment, in which additional chemical and biological treatment processes are used to remove additional compounds that may be required for discharge or reuse purposes.

treated wastewater is then discharged to the Bay through the deep water outfall at Pier 80, located immediately to the north of the Islais Creek Channel.

During wet weather, the combined sewer and stormwater system collects large volumes of stormwater runoff in addition municipal and industrial sanitary sewage and wastewater, and the combined wastewater and stormwater flow is conveyed to treatment facilities before eventual discharge to the Bay. Depending on the amount of rainfall, wet weather flows are treated to varying levels before discharge. Up to 150 mgd of wet weather flows receive secondary treatment at the Southeast plant. The Southeast plant can also treat up to an additional 100 mgd to a primary treatment standard plus disinfection. Treated wet weather discharges of up to 250 mgd from the Southeast plant occur through the Pier 80 outfall directly to the Bay or through the Quint Street outfall to Islais Creek Channel, and thence to the Bay. Only wastewater treated to a secondary level is discharged at the Quint Street outfall.

Up to an additional 100 mgd of wet weather flows receive primary treatment plus disinfection at the North Point Wet Weather Facility, located on the north side of the City at Bay and Kearny Streets, which operates only during wet weather. Treated effluent from this facility is discharged through four outfalls approximately 800 feet out into the Bay.

The combined sewer system includes storage and transport boxes that, during wet weather, retain the combined stormwater and sewage flows that exceed the capacities of the Southeast and North Point treatment plants for later treatment. When rainfall intensity results in combined flows that exceed the total capacity of these facilities and the storage and transport structures themselves, the excess flows are discharged through 29 combined sewer overflow (CSO) structures located along the Bayside waterfront from Fisherman's Wharf to Candlestick Point. Discharges from the CSO structures, consisting of about 6 percent sewage and 94 percent stormwater, receive "flow-through treatment," which is similar to primary treatment, to remove settleable solids and floatable materials. Wet weather flows are intermittent throughout the rainy season, and combined sewer overflow events vary in nature and duration depending largely on the intensity of individual rainstorms.

The majority of the Plan area is located within Channel sub-basin of the eastern drainage, and a small portion of the Plan area along Mission Street and Second Street is located within the North Shore sub-basin. Nine CSO structures on the Bay shore discharge overflows from the Channel sub-basin. Two of these structures are located at Howard and at Brannan Streets, and seven discharge to Mission Creek. These structures are permitted for a total of10 overflow events per year. Six CSO structures located along the northern Bay shore discharge overflows from the North Shore sub-basin. These structures are located at Baker, Pierce, Laguna, Beach, Sansome, and Jackson Streets. They are permitted for a total of four overflow events per year. All discharges from the combined sewer system to the Bay, through either the outfalls or the CSO structures, are operated in compliance with the federal Clean Water Act and the State's Porter-Cologne Water Quality Control Act through permits issued by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

The San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise manages the City's wastewater collection, treatment, and discharge system, and since 2005, has been conducting master planning efforts for the San Francisco sewer system and preparing a Sewer System Master Plan to update the 1974 master plan. The purpose of the master plan is to provide an assessment of the current conditions and a framework for future actions through 2030. Prepared with extensive input from the public, the Sewer System Master Plan focuses on providing reliable, efficient, sustainable and environmentally acceptable operation and management of the sewer system through addressing both critical near-term needs and long-term issues. It incorporates an integrated urban watershed management approach to guide the future operations and maintenance of the sewer system.

Recycled Water

To supplement primary water supplies and ensure reliable, high-quality drinking water in the event of a major earthquake, drought, or decline in the snow pack, the SFPUC is planning to diversify San Francisco's supplies and increase the use of available local water sources, such as recycled water. Developing recycled water in San Francisco will provide a drought-resistant and sustainable water source for non-potable uses such as irrigation of parks, golf courses, and other green spaces, toilet/urinal flushing, and other uses.

As part of its Recycled Water Program, the SFPUC is proposing to implement three projects within the City—the Westside Recycled Water Project, the Eastside Recycled Water Project, and the Harding Park Recycled Water Project:

- The Westside Recycled Water Project will produce and deliver highly treated recycled water to customers that include Golden Gate Park, the California Academy of Sciences, Lincoln Park and Golf Course, and potentially the Presidio Golf Course;
- The Eastside Recycled Water Project will produce and deliver recycled water to customers on the eastern side of the City, including existing and future buildings, parks and green spaces, and potentially some industrial/commercial customers; and
- The Harding Park Recycled Water Project is being implemented in partnership with the North San Mateo County Sanitation District. This project will irrigate the Harding Park Golf Course.

Surface Water Quality

Ambient offshore Bay water quality is not regularly monitored in the immediate vicinity of the Plan area. However, in 1993, the RWQCB initiated the Regional Monitoring Program for the San Francisco estuary for the general purposes of assessing regional water quality conditions and characterizing patterns and trends of contaminant concentrations and distribution in the water column, as well as identifying general sources of contamination to the Bay. The program has established a database of water quality and sediment quality in the estuary, particularly with regard to toxic and potentially toxic trace elements and organic contaminants. The most recent water quality data for the Central Bay, the monitoring locations

closest to the Plan area, was collected in 2008.[407] The conditions monitored include conventional water quality parameters (ammonia, conductivity, dissolved oxygen, dissolved organic carbon, particulate organic carbon, silica, hardness, nitrate, nitrite, pH, phosphate, salinity, temperature, suspended sediments, pheophytin, and chlorophyll); trace elements (arsenic, cadmium, cobalt, copper, iron, lead, manganese, mercury, methylmercury, nickel, selenium, silver, and zinc); trace organics including polynuclear aromatic hydrocarbons, polychlorinated biphenyls (PCBs), and pesticides; polybrominated diphenylethers (PBDEs, a class of chemicals used as a flame retardant); pyrethroids (synthetic chemical compounds similar to the natural chemical pyrethins produced by the flowers of pyrenthums; these compounds now constitute a major proportion of the synthetic insecticide market and are common in commercial products such as household insecticides); and toxicity.

Mission Creek was identified by the RWQCB as a toxic hot spot in 1999 based on the presence of chromium, copper, mercury, lead, silver, zinc, chlordane, chlorpyrifos, dieldrin, mirex, PCBs, PAHs, and anthropogenically enriched hydrogen sulfide and ammonia.[408] The RWQCB concluded CSO discharges from the combined sewer system were the primary source of pollutants. These discharges were untreated and more frequent prior to construction of the transport and storage structures in 1982.

Flooding

The Federal Emergency Management Agency (FEMA) is preparing Flood Insurance Rate Maps (FIRMs) for the City and County of San Francisco for the first time. FIRMs identify areas that are subject to inundation during a flood having a one percent chance of occurrence in a given year (also known as a "base flood" or "100-year flood"). FEMA refers to the flood plain that is at risk from a flood of this magnitude as a special flood hazard area.

In September 2007, FEMA issued a preliminary FIRM of San Francisco for review and comment by the City. The City submitted comments that year, and FEMA anticipates publishing a revised preliminary FIRM by 2012, after completing a more detailed analysis of flood hazards associated with San Francisco Bay as requested by Port and City staff. FEMA will finalize the FIRM and publish it for flood insurance and floodplain management purposes after reviewing comments and appeals related to the revised preliminary FIRM.

As proposed, the FIRM would designate portions of waterfront piers, Mission Bay, Bayview Hunters Point, Hunters Point Shipyard, Candlestick Point, and Treasure Island as Zone A (areas subject to inundation by tidal surge) or Zone V (areas of coastal flooding subject to wave hazards).[409] The Plan area is not located within Zone A or Zone V or a Special Flood Hazard Area identified on San Francisco's

407 San Francisco Estuary Institute, 2008 RMP Annual Monitoring Results, March, 2010.
408 Regional Water Quality Control Board, San Francisco Bay Region, Final Regional Toxic Hot Spot Cleanup Plan, March, 1999.
409 City and County of San Francisco, Office of the City Administrator, San Francisco Floodplain Management Program Fact Sheet, January 25, 2001, at: http://sfgsa.org/Modules/ShowDocument.aspx?documentid=7520. Accessed March 8, 2011.

Interim Floodplain Map.[410,411] Furthermore, the Plan area is not located within an area identified by the SFPUC as prone to flooding due to combined sewer backups or flooding, which can affect locations—such as parts of the South of Market neighborhood west of the Plan area—where properties are developed at elevations below the water level in the combined sewer lines.[412] In these areas—generally between Fourth and Tenth Streets—SFPUC reviews potential projects to determine whether the project would result in ground-level flooding during storms.

The Mayor and the Board of Supervisors approved a Floodplain Management Ordinance in 2008 (and amended the Ordinance in 2010).[413] The Ordinance governs new construction and major improvements to existing buildings in flood-prone areas and designates the City Administrator's Office as the City's Floodplain Administrator. In general, the Ordinance requires the first floor of structures in designated flood hazard zones to be constructed above the floodplain or to be flood-proofed by improvements that reduce or eliminate the potential for flood damage.

Pending completion of the federal FIRM for San Francisco, the City has created an Interim Floodplain Map that identifies areas of flooding within the City. FEMA approved San Francisco's application for participation in the National Flood Insurance Program in April 2010, meaning that homeowners, renters, and business owners in the City are now eligible to purchase federally subsidized flood insurance to protect their property. The City Administrator's Office and the San Francisco Department of Emergency Management are also working to identify potential hazard mitigation projects for that may be eligible for grants from FEMA.

Future Flooding Risks

Globally, sea level has been rising for the past 10,000 years and, over the past 5,000 years, has averaged roughly 0.0039 feet per year.[414] However, there is evidence that the rate of sea level rise is accelerating on both a global and local scale due to ocean warming (thermal expansion), continental ice melt, increases in temperature, and land elevation changes.[415] From 1961 to 2003, the global rate of sea level rise was about 0.0059 feet per year.[416] Based on the San Francisco NOAA tide gage monthly mean sea level data from

410 Federal Emergency Management Agency, Preliminary Flood Insurance Rate Map, City and County of San Francisco, California, Panel 120 of 260, Map Number 06075C0120A, September 21, 2007, http://sfgsa.org/Modules/ShowImage.aspx?imageid=2672. accessed June 22, 2010.

411 City and County of San Francisco, Office of the City Administrator, Final Draft San Francisco Interim Floodplain Map, Northeast, July, 2008, http://www.sfgsa.org/Modules/ShowDocument.aspx?documentid=1785, accessed June 22, 2010.

412 San Francisco Planning Department, Review of Projects in Identified Areas Prone to Flooding, April 1, 2007.

413 Ordinance 56-10, approved March 25, 2010. Available at: http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances10/o0056-10.pdf.

414 Association of Bay Area Governments (ABAG), *Status and Trends Report on Land Use and Population. The Geomorphology, Climate, Land Use and Population Patterns in the San Francisco Bay, Delta and Central Valley Drainage Basins*, February 1991.

415 Intergovernmental Panel on Climate Change (IPCC), *Fourth Assessment Report, Climate Change 2007: Synthesis Report*, available online at www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf, 2007.

416 Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report, Climate Change 2007: Synthesis Report, available online at: www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf, 2007

1887 to 2006, the current average rate of sea level rise in the Bay Area is 0.0066 feet per year at the San Francisco tide station.[417]

California Executive Order S-13-08, issued in 2008, is implemented by the California Resources Agency and calls for the completion of a Sea Level Rise Assessment Report, the consideration of sea level rise scenarios for the years 2050 and 2100 by state agencies, and development of a Climate Adaptation Strategy. A Sea Level Rise Assessment Report is expected to be completed by 2012.[418] The report will advise how California should plan future sea level rise, and will provide estimated values or a range of values for sea level rise along the West Coast for the years 2030, 2050, and 2100. A state task force has published an interim guidance document to inform and assist state agencies as they develop approaches for incorporating sea level rise into their planning processes prior to publication of the Sea Level Rise Assessment Report.[419] The guidance document relies upon the ranges of sea level rise presented in the December 2009 Proceedings of the National Academy of Sciences as a starting place, using the year 2000 as a baseline. Until 2050 there is generally good agreement in the amount of projected sea level rise among the various climate models assessed, but after 2050, projections of sea level rise become less certain because modeling results diverge and there are differences in estimations of the degree that the international community will decrease greenhouse gas emissions. Further, the guidelines recommend that analysis of sea level rise should consider the future mean sea level combined with the effects of tides and storm surge.

In 2006, the Bay Conservation and Development Commission (BCDC) released a series of maps depicting the lands vulnerable to a sea level rise of 16 inches by mid-century and 55 inches by the end of the century.[420] BCDC mapping, and maps of projected sea level rise produced by the Pacific Institute, an Oakland-based non-profit research organization, indicate that the eastern portion of the Plan area—essentially the area east of Beale Street—is located within the area of potential inundation from the 100-year flood a 55-inch increase in sea level.[421] BCDC notes that its mapping is not intended to provide a block-by-block evaluation of the potential inundation risk due to sea level rise; rather, analysis to date has been intended to provide a forecast of potential regional effects of sea level rise around San Francisco Bay. BCDC is currently involved in a more detailed planning and mapping process through the Adapting to Rising Tides (ART) program, in cooperation with the National Oceanic and Atmospheric

---

417 National Oceanic and Atmospheric Administration (NOAA), NOAA Tides and Currents. *Mean Sea Level Trend 9414290 San Francisco, California,* tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=9414290, accessed March 25, 2011.

418 Department of Water Resources, California (DWR), Climate Change Characterization and Analysis in California Water Resources Planning Studies, www.water.ca.gov/climatechange/docs/DWR_CCCStudy_FinalReport_Dec23.pdf, December 2010.

419 Sea-Level Rise Task Force of the Coastal and Ocean Working Group of the California Climate Action Team, *State of California Sea-Level Rise Interim Guidance Document*, October, 2010. http://www.slc.ca.gov/Sea_Level_Rise/SLR_Guidance_Document_SAT_Responses.pdf.

420 San Francisco Bay Conservation and Development Commission, Shoreline Areas Vulnerable to Sea Level Rise: Central Bay, 2006.

421 Pacific Institute, "California Flood Risk: Sea Level Rise; San Francisco North Quadrangle," 2009. Funded by the California Energy Commission's Public Interest Energy Research Program, CalTrans, and the California Ocean Protection Council. Available on the internet at: http://www.pacinst.org/reports/sea_level_rise/index.htm. Reviewed November 30, 2010.

Administration.[422] Nevertheless, low-lying areas, such as the Plan area, or at least its lowest-elevation parts, are at least potentially susceptible to increased flooding as a result of anticipated increases in sea level and the level of San Francisco Bay. Under current conditions, for example, waves can overtop the seawall along the Embarcadero when storm conditions coincide with high tides.

The Port of San Francisco conducted a detailed study of potential flooding of Port properties north of Pier 64 in 2011. The report used a base year of 2010, and evaluated potential flooding with a sea level rise of 15 inches by the year 2050 and 55 inches by the year 2100.[423] Areas that would be inundated by flooding associated with a 55-inch sea level rise by 2100 are generally consistent with the BCDC maps referred to above; that is, the portion of the Plan area generally east of Beale Street would be inundated in a 100-year flood. When wave runup is added, total water levels would be as much as 5 feet higher, at least at the shoreline. In the nearer term, with a 15-inch sea level rise by 2050, flooding during a 100-year storm would affect limited areas, primarily along the Embarcadero.

Groundwater

The Plan area is underlain by the downtown San Francisco Groundwater Basin, one of five groundwater basins in the eastern part of San Francisco.[424] This basin is separated from the surrounding groundwater basins by bedrock ridges. The groundwater basin is made up of shallow unconsolidated sediments underlain by less permeable bedrock. Bedrock outcrops form much of the northeastern and southern basin boundaries. In general, groundwater flow is towards the northeast, following the topography. Groundwater within the Downtown San Francisco Groundwater Basin is known to contain elevated concentrations of nitrates, chloride, boron, and total dissolved solids.

Tsunamis and Seiches

Tsunamis (seismic sea waves) are long period waves that are typically caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides. Tsunamis, which travel at speeds up to 700 miles per hour, are typically only 1 to 3 feet high in open ocean water but may increase in height to up to 90 feet as they reach coastal areas, causing potentially large amounts of damage when they reach land.[425] Low-lying coastal areas such as tidal flats, marshlands, and former bay margins that have been artificially filled but are still at or near sea level are generally the most susceptible to tsunami inundation.

A seiche is caused by oscillation of the surface of an enclosed body of water, such as San Francisco Bay, during an earthquake. Inside the Bay, the area of potential inundation from a seiche extends from the

422 Steve Goldbeck, BCDC, personal communication, November 30, 2010.
423 URS Corporation, *Sea Level Rise and Adaptation Study Coastal Inundation Report*, prepared for Port of San Francisco, May 11, 2011. This report is available at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E.
424 California Department of Water Resources. California's Groundwater, Bulletin 118. February 27, 2004.
425 URS Corporation, City and County of San Francisco Hazard Mitigation Plan, December, 2008.

Palace of Fine Arts south to the Central Basin.[426] The easternmost portion of the Plan area is within an area that could be subjected to an approximately 8-foot seiche.

Since 1850, 51 tsunamis have been recorded or observed in San Francisco Bay. Nine of these tsunamis originated in Alaska and were caused by an earthquake, earthquake and landslide, or volcano and earthquake. Only one tsunami has been recorded as originating along the central California Coast: a 4-inch runup that was recorded at the Presidio gauge station shortly after the 1906 earthquake.

The National Oceanic and Atmospheric Administration (NOAA) operates the Tsunami Warning System with centers located in Hawaii and Alaska. The National Warning System provides warnings to the West Coast (including California) and Alaska. These warning centers are linked to the Advanced National Seismic System that monitors earthquakes in the United States, to the international seismic monitoring systems, and to a system of tide gauges and buoys. The California Integrated Seismic Network also provides information regarding the magnitude and location of California earthquakes and a quick link to the West Coast/Alaska Tsunami Warning Center.

Based on the level of threat, a Tsunami Advisory, Watch, or Warning would be issued. In San Francisco, occupants would be notified of the Advisory, Watch, or Warning via the Outdoor Public Warning System, notification of the local media, Public Address Systems, and the Alert SF public notification system. The notification would include instructions for walking to higher ground or evacuating and for obtaining basic services such as shelter, food, water, and medical services. Once the area is deemed safe for reentry, an all clear public safety message would be broadcast.

The Tsunami Warning System takes an average of 7 to 10 minutes to identify a tsunami threat and communicate it to the media and state warning systems. The initial notification is based on seismic data. However, distant source events may provide up to 3 hours of warning, while local-source events have less than 60 minutes lead time. During this time, the initial notification is normally updated once additional information is available, at least every 30 minutes. The status of an Advisory, Watch, or Warning can be upgraded, downgraded, or the impact area expanded based on the new information.

Regulatory Framework

Water Quality Regulations

The federal Clean Water Act and subsequent amendments, under the enforcement authority of the U.S. Environmental Protection Agency (EPA), was established "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. It gave the EPA the authority to implement pollution control programs such as setting wastewater standards for industry. The Clean Water Act also set water quality standards for all contaminants in surface waters and made it unlawful for any person to

[426] City and County of San Francisco, Emergency Response Plan, Tsunami Response Annex, September, 2008.

discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions.

The federal Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) program to protect water quality of receiving waters. Under the Clean Water Act, Section 402, discharge of pollutants to receiving waters is prohibited unless the discharge is in compliance with an NPDES permit. In California, the EPA has determined that the State's water pollution control program had sufficient authority to manage the NPDES program under California law in a manner consistent with the Clean Water Act. Therefore, implementation and enforcement of the NPDES program is conducted through the California State Water Resources Control Board (SWRCB) and the nine RWQCBs.

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) regulates water quality within California and established the authority of the SWRCB and the nine regional water boards. The San Francisco Bay waters are under the jurisdiction of the RWQCB (San Francisco Bay Region). The RWQCB established regulatory standards and objectives for water quality in the Bay in the *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, most recently updated in 2007 and commonly referred to as the "Basin Plan."[427] The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives designed to protect those uses.

Water Quality Criteria

The Clean Water Act established ambient water quality criteria for the protection of aquatic life and human health that serve as guidance for states to use in adopting water quality standards. In 1980, the EPA published water quality criteria for 64 pollutants and pollutant classes and considered non-cancer, cancer, and taste and odor effects. Additional criteria were adopted under the 1992 National Toxics Rule, and criteria specific to California were adopted under the 2000 California Toxics Rule. In 2002, the EPA revised its recommended water quality criteria for 83 chemicals based on a revised methodology adopted in 2000 in order to protect human health, and in 2003 the EPA published an additional 15 revised human health criteria.[428] Human health criteria are based on the assumption that a person could eat fish and drink water from a water body, or only eat fish from a water body. The 2002 revisions incorporate new toxicity information on compounds and other changes in the calculation method.

Statewide measures to implement water quality criteria, specified by the National Toxics Rule, the California Toxics Rule, and the Basin Plan are addressed in the SWRCB *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (referred to as the State Implementation Plan), most recently updated by the SWRCB in 2005. The State Implementation Plan provides a basis for establishing water quality-based effluent limitations for discharges to inland waters and methods for demonstrating compliance with these effluent limitations. In accordance with the State

427 California Regional Water Quality Control Board, San Francisco Bay Region, San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), incorporating all amendments approved by the Office of Administrative Law as of January 18, 2007.

428 United States Environmental Protection Agency. National Recommended Water Quality Criteria Table, Fact Sheet, May 2005

Implementation Plan, the effluent limitations are enforced through NPDES permits, issuance or waiver of waste discharge requirements, or other relevant regulatory approaches. During the permit application or renewal process, the State Implementation Plan is used to determine if (1) water quality-based effluent limits are required, and (2) if an effluent limit is required, the maximum allowable discharge concentration. The State Implementation Plan does not apply to wet weather discharges from the combined sewer system, including combined sewer overflows, but does apply to dry weather discharges from the Pier 80 outfall.

Beneficial Uses

Applicable water quality criteria for a specific water body, specified by the National Toxics Rule or the California Toxics Rule, are determined on the basis of the beneficial use(s) of the water. The Basin Plan identifies the following existing beneficial uses for the Central Bay portion of San Francisco Bay: ocean, commercial and sport fishing; estuarine habitat; industrial service supply; industrial process supply; fish migration; navigation; preservation of rare and endangered species; fish spawning; water contact recreation; non-contact water recreation; shellfish harvesting; and wildlife habitat. No "potential" beneficial uses are identified for this portion of the Bay.

The Basin Plan identifies municipal and domestic supply as well as agricultural supply as existing beneficial uses for the Downtown San Francisco Groundwater Basin. Industrial service supply and industrial process supply are listed as "potential" beneficial uses.

Impaired Water Bodies and Total Maximum Daily Loads

In accordance with Section 303(d) of the Clean Water Act, states must present the EPA with a list of "impaired water bodies," defined as those water bodies that do not meet water quality standards. The RWQCB has listed Central Bay portion of the San Francisco Bay as well as Mission Creek as impaired water bodies.[429] The Central Bay is listed as an impaired water body for chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, mercury (water and sediment), polynuclear aromatic hydrocarbons (PAHs), PCBs, dioxin-like PCBs, selenium, and exotic species. Mission Creek is listed as an impaired water body for ammonia, chlordane (sediments), dieldrin (sediments), hydrogen sulfide, lead (sediments), mercury (sediments), silver (sediments), zinc (sediments), PAHs, and PCBs (sediments).

The law requires the development of actions, known as total maximum daily loads (TMDLs), to improve water quality of impaired water bodies. The first step of the TMDL process is development of a TMDL report describing the water quality problem addressed, detailing the pollutant sources, and outlining the solutions. An implementation plan, included in the TMDL report, describes how and when pollution prevention, control, or restoration activities will be accomplished and who will be responsible for these actions. The final step of the TMDL process is adopting and amending the Basin Plan to legally establish

[429] San Francisco Regional Water Quality Control Board, 2006 CWA 303(d) List of Water Quality Segments Requiring TMDLs. Approved by the United States Environmental Protection Agency on June 28, 2007.

the TMDL and to specify regulatory requirements for compliance. As part of the Basin Plan Amendment, wasteload allocations are specified for entities that have permitted discharges.

TMDLs for San Francisco Bay PCBs and Mercury have been approved by the EPA and officially incorporated into the Basin Plan. The RWQCB also adopted the San Francisco Bay Watershed Permit (Order No. R2-2007-0077) addressing mercury discharges from municipal and industrial wastewater dischargers.[430] In accordance with this permit, the mercury allocation for the Southeast plant is 2.1 kilograms per year by 2017 and 1.6 kilograms per year by 2027, reduced from an estimated annual load of 2.7 kilograms per year in 2003. The Basin Plan establishes an allocation of 0.3 kilograms per year of PCBs for the Southeast plant.

NPDES Waste Discharge Regulations

The federal Clean Water Act, Section 402, established the NPDES program to protect water quality of receiving waters. The NPDES program requires all facilities which discharge pollutants into waters of the United States to obtain a permit. The permit provides two levels of control – technology-based limits and water-quality-based limits – to control discharge of pollutants for the protection of water quality. Technology-based limits are based on the ability of dischargers in the same category to treat wastewater, while water-quality based limits are required if technology-based limits are not sufficient to provide protection of the water body. Water quality-based effluent limitations required to meet water quality criteria in the receiving water are based on criteria specified in the National Toxics Rule, the California Toxics Rule, and the Basin Plan. NPDES permits must also incorporate TMDL wasteload allocations when they are developed.

The regulations initially focused on municipal and industrial wastewater discharges in 1972, followed by stormwater discharge regulations, which became effective in November 1990. NPDES permits for wastewater and industrial discharges specify discharge prohibitions and effluent limitations and also include other provisions (such as monitoring and reporting programs) deemed necessary to protect water quality. In California, the SWRCB and the RWQCBs implement and enforce the NPDES program.

Southeast Plant, North Point, and Bayside Facilities NPDES Permit

The City currently holds an NPDES permit adopted by the RWQCB in June 2002 that covers the Southeast plant, the North Point Wet Weather Facility, and all of the Bayside wet-weather facilities, including discharges from the CSOs to the Bay.[431] The permit specifies discharge prohibitions, dry-weather effluent limitations, wet-weather effluent performance criteria, receiving water limitations, sludge management practices, and monitoring and reporting requirements. The permit prohibits overflows from the CSO structures during dry weather, and requires wet-weather overflows to comply

430 Regional Water Quality Control Board, San Francisco Bay Region, SF Mercury Watershed Permit, Municipal and Industrial Wastewater Dischargers, Order No. R2-2007-0077, adopted November 1, 2007.

431 Regional Water Quality Control Board, San Francisco Bay Region, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037664, Order No.2002-0073, for City and County of San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, and Bayside Wet Weather Facilities, adopted June 19, 2002.

with the nine minimum controls specified in the federal Combined Sewer Overflow Control Policy, described below.

Federal Combined Sewer Overflow Control Policy

On April 11, 1994 the EPA adopted the Combined Sewer Overflow Control Policy (CSO Control Policy), which became part of the Clean Water Act in December 2000. This policy establishes a consistent national approach for controlling discharges from combined sewers to the nation's water. Using the NPDES permit program, the policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the permittee is required to implement the following nine minimum controls that constitute the technology-based requirements of the Clean Water Act and can reduce the frequency of CSOs and their effects on receiving water quality:

1. Conduct proper operation and regular maintenance programs for the combined sewer system and CSO outfalls;
2. Maximize the use of the collection system for storage;
3. Review and modify pretreatment programs to ensure that CSO impacts are minimized;
4. Maximize flow to the treatment plant for treatment;
5. Prohibit CSOs during dry weather;
6. Control solids and floatable materials in CSOs;
7. Develop and implement pollution prevention programs that focus on contaminant reduction activities;
8. Notify the public; and
9. Monitor to effectively characterize CSO impacts and the efficacy of CSO controls.

The City is currently implementing these controls as required by the CSO Control Policy. This includes development of a Water Pollution Prevention Program which focuses on minimizing pollutants from entering the City's combined sewer system and addresses pollutants from residential, commercial, industrial, and nonpoint pollutant sources.

During the second phase, the permittee is required to continue implementation of the nine minimum controls, properly operate and maintain the completed CSO controls in accordance with the operational plan, and implement the post-construction monitoring program. In conformance with the CSO Control Policy, the City has developed a long-term control plan to select CSO controls to comply with water quality criteria and to protect the beneficial uses of the receiving waters. The plan utilizes the presumptive approach for the protection of water quality. In accordance with the CSO Control Policy, this approach must meet one of these criteria:

- An average of four CSO events per year;
- Elimination or capture no less than 85 percent by volume of the combined sewage collected in the combined sewer system during precipitation events on a system-wide average basis; or
- Removal of the mass of any contaminant causing water quality impairment that would be otherwise removed by eliminating or capturing the flow as specified above.

The CSO Control Policy requires that any CSOs that occur after implementation of the nine minimum control measures should receive a minimum of primary clarification (removal of floatables and settleable solids), solids and floatable disposal, and disinfection (if necessary to meet water quality standards and protect the beneficial uses of the receiving water). The San Francisco Wastewater Control Program exceeds the specifications of the presumptive approach because 100 percent of the combined sewer flows are captured and treated rather than the required 85 percent. As defined in the CSO Control Policy, San Francisco has no remaining untreated overflow events because the overflows that occur in San Francisco currently receive the equivalent of primary treatment within the storage/transport boxes, consisting of removal of floatables and settleable solids.

The City is currently in full compliance with the CSO Control Policy. In 1997, the City completed construction of a 20-year, $1.6 billion Wastewater Master Plan which included extensive storage, transport and treatment upgrades to the combined sewer system that meet approved design criteria for overall protection of beneficial uses. Operation and implementation of these facilities satisfies the CSO Control Policy, including maximizing use of the system during wet weather.

Wastewater Discharges

Discharges of non-sewage wastewater to the combined sewer system, including groundwater produced during construction dewatering, are subject to the permit requirements specified in Article 4.1 of the *San Francisco Public Works Code* and supplemented by Department of Public Works Order No. 158170. The permit requirements include compliance with the federal CSO Control Policy minimum controls, including development and implementation of a pollution prevention program. The San Francisco pollution prevention program includes requirements for best management practices to minimize the amount of pollutants carried by stormwater to the combined sewer system from industrial uses, and the City conducts periodic inspections to ensure compliance.

Stormwater Management

In accordance with the San Francisco Stormwater Management Ordinance, approved in April 2010, development projects that discharge stormwater to the combined sewer system—which covers the Plan area—must comply with the San Francisco Stormwater Design Guidelines developed by the SFPUC and the Port of San Francisco.[432] The Guidelines offer five tools to help project developers achieve compliance with stormwater management requirements:

- A step-by-step guide describing how to manage stormwater on site;
- A set of stormwater Best Management Practices (BMP) Fact Sheets;
- A vegetation palette to assist in BMP-appropriate plant selection;

[432] San Francisco Public Utilities Commission and Port of San Francisco, San Francisco Stormwater Design Guidelines, November, 2009. Adopted by the SFPUC Commission January 12, 2010. http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/361/MTO_ID/543. Stormwater Management Ordinance: Ordinance 83-10, approved by the Board of Supervisors April 13, 2010, and signed by the Mayor April 22, 2010: http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances10/o0083-10.pdf.

- Sizing calculators to determine the required size of each BMP; and
- Maintenance checklists explaining the types and frequencies of the maintenance activities associated with each BMP.

In accordance with the San Francisco Stormwater Design Guidelines, developers of projects that disturb more than 5,000 square feet of ground must implement BMPs to reduce the flow rate and volume of stormwater going into the combined sewer system by achieving Leadership in Energy and Environmental Design (LEED®) Sustainable Sites Credit 6.1 (Stormwater Management Rate and Quantity). Development projects must also comply with Article 4.2 of the *San Francisco Public Works Code* and must submit a stormwater control plan (including an operations and maintenance plan). The SFPUC reviews the plan and certifies compliance with the San Francisco Stormwater Design Guidelines. Examples of BMPs that may be implemented include rainwater harvesting, rain gardens, green roofs, and permeable paving. (Separate requirements exist for parts of the City that have separate storm sewer systems.)

The SFPUC inspects stormwater BMPs once they are constructed, and any issues noted by the inspection must be corrected before the Certificate of Occupancy can be issued for the building. The owner is responsible for completing an annual self-certification inspection, and must submit completed checklists and maintenance logs for the year to the SFPUC. In addition, the SFPUC will inspect all stormwater BMPs every third year. Any issues identified by either inspection must be resolved before the SFPUC can renew the certificate of compliance.

Projects that are required to implement the San Francisco Stormwater Design Guidelines are also subject to review by the San Francisco Department of Building Inspection, and subject to building codes that include provisions for managing drainage for new construction. Specifically, Section 306.2 of the *San Francisco Plumbing Code* and Section 1503.4 of the *San Francisco Building Code* allow roofs and other building areas to drain to locations other than the combined sewer. In 2008, the SFPUC, Department of Building Inspection, and Department of Public Health also entered into a Memorandum of Agreement concluding that applicants can safely harvest rainwater for used in non-potable applications such as toilet flushing, irrigation, and vehicle washing without treating it to potable standards.

Implementation of the low impact development measures described above helps to reduce and delay the volumes of discharge entering the combined sewer system, thereby reducing the frequency of combined sewer overflows, minimizing flooding effects, and protecting water quality. Other plans and ordinances also contribute to reducing the frequency of combined sewer overflows by addressing stormwater management. The Sewer Master Improvement Program will include collection system projects to upgrade the aging sewer system and better handle the City's sewage and stormwater flows by providing both grey and green infrastructure solutions. The Better Streets Plan identifies innovative methods for reducing stormwater runoff from streets and sidewalks to create a more attractive and sustainable public realm in San Francisco. The Green Building Ordinance expands the scope of the green building standards to apply to private developments and redevelopment projects in addition to public buildings; it fosters environmentally sensitive design and sustainability in new development projects. The stormwater

management performance standards specified in the San Francisco Stormwater Design Guidelines were developed as part of this ordinance, and the ordinance provides the regulatory authority to implement stormwater management requirements in combined sewer areas.

Construction Stormwater Discharges

Construction-related stormwater discharges are subject to the requirements of Article 4.1 of the *San Francisco Public Works Code*, which incorporates and implements the City's NPDES permit and the nine minimum controls described in the federal CSO Control Policy. The minimum controls include development and implementation of a pollution prevention program. At a minimum, the City requires that the project sponsor develop and implement an erosion and sediment control plan to reduce the impact of runoff from the construction site. The erosion and sediment control plan must be reviewed and approved by the City prior to implementation, and the City conducts periodic inspections to ensure compliance with the erosion and sediment control plan.

Recycled Water

San Francisco's Reclaimed Water Ordinance, contained in Article 22 of the *San Francisco Public Works Code*, specifies that, in designated areas of the City new buildings 40,000 square feet or larger must install a recycled water system. All but the very northwestern corner of the Plan area is within the Eastside Reclaimed Water Use Area designated by the Ordinance, and therefore all development projects greater 40,000 square feet in size must provide for the construction and operation of a reclaimed water system for the transmission of the reclaimed water within buildings and structures. That is, unless granted an exemption, these new buildings would need to be designed with separate plumbing to service uses that could employ reclaimed water (e.g., toilets). The Ordinance also requires that owners, operators, or managers of all development projects register their projects with the SFPUC. The SFPUC issues a certificate exempting compliance in cases in which reclaimed water is not available, an alternative water supply is to be used, or the sponsor has shown that the use of reclaimed water is not appropriate. The SFPUC may inspect any recycled water operations to ensure compliance with the Ordinance, including mandatory use of recycled water. Currently, however, there is no source of recycled water for this area, but recycled water could eventually be provided through the Eastside Recycled Water Project or through the creation of a local facility constructed within the Plan area. The draft Plan includes a number of policies directing the creation of or otherwise securing source(s) of non-potable water, infrastructure for its distribution and use, and development practices to maximize use of non-potable water and reduce use of potable water (see **Appendix B**).

San Francisco Green Building Ordinance

The City of San Francisco's Green Building Ordinance, described in Section IV.H, Greenhouse Gas Emissions, requires newly constructed commercial buildings greater than 5,000 square feet in size and all residential developments to implement the San Francisco Stormwater Design Guidelines (described above). Newly constructed commercial buildings over 5,000 square feet and residential buildings over 75 feet in height including five or more units must also reduce the amount of potable water used for

landscaping by 50 percent and must reduce indoor use of potable water by 30 percent (as of 2011). Implementation of these measures are estimated to reduce wastewater and stormwater discharges by 90 million gallons citywide.[433]

Impact Analysis

Significance Criteria

The proposed project would have a significant hydrology and water quality impact if it were to:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Impact Analysis: Transit Center District Plan

Impact HY-1: The proposed Transit Center District Plan would not violate water quality standards or otherwise substantially degrade water quality. (Less than Significant).

Construction

Stormwater Discharges

Construction of individual development projects that could be proposed and approved pursuant to the proposed zoning controls could affect water quality, but the effects would be less than significant with compliance with applicable permits and regulations. Water quality could be affected by grading and earthmoving operations, use of fuels and other chemicals for construction equipment, and demolition

[433] Green Building Ordinance, Ordinance 180-08, approved August 4, 2008. Available on the internet at: http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances08/o0180-08.pdf.

and construction. Grading and earthmoving would expose soil during construction and could result in erosion and excess sediments carried in stormwater runoff to the combined sewer system. Stormwater runoff from temporary on-site use and storage of vehicles, fuels, wastes and other hazardous materials could also carry pollutants to the combined sewer system if these materials were improperly handled.

However, the federal Clean Water Act effectively prohibits discharges of stormwater from construction projects unless the discharge is in compliance with a NPDES permit. Construction stormwater discharges to the City's combined sewer system would be subject to the requirements of Article 4.1 of the San Francisco Public Works Code (supplemented by Department of Public Works Order No. 158170), which incorporates and implements the City's NPDES permit, and the federal CSO Control Policy described above. At a minimum, the City requires that a project sponsor develop and implement an erosion and sediment control plan to reduce the impact of runoff from a construction site. The plan must be reviewed and approved by the City prior to implementation, and the City conducts periodic inspections to ensure compliance with the plan. Any stormwater drainage during construction would flow to the City's combined sewer system, where it would receive treatment at the Southeast plant or other wet weather facilities and would be discharged through an existing outfall or overflow structure in compliance with the existing NPDES permit. Therefore, water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of construction related stormwater runoff would be less than significant with compliance with applicable permits.

Groundwater Dewatering

As noted in Section O, Geology, Soils, and Seismicity, the groundwater level in the Plan area is expected at about 8 to 20 feet below ground surface. Because individual development projects that could be proposed and approved pursuant to the proposed zoning controls would include construction of foundations and/or below ground parking garages that could extend below this depth, dewatering likely would be necessary for some projects during construction. However, the draft Plan would allow for capture of this groundwater and reuse for non-potable uses, provided this water is suitable for these purposes. If any groundwater produced during construction dewatering required discharge to the combined sewer system, the discharge would be conducted in accordance with Article 4.1 of the *San Francisco Public Works Code*, as supplemented by Order No. 158170, which regulates the quantity and quality of discharges to the combined sewer system. This permit would contain appropriate discharge standards and may require installation of meters to measure the volume of the discharge. Although the groundwater could contain contaminants related to past site activities, as discussed in Section IV.Q, Hazards and Hazardous Materials, as well as sediment and suspended solids, the groundwater would be treated as necessary to meet permit requirements prior to discharge. With reuse of the groundwater produced during dewatering or discharge to the combined sewer system in accordance with regulatory requirements, water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of groundwater would be less than significant.

Operation

Combined Sewer Overflows

Two aspects of the project could result in long-term beneficial changes to the wastewater flows to the City's combined sewer system: (1) implementation of San Francisco's Green Building Ordinance by individual projects that could be proposed and approved pursuant to the proposed zoning controls would locally decrease year-round sanitary sewage flows to the combined sewer system, and (2) implementation of stormwater BMPs in accordance with the San Francisco Stormwater Guidelines would decrease the volume of stormwater runoff to the combined sewer system. The effects of these factors on the combined sewer system are closely related, and the combined effect would result in a decreased volume and/or frequency of CSO discharges to the Bay.

Changes in Sanitary Sewage Flows

The proposed Plan would accommodate new development in the Plan area, which would, in turn, result in an increase of about 2,200 residents and about 25,000 jobs in the Plan area. Growth in the Plan area would contribute to a citywide population increase of almost 135,000, as well as a citywide employment increase of close to 200,000 by 2030. Most of the citywide growth would be on the City's eastern side, which is served by the Southeast treatment plant (and the North Point plant in wet weather); in addition to the Plan area, substantial growth would occur in the Market-Octavia and Balboa Park Better Neighborhood Plan areas; Candlestick Point and Hunters Point; Visitacion Valley; Mission Bay; and elsewhere in the greater Downtown, as well as, to a lesser degree, other areas such as transit corridors on Van Ness Avenue and Geary Street.

During dry weather (typically, May 1 to October 15), all sanitary sewage generated in the Plan area would be treated at the Southeast plant, which currently operates at about 80 percent of its design capacity. If additional dry weather flow associated with development occurred, they could be accommodated within the system's existing capacity.

During wet weather (typically, October 16 to April 30), however, there is a wide variation in volume of wet weather flow due to the addition of stormwater. The volume of wet weather flows is directly related to the rainfall intensity, and treatment of the wet weather flows varies depending on the characteristics of any individual rainstorm. While the system is in compliance with current regulations and permits, an incremental increase in sanitary sewage volume could affect the overall system's wet weather operations. Any net increase in combined sewage could cumulatively contribute to an increase in average volume of CSO discharges to the Bay, either in the Plan area or elsewhere along the Bay shore. An increase in the volume of CSO discharges could be a concern because the RWQCB has designated Mission Creek and Central Bay as impaired water bodies under Section 303(d) of the Clean Water Act, which indicates water quality standards are not expected to be met after implementation of technology-based effluent limitations, and because CSO discharges contain pollutants for which these water bodies are impaired.

However, in accordance with San Francisco's Green Building Ordinance (described in the Setting), newly constructed commercial buildings over 5,000 square feet and residential buildings over 75 feet in height

including five or more units must reduce the amount of potable water used for landscaping by 50 percent and must reduce indoor use of potable water by 30 percent (as of 2011), compared to conventional development (defined as plumbing fixture performance required by the federal Energy Policy Act of 1992). To support these goals, Policy 6.19 of the draft Plan calls for individual development projects that could be proposed and approved pursuant to the proposed Plan to minimize potable water usage; identify on-site sources of water that could be reused for non-potable purposes; install on-site collection, treatment, storage, and conveyance systems for non-potable needs; and meet all other non-potable demands using non-potable water from within the Plan area or a municipal supply of recycled water. Reduction of water use and reuse of water that would otherwise be discharged to the combined sewer system for non-potable purposes would contribute to a decrease in sanitary sewage and associated combined sewer overflows, compared to conditions that would be expected without these measures. In addition, as discussed in the Setting, the City is developing a Wastewater Master Plan that will include measures by the City to reduce the quantity and frequency of overflows and improve the water quality of overflows. Still, projects that could be approved pursuant to the draft Plan would generate up to about 1.1 million gallons per day of wastewater, and other anticipated development in the Plan area (Zone 1 of the approved Transbay Redevelopment Plan and other assumed growth) would add another 600,000 gallons per day. The total wastewater flow of 1.7 million gallons per day would represent about 2.5 percent of the daily wastewater flow to the Southeast Plant, and about 0.4 percent of the combined wet-weather capacity of the Southeast and North Point treatment plants.[434]

Changes in Stormwater Runoff

Stormwater runoff in an urban location such as the Plan area is a known source of pollution. Runoff from development projects that could be undertaken pursuant to the proposed zoning controls may contain many types of pollutants including polynuclear aromatic hydrocarbons from vehicle emissions; heavy metals, such as copper from brake pad wear and zinc from tire wear; dioxins as products of combustion; and mercury resulting from atmospheric deposition. All of these materials, and others, may be deposited on paved surfaces and rooftops as fine airborne particles, thus yielding stormwater runoff pollution that is unrelated to the particular activity or use associated with a given project. In addition, subsequent individual development projects could contribute specific pollutants including car maintenance wastes, pesticides, household hazardous wastes, pet wastes, sediments, nutrients, oil and grease, organics, and trash which can be washed into the combined sewer system. These pollutants can all affect water quality.

The Plan area is almost entirely covered by impervious surfaces at present and the vast majority of development projects in the Plan area that could be undertaken pursuant to the proposed zoning controls would be located on sites that are already developed. With implementation of stormwater control measures as required by San Francisco's Stormwater Design Guidelines (described in the Setting) and Policy 6.20 of the draft Plan, implementation of individual development projects that could be proposed and approved pursuant to the proposed zoning controls would contribute to a decrease in stormwater flows from the Plan area, compared to existing conditions, as more pervious surfaces, such as landscaped

[434] To fully offset 1.7 million gallons in wastewater entering the combined sewer system during a storm would require capturing and detaining or reusing the equivalent of almost one-half inch of rainfall

areas of sidewalks, are created, and to the extent that impervious streets and sidewalks are replaced with permeable surfaces. Individual development projects would be required to incorporate low-impact design techniques into the project design and to implement stormwater BMPs to reduce the flow rate and volume of stormwater entering the combined sewer system. Appropriate stormwater management using low-impact design features would also improve the water quality of stormwater discharges from the district by capturing some contaminants in runoff that would otherwise travel to the combined sewer system. Examples of some low impact design features include use of permeable pavement, incorporating green roofs and green walls on buildings, including rain storage facilities, and providing landscaping or rain gardens into open space.

Projects that disturb more than 5,000 square feet of land would be required to submit a Stormwater Control Plan describing the BMPs that would be implemented and a plan for post construction operation and maintenance of the BMPs. Specifically, the plan would include the following elements:

- Site characterization
- Design and development goals
- Site plan
- Site design
- Source controls
- Treatment BMPs
- Comparison of design to established goals
- Operations and maintenance plan

For the Plan area, the site design would address several goals specified in the San Francisco Stormwater Design Guidelines, including minimizing impervious surfaces and disconnecting these surfaces from the combined sewer system; treating stormwater as a resource and not a waste product; treating storm water at its source; and using treatment trains (a combination of stormwater BMPs) to address a broad array of stormwater pollutants.

Implementation of source control BMPs such as covering and hydraulically isolating pollutant generating activities, implementing maintenance activities such as regular sweeping of exposed areas, and using non-polluting building and maintenance materials (including pesticides) would prevent or reduce the generation and discharge of pollutants and would improve the quality of stormwater for reuse or discharge to the combined sewer system. The selection of treatment BMPs to further reduce pollutant loads in stormwater runoff is guided by existing site conditions, design and development goals, and the pollutants of concern at the site. Treatment BMPs would reduce the pollutant loads stormwater via infiltration (e.g. permeable pavement or infiltration basins or trenches), detention (constructed wetlands, detention pond or vault, or wet pond), bioretention (e.g. flow through planter or rain garden), or biofiltration (e.g. vegetated areas; media, sand, or vegetated rock filters; swirl separators, water quality inlets, or drain inserts). One or more treatment BMPs could be required to address each of the potential stormwater pollutants of concern.

Project sponsors for individual development projects would be required to achieve the standards specified in LEED® SS6.1 (Stormwater Design: Quantity Control) to minimize the flow and volume of stormwater into the combined sewer system. For sites with less than 50 percent impervious surfaces, this standard requires project sponsors to implement a stormwater management plan to prevent the post-development peak discharge rate and quantity from exceeding the pre-development peak discharge rate and quantity for the one and two-year 24-hour design storms. For sites with greater than 50 percent impervious surfaces, the project sponsor must implement a stormwater management plan that results in a 25 percent decrease in the volume of storm water runoff from the two-year 24-hour design storm, compared to conditions without a management plan. Recommended BMPs to achieve these goals include infiltration methods such as vegetated roofs, pervious paving, and other measures to minimize impervious surfaces. Reuse of stormwater for non-potable uses such as landscape irrigation, toilet and urinal flushing, and custodial uses is also recommended.

Reduction in stormwater volume could be achieved through an increase in pervious surfaces (i.e., replacing asphalt or concrete with pervious asphalt or concrete or other hard surface that allows rainwater to percolate into the ground and/or with planted or otherwise unsurfaced areas. Stormwater volume can also be decreased through the alternative use of rainwater, such as by collecting the water in tanks and using it for toilet flushing and landscape irrigation. Reduction in peak stormwater volume can also avoid ultimate combined sewer overflows by detaining rainfall to keep it from entering the combined sewer until after the largest amount of water from other sites has passed through the system. Such retention strategies can include green roofs (on which plants permanently capture a portion of the rainfall and delay the arrival to the sewer of another portion) and holding tanks.[435] As an example, if a 10,000-square-foot area were converted from conventional asphalt to pervious paving, about 3,700 gallons of water per inch of rain would be diverted to groundwater infiltration for every inch of rain. A 25 percent decrease in runoff, as required by the Stormwater Design Guidelines, would be 1,250 gallons per inch of rain. If all rainfall were collected and held for later discharge, more than 6,000 gallons of runoff would be retained from the same site per inch of rainfall.[436]

The Stormwater Control Plan would also include an Operations and Maintenance Plan that would identify who has the operational responsibility for the facility, applicable maintenance requirements for each stormwater control, detailed requirements for each treatment and control BMP, required maintenance of facilities. These requirements would transfer to any new owner, occupant, or lessee of the facility.

The Stormwater Control Plan must be reviewed and stamped by a licensed landscape architect, architect, or engineer. The SFPUC reviews the plan and certifies compliance with the Guidelines and inspects stormwater BMPs once they are constructed. Any issues noted by the inspection must be corrected before the Certificate of Occupancy can be issued for the building. Following occupancy, the owner is responsible for completing an annual self-certification inspection, and must submit completed checklists

435 Retention (or detention) basins are used to hold rainfall, and sometimes to allow it to percolate to groundwater, in less developed areas but are less feasible in urban areas.

436 Based on 27,154 gallons per acre-inch runoff coefficients of 0.8 and 0.2, per SFPUC Stormwater guidelines.

and maintenance logs for the year to the SFPUC. In addition, the SFPUC will inspect all stormwater BMPs every third year and any issues identified by either inspection must be resolved before the SFPUC can renew the certificate of compliance.

Net Impact to CSO Discharges

Based on the above discussion, implementation of the draft Plan would facilitate new development that would minimize year-round sanitary sewage flows and decrease stormwater runoff to the combined sewer system through compliance with San Francisco's Green Building Ordinance, Stormwater Design Guidelines, and policies included in the draft Plan. Implementation of stormwater BMPs in compliance with the Stormwater Design Guidelines would also increase the water quality for discharges of stormwater to the sewer system. Therefore, water quality impacts related to violation of water quality standards or degradation of water quality associated with changes in combined sewer overflow discharges to the Bay would be less than significant.

Long-Term Groundwater Dewatering

Development projects that include construction below the water table could also require groundwater dewatering year round. However, the draft Plan calls for capture of this groundwater and reuse for non-potable uses (Policy 6.15). If any groundwater produced during dewatering required discharge to the combined sewer system, the discharge would be conducted in accordance with Article 4.1 of the *San Francisco Public Works Code*, as supplemented by Department of Public Works Order No. 158170, which regulates the quantity and quality of discharges to the combined sewer system. This permit would contain appropriate discharge standards and may require installation of meters to measure the volume of the discharge. Although the groundwater could contain contaminants related to past site activities, as discussed in Section IV.Q, Hazards and Hazardous Materials, as well as sediment and suspended solids, the groundwater would be treated as necessary to meet permit requirements prior to discharge. With reuse of the groundwater produced during permanent dewatering or discharge to the combined sewer system in accordance with regulatory requirements, water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of groundwater would be less than significant for permanent groundwater dewatering. Further, if development projects in the Plan area used groundwater produced from dewatering at existing facilities in the downtown core (currently discharged to the combined sewer system) for non-potable purposes like irrigation, as proposed in the draft Plan, the Plan could further contribute to a reduction in combined sewer overflows, a beneficial impact.

Mitigation: None required.

Impact HY-2: The proposed Transit Center District Plan would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

Development projects constructed under the draft Plan would use potable water from the SFPUC. If and when a supply of recycled water becomes available through the Eastside Recycled Water Project or a local facility constructed within the Plan area, these developments would use recycled water for non-potable uses such as toilet flushing and irrigation. Although groundwater dewatering could be required during construction and operation of individual projects that include construction below the water table, groundwater from the Downtown San Francisco Groundwater Basin is not used as a drinking water supply and there are no plans for development of this basin for groundwater production. The draft Plan area is almost completely covered with impervious surfaces under existing conditions, and projects constructed pursuant to the Plan would not increase impervious surface coverage or otherwise reduce infiltration or groundwater recharge. Further, stormwater controls implemented pursuant to the San Francisco Stormwater Design Guidelines (described in Impact HY-1) could include stormwater BMPs to promote infiltration of stormwater—such as through incrementally decreasing the amount of existing impervious surface—which would in turn recharge the groundwater basin. At any rate, because groundwater is not used as a potable water supply, and because there would be no net increase in impervious surface, impacts related to depletion of groundwater resources or interference with groundwater recharge would be less than significant.

Mitigation: None required.

Impact HY-3: The proposed Transit Center District Plan would implement stormwater control measures that would reduce the quantity and rate of stormwater runoff to the combined sewer system, decreasing the potential for erosion or flooding. (Less than Significant)

As discussed in Impact HY-1, development projects that could be proposed and approved pursuant to the proposed Plan would implement stormwater control measures as required by San Francisco's Stormwater Design Guidelines (described in the Setting) and Policy 6.20 of the draft Plan. This would reduce the peak quantity and peak rate of stormwater runoff to the city's combined sewer system, decreasing the potential for erosion and flooding, and would result in a less-than-significant impact.

Mitigation: None required.

Impact HY-4: The proposed Transit Center District Plan would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (Less than Significant)

As discussed in Impact HY-1, development projects that could be proposed and approved pursuant to the proposed Plan would implement stormwater control measures as required by San Francisco's Stormwater Design Guidelines (described in the Setting) and Policy 6.20 of the draft Plan. This would reduce the quantity and rate of stormwater runoff to the city's combined sewer system and improve the water quality of those discharges. Therefore, impacts related to contributing runoff water that would exceed the capacity of the combined sewer system or provide substantial additional sources of polluted runoff would be less than significant.

Mitigation: None required.

Impact HY-5: The proposed Transit Center District Plan would not expose people, housing, or structures, to substantial risk of loss due to flooding. (Less than Significant)

Development in the City and County of San Francisco must account for flooding potential. Areas located on fill or bay mud can subside to a point at which the sewers do not drain freely during a storm (and sometimes during dry weather) and there can be backups or flooding near these streets and sewers. As described in Section IV.O, Geology, Soils, and Seismicity, most the Plan area is underlain by artificial fill, and approximately the eastern half of the Plan area is bayward of the historic shoreline. Although the SFPUC has specifically identified potential flooding hazards related to the depth of sewer lines relative to properties they serve in locations west of the Plan area, areas east of Fourth Street, including the Plan area, have not been called out by SFPUC for the additional review required west of Fourth Street.

As discussed in the Setting, the Plan area is not located within a Zone A or Zone V flood zone identified on the preliminary FIRM prepared by FEMA, or in a Special Flood Hazard Area identified on San Francisco's Interim Floodplain Map. However, portions of the Plan area are within an area identified by the BCDC as potentially vulnerable to future flooding if the level of the bay increases as expected due to sea level rise. The projected 55-inch sea level rise by 2100 would not move the Bay shore closer to the Plan area because the Embarcadero seawall is a hard barrier (as opposed, for example, to marshland that presents a gradual slope up from the Bay). However, under the BCDC-forecast scenario for sea level rise, portions of the Plan area could potentially be susceptible to storm surge in the future (beyond approximately 2050). New developments would be constructed to more current seismic safety standards, which would also provide better protection from damage due to storm surge. As explained in the setting, sea level rise by 2050 is anticipated to approximate 15 inches and, while the rates of sea level rise is anticipated to increase beyond that time, the projections are less certain. Moreover, time beyond 2050 is beyond the planning horizon for the draft Plan. Thus, conclusions regarding sea level rise beyond the year 2050 would be speculative, and therefore, impacts related to development within a 100-year flood zone or risk due to flooding would be less than significant.

Mitigation: None required.

Impact HY-6: The proposed Transit Center District Plan would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. (Less than Significant)

The project site is not in an area subject to reservoir inundation hazards and is not located in a volcanic area that could be subject to mudflow.[437] Therefore, there is no impact related to these hazards.

The easternmost portion of the Plan area is within an area that could be subjected to an approximately 8 foot seiche, as discussed in the Setting, and additional areas along the easternmost portion of the Plan area could be subjected to a seiche in the event of a future sea level rise due to global warming. In the event that an earthquake occurred that would be capable of producing a tsunami that could affect San Francisco, the National Warning System would provide warning to the City. The San Francisco outdoor warning system (sirens and loudspeakers, tested each Tuesday at 12:00 noon) would then be initiated which would sound an alarm alerting the public to tune into local TV, cable TV, or radio stations, which would carry instructions for appropriate actions to be taken as part of the Emergency Alert System. Police would also canvas the neighborhoods sounding sirens and bullhorns, as well as knocking on doors as needed, to provide emergency instructions. Evacuation centers would be set up if required. The advance warning system would allow for evacuation of people prior to a seiche and would provide a high level of protection to public safety.

Although people would be evacuated in the event of a seiche, there could be property damage due to inundation. However, tsunamis are extremely rare. Moreover, with implementation of the proposed Plan, there would not be a substantial change from existing conditions with regard to the number of buildings constructed within the potential zone of inundation from a seiche. Furthermore, new developments would be constructed to more current seismic safety standards which would also provide better protection from damage due to inundation by a seiche. Therefore, impacts related to exposure of people or structures to risk from inundation by seiche and tsunami are less than significant.

Mitigation: None required.

---

[437] URS Corporation, City and County of San Francisco Hazard Mitigation Plan, December, 2008. Map C-14.

Impact Analysis: Transit Tower

Impact HY-7: The proposed Transit Tower would not violate water quality standards or otherwise substantially degrade water quality. (Less than Significant)

Construction

Water quality impacts associated with construction of the Transit Tower would be similar to those described in Impact HY-1, above, for development projects that could be proposed and approved pursuant to the draft Plan. Water quality impacts related to construction-related stormwater runoff and groundwater dewatering discharges would be less than significant with implementation of the requirements of Article 4.1 of the San Francisco Public Works Code (supplemented by Department of Public Works Order No. 158170). Further, groundwater produced during construction dewatering could potentially be captured for reuse on-site.

Operation

Similar to the development projects that could be proposed and approved pursuant to the proposed zoning controls, the Transit Tower would also contribute to a decrease in combined sewer overflows during operation through implementation of the San Francisco's Green Building Ordinance requirement to reduce the amount of potable water used for landscaping by 50 percent and indoor use by 30 percent (as of 2011), compared to conventional development, and implementation of Policy 6.19 of the draft Plan requiring projects to minimize water usage; identify on-site sources of water that could be reused for non-potable purposes; and install on-site collection, treatment, storage, and conveyance systems for non-potable needs. Stormwater flows would be decreased, compared to existing conditions, and their quality improved through implementation of the San Francisco Stormwater Design Guidelines and required stormwater control plan. Groundwater produced during long-term groundwater dewatering would be captured for reuse, or discharge would comply with requirements of Article 4.1 of the San Francisco Public Works Code (supplemented by Department of Public Works Order No. 158170).

With implementation of the above project proposals and City requirements, water quality impacts related to violation of water quality standards or degradation of water quality due to construction and operation of the Transit Tower would be less than significant.

Mitigation: None required.

Impact HY-8: The proposed Transit Tower would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

As with all development projects that could be proposed and approved pursuant to the draft Plan, the Transit Tower would use SFPUC system water and, if and when available, recycled water (for non-potable uses such as toilet flushing and landscape irrigation) as a water supply. The Transit Tower would

include stormwater BMPs that would increase stormwater infiltration, compared to existing conditions, under which the Transit Tower site allows for no such infiltration. Although the Transit Tower would likely require dewatering of groundwater, there are no existing or planned uses of groundwater within the Downtown San Francisco Groundwater Basin. Therefore, impacts related to depletion of groundwater resources or interference with groundwater recharge would be less than significant with respect to the Transit Tower.

Mitigation: None required.

Impact HY-9: The proposed Transit Tower would implement stormwater control measures that would reduce the quantity and rate of stormwater runoff to the combined sewer system, decreasing the potential for erosion or flooding. (Less than Significant)

As with other development projects that could be proposed and approved pursuant to the draft Plan, the Transit Tower would include stormwater control measures as required by San Francisco's Stormwater Design Guidelines (described in the Setting) and Policy 6.20 of the Plan. Although the proposed Transit Tower would be built at nearly full site coverage, the building would comply with City requirements by reducing the volume and rate of peak stormwater discharge. As stated in Chapter II, Project Description, the TJPA is developing plans to substantially decrease the use of potable water for non-potable use at the Transit Center. These measures would be employed in the proposed Transit Tower project as well.[438] They will include some or all of the following: collection of greywater from restroom sinks (but not in retail spaces); directing "blackwater" (sewage) directly to the City's sewer system; collection of stormwater runoff and piping it to the storage system after pretreatment; and reuse of greywater for toilet flushing (including in retail spaces) following collection, storage, filtering and treatment. Additionally, the adjacent City Park—to be built atop the Transit Center—and Mission Square open spaces would provide opportunities for stormwater retention through plantings and permeable pavement surface in Mission Square. This would reduce the quantity and rate of stormwater runoff to the city's combined sewer system, decreasing the potential for erosion and flooding, and would result in a less-than-significant impact.

Mitigation: None required.

---

438 Rana Creek, Atelier 10, and Flack & Kurtz, *Transbay Transit Center Water Systems Report, 25% Design Development*, July 1, 2010. This report is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0553E.

Impact HY-10: The proposed Transit Tower would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (Less than Significant)

Similar to the development projects that could be proposed and approved pursuant to the proposed zoning controls, the Transit Tower would include stormwater control measures as required by San Francisco's Stormwater Design Guidelines (described in the Setting) and Policy 6.20 of the draft Plan. This would reduce the quantity and rate of stormwater runoff to the city's combined sewer system, compared to existing conditions, and improve the water quality of those discharges. Therefore, impacts related to contributing runoff water that would exceed the capacity of the combined sewer system or provide substantial additional sources of polluted runoff would be less than significant for the Transit Tower.

Mitigation: None required.

Impact HY-11: The proposed Transit Tower would not expose people, housing, or structures, to substantial risk of loss due to flooding. (Less than Significant)

As with all development projects that could be proposed and approved pursuant to the proposed Plan, the Transit Tower site is not located within a Zone A or Zone V flood zone identified on the preliminary FIRM prepared by FEMA, or in a Special Flood Hazard Area identified on San Francisco's Interim Floodplain Map. As discussed with respect to Plan effects in Impact HY-5, portions of the Plan area are within an area identified by the BCDC as potentially vulnerable to future flooding if the level of the bay increases as expected due to sea level rise. As explained in the setting, sea level rise by 2050 is anticipated to approximate 15 inches and, while the rates of sea level rise is anticipated to increase beyond that time, the projections are less certain. Moreover, time beyond 2050 is beyond the planning horizon for the draft Plan. Thus, conclusions regarding sea level rise beyond the year 2050 would be speculative, and therefore, impacts related to development within a 100-year flood zone or risk due to flooding would be less than significant for the Transit Tower.

Mitigation: None required.

Impact HY-12: The proposed Transit Tower would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow. (Less than Significant)

Similar to the development projects that could be proposed and approved pursuant to the proposed zoning controls, the Transit Tower site is not in an area subject to reservoir inundation hazards[439] and is not located in a volcanic area that could be subject to mudflow. In addition, the Transit Tower site is located

[439] URS Corporation, City and County of San Francisco Hazard Mitigation Plan, December, 2008. Map C-14.

outside of the area that would be subject to a seiche. Therefore, there is no impact related to these hazards for the Transit Tower.

Mitigation: None required.

Cumulative Impacts

Impact C-HY: The proposed Transit Center District Plan and Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant cumulative impacts to hydrology and water quality. (Less than Significant)

As discussed above, implementation of the draft Plan would allow for new development that would increase year-round sanitary sewage flows, but would be expected to decrease stormwater runoff peak rate and total volume to the combined sewer system through compliance with San Francisco's Green Building Ordinance and Stormwater Design Guidelines. Moreover, sanitary sewage volumes would be decreased on a building-by-building and per-person basis, compared to historical trend, because of low-water-use requirements in the Green Building Ordinance. Implementation of stormwater BMPs in compliance with the Stormwater Design Guidelines might also improve the water quality for discharges of stormwater to the sewer system. Other development projects in the City would also be required to implement these standards and collectively, all new development would contribute to a decrease in combined sewer overflows and contribute to an improvement in the water quality of those discharges. Associated risks of flooding and exceeding the capacity of the combined sewer system would also be cumulatively decreased over time as stormwater is diverted from the combined sewer system. Therefore, potential cumulative impacts related to hydrology and water quality would be less than significant.

Mitigation: None required.

Q. Hazards and Hazardous Materials

Introduction and Methodology

This section presents the existing setting and potential impacts related to hazards and hazardous materials associated with the implementation of the Transit Center District Plan and Transit Tower. The Setting includes a definition of hazardous materials and waste, an overview of general environmental conditions in the Transit Center District Plan area with respect to the presence of hazardous materials and wastes, a general description of hazardous building materials likely to be present within the Plan area, and an overview of the relevant hazardous materials regulations that are applicable to the Plan area. Based on this information, impacts associated with the potential to be exposed to hazardous materials during construction and as a result of future land use changes due to implementation of the project are identified.

Environmental Setting

Hazardous materials, defined in Section 25501(o) of the California Health and Safety Code, are materials that, because of their "quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released to the workplace or environment." Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications as well as in residential areas to a limited extent.

A waste is any material that is relinquished, recycled, or inherently waste-like. Title 22 of the CCR, Chapter 11 (Identification and Listing of Hazardous Waste) contains regulations for the classification of hazardous wastes (22 CCR 66261.1, et seq.). A waste is considered a hazardous waste if it is toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases) in accordance with the criteria established in Article 3 of Chapter 11. Articles 4 and 4.1 also list specific hazardous wastes and Article 5 identifies specific waste categories, including federal Resource Conservation and Recovery Act (RCRA) hazardous wastes, non-RCRA hazardous wastes, extremely hazardous wastes, hazardous wastes of concern, and special wastes. If improperly handled and if released to the soil, groundwater, or air (in the form of vapors, fumes, or dust), hazardous materials and wastes can result in public health hazards.

The following potential sources of hazardous materials are present in the Plan area:

- fill materials, including those placed east of the historic high tide line;
- historic and existing uses of hazardous materials, and permitted handling of hazardous wastes;
- identified sites where soil or groundwater has been affected by a chemical release(s) from past or present land uses (referred to as "environmental cases" or "spill sites"); and
- hazardous building materials that were historically used in construction.

Fill Materials

As described Section IV.O, Geology and Soils, the majority of the Plan area is underlain by up to 25 feet of artificial fill. Filling of the Plan area began in the mid 1800s when development began. The Plan area is with the limits of the area destroyed by the fire following the 1906 earthquake. During reconstruction following the fire, many portions of the Plan area were covered with an additional layer of fill, locally known as earthquake fill. This earthquake fill generally consists of loose to dense sand with varying amounts of silt and building debris (including concrete, wood, and brick debris) and is present beneath most, if not all, of the Plan area. The fill materials were primarily obtained from dune sands and quarried rock (including serpentinite bedrock found in many areas of San Francisco), and also includes industrial refuse and building debris from the 1906 earthquake.

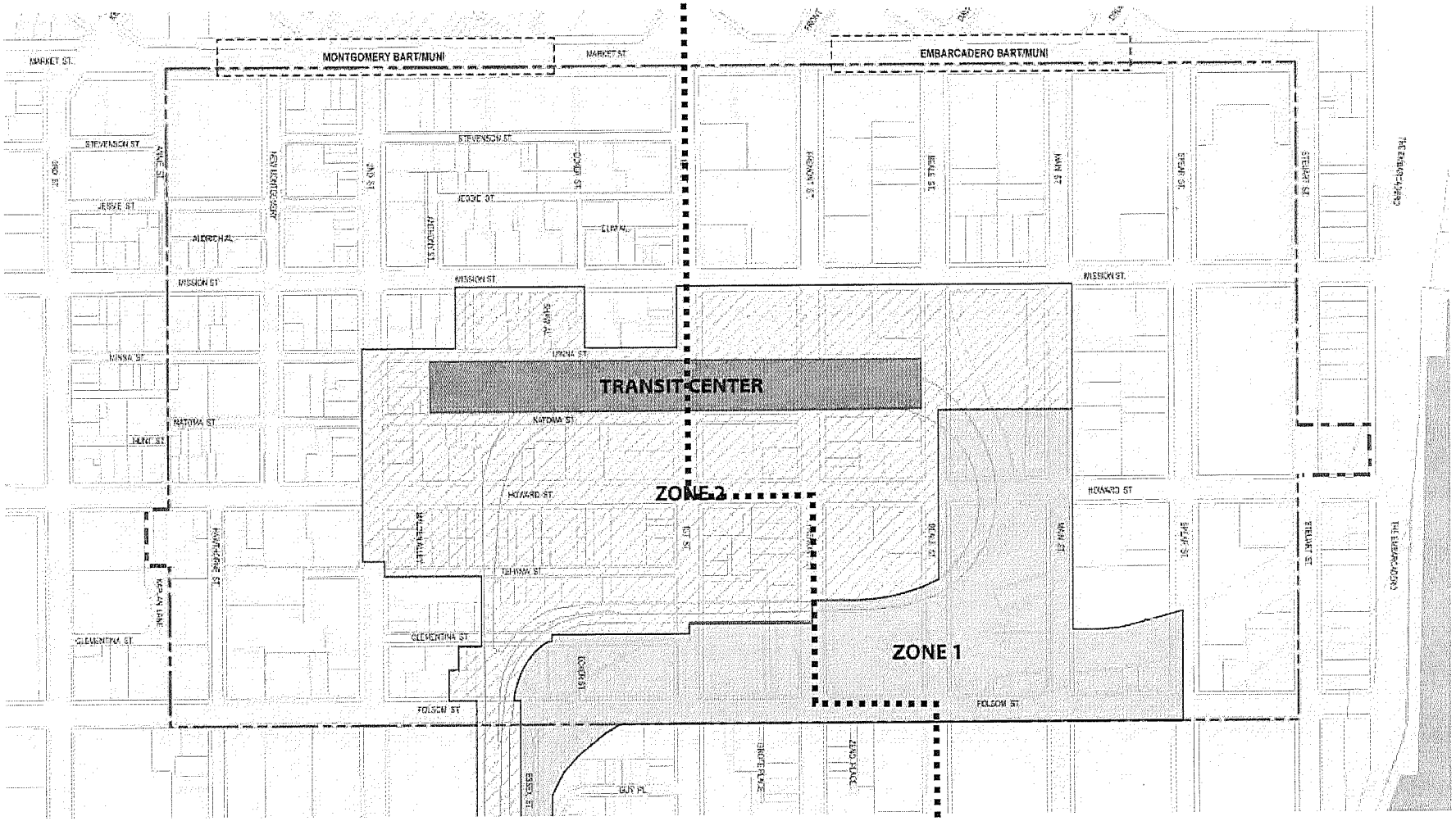
Hazardous materials used in the industries that were destroyed during the 1906 fire and earthquake were commonly incorporated into the building debris, which was then incorporated into the earthquake fill, and built upon during reconstruction. Because of this historical practice, the 1906 earthquake fill commonly contains polynuclear aromatic hydrocarbons,[440] heavy metals, oil and grease, and volatile organic compounds.[441] The existence of hazardous materials in the earthquake fill is one of the reasons for enactment of Article 22A of the *San Francisco Health Code* (previously referred to as the Maher Ordinance), which is described below under Regulatory Framework. Article 22A requires site assessments at specified sites located eastward of the historic high tide line where the land has been filled, unless a waiver is granted by the Director of the Department of Public Health (or designee). Depending on the results of the site assessments, mitigation can be required to clean up hazardous materials identified in the soil. The portion of the Plan area generally located east of First Street, including the proposed Transit Tower site and a portion of the planned new Transit Center itself, are located eastward of the historic high tide line as indicated in **Figure 74**, and development projects in these portions of the Plan area would be subject to the requirements of Article 22A.

Land Uses

Many of the historical uses of properties in the Plan area included hazardous materials, either in the building materials or in specific activities. Historical land uses in the Plan area, including foundries, lumber yards, metal working facilities, printing shops, gasoline service stations, auto repair shops, are commonly associated with the use of petroleum products, metals, solvents, creosote, and polychlorinated

440 Polynuclear aromatic hydrocarbons (PAHs) are group of chemicals that are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, such as tobacco and charbroiled meat. PAHs usually occur naturally, but they can be manufactured. A few PAHs are used in medicines and to make dyes, plastics, and pesticides. Others are contained in asphalt used in road construction. They can also be found in substances such as crude oil, coal, coal tar pitch, creosote, and roofing tar. They are found throughout the environment in the air, water, and soil. They can occur in the air, either attached to dust particles or as solids in soil or sediment.

441 Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids, such as paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment (i.e., copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions).



Plan Area

Historic High Tide Line (Area Bayward of Line is Subject to Article 22A)

SOURCE: San Francisco Planning Department; San Francisco Department of Public Works

Case Nos. 2007.0558E and 2008.0789E: Transit Center District Plan & Transit Tower . 207439

Figure 74

Area Subject to Article 22A of the San Francisco Health Code

biphenyls (PCBs).[442] Other historic land uses in the area include coal yards and coal gasification plants and coal storage yards. Historic coal yards or coal storage warehouses are a potential source of metals and polycyclic nuclear hydrocarbons. Manufactured gas plant (coal gasification) sites are also potential sources of crude oil, manufactured gas, ammonia, cyanide, and hydrogen.

Based on review of historical photographs, most of the Plan area was built out by the 1930s or earlier. Existing land uses area include primarily office and retail uses, as well as cultural and institutional uses and some residential buildings. There are no existing major industrial uses, and none of the Plan area is any longer zoned for industrial uses. No automobile service stations remain in the Plan area, and existing Plan area office, retail, and other uses are not typically associated with large-scale use of hazardous materials other than cleaning supplies, prepackaged materials for resale, photo-processing chemicals, or similar materials.

Permitted Hazardous Materials Uses

Permitted uses of hazardous materials include those facilities that historically used hazardous materials or currently use hazardous materials or handle hazardous wastes in accordance with current hazardous materials and hazardous waste regulations. Because the use and handling of hazardous materials at permitted sites are subject to strict regulation, the potential for a release of hazardous materials from these sites is considered low unless there is a documented chemical release at that same site. In such cases, the site would also be tracked in the environmental databases as an environmental case (described separately below). Permitted sites without documented releases are nevertheless potential sources of hazardous materials in the soil and/or groundwater (compared to sites where there are no hazardous materials) because of the potential for accidental spills, incidental leakage, or spillage that may have gone undetected.

An environmental database review[443] conducted for the Plan area identified over two hundred permitted users of hazardous materials, the vast majority of which have submitted hazardous wastes manifests to the California Department of Toxic Substances Control (DTSC) for off-site disposal of hazardous wastes such as photo-processing wastes. There are about 14 existing facilities with permitted underground storage tanks (USTs) in the Plan area (UST database), six facilities with above ground storage tanks (AST database) and five facilities that manufacture or import chemical substances (TSCA database). Permitted uses associated with handling of hazardous wastes include one large quantity generator, 30 small quantity generators and eight generators that do not currently generate hazardous wastes, permitted under RCRA (RCRA-LGQ, RCRA-SQG, and RCRA-NonGen databases), and about 210 facilities that have submitted hazardous waste manifests to DTSC for off-site disposal (HAZNET database). Finally, the database reported 37 facilities that report emissions to the Bay Area Air Quality Management District (AIRS database).

---

442 PSC Associates, Inc., Phase I Environmental Site Assessment, Transbay Redevelopment Plan, San Francisco, California. April 23, 1997.

443 Environmental Data Resources, 2008. The *EDR Radius Map Report with GeoCheck, 1st Street/Mission Street, San Francisco, CA, 94105*. June 11, 2008.

Environmental Cases and Spill Sites

Environmental cases relate to those sites that are suspected of releasing hazardous materials or have had cause for hazardous materials investigations and are identified on regulatory agency lists. Identification of hazardous materials in the soil or groundwater at these sites is generally due to site disturbance activities, such as removal or repair of a UST, a spill of hazardous materials, or excavation for new construction. The status of each environmental case varies and can be either active (ongoing investigations or remediation), closed (remediation or cleanup completed and approved by the regulatory agency), or unknown. However, the status can change with time, and new cases are periodically added to the databases. This discussion also identifies sites where a spill of hazardous materials was reported to state or federal agencies. Historic uses of hazardous materials noted in the database review for the Plan area, [444] including historic USTs, automobile service stations, dry cleaners, and manufactured gas plants are also included in this discussion because they were not subject to the same level of regulatory oversight as current uses and could have potentially resulted in historic release of hazardous materials.

The large majority of environmental cases identified by the environmental database review[445] conducted for the Plan area include 36 sites with leaking underground storage tanks (LUST database), which would generally involve a release of petroleum products. Many of these cases have been closed by the regulatory agencies, but could still include residual levels of petroleum products in the soil or groundwater depending on the cleanup levels approved by the regulatory agencies. Although the potential to encounter petroleum in the soil and/or groundwater near these sites depends on the extent of the release, remedial status of the individual site, and approved cleanup levels for closed sites, standard treatment and disposal methods are available for remediation of the petroleum products and these sites would not normally present a substantial barrier to development or an ongoing health risk once remediated.

The database review also identified two sites under the jurisdiction of the California Regional Water Quality Control Board (SLIC database), one site that has entered a voluntary cleanup agreement with DTSC[446] (VCP database), two potential hazardous waste sites identified by DTSC (Envirostor database), and six sites with administrative, enforcement, or compliance actions related to the Federal Insecticide, Fungicide, and Rodenticide Act (FTTS and HIST FTTS databases). Ten spill sites were identified in the Plan area (ERNS and CHRIMS databases). Historic uses of hazardous materials include nearly 50 sites with historic USTs (CA FID UST, HIST UST, and SWEEPS databases), 34 historical automobile service stations (EDR Historical Auto Stations database), 22 historical dry cleaners (EDR Historical Cleaners database), and a former manufactured gas plant (Manufactured Gas Plant database).

444 *Ibid.*
445 *Ibid.*
446 Voluntary cleanup agreements are a tool that allow responsible parties and others to remediate low-risk properties quickly and efficiently without the issuance of a regulatory order. They establish requirements for investigation and cleanup of a site. With a voluntary cleanup agreement, the responsible party must be able to fund these activities as well as the costs for DTSC oversight which allows the DTSC to prioritize low risk sites for future development.

The former manufactured gas plant site is located on the southern portion of the block bounded by First, Howard, Fremont, and Mission Streets. Although this site is not listed as under investigation by a regulatory agency, residues from former manufactured gas plant sites typically contain polynuclear aromatic hydrocarbons, petroleum hydrocarbons, benzene, cyanide, metals, and phenols which could have remained at the site and affected soil and groundwater quality.[447] The former manufactured gas plant (the San Francisco Gas Company, which operated at this site from 1854 until the 1890s) historically disposed of residual or waste material known as coal tar directly to the shallow waters of the old Yerba Buena Cove and fill material was deposited directly on top of the discharged coal tar during the filling of the cove. Coal tar residues are believed to be present in soil throughout the entire area of the former Yerba Buena Cove from First Street to The Embarcadero. This material is often encountered during excavations in areas near the former manufactured gas plant. Coal tar is known to exist on top of Bay Mud deposits along Beale Street from approximately Mission to Folsom Streets. The approximate depth to the top of the deposit is 10 to 12 feet at Beale Street, shallowing to the west and deepening to the east, although shallow deposits have also been encountered near The Embarcadero at Howard Street. The thickness of the coal tar deposits ranges from near zero along the fringes of the deposit and up to seven to 10 feet in the area of Beale and Howard Streets.

Within the Plan area, coal tar and coal tar residues have been encountered during investigation and construction of the two high-rise buildings along the southern side of the intersection of Howard and Beale Streets and beneath the foundation of the building on Fremont Street between Howard and Folsom Streets.

Environmental Conditions at Developer-Proposed Sites

Known environmental conditions at sites in the Plan area, based on an environmental assessment prepared for the Plan area,[448] include earthquake fill that is expected at many potential development sites. In addition, existing USTs are noted at 2 New Montgomery Street and USTs have been removed or closed at 148 Natoma Street, Mission and Main Streets, and 125 Stevenson Street. A soil investigation at 41 Tehama Street identified lead at concentrations requiring disposal of excavated soil as a hazardous waste. Hazardous materials have been left in place at 148 Natoma Street, and a hazardous materials management plan is in place to prevent human contact within these hazardous materials.

Environmental Conditions at Transit Tower Site

Based on the environmental database review and historical data reports prepared in support of the environmental assessment for the Plan area, historic land uses in 1887 (prior to the 1906 earthquake) included a mechanics mill, iron works, forge shop, brass works, machine shops, cabinet shop and lumber

447 United States Environmental Protection Agency, 1999. *A Resource for MGP Site Characterization and Remediation, Expedited Site Characterization and Source Remediation at Former Manufactured Gas Plant Sites.* May, 1999.

448 Treadwell & Rollo. Draft Environmental Assessment, Proposed EIR Development, Transit Center District Plan, San Francisco, California. September 1, 2008.

facility, and coppersmith. [449] All of these uses could have involved the use of hazardous materials such as petroleum products, metals, solvents, creosote, and PCBs. The site is also located approximately one block north of the former manufactured gas plant at First, Howard, Fremont and Natoma Streets. [450] In 1939, the site was converted to use as the passenger waiting and loading area in front of the then-new Transbay Terminal, as well as the Muni drop off/lay over area, and this use continued until demolition of the Transbay Terminal began in 2010. Review of city directory data from 1910 to 2005 does not indicate that there were land uses at this site during the intervening period that would have involved the use of hazardous materials.[451]

The Transit Tower site is partially located on the site of the former Transbay Terminal, which was identified as a leaking underground storage tank site (LUST database) and has also manifested hazardous wastes for off-site disposal (HAZNET database). [452] The leaking underground storage tank case involved a release of diesel from an underground storage tank that was contained in an intact 8-inch thick concrete vault. Soil affected by the release was removed and the case was closed in 1999. Hazardous wastes manifested for off-site disposal from the Transbay Terminal include liquids with a pH less than 2, other organic solids, other inorganic solid wastes, asbestos-containing waste, and a unspecified solvent mixture. A release of 6 gallons of muriatic acid was also reported at the terminal in 1994 (CHMIRS and ERNS databases).

Hazardous Building Materials

Hazardous building materials are included in this discussion because future development may involve demolition or renovation of existing structures that may contain hazardous building materials. Some building materials commonly used in older buildings could present a public health risk if disturbed during an accident or during demolition or renovation of an existing building. Hazardous building materials include asbestos, electrical equipment such as transformers and fluorescent light ballasts that contain PCBs or di (2 ethylhexyl) phthalate (DEHP), fluorescent lights containing mercury vapors, and lead-based paints. Asbestos and lead-based paint may also present a health risk to existing building occupants if they are in a deteriorated condition. If removed during demolition of a building, these materials would also require special disposal procedures.

Asbestos is a common name for a group of naturally occurring fibrous silicate minerals that are made up of thin but strong, durable fibers. Because of its physical properties, asbestos was commonly used until the 1970s as a building material, including use as insulation materials, shingles and siding, roofing felt, floor tiles, and acoustical ceiling material. Asbestos is a known carcinogen and presents a public health

449 Environmental Data Resources, 1st Street/Mission Street, San Francisco, CA, 94105. Certified Sanborn Map Report. Inquiry Number: 2241174.3s. June 12, 2008.

450 Environmental Data Resources, 1st Street/Mission Street, San Francisco, CA, 94105, The EDR Radius Map Report with GeoCheck Inquiry Number: 2241174.2s. June 11, 2008.

451 Environmental Data Resources, 1st Street/Mission Street, San Francisco, CA, 94105.The EDR-City Directory Abstract. Inquiry Number: 2241174.6. June 12, 2008.

452 Environmental Data Resources, 1st Street/Mission Street, San Francisco, CA, 94105, The EDR Radius Map Report with GeoCheck. Inquiry Number: 2241174.2s. June 11, 2008.

hazard if it is present in friable (easily crumbled) form. Long-term, chronic inhalation of high levels of asbestos can cause lung diseases such as asbestosis, mesothelioma, and/or lung cancer.[453] Friable, finely divided and powdered waste containing greater than 1 percent asbestos is classified in the California Code of Regulations (CCR) as a hazardous waste that requires disposal at a licensed landfill (22 CCR 66261.24). Wastes containing non-friable asbestos are not considered hazardous and are not subject to regulation under 22 CCR 66001, et seq.

PCBs are mixtures of synthetic organic chemicals with physical properties ranging from oily liquids to waxy solids. Because of their nonflammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used historically in hundreds of industrial and commercial applications, including use in electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastic, and rubber compounds; in pigments, dyes, and carbonless copy paper; and many other applications. PCBs are a known human carcinogen; they are highly toxic substances that remain persistent in the environment, accumulate in biological systems, interfere with the reproductive system, and act as immuno-suppressants. Under Section 6(e) of the Toxic Substance Control Act (TSCA) (15 USC 2601, et seq.), Congress began regulating the use and manufacturing of PCBs in 1976, legislating "cradle to grave" (i.e., from manufacture to disposal) management of PCBs in the United States. Under the TSCA, the U.S. Environmental Protection Agency (EPA) began to impose bans on PCB manufacturing and sales and on most PCB uses in 1978. TSCA requires incineration or an alternative destruction method for oils containing PCB concentrations greater than 50 parts per million (ppm) and requires that free liquids be drained from electrical equipment prior to disposal, and that the liquids are appropriately disposed of. In California, PCB wastes are regulated as hazardous waste if the PCB concentration exceeds 50 ppm or the soluble concentration exceeds 5 ppm as oily liquid (22 CCR 66261.24).

Most fluorescent light ballasts manufactured before 1978 contain PCBs in their capacitor and potting material. Ballasts manufactured after January 1, 1978, do not contain PCBs and should be labeled as such on the ballast. Approved disposal methods for PCB-containing ballasts depend on the condition of the ballast and the PCB content of the potting material and capacitor oil. If the PCB concentration of the potting material is less than 50 ppm and the ballast contains a small, intact, non-leaking capacitor, the ballast may be disposed of at a municipal landfill. In general, all leaking ballasts and ballasts containing potting material with PCB concentrations greater than or equal to 50 ppm must be incinerated or destroyed by alternative methods, disposed of in a hazardous waste landfill, or decontaminated using approved methods.

Between 1979 and the early 1990s, DEHP was used in place of PCB as a dielectric fluid in some fluorescent light ballasts and other electrical equipment.[454] DEHP is classified as a probable human carcinogen by the U.S. Department of Health and Human Services and as a hazardous substance by the

[453] Agency for Toxic Substances and Disease Registry. Asbestos. Available online at <www.atsdr.cdc.gov/asbestos/asbestos/health_effects/>. December 12, 2010.
[454] Green Lights Recycling, Inc. Ballasts Facts. Accessed at www.greenlightsrecycling.com/ballast%20Facts.htm. December 12, 2010.

EPA. Because of this, ballasts containing DEHP must be legally disposed of; ballast incineration or a combination of ballast recycling and incineration are recommended for complete destruction of DEHP.

Spent fluorescent lamps and tubes commonly contain mercury vapors and are considered a hazardous waste in California (22 CCR 66261.50). In 2004, new regulations classified all fluorescent lamps and tubes in California as a hazardous waste because they contain mercury. When these lamps or tubes are placed in the trash and collected for disposal, they can be broken and release mercury to the environment. The mercury can be absorbed through the lungs into the bloodstream of people nearby and can be washed by rain into waterways. The mercury in urban storm water sediment results in part from improperly discarded fluorescent lamps and tubes.[455] Approximately 370 pounds of mercury were released in California in 2000 due to electric lamps and tubes breaking during storage and transportation. It is estimated that nearly 75 million waste fluorescent lamps and tubes are generated annually in California and these lamps and tubes contain more than half a ton of mercury. Because they are considered a hazardous waste, all fluorescent lamps and tubes must be recycled or taken to a so-called "universal waste" handler.

Lead-based paint was commonly used prior to 1960 and is likely present in buildings constructed before 1960. Lead is toxic to humans, particularly young children, and can cause a range of human health effects, depending on the level of exposure. When adhered to the surface of the material on which it is painted, lead-based paint poses little health risk. Where the paint is delaminated or chipping, the paint can cause a potential threat to the health of young children or other building occupants who may ingest the paint. Lead dust could also present public health risks during demolition of a structure with lead-based paint. Lead-based paint that has separated from a structure may also contaminate nearby soil. Lead-based paint is defined by 17 CCR 35033 as paint containing lead at a concentration of 5,000 mg/kg (0.5 percent) or greater. Separated paint would be considered a hazardous waste if the lead concentration exceeds the total threshold limit of 1,000 mg/kg, if the soluble lead concentration exceeds the soluble threshold limit concentration of 5 mg/L, or the federal toxicity regulatory level of 5 mg/L (22 CCR 66261.24).

Regulatory Framework

Hazardous materials and hazardous wastes are subject to extensive federal, state, and local regulations, with the major objective of protecting public health and the environment. In general, these regulations define hazardous materials; establish reporting requirements; set guidelines for handling, storage, transport, remediation, and disposal of hazardous wastes; and require health and safety provisions for workers and the public. The major federal, state, and regional agencies enforcing these regulations include the EPA (federal); the Department of Toxic Substances Control (DTSC), the State Water Resources Control Board and the California RWQCB (state); and the Bay Area Air Quality Management District (BAAQMD) (regional). The San Francisco Department of Public Health (DPH) often acts as lead agency to ensure proper remediation of LUST sites and other contaminated sites in San Francisco.

455 California Integrated Waste Management Board. *Waste Prevention Information Exchange: Fluorescent Lamps and Tubes*. Accessed at http://www.calrecycle.ca.gov/ReduceWaste/FluoresLamps. December 12, 2010.

City Hazardous Materials Regulations

Local regulations that have been enacted to address the potential to encounter hazardous materials in the soil at development sites and the safe handling of hazardous materials (including hazardous wastes). The following sections of the *San Francisco Health Code*, briefly summarized below, could apply to sites to be developed or reused in the Plan area. These include Article 22A (Analyzing the Soil for Hazardous Waste, formerly the Maher Ordinance), Article 21 (Hazardous Materials), Article 21A (Risk Management Program), and Article 22 (Hazardous Waste Management).

Under Article 22A, construction of projects located bayward of the historic high tide line that would involve excavation of greater than 50 cubic yards of soil requires preparation a site history to identify whether past uses might have cause contamination, characterization of on-site soils, and preparation of a site mitigation plan if contamination is identified. The soil analysis report is submitted to the San Francisco Department of Public Health (DPH), California Department of Toxic Substances Control (DTSC) and California Regional Water Quality Control Board (RWQCB). The measures recommended in the site mitigation plan must be completed during construction. If hazardous materials remain in the soil or groundwater, DPH approval of the site mitigation may be conditioned upon submittal of a Risk Management Plan, Health and Safety Plan, and possibly a Cap Maintenance Plan to prevent exposure to hazardous materials in the soil or groundwater after construction of the project. DPH may also require compliance with Article 22A at sites westward of the historic high tide line if the department has reason to believe that hazards wastes may be present in the soil at the property.

Article 21 of the *Health Code* provides for safe handling of hazardous materials in the City. It requires any person or business that handles, sells, stores, or otherwise uses specified quantities of to keep a current certificate of registration and to implement a hazardous materials business plan. A special permit is required for USTs. (This article also incorporates state tank regulations.).

Article 21A of the *Health Code* provides for safe handling of federally regulated hazardous, toxic, and flammable substances in the City, requiring businesses that use these substances to register with DPH and prepare a Risk Management Plan that includes an assessment of the effects of an accidental release and programs for preventing and responding to an accidental release.

Article 22 of the *Health Code* provides for safe handling of hazardous wastes in the City. It authorizes DPH to implement the state hazardous waste regulations, including authority to conduct inspections and document compliance.

In addition, construction, demolition, or renovation work that results in disturbance of lead-based paint or asbestos must comply with Section 3423 of the San Francisco Building Code (Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures) and Section 3424 of the San Francisco Building Code (Asbestos Information and Notice).

Brownfields Reuse

Properties with abandoned, idled, or underused industrial and commercial facilities are referred to as brownfields, where redevelopment or expansion is complicated by suspected or identified past pollution. Historically, the development potential of these sites has adversely affected the unknown costs associated with cleanup of existing contamination and because of the potential for assuming the long-term liability associated with contamination at a property. Both the federal government and the state have developed "Brownfield Initiatives" to reduce or eliminate barriers to development of these properties, including the California Land Reuse and Revitalization Act, which took effect, for five years only, on January 1, 2005. This law allows some landowners to obtain immunity from liability for certain hazardous materials response costs and other damages if they assess and clean up the property as necessary and enter into an agreement with a regulatory oversight agency for the implementation of assessments and response actions. Specific public participation requirements apply to response actions conducted. Senate Bill 143 extended the repeal date for this act to January 1, 2017.[456]

Impact Analysis

Significance Criteria

The proposed project would have a significant hazardous materials impact if it were to:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving fires.

456 California Department of Toxic Substances Control, *Legislative Mandates 2009, A Compilation of New Mandates and Statutory Changes Affecting DTSC Programs.* November, 2009.

Project Impacts

Neither the draft Plan nor the proposed Transit Tower are located within two miles of an airport or private air strip and therefore would not interfere with air traffic or create safety hazards in the vicinity of an airport. Therefore, these two criteria are not applicable, and are not further discussed below. There are no schools elementary, middle, or high schools within one-quarter mile of the Plan area. Therefore, the criterion concerning hazardous emissions and materials within one-quarter mile of an existing or planned school is not applicable. (However, see Section IV.G, Air Quality, concerning effects related to emissions of toxic air contaminants.)

Impact Analysis: Transit Center District Plan

Impact HZ-1: Implementation of the Transit Center District Plan would not create a significant hazard through routine transport, use, or disposal of hazardous materials. (Less than Significant)

The draft Plan would result in new planning policies and controls for land use, including the potential creation of a district-wide combined heat and power (cogeneration) system. Most of the new land uses developed as a result of Plan implementation would likely handle common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the residential areas, and commercial bathrooms and food preparation areas. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. However, the cogeneration facility, if implemented, could involve the use of additional hazardous materials such as petroleum products and solvents. Because this system is not designed, subsequent CEQA review would be required.

Similar to existing conditions, any business that handles or stores hazardous materials or petroleum products above threshold quantities would be required to comply with the requirements of the City's hazardous materials handling requirements specified in Article 21 of the *San Francisco Health Code* (discussed in the Setting). In accordance with this article, any facility that handles hazardous materials in excess of specified quantities would be required to obtain a Certificate of Registration from DPH and to implement a Hazardous Materials Business Plan that includes inventories, a program for reducing the use of hazardous materials and generation of hazardous wastes, site layouts, a program and implementation plan for training all new employees and annual training for all employees, and emergency response procedures and plans.

Facilities that store petroleum products in USTs would be required to obtain a permit for the UST in compliance with Article 21 of the *Health Code* and to comply with the regulatory requirements for inspection, monitoring, and secondary containment of USTs. Facilities that store petroleum products in above-ground tanks (ASTs) beyond a specified size would be required to submit a storage statement to the State Water Resources Control Board and prepare a Spill Prevention Control and Countermeasure Plan. In the unlikely event of a leak or tank rupture from a UST or AST, the spill would likely be contained within the secondary containment system for the tank.

In addition, DPH implements its Risk Management and Prevention Program specified in Article 21A of the *Health Code* and requires businesses that handle regulated substances to prepare a written Risk Management Plan. Similarly, any new businesses that handle hazardous waste must comply with the City's hazardous waste handling requirements specified in *Health Code* Article 22.

Compliance with the *San Francisco Health Code*, which incorporates state and federal requirements, would minimize potential exposure of site personnel and the public to any accidental releases of hazardous materials or waste and would also protect against potential environmental contamination. In addition, transportation of hazardous materials is well regulated by the California Highway Patrol and the California Department of Transportation. Therefore, the potential impacts related to the routine use, transport, and disposal of hazardous materials associated with plan implementation would be less than significant.

Mitigation: None required.

Impact HZ-2: Excavation in the Transit Center District Plan area would require the handling of potentially contaminated soil and groundwater, potentially exposing workers and the public to hazardous materials, or resulting in a release to the environment during construction. (Less than Significant with Mitigation)

As discussed in the Setting, most if not all of the Plan area is underlain by 1906 earthquake fill which commonly contains polynuclear aromatic hydrocarbons, heavy metals, oil and grease, and volatile organic compounds. In addition, many of the historical uses of properties in the Plan area would have involved the use of hazardous materials, including foundries, lumber yards, metal working facilities, printing shops, gasoline service stations, auto repair shops, that are commonly associated with the use of petroleum products, metals, solvents, creosote, and PCBs. There are also historic coal yards and coal storage warehouses that are a potential source of metals and polycyclic nuclear hydrocarbons, and a former manufactured gas plant sites that is a potential source of crude oil, manufactured gas, ammonia, cyanide, and hydrogen. Other historic land uses identified by the environmental database review for the project include nearly 50 sites with historic USTs (CA FID UST, HIST UST, and SWEEPS databases), 34 historical automobile service stations (EDR Historical Auto Stations database), 22 historical dry cleaners (EDR Historical Cleaners database).

The former manufactured gas plant site at First, Howard, Fremont and Natoma Streets disposed of residual or waste material known as coal tar directly to the shallow waters of the old Yerba Buena Cove and fill material was deposited directly on top of the discharged coal tar during the filling of the cove. Coal tar residues are believed to be present in soil throughout the entire area of the former Yerba Buena Cove from First Street to The Embarcadero. Therefore, this material is often encountered during excavations in areas near the former manufactured gas plant. Coal tar is known to exist on top of Bay Mud deposits along Beale Street from approximately Mission to Folsom Streets. The approximate depth to the top of the deposit is 10 to 12 feet at Beale Street, shallowing to the west and deepening to the east,

although shallow deposits have also been encountered near The Embarcadero at Howard Street. The thickness of the coal tar deposits varies. The thickness is near zero along the fringes of the deposit, and is 7 to 10 feet in the area of Beale and Howard Streets.

In addition to these historic land uses and fill practices that could have resulted in contamination of soil and groundwater and deposits of waste within the Plan area, there are a number of environmental cases with documented soil or contamination, including 36 sites with leaking underground storage tanks (LUST database), which would generally involve a release of petroleum products; two sites under the jurisdiction of the California Regional Water Quality Control Board (SLIC database); one site that has entered a voluntary cleanup agreement with DTSC (VCP database); two potential hazardous waste sites identified by DTSC (Envirostor database); and six sites with administrative, enforcement, or compliance actions related to the Federal Insecticide, Fungicide, and Rodenticide Act (FTTS and HIST FTTS databases). Ten spill sites were identified in the Plan area (ERNS and CHRIMS databases). The potential to encounter soil and/or groundwater contamination near these sites depends on the extent of the release, remedial status of the individual site, and approved cleanup levels for closed sites.

Existing permitted hazardous materials uses could also potentially contribute to soil or groundwater contamination in the Plan area, including 14 facilities with permitted underground storage tanks (UST database), six facilities with above ground storage tanks (AST database), five facilities that manufacture or import chemical substances (TSCA database); and hazardous waste handlers permitted under RCRA (one large quantity generator, 30 small quantity generators and eight generators that do not currently generate hazardous wastes; RCRA-LGQ, RCRA-SQG, and RCRA-NonGen databases).

Workers and the public could be exposed to hazardous materials during closure of hazardous materials handling facilities and USTs, during construction within contaminated materials, and during disposal of contaminated materials as a result of Plan implementation. Impacts related to these activities are discussed below.

Closure of hazardous materials handling facilities and USTs. Impacts related to closure of hazardous materials handling facilities and USTs would be less than significant with compliance with regulations. Facilities undergoing closure would be required to comply with Article 21 of the *San Francisco Health Code* to reduce the potential for hazardous materials to be left in place. Compliance would include preparation and implementation of a closure plan addressing the need for further maintenance of the closed facility; methods to ensure that the threat to public health and the environment from residual hazardous materials is eliminated; and methods to ensure that hazardous materials used at the facility are appropriately removed, disposed of, neutralized, or reused. The closure plan would be submitted to DPH for approval and upon submittal; DPH may add additional requirements for closure. Where a release is discovered, investigation and cleanup could be required under the oversight of the Local Oversight Program. In this case, a corrective action plan may be required and DPH would determine the adequacy of the plan and may also request state or federal agency review. The DPH findings would be published for public review.

If removal of a permitted or previously unidentified abandoned or no longer used UST is required, the tank would be closed in accordance with Article 21 of the *San Francisco Health Code*. A closure plan, identifying appropriate requirements for disposition of any remaining hazardous materials in the tank and the tank, would be submitted to the City for approval prior to removal of the UST. Soil from the UST excavation, and possibly the groundwater, would also be sampled in accordance with Article 21. Upon completion of closure, a release or contamination report would be submitted to DPH if a release were indicated on the basis of visual observations or sampling, and a final report documenting tank removal activities and any residual contamination left in place would be submitted to the City. Upon approval of this report, the City would issue a Certificate of Completion. If a release were indicated, the site owner would be required to submit a corrective action plan, including a community health and safety plan, to DPH and RWQCB, and remediation would be required in accordance with federal, state and local regulations. Alternatively, the tank could be abandoned in place if removal were infeasible.

Construction within contaminated materials. Based on the number of historic and current land uses in the Plan area that involved hazardous materials, the presence of earthquake fill throughout most of the area, the documented presence of coal tar wastes throughout portions of the area, and the number of environmental cases within the area, there is a high potential to encounter soil and groundwater contamination during construction activities associated with implementation of the draft Plan. Without implementation of proper precautions, workers or the community could be exposed to hazardous materials during excavation, grading, and dewatering, or during related site investigation and remediation. Vapors, if present, could also accumulate in structures constructed as a result of Plan implementation, causing nuisance vapors, adverse health effects, or flammable or explosive conditions. Therefore, impacts associated with construction within contaminated soil and groundwater are potentially significant. Implementation of **Mitigation Measure M-HZ-2, Site Assessment and Corrective Action**, would reduce this impact to a less-than-significant-level by requiring appropriate assessment of the potential for contaminated soil or groundwater, and requiring implementation of site investigation and remediation activities should the potential for contamination be identified.

Disposal of contaminated materials. Where remediation or tank removal requires off-site transport of contaminated soil or groundwater, these materials could be classified as a restricted or hazardous waste under state or federal regulations depending on the specific characteristics of the materials. However, the generator of the hazardous wastes would be required to follow state and federal regulations for manifesting the wastes, using licensed waste haulers, and disposing the materials at a permitted disposal or recycling facility. With compliance with these regulatory requirements, impacts related to disposal of hazardous wastes would be less than significant.

As noted in Section O, Geology, Soils, and Seismicity, the groundwater level in the Plan Area is expected at about 8 to 20 feet below ground surface. Because individual development projects that could be proposed and approved pursuant to the proposed zoning controls would include construction of foundations and/or below ground parking garages that could extend below this depth, dewatering likely would be necessary for some projects during construction. However, the draft Plan would allow for capture of this groundwater and reuse for non-potable uses. If any groundwater produced during

construction dewatering required discharge to the combined sewer system, the discharge would be conducted in compliance with Article 4.1 of the *San Francisco Public Works Code*, as supplemented by Order No. 158170, which specifies conditions and criteria for discharge of groundwater (see Section O., Hydrology and Water Quality for further discussion of Article 4.1 and Order No. 158170). This article also prohibits discharge of hazardous wastes into the combined sewer system. The discharged water would have to be sampled during dewatering to demonstrate that discharge limitations in the ordinance are met. If the groundwater does not meet discharge requirements, on-site pretreatment may be required before discharge to the sewer system. If standards could not be met with on-site treatment, off-site disposal by a certified waste hauler would be required. With implementation of these regulatory requirements, impacts related to the discharge of contaminated groundwater would be less than significant.

Mitigation Measures

Many of the potential development sites are located bayward of the historic high tide line, and would be subject to Article 22A of the *San Francisco Health Code* and many are not (see Figure 74, p. 627). While the assessment of the potential for contamination and implementation of corrective actions at all sites would be similar, they would differ slightly based on specific regulatory requirements. Therefore, the following mitigation measures specify requirements that apply differently to sites that are located bayward of the high tide line and those that are not. In addition, these measures specify requirements for the assessment of vapors that apply to all sites within the Plan area.

M-HZ-2a: **Site Assessment and Corrective Action for Sites Located Bayward of Historic Tide Line.** For any project located bayward of the historic high tide line the project sponsor shall initiate compliance with, and ensure that the project fully complies with, Article 22A of the *San Francisco Health Code*. In accordance with this article, a site history report shall be prepared, and if appropriate, a soil investigation, soil analysis report, site mitigation plan, and certification report shall also be prepared. If the presence of hazardous materials is indicated, a site health and safety plan shall also be required. The soil analysis report is submitted to DPH. If required on the basis of the soil analysis report, a site mitigation plan shall be prepared to 1) assess potential environmental and health and safety risks; 2) recommend cleanup levels and mitigation measures, if any are necessary, that would be protective of workers and visitors to the property; 3) recommend measures to mitigate the risks identified; 4) identify appropriate waste disposal and handling requirements; and 5) present criteria for on-site reuse of soil. The recommended measures would be completed during construction. Upon completion, a certification report shall be prepared documenting that all mitigation measures recommended in the site mitigation report have been completed and that completion of the mitigation measures has been verified through follow-up soil sampling and analysis, if required.

If the approved site mitigation plan includes leaving hazardous materials in soil or the groundwater with containment measures such as landscaping or a cap to prevent

exposure to hazardous materials, the project sponsor shall ensure the preparation of a risk management plan, health and safety plan, and possibly a cap maintenance plan in accordance with DPH requirements. These plans shall specify how unsafe exposure to hazardous materials left in place would be prevented, as well as safe procedures for handling hazardous materials should site disturbance be required. DPH could require a deed notice, for example, prohibiting or limiting certain future land uses, and the requirements of these plans and the deed restriction would transfer to the new property owners in the event that the property was sold.

M-HZ-2b: **Site Assessment and Corrective Action for Projects Landward of the Historic High Tide Line.** For any project that is not located bayward of the historic high tide line, the project sponsor shall ensure that a site-specific Phase I environmental site assessment is prepared prior to development. The site assessment shall include visual inspection of the property; review of historical documents; and review of environmental databases to assess the potential for contamination from sources such as underground storage tanks, current and historical site operations, and migration from off-site sources. The project sponsor shall ensure that the Phase I assessment and any related documentation is provided to the Planning Department's Environmental Planning (EP) division and, if required by EP, to DPH for review and consideration of potential corrective action.

Where the Phase I site assessment indicates evidence of site contamination, additional data shall be gathered during a Phase II investigation, including sampling and laboratory analysis of the soil and groundwater for the suspected chemicals to identify the nature and extent of contamination. If the level(s) of chemical(s) would create an unacceptable risk to human health or the environment, appropriate cleanup levels for each chemical, based on current and planned land use, shall be determined in accordance with accepted procedures adopted by the lead regulatory agency providing oversight (e.g., the DTSC, the RWQCB, or DPH). At sites where there are ecological receptors such as sensitive plant or animal species that could be exposed, cleanup levels shall be determined according to the accepted ecological risk assessment methodology of the lead agency, and shall be protective of ecological receptors known to be present at the site.

If agreed-upon cleanup levels were exceeded, a remedial action plan or similar plan for remediation shall be prepared and submitted review and approval by the appropriate regulatory agency. The plan shall include proposed methods to remove or treat identified chemicals to the approved cleanup levels or containment measures to prevent exposure to chemicals left in place at concentrations greater than cleanup levels.

Upon determination that a site remediation has been successfully completed, the regulatory agency shall issue a closure letter to the responsible party. For sites that are cleaned to levels that do not allow unrestricted land use, or where containment measures were used to prevent exposure to hazardous materials, the DTSC may require a

limitation on the future use of the property. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners. A risk management plan, health and safety plan, and possibly a cap maintenance plan could be required. These plans would specify procedures for preventing unsafe exposure to hazardous materials left in place and safe procedures for handling hazardous materials should site disturbance be required. The requirements of these plans and the land use restriction shall transfer to the new property owners in the event that the property is sold.

- M-HZ-2c: **Site Assessment and Corrective Action for All Sites.** The project sponsor shall characterize the site, including subsurface features such as utility corridors, and identify whether volatile chemicals are detected at or above risk screening levels in the subsurface. If so, a screening evaluation shall be conducted in accordance with guidance developed by the DTSC[457] to estimate worst case risks to building occupants from vapor intrusion using site specific data and conservative assumptions specified in the guidance. If an unacceptable risk were indicated by this conservative analysis, then additional site data shall be collected and a site specific vapor intrusion evaluation, including fate and transport modeling, shall be required to more accurately evaluate site risks. Should the site specific evaluation identify substantial risks, then additional measures shall be required to reduce risks to acceptable levels. These measures could include remediation of site soil and/or groundwater to remove vapor sources, or, should this be infeasible, use of engineering controls such as a passive or active vent system and a membrane system to control vapor intrusion. Where engineering controls are used, a deed restriction shall be required, and shall include a description of the potential cause of vapors, a prohibition against construction without removal or treatment of contamination to approved risk-based levels, monitoring of the engineering controls to prevent vapor intrusion until risk-based cleanup levels have been met, and notification requirements to utility workers or contractors who may have contact with contaminated soil and groundwater while installing utilities or undertaking construction activities. In addition, if remediation is necessary, the project sponsor shall implement long-term monitoring at the site as needed. The frequency of sampling and the duration of monitoring will depend upon site-specific conditions and the degree of volatile chemical contamination.

  The screening level and site-specific evaluations shall be conducted under the oversight of DPH and methods for compliance shall be specified in the site mitigation plan prepared in accordance with this measure, and subject to review and approval by the DPH. The deed restriction, if required, shall be recorded at the San Francisco Office of the Assessor-Recorder after approval by the DPH and DTSC.

Level of Significance after Mitigation

Implementation of Mitigation Measure M-HZ-2 would reduce impacts related to contamination at sites of future development under the draft Plan to a less-than-significant level.

---

457 California Department of Toxic Substances Control, *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*. October 2011.

Impact HZ-3: Demolition and renovation of buildings in the Transit Center District Plan area could potentially expose workers and the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, DEHP, and mercury, or result in a release of these materials to the environment during construction. (Less than Significant with Mitigation)

As discussed in the Setting, most of the Plan area was developed by the 1930s or earlier; therefore, many of the existing buildings may contain hazardous building materials including asbestos-containing materials, lead-based paint, and electrical equipment containing PCBs. Most of the buildings could also include fluorescent light ballasts containing PCBs or DEHP, and fluorescent light tubes containing mercury vapors. All of these materials were commonly employed until the second half of the 20th century. If a building is demolished or renovated as a result of plan implementation, workers and the public could be exposed to hazardous building materials if they were not abated prior to demolition. However, as discussed below, there is a well established regulatory framework for the abatement of asbestos-containing materials and lead-based paint, and impacts related to exposure to these hazardous building materials would be less than significant with compliance with regulatory requirements. Impacts related to exposure to other hazardous building materials would be potentially significant, and mitigation to reduce this impact to a less-than-significant level is identified below.

Asbestos Containing Materials. Section 19827.5 of the *California Health and Safety Code* requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable Federal regulations regarding hazardous air pollutants, including asbestos. The Bay Area Air Quality Management District (BAAQMD) is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or abatement work.

Notification includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished/altered including size, age and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. The District randomly inspects asbestos removal operations. In addition, the District will inspect any removal operation when a complaint has been received.

The local office of the State Occupational Safety and Health Administration (Cal-OSHA) must be notified of asbestos abatement to be carried out. Asbestos abatement contractors must follow state regulations contained in 8CCR1529 and 8CCR341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos-containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the Office of the California Department of Health Services in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material

from the site and the disposal of it. Pursuant to California law, DBI would not issue the required permit until the applicant has complied with the notice and abatement requirements described above.

These regulations and procedures, already established as a part of the permit review process, would ensure that any potential impacts due demolition or renovation of structures with asbestos-containing materials would be less than significant.

Lead-based Paint. Work that could result in disturbance of lead paint must comply with Section 3423 of the *San Francisco Building Code*, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Where there is any work that may disturb or remove lead paint on the exterior of any building built prior to 1979, Section 3423 requires specific notification and work standards, and identifies prohibited work methods and penalties. (The reader may be familiar with notices commonly placed on residential and other buildings in San Francisco that are undergoing re-painting. Generally affixed to a drape that covers all or portions of a building, these notices are a required part of the Section 3423 notification procedure.)

Section 3423 applies to the exterior of all buildings or steel structures on which original construction was completed prior to 1979 (which are assumed to have lead-based paint on their surfaces, unless demonstrated otherwise through laboratory analysis), and to the interior of residential buildings, hotels, and childcare centers. The ordinance contains performance standards, including establishment of containment barriers, at least as effective at protecting human health and the environment as those in the U.S. Department of Housing and Urban Development Guidelines (the most recent Guidelines for Evaluation and Control of Lead-Based Paint Hazards) and identifies prohibited practices that may not be used in disturbances or removal of lead-based paint. Any person performing work subject to the ordinance shall, to the maximum extent possible, protect the ground from contamination during exterior work; protect floors and other horizontal surfaces from work debris during interior work; and make all reasonable efforts to prevent migration of lead paint contaminants beyond containment barriers during the course of the work. Clean-up standards require the removal of visible work debris, including the use of a High Efficiency Particulate Air Filter (HEPA) vacuum following interior work.

The ordinance also includes notification requirements and requirements for signs. Prior to the commencement of work, the responsible party must provide written notice to the Director of DBI, of the address and location of the project; the scope of work, including specific location; methods and tools to be used; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential, owner-occupied or rental property; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. (Further notice requirements include Sign when containment is required, Requirements for sign when containment is required; Notice to occupants, Availability of pamphlet related to protection from lead in the home, and Early Commencement of Work [Requested by Tenant]). The ordinance contains provisions regarding inspection and sampling for compliance by DBI, and enforcement, and describes penalties for non-compliance with the requirements of the ordinance.

These regulations and procedures of the *Building Code* would ensure that potential impacts of demolition or renovation of structures with lead-based paint would be less than significant.

Other Hazardous Building Materials. Other hazardous building materials that could be present within the Plan area include electrical transformers that could contain PCBs, fluorescent light ballasts that could contain PCBs or DEHP, and fluorescent light tubes that could contain mercury vapors. Disruption of these materials could pose health threats for construction workers if not properly disposed of, a potentially significant impact. However, implementation of **Mitigation Measure M-HZ-3, Hazardous Building Materials Abatement**, would require that the presence of such materials be evaluated prior to demolition or renovation and, if such materials were present, that they be properly handled during removal and building demolition or renovation. This would reduce the potential impacts of exposure to these hazardous building materials to a less-than-significant level.

Mitigation Measure

M-HZ-3: **Hazardous Building Materials Abatement.** The project sponsor of any development project in the Plan area shall ensure that any building planned for demolition or renovation is surveyed for hazardous building materials including PCB-containing electrical equipment, fluorescent light ballasts containing PCBs or DEHP, and fluorescent light tubes containing mercury vapors. These materials shall be removed and properly disposed of prior to the start of demolition or renovation. Old light ballasts that are proposed to be removed during renovation shall be evaluated for the presence of PCBs and in the case where the presence of PCBs in the light ballast cannot be verified, they shall be assumed to contain PCBs, and handled and disposed of as such, according to applicable laws and regulations. Any other hazardous building materials identified either before or during demolition or renovation shall be abated according to federal, state, and local laws and regulations.

Level of Significance after Mitigation

Implementation of Mitigation Measure M-HZ-3 would reduce impacts related to hazardous building materials under the draft Plan to a less-than-significant level.

Impact HZ-4: Implementation of the Transit Center District Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

Occupants of new buildings that would be constructed as a result of implementation of the draft Plan could contribute to congestion if an emergency evacuation of the Downtown neighborhood were required. However, Section 12.202(e)(1) of the *San Francisco Fire Code* requires that all owners of high-rise buildings (over 75 feet) "shall establish or cause to be established procedures to be followed in case of fire or other emergencies. All such procedures shall be reviewed and approved by the chief of division."

Additionally, project construction would have to conform to the provisions of the *Building Code* and *Fire Code* which require additional life-safety protections for high-rise buildings.

Although not "adopted" by legislative action, the City has a published Emergency Response Plan, prepared by the Department of Emergency Management as part of the City's Emergency Management Program, which also includes plans for hazard mitigation and disaster preparedness and recovery.[458] The Emergency Response Plan identifies hazards to which San Francisco is particularly susceptible as earthquake, hurricane, tsunami, flood, winter storm, and act of terrorism, including use of chemical, biological, radiological, nuclear, and explosive weapons. The Emergency Response Plan complies with several relevant state and federal directives for emergency planning, including the California Standardized Emergency Management System and the Incident Command System. The Plan includes sections on operations, including management and procedures; staffing, operations, and logistics regarding the City's emergency operations center; and mutual aid involving other agencies. The Plan assigns responsibilities for disaster planning, operations (including fire and rescue, law enforcement, human services, infrastructure, transportation, communications, and community support), and logistics, as well as finance and administration, to City agencies and departments. The Plan also identifies volunteer agencies, such as the American Red Cross, that are integral to disaster response efforts.

The Emergency Response Plan contains 16 "annexes" (similar to appendices), consistent with a federally established framework, that cover topics including firefighting, public works and engineering, mass casualty care, and earthquakes, among numerous others. The Earthquake Annex, in particular, sets forth planning assumptions for a series of earthquakes of varying magnitudes on different faults, and sets forth procedures for assessment of damage and injuries, and operational response and strategies in the event of a major earthquake.

Development pursuant to the draft Plan would increase both the residential population and, in particular, the daytime employment population in the City that would be subject to a potential disaster, including a major earthquake or any of the other hazards identified in the Emergency Response Plan. With regard to earthquake hazards, in particular, the Plan area, like other parts of San Francisco and the Bay Area, is subject to ground shaking from potentially large earthquakes on the San Andreas and Hayward faults, as well as on other faults in the region. Relatively more of the Plan area is subject to stronger groundshaking intensity than the rest of the City because much of the eastern edge of the area is built on filled land. New buildings that would be developed pursuant to the draft Plan are subject to more stringent building and structural standards than most existing buildings, particularly older structures. Therefore, persons living and working in new buildings would be relatively safer than those in some older existing buildings.[459] However, during a major earthquake, glass, and in some cases building cladding, may endanger those on the streets and sidewalks. Bridges leading to and from San Francisco may be damaged, as was the case

458 San Francisco Department of Emergency Management, *City and County of San Francisco Emergency Response Plan*, December 2009. Available at: http://www.sfdem.org/Modules/ShowDocument.aspx?documentid=1154. Reviewed September 9, 2011.

459 *San Francisco Building Code* requirements with respect to tall buildings are discussed in Section O, Geology, Soils, and Seismicity, p. 589.

with the Bay Bridge east span in the 1989 Loma Prieta Earthquake (although the new east span now nearing completion will perform better in an earthquake). BART, Muni, and Caltrain rail service could be interrupted, and power outages would likely occur. However, the draft Plan would not obstruct implementation of the City's Emergency Response Plan, nor would it necessarily interfere with emergency evacuation planning. With compliance with the legal requirements noted above and implementation of the Emergency Response Plan, impacts related to emergency response or evacuation plans would be less than significant.

Mitigation: None required.

Impact HZ-5: Implementation of the Transit Center District Plan would not expose people or structures to a significant risk of loss, injury or death involving fires. (Less than Significant)

San Francisco ensures fire safety primarily through provisions of the *Building Code* and the *Fire Code.* Existing and new buildings are required to meet standards contained in these codes. In addition, the final building plans for any new residential project greater than two units would be reviewed by the San Francisco Fire Department (as well as DBI) to ensure conformance with these provisions. Construction that would occur as a result of implementation of the draft Plan would conform to these standards, which (depending on the building type) may also include development of an emergency procedure manual and an exit drill plan. Development projects in the Plan area would be required conform to these standards, which (depending on the building type) may include development of an emergency procedure manual and an exit drill plan.

The proposed Plan, an area plan that would include adoption of changes in the City's *Planning Code* and *General Plan*, would not directly result in any direct physical changes. Although the draft Plan would facilitate development projects within the Plan area, all such development would occur in the developed area of San Francisco, where fire, medical, and police services are available and provided. The existing street grid provides ample access for emergency responders and egress for residents and workers, and the proposed Plan would neither directly nor indirectly alter that situation to any substantial degree. Moreover, the Fire Department reviews building permits for multi-story structures. Therefore, the draft Plan would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Finally, for the reasons just set forth, the draft Plan would not directly or indirectly result in any additional exposure of residents or workers to fire risk. Any development and/or redevelopment in the Plan area would occur in a fully urbanized area, which lacks the "urban-wildland interface" that tends to place new development at risk in undeveloped areas of California. Therefore, the proposed Plan would not expose people or structures to a significant risk of loss, injury or death involving fires.

As noted in Section IV.M, Public Services, the proposed relocation of Fire Station No. 1 from the Plan area to 935 Folsom Street, between Fifth and Sixth Streets, would not result in any significant effects with respect to Fire Department response times in the Plan area.

Compliance with the *San Francisco Building Code* and *Fire Code* through the City's ongoing permit review process would ensure that potential fire hazards related to development activities (including those associated with hydrant water pressure and emergency access) would be minimized during the permit review process and that future projects would not interfere with an existing emergency response or emergency evacuation plan. Therefore, this impact would be less than significant.

Additionally, construction of high-rise buildings (taller than 75 feet), such as the Transit Tower and other tall buildings, both those with applications on file and other anticipated development, must conform to the provisions of the *Building Code* and *Fire Code* which require additional life-safety protections for such structures. With compliance with these legal requirements, impacts related to emergency response or evacuation plans would be reduced to a less-than-significant level.

Mitigation: None required.

Impact Analysis: Transit Tower

Impact HZ-6: The proposed Transit Tower would not create a significant hazard through routine transport, use, or disposal of hazardous materials. (Less than Significant)

Similar to other projects that would be constructed with implementation of the draft Plan, operation of the Transit Tower would likely involve handling of common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the commercial bathrooms and food preparation areas. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. If hazardous materials were used above threshold quantities, the owner would be required to comply with the requirements of the City's hazardous materials handling requirements specified in Article 21 of the *San Francisco Health Code* (discussed in the Setting) and obtain a Certificate of Registration from DPH and implement a Hazardous Materials Business Plan. Compliance with the *San Francisco Health Code*, which incorporates state and federal requirements, would minimize potential exposure of site personnel and the public to any accidental releases of hazardous materials or waste and would also protect against potential environmental contamination. In addition, transportation of hazardous materials is well regulated by the California Highway Patrol and the California Department of Transportation. Therefore, the potential impacts related to the routine use, transport, and disposal of hazardous materials associated with the Transit Tower would be less than significant.

Mitigation: None required.

Impact HZ-7: Excavation for the proposed Transit Tower would require the handling of potentially contaminated soil and groundwater, potentially exposing workers and the public to hazardous materials, or resulting in a release to the environment during construction. (Less than Significant with Mitigation)

As discussed in the Setting, the proposed Transit Tower site is underlain by 1906 earthquake fill which commonly contains polynuclear aromatic hydrocarbons, heavy metals, oil and grease, and volatile organic compounds. In addition, many of the historical uses of properties at the site would have involved the use of hazardous materials, including a mechanics mill, iron works, forge shop, brass works, machine shops, cabinet shop and lumber facility, and coppersmith. All of these uses could have involved the use of hazardous materials such as petroleum products, metals, solvents, creosote, and PCBs. The site is also located approximately one block north of the former manufactured gas plant at First, Howard, Fremont and Natoma Streets which historically disposed of residual or waste material known as coal tar directly to the shallow waters of the old Yerba Buena Cove. Based on the historic land uses at the site, and the proximity to the former manufactured gas plant, there is a high potential to encounter soil and groundwater contamination during construction. Without implementation of proper precautions, workers or the community could be exposed to hazardous materials during excavation, grading, and dewatering, or during related site investigation and remediation. Vapors, if present, could also accumulate in the below ground parking structures, causing nuisance vapors, adverse health effects, or flammable or explosive conditions. Therefore, impacts associated with construction within contaminated soil and groundwater are potentially significant. However, similar to the draft Plan, implementation of **Mitigation Measures M-HZ-2a, 2b, and 2c, Site Assessment and Corrective Action**, would reduce this impact to a less-than-significant-level by requiring appropriate assessment of the potential for contaminated soil or groundwater, and requiring implementation of site investigation and remediation activities should the potential for contamination be identified. Because this site is partially located bayward of the high tide line, all three mitigation measures noted above would apply, as would the requirements of Article 22A.

Similar to the draft Plan, impacts related to the disposal of hazardous wastes produced during construction of the Transit Tower would be less than significant with compliance with regulatory requirements, and impacts related to discharge of contaminated water produced during construction dewatering to the City's combined storm and sanitary sewer system would be less than significant with compliance with Article 4.1 of the *San Francisco Public Works Code*, as supplemented by Order No. 158170.

Mitigation Measure

M-HZ-7: Implement Mitigation Measures M-HZ-2a, 2b, and 2c, **Site Assessment and Corrective Action**, for construction of the Transit Tower project.

Level of Significance after Mitigation

With implementation of Mitigation Measure M-HZ-2a, 2b, and 2c, to investigate and, where applicable, remediate soil and/or groundwater that may be contaminated prior to construction of the Transit Tower, the impacts related to contamination at the Transit Tower site would be less than significant

Impact HZ-8: Workers and the public would not be exposed to hazardous building materials as a result of construction of the proposed Transit Tower. (No Impact)

There would be no impact related to exposure to hazardous building materials at the proposed Transit Tower site because all structures at this site have been eliminated as part of the demolition of the Transbay Terminal that began in 2010.

Mitigation: None required.

Impact HZ-9: The proposed Transit Tower would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

Occupants of the proposed Transit Tower could contribute to congestion if an emergency evacuation of the Downtown neighborhood were required. However, Section 12.202(e)(1) of the *San Francisco Fire Code* requires that all owners of high-rise buildings (over 75 feet) "Shall establish or cause to be established procedures to be followed in case of fire or other emergencies. All such procedures shall be reviewed and approved by the chief of division." Additionally, construction of high-rise buildings (taller than 75 feet) would have to conform to the provisions of the *Building Code* and *Fire Code* which require additional life-safety protections for such taller buildings. As stated in Impact HZ-4, development pursuant to the draft Plan—which includes the proposed Transit Tower—would not interfere with implementation of the City's Emergency Response Plan, or with emergency evacuation. With compliance with the legal requirements noted above and implementation of the Emergency Response Plan, impacts related to emergency response or evacuation plans would be less than significant.

Mitigation: None required.

Impact HZ-10: The proposed Transit Tower would not expose people or structures to a significant risk of loss, injury or death involving fires. (Less than Significant)

As stated under Impact HZ-6, San Francisco ensures fire safety primarily through provisions of the *Building Code* and the *Fire Code*. Existing and new buildings are required to meet standards contained in these codes. In addition, the final building plans would be reviewed by the San Francisco Fire Department (as well as DBI) to ensure conformance with these provisions. The proposed Transit Tower would conform to these standards, which (depending on the building type) may also include development of an emergency procedure manual and an exit drill plan. With compliance with these regulatory requirements, impacts related to potential fire hazards would be less than significant.

Mitigation: None required.

Cumulative Impacts

Impact C-HZ: Implementation of the Transit Center District Plan and construction of the proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in less-than-significant impacts related to hazards and hazardous materials. (Less than Significant)

As discussed previously, the Transit Tower project and development projects that could be proposed and approved pursuant to the draft Plan could all involve some uses of hazardous materials. However, the draft Plan's impacts related to the routine transport, use, or disposal of hazardous materials would be less than significant with compliance with existing regulations, including Articles 21, 21A, and 22 of the San Francisco Health Code and the draft Plan's contribution to this cumulative impact would not be cumulatively considerable with compliance these regulations. Further, any new uses of hazardous materials would be subject to the same regulatory requirements.

The proposed project would result in the disturbance of contaminated soil and groundwater during construction and could also require closure of existing USTs or hazardous materials handling facilities, potentially resulting in exposure of workers and the public to hazardous materials. Based on the common presence of earthquake fill as well as historic and current land uses that involved the use of hazardous materials throughout much of the City, new development projects could also encounter hazardous materials in the soil and groundwater or require UST and facility closures. However, as discussed above, the Transit Tower project and development projects that could be proposed and approved and constructed pursuant to the draft Plan would comply with existing regulations for UST and facility closure specified in Article 21 of the *San Francisco Health Code*; implement Mitigation Measure M-HZ-2, Site Assessment and Corrective Action, which requires appropriate assessment of the potential for contaminated soil or groundwater, and implementation of site investigation and remediation activities should the potential for contamination be identified; and comply with existing regulations for disposal of contaminated soil and discharge of contaminated water. With implementation of these legal regulatory requirements and Mitigation Measure M-HZ-2, the draft Plan and proposed Transit Tower project's contribution to this impact would not be cumulatively considerable, and thus would be less than significant. Further, implementation of the draft Plan and the proposed Transit Tower project would result in increased construction activities which may trigger the need for additional site cleanups, thereby removing existing contamination from the Plan area which is, overall, a beneficial impact.

Similarly, implementation of the draft Plan would result in the demolition or renovation of existing buildings that could include hazardous building materials. Based on the age of many buildings in the Plan area, development projects in the Plan area could also require demolition or renovation of buildings that contain hazardous building materials. However, as discussed above, the development projects that could be proposed and approved pursuant to the draft Plan would comply with existing regulations for abatement of asbestos-containing materials and lead-based paint and would implement Mitigation Measure M-HZ-3, Hazardous Building Materials, which requires a survey for other hazardous building materials as well as removal and disposal of these materials in accordance with applicable laws. With implementation of these regulatory requirements and Mitigation Measure M-HZ-3, the proposed

project's contribution to this impact would not be cumulatively considerable (less than significant). Further, implementation of the proposed project would result in increased construction activities which would trigger the need for abatement of hazardous building materials, thereby removing more of these materials from the Plan area which is, overall, a beneficial impact.

Mitigation: None required.

R. Mineral and Energy Resources

Setting

All land in San Francisco, including the Plan area and Transit Tower site, is designated Mineral Resource Zone 4 (MRZ-4) by the CDMG under the Surface Mining and Reclamation Act of 1975 (CDMG, Open File Report 96-03 and Special Report 146 Parts I and II). This designation indicates that there is not adequate information available for assignment to any other Mineral Resource Zone and thus the site is not a designated area of significant mineral deposits. However, since the Plan area and the Transit Tower project site are already developed, future evaluation or designation of these areas would not affect or be affected by the project. There are no operational mineral resource recovery sites in the Plan area vicinity whose operations or accessibility would be affected by the implementation of the draft Plan.

Impacts

Significance Criteria

The proposed project would result in a significant impact with respect to mineral and energy resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan; or
- Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.

Impact Analysis

The Plan would be implemented in an urban infill area. The draft Plan would not require quarrying, mining, dredging, or extraction of locally important mineral resources on site, nor would it deplete any nonrenewable natural resources. Therefore, the Plan, including the Transit Tower would have no effect on mineral resources.

All land in San Francisco, including the Plan area and Transit Tower site, is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology (CDMG) under the Surface Mining and Reclamation Act of 1975 (CDMG, Open File Report 96-03 and Special Report 146 Parts I and II). This designation indicates that there is inadequate information available for assignment to any other MRZ and thus the site is not a designated area of significant mineral deposits. Since the project site is already developed, future evaluation or designation of the site would not affect or be affected by the draft Plan. There are no operational mineral resource recovery sites in the Plan area whose operations or accessibility would be affected by the construction or operation pursuant to the draft Plan.

Impact ME-1: Neither the Transit Center District Plan nor the development of the Transit Tower would encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)

Development pursuant to the Plan would entail construction of new office, residential, hotel, retail, and entertainment uses. Development of these uses would not result in unusually large amounts of fuel, water, or energy in the context of energy use throughout the City and region. Demand from development projects in the Plan area would be typical for a buildings of the size and nature proposed and would meet, or exceed, the current state and local codes and standards concerning energy consumption, including Title 24 of the *California Code of Regulations* and the San Francisco Green Building Ordinance. Documentation showing compliance with these standards is submitted with the application for the building permit. Title 24 and the Green Building Ordinance are enforced by DBI. Moreover, new development in the Plan are would be anticipated to incorporate energy-saving features that would reduce energy consumption to levels lower than those of conventionally built structures.

The draft Plan includes a chapter on District Sustainability, which includes a number of objectives and policies aimed at reducing energy consumption. For example, Objective 6.1 states, "Increase energy efficiency, reduce carbon intensiveness of energy production, and enhance energy reliability in the district." Policy 6.8 would require new large projects to develop an "energy strategy" that would document how the project would minimize its use of fossil fuel use for heating, cooling and power through energy efficiency, efficient supply, and no or low carbon generation. Policy 6.9 calls for integrating passive solar features (such as building orientation, shading, and window treatments) into the design of new buildings. And Policy 6.12 calls for new development to achieve basic LEED (Leadership in Energy and Environmental Design) standards established in the Green Building Ordinance, without considering the benefits of location. Finally, the draft Plan proposes consideration of the establishment of a so-called District Energy System that could efficiently supply both heating and electricity to new development from a co-generation facility. These objectives and policies would be consistent with CEQA Guidelines Appendix F, Energy Conservation, which identifies conservation measures such as reducing wasteful, inefficient and unnecessary energy consumption; building siting, orientation, and design to minimize energy consumption; reducing peak energy demand; the use of alternative fuels or energy systems; and energy conservation through recycling.

It is noted that, because no physical improvements have been defined to implement a district-wide heat and power system in the Plan area, this EIR analyzes this aspect of the draft Plan at a very general, programmatic level. Any district-wide energy system proposed in the future would be subject to subsequent environmental review. Individual building cogeneration plants are subject to review by the Bay Area Air Quality Management District, in much the same manner as are individual boilers and generators.

Because subsequent projects, including the Transit Tower, would meet or exceed current state and local codes concerning energy consumption and would not cause a wasteful use of energy, and because of the project's stated goal of LEED certification, effects related to energy consumption would not be considered

significant, and neither the draft Plan nor the Transit Tower would make a considerable contribution to cumulative energy consumption impacts.

Mitigation: None required.

S. Agricultural and Forest Resources

Setting

The Plan area, including the Transit Tower site, is located within an urban area in the City and County of San Francisco. The California Department of Conservation's Farmland Mapping and Monitoring Program identifies the site as *Urban and Built-Up Land,* which is defined as "...land [that] is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes."

Impacts

Significance Criteria

The proposed project would result in a significant impact with respect to agricultural and forest resources if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract; or
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526);
- Result in the loss of forest land or conversion of forest land to non-forest use; or
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use.

Impact Analysis

Impact AG-1: Neither the Transit Center District Plan nor the development of the Transit Tower would convert farmland to non-agricultural use or conflict with existing agricultural zoning or a Williamson Act contract, conflict with zoning for forest land, result in the loss of forest land to non-forest use, or involve any other changes that would convert farmland to non-agricultural use or convert forest land into non-forest use. (No Impact)

Because the Plan area and the surrounding areas do not contain agricultural or forest uses and are not zoned for such uses, implementation of the draft Plan would not convert any prime farmland, unique farmland or Farmland of Statewide Importance to non-agricultural use, and it would not conflict with existing zoning for agricultural land use or a Williamson contract, nor would it involve any changes to the environment that could result in the conversion of farmland. Nor would it result in the loss of forest land or conversion of forest land to non-forest uses. Accordingly, these criteria are not applicable to the proposed project.

Mitigation: None required.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources				
Archeological Resources				
M-CP-1: Subsequent Archeological Testing Program. When a project is to be developed within the Transit Center District Plan Area, it will be subject to preliminary archeological review by the Planning Department archeologist. This in-house review will assess whether there are gaps in the necessary background information needed to make an informed archaeological sensitivity assessment. This assessment will be based upon the information presented in the Transit Center District Plan Archeological Research Design and Treatment Plan (Far Western Anthropological Research Group, Inc., *Archaeological Research Design and Treatment Plan for the Transit Center District Plan Area, San Francisco, California*, February 2010), as well as any more recent investigations that may be relevant. If data gaps are identified, then additional investigations, such as historic archival research or geoarchaeological coring, may be required to provide sufficiently detailed information to make an archaeological sensitivity assessment. If the project site is considered to be archaeologically sensitive and based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archeological consultant from the Planning Department ("Department") pool of qualified archaeological consultants as provided by the Department archaeologist. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure and with the requirements of the Transit Center District Plan archeological research design and treatment plan at the direction of the ERO. In instances of inconsistency between the requirement of the project archaeological research design and treatment plan and of this archaeological	Planning staff, for preliminary review; Project sponsor and project archeologist for each subsequent project undertaken pursuant to the Transit Center District Plan, for any subsequently required investigations.	During environmental review of projects, then as specified in ATP/ AMT/ARDTP.	ERO to review and approve any required Archeological Testing Program.	Project archeologist to report to ERO on progress of any required investigation monthly, or as required by ERO. Considered complete upon review and approval by ERO of results of Archeological Testing Program/ Archeological Monitoring Program/ Archeological Data Recovery Program, as applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
mitigation measure, the requirements of this archaeological mitigation measure shall prevail. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the ERO, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines Sections 15064.5 (a) (c). *Archeological Testing Program.* The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. If the ERO determines that a significant archeological				

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either: A) The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or B) A data recovery program shall be implemented, unless the ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible. *Archeological Monitoring Program.* If the ERO in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented, the archeological consultant shall prepare an archeological monitoring plan (AMP): ▪ The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils disturbing activities commencing. The ERO in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archaeological resources and to their depositional context; ▪ Archeological monitoring shall conform to the requirements of the final AMP reviewed and approved by the ERO; ▪ The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource;				

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
▪ The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the ERO until the ERO has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; ▪ The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; ▪ If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO. Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO. *Archeological Data Recovery Program.* The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the				

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: ▪ Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations. ▪ Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures. ▪ Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies. ▪ Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. ▪ Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. ▪ Final Report. Description of proposed report format and distribution of results. ▪ Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. *Human Remains and Associated or Unassociated Funerary Objects.* The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and Federal laws. This shall include immediate notification				

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
of the Coroner of the City and County of San Francisco and in the event of the Coroner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission (NAHC) who shall appoint a Most Likely Descendant (MLD) (Pub. Res. Code Sec. 5097.98). The archeological consultant, project sponsor, and MLD shall make all reasonable efforts to develop an agreement for the treatment of, with appropriate dignity, human remains and associated or unassociated funerary objects (CEQA Guidelines. Sec. 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. *Final Archeological Resources Report.* The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Major Environmental Analysis division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.				

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
Historical Resources *M-CP-3a: HABS/HAER Documentation.* Prior to demolition or substantial adverse alteration of historical resource(s), the project sponsor of a development project in the Plan area shall contract with a qualified preservation architect, historic preservation expert, or other qualified individual to fully document the structure(s) to be demolished or altered. Documentation shall be undertaken following consultation with Planning Department preservation staff and the Historic Preservation Commission, and shall at a minimum be performed to HABS Level II documentation standards. According to HABS Standards, Level II documentation consists of the following tasks: ▪ Written data: A brief report documenting the existing conditions and history of the building shall be prepared, focusing on the building's architectural and contextual relationship with the greater Western SoMa neighborhood. ▪ Photographs: Photographs with large-format (4x5-inch) negatives shall be shot of exterior and interior views of all three project site buildings. Historic photos of the buildings, where available, shall be photographically reproduced. All photos shall be printed on archival fiber paper. ▪ Drawings: Existing architectural drawings (elevations and plans) of all three the project site buildings, where available, shall be photographed with large format negatives or photographically reproduced on Mylar. ▪ The completed documentation package shall be submitted to local and regional archives, including but not limited to, the San Francisco Public Library History Room, the California Historical Society and the Northwest Information Center at Sonoma State University in Rohnert Park.	Project sponsor and qualified historic preservation individual for each subsequent project undertaken pursuant to the Transit Center District Plan.	Prior to the start of any demolition or adverse alteration on a designated historical resource.	Planning Department Preservation Technical Specialist to review and approve HABS documentation.	Considered complete upon submittal of final HABS documentation.
M-CP-3b: Public Interpretative Displays. Prior to demolition or substantial adverse alteration of historical resource(s) that are significant due to event(s) that occurred in the building at the development site, the project sponsor of a development project in the Plan area shall develop, in consultation with Planning Department preservation staff, a permanent interpretative program/and or display that would	Project sponsor and qualified historic preservation individual for each subsequent project undertaken pursuant	Prior to the start of any demolition or adverse alteration on a designated historical	Planning Department Preservation Technical Specialist and Historic Preservation Commission to review and approve	Considered complete upon installation of display.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
commemorate such event(s). The program/display would be installed at a publicly accessible location, either at or near the project site or in another appropriate location (such as a library or other depository). The content and location of the display shall be presented to the Historic Preservation Commission for review and comment.	to the Transit Center District Plan.	resource.	interpretive display.	
M-CP-3c: Relocation of Historical Resources. Prior to demolition or substantial alteration of historical resource(s), the project sponsor of a development project in the Plan area shall make any historical resources that would otherwise be demolished or substantially altered in an adverse manner available for relocation by qualified parties.	Project sponsor for each subsequent project undertaken pursuant to the Transit Center District Plan.	Prior to the start of any demolition or adverse alteration on a designated historical resource.	ERO to review confirmation from project sponsor that resource(s) were made available for relocation.	Considered complete upon submittal to ERO by project sponsor of documentation confirming that resource(s) were made available for relocation.
M-CP-3d: Salvage of Historical Resources. Prior to demolition of historical resource(s) that are significant due to architecture (resource(s) that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values), the project sponsor of a development project in the Plan area shall consult with a Planning Department Preservation Technical Specialist and/or other qualified parties regarding salvage of materials from the affected resource(s) for public information or reuse in other locations.	Project sponsor and qualified historic preservation individual for each subsequent project undertaken pursuant to the Transit Center District Plan.	Prior to the start of any demolition or adverse alteration on a designated historical resource.	Planning Department Preservation Technical Specialist shall participate in discussions with project sponsor regarding building salvage.	Considered complete upon submittal to ERO by project sponsor of documentation confirming that resource(s) were made available for salvage.
M-CP-5a. Construction Best Practices for Historical Resources. The project sponsor of a development project in the Plan area shall incorporate into construction specifications for the proposed project a requirement that the construction contractor(s) use all feasible means to avoid damage to adjacent and nearby historic buildings, including, but not necessarily limited to, staging of equipment and materials as far as possible from historic buildings to avoid direct impact damage; using techniques in demolition (of the parking lot), excavation, shoring, and construction that create the minimum feasible vibration; maintaining a buffer zone when possible between heavy equipment and historical resource(s) within 125 feet,	Project sponsor and qualified historic preservation individual for applicable subsequent projects undertaken pursuant to the Transit Center District Plan.	Prior to the issuance of contract specifications for construction proximate to a designated historical resource.	ERO and, optionally, Planning Department Preservation Technical Specialist, to review construction specifications.	Considered complete upon submittal to ERO by project sponsor of construction specifications.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
as identified by the Planning Department; appropriately shoring excavation sidewalls to prevent movement of adjacent structures; design and installation of the new foundation to minimize uplift of adjacent soils; ensuring adequate drainage from adjacent sites; covering the roof of adjacent structures to avoid damage from falling objects; and ensuring appropriate security to minimize risks of vandalism and fire.				
M-CP-5b. Construction Monitoring Program for Historical Resources. The project sponsor shall undertake a monitoring program to minimize damage to adjacent historic buildings and to ensure that any such damage is documented and repaired. The monitoring program would include the following components. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a historic architect or qualified historic preservation professional to undertake a preconstruction survey of historical resource(s) identified by the Planning Department within 125 feet of planned construction to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource(s), the consultant shall also establish a maximum vibration level that shall not be exceeded at each building, based on existing condition, character-defining features, soils conditions, and anticipated construction practices (a common standard is 0.2 inches per second, peak particle velocity). To ensure that vibration levels do not exceed the established standard, the project sponsor shall monitor vibration levels at each structure and shall prohibit vibratory construction activities that generate vibration levels in excess of the standard. Should vibration levels be observed in excess of the standard, construction shall be halted and alternative techniques put in practice, to the extent feasible. The consultant shall conduct regular periodic inspections of each building during ground-disturbing activity on the project site. Should damage to either building occur, the building(s) shall be remediated to its preconstruction condition at the conclusion of ground-disturbing activity on the site.	Project sponsor, project contractor, and qualified historic preservation individual for applicable subsequent projects undertaken pursuant to the Transit Center District Plan.	Prior to the start of demolition, earth moving, or construction activity proximate to a designated historical resource.	Planning Department Preservation Technical Specialist shall review and approve construction monitoring program.	Considered complete upon submittal to ERO of post-construction report on construction monitoring program and effects, if any, on proximate historical resources.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
D. Cultural and Paleontological Resources (continued)				
M-C-CP: Mitigation of Cumulative Historical Resources Impacts. Implement Mitigation Measures M-CP-3a, HABS/HAER Documentation, and M-CP-3b, Public Interpretive Displays, and M-CP-3c, Relocation of Historical Resources, and M-CP-3d, Salvage of Historical Resources.	See Measures M-CP-3a, M-CP-3b, M-CP-3c, and M-CP-3d.			
E. Transportation				
Traffic				
M-TR-1a: Signal Timing Optimization. The Municipal Transportation Agency (MTA) could optimize signal timing at the following intersections to reduce impacts on intersection LOS to a less-than-significant level, by either improving conditions to LOS D or better or by avoiding the draft Plan's contribution to increased vehicle delay (mitigated LOS in parentheses): ▪ Stockton / Geary Streets (LOS F, p.m.) ▪ Kearny / Sutter Streets (LOS F, p.m.) ▪ Battery and California Streets (LOS D, a.m. and p.m.) ▪ Embarcadero / Washington Streets (LOS F, p.m.) ▪ Third / Folsom Streets (LOS F, p.m. peak) ▪ Beale / Folsom Streets (LOS F, p.m. peak) ▪ Embarcadero / Folsom Streets (LOS F, a.m. and p.m. peak)	S.F. Municipal Transportation Agency (MTA)	Monitor intersections periodically through traffic counts; implement feasible alterations to signal timing when LOS degrades.	S.F. MTA, Planning Department	Considered complete upon implementation of timing changes by MTA.
M-TR-1b: Taxi Left-Turn Prohibition. At the intersection of Third / Mission Streets, the Municipal Transportation Agency (MTA) could expand existing prohibitions on peak-hour left turn to include taxis, thereby permitting only buses to make left turns.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of turn prohibition; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon implementation of turn prohibition by MTA.
M-TR-1c: Beale / Mission Streets Bulbs and Optimization. At the intersection of Beale and Mission Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the north and south crosswalks to reduce pedestrian	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of sidewalk bulbs and signal timing changes;	S.F. MTA, Planning Department	Considered complete upon construction of sidewalk bulbs and implementation of signal timing changes by MTA.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the less-congested eastbound / westbound Mission Street approaches to the southbound Beale Street approach.		implement if feasible and warranted.		
M-TR-1d: Steuart / Howard Streets Restriping. At the intersection of Steuart and Howard Streets, the Municipal Transportation Agency (MTA) could remove two on-street parking spaces on the south side of Howard Street immediately west of the intersection and stripe the eastbound approach as one through lane and one shared through-right lane. The proposed design for eastbound Howard Street after extension of the westbound Howard Street bicycle lane to The Embarcadero calls for one wide curb lane and one parking lane, but a second eastbound travel lane at the intersection could be provided by removing up to two on-street parking spaces.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of restriping; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon implementation of restriping by MTA.
M-TR-1e: Beale / Folsom Streets Left-Turn Prohibition and Signal Optimization. At the intersection of Beale and Folsom Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound right turns from Folsom Street in the p.m. peak hour and optimize the signal timing by reallocating green time from the eastbound / westbound Folsom Street approaches to the northbound / southbound Beale Street approaches.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of turn prohibition; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon implementation of turn prohibition by MTA.
M-TR-1f: Third / Harrison Streets Restriping. At the intersection of Third and Harrison Streets, the Municipal Transportation Agency (MTA) could convert one of the two eastbound lanes leaving the intersection into an additional westbound through lane by restriping the east (Harrison Street) leg of the intersection. In order to allow sufficient turning radius and clearance for heavy vehicles such as buses and trucks, two on-street parking spaces on the south side of Harrison Street east of the intersection would be removed.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of restriping; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon implementation of restriping by MTA.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
M-TR-1g: Hawthorne / Harrison Streets Restriping. At the intersection of Hawthorne and Harrison Streets, the Municipal Transportation Agency (MTA) could stripe an additional westbound through lane approaching the intersection by converting one of the two eastbound lanes.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of restriping; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon implementation of restriping by MTA.
M-TR-1h: Second / Harrison Streets Turn Prohibition and Optimization. At the intersection of Second and Harrison Streets, the Municipal Transportation Agency could prohibit eastbound left turns during the p.m. peak hour.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of turn prohibition; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon implementation of turn prohibition by MTA.
M-TR-1i: Third / Bryant Streets Bulbs and Optimization. At the intersection of Third and Bryant Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the south crosswalk to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the eastbound Bryant Street approach to the northbound Third Street approach.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of sidewalk bulbs and signal timing changes; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon construction of sidewalk bulbs and implementation of signal timing changes by MTA.
M-TR-1j: Second / Bryant Streets Bulbs and Optimization. At the intersection of Second and Bryant Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the east and west crosswalks to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the northbound / southbound Second Street approaches to the eastbound Bryant Street approach.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of sidewalk bulbs and signal timing changes; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon construction of sidewalk bulbs and implementation of signal timing changes by MTA.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
M-TR-1k: Second / Tehama Streets Restriping and Optimization. At the intersection of Second and Tehama Streets, the Municipal Transportation Agency (MTA) could prohibit eastbound and westbound left turns (from Tehama Street) during the a.m. and p.m. peak hours.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of restriping and signal timing changes; implement if feasible and warranted (may be warranted only in conjunction with project at 41 Tehama Street).	S.F. MTA, Planning Department	Considered complete upon implementation of restriping and signal timing changes by MTA.
M-TR-1m: Downtown Traffic Signal Study. As part of a Regional Traffic Signalization and Operations Program project, the Municipal Transportation Agency (MTA) could conduct a study of Downtown-area traffic signal systems, with the aim of recalibrating cycle lengths, offsets, and splits at Downtown-area intersections to optimize traffic flow and minimize unnecessary delays (without impacting other modes of travel).	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of Downtown traffic signal study; implement if feasible and warranted.	S.F. MTA	Considered complete upon initiation of traffic signal study.
Transit				
M-TR-3a: Installation and Operation of Transit-Only and Transit Queue-Jump Lanes. To reduce or avoid the effects of traffic congestion on Muni service, at such time as the transit-vehicle delay results in the need to add additional vehicle(s) to one or more Muni lines, the Municipal Transportation Agency (MTA) could stripe a portion of the approach lane at applicable intersections to restrict traffic to buses only during the p.m. peak period, thereby allowing Muni vehicles to avoid traffic queues at certain critical intersections and minimizing transit delay. Each queue-jump lane would require the prohibition of parking during the p.m. peak period for the distance of the special lane.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of transit-only lanes and transit queue-jump lanes; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon determination as to feasibility of such lanes and, if applicable, initiation of their installation, if applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
For the 41 Union, MTA could install a p.m. peak-hour transit-only lane along Beale Street approaching and leaving the intersection of Beale/Mission Street, for a distance of 150 to 200 feet. Five parking spaces on the west side of Beale Street north of Mission Street could be eliminated when the transit lane is in effect to allow for a right-turn pocket. MTA could also install a p.m. peak-hour queue-jump lane on the eastbound Howard Street approach to the intersection of Beale/Howard Streets, for a distance of 100 feet. If the foregoing were ineffective, MTA could consider re-routing the 41 Union to less-congested streets, if available, or implementing actions such as providing traffic signal priority to Muni buses. For the 11-Downtown Connector and 12 Folsom Pacific, MTA could install a p.m. peak-hour queue-jump lane on the southbound Second Street approach to the intersection to the intersection of Second/Folsom Streets, for a distance of approximately 150 feet. When the lane is in effect, five on-street parking spaces on the west side of Second Street north of Folsom Street could be eliminated, as well as a portion of the southbound bicycle lane approaching the intersection. If the foregoing were ineffective, MTA could consider re-routing the 11-Downtown Connector and 12 Folsom to less-congested streets, if available, or implementing actions such as providing traffic signal priority to Muni buses. The MTA could also evaluate the effectiveness and feasibility of installing an eastbound transit-only lane along Folsom Street between Second and Third Streets, which would minimize delays incurred at these intersections by transit vehicles. The study would create a monitoring program to determine the implementation extent and schedule, which may include conversion of one eastbound travel lane into a transit-only lane.				
M-TR-3b: Exclusive Muni Use of Mission Street Boarding Islands. To reduce or avoid conflicts between Muni buses and regional transit service (Golden Gate Transit and SamTrans) using the relocated transit-only center lanes of Mission Street between First and Third Streets, MTA could reserve use of the boarding islands for Muni buses only and provide dedicated curbside bus stops for regional transit operators. Regional transit vehicles	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of Muni-only boarding island use; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon determination as to feasibility of Muni-only boarding island use.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
would still be allowed to use the transit-only center lanes between stops, but would change lanes to access the curbside bus stops. This configuration would be similar to the existing Muni stop configuration along Market Street, where two different stop patterns are provided, with each route assigned to only one stop pattern.				
M-TR-3c: Transit Improvements on Plan Area Streets. To reduce or avoid the effects of traffic congestion on regional transit service operating on surface streets (primarily Golden Gate Transit and SamTrans), MTA, in coordination with applicable regional operators, could conduct study the effectiveness and feasibility of transit improvements along Mission Street, Howard Street, Folsom Street, First Street, and Fremont Street to reduce delays incurred by transit vehicles when passing through the Plan area. The study would examine a solutions including, but not limited to the following: ▪ Installation of transit-only lanes along Howard Street and Folsom Street, which could serve both Muni buses (e.g., 12 Folsom-Pacific) and Golden Gate Transit buses heading to / from Golden Gate's yard at Eighth and Harrison Streets. ▪ Extension of a transit-only lane on Fremont Street south to Howard Street and installation of transit-actuated queue-jump phasing at the Fremont Street / Mission Street intersection to allow Golden Gate Transit buses to make use of the Fremont Street transit lane (currently only used by Muni vehicles); and ▪ Transit signal priority treatments along Mission, Howard, and Folsom Streets to extend major-street traffic phases or preempt side-street traffic phases to reduce signal delay incurred by SamTrans and Golden Gate Transit vehicles. ▪ Golden Gate Transit and SamTrans could consider rerouting their lines onto less-congested streets, if available, in order to improve travel times and reliability. A comprehensive evaluation would need to be conducted before determining candidate alternative streets, considering various operational and service issues such as the cost of any required capital investments, the availability of layover space, and proximity to ridership origins and destinations.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of transit improvements; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon determination as to feasibility of transit improvements and initiation of their installation, if applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
M-TR-3d: Increased Funding to Offset Transit Delays. Sponsors of development projects within the Plan area could be subject to a fair share fee that would allow for the purchase of additional transit vehicle(s) to mitigate the impacts on transit travel time. In the case of Muni operations, one additional vehicle would be required. For regional operators, the analysis also determined that on-street delays could require the deployment of additional buses on some Golden Gate Transit and SamTrans routes. Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan, and are projected to be adequate and sufficient to provide for the capital cost to purchase the additional vehicle and facility costs to store and maintain the vehicle.	Planning Department, Planning Commission, Board of Supervisors	Evaluate feasibility of additional transit fees; implement if feasible and warranted.	Planning Department	Considered complete upon determination of feasibility of such fees and initiation of their implementation, if applicable.
M-TR-3e: Increased Funding of Regional Transit. Sponsors of development projects within the Plan area could be subject to one or more fair share fees to assist in service improvements, such as through the purchase of additional transit vehicles and vessels or contributions to operating costs, as necessary to mitigate Plan impacts. These fee(s) could be dedicated to Golden Gate Transit, North Bay ferry operators, AC Transit, BART, and/or additional North Bay and East Bay transit operators. Depending on how the fee(s) were allocated, Caltrain and SamTrans might also benefit, although lesser impacts were identified for these South Bay operators. Funds for the implementation of this measure are expected to be generated from a delineated portion of the impact fees that would be generated with implementation of the draft Plan, and are projected to be adequate and sufficient to provide for the capital cost to purchase the additional vehicle and facility costs to store and maintain the vehicle.	Planning Department, Planning Commission, Board of Supervisors	Evaluate feasibility of additional transit fees; implement if feasible and warranted.	Planning Department	Considered complete upon determination of feasibility of such fees and initiation of their implementation, if applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
Pedestrians				
M-TR-4a: Widen Crosswalks. To ensure satisfactory pedestrian level of service at affected crosswalks, the Municipal Transportation Agency, Sustainable Streets Division, could conduct periodic counts of pedestrian conditions (annually, for example) and could widen existing crosswalk widths, generally by 1 to 3 feet, at such times as pedestrian LOS is degraded to unacceptable levels.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of crosswalk widening; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon determination of feasibility of sidewalk widening and initiation of its implementation, if applicable.
M-TR-5 Garage/Loading Dock Attendant. If warranted by project-specific conditions, the project sponsor of a development project in the Plan area shall ensure that building management employs attendant(s) for the project's parking garage and/or loading dock, as applicable. The attendant would be stationed as determined by the project-specific analysis, typically at the project's driveway to direct vehicles entering and exiting the building and avoid any safety-related conflicts with pedestrians on the sidewalk during the a.m. and p.m. peak periods of traffic and pedestrian activity, with extended hours as dictated by traffic and pedestrian conditions and by activity in the project garage and loading dock. (See also Mitigation Measure M-TR-4b, above.) Each project shall also install audible and/or visible warning devices, or comparably effective warning devices as approved by the Planning Department and/or the Sustainable Streets Division of the Municipal Transportation Agency, to alert pedestrians of the outbound vehicles from the parking garage and/or loading dock, as applicable.	Project sponsor of any subsequent development project undertaken pursuant to the Transit Center District Plan.	Prior to project approval.	ERO shall review and approve project sponsor's proposed garage/loading dock operations program.	Considered complete upon review and approval by ERO of proposed garage/loading dock operations program.
Loading				
M-TR-7a: Loading Dock Management. To ensure that off-street loading facilities are efficiently used and that trucks longer than can be safely accommodated are not permitted to use a building's loading dock, the project sponsor of a development project in the Plan area shall develop a plan for management of the building's loading dock and shall ensure that tenants in the building are informed of limitations and	Project sponsor of any subsequent development project undertaken pursuant to the Transit Center District Plan.	Prior to project approval.	ERO shall review and approve project sponsor's proposed loading dock operations program.	Considered complete upon review and approval by ERO of proposed loading dock operations program.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
conditions on loading schedules and truck size. Such a management plan could include strategies such as the use of an attendant to direct and guide trucks (see Mitigation Measure M-TR-5), installing a "Full" sign at the garage/loading dock driveway, limiting activity during peak hours, installation of audible and/or visual warning devices, and other features. Additionally, as part of the project application process, the project sponsor shall consult with the Municipal Transportation Agency concerning the design of loading and parking facilities.				
M-TR-7b: Augmentation of On-Street Loading Space Supply. To ensure the adequacy of the Plan area's supply of on-street spaces, the Municipal Transportation Agency (MTA) could convert existing on-street parking spaces within the Plan Area to commercial loading use. Candidate streets might include the north side of Mission Street between Second Street and First Street, both sides of Howard Street between Third Street and Fremont Street, and both sides of Second Street between Howard Street and Folsom Street. The MTA and Planning Department could also increase the supply of on-street loading "pockets" that would be created as part of the draft Plan's public realm improvements. Increasing the supply of on-street loading spaces would reduce the potential for disruption of traffic and transit circulation in the Plan Area as a result of loading activities. However, the feasibility of increasing the number of on-street loading spaces is unknown. Locations for additional loading pockets have not been identified, and the feasibility of adding spaces is uncertain, as any such spaces would reduce pedestrian circulation area on adjacent sidewalks. Locations adjacent to transit-only lanes would also not be ideal for loading spaces because they may introduce new conflicts between trucks and transit vehicles. Given these considerations, potential locations for additional on-street loading spaces within the Plan area are limited, and it is unlikely that a sufficient amount of spaces could be provided to completely offset the net loss in supply.	S.F. Municipal Transportation Agency (MTA)	Evaluate feasibility of increasing on-street loading supply; implement if feasible and warranted.	S.F. MTA, Planning Department	Considered complete upon determination of feasibility of increasing on-street loading supply and initiation of its implementation, if applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
E. Transportation (continued)				
Construction				
M-TR-9: Construction Coordination. To minimize potential disruptions to transit, traffic, and pedestrian and bicyclists, the project sponsor and/or construction contractor for any individual development project in the Plan area shall develop a Construction Management Plan that could include, but not necessarily be limited to, the following: ▪ Limit construction truck movements to the hours between 9:00 a.m. and 4:00 p.m. (or other times, if approved by the Municipal Transportation Agency) to minimize disruption of traffic, transit, and pedestrian flow on adjacent streets and sidewalks during the weekday a.m. and p.m. peak periods. ▪ Identify optimal truck routes to and from the site to minimize impacts to traffic, transit, pedestrians, and bicyclists; and, ▪ Encourage construction workers to use transit when commuting to and from the site, reducing the need for parking. The sponsor shall also coordinate with the Municipal Transportation Agency/Sustainable Streets Division, the Transbay Joint Powers Authority, and construction manager(s)/contractor(s) for the Transit Center project, and with Muni, AC Transit, Golden Gate Transit, and SamTrans, as applicable, to develop construction phasing and operations plans that would result in the least amount of disruption that is feasible to transit operations, pedestrian and bicycle activity, and vehicular traffic.	Project sponsor/ construction contractor of any subsequent development project undertaken pursuant to the Transit Center District Plan.	Prior to the start of project construction.	S.F. MTA, Planning Department	Considered complete upon MTA and, optionally, Planning Department review of Construction Management Plan.
F. Noise				
M-NO-1a: Noise Survey and Measurements for Residential Uses. For new residential development located along streets with noise levels above 70 dBA Ldn, the Planning Department shall require the preparation of an analysis that includes, at a minimum, a site survey to identify potential noise-generating uses within two blocks of the project site, and including at least one 24-hour noise measurement (with average and maximum noise level readings taken so as to be able to accurately describe maximum levels	Project sponsor, architect, acoustical consultant, and construction contractor for each subsequent development project	Analysis to be completed during environmental review; incorporate findings of noise	Planning Department and Department of Building Inspection	Considered complete upon approval of final construction plan set.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
F. Noise (continued)				
reached during nighttime hours), prior to completion of the environmental review for each subsequent residential project in the Plan area. The analysis shall be completed by person(s) qualified in acoustical analysis and shall demonstrate with reasonable certainty that Title 24 standards, where applicable, can be met, and that there are no particular circumstances about the proposed project site that appear to warrant heightened concern about noise levels in the vicinity. Should such concerns be present, the Department may require the completion of a detailed noise assessment by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that acceptable interior noise levels consistent with those in the Title 24 standards can be attained.	undertaken pursuant to the Transit Center District Plan.	study into building plans prior to issuance of final building permit and certificate of occupancy.		
M-NO-1b: Noise Minimization for Residential Open Space. To minimize effects on residential development in the Plan area, the Planning Department, through its building permit review process and in conjunction with the noise analysis set forth in Mitigation Measure M-NO-1a, shall require that open space required under the Planning Code for residential uses be protected, to the maximum feasible extent, from existing ambient noise levels that could prove annoying or disruptive to users of the open space. Implementation of this measure could involve, among other things, site design that uses the building itself to shield on-site open space from the greatest noise sources, construction of noise barriers between noise sources and open space, and appropriate use of both common and private open space in multi-family dwellings, and implementation would also be undertaken consistent with other principles of urban design.	Project sponsor, architect, acoustical consultant, and construction contractor for each subsequent development project undertaken pursuant to the Transit Center District Plan	Incorporate findings of noise study into building plans prior to issuance of final building permit and certificate of occupancy.	Planning Department and Department of Building Inspection	Considered complete upon approval of final construction plan set.
M-NO-1c: Noise Minimization for Non-Residential Uses. To reduce potential effects on new non-residential sensitive receptors such as child care centers, schools, libraries, and the like, for new development including such noise-sensitive uses, the Planning Department shall require, as part of its building permit review process, the preparation of an acoustical analysis by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that daytime interior noise levels of 50 dBA, based on the *General Plan* Environmental Protection Element, can be attained.	Project sponsor, architect, acoustical consultant, and construction contractor for each subsequent development project undertaken pursuant to the Transit Center District Plan.	Incorporate findings of noise study into building plans prior to issuance of final building permit and certificate of occupancy.	Planning Department and Department of Building Inspection	Considered complete upon approval of final construction plan set.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
F. Noise (continued)				
M-NO-1d: Mechanical Equipment Noise Standard. The Planning Department shall require that, as part of required the noise survey and study for new residential uses (Mitigation Measure M-NO-1a), all reasonable efforts be made to identify the location of existing rooftop mechanical equipment, the predicted noise generated by that equipment, and the elevation at which the predicted noise level would be of potential concern for new residential uses, as well as the necessary noise insulation for the new residential uses, where applicable.	Project sponsor, architect, acoustical consultant, and construction contractor for each subsequent development project undertaken pursuant to the Transit Center District Plan.	Analysis to be completed during environmental review; incorporate findings of noise study into building plans prior to issuance of final building permit and certificate of occupancy.	Planning Department and Department of Building Inspection	Considered complete upon approval of final construction plan set.
M-NO-1e: Interior Mechanical Equipment. The Planning Department shall require, as part of subsequent project-specific review under CEQA, that effects of mechanical equipment noise on adjacent and nearby noise-sensitive uses be evaluated by a qualified consultant and that control of mechanical noise, as specified by the acoustical consultant, be incorporated into the final project design of new commercial buildings to achieve the maximum feasible reduction of building equipment noise, consistent with *Building Code* and Noise Ordinance requirements and CEQA thresholds, such as through the use of fully noise-insulated enclosures around rooftop equipment and/or incorporation of mechanical equipment into intermediate building floor(s).	Project sponsor, architect, acoustical consultant, and construction contractor for each subsequent development project undertaken pursuant to the Transit Center District Plan.	Analysis to be completed during environmental review; incorporate findings of noise study into building plans prior to issuance of final building permit and certificate of occupancy.	Planning Department and Department of Building Inspection	Considered complete upon approval of final construction plan set.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
F. Noise (continued)				
M-NO-2a: Noise Control Measures During Pile Driving. For individual projects that require pile driving, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. These attenuation measures shall include as many of the following control strategies, and any other effective strategies, as feasible: ▪ The project sponsor of a development project in the Plan area shall require the construction contractor to erect temporary plywood noise barriers along the boundaries of the project site to shield potential sensitive receptors and reduce noise levels; ▪ The project sponsor of a development project in the Plan area shall require the construction contractor to implement "quiet" pile-driving technology (such as pre-drilling of piles, sonic pile drivers, and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; ▪ The project sponsor of a development project in the Plan area shall require the construction contractor to monitor the effectiveness of noise attenuation measures by taking noise measurements; and ▪ The project sponsor of a development project in the Plan area shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses.	Project sponsor and construction contractor of each subsequent development project pursuant to the Transit Center District Plan that requires pile-driving during construction.	During period of pile-driving	Project sponsor to provide monthly noise reports during pile-driving.	Considered complete upon final monthly report.
M-NO-2b: General Construction Noise Control Measures. To ensure that project noise from construction activities is minimized to the maximum extent feasible, the project sponsor of a development project in the Plan area shall undertake the following: ▪ The project sponsor of a development project in the Plan area shall require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).	Project sponsor and construction contractor of each subsequent development project pursuant to the Transit Center District Plan.	During construction period.	Project sponsor to provide monthly noise reports during construction.	Considered complete upon final monthly report.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
F. Noise (continued)				
▪ The project sponsor of a development project in the Plan area shall require the general contractor to locate stationary noise sources (such as compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as five dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, if feasible. ▪ The project sponsor of a development project in the Plan area shall require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which could reduce noise levels by as much as 10 dBA. ▪ The project sponsor of a development project in the Plan area shall include noise control requirements in specifications provided to construction contractors. Such requirements could include, but not be limited to, performing all work in a manner that minimizes noise to the extent feasible; use of equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants, as feasible; and selecting haul routes that avoid residential buildings inasmuch as such routes are otherwise feasible. ▪ Prior to the issuance of each building permit, along with the submission of construction documents, the project sponsor of a development project in the Plan area shall submit to the Planning Department and Department of Building Inspection (DBI) a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include (1) a procedure and phone numbers for notifying DBI, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted on-site describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction; (3) designation of an on-site construction complaint and enforcement manager for the project; and (4) notification of				

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
F. Noise (continued)				
neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities (defined as activities generating noise levels of 90 dBA or greater) about the estimated duration of the activity.				
M-C-NO: Cumulative Construction Noise Control Measures. In addition to implementation of Mitigation Measure NO-2a and Mitigation Measure NO-2b (as applicable), prior to the time that construction of the proposed project is completed, the project sponsor of a development project in the Plan area shall cooperate with and participate in any City-sponsored construction noise control program for the Transit Center District Plan area or other City-sponsored areawide program developed to reduce potential effects of construction noise in the project vicinity. Elements of such a program could include a community liaison program to inform residents and building occupants of upcoming construction activities, staggering of construction schedules so that particularly noisy phases of work do not overlap at nearby project sites, and, potentially, noise and/or vibration monitoring during construction activities that are anticipated to be particularly disruptive.	Project sponsor and construction contractor of each subsequent development project; Planning Department, Department of Building Inspection, Department of Public Health, and/or other City department(s), as applicable.	During construction period, if City-sponsored noise control program(s) are promulgated.	City department(s) involved in development and enforcement of City-sponsored noise control program(s), if applicable.	Considered complete at conclusion of construction activities that generate substantial noise.
G. Air Quality				
M-AQ-2: Implementation of Risk and Hazard Overlay Zone and Identification of Health Risk Reduction Policies. To reduce the potential health risk resulting from exposure of new sensitive receptors to health risks from roadways, and stationary sources, and other non-permitted sources PM2.5 and TACs, the Planning Department shall require analysis of potential site-specific health risks for all projects that would include sensitive receptors, based on criteria as established by the Planning Department, as such criteria may be amended from time to time. For purposes of this measure, sensitive receptors are considered to include	Planning Department	Prior to approval of subsequent development projects for any required air quality analysis.	ERO to review and approve any required air quality analysis for subsequent development projects.	Considered complete for each subsequent development project upon ERO review and approval of air quality analysis, as applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
G. Air Quality (continued)				
dwelling units; child-care centers; schools (high school age and below); and inpatient health care facilities, including nursing or retirement homes and similar establishments. Parks and similar spaces are not considered sensitive receptors for purposes of this measure unless it is reasonably shown that a substantial number of persons are likely to spend three hours per day, on a daily basis, at such facilities. Development projects in the Plan area that would include sensitive receptors shall undergo, during the environmental review process and no later than the first project approval action, a screening-level health risk analysis, consistent with methodology approved by the Planning Department, to determine if health risks from pollutant concentrations would exceed BAAQMD thresholds or other applicable criteria as determined by the Environmental Review Officer. If one or more thresholds would be exceeded at the site of the subsequent project where sensitive receptors would be located, the project (or portion of the project containing sensitive receptors, in the case of a mixed-use project) shall be equipped with filtration systems with a Minimum Efficiency Reporting Value (MERV) rating of 13 or higher, as necessary to reduce the outdoor-to-indoor infiltration of air pollutants by 80 percent. The ventilation system shall be designed by an engineer certified by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. The project sponsor shall present a plan to ensure ongoing maintenance of ventilation and filtration systems and shall ensure the disclosure to buyers and/or renters regarding the findings of the analysis and inform occupants as to proper use of any installed air filtration.				
M-AQ-3: Siting of Uses that Emit DPM and Other TACs. To minimize potential exposure of sensitive receptors to diesel particulate matter (DPM), for new development including warehousing and distribution centers, and for new development including commercial, industrial or other uses that would be expected to generate substantial levels of toxic air contaminants (TACs) as part of everyday operations, whether from stationary or mobile sources,	Planning Department	Prior to approval of subsequent development projects for any required air quality analysis.	ERO to review and approve any required air quality analysis for subsequent development projects.	Considered complete for each subsequent development project upon ERO review and approval of air quality analysis, as applicable.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
G. Air Quality (continued)				
the Planning Department shall require, during the environmental review process but no later than the first project approval action, the preparation of an analysis that includes, at a minimum, a site survey to identify residential or other sensitive uses within 1,000 feet of the project site, and an assessment of the health risk from potential stationary and mobile sources of TACs generated by the project. If risks to nearby receptors are found to exceed applicable significance thresholds, then emissions controls would be required prior to project approval to ensure that health risks would not be significant.				
M-AQ-4a: Construction Vehicle Emissions Minimization. To reduce construction vehicle emissions, the project sponsor shall incorporate the following into construction specifications: ▪ All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.	Project sponsor and construction contractor for any subsequent development project pursuant to the Transit Center District Plan.	During construction.	Project sponsor and construction contractor.	Project sponsor shall submit affidavit at the completion of construction that construction equipment has been properly operated.
M-AQ-4b: Dust Control Plan. To reduce construction-related dust emissions, the project sponsor of each development project in the Plan area and each public infrastructure project (such as improvements to the public realm) in the Plan area on a site of one-half acre or less but that would require more than 5,000 cubic yards of excavation lasting four weeks or longer shall incorporate into construction specifications the requirement for development and implementation of a site-specific Dust Control Plan as set forth in Article 22B of the *San Francisco Health Code*. The Dust Control Plan shall require the project sponsor to: submit a map to the Director of Public Health showing all sensitive receptors within 1,000 feet of the site; wet down areas of soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent, third party to conduct inspections and keep a record of those inspections; establish shut-down conditions based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be potentially affected by project-related dust;	Project sponsor and construction contractor for any subsequent development project pursuant to the Transit Center District Plan.	Prior to the start of earthmoving activities.	S.F. Department of Public Health (DPH), Planning Department.	Considered complete upon DPH and ERO review of Dust Control Plan.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
G. Air Quality (continued)				
limit the area subject to construction activities at any one time; install dust curtains and windbreaks on the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and secure soils with a tarpaulin; enforce a 15 mph speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and utilize wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; apply soil stabilizers to inactive areas; and sweep adjacent streets to reduce particulate emissions. The project sponsor would be required to designate an individual to monitor compliance with dust control requirements.				
M-AQ-5 Construction Vehicle Emissions Evaluation and Minimization: To reduce the potential health risk resulting from project construction activities, the project sponsor of each development project in the Plan area shall undertake a project-specific health risk analysis, or other appropriate analysis as determined by the Environmental Planning Division of the Planning Department, for diesel-powered and other applicable construction equipment, using the methodology recommended by the Planning Department. If the analysis determines that construction emissions would exceed applicable health risk significance threshold(s) identified by the Planning Department, the project sponsor shall include in contract specifications a requirement that the contractor use the cleanest possible construction equipment and exercise best practices for limiting construction exhaust. Measures may include, but are not limited to, the following: ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes; ▪ The project shall develop a Construction Emissions Minimization demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to the maximum extent feasible. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards, the	Project sponsor and construction contractor for any subsequent development project pursuant to the Transit Center District Plan.	Prior to the start of heavy diesel equipment use on site.	ERO to review and approve health risk assessment, or other appropriate analysis.	Considered complete upon ERO review and acceptance of health risk assessment, or other appropriate analysis.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
G. Air Quality (continued)				
use of other late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available; ▪ All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use; ▪ All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and ▪ The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available. During the environmental review process, the project sponsor shall submit a Construction Emissions Minimization Plan demonstrating compliance with the requirements of this mitigation measure.				
I. Wind				
M-WI-2: Tower Design to Minimize Pedestrian Wind Speeds. As part of the design development for buildings on Parcel F and at the 524 Howard Street, 50 First Street, 181 Fremont Street and Golden Gate University sites, the project sponsor(s) shall consider the potential effect of these buildings on pedestrian-level winds and on winds in the City Park atop the Transit Center. If wind-tunnel testing identifies adverse impacts, the project sponsor(s) shall conduct additional mitigation testing to resolve impacts to the maximum degree possible and to the satisfaction of Planning Department staff. Design features could include, but not be limited to, setting a tower atop a podium, which can interfere with "downwash" of winds from higher elevations toward the ground; the use of setbacks on tower facades, particularly those facades facing into prevailing winds, which can have similar results; using chamfered and/or rounded corners to minimize the acceleration of upper-level winds as they round corners; façade articulation; and avoiding the placement of large, unbroken facades into prevailing winds.	Project sponsor of identified development projects and any other subsequent development project adjacent to the Transit Center.	Wind-tunnel testing to occur during environmental review; project revisions to occur prior to project approval.	ERO shall review and approve wind study.	Considered complete upon EOR acceptance of wind study.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
N. Biological Resources				
M-Bl-1a: Pre-Construction Bird Surveys. Conditions of approval for building permits issued for construction within the Plan area shall include a requirement for pre-construction breeding bird surveys when trees or vegetation would be removed or buildings demolished as part of an individual project. Pre-construction nesting bird surveys shall be conducted by a qualified biologist between February 1st and August 15th if vegetation (trees or shrubs) removal or building demolition is scheduled to take place during that period. If special-status bird species are found to be nesting in or near any work area or, for compliance with federal and state law concerning migratory birds, if birds protected under the federal Migratory Bird Treaty Act or the California Fish and Game Code are found to be nesting in or near any work area, an appropriate no-work buffer zone (e.g., 100 feet for songbirds) shall be designated by the biologist. Depending on the species involved, input from the California Department of Fish and Game (CDFG) and/or the U.S. Fish and Wildlife Service (USFWS) Division of Migratory Bird Management may be warranted. As recommended by the biologist, no activities shall be conducted within the no-work buffer zone that could disrupt bird breeding. Outside of the breeding season (August 16 – January 31), or after young birds have fledged, as determined by the biologist, work activities may proceed. Birds that establish nests during the construction period are considered habituated to such activity and no buffer shall be required, except as needed to avoid direct destruction of the nest, which would still be prohibited.	Planning Department; Project sponsor of any subsequent development project pursuant to the Transit Center District Plan.	Prior to project approval.	ERO to review and approve bird survey.	Considered complete upon ERO approval of bird survey.
M-Bl-1b: Pre-Construction Bat Surveys. Conditions of approval for building permits issued for construction within the Plan area shall include a requirement for pre-construction special-status bat surveys when large trees are to be removed or underutilized or vacant buildings are to be demolished. If active day or night roosts are found, the bat biologist shall take actions to make such roosts unsuitable habitat prior to tree removal or building demolition. A no disturbance buffer shall be created around active bat roosts being used for maternity or hibernation purposes at a distance to be determined in consultation with CDFG. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would necessary.	Planning Department; Project sponsor of any subsequent development project pursuant to the Transit Center District Plan.	Prior to project approval.	ERO to review and approve bat survey.	Considered complete upon ERO approval of bat survey.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
Q. Hazards and Hazardous Materials				
M-HZ-2a: Site Assessment and Corrective Action for Sites Located Bayward of Historic Tide Line. For any project located bayward of the historic high tide line the project sponsor shall initiate compliance with, and ensure that the project fully complies with, Article 22A of the San Francisco Health Code. In accordance with this article, a site history report shall be prepared, and if appropriate, a soil investigation, soil analysis report, site mitigation plan, and certification report shall also be prepared. If the presence of hazardous materials is indicated, a site health and safety plan shall also be required. The soil analysis report is submitted to DPH. If required on the basis of the soil analysis report, a site mitigation plan shall be prepared to 1) assess potential environmental and health and safety risks; 2) recommend cleanup levels and mitigation measures, if any are necessary, that would be protective of workers and visitors to the property; 3) recommend measures to mitigate the risks identified; 4) identify appropriate waste disposal and handling requirements; and 5) present criteria for on-site reuse of soil. The recommended measures would be completed during construction. Upon completion, a certification report shall be prepared documenting that all mitigation measures recommended in the site mitigation report have been completed and that completion of the mitigation measures has been verified through follow-up soil sampling and analysis, if required. If the approved site mitigation plan includes leaving hazardous materials in soil or the groundwater with containment measures such as landscaping or a cap to prevent exposure to hazardous materials, the project sponsor shall ensure the preparation of a risk management plan, health and safety plan, and possibly a cap maintenance plan in accordance with DPH requirements. These plans shall specify how unsafe exposure to hazardous materials left in place would be prevented, as well as safe procedures for handling hazardous materials should site disturbance be required. DPH could require a deed notice, for example, prohibiting or limiting certain future land uses, and the requirements of these plans and the deed restriction would transfer to the new property owners in the event that the property was sold.	Project sponsor of any subsequent development project pursuant to the Transit Center District Plan that is bayward of the historic high tide line.	Analysis to occur during environmental review; remedial actions, if any, to occur prior to issuance of site permit.	Planning Department, S.F. Department of Public Health (DPH).	Considered complete upon ERO and DPH review and approval of site history and, if appropriate, soil investigation, soil analysis report, site mitigation plan, and certification report, and any studies and remediation required by DPH.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
Q. Hazards and Hazardous Materials (continued)				
M-HZ-2b: Site Assessment and Corrective Action for Projects Landward of the Historic High Tide Line. For any project that is not located bayward of the historic high tide line, the project sponsor shall ensure that a site-specific Phase I environmental site assessment is prepared prior to development. The site assessment shall include visual inspection of the property; review of historical documents; and review of environmental databases to assess the potential for contamination from sources such as underground storage tanks, current and historical site operations, and migration from off-site sources. The project sponsor shall ensure that the Phase I assessment and any related documentation is provided to the Planning Department's Environmental Planning (EP) division and, if required by EP, to DPH for review and consideration of potential corrective action. Where the Phase I site assessment indicates evidence of site contamination, additional data shall be gathered during a Phase II investigation, including sampling and laboratory analysis of the soil and groundwater for the suspected chemicals to identify the nature and extent of contamination. If the level(s) of chemical(s) would create an unacceptable risk to human health or the environment, appropriate cleanup levels for each chemical, based on current and planned land use, shall be determined in accordance with accepted procedures adopted by the lead regulatory agency providing oversight (e.g., the DTSC, the RWQCB, or DPH). At sites where there are ecological receptors such as sensitive plant or animal species that could be exposed, cleanup levels shall be determined according to the accepted ecological risk assessment methodology of the lead agency, and shall be protective of ecological receptors known to be present at the site. If agreed-upon cleanup levels were exceeded, a remedial action plan or similar plan for remediation shall be prepared and submitted review and approval by the appropriate regulatory agency. The plan shall include proposed methods to remove or treat identified chemicals to the approved cleanup levels or containment measures to prevent exposure to chemicals left in place at concentrations greater than cleanup levels.	Project sponsor of any subsequent development project pursuant to the Transit Center District Plan that is landward of the historic high tide line.	Analysis to occur during environmental review; remedial actions, if any, to occur prior to issuance of site permit.	Planning Department, S.F. Department of Public Health (DPH).	Considered complete upon ERO and DPH review and approval of Phase I site assessment and, if appropriate, additional studies and remediation as required by DPH.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
Q. Hazards and Hazardous Materials (continued)				
Upon determination that a site remediation has been successfully completed, the regulatory agency shall issue a closure letter to the responsible party. For sites that are cleaned to levels that do not allow unrestricted land use, or where containment measures were used to prevent exposure to hazardous materials, the DTSC may require a limitation on the future use of the property. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners. A risk management plan, health and safety plan, and possibly a cap maintenance plan could be required. These plans would specify procedures for preventing unsafe exposure to hazardous materials left in place and safe procedures for handling hazardous materials should site disturbance be required. The requirements of these plans and the land use restriction shall transfer to the new property owners in the event that the property is sold.				
M-HZ-2c: Site Assessment and Corrective Action for All Sites. The project sponsor shall characterize the site, including subsurface features such as utility corridors, and identify whether volatile chemicals are detected at or above risk screening levels in the subsurface. If so, If potential exposure to vapors is suspected, a screening evaluation shall be conducted in accordance with guidance developed by the DTSC to estimate worst case risks to building occupants from vapor intrusion using site specific data and conservative assumptions specified in the guidance. If an unacceptable risk were indicated by this conservative analysis, then additional site data shall be collected and a site specific vapor intrusion evaluation, including fate and transport modeling, shall be required to more accurately evaluate site risks. Should the site specific evaluation identify substantial risks, then additional measures shall be required to reduce risks to acceptable levels. These measures could include remediation of site soil and/or groundwater to remove vapor sources, or, should this be infeasible, use of engineering controls such as a passive or active vent system and a membrane system to control vapor intrusion. Where engineering controls are used, a deed restriction shall be required, and shall include a description of the potential cause of vapors, a prohibition against construction without removal or	Project sponsor of any subsequent development project pursuant to the Transit Center District Plan.	Analysis to occur during environmental review; remedial actions, if any, to occur prior to issuance of site permit.+	Planning Department, S.F. Department of Public Health (DPH).	Considered complete upon ERO and DPH review and approval of any studies and remediation required by DPH.

EXHIBIT 1:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

1. MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
Q. Hazards and Hazardous Materials (continued)				
treatment of contamination to approved risk-based levels, monitoring of the engineering controls to prevent vapor intrusion until risk-based cleanup levels have been met, and notification requirements to utility workers or contractors who may have contact with contaminated soil and groundwater while installing utilities or undertaking construction activities. In addition, if remediation is necessary, the project sponsor shall implement long-term monitoring at the site as needed. The frequency of sampling and the duration of monitoring will depend upon site-specific conditions and the degree of volatile chemical contamination. The screening level and site-specific evaluations shall be conducted under the oversight of DPH and methods for compliance shall be specified in the site mitigation plan prepared in accordance with this measure, and subject to review and approval by the DPH. The deed restriction, if required, shall be recorded at the San Francisco Office of the Assessor-Recorder after approval by the DPH and DTSC.				
M-HZ-3: Hazardous Building Materials Abatement. The project sponsor of any development project in the Plan area shall ensure that any building planned for demolition or renovation is surveyed for hazardous building materials including PCB-containing electrical equipment, fluorescent light ballasts containing PCBs or DEHP, and fluorescent light tubes containing mercury vapors. These materials shall be removed and properly disposed of prior to the start of demolition or renovation. Old light ballasts that are proposed to be removed during renovation shall be evaluated for the presence of PCBs and in the case where the presence of PCBs in the light ballast cannot be verified, they shall be assumed to contain PCBs, and handled and disposed of as such, according to applicable laws and regulations. Any other hazardous building materials identified either before or during demolition or renovation shall be abated according to federal, state, and local laws and regulations.	Project sponsor of any subsequent development project pursuant to the Transit Center District Plan.	Prior to building demolition.	Planning Department, S.F. Department of Public Health (DPH).	Considered complete upon ERO and DPH review and approval of project's sponsor's documentation regarding hazardous building materials, to be submitted prior to building demolition.

EXHIBIT C:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

2. MITIGATION MEASURES DETERMINED TO BE INFEASIBLE	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
M-TR-1I: Mid-Block Signalized Intersection Improvements. At the signalized intersections proposed in the public realm plan at Second / Natoma Streets; First / Minna Streets; First / Natoma Streets; Fremont / Tehama Streets; and Fremont Street / Transit Center Bus Plaza, the following improvements could improve traffic operations: ▪ At Second / Natoma Streets, the Municipal Transportation Agency (MTA) could install bulb-outs on the north and south crosswalks to reduce pedestrian crossing distances and times, allowing more green time for through traffic along Second Street; ▪ At First / Minna Streets and First / Natoma Streets, the Municipal Transportation Agency (MTA) could provide additional lane capacity on First Street; ▪ At Fremont / Natoma Streets and Fremont Street at the Transit Center Bus Plaza, the signal could be designed with two signal phases instead of three.	N/A	N/A	N/A	N/A
The following measures were also determined infeasible: ▪ New Montgomery / Mission Streets (Optimize signal timing) ▪ Third / Howard Streets (Optimize signal timing) ▪ New Montgomery / Howard Streets (Optimize signal timing) ▪ Fremont / Howard Streets (Prohibit eastbound p.m. peak left turns and optimize signal) ▪ Main / Howard Streets (Prohibit eastbound p.m. peak left turns and optimize signal) ▪ Spear / Howard Streets (Add northbound and southbound left-turn pockets, prohibit eastbound p.m. peak left turns and optimize signal)	N/A	N/A	N/A	N/A

EXHIBIT 1, ATTACHMENT A:
MITIGATION MONITORING AND REPORTING PROGRAM
(Including the Text of the Mitigation Measures Adopted as Conditions of Approval and Proposed Improvement Measures)

3. PROPOSED IMPROVEMENT MEASURES	Responsibility for Implementation	Mitigation Schedule	Monitoring/Report Responsibility	Status/Date Completed
N. Biological Resources				
I-BI-2: Night Lighting Minimization. In compliance with the voluntary San Francisco Lights Out Program, the Planning Department could encourage buildings developed pursuant to the draft Plan to implement bird-safe building operations to prevent and minimize bird strike impacts, including but not limited to the following measures: ▪ Reduce building lighting from exterior sources by: - Minimizing amount and visual impact of perimeter lighting and façade up-lighting and avoid up-lighting of rooftop antennae and other tall equipment, as well as of any decorative features; - Installing motion-sensor lighting; - Utilizing minimum wattage fixtures to achieve required lighting levels. ▪ Reduce building lighting from interior sources by: - Dimming lights in lobbies, perimeter circulation areas, and atria; - Turning off all unnecessary lighting by 11:00 p.m. through sunrise, especially during peak migration periods (mid-March to early June and late August through late October); - Utilizing automatic controls (motion sensors, photo-sensors, etc.) to shut off lights in the evening when no one is present; - Encouraging the use of localized task lighting to reduce the need for more extensive overhead lighting; - Scheduling nightly maintenance to conclude by 11:00 p.m.; - Educating building users about the dangers of night lighting to birds.	Planning Department, working with project sponsors of each subsequent development project	During the environmental review process	Planning Department	Considered complete upon approval of building plans by Planning Department.

CHAPTER V
Other CEQA Considerations

A. Growth Inducement

As described in Section IV.C, Population and Housing, Business Activity, and Employment, implementation of the draft Plan would accommodate an additional 8,000 jobs in downtown San Francisco beyond what could be accommodated under existing zoning (including existing height limits). Analysis of the future demand for office space undertaking for the Planning Department as part of development of the draft Plan concluded that, without an increase in Downtown development potential, the City would lack sufficient capacity to accommodate the anticipated future demand for office space.

In this regard, adoption and implementation of the draft Plan could been seen as removing an impediment to future growth in San Francisco. In fact, as described in Chapter II, Project Description:

> The overarching premise of the Transit Center District Plan is to continue the concentration of additional growth where it is most responsible and productive to do so—in proximity to San Francisco's greatest concentration of public transit service. The increase in development, in turn, will provide additional revenue for the Transit Center project and for the necessary improvements and infrastructure in the District.[460]

Thus, the draft Plan seeks to accommodate future growth, including office growth, in downtown San Francisco in a manner that builds on the *General Plan* Urban Design Element and the Downtown Plan; capitalizes on major transit investment (notably, the new Transit Center currently under construction); provides a supporting network of streets and open spaces, along with public amenities; generates financial support for the new Transit Center; and ensures that the Plan area is environmentally sustainable. The potentially significant impacts of new growth associated with the draft Plan are described in this EIR.

With regard to the proposed Transit Tower, it would accommodate a portion of the anticipated demand for office space in a signature tower that is complementary in design to the new Transit Center, and that would generate substantial funding in support of the Transit Center.

Effects of implementing the draft Plan's objectives and policies, including proposed rezoning, and of developing the proposed Transit Tower, are described in Chapter IV.

---

[460] November 2009 draft, p. 4

B. Significant Environmental Effects that Cannot Be Avoided if the Proposed Project Is Implemented

In accordance with Section 21067 of the California Environmental Quality Act (CEQA), and with Sections 15040, 15081 and 15082 of the State CEQA Guidelines, potential impacts that could not be eliminated or reduced to an insignificant level are limited to effects related to aesthetics, cultural (historic architectural) resources, transportation, noise, air quality, and shadow. The following significant and unavoidable impacts are identified in this EIR:

Impact AE-3: The draft Plan would alter public views of the Plan area from key long-range vantage points.

Impact C-AE-1: The draft Plan, in combination with the Transit Tower and other foreseeable projects nearby, would alter the visual character of the greater Downtown and would alter public views of and through the greater Downtown, but would not adversely affect scenic resources or substantially increase light and glare.

Impact CP-3: Changes to the zoning controls in the Plan area could result in adverse impacts to historic architectural resources through demolition or substantial alteration.

Impact C-CP: Development pursuant to the draft Plan, along with cumulative development, including the Transit Tower, could adversely affect historical resources.

Impact TR-1: Traffic growth related to the draft Plan, including the street changes, would adversely affect local intersection operation, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.

Impact TR-2: Traffic growth related to the draft Plan, including the street changes, would result in a considerable contribution to congested operations at the Fourth/Harrison Streets and First/Harrison Streets freeway on-ramps, and therefore would conflict with established measures of effectiveness for the performance of the circulation system.

Impact TR-3: Transit ridership related to the draft Plan, including the street changes, would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result.

Impact TR-4: Pedestrian activity resulting from implementation of the draft Plan would cause the level of service at sidewalks, street corners, and crosswalks to deteriorate.

Impact TR-5: Development of large projects pursuant to the draft Plan would create potentially hazardous conditions for pedestrians and otherwise interfere with pedestrian accessibility.

Impact TR-6: Implementation of the draft Plan would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

Impact TR-7: Implementation of the draft Plan would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles, and pedestrians.

Impact TR-9: Plan area construction, including construction of individual projects and ongoing construction of the Transit Center, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.

Impact TR-10: Traffic generated by the proposed Transit Tower would increase average vehicle delay and would degrade level of service at local intersections.

Impact TR-12: The proposed Transit Tower would not result in substantial overcrowding on public sidewalks, but would create potentially hazardous conditions for pedestrians or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

Impact TR-14: The proposed project would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and could create potentially hazardous conditions or significant delays affecting traffic, transit, bicycles and pedestrians.

Impact TR-16: Project construction, along with construction of the Transit Center and other nearby projects, would result in disruption of nearby streets, transit service, and pedestrian and bicycle circulation.

Impact NO-1: Implementation of the draft Plan would not result in a substantial permanent increase in ambient noise or vibration levels, but Plan implementation could result in exposure of persons to noise levels in excess of standards in the San Francisco General Plan and could introduce new sensitive uses that would be affected by existing noise levels.

Impact NO-3: Construction activities in the Plan area could expose persons to temporary increases in vibration levels substantially in excess of ambient levels.

Impact C-NO: The draft Plan and proposed Transit Tower, in combination with past, present, and reasonably foreseeable future projects, would result in cumulative noise impacts.

Impact AQ-2: The draft Plan would expose sensitive receptors to substantial concentrations of PM2.5 and toxic air contaminants.

Impact AQ-3: The draft Plan would expose sensitive receptors to substantial pollutant concentrations by exposing existing sensitive receptors to potentially elevated levels of PM2.5 and toxic air contaminants from new vehicles and equipment.

Impact AQ-4: Implementation of the draft Plan would result in construction-period emissions of criteria air pollutants, including ozone precursors, that would contribute to an existing or projected air quality violation or result in a cumulatively considerable increase in criteria pollutants, and could expose sensitive receptors to substantial levels of construction dust.

Impact AQ-5: Implementation of the draft Plan could expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.

Impact AQ-7: Construction of the Transit Tower would expose sensitive receptors to substantial levels of toxic air contaminants generated by construction equipment.

Impact C-AQ: The draft Plan and the proposed Transit Tower would contribute considerably to cumulative air quality impacts.

Impact SH-1: The draft Plan would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.

Impact SH-2: The proposed Transit Tower would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.

Impact C-SH: The draft Plan, including the proposed Transit Tower, would contribute to cumulative new shadow that would adversely affect the use of various parks under the jurisdiction of the Recreation and Park Department and, potentially, other open spaces.

C. Significant Irreversible Environmental Changes That Would Result if the Proposed Project is Implemented

In accordance with Section 21100(b)(2)(B) of CEQA, and Section 15126.2(c) of the CEQA Guidelines, an EIR must identify any significant irreversible environmental changes that could result from implementation of the proposed project. This may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

In general, such irreversible commitments include resources such as energy consumed and construction materials used in construction of a proposed project, as well as the energy and natural resources (notably water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project. This latter commitment of resources to project operation essentially assumes that residents or occupants would not require a similar commitment but for the proposed project; that is, in the case of the Transit Center District Plan and the Transit Tower, occupants of Plan area office space would not work in San Francisco, new residents in Plan area dwelling units would not live in San Francisco, and guests in new Plan area hotel rooms would not visit the City, unless new development in the Plan area were undertaken. Such a condition is unlikely (because other office space, residential units, and hotel rooms are, and will continue to be available in the City and because only a portion of employees or residents in any given new building are likely to relocate to the area as a result of their employment or housing), although the assumption is consistent with similar conservative assumptions underlying the rest of the analyses in the EIR (e.g., that trips generated by workers, residents, and guests to and from Plan area buildings would not occur in downtown San Francisco unless new development were constructed).

In this light, it can be said that the proposed project would intensify development in the Plan area and at the Transit Tower project site, although as noted elsewhere in this EIR, the draft Plan and the proposed Transit Tower would be generally consistent with land use and development patterns in the built-out urban environment that characterizes downtown San Francisco. Development pursuant to the draft Plan, including development of the Transit Tower project, would commit future generations to an irreversible commitment of energy, primarily in the form of fossil fuels for heating and cooling of buildings, for automobile and truck fuel, and for energy production for lighting, computers, and other equipment in the Plan area buildings. Implementation of the draft Plan, including the proposed Transit Tower, would also require an ongoing commitment of potable water for building occupants and landscaping, although the draft Plan includes policies intended to reduce potable water consumption, and the Transit Center and proposed Transit Tower would include such features. Additionally, development projects in the Plan area, including the Transit Tower, would use fossil fuel during demolition of existing buildings and parking lots where new buildings would be located, and in construction of the proposed new buildings themselves. Construction would also require the commitment of construction materials, such as steel, aluminum, and other metals, concrete, masonry, lumber, sand and gravel, and other such materials, as

well as water. Because all development in the Plan area would comply with *California Code of Regulations* Title 24 and the City's Green Building Ordinance, this development would be expected to use less energy and water over the lifetime of newly constructed buildings than comparable structures not built to current standards. Therefore, it is not anticipated that development projects in the Plan area, including the Transit Tower, would use energy or water in a wasteful manner.

D. Areas of Known Controversy and Issues to Be Resolved

On the basis of public comments on the NOP, it is believed that areas of controversy with respect to the draft Plan and Transit Tower include the potential for shadow impacts on Recreation and Park Department parks and other open spaces, as well as recreation and park impacts generally; wind effects, including combined effects of wind, shadow, and fog, and shading of sidewalks; aesthetic impacts, including changes in views from entry points to the City and from elevated viewpoints outside downtown; effects on traffic, transit, pedestrians, and bicyclists, along with cumulative impacts associated with potential future high-speed rail service to the new Transit Center; potential contamination of soil and/or groundwater from historical uses and the resulting need for remediation; and seismic impacts, including effects on emergency vehicle access. Each of these issues is analyzed in this EIR.

In addition, comments were received with respect to concerns about the potential for greater development intensity than proposed in the draft Plan, and the use and applicability of the EIR and its analyses in consideration of development projects in the Plan area. With respect to the former, Chapter VI, Alternatives, includes an alternative identified as the Developer Scenario (Alternative D), under which towers at select sites are assumed to be built to greater heights, as proposed by project sponsors with projects on file at the Planning Department. Any development or subsequent project that is not encompassed within the proposed project or the range of alternatives analyzed in this EIR could be subject to future project-specific CEQA analysis. With respect to the use and applicability of this EIR with respect to subsequent development projects, the Planning Department anticipates, consistent with CEQA Guidelines Section 15183, considering whether subsequent projects require further environmental review, or whether they can rely, in general, on this EIR. Section 15183 provides an exemption from environmental review for projects that are consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site. The Planning Department has prepared such "community plan exemptions" for projects in the Eastern Neighborhoods and Market & Octavia plan areas, and may prepare such documents for projects in the proposed Transit Center District Plan area in the future.

CHAPTER VI
Alternatives to the Proposed Project

This chapter identifies alternatives to the proposed project and discusses environmental impacts associated with each alternative. Project decision-makers could adopt any of the following alternatives or an option that is within the range of alternatives analyzed, if feasible, instead of approving the proposed project. Under Section 15126.6 of the state CEQA Guidelines, an EIR is required to consider "...a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...."

This chapter analyzes the following alternatives to the Transit Center District Plan and the Transit Tower as proposed in November 2009 and March 2011, respectively:

- No Project Alternative (Alternative A);
- Reduced Project Alternative (Alternative B);
- Reduced Shadow Alternative (Alternative C); and
- Developer Scenario (Alternative D).

Alternatives to the Transit Tower are discussed within the description of each Plan alternative, following the discussion of the Plan alternative.

A. Alternative A: No Project

Description

CEQA Guidelines Section 15126.6(e)(3)(A) states that, generally, when a project being analyzed is the revision of an existing land use or regulatory plan—such as the Transit Center District Plan and *Planning Code* and Zoning Map revisions that would implement the plan—the No Project Alternative should be considered to be continuation of the existing plan into the future. "Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan." Consistent with this guidance, the No Project Alternative considered in this EIR, with respect to the draft Plan, is the maintenance of the existing zoning and height and bulk controls in the Plan area, and no adoption of the draft Plan. This alternative assumes that development in Zone 1 of the approved Transbay Redevelopment Plan area—primarily along the north side of Folsom Street east of Essex Street, and also between Beale and Main Streets south of Mission Street—would proceed consistent with the approved redevelopment plan. Approved development in the Rincon Hill Plan area would also proceed

consistent with that plan, and projects proposed west of the Transit Center District Plan area would also be undertaken, although at generally lesser heights than currently presumed.

Development assumptions for the No Project Alternative include the addition, in the Plan area, of approximately 4.2 million square feet of office space (about one-third less than with the project), approximately 500 dwelling units (about 60 percent fewer), and about 180 hotel rooms (less than one-fifth of the project's total). These assumptions reflect allowable development under existing zoning, allocated with respect to use according to historical development patterns in and around the Plan area. Ground-floor retail space would be similar, because the sites where development is anticipated would be essentially the same, although shorter, somewhat less bulky buildings would be developed. Total floor area developed would be about 40 percent less than with implementation of the draft Plan. As stated in Chapter II, Project Description, the Transit Tower site is currently zoned for a height limit of 30 feet, because the height limit was not increased subsequent to adoption of the Transbay Redevelopment Plan in 2005. While it is conceivable that development on the Transit Tower site could be undertaken in the form of a 30-foot-tall building consistent with the existing height limit, this is not considered reasonably foreseeable, given the land cost and development cost in downtown San Francisco. Moreover, such an outcome would be inconsistent with the adopted Redevelopment Plan (as well as with the proposed Transit Center District Plan). Therefore, the No Project Alternative assumes development of a 550-foot tall Transit Tower with approximately 564,000 square feet of office space, consistent with the Transbay Redevelopment Plan, although the No Project Alternative for the Transit Tower itself would involve no development of the site (see below).

There would be no change in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area. Although some of these cumulative projects might necessitate zoning changes (e.g., increased height limits), those actions would be unrelated to adoption of the draft Plan, and those projects are included in the No Project Alternative for purposes of a conservative assessment.

Table 45 sets forth a description of the alternatives and compares them to the draft Plan.

Transit Tower

Normally the no project alternative for an individual development project is "the circumstance under which the project does not proceed" (CEQA Guidelines Section 15126.6(e)(3)(B)). Accordingly, a project-specific No Project – No Build scenario for the proposed Transit Tower would involve no development on that site. A project-specific No Project – Existing Zoning Alternative for the Transit Tower would include development of a 30-foot-tall building, which is the height of the building that could be built on the Transit Tower site if the property were not rezoned.[461]

461 As stated in Chapter II, Project Description, the Transit Tower site is currently zoned for a height limit of 30 feet, because the height limit has not been increased subsequent to adoption of the Transbay Redevelopment Plan in 2005. While it is conceivable that development on the Transit Tower site could be undertaken in the form of a 30-foot-tall building consistent with the existing height limit, this is not considered reasonably foreseeable, given the land cost and development cost in downtown San Francisco. Moreover, such an outcome would be inconsistent with the adopted Redevelopment Plan (as well as with the proposed Transit Center District Plan).

TABLE 45
ALTERNATIVES TO THE DRAFT PLAN AND THEIR GENERALIZED SHADOW EFFECTS

Site	Draft Transit Center District Plan	A. No Project	B. Reduced Project	C. Reduced Shadow	D. Developer Scenario
	Height (feet)	Height (feet)	Height (feet)	Height (feet)	Height (feet)[a]
Projects That Would Vary in Height Under One or More Alternatives					
Transit Tower[b]	1,070	550	550	840	*1,070*
Applications on File					
350 Mission Street[c]	700	350	625	625	375
181 Fremont Street	700	350	640	640	*750*
50 First Street (Twr. A)	850	550	550	675	*915*
50 First Street (Twr. B)	550	300	300	450	*640*
Palace Hotel Tower	600	300	365	500	*727*
41 Tehama Street	360	200	360	360	*342*
201 Second Street[c]	350	350	250	350	350
No Applications					
TJPA Parcel F	750	450	465	450	750
Golden Gate Univ.	700	550	550	700	700
648-60 Howard Street	350	250	250	350	350
Projects That Would Not Vary in Height Under the Alternatives					
Applications on File					
222 Second Street[c]	350	350	350	350	350
No Applications					
524 Howard Street[d]	450	450	450	450	450
661-67 Howard Street	250	250	250	250	250
176 Second Street	150	150	150	150	150
	Development Program	**Development Program**	**Development Program**	**Development Program**	**Development Program**
Office (Square Feet)	6,200,000	4,200,000	3,800,000	5,300,000	6,100,000
Difference from Plan	—	-32%	-39%	-14%	-1%
Hotel (Rooms)	985	180	415	825	665
Difference from Plan	—	-86%	-68%	-36%	-49%
Residential (Units)	1,300	500	960	1,145	1,125
Difference from Plan	—	-62%	-26%	-12%	-13%
	Parks Shaded	**Parks Shaded**	**Parks Shaded**	**Parks Shaded**	**Parks Shaded**
Union Square	Yes	Yes	Yes	Yes	Yes
Portsmouth Square	Yes	Yes	Yes	Yes	Yes
St. Mary's Square	Yes	Yes	Yes	Yes	Yes
Justin Herman Plaza	Yes	No	No	No	Yes
Maritime Plaza	Yes	No	No	No	Yes
Willie Wong Plgrd.	Yes	No	No	Yes	Yes
Chinese Rec. Ctr.	Yes	No	No	No	Yes
Woh Hei Yuen Plgrd.	Yes	No	No	No	Yes
Boeddeker Park	Yes	No	No	No	Yes

[a] For developers' alternative, heights indicated for Transit Tower, 181 Fremont Street, 50 First Street, Palace Hotel tower, and 41 Tehama (indicated in *italics*)are total heights, including proposed rooftop sculptural extensions and parapets.

[b] The height indicated for the Transit Tower in the No Project Alternative is in the context of the draft Plan. As indicated in the text, the No Project Alternative for the Transit Tower is no build (zero feet).

[c] Project Approved. (In the case of 201 Second Street, a project was approved that would likely have to be modified due to the planned Caltrain downtown extension, which would pass partially beneath this site. The approved project is considered in the Reduced Project Alternative.)

[d] A prior approval for a 23-story, 202,000-sq.-ft. office building at 524 Howard Street was revoked by the Planning Commission on June 9, 2011 (Case Nos. 2011.0503B, 84.199BEKRX, 98.843BKX).

NOTE: Table does not itemize building sites of less than 100 feet in height, and does not include ground-floor retail space, which is anticipated to be similar under the Plan and each alternative.

No Project Alternative: Impacts

The analysis in this EIR evaluates impacts in the entire Plan area. The No Project Alternative considers development of the same sites where the EIR's analysis assumed development as set forth at the start of Chapter IV (see p. 72), but assumes that buildings at these sites would be developed to existing height limits, rather than the height limits that are proposed in the draft Plan. The No Project Alternative also assumes that other growth in the Plan area and the City would occur with or without implementation of the draft Plan.

Plan Impacts

Transportation

Effects related to the intensity of development would be reduced, compared to those of the proposed project (the draft Plan) because less office space and fewer residential units and hotel rooms would be developed. Daily and peak-hour vehicle trip generation would be approximately 36 percent less than with implementation of the draft Plan. This would result in incrementally less average vehicle delay at some local intersections, but the reduction in trip generation would result in minimal changes in the level of service at the 62 study intersections, compared to conditions with the proposed plan, and 47 of the 62 intersections would operate at LOS E or F in the p.m. peak hour, compared to 48 at LOS E or F under Plan conditions. In the morning peak hour, five of 12 study intersections would operate at LOS E or F, compared to seven with draft Plan implementation. This alternative would not avoid the draft Plan's **significant and unavoidable impacts** on LOS at the study intersections. Due to the concentration of intersections operating at LOS E or F in the Plan area, it is reasonable to expect vehicle queuing and transit delays to occur under the No Project Alternative, as would occur under the draft Plan. Likewise, as with the draft Plan, three of the five ramps analyzed would operate at LOS F under this alternative, although average vehicle delay attributable to this alternative would be incrementally less than with the draft Plan. Impacts on freeway ramps would be **significant and unavoidable**, as with the draft Plan.

Transit ridership would also be about 36 percent less than with implementation of the draft Plan. Revenue generated under the City's Transit Impact Development Fee (TIDF) program would also be reduced, by an estimated 37 percent. The relative reduction in ridership would avoid the draft Plan's significant impact on Muni capacity utilization on the northwest, southeast, and southwest screenlines in the p.m. peak hour and on the Geary and Haight/Noriega corridors in the a.m. peak hour and the Chestnut/Union corridor in the p.m. peak hour. However, other screenlines and corridors that would experience unacceptable levels of service under the draft Plan would also do so under this alternative and the impact, as under the Plan, would be **significant and unavoidable**. This alternative would avoid significant effects on regional transit (BART East Bay service and Golden Gate Transit buses).

Pedestrian and bicycle operations would not be markedly different under the No Project Alternative from those with implementation of the draft Plan, because this alternative would nevertheless result in substantial increases in pedestrian volume and bicycle ridership (about 60 percent of the Plan's increases). Effects with respect to pedestrian operations would be significant but mitigable, as with the draft Plan,

while bicycle impacts would be less than significant. As with the draft Plan, effects related to off-street freight loading would be **significant and unavoidable**.

The No Project Alternative would not implement public realm improvements proposed as part of the draft Plan, such as widened sidewalks and plantings, addition of mid-block signalized crosswalks, creation of some pedestrian-only alleyways near the Transit Center, and a pedestrian and bicycle path from Howard to Folsom Streets. The No Project Alternative also would not implement the draft Plan's proposed dedicated transit lanes on Mission, Fremont and Beale Streets, thereby potentially resulting in degradation in transit service, compared to conditions with the draft Plan, due to transit vehicles stuck in increasing congestion. Because the Transit Center is a separate project that is currently under construction and would continue even without the draft Plan, pedestrian activity in the area would be expected to increase beyond the level that would be associated solely with development in accordance with existing zoning. Under the No Project Alternative, pedestrian and bicycle amenities would not be provided to the degree that they would with implementation of the draft Plan.

Air Quality, Greenhouse Gas Emissions, and Noise

The relative reduction in vehicle trip generation would incrementally reduce emissions of criteria air pollutants and greenhouse gases (GHGs). These impacts would be less than significant with implementation of mitigation identified in the EIR, where applicable, as with the draft Plan. However, construction-related air quality emissions from development proceeding under current policies would result in a **significant, unavoidable impact**, as with the proposed project because, depending on construction schedules of individual projects, diesel-powered construction equipment that operates with emissions levels low enough to avoid exceeding the Bay Area Air Quality Management District's recommended thresholds of significance may not be available, at least during the early years of Plan implementation. Exposure of sensitive receptors (existing and future residents, along with child-care centers) to toxic air contaminants from existing and future stationary sources (mostly backup generators and on-site co-generation plants, as well as buses at the new Transit Center) would also result in a **significant and unavoidable impact**, as with the draft Plan.

On the other hand, it is noted that, to the extent that development precluded under this alternative from taking place in the Plan area were to occur elsewhere in the Bay Area, employees in and residents of that development could potentially generate substantially greater impacts on transportation systems, air quality, and greenhouse gases than would be the case for development of a similar amount of office space in the more compact and better-served-by-transit Plan area. This would be particularly likely for development in more outlying parts of the region where fewer services and less transit access is provided. Such development might occur in proximity to fewer people due to the lower densities of areas outside downtown San Francisco, thereby exposing fewer individuals to construction-related air pollutants; however, the operational impacts of such development would be relatively greater because lower density reduces transit accessibility, making it likely that equivalent amounts of office space would result in more vehicle trips in other locations.

This alternative would incrementally decrease traffic-generated noise, compared to that under the draft Plan, but noise impacts from traffic and cumulative construction noise, along with construction vibration, would be **significant and unavoidable**, as with the project.

Other Effects Related to the Intensity of Development

Effects related to recreation and public space, utilities and service systems, and public services would be less substantial than those of the draft Plan, given the reduced intensity of development; these effects would be less than significant, as with the proposed project.

Aesthetics

Aesthetic changes would be less noticeable than those of the draft Plan, because fewer buildings are assumed to be developed, and those that are would be considerably shorter. The existing maximum height limits would be retained, except that it is assumed that the Transit Tower site would be rezoned to a height limit of 550 feet, consistent with the tower analyzed for that site in the EIR for the approved Transbay Redevelopment Plan. Under the No Project Alternative, however, no height limits would be increased beyond the current maximum for the Plan area of 550 feet. From mid-range viewpoints (Figures 27B – 30B, pp. 122 - 128) and from Alamo Square (Figure 31B, p. 131) and Telegraph Hill (Figure 38B, p. 148), little change in the skyline, compared to existing conditions, would result from implementation of the No Project Alternative, and the effects would be far less substantial than the draft Plan's significant effects. However, as can be seen in several of the longer-range visual simulations in Section IV.B (Figures 32B through 37B, pp. 138 - 146, and Figures 39B and 40B, pp. 150 – 152), the No Project Alternative would result in changes to the skyline, compared to existing conditions. This is because the No Project Alternative assumes development in including Zone 1 of the approved Transbay Redevelopment Plan area would proceed consistent with that plan. Additionally, other nearby development, such as on Rincon Hill, is also assumed to proceed, as would projects west of the Plan area, albeit at lesser heights. Therefore, as shown in Figures 32B and 33B, for example, cumulative development under the No Project Alternative would result in obscuring the towers of the Bay Bridge and parts of the Bay and the East Bay Hills in certain views. Aesthetic changes in the Plan area, however, would consist of less substantial increases in building heights, compared to the draft Plan, thereby reinforcing the flattened skyline, or benched effect, of many buildings built to similar heights in the South Financial District, including the Plan area. The No Project alternative would not change height limits or otherwise encourage development beyond what is currently permitted; however, development would nevertheless contribute to the overall effects on these views and conservatively would be considered significant and unavoidable under this alternative. Nevertheless, unlike the draft Plan, the No Project Alternative would not emphasize the center Plan area as a major transportation hub, as called for in Policy 3.5 of the *General Plan* Urban Design Element, and would exacerbate the "benched" appearance of the skyline. Therefore, despite the potential for significant impact, the overall aesthetic effects of the draft Plan could be considered preferable to the No Project alternative on a subjective level. However, cumulative impacts would be **significant and unavoidable**, as with the draft Plan.

Shadow

The No Project Alternative would reduce shadow impacts, compared to the proposed project because the maximum height limit in the Plan area would remain at 550 feet, as under existing conditions. However, the No Project Alternative would not avoid the significant, unmitigable effects of the proposed project with respect to shadow, because building heights under existing zoning on certain sites within the northern portion of the Plan area would add new shadow to Union Square, Portsmouth Square, and St. Mary's Square. Unlike the Plan, this alternative would not add new shadow to Willie "Woo Woo" Wong Playground, Chinese Recreation Center, Woh Hei Yuen Park, Justin Herman Plaza, Maritime Plaza, or Boeddeker Park. Although the amount of new shadow would be substantially less than that cast by buildings that could be developed pursuant to the draft Plan, development pursuant to the No Project Alternative would require an increase in the Absolute Cumulative Limit for Union Square, Portsmouth Square and St. Mary's Square, which would be considered a **significant and unavoidable impact**. While sculpting or otherwise modifying individual buildings could be possible and would be likely to occur at the time such projects are considered for approval, at the programmatic level of this EIR, the potential for significant shadow would exist.

Wind

Effects on ground-level wind conditions would not be expected to differ substantially from those identified for the proposed project. Pedestrian-level wind speeds would generally increase incrementally under this alternative, likely to a somewhat lesser degree than with the taller buildings that would be permitted under the draft Plan. Like the project, this alternative would result in less-than-significant wind impacts, with mitigation. Wind effects on the planned City Park, however, would likely be similar to those anticipated with implementation of the draft Plan, because the presence of several very tall (450 to 550 feet) buildings immediately adjacent to the park would be expected to result in comparable effects to those of the Plan's even taller buildings. This is because tall buildings tend to influence ground-level winds to the greatest degree at locations adjacent to and very near those buildings.

Historic Architectural Resources

Because it would involve the same or very similar development sites as the project, albeit at reduced densities, this alternative, like the draft Plan, would result in a significant impacts on historical resources resulting from the demolition or substantial alteration of a number of historical resources, likely including three buildings on the west side of First Street north of Mission Street, one to three buildings on the north side of Howard Street across from Hawthorne Street, and one or two buildings on the south side of Howard Street, west of Hawthorne Street. Also like the draft Plan, this alternative could result in a substantial adverse effect on the Palace Hotel, City Landmark No. 18, and possibly on the New Montgomery-Second Street Conservation District, from construction of a residential tower at the southwest corner of the hotel site. As would be the case for the draft Plan, to the extent that historical resources would be adversely affected by development projects in the Plan area, effects on historical resources would be **significant and unavoidable**. However, it is likely that, in the absence of Plan adoption and rezoning to permit greater heights than currently allowed, some subsequent development

projects envisioned under the draft Plan would not proceed, because there would be less economic incentive without the greater permitted height. Therefore, effects of this alternative on historical resources, though **significant and unavoidable**, would be anticipated to be somewhat less substantial than those of the project.

Biological Resources

Effects on biological resources would be similar to those resulting from implementation of the draft Plan. While the No Project Alternative would not permit buildings as tall as those that would be allowed under the draft Plan, as described in Section IV.N, Biological Resources, the lower stories of highly glazed buildings tend to result in the greatest risk of bird strikes because reflections of attractive ground-level features like vegetation can confuse birds and result in collisions. On the other hand, this alternative would result in fewer new lighting sources in the form of tall buildings that project above existing development, compared with implementation of the draft Plan. Therefore, effects related to bird strikes would be similar to, or somewhat less substantial than, those of the proposed project. This impact, however, would be rendered less than significant by compliance with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings*, and other effects to biological resources could be reduced to a less-than-significant level through implementation of mitigation measures identified in the EIR. Therefore, as with the draft Plan, effects on biological resources would be less than significant with mitigation.

Other Effects Related to the Site-Specific Conditions

Impacts related to site-specific conditions, such as those related subsurface cultural (archeological) resources, geology, hydrology and water quality, and hazardous materials would be similar to those of the draft Plan because the same or very similar development sites would be involved. It is not anticipated that foundation systems (and, therefore, ground-disturbing activities) would be substantially different than with development pursuant to the draft Plan, because the No Project Alternative would construct high-rise buildings on the same sites. With respect to archeological resources, the same mitigation measures as are applicable to the project would reduce these effects to a less-than-significant level.

As with the draft Plan, the No Project Alternative would have less-than-significant impacts related to mineral and energy resources and no impacts on agricultural or forest resources.

Transit Tower Impacts

Under the No Project Alternative for the Transit Tower (No Build scenario), the Transit Tower project would not be undertaken. The project site, immediately north of the Transit Center, would remain vacant for the foreseeable future. The site thus would retain the undeveloped character of the space along Mission Street between First and Fremont Streets. At some indeterminate point in the future, the Transbay Joint Powers Authority (TJPA) would either sell the property to a private developer or would pursue development of the site. Under this scenario, none of the impacts described for the Transit Tower in Chapter IV would occur. Given the site's prominent location, however, and its ownership by the TJPA, which is developing the new Transit Center, it is likely that another project would be conceived for this

site in the near future. To the extent that it were to differ from the Transit Tower as currently proposed, any such project would be subject to its own CEQA review at such time as it were proposed. Because the proposed Mission Square open space at Fremont and Mission Streets would be funded through the development of the proposed Transit Tower, neither the No Build scenario nor the construction of a 30-foot-tall building under the Existing Zoning scenario would result in creation of this open space.

With either the No Build scenario or development of a 30-foot-tall building at the Transit Tower site, trip generation at that location would be substantially less than assumed with the draft Plan. This would incrementally reduce vehicle delays at nearby intersections, although it is not anticipated that any significant intersection degradation would be avoided because of the volume of traffic generated by other Plan area sites and other development outside of the Plan area. Transit ridership would be reduced, but not to a degree that would avoid significant impacts due to Plan area and other growth. Likewise, pedestrian and bicycle congestion and shortfalls of off-street loading and parking related to the Transit Tower site would be reduced; the Transit Tower-specific significant impact related to loading would be eliminated.

Both the No Build scenario and development of a 30-foot-tall building at the Transit Tower site would reduce Tower-specific emissions to a negligible volume. Assuming no subsurface construction, such a building might not result in significant, unavoidable construction-period impacts due to exposure of sensitive receptors to diesel emissions.

A 30-foot-tall building at the Transit Tower site would not be visible from locations outside the immediate neighborhood, and thus would likely have negligible aesthetic impacts. (The No Build scenario would have no effects related to aesthetics.)

A 30-foot-tall building at the Transit Tower site would not shade any open spaces protected by *Planning Code* Section 295, nor would it cast any meaningful shadow on nearby privately owned, publicly accessible open spaces. Moreover, a 30-foot-tall building would not be subject to Section 295. A 30-foot building would not cast new shadow on any streets protected by *Planning Code* Section 146(a), although it would be subject to Sections 146(c) and 147. No adverse effects would be anticipated. (The No Build scenario would have no effects related to shading of open space.)

A 30-foot-tall building at the Transit Tower site would not result in any perceptible wind effects, and would likely reduce wind speeds in areas of City Park closest to the Transit Tower site, compared to conditions with a 550-foot or taller Tower. (The No Build scenario would have no wind impacts.)

Neither the No Build scenario nor development of a 30-foot-tall building at the Transit Tower site would have no effects on historical resources.

A 30-foot-tall building at the Transit Tower site would, as with the proposed Transit Tower, be required to comply with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings*. Biological resources impacts, therefore, would be less than significant. Since the City Park level of the Transit Center will be 70 feet above grade level, any building below that height would largely eliminate the potential for

bird strike impacts at City Park associated with the proposed Transit Tower. (The No Build scenario would have no effects on biological resources.)

Depending on the level of excavation proposed, a 30-foot building at the Transit Tower site would be expected to substantially reduce impacts on archeological resources, compared to those of the draft Plan, because less ground disturbance would be anticipated. (The No Build scenario would avoid any effects on archeological resources.)

Project Objectives

Transit Center District Plan

Because the No Project Alternative would develop approximately 40 percent less total floor area than the draft Plan, this alternative would be less successful than the Plan in "continu[ing] the concentration of additional growth where it is most responsible and productive to do so—in proximity to San Francisco's greatest concentration of public transit service," which is the overarching premise behind the draft Plan. Additionally, the No Project Alternative would not achieve the draft Plan's goal of accommodating projected job growth in San Francisco for the next 25 years, based on a study commissioned by the Planning Department.[462] Without the public realm improvements proposed under the draft Plan, the No Project Alternative would not achieve the draft Plan's goal of creating "a framework for a network of public streets and open spaces that support the transit system, and ... a wide variety of public amenities and a world-class pedestrian experience," nor would this alternative generate as much financial support for the new Transit Center that is currently under construction. The No Project Alternative could, however, "support existing city environmental, sustainability and climate change objectives." Under this alternative, the amount of impact fees collected from new development in the Plan area and directed to public improvements would be lower than with implementation of the draft Plan, particularly if the financing mechanisms described in the draft Plan were not established.

Transit Tower

The No Build Alternative (No Project alternative for the Transit Tower) would not result in development of the proposed Transit Tower site; therefore, it would not achieve any of the project objectives.

The No Project – Existing Zoning Alternative (No Project alternative for the TCDP) would result in a 30-foot-tall building on the proposed Transit Tower site, which also would not achieve any of the project objectives. It would not create a visual focal point for downtown San Francisco because the 30-foot building would not be visible from a distance; it would create only a negligible amount of new office or retail space; it would provide little or no land sale and tax increment revenue to support the Transit Center Project, which also means it would not support development of Mission Square. It is possible that a small structure on the site could complement the design of and/or improve access to the Transit Center, but on the whole, this alternative does not achieve the sponsor's objectives for the Transit Tower project.

462 Seifel Associates, "Downtown San Francisco: Market Demand, Growth Projections, and Capacity Analysis." May 2008; see footnote 9, p. 8.

Alternative B: Reduced Project

Description

Alternative B, Reduced Project, assumes construction on each of the "soft" development sites identified in this EIR, but at lesser heights and intensity than would be permitted under the draft Plan. The heights selected were those at which development would cast no additional shadow on Section 295 parks, compared to that from buildings developed to existing height limits. In other words, where development to existing height limits would newly shade one or more parks, the existing height limit was assumed, and no sites were assumed to be "downzoned" to lower height limits under this alternative. The reason for this assumption is that reducing existing height limits would not only be fundamentally inconsistent with the draft Plan, but would be lesser development than reasonably foreseeable under the No Project Alternative. As stated in Chapter II, Project Description:

> The overarching premise of the Transit Center District Plan is to continue the concentration of additional growth where it is most responsible and productive to do so—in proximity to San Francisco's greatest concentration of public transit service. The increase in development, in turn, will provide additional revenue for the Transit Center project and for the necessary improvements and infrastructure in the District. [463]

As a result of the lesser heights under this alternative, it is assumed that development of Plan area sites containing historical resources would proceed in a different manner than would be allowed under the draft Plan, thereby reducing the Plan's impacts on historic architectural resources. In particular, this alternative assumes that development at five sites in the Plan area that contain identified or potential historic architectural resources would generally be undertaken consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*[464] (or otherwise determined by Planning Department preservation staff to result in less-than-significant impacts under CEQA, to the maximum extent feasible) in order that historical resources on these sites are minimally affected. These sites, which are the same locations discussed in Section IV.C, Cultural Resources (see p. 264), are described below.

1. 50 First Street: As described in Section IV.C, the project on file for this site, at the northwest corner of First and Mission Streets, would demolish four existing structures, three of which are historical resources, and develop three buildings containing office, residential, and hotel use, that would be 184 to 915 feet in maximum height. Under the Reduced Project Alternative, height limits at this site would not be increased above the existing limit of 550 feet, and only two towers would be built, with the smallest of the three proposed being eliminated. Under this alternative, this project would consist of a 550-foot office tower at 38 – 50 First Street and a 300-foot residential/hotel tower at 512 – 526 Mission Street, with separation of the towers as proscribed under existing zoning. It is assumed that the office tower site would be expanded slightly by the addition of the parcel occupied by an existing building at 38 – 40 First Street, not currently under the control of the project sponsor, to facilitate a more rationalized building plan, without a "notch" cut out of the tower's northeast corner. This tower would require demolition of two buildings, at 38 – 40 First Street and 50 First Street, both of which have been altered such that they "no longer retain sufficient integrity" to be

463 November 2009 draft, p. 4
464 See footnote 150, p. 238.

eligible for state or local listing as historical resources.[465] However, three historical resources that would be demolished under the draft Plan would be retained. These are the buildings at 62, 76, and 88 First Street. The second tower, on Mission Street, would be developed on vacant parcels and would not require demolition of any buildings. Under this alternative, this project would consist of approximately 615,000 square feet of office space (just over half of that proposed), and just over half the residential and hotel space than proposed (90 units and 180 rooms). This alternative would also include designation of the remaining buildings as historical resources under Article 11 of the *Planning Code*, and they would be afforded protection through the ability to sell development rights ("TDR"). In the case of the Marwedel Building at 76 – 78 First Street, which has been determined eligible for listing on the National Register of Historic Places and, as a result, is listed on the California Register of Historical Resources, it is presumed that this building would be designated Category I, Significant. Demolition of Category I buildings is generally prohibited, absent a determination by the Planning Commission that the building has no substantial market value or reasonable use.

2. Palace Hotel Tower, 2 Montgomery Street: As described in Section IV.C, the construction of a 680-foot residential tower at the rear of the Palace Hotel would result in the demolition of a non-historic addition to the City Landmark Palace Hotel. This project also proposes alterations to the Landmark hotel building, both as part of a structural upgrade to connect the existing hotel to the tower, and potentially as part of other program-related alterations to the hotel. As explained in Section IV.C, the historical resources analysis conservatively assumes that this project could result in a significant adverse impact on the City Landmark. (This project will be the subject of a separate, project-specific EIR that will fully evaluate historical resources impacts, mitigation measures, and alternatives.) Under the Reduced Project Alternative, the tower addition to the Palace Hotel would be 365 feet tall, greater than the existing 300-foot height limit, but a height at which the new tower would not cast new shadow on Union Square during the hours covered by *Planning Code* Section 295. The addition would provide for about 290 dwelling units, some 35 percent fewer than proposed. Under this alternative, alterations might occur to the hotel building independent of the draft Plan, but the proposed tower would be smaller in scale and would have less potential for impact on the Landmark hotel and the New Montgomery-Second Street Conservation District.

3. 201 Second Street: As stated in Section IV.C, while a residential building was approved in 2006 for this site, the development parcel is proposed be acquired by the Transbay Joint Powers Authority (TJPA), along with two parcels to the south on Second Street occupied by existing buildings, as part of the project to extend underground Caltrain tracks to the new Transit Center, assuming funding of the Caltrain extension. Accordingly, the draft Plan calls for the City to consider vacating Malden Alley to facilitate construction of a building on a larger site, with the foundation set back from the underground rails. Demolition of the building at 217 Second Street, a historical resource, was approved as part of the separate Caltrain extension project. However, the enlarged development site would encompass parcels at 583 and 589 Howard Street and 90 Tehama Street, all of which contain historical resources. Under the Reduced Project Alternative, the two buildings on Howard Street, which are contributors to the National Register Second and Howard Streets Historic District, would be substantially retained, and only 90 Tehama Street would be demolished, with a vertical addition constructed on the Tehama Street portion of the site. It is assumed that the project would be a 19-story residential building containing about 55 dwelling units.

---

[465] Kelley & VerPlanck, "Transit Center District Survey," (footnote 127, p. 207); page 64.

4. 648 – 660 Howard Street. As stated in Section IV.C, this site is assumed to be developed under the draft Plan with a 350-foot building, which could result in the substantial alteration or demolition of three historic resources, at 147 and 161 Natoma Street and 658 Howard Street. Under the Reduced Project Alternative, the existing height limit of 250 feet would not be increased, and a 250-foot office building would be developed on the site's Howard Street frontage, avoiding significant effects on the two Natoma Street buildings, while demolishing only the building at 658 Howard Street. Under this alternative, this building would accommodate about 130,000 square feet of office space, or one-third of the space assumed under the draft Plan.

5. 669 Howard Street. As stated in Section IV.C, a building is assumed to be built on this site at the existing height limit of 250 feet, resulting in the demolition of one historic resource, at 667 Howard Street. Because this potential development site is relatively small (approximately 11,200 square feet), it is not feasible to retain the building at 667 Howard Street. Therefore, the Reduced Project Alternative assumes that the façade of this building would be retained and incorporated into the new building, with the new building set back approximately 20 feet from the historic façade. This would reduce potential development at this site to about 150,000 square feet of office space, about 14 percent less than assumed with the draft Plan.

This alternative would include some of the public realm improvements, subject to funding, that are proposed under the draft Plan. There would be no change under this alternative in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area. However, under this alternative, certain changes to street configurations would not occur. Specifically, the Reduced Project Alternative would not convert Howard Street to two-way operations between New Montgomery and Fremont Streets, nor would it convert Folsom Street to two-way operations between Second and Fremont Streets. This alternative also would not include installation of signalized mid-block crosswalks across First Street at Minna and Natoma Streets, north and south of the new Transit Center. It should be noted that the public realm improvements are related to private development projects primarily on a funding level (i.e., development fees would fund public realm changes), so aspects of the public realm plan could be changed regardless of adopted building height or other land use controls. Therefore, some proposed components could be removed from the public realm plan by decision-makers when considering Plan approval, provided that the public realm plan as adopted is within the range of alternatives analyzed in this EIR.

This alternative would entail development of about 308 million square feet of office space (about 39 percent less than with the project), approximately 960 dwelling units (about 26 percent fewer), and about 415 hotel rooms (32 percent of the project's total). Ground-floor retail space would be similar, because the sites where development is anticipated would be essentially the same, although shorter, somewhat less bulky buildings would be developed. Total floor area developed would be about 35 percent less than with implementation of the draft Plan. **Table 45**, p. 664, sets forth a description of the alternatives and compares them to the draft Plan.

Under the Reduced Project Alternative, the Transit Tower would be 550 feet tall, with the same development program as under the draft Plan's No Project Alternative.

Reduced Project Alternative: Impacts

Plan Impacts

Transportation

The Reduced Project Alternative would result in similar traffic and transit impacts to those of the No Project Alternative, because office employment, the primary activity in the Plan area—would be comparable. Daily and peak-hour vehicle trip generation and transit ridership would be about 35 percent less than with the draft Plan, and would be similar to that with the No Project Alternative. Although there could be some incremental redistribution of vehicle trips and transit riders, effects would be comparable to those of the No Project Alternative. As with the draft Plan, three of the freeway five ramps analyzed would operate at LOS F under this alternative, although average vehicle delay attributable to this alternative would be incrementally less than with the draft Plan. Impacts on intersections and freeway ramps would be **significant and unavoidable**, as with the draft Plan. Without the conversion of portions of Howard and Folsom Street from one-way to two-way operations, however, this alternative would avoid conflicts between left-turning vehicles and oncoming traffic at intersections on Howard and Folsom Streets with Fremont, First, and Second Streets. This would be expected to result in shorter queues at these intersections, and would also potentially improve operations for Golden Gate Transit buses, which would travel on Folsom Street to the new Transit Center (and currently travel on Folsom to the Temporary Transbay Terminal). However, as shown in Section IV.E, Transportation (Table 19, p. p. 289), it is likely that, while certain intersections would operate at improved level of service without the extension of two-way operations on Howard and Folsom Streets, other intersections, particularly on Harrison Street, would operate at worse LOS. Elimination of mid-block signalized crosswalks on First Street could reduce p.m. peak-hour vehicle queues, and possibly transit delays, on First Street, but would not improve LOS, because intersections on First Street would operate at unacceptable LOS under No Project conditions, as well. Overall, intersection operations, and the resulting transit delays, would not be substantially different throughout most of the Plan area.

As with the No Project Alternative, the Reduced Project Alternative would not avoid the draft Plan's **significant, unavoidable impacts** on Muni capacity utilization on the northwest, southeast, and southwest screenlines in the p.m. peak hour and on the Geary corridor in the a.m. peak hour. The Reduced Project Alternative would also result in **significant, unavoidable impacts** on BART East Bay service and Golden Gate Transit buses.

Although pedestrian and bicycle trip generation would be similar to that under the No Project Alternative, the Reduced Project Alternative is assumed to implement at least some of the public realm improvements proposed under the draft Plan, subject to funding, and therefore the less-than-significant effects on pedestrian and bicycle circulation would be incrementally better than under the No Project Alternative. With no signalized crosswalks at First and Minna and First and Natoma Streets, this alternative would require that pedestrians cross First Street at Mission or Howard Streets. Like the draft Plan, this alternative would have a **significant, unavoidable impact** relative to off-street freight loading.

Other Effects Related to the Intensity of Development

Emissions of criteria air pollutants and greenhouse gases would be incrementally reduced, compared to those of the draft Plan; these impacts would be less than significant with implementation of mitigation identified in the EIR, where applicable, as with the draft Plan. As with the Plan, construction-related air quality emissions would result in a **significant, unavoidable impact**. Exposure of sensitive receptors (existing and future residents, along with child-care centers) to toxic air contaminants from existing and future stationary sources (mostly backup generators and on-site co-generation plants, as well as buses at the new Transit Center) would also result in a **significant and unavoidable impact**, as with the draft Plan. Effects related to recreation and public space, utilities and service systems, and public services would be less substantial than those of the draft Plan, given the reduced intensity of development; these effects would be less than significant, as with the proposed project.

This alternative would generate less traffic-related noise, compared to that under the draft Plan, but noise impacts from traffic and cumulative construction noise, along with construction vibration, would be **significant and unavoidable**, as with the project.

On the other hand, similar to the No Project Alternative, to the extent that development precluded under this alternative from taking place in the Plan area were to occur elsewhere in the Bay Area, employees in and residents of that development could potentially generate substantially greater impacts on transportation systems, air quality, and greenhouse gases than would be the case for development of a similar amount of office space in the more compact and better-served-by-transit Plan area. This would be particularly likely for development in more outlying parts of the region where fewer services and less transit access is provided.

Aesthetics

Aesthetic impacts would be less than significant, unlike with the draft Plan. Under the Reduced Project Alternative, effects would be similar to those of the No Project Alternative (depicted in the visual simulations, Figures 27B through 41B, in Section IV.B, Aesthetics). Although buildings on several assumed development sites would be taller than under the No Project Alternative, only two potential sites would be built to more than the existing height limit of 550 feet (maximum of 640 feet at 181 Fremont Street), and thus no buildings would stand out on the skyline as clearly demarking the location of the new Transit Center or the Plan area as a whole. Therefore, in long-range views, the skyline would be seen to have a flattened, benched effect comparable to that of the No Project Alternative and of existing conditions, the result of a concentration of towers at similar heights. As with the No Project Alternative, the Reduced Project Alternative assumes development in Zone 1 of the approved Transbay Redevelopment Plan area would proceed consistent with that plan, and that other nearby development, such as on Rincon Hill, would also proceed, as would projects west of the Plan area, albeit at lesser heights. Therefore, as shown in Figures 33B and 34B, for example, cumulative development under the No Project Alternative would result in obscuring the towers of the Bay Bridge and parts of the Bay and the East Bay Hills in certain views. The Reduced Project alternative would contribute to the overall effects on views, and the contribution to cumulative impacts conservatively would be considered **significant and**

unavoidable under this alternative, as with the draft Plan. Nevertheless, unlike the draft Plan the Reduced Project Alternative would not emphasize the center Plan area as a major transportation hub, as called for in Policy 3.5 of the General Plan Urban Design Element, and, with some exceptions, would exacerbate the "benched" appearance of the skyline – therefore, despite the potential for significant impact, the overall aesthetic effects of the draft Plan could be considered preferable to the Reduced Project alternative on a subjective level.

Shadow

Shadow effects would be reduced under the Reduced Project Alternative, with new shadow affecting three Section 295 parks (Union Square, Portsmouth Square, and St. Mary's Square), compared to nine parks with implementation of the draft Plan. However, impacts would be **significant and unavoidable**, as with the draft Plan.

Alternative B would have essentially the same shadow effects as the No Project Alternative. Under the Reduced Project Alternative, neither the Transit Tower (550 feet) nor the Palace Hotel tower (365 feet) would add new shadow to Union Square; the only new shadow on Union Square would come from a potential development at the existing site of Golden Gate University, on the north side of Mission Street between First and Second Street. Because of its relatively proximity to Union Square, a development on this site at the existing 550-foot height limit would cast a small amount of shadow on Union Square in early May and early August, between about 7:15 and 7:35 a.m. (Such an effect might be small enough to be found to be less than significant in the context of an individual project evaluation, or be able to be avoided through building design.) Effects would occur during far fewer weeks of the year, compared to the draft Plan, which would add new shadow to Union Square from mid-March through mid-September.

Under Alternative B, shadow would be cast on Portsmouth Square by the Transit Tower (550 feet) and a tower at 50 First Street (also 550 feet). New shadow would reach Portsmouth Square in late November and early December, and in early January, for a few minutes per day between about 8:00 and 8:30 a.m. This compares to more than three-and-a-half months of new shadow (late October through early February) with the draft Plan. Because Portsmouth Square is used in the early morning, this could be considered a significant impact. As with the No Project Alternative, it is possible that buildings could be designed to avoid this impact; however, without certainty on this issue it is assumed that the impact would be reduced but would remain **significant and unavoidable** under this alternative.

St. Mary's Square would be affected by new shadow under Alternative B for less than two weeks per year (late October and early March), around 8:30 a.m. Under the draft Plan, new shadow would fall on St. Mary's Square for about 1.5 months per year (late September to early October and early to mid-March).

Effects on St. Mary's Square under the Reduced Project Alternative would be similar to those of the draft Plan, and would be **significant and unavoidable**.

As with the draft Plan, development pursuant to the Reduced Project Alternative could require an increase in the Absolute Cumulative Limit for Union Square, Portsmouth Square, and St. Mary's Square, which would be considered a significant impact. While sculpting or otherwise modifying individual buildings could be possible and would be likely to occur at the time such projects are considered for approval, at the programmatic level of this EIR, the potential for significant shadow would exist.

Wind

Wind effects would be incrementally reduced, compared to those of the proposed project because the lesser building heights would capture less of the upper-level winds that, when channeled to ground level by a structure, are increased in speed. However, the changes at ground level, compared to winds with the draft Plan, would likely be imperceptible at most locations. These effects would likely be less than significant, as with the project.

Historic Architectural Resources

The Reduced Project Alternative would substantially reduce effects on historic architectural resources, compared to those of the draft Plan. As explained above in the description of this alternative, it is assumed that effects on historical resources would be less-than-significant with respect to the projects with applications on file, at 50 First Street and the Palace Hotel, while potential development at 201 Second Street, 648 – 660 Howard Street, and 669 Howard Street would result in lesser impacts than with the draft Plan. While impacts at these projects could be minimized, and while some historic buildings in the Plan area might be retained under this alternative that would otherwise be lost with the incentive for redevelopment that greater height limits would provide, it cannot be stated with certainty that the Reduced Project Alternative would preclude demolition or other substantial alteration of historical resources. Therefore, this effect would remain **significant and unavoidable** with respect to at least some resources, as with implementation of the draft Plan. As stated in the description of this alternative, incentives and protection under Article 11 of the *Planning Code* would be expected to reduce impacts on historical resources on First Street near Mission Street.

Biological Resources

Effects on biological resources would be similar to those of the project, because most of the same buildings would be developed at the same locations, including several near or adjacent to the planned City Park atop the new Transit Center; compliance with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings* would render bird strike impacts less than significant, and the same mitigation measures as would apply to the project would reduce other biological impacts to a less-than-significant level.

Other Effects Related to the Site-Specific Conditions

Impacts related to site-specific conditions, such as those related historical and subsurface cultural (archeological) resources, geology, hydrology and water quality, and hazardous materials would be similar to those of the draft Plan because most of the same development sites would be affected. These

impacts would be less than significant, with the same mitigation measures, where applicable, as with the Plan.

As with the draft Plan, this alternative would have less-than-significant impacts related to mineral and energy resources and no impacts on agricultural or forest resources.

Transit Tower Impacts

Under the Reduced Project Alternative, the Transit Tower would be built to a height of 550 feet, consistent with the approved Transbay Redevelopment Plan. It would contain a similar amount of retail space to the proposed Transit Tower. With approximately 565,000 square feet of office space (44 percent of the office space with the proposed Transit Tower), the tower under this alternative would be less than half the size of the proposed Transit Tower. Effects related to the intensity of development, including trip generation and traffic-generated air pollutant emissions and noise, would be comparably reduced. However, the smaller tower would result in **significant and unavoidable impacts**, albeit reduced in magnitude, on intersection level of service at the same four intersections as with the proposed project. (Potential effects of development of a 30-foot-tall building on the Transit Tower site are discussed in the previous section.) Construction effects related to exposure to emissions from diesel equipment would be **significant and unavoidable**, as with the proposed project, and the Tower would also contribute to **significant and unavoidable** cumulative impacts with respect to exposure to toxic air contaminants from stationary sources and traffic in the Plan area, as with the proposed project. Cumulative construction noise impacts would also be **significant and unavoidable**, as with the proposed project.

In terms of aesthetic effects, the tower under the Reduced Project Alternative would be far less noticeable on the skyline than the proposed project. As is illustrated in the photomontages in Section IV.B, the shorter tower would not be visible in views from some of the closer-in vantage points, while in long-range views (Figures 32B through 37B, pp. 138 - 146, and Figures 39B and 40B, pp. 150 – 152), the shorter tower would essentially blend in with the existing skyline and would have little effect on these views. At the ground level, the reduced-height tower would have similar impacts to the proposed project. As with the proposed project, project-specific aesthetic impacts would be less than significant. At a height of 550 feet, the Transit Tower would not be a noticeable addition to the skyline that would project, in isolation, above the surrounding buildings, even in the event that it is the first new tower in the Plan area to be developed.

The shorter tower would cast shadow on only one Section 295 park—Portsmouth Square—compared to eight such parks with the proposed 1,070-foot-tall Transit Tower. Shadow would fall on Portsmouth Square between late November and early December, and in January, from about 8:00 - 8:20 a.m., and the amount of net new shadow, in square-foot-hours, would be less than 10 percent of that with the project. Because of the need to increase the Absolute Cumulative Limit for Portsmouth Square, shadow impacts would likely be **significant and unavoidable**, as with the proposed Transit Tower. However, it is possible that, with sculpting of the shorter tower under this alternative, and depending on the resulting

location of new shadow, this impact could be found to be less than significant. Given current information, it is assumed that this alternative would result in significant, unavoidable shadow effects.

Wind effects would be incrementally reduced, compared to those of the proposed project because the lesser building height would capture less of the upper-level winds that, when channeled to ground level by a structure, are increased in speed. These effects would likely be less than significant, as with the project.

Other impacts, including those on recreation and public space, utilities and service systems, and public services, would be less substantial than those of the proposed project, given the reduced size of the Tower. These effects would be less than significant, as with the proposed project. Impacts related to site-specific conditions, such as those related historical and subsurface cultural (archeological) resources, geology, hydrology and water quality, and hazardous materials would be similar to those of the proposed project because the same development site would be affected. These impacts would be less than significant, with the same mitigation measures, where applicable, as with the proposed Transit Tower. Effects on biological resources would be similar to those of the project, because the lower tower would be built adjacent to the planned City Park atop the new Transit Center. The same mitigation measures as would apply to the project would reduce impacts to a less-than-significant level, while compliance with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings* would avoid significant effects related to bird strikes.

Project Objectives

Transit Center District Plan

Because the Reduced Project Alternative would develop about one-third less total floor area than the draft Plan, this alternative would be less successful than the Plan in "continu[ing] the concentration of additional growth where it is most responsible and productive to do so—in proximity to San Francisco's greatest concentration of public transit service," which is the overarching premise behind the draft Plan; however, it would be incrementally more successful in achieving this objective than would the No Project Alternative. As with the No Project Alternative, the Reduced Project Alternative would not achieve the draft Plan's goal of accommodating projected job growth in San Francisco for the next 25 years, based on a study commissioned by the Planning Department.[466] Without all of the public realm improvements proposed under the draft Plan due to decreased funding generated, the Reduced Project Alternative would not achieve the draft Plan's goal of creating "a framework for a network of public streets and open spaces that support the transit system, and provides a wide variety of public amenities and a world-class pedestrian experience," nor would this alternative generate as much financial support for the new Transit Center that is currently under construction. The Reduced Project Alternative could, however, "support existing city environmental, sustainability and climate change objectives." Under this alternative, the

466 Seifel Associates, "Downtown San Francisco: Market Demand, Growth Projections, and Capacity Analysis." May 2008; see footnote 9, p. 8.

amount of impact fees collected from new development in the Plan area and directed to public improvements would be lower than with implementation of the draft Plan.

Transit Tower

With regard to the project objectives for the Transit Tower, a 550-foot building would not create a new visual focus for downtown within the Plan area, because the 550-foot building would be the same size as several other existing downtown buildings and proposed Plan area buildings. This alternative would provide substantially less land sale and tax increment revenue to support the Transit Center project than the 1,070-foot building due to two major factors: (1) the 550-foot building would have about 56 percent less floor area than the proposed Transit Tower, and (2) the higher floors of a 1,070-foot building would command higher rents and would be of much greater value than the rent in a shorter building. This reduction in revenue would also reduce the amount of funding available for the other infrastructure projects, such as Mission Square and the surrounding streetscape, which would reduce the quality of the ground level pedestrian spaces around the building. Hence, this alternative would not achieve three of the four Transit Tower project objectives. Finally, the reduction in height of the proposed Transit Tower under this alternative would account for approximately one-fourth of the overall reduction in Plan area development under this alternative, which would diminish the achievement of the Transit Center District Plan project objectives.

Alternative C: Reduced Shadow

Description

Alternative C, Reduced Shadow, is premised on retaining in large measure the draft Plan's fundamental urban design concept that the Transit Tower, which would identify the location of the new Transit Center, be the City's tallest and most prominent building—the "crown" of the downtown core that rises notably above the dense cluster of downtown buildings, as stated in draft Plan Policy 2.1. In contrast to Alternative B, which is based on site-by-site evaluation of building heights to reduce shadow on Section 295 parks, Alternative C would retain the Transit Tower as the tallest building in the Plan area, at a height of 840 feet. (It is assumed that this would entail about 790 feet of enclosed building space and a 50-foot-tall sculptural element.) At a height of 840 feet, the Transit Tower would be about 60 feet taller than the Bank of America Building, and about 15 feet shorter than the tip of the Transamerica Pyramid. **Table 45** describes this alternative and compares it to the draft Plan.

This alternative would also proportionally adjust the proposed height limits on the other sites in the Plan area in relation to the Transit Tower in order to maintain similar massing/height relationships as contemplated under the draft Plan's urban form concepts. In addition to height, some projects proposed are not fully consistent with the ratio of office to non-office development proposed in the draft Plan.

This alternative would include some of the public realm improvements, subject to funding, that area proposed under the draft Plan. For the purpose of this analysis, the Reduced Project Alternative (Alternative B) includes specific changes to the public realm plan. It should be noted that the public realm

improvements are related to private development projects primarily on a funding level (i.e., development fees would fund public realm changes), so aspects of the public realm plan could be changed regardless of adopted building height or other land use controls. Therefore, changes to the public realm plan could be adopted by decision-makers at the time of project approval, provided they are within the range of alternatives analyzed in this EIR.

There would be no change under this alternative in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area.

This alternative would entail development of about 5.3 million square feet of office space (about 14 percent less than with the project), approximately 1,145 dwelling units (about 12 percent fewer), and about 830 hotel rooms (36 percent less than the project's total). Ground-floor retail space would be similar, because the sites where development is anticipated would be essentially the same, although shorter, somewhat less bulky buildings would be developed. Total floor area developed would be about 13 percent less than with implementation of the draft Plan. As noted, under the Reduced Shadow Alternative, the Transit Tower would be 840 feet tall. It would contain about 1 million square feet of office space (about 20 percent less than under the proposed project), along with approximately the same amount of retail space (16,500 square feet) as under the project.

Reduced Shadow Alternative: Impacts

Plan Impacts

Transportation

The Reduced Shadow Alternative would result in traffic and transit impacts that would be comparable to those of the draft Plan, because the development intensity would be incrementally reduced. Daily and peak-hour vehicle trip generation and transit ridership would be about 13 percent less than with the draft Plan, meaning that effects on intersection level of service and transit capacity utilization would be the same as, or similar to, those of the Plan. Thus, the Reduced Shadow Alternative would, like the draft Plan, result in **significant, unavoidable impact** on LOS at many of the study intersections.

The Reduced Shadow Alternative would have the same **significant, unavoidable** transit effects as the draft Plan, on Muni capacity utilization on the northwest, southeast, and southwest screenlines in the p.m. peak hour and on the Geary corridor in the a.m. peak hour, and on BART East Bay service and Golden Gate Transit buses. Likewise, as with the draft Plan, three of the five freeway ramps analyzed would operate at LOS F under this alternative, although average vehicle delay attributable to this alternative would be incrementally less than with the draft Plan. Impacts on ramps would be **significant and unavoidable**, as with the draft Plan.

Pedestrian and bicycle trip generation would also be similar to that under the draft Plan. Alternative C is assumed to implement many of the public realm improvements proposed under the draft Plan, subject to

funding. Therefore, the less-than-significant effects on pedestrian and bicycle circulation would be comparable to those of the draft Plan. Like the draft Plan, this alternative would have a significant, unmitigable effect relative to off-street freight loading.

Other Effects Related to the Intensity of Development

Emissions of criteria air pollutants and greenhouse gases would be incrementally reduced, compared to those of the draft Plan; these impacts would be less than significant with implementation of mitigation identified in the EIR, where applicable, as with the draft Plan. As with the Plan, construction-related air quality emissions would result in a significant, unavoidable impact. Effects related to recreation and public space, utilities and service systems, and public services would be less substantial than those of the draft Plan, given the reduced intensity of development. Therefore, these effects would be less than significant, as with the proposed project.

On the other hand, to the extent that development precluded under this alternative from taking place in the Plan area were to occur elsewhere in the Bay Area, employees in and residents of that development could potentially generate substantially greater impacts on transportation systems, air quality, and greenhouse gases than would be the case for development of a similar amount of office space in the more compact and better-served-by-transit Plan area. This would be particularly likely for development in more outlying parts of the region where fewer services and less transit access is provided. This effect would be reduced under this alternative, compared to the No Project and Reduced Project alternatives, because this alternative would include more development in the Plan area than would those two alternatives.

Exposure of sensitive receptors (existing and future residents, along with child-care centers) to toxic air contaminants from existing and future stationary sources (mostly backup generators and on-site co-generation plants, as well as buses at the new Transit Center) and from diesel-powered construction equipment would result in a **significant and unavoidable impact**, as with the draft Plan.

This alternative would generate less traffic-related noise, compared to that under the draft Plan, but noise impacts from traffic and cumulative construction noise, along with construction vibration, would be **significant and unavoidable**, as with the project.

Aesthetics

Aesthetic impacts would be less than significant for the Reduced Shadow Alternative, except that building heights could result in similar impacts to those of the draft Plan with respect to changes in views from Twin Peaks and Portola Drive, and would contribute to the **significant and unavoidable** cumulative impact.

Under the Reduced Shadow Alternative, views would be of a skyline that would present some aspects of both the draft Plan and of the No Project Alternative. With the Transit Tower at 840 feet, this alternative would present a relatively clear marker of the location of the new Transit Tower, at least partially

consistent with the intent of the draft Plan and the policies of the *General Plan* Urban Design Element. At approximately 200 feet taller than the tallest existing buildings, and 165 feet taller than the next tallest potential building in the Plan area, the 840-foot Transit Tower would be a distinctive element on the skyline, but would not stand out in importance to the same degree as under the draft Plan. As with the draft Plan, therefore, the Reduced Shadow Alternative would, at least to some degree, emphasize the Plan area as a major transportation hub, as called for in Policy 3.5 of the *General Plan* Urban Design Element. However, the overall skyline form would be somewhat less distinctive than it would under the draft Plan.

Shadow

Shadow effects would be reduced under Alternative C, with new shadow affecting four parks (Union Square, Portsmouth Square, and St. Mary's Square, and Willie "Woo Woo" Wong Playground), compared to nine parks with implementation of the draft Plan. Impacts would be **significant and unavoidable**, as with the draft Plan.

Alternative C, Reduced Shadow, would reduced shadow effects on certain parks, compared to the draft Plan. The Transit Tower (840 feet), the Palace Hotel tower (500 feet), and the 50 First Street project (675 feet) would all add new shadow to Union Square, as would a potential development at the existing site of Golden Gate University, on the north side of Mission Street between First and Second Street (700 feet). Effects would occur at generally the same times of day as with the draft Plan, although the duration of new shadow on most days would be a few minutes less (typically, ending earlier in the morning). Additionally, new shadow would occur over about 2.5 months (late March to late April and mid-August to mid-September), compared to six months with the draft Plan

Portsmouth Square would be newly shaded for about three months of the year, compared to about 3.7 months with the draft Plan; new shadow would occur between approximately 8:00 and 9:10 a.m., as under the Plan.

Effects on St. Mary's Square would be similar to those of the draft Plan, as would effects on Willie "Woo Woo" Wong Playground.

As with the draft Plan, development pursuant to the Reduced Shadow Alternative would require an increase in the Absolute Cumulative Limit for Union Square, Portsmouth Square, St. Mary's Square, and Willie "Woo Woo" Wong Playground, which would be considered a **significant, unavoidable impact**. While sculpting or otherwise modifying individual buildings could be possible and would be likely to occur at the time such projects are considered for approval, at the programmatic level of this EIR, the potential for significant shadow would exist.

Wind

Wind effects would be incrementally reduced, compared to those of the proposed project because the lesser building heights would capture less of the upper-level winds that, when channeled to ground level

by a structure, are increased in speed. However, the changes at ground level, compared to winds with the draft Plan, would likely be imperceptible at most locations. These effects would likely be less than significant, as with the project.

Historic Architectural Resources

Effects on historical resources would be incrementally less substantial than those of the draft Plan, as some historic buildings in the Plan area might be retained that would otherwise be lost, because lesser increases in heights would potentially provide less incentive for redevelopment; however, this effect would remain **significant and unavoidable** with respect to at least some resources, as with implementation of the draft Plan.

Biological Resources

Effects on biological resources would be similar to those of the project, because most of the same buildings would be developed at the same locations, including several near or adjacent to the planned City Park atop the new Transit Center; compliance with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings* would render bird strike impacts less than significant, and the same mitigation measures as would apply to the project would reduce other biological impacts to a less-than-significant level.

Other Effects Related to the Site-Specific Conditions

Impacts related to site-specific conditions, such as those related historical and subsurface cultural (archeological) resources, geology, hydrology and water quality, and hazardous materials would be similar to those of the draft Plan because most of the same development sites would be affected. These impacts would be less than significant, with the same mitigation measures, where applicable, as with the Plan.

As with the draft Plan, this alternative would have less-than-significant impacts related to mineral and energy resources and no impacts on agricultural or forest resources.

Transit Tower Impacts

Under the Reduced Shadow Alternative, the Transit Tower would be built to a height of 840 feet. Effects related to the intensity of development, including trip generation and traffic-generated air pollutant emissions and noise, would be reduced by about 20 percent, compared to those of the 1,070-foot-tall Transit Tower. However, the smaller tower would result in **significant and unavoidable impacts**, albeit reduced in magnitude, on intersection level of service at the same four intersections as with the proposed project. Construction effects related to exposure to emissions from diesel equipment would be **significant and unavoidable**, as with the proposed project, and the Tower would also contribute to **significant and unavoidable** cumulative impacts with respect to exposure to toxic air contaminants from stationary sources and traffic in the Plan area, as with the proposed project. Cumulative construction noise impacts would also be **significant and unavoidable**, as with the proposed project.

In terms of aesthetic effects, the tower under the Reduced Shadow Alternative would be somewhat less noticeable on the skyline than the proposed project, but would still be the tallest building in the Plan area and the tallest in San Francisco other than the sculptural tip of the Transamerica Pyramid. Therefore, aesthetic impacts would be similar to those of the proposed project. As with the proposed project, these impacts would be less than significant. If the Transit Tower were to be constructed in advance of other buildings in the Plan area, without these other buildings to contribute to overall urban form, the Tower—at the reduced height of 840 feet—would be less noticeable than it would appear at 1,070 feet, as is proposed under the project.

The shorter tower would cast shadow on three Section 295 parks—Union Square, Portsmouth Square, and St. Mary's Square—compared to eight such parks with the proposed 1,070-foot-tall Transit Tower. New shadow would fall on Union Square in the first half of August and in late April and early May, from about 7:15 to 7:35 a.m., and the amount of new shadow, in square-foot-hours, would be less than 25 percent that of the proposed project, Shadow would fall on Portsmouth Square between late November and early December, and in January, from about 8:00 - 8:20 a.m., and the amount of net new shadow, in square-foot-hours, would be less than 10 percent of that with the project. On St. Mary's Square, the 840-foot tower would add new shadow for less than one month, in early October and mid-March, at around 8:30 a.m. As with the proposed project, some of the theoretical new shadow—and a greater percentage than with the taller tower because of the lesser overall height—would not actually be visible on the ground, because it is assumed to be cast by the Tower's sculptural element, and this element would have structural features that would not be wide enough to obscure the sun at distant locations. However, because of the potential need to increase the Absolute Cumulative Limit for these three parks, shadow impacts would likely be **significant and unavoidable**, as with the proposed Transit Tower. However, it is possible that, with sculpting of the shorter tower under this alternative, and depending on the resulting location of new shadow, this impact could be found to be less than significant. At a height of 840 feet, the Transit Tower, under this Alternative, would not add new shadow to Justin Herman Plaza, Maritime Plaza, Chinese Recreation Center, or Woh Hei Yuen Park. (The Transit Tower would not cast any new shadow on Willie "Woo Woo" Wong Playground, even at 1,070 feet.) Shadow could still reach Union Square, St. Mary's Square, Portsmouth Square and Boeddeker Park, but the Absolute Cumulative Limit might not be exceeded, depending on existing shadow and how the Tower is sculpted. Given current information, however, this alternative would result in significant, unmitigable shadow effects.

Wind effects would be similar to those of the proposed project because the incrementally lower building height would not make a meaningful difference in ground-level wind speeds; these effects would likely be less than significant, as with the project.

Other impacts, including those on recreation and public space, utilities and service systems, and public services, would be incrementally less substantial than those of the project, given the small relative decrease in the size of the Tower. These effects would be less than significant, as with the proposed project. Impacts related to site-specific conditions, such as those related historical and subsurface cultural (archeological) resources, geology, hydrology and water quality, and hazardous materials would be

similar to those of the proposed project because the same development site would be affected. These impacts would be less than significant, with the same mitigation measures, where applicable, as with the proposed Transit Tower. Effects on biological resources would be similar to those of the project, because the lower tower would be built adjacent to the planned City Park atop the new Transit Center. The same mitigation measures as would apply to the project would reduce impacts to a less-than-significant level, while compliance with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings* would avoid significant effects related to bird strikes.

Project Objectives

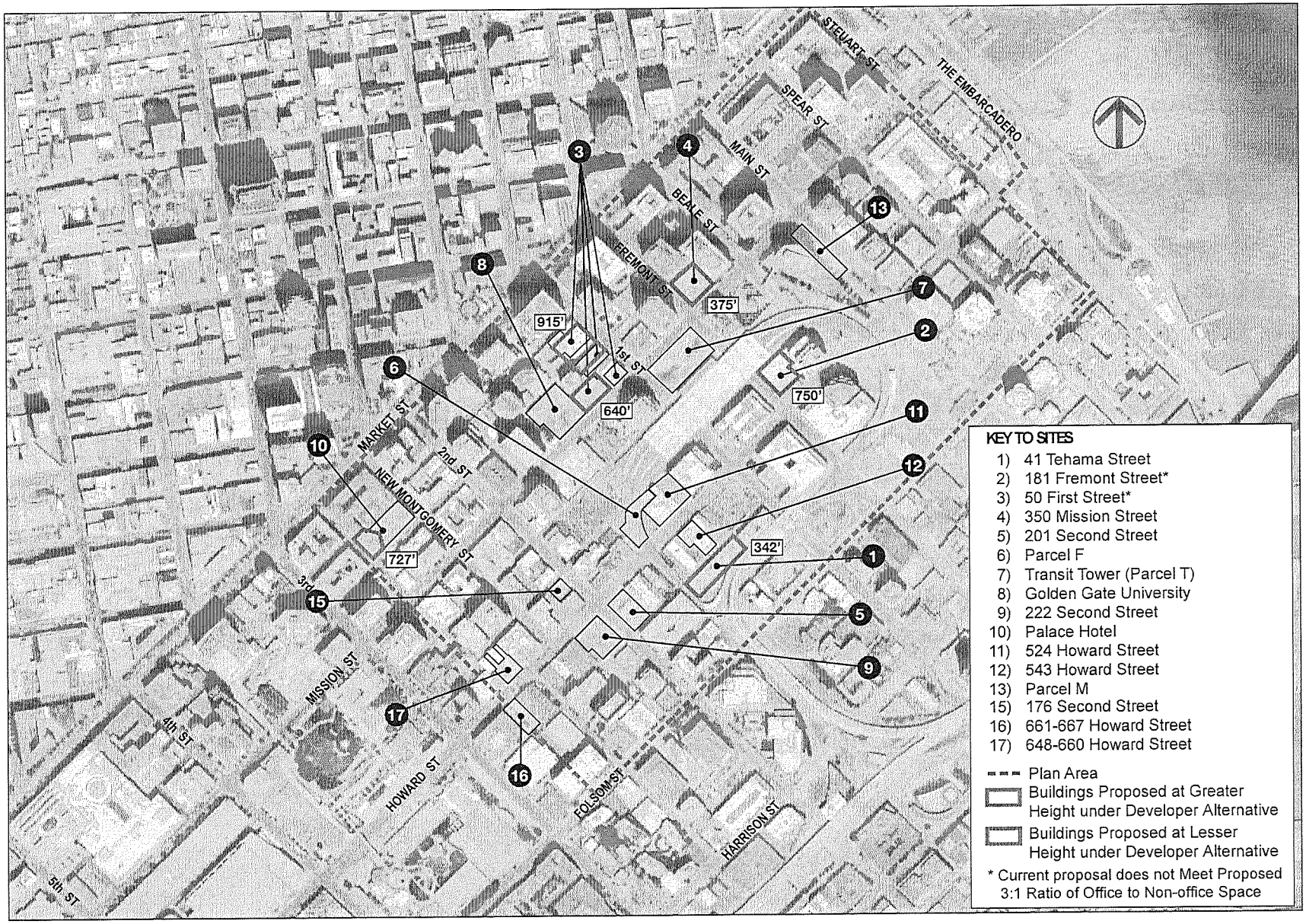
Because the Reduced Shadow Alternative would develop about 13 percent less total floor area than the draft Plan, it is anticipated that this alternative would have comparable, if incrementally reduced, success in attaining the objectives of the draft Plan, as would the Plan itself.

The Reduced Shadow Alternative for the Transit Tower would result in development of an 840-foot building. This alternative would only partially meet the objectives of the Transit Tower Project. An 840-foot building would not be the tallest building in San Francisco (the Transamerica Pyramid is 853 feet); while a building of this height in this location would be visually prominent, it would not be the sole, signature visual focus for Downtown and the Transit Center now under construction. Because the 840-foot building would be approximately 20 percent shorter and provide about 20 percent less floor area than the proposed Transit Tower, it would provide less land sale and tax increment revenue to support the Transit Center project. The land sale and tax increment revenue would be expected to be reduced to a greater degree than the reduction in floor area because the space on the upper floors of the building would be expected to be of greater value than the space on lower floors, and a shorter tower would have less upper-level space. This reduction in revenue would also reduce the amount of funding available for the other infrastructure projects, such as Mission Square and the surrounding streetscape, which would reduce the quality of the ground level pedestrian spaces around the building. Hence, this alternative would not achieve three of the four project Transit Tower objectives, although it would achieve the objectives to a greater degree than the other reduced impact alternatives analyzed in this chapter.

Alternative D: Developer Scenario

Description

This alternative differs from the draft Plan in that development assumptions for certain specific sites would reflect project applications that are on file at the Planning Department. In up to three instances, this alternative would therefore permit taller buildings than the draft Plan proposes, while for two other sites, lesser height is assumed (see Table 45 and **Figure 75**). The major difference in height, compared to the draft Plan, is that the proposed residential tower at the Palace Hotel is proposed at a height of 727 feet, whereas the Plan calls for a 600-foot building. The other two projects for which "additional" height is proposed are 50 First Street and 181 Fremont Street. In both of these cases, the developer-proposed height is the same at the roof line as called for in the Plan; the potential difference is that the



SOURCE: San Francisco Planning Department, AECOM

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure 75
Developer Alternative

draft Plan would potentially allow additional height on particular building sites if the form above the roof height does not cast significant shadow on protected open spaces. This determination would have to be made based on a detailed, project-specific shadow analysis of each applicable project, which would be undertaken at a greater level of precision than is feasible or appropriate for a programmatic EIR analysis of an area as large as the proposed Transit Center district.

Although this alternative would result in several buildings being taller than proposed with the draft Plan development assumptions for the Developer Scenario Alternative would be similar to those of the Plan with respect to office space, and somewhat less intensive than the Plan with respect to residential units and hotel space. This is because the projects with applications on file at the Planning Department propose a different mix of uses than the Plan forecasts assume for those sites. Additionally, the projects on file that propose residential uses generally include larger units than the Plan assumes, and therefore would create fewer units in the same floor area.[467] Finally, an office project at 350 Mission Street was approved in 2011 as a 375-foot-tall, 356,000-square-foot building, whereas the draft Plan proposes a 700-foot height limit at this site. For the Developer Scenario Alternative, development assumptions include the net addition, in the Plan area, of approximately 6.1 million square feet of office space (about 1 percent less than with the project), approximately 1,125 dwelling units (about 13 percent fewer), and about 665 hotel rooms (50 percent fewer than with the draft Plan). Ground-floor retail space would be similar, because the sites where development is anticipated would be essentially the same, although shorter, somewhat less bulky buildings would be developed. Total floor area developed, assuming the larger residential units proposed, would be about the same as with implementation of the draft Plan.

The Transit Tower would be 1,070 feet tall under this alternative, as under the draft Plan.

The Developer Scenario Alternative is assumed to implement the same public realm improvements as would be undertaken with implementation of the draft Plan. Under this alternative, there would be no change in the assumptions for nearby development in Zone 1 of the Transbay Redevelopment Plan, in the Rincon Hill Plan area, or with respect to cumulative projects west of the Plan area.

Developer Scenario: Impacts

Plan Impacts

Transportation

Because of the somewhat lesser development assumptions for this alternative described above, based on proposed and approved projects, effects related to the intensity of development within the Plan area would be incrementally less under the Developer Scenario Alternative than they would for the proposed project, given the small relative change in total assumed commercial and residential development. Daily and peak-hour vehicle trip generation would decrease slightly (by about 4 percent), compared to that

[467] The development assumptions on which the analysis of the Plan is based incorporate a mix of land uses consistent with Plan objectives and also consider past trends in land uses. They cannot, however, be fully predictive of actual development proposals.

with implementation of the draft Plan because of the relative decrease in residential and hotel space (notably, about 175 fewer dwelling units and 320 fewer hotel rooms). Vehicle delay could increase or decrease slightly at some intersections, but would be not result in any new or substantially more severe impacts than those identified in the EIR.

Other Effects Related to the Intensity of Development

Because of the incremental decrease in building space and traffic, Plan-area-generated air quality impacts and GHG emissions would decrease marginally under the Developer Scenario Alternative, compared to those with implementation of the draft Plan. However, the differences would not result in different conclusions or any new significant effects, compared to those of the draft Plan. Impacts on intersection level of service and freeway ramps would be **significant and unavoidable**, as with the draft Plan.

Exposure of sensitive receptors (existing and future residents, along with child-care centers) to toxic air contaminants from existing and future stationary sources (mostly backup generators and on-site co-generation plants, as well as buses at the new Transit Center) and from diesel-powered construction equipment would result in a **significant and unavoidable impact**, as with the draft Plan.

This alternative would generate less traffic-related noise, compared to that under the draft Plan, but noise impacts from traffic and cumulative construction noise, along with construction vibration, would be **significant and unavoidable**, as with the project.

Effects related to recreation and public space, utilities and service systems, and public services would be essentially the same as those of the draft Plan, given the minor variation in development assumptions; these effects would be less than significant, as with the proposed project.

Aesthetics

Aesthetic impacts would be comparable under the Developer Scenario Alternative to those with implementation of the draft Plan. Because development would occur at the same locations, close-in views and aesthetic impacts would not change from those of the draft Plan. Long-range views would be similar to those under the Plan, because the differences in heights proposed under this alternative are, in most cases, not dramatic. The greatest proposed difference is in the case of the proposed Palace Hotel Tower, which would be approximately 130 feet (21 percent) taller under this alternative than with implementation of the draft Plan. Because this proposed tower would be on a site at the western edge of the Plan area, it would be visually set apart from most other tall buildings in the Plan area, and under this alternative, it could, to some degree, serve as an additional focal point in the Plan area, contrary to the project objectives and the Urban Design Element of the *General Plan*. However, the Transit Tower, at 1,070 feet, would be more than 340 feet taller, and would be the tallest building in the City, as it would under the draft Plan. The taller of two proposed towers at 50 First Street, at 915 feet including sculptural element, would be more than 150 feet shorter than the Transit Tower.

Shadow

The Developer-Proposed Scenario Alternative would result in greater shadow impacts on Union Square, compared to the proposed project because greater height would be permitted at the site of the proposed Palace Hotel tower. As explained in Section IV.J, Shadow, this proposed tower's location relative to Union Square makes it the major contributor to new shadow on this Section 295 park. Under the Developer Scenario Alternative, the net increase in shadow on Union Square, measured in square-foot-hours, would be approximately one-third greater than with the draft Plan.

The Developer Scenario would also increase new shadow, from the 50 First Street project, on Union Square (by about 5 percent) and Justin Herman Plaza (by about 16 percent), but would decrease Plan shadow on St. Mary's Square (by about 14 percent) and Portsmouth Square (by about 6 percent). This is because, while the Developer Scenario would build a taller building, the building would not occupy the entire site. Also, the massing of the tower under this alternative would be irregular. While the Developer Scenario would also involve additional height on the project at 181 Fremont Street, this proposed building would be tapered as it rises, so shading of Union Square by a building on this site would be similar to that for the draft Plan scenario.[468]

As with the draft Plan, development pursuant to the Developer Scenario Alternative would require an increase in the Absolute Cumulative Limit for Union Square, Portsmouth Square, St. Mary's Square, Willie "Woo Woo" Wong Playground, Chinese Recreation Center, Woh Hei Yuen Park, Justin Herman Plaza, Maritime Plaza, and Boeddeker Park. As with the draft Plan, this would be considered a **significant, unavoidable impact**. While sculpting or otherwise modifying individual buildings could be possible and would be likely to occur at the time such projects are considered for approval, at the programmatic level of this EIR, the potential for significant shadow would exist.

Wind

Effects on ground-level wind conditions would be comparable to those of the draft Plan, because the relatively minor differences in height would not substantially affect wind speeds; these effects would likely be less than significant, as with the Plan.

Historic Architectural Resources

Because it would involve the same or very similar development sites as the project, the Developer Scenario Alternative, like the draft Plan and the No Project Alternative, would result in a significant unavoidable impact on historical resources resulting from the demolition or substantial alteration of a number of historical resources, likely including three buildings on the west side of First Street north of Mission Street, one to four buildings at the northeast corner of Second and Howard Streets, one to three

468 This programmatic analysis of both the 50 First Street and 181 Fremont Street projects may overstate shadow impacts at very long distance (i.e., on Union Square and Portsmouth Square), because the analysis is based on generalized massing models, and not specific building designs. As with all high-rise buildings subject to *Planning Code* Section 295, each of these projects would be analyzed in detail, based on actual project plans, as part of project-specific CEQA review and consideration of the project by the Planning Department and Planning Commission.

buildings on the north side of Howard Street across from Hawthorne Street, and one or two buildings on the south side of Howard Street, west of Hawthorne Street. Also like the draft Plan, this alternative could result in a substantial adverse effect on the Palace Hotel, City Landmark No. 18, and possibly on the New Montgomery-Second Street Conservation District, from construction of a residential tower at the southwest corner of the hotel site. As would be the case for the draft Plan, effects on historical resources would be **significant and unavoidable.**

Biological Resources

Effects on biological resources would be similar to those resulting from implementation of the draft Plan, because most of the same buildings would be developed at the same locations, including several near or adjacent to the planned City Park atop the new Transit Center; compliance with *Planning Code* Section 139 and the City's *Standards for Bird-Safe Buildings* would render bird strike impacts less than significant, and the same mitigation measures as would apply to the project would reduce other biological impacts to a less-than-significant level.

Other Effects Related to the Site-Specific Conditions

Impacts related to site-specific conditions, such as those related subsurface cultural (archeological) resources, geology, hydrology and water quality, and hazardous materials would be similar to those of the draft Plan because the same or very similar development sites would be involved. As with the draft Plan, the No Project Alternative, and the Reduced Project and Reduced Shadow Alternatives, these effects would be less than significant (with applicable mitigation in the case of archeological resources.

As with the draft Plan, this alternative would have less-than-significant impacts related to mineral and energy resources and no impacts on agricultural or forest resources.

Transit Tower Impacts

Under the Developer Scenario Alternative, the Transit Tower would be built to a height of 1,070 feet, as with the draft Plan. Therefore, effects related to the Tower would be as described in Chapter IV.

Project Objectives

Given that this alternative's development assumptions are similar to those of the draft Plan, the Developer Scenario Alternative would meet most of the same project objectives as would the draft Plan. However, the greater height proposed for the residential tower addition to the Palace Hotel would be somewhat inconsistent with the draft Plan's urban design objectives.

Conclusion

Because it would substantially reduce shadow impacts on parks subject to Section 295 and effects on historic architectural resources, compared to the proposed project, Alternative B, Reduced Project, is considered the environmentally superior alternative for both the draft Plan and the proposed Transit

Tower. As noted previously in this chapter, however, to the extent that development precluded under the Reduced Project Alternative from taking place in the Plan area were to occur elsewhere in the Bay Area, employees in and residents of that development could potentially generate substantially greater impacts on transportation systems, air quality, and greenhouse gases than would be the case for development of a similar amount of office space in the more compact and better-served-by-transit Plan area. This would be particularly likely for development in more outlying parts of the region where fewer services and less transit access is provided. Therefore, while it would be speculative to attempt to quantify or specify the location of the impacts, it is acknowledged that, while the Reduced Project Alternative would incrementally reduce local impacts, in the Plan area and in San Francisco, it could also increase regional emissions of criteria air pollutants and greenhouse gases, and to increase regional traffic congestion. It could also incrementally increase impacts related to "greenfield" development on previously undeveloped locations in the Bay Area and, possibly, beyond.

Alternative C, Reduced Shadow, would be the most effective alternative at reducing Plan impacts to some extent while meeting or approaching many of the project objectives.

CHAPTER VII
Comments and Responses

Table of Contents

		Page
A.	**INTRODUCTION**	**C&R-1**
B.	**LIST OF PERSONS COMMENTING**	**C&R-3**
C.	**REVISIONS TO THE PROPOSED PROJECT**	**C&R-4**
	Transit Center District Plan	C&R-4
	Transit Tower	C&R-10
D.	**SUMMARY OF COMMENTS AND RESPONSES**	**C&R-12**
	General Comments [comments coded beginning with "G"]	C&R-12
	EIR Summary [Sum]	C&R-18
	Project Description [PD]	C&R-18
	Aesthetics [AE]	C&R-35
	Population and Housing, Business Activity and Employment [PH]	C&R-44
	Cultural and Paleontological Resources [CP]	C&R-50
	Transportation [TR]	C&R-57
	Noise and Vibration [NO]	C&R-75
	Air Quality [AQ]	C&R-79
	Shadow and Wind [SH]	C&R-80
	Recreation and Public Space [RE]	C&R-101
	Biological Resources [BI]	C&R-102
	Public Services and Utilities [UT]	C&R-103
	Geology, Soils, and Seismicity [GE]	C&R-106
	Hazards and Hazardous Materials [HZ]	C&R-110
	Cumulative Impacts [CU]	C&R-112
	Alternatives [ALT]	C&R-113
	Comments on the Merits of the Proposed Project [P]	C&R-119
E.	**REVISIONS TO THE DRAFT EIR**	**C&R-121**
	ATTACHMENT 1: Comment Letters	
	ATTACHMENT 2: Public Hearing Transcript	

LIST OF FIGURES

C&R-1.	Office and Residential Development: Demand Versus Capacity, 2007 - 2035	C&R-26
C&R-2	Downtown San Francisco Steam Loop	C&R-34
C&R-3	Cumulative Visual Simulations: Bay Bridge Upper Deck	C&R-43
C&R-4	Potential First and Mission Streets Historic District	C&R-56
C&R-5	Key to Shadow Impacts	C&R-90
C&R-6	Diffuse Shadow Cast by Transamerica Pyramid, December 6	C&R-97

Page

LIST OF FIGURES (cont'd.)

Revised Draft EIR Figures

Revised Figure 1 – Project Location Following C&R-139
Revised Figure 3 – Existing and Proposed Height Limits Following C&R-139
Revised Figure 7 – Existing and Proposed Conservation and National Register Districts Following C&R-139
Revised Figure 30B – Visual Simulations: Yerba Buena Gardens Following C&R-139
Revised Figure 34A – Visual Simulations: Twin Peaks Following C&R-139
Revised Figure 34B – Visual Simulations: Twin Peaks Following C&R-139

LIST OF TABLES

C&R-1 Select Residential Development Projects in the Plan Area C&R-45

Revised Draft EIR Table

Revised Table 41 – Shadow on Section 295 Parks from Development in the Plan Area Following C&R-139

A. Introduction

Purpose of the Comments and Responses Document

This document contains public comments received on the Draft Environmental Impact Report (Draft EIR, or DEIR) prepared for the proposed Transit Center District Plan and Transit Tower project (State Clearinghouse No. 2008072073), and responses to those comments. Also included in this document are text changes initiated by Planning Department staff as well as text changes in response to comments on the Draft EIR.

Environmental Review Process

On September 28, 2011, the San Francisco Planning Department published the Draft EIR on the Transit Center District Plan and Transit Tower office project for public review and comment. The public review and comment period on the document extended from September 28 through November 28, 2011.[1] During the 61-day public review period, the San Francisco Planning Department received written comments sent through the mail or by hand-delivery, fax, or email (see Attachment A). Oral comments were received at the public hearing on the Draft EIR, held before the Planning Commission on November 3, 2011. A court reporter was present at the public hearing, transcribed the oral comments verbatim, and prepared a written transcript (see Attachment B).

This Comments and Responses document has been distributed to the San Francisco Planning Commission, State Clearinghouse, agencies and individuals who commented on the Draft EIR. This document, which responds to comments received on the Draft EIR and includes associated revisions to the Draft EIR, in combination with the Draft EIR, constitutes the Final EIR for the Transit Center District Plan and Transit Tower project. The Final EIR must be certified by the Planning Commission prior to consideration of the proposed project for approval.

Document Organization

Following Section A, Introduction, Section B contains a list of all persons and organizations who submitted written comments on the Draft EIR and who testified at the public hearing on the Draft EIR held on November 3, 2011.

Section C presents a discussion of revisions to the proposed Transit Center District Plan and the Transit Tower introduced since the publication of the Draft EIR. This section also discusses any changes in impacts as a result of the revisions to the project.

Section D contains verbatim transcriptions of substantive comments on the Draft EIR made orally during the public hearing and received in writing during the public comment period, from September 28 through November 28, 2011. Comments are grouped by environmental topic and generally correspond to

[1] Although the DEIR public comment period was intended to run from September 28 through November 14, 2011, the comment period was extended for two weeks by the Planning Commission on November 3, 2011.

the table of contents of the Draft EIR. However, if no comments addressed a particular topic, that topic does not appear in this document. The name of the commenter is indicated following each comment summary. In the text of the comments, an ellipsis (...) standing alone as a separate paragraph indicates that one or more paragraphs in a comment are not included in the quoted text, either because those portion(s) of the comment appear under another topic or because they do not address substantive issues with respect to the EIR.

Section E contains text changes to the Draft EIR made by the EIR preparers subsequent to publication of the Draft EIR to correct or clarify information presented in the DEIR, including changes to the DEIR text made in response to comments. Section E also contains revised DEIR figures.

Some of the responses to comments on the Draft EIR provide clarification regarding the DEIR; where applicable, changes have been made to the text of the DEIR, and are shown in double underline for additions and ~~strikethrough~~ for deletions.

Some comments made both in writing and at the public hearing were directed towards the merits of the proposed Transit Center District Plan and/or Transit Tower. No responses need be provided to these comments, unless they concern the adequacy or accuracy of the EIR. In some instances, however, additional information is given.

The comment letters received and the transcript of the public hearing are reproduced in Attachments 1 and 2, respectively.

These comments and responses will be incorporated into the Final EIR as a new chapter. Text changes resulting from comments and responses will also be incorporated in the Final EIR, as indicated in the responses.

B. List of Persons Commenting

Written Comments

Public Agencies

Gary Arnold, District Branch Chief, Local Government – Intergovernmental Review, California Department of Transportation (Caltrans), letter, November 28, 2011

Ryan Miya, Senior Hazardous Substances Scientist, Northern California – Coastal Cleanup Operations Branch, California Department of Toxic Substances Control, letter, October 28, 2011

Val Joseph Menotti, Planning Department Manager, Bay Area Rapid Transit District (BART), letter, November 23, 2011

Ron Downing, Director of Planning, Golden Gate Bridge, Highway, and Transportation District (GGBHTD); letter, November 14, 2011

Charles Edwin Chase, President, San Francisco Historic Preservation Commission (HPC), letter, November 30, 2011

Irina P. Torrey, AICP, Manager, Bureau of Environmental Management, San Francisco Public Utilities Commission, memorandum, November 10, 2011

Karen Mauney-Brodek, Deputy Director for Park Planning, Planning and Capital Division, San Francisco Recreation and Park Department, letter, December 12, 2011

Others

Sue C. Hestor, Attorney at Law, on behalf of San Franciscans for Reasonable Growth (SFRG); letter, November 28, 2011

Thomas S. Bain, Managing Director, BlackRock, letter, November 25, 2011

Ken Cleaveland, Director of Government and Public Affairs, Building Owners and Managers Association (BOMA) of San Francisco, letter, November 3, 2011

Deland Chan, Interim Community Planning Manager, Chinatown Community Development Center, letter, November 18, 2011

Tan Chow, Organizer, Committee for Better Parks and Recreation in Chinatown, letter, November 28, 2011

Caroline A. Guibert, Coblentz, Patch, Duffy & Bass LLP, on behalf of Golden Gate University, letter, November 14, 2011

Jim Lazarus, Senior Vice President, San Francisco Chamber of Commerce, letter, November 1, 2011

Sarah Karlinsky, Deputy Director, San Francisco Planning and Urban Research, letter, November 1, 2011

Linda Mjellem, Executive Director, Union Square Business Improvement District, letter, November 11, 2011

Eileen Boken, letter, received November 2, 2011

Issa Kawas, letter, October 15, 2011

Ruben Santiago, letter, November 3, 2011

Lloyd W. Schloegel, letter, November 3, 2011

Persons Commenting at the Public Hearing, November 3, 2011

Ruben Santiago

Sarah Karlinsky, San Francisco Planning and Urban Research

Robert Beck, Transbay Joint Powers Authority

Jamie Whitaker

Sue Hestor

Commissioner Michael Antonini

Commissioner Ron Miguel

Commissioner Hisashi Sugaya

Commissioner Kathrin Moore

C. Revisions to the Proposed Project

Since publication of the Draft EIR, the Planning Department has published a revision to the proposed Transit Center District Plan, dated April 2012, and has drafted a series of proposed modifications to the *Planning Code, Zoning Maps,* and *General Plan* that will implement the draft Plan.

Additionally, on March 9, 2012, Hines Transbay Tower LLC filed planning applications for the proposed Transit Tower with the Planning Department, which provide additional detail with respect to the proposed Transit Tower.

Each of these developments is discussed in this section, with the focus on changes to the project as described in the Draft EIR. None of the proposed changes would result in new significant impacts or substantially more severe impacts, or change any conclusions stated in the Draft EIR, as described below.

Transit Center District Plan

Transit Center District Plan: Proposal for Adoption (April 2012)

The Draft EIR analyzed effects related to implementation of the draft Transit Center District Plan that was published in November 2009. The April 2012 Transit Center District Plan: Proposal for Adoption is largely the same as the November 2009 draft, with the following revisions proposed in a Final Supplement to the Transit Center District Plan:[2]

Land Use: Creation of a Commercial District. As stated on DEIR p. 15, one of the major goals of the draft Plan is to ensure that there is sufficient growth opportunity for high-density, largely office-based jobs in the downtown core immediately proximate to the region's best transit service. To implement this goal, the November 2009 draft Plan proposed to eliminate the existing 18:1 cap on floor area ratio (FAR) and to limit the amount of non-office space in the heart of the Plan area by requiring larger projects to provide at least three square feet of commercial space for every one square foot of residential, hotel, or cultural space. The April 2012 Supplement to the draft Plan has reduced this proposed office to non-office ratio from 3:1 to 2:1. No change has been made to the boundaries of the area in which this ratio would apply (bounded generally by Market Street on the north, Main Street on the east, Zone 1 of the Transbay Redevelopment Plan and Tehama Street on the south, and midway between Second and New Montgomery Streets on the west, shown in EIR Figure 2, p. 13), nor has there been any change in the proposal to eliminate the existing maximum 18:1 FAR.

Urban Form. The April 2012 Plan Supplement revised the proposed height limit for one parcel at 41 Tehama Street, which is proposed for a height limit of 360 feet, 40 feet less than the 400-foot height limit in the 2009 draft Plan. Additionally, the height limit of the site of the new Transbay Transit Center, currently under construction, is proposed to be increased to 100 feet (from 80 feet at present, except at the

[2] The *Final Supplement to the Transit Center District Plan* is available on the internet at: http://www.sf-planning.org/ftp/CDG/docs/transit_center/TCDP_Initiation_I_PlanAddendum.pdf.

western end of the Transit Center site, where the existing height limit is 450 to 550 feet), to accommodate the new Transit Center building.

The April 2012 Plan Supplement also includes new proposals to limit shadow effects from buildings taller than the existing maximum height limit of 550 feet. The April 2012 Supplement states:

> The typical height limit rules that apply to buildings in the S bulk districts which allow tower extensions and that govern architectural elements at the tops of buildings should not apply to buildings taller than 550 feet. Instead, a new bulk district, S-2, with specific rules should be crafted to apply to such tall buildings to reflect their central and iconic positions on the skyline in order to enhance their appearance while minimizing potential visual and shadow impacts.

Under existing zoning, *Planning Code* Section 263.9 allows a building to have additional height up to 10 percent above the height limit if the bulk of the building's "upper tower" (approximately the upper one-third) is reduced by a specified percentage (defined in Section 271), compared to the bulk that would result from a vertical extension of the lower tower. As a condition of the additional height, the Planning Commission must find, pursuant to the Section 309 approval process, that "the upper tower volume is distributed in a way that will add significantly to the sense of slenderness of the building and to the visual interest to the termination of the building, and that the added height will improve the appearance of the sky-line when viewed from a distance, will not adversely affect light and air to adjacent properties, and will not add significant shadows to public open spaces."

The draft Plan, as amended, proposes that, in the proposed new S-2 bulk district, buildings greater than 550 feet in height may gain approval for additional height only to accommodate unoccupied building features, including mechanical/elevator penthouses, enclosed and unenclosed rooftop screening, and "unenclosed architectural features." The Planning Commission would have to review and approve such additional height pursuant to *Planning Code* Section 309, and would have to determine that three specific criteria are met: 1) the additional building elements would "not add more than insignificant amounts of additional shadow compared to the same building without such additional elements on any public open space"; 2) other than a spire limited to 50 feet in height and 18 feet in maximum plan dimension, the additional height would be limited to 7.5 percent of the roof height of the highest occupied floor (except that no limit would apply to a building in the 1,000-foot height district—which is to say that the proposed Transit Tower would not be limited in the height of its rooftop sculptural feature); and 3) the additional rooftop building elements "are designed as integral components of the building design, enhance both the overall silhouette of the building and the City skyline as viewed from distant public vantage points by producing an elegant and unique building top, and achieve overall design excellence" (April 2012 Supplement, p. 6)

Historic Preservation. On February 2, 2012, subsequent to publication of the DEIR, the Historic Preservation Commission (HPC) adopted a revision to the Transit Center District Survey that was previously adopted by the Landmarks Preservation Advisory Board, predecessor to the Historic Preservation Commission, in 2009. As a result, the Planning Department now proposes to slightly increase the size of the proposed expansion of the existing New Montgomery–Second Street Conservation District, compared to that depicted in the Draft EIR, and to identify approximately five additional

buildings as contributors to what would be renamed the New Montgomery–Mission–Second Street Conservation District. The HPC also adopted revised historic survey forms and California Historical Resource status codes for a number of properties in the Plan area, both inside and outside the proposed expansion of the conservation district. The revised conservation district boundary, along with other changes following from the HPC's adoption of the revised survey materials, are depicted in revised EIR Figure 7, Existing and Proposed Conservation and National Register Districts, which appears at the end of Section E of this Comments and Responses document, following p. C&R-139.

The HPC took further action on May 2, 2012, by initiating a boundary change to the existing New Montgomery-Second Street Conservation District and initiating the designation, under Article 11 of the *Planning Code*, of 43 of buildings as Category 1 (Significant), Category III (Contributing), or Category IV (Contributing) buildings and a change of designation for one (1) property from Category III (Contributing) to Category IV (Contributing), in connection with the proposed expanded an renamed New Montgomery–Mission–Second Street Conservation District. The HPC also added four properties identified in the draft Plan for potential future designation as City Landmarks to the Landmark Designation Work Program. These are the properties shown in revised Figure 7, following p. C&R-139.

In addition to the HPC action, the April 2012 Plan Supplement makes some modifications to the proposed use of Transferrable Development Rights (TDR) and replaces a proposed Historic Preservation and Rehabilitation Fund with a more flexible approach to ensuring an adequate supply of TDR, calling for the City to "investigate opportunities to expand the potential supply of TDR through designation of eligible buildings," both inside and outside the C-3 (Downtown) Use Districts—including publicly owned buildings that require substantial rehabilitation. A historic preservation fund is maintained as a secondary approach, for use in addition to the designation of additional buildings.

Transportation: The April 2012 Plan Supplement makes minor revisions made to the proposed Public Realm Plan (street and sidewalk configurations) depicted in Figures 5 and 6 and in Appendix C of the DEIR. These changes involve the addition of bicycle lanes to Fremont, Beale, and Main Streets, between Market and Folsom Streets (but with no change in lane configuration, because the bicycle lanes are added within what had been proposed as wider-than-typical travel lanes), and modification of the configuration of Mission Street to slightly decrease the amount of widening of sidewalks proposed in the draft Plan in order to provide wider travel lanes to accommodate bus traffic. The revised treatment of bicycle lanes is depicted in revised EIR Figures 5 and 6 and in a revised bicycle network figure from EIR Appendix C, all of which are included in Section E of this Comments and Responses document, following p. C&R-139.

District Sustainability: The April 2012 Plan Supplement deletes one policy from the November 2009 draft Plan that would have required major new development to exceed the LEED® (Leadership in Energy and Environmental Design) requirements contained in the City's Green Building Ordinance. Revisions are also made to four other policies (see Section E, Revisions to the Draft EIR, p. C&R-121 of this Comments and Responses document).

Revisions to the *Planning Code*

As stated in the Draft EIR under "Approvals Required," p. 49, among the approval actions required to implement the Transit Center District Plan would be a series of amendments to the *Planning Code* to, among other things, create new height and bulk districts; eliminate the 18:1 limit on floor area ratio; modify controls on building setback, separation of towers, bulk, massing, and façade articulation; alter controls for the use of transferrable development rights and establish a downtown preservation fund; and increase bicycle parking and car-share parking requirements. In general, the proposed amendments to the *Planning Code* that have been drafted are consistent with those described in the DEIR. The following summarizes the changes in proposed *Code* revisions, compared to provisions described in the DEIR.[3]

Section 152.1, Required Off-Street Freight Loading and Service Vehicle Spaces in C-3, Eastern Neighborhoods Mixed Use Districts, and South Of Market Mixed Use Districts, would be modified to include a maximum requirement of six off-street freight loading or service vehicle spaces per building in the C-3-O(SD) use district, which would encompass the Plan area.

A new Transit Center C-3-O(SD) Commercial Special Use District would be created within Planning Code Section 249. As noted above in the discussion of revisions to the draft Plan, this special use district would require that new development on lots larger than 15,000 square feet include not less than two square feet of commercial (office, retail, and other non-residential, non-lodging) use for every one square foot of residential or hotel use. The draft Plan had originally proposed a 3:1 ratio of commercial to residential/hotel space.

Section 260(a)(2) would be revised to change the point at which height is measured for very tall buildings (those taller than 650 feet) in the C-3-O(SD) District, so that building height would be based on the actual highest point of the building, rather than the building roof, as is normally the case.

A new section 260(b)(1)(M) would exempt from the height limit, for buildings taller than 650 feet in the C-3-O(SD) District, "unoccupied building features including mechanical and elevator penthouses, enclosed and unenclosed rooftop screening, and unenclosed architectural features not containing occupiable space that extend above the height limit," providing that those elements do not cast more than "de minimis" amounts of shadow on open spaces subject to Planning Code Section 295, are limited to 7.5 percent of the building height, and are integral components of the building design. In the 1,000-foot height zone (location of the proposed Transit Tower), there would be no limit on the height of such sculptural elements. Such rooftop features would require the Planning Commission to grant an exception, pursuant to Section 309.

Section 309, Permit Review in C-3 Districts, would be amended to include cross-reference to two new categories of exceptions that may be granted by the Planning Commission from provisions newly proposed for the *Planning Code*. These would be (i) an exception to the use requirement (ratio of office to non-office space) in the Transit Center C-3-O(SD) Commercial Special Use District; and (ii) an exception for unoccupied rooftop elements exceeding the height limit, as described above under Section 260(b)(1)(M).

[3] The proposed *Planning Code* revisions, including *Code* section numbers, are accurate as of the date of publication of this Comments and Responses document.

Effects of the Revisions

The revisions to the draft Plan analyzed in the DEIR and the proposed amendments to the *Planning Code* do not alter the development assumptions upon which the analyses were based. That is, the projected growth by land use remains the same because, although the currently proposed changes to the *Planning Code* would alter the required ratio of office to non-office space within the central portion of the Plan area compared to that proposed in the November 2009 draft Plan, this change would not substantially alter the areawide long-term growth forecasts on which the EIR's quantified analysis was based. This is because the Planning Department's growth forecasts are based on a number of factors, including regional growth forecasts, the current uses of sites in the Plan area as well as citywide, and anticipated demand for various uses, in addition to existing and proposed zoning. Therefore, quantifiable effects related to the intensity of development, such as transportation, air quality, noise, greenhouse gas emissions, and demand for services and utilities, would not change. Also, there are no revisions in the assumptions concerning the urban form (height and bulk), meaning that qualitatively assessed impacts, such as those with respect to land use, aesthetics, shadow, and wind, would likewise not change. (The proposed controls with respect to building elements in excess of the height limit are intended to require careful consideration of such features, and so would not result in greater impacts than identified in the EIR's shadow analysis, which was based on simple massing models of all potential development except the proposed Transit Tower, for which the proposed 150-foot-tall sculptural element was included in the analysis.)

Similarly, there would be no alteration in location-specific effects, such as those on cultural (historical and archeological) resources, biological resources, geology, hydrology, or hazardous materials.

The proposed maximum requirement of six off-street freight loading spaces is likely to have little practical effect beyond the proposed Transit Tower, because a limited number of other buildings are anticipated to be built that would otherwise have a freight loading requirement of more than six spaces. Such a requirement would be triggered by, for example, an office building of 650,000 square feet or more. Only three other sites in the Plan area could likely accommodate a building that size: a site on the northwest corner of First and Mission Streets (50 First Street), where a mixed-use project of three towers is currently proposed; the Golden Gate University site just to the west; and the Transbay Joint Powers Authority "Parcel F" site, on Howard Street between First and Second Streets. The difference between the current *Planning Code* requirement and the proposed requirement with a six-space maximum would amount to approximately 20 loading spaces. The Draft EIR found that an areawide shortfall of off-street freight loading spaces would result in a significant unavoidable impact, and additional shortfall of 20 off-street loading spaces would not substantially alter the conclusions of the EIR.

Concerning the revisions in the approach to TDR, the programmatic nature of the EIR's analysis of Plan impacts precludes analysis of specific properties, and as a result the EIR finds that the potential demolition or substantial alteration of historical resource(s) would be a significant, unmitigable effect of the draft Plan (Impact CP-3). This would remain true with the April 2012 revisions. However, it is noted that the proposed expansion and renaming of the New Montgomery, Second, and Mission Streets Conservation District and the designation under *Planning Code* Article 11 of additional contributory

buildings in the Plan area would potentially reduce adverse impacts to historical resources, although not to a less-than-significant level.

With respect to the changes in the Plan's public realm improvements, as noted above, bicycle lanes are currently proposed to be striped on Fremont, Beale, and Main Streets, as follows:

- Fremont Street: Northbound between Folsom and Market Streets, along the east side of the street;
- Beale Street: Southbound between Market and Folsom Streets. This lane would be striped along the east side of the street between Market and Howard Streets and along the west side of the street between Howard and Folsom Streets, with a "bike box" crossover provided just north of Howard Street; and
- Main Street: Northbound between Folsom and Market Streets, along the east side of the street.

The public realm improvements assumed in the DEIR included a wider curb lane along each of the three above streets (approximately 15 feet or larger in width), which could be used by bicyclists. Under the revision, the blocks noted would instead be striped as a regular travel lane of standard width (9.5 to 11 feet) plus a Class II bicycle-only lane (typically 5 feet wide).

With the bicycle lanes, there would be no substantial change to impacts identified in the DEIR, as the bike lanes would use street space originally proposed as part of wider curbside travel lanes. Increased delay for southbound vehicles on Beale Street as a result of the bike lane, if any, is expected to negligible, because bicycles would have their own lane and would not need to share a lane with motor vehicles; therefore, motor vehicles would be able to overtake bicycles and the flow of both motor vehicle and bicycle traffic would be maintained.

In addition, because the wider vehicle lanes could be used by bicyclists under the previous roadway plan, the addition of bike lanes on the aforementioned street segments is not expected to result in significant traffic, transit, pedestrian, loading, or parking impacts. While the bike lanes would likely attract some increase in bicyclists to these streets, this increase is not expected to be large enough that there would be a material effect to the operations of other modes, such as Golden Gate Transit buses attempting to approach or pull out of the curb along the east side of Fremont Street between Market Street and Mission Street during the weekday p.m. peak period. This is because Beale and Main Streets are relatively lightly trafficked at present, compared to other north-south streets in the Plan area, meaning that they offer an existing opportunity for cycling with minimal potential conflicts with motor vehicles, and because, as noted, the draft Plan already proposed wider-than-normal curb lanes on all three streets, in part to accommodate cyclists. Moreover, because the draft Plan calls for bicycle lanes on three adjacent, parallel streets, the increase in bicycle traffic on any one of these streets would be expected to be relatively limited, given the multiple options from which cyclists could choose.

There could also be some incremental increase in conflicts between cyclists and motor vehicles making left and right turns, but because the increase in bicyclists due to the new bicycle lanes would not be expected to be substantial, the change compared to conditions analyzed in the EIR would not be anticipated to result in new significant impacts.

Concerning the Mission Street sidewalks, they are currently 15 feet wide in the Plan area. Under the original proposal, these sidewalks would have been widened to approximately 21 feet on each side, except immediately east and west of Second Street, where the Mission Street sidewalks would be 17 feet wide. Under the current, revised proposal, the sidewalks along each side of Mission Street in the Plan area would be widened to 19 feet, except east and west of Second Street, where they would remain 15 feet wide, and on the north side of Mission Street between First and Fremont Streets, where the sidewalk would be 18 feet in width. The Transportation Impact Study assessed potential project-related impacts both with and without the draft Plan's public realm improvements, including widening of Mission Street sidewalks, and identified significant impacts related to pedestrian congestion at some crosswalks and corners. However, the study identified no significant effect with respect to sidewalk capacity either with or without the proposed sidewalk widening, the current revised scheme—which is within the range analyzed in the Transportation Impact Study—would likewise result in no significant impact. Regarding pedestrian congestion at corners, the EIR likewise identified a significant impact at one Mission Street corners under conditions without the draft Plan's public realm improvements, including widening of Mission Street sidewalks: at the southwest corner of First and Mission Streets, in the p.m. peak hour. However, widening of the Mission Street as currently proposed, from 15 feet to 19 feet, would be expected to provide sufficient additional pedestrian circulation space, compared to existing conditions, to avoid the significant impact that would occur with no widening (i.e., the draft Plan without the public realm improvements). Moreover, pedestrian circulation space at this corner is effectively much greater than is calculated based on sidewalk width, because the existing building at 100 First Street includes a colonnaded setback that provides more than 5 feet of effective additional width to the Mission Street sidewalk, as well as a corner setback of approximately 100 square feet. While the Planning Department does not consider setback areas as part of the overall sidewalk width, it is reasonable to expect that pedestrians would use the 100 First Street corner setback as a path of travel in congested conditions. Therefore, as with sidewalks, the lesser widening would not result in any new significant impacts with respect to pedestrian crowding at street corners.

Changes to the policies in the District Sustainability chapter of the draft Plan would not affect the analysis in the EIR, because these policies were incorporated into the EIR's broad, programmatic analysis and were not incorporated into the quantification of air quality or greenhouse gas emissions, as such quantification at a Plan level would be speculative.

Transit Tower

As noted above, on March 9, 2012, Hines Transbay Tower LLC filed a series of planning applications with the Planning Department that provide additional detail with respect to the proposed Transit Tower. Hines Transbay Tower LLC (Hines) is the entity that was selected by the Transbay Joint Powers Authority (TJPA) to design and build the tower following a design competition in 2007. At the time the Draft EIR was published, the TJPA and Hines had not entered into a formal agreement with respect to development of the Transit Tower. With the two entities having entered into an Exclusive Negotiations Agreement, Hines will serve as the project sponsor for the Transit Tower for the consideration of project approvals.

The project described in the March 2012 applications submitted by Hines is essentially the same as the project analyzed in the Draft EIR. That is, as stated on EIR p. 38, the Transit Tower would be a a 61-story, approximately 1,070-foot-tall office building on approximately the northern third of the block bounded by First, Mission, Fremont, and Howard Streets. The roof of the building would be at a height of 920 feet, as analyzed in the DEIR, and the building would be topped by a lattice-like steel sculptural element 150 feet tall, which would continue the building's tapering shape up to a total height of about 1,070 feet. A two-level mechanical penthouse, set back from the building walls on all four sides, would be enclosed within the sculptural element. These dimensions remain the same as described in the DEIR.

The footprint of the March 2012 design would vary slightly from that of the Transit Tower analyzed in the DEIR, in that the DEIR design included notches about 6 feet deep at each corner of the building, while the current design features rounded corners without notches. Otherwise, the massing of the building would be the same as that analyzed in the DEIR. Hines has also provided additional design detail, including the fact that that each floor would have a horizontal sun shade projecting approximately 3.5 feet from the building wall.

The building program remains similar to that described in the DEIR, with the March 2012 proposal including 1.35 million square feet of office space, compared to 1.288 million square feet of office in the DEIR project, and 20,000 square feet of retail space, compared to 16,500 square feet of retail in the DEIR project.

Effects of the Revisions

The incrementally larger building program proposed under the March 2012 applications would result in about 62,000 square feet (about 5 percent) more office space and about 3,500 square feet (21 percent) more retail space than analyzed in the Draft EIR. Based on the trip generation rates used in the Transportation Impact Study, this increase would result in about 30 additional p.m. peak-hour vehicle trips and about 55 additional p.m. peak-hour transit trips, which would not make a meaningful difference to the analysis of transportation impacts, nor would it measurably affect noise, air quality, or greenhouse gas emissions calculations. The associated increase of about 235 workers (based on standard Planning Department assumptions of employees per square foot for the different uses) would not substantially affect the estimated demand for public services or utilities.

Because the building massing would be the same as that analyzed in the DEIR, effects reported in the DEIR with respect to land use, aesthetics, shadow, and wind, likewise would not substantially change. Because the Transit Tower would be developed at the same site as previously analyzed, there would be no alteration in reported location-specific effects, such as those on cultural (historical and archeological) resources, biological resources, geology, hydrology, or hazardous materials.

D. Summary of Comments and Responses

General Comments

Comment G-1: The EIR does not adequately evaluate the effects of high-rise development on the street level pedestrian experience; the analysis of aesthetic impacts should focus more on street-level conditions.

"The most appropriate of the DEIR is POLLYANNAish. If that is a word.

"This DEIR - as well as the planning staff working on/promoting this 'plan' - would be well served to have an impartial group evaluate the street level quality/experience of the high-rise buildings that have been built since the Urban Design Plan, the Downtown Plan and even the various Rincon Hill plans were approved. There is an AWFUL lot of reliance on the LANGUAGE in various policies - the Urban Design Plan, the Downtown Plan and the Rincon Hill Plan. The language of those 'plans' is lovingly set out as though the nice words actually resulted in changes at street level. There is little 'evaluation' or recognition that high-flown policies don't actually result in implementation in real world San Francisco. This analysis could also be extended to the Code language that was adopted that turned around and allowed 'exceptions' which became the norm when a building was actually reviewed and approved.

"The Aesthetics evaluation should mostly focus at the STREET LEVEL, since that is where most people will experience these buildings. While we also care about how these buildings affect the skyline and important public views - see later comments here - much of what has been built in the last 35-40 years didn't quite result in the wonderful ground-level perspectives (the ideals) set out in those plans. Development in the past 35-40 years was theoretically guided by the policies of the Urban Design Plan, the Downtown Plan or the Rincon Hill Plan. How did it REALLY work out? What is the level of POSITIVE ground level pedestrian activity around the NEW TALL buildings. What about their 'plazas' or other softening aspects? How much do they welcome people, both those who work in their building or those in the area? How much of the ground level space is ACTIVE retail or services? Are the NEW buildings providing those spaces, or is it in the OLDER buildings? How 'friendly' is the pedestrian experience. How ACTIVE are these spaces in the REAL world?

"Our sense is that there are an awful lot of 'policies' that look terrific on paper, but aren't really implemented all the way through in construction details, in ground level active uses and in creating a strong public realm in/around NEW high-rise buildings.

"Which BUILDINGS worked they way the "plans" intended? Vs. which created inactive, under-used spaces? Which 'outdoor' access spaces REALLY work? What population do they serve?

"The Planning Department itself may not be the best judge of its own efforts. Perhaps one of the Architecture/Design schools that regularly put students into SF planning issues - UC Berkeley, Cal Poly - could be asked to do a human level evaluation of the NEW downtown buildings and how they function at the ground level. The students are guided by professionals in their Department, but may come to this with a fresh view. Architecture students don't have a stake in justifying Planning Department policies." *(Sue Hestor, on behalf of SFRG)*

"My concern is not with such things as the towers at their top and the separation, I am still, as I voiced before, concerned with what happens down on the ground. We have, and they are commented upon in the document, the Downtown Streetscape Plan of '95, the Transbay Streetscape Plan of 2006, and certainly the Better Streets Plan from 2010. There are comments regarding sidewalk improvements, mid-block crossings, that's where I think everything is important. That's where the public is going to thrive and that's where the district is going to thrive.

"The manner of the built form at the sidewalk is much, much more important to me than tower separation or some flagpole on top of a tower somewhere in order to achieve an extra 50-feet in height. Those things at the top are easy to work with. The personal impact on the ground level is extremely difficult to deal with because it comes in the public realm and we often deal with the actual individual buildings without having a good idea of how the mass of them, because many will be built, are going to affect the street level." *(Commissioner Ron Miguel)*

Response

The EIR analyzes potential direct adverse physical effects on pedestrian conditions with respect to pedestrian circulation (Section IV.E, Transportation), Wind (Section IV.I), and Shadow (Section IV.K). Additionally, the analysis of historic architectural resources in Section IV.D, Cultural and Paleontological Resources, implicates the pedestrian experience in that it discusses potential changes to or loss of historic buildings, and the analysis of traffic noise in Section IV.F, Noise, is also relevant to the pedestrian experience.

Concerning aesthetic impacts and pedestrians, it should be noted that the draft Plan does not propose to fundamentally alter the land use controls in the Plan area. Rather, as stated in Chapter II, Project Description, the draft Plan would designate most of the Plan area within the C-3-O (SD) (Downtown Office—Special Development) use district, which currently applies to much of the Plan area south of Natoma Street. The area north of Natoma Street is currently zoned C-3-O (Downtown Office), and the controls in the two districts are similar, with office use permitted as a principal use and controls that generally encourage concentrated, high density office development. As stated on EIR p. 12, the C-3-O (SD) district allows a lesser intensity of development, measured in terms of floor area ratio, as of right than does the C-3-O district, but the C-3-O (SD) district also permits unused development potential on lots containing historic resources from other C-3 districts to be directed to sites in the C-3-O (SD) district through the transferrable development rights (TDR) process.

The draft Plan seeks to increase the density of development, primarily office development, in the area around the new Transbay Transit Center, by retaining existing controls promoting office use, increasing permitted heights on a select number of sites and allowable floor area ratio and residential density, and adding a policy framework that addresses issues such as urban form and the public realm—largely, the pedestrian realm—and transportation, with a focus on pedestrian travel and other non-auto modes. Because the draft Plan would increase height limits on certain sites to permit buildings taller than currently exist in San Francisco, and because proposals for very tall buildings have historically generated great interest in the City, the EIR Aesthetics

analysis (EIR Section IV.B) focuses on the effects of these taller buildings. The EIR notes that taller buildings would have effects not only on the skyline and on views, but also at the pedestrian level. "At the ground level, there would be a perceptible change in both pedestrian and vehicular activity, owing to the introduction of greater density development and some lessening of sunlight at certain times of day, depending on location relative to new tower(s)" (EIR p. 114). Along with allowing increased height, the EIR notes on p. 115:

> The draft Plan also proposes substantial improvements to the public realm that would complement the proposed transportation infrastructure. These include widening of selected sidewalks, establishing new mid-block crossings at key locations, and enhancing alleys as pedestrian spaces. In addition, as under current conditions, new publicly accessible open spaces would be a required component of new development, and would create pedestrian-friendly spaces throughout the Plan area. Area-wide landscaping improvements would also be undertaken along the public rights-of-ways, adding rows of street trees and other greenery to areas where there is currently little vegetation. The proposed public realm improvements would follow the Urban Design Element's direction to use landscaping and other treatments to help define and "emphasize the special nature of each district" and to "make centers of activity more prominent."

The EIR Project Description also describes the draft Plan's proposals for ground-floor building treatments, including "guidelines regarding bulk and building form that build upon the standards established in the Downtown Plan, and proposes ground-floor design standards that are meant to encourage active and spacious ground floors, promote continuous street-level facades, and allow for the widening of sidewalks in areas where the redevelopment of contiguous parcels is anticipated to occur" (EIR p. 19). Among the specific proposals in the draft Plan, as stated on EIR p. 20, are the use of setbacks, projections, and other building features to clearly differentiate a building's base from its tower. Also, the draft Plan proposes that building lobbies be no wider than 40 feet or 25 percent of the building's street frontage, with the remaining frontage required to be lined with uses such as commercial storefronts and public space (November 2009 Draft Plan, Policy 2.19). This policy is part of a section on the "pedestrian zone" of buildings, in the draft Plan's Urban Form chapter (Chapter 2). This section begins with the statement that buildings in the Plan area should have ground levels designed "in such a way that reinforces the human scale … [and] contribute[s] to conditions ideal for attracting pedestrian activity" (November 2009 Draft Plan, p. 38). Objectives in this section call for pedestrian-oriented development, active ground floor spaces that are tall and spacious, façade articulation, and minimizing blank walls at ground level. The proposed *Planning Code* revisions that would implement the draft Plan include Section 132.1(c), which would establish requirements for a "street wall" height related to the width of the adjacent street; a "pedestrian zone" that incorporates architectural features, awnings, marquees, or canopies that project from the building wall; and building setbacks along portions of Mission, First, and Howard Streets that would provide for additional public circulation space.

In terms of the attractiveness of ground-floor building space such as retail stores and cafes, it is true that some spaces function more effectively than others. Some building owners are also more successful than others in leasing their ground-floor space, whether for purely economic reasons or because the location or layout of one space is more suitable than another. At any rate, as explained on p. 21 of the EIR, "the draft Plan would build on the Downtown Streetscape Plan of 1995, as well as the 2006 Streetscape and Open Space Plan for the Transbay Redevelopment Area and the citywide Better Streets Plan, adopted in 2010, to create a 'high quality public realm' covering the 'shared space' of the Plan area, including its streets, alleys, sidewalks, parks, and plazas."

Comment G-2: The EIR does not adequately address effects on the 400 Howard Street building of potential vibration from pile-driving, damage to utilities, and potential effects on soil stability.

"The EIR addresses certain potential impacts to our operations at 400 Howard Street that could occur in connection with construction in the Transit Center District Plan ('Plan') area. These include impacts related to vibrations from pile driving, damage to utilities that service 400 Howard Street, and reduction of ground and soil stability underneath and surrounding 400 Howard Street. In our view, the analyses in the Draft EIR in these areas would benefit from supplementation in order to better demonstrate that project construction will not result in adverse impact to BlackRock, and that the project complies with CEQA. *(Thomas L. Bain, BlackRock)*

Response

The comment regarding construction vibration is addressed in the response to Comment NO-1, p. C&R-75, the comment regarding disruption to utilities is addressed in the response to Comment UT-2, p. C&R-103, and the comment regarding soil stability is addressed in the response to Comment GE-2, p. C&R-106.

Comment G-3: The EIR is technically satisfactory.

"I think the analysis of the various factors, be they shadow, wind, and all the other ones that are brought in here, traffic impacts, and historical, are quite well done." *(Commissioner Michael Antonini)*

"As to the EIR, I think it adequately covers such things as the FEIR and the tower separation. It obviously, as an EIR should, considers the maximum build-out. I do not truthfully expect that maximum build-out ever to be achieved; I think it's going to be a lot less, but then I'm no economic guru. In any case, it's going to totally change the Downtown skyline and I think the photo simulations give us a good idea of that." *(Commissioner Ron Miguel)*

Response

The comments are noted.

Comment G-4: Connections between Plan area buildings and City Park atop the new Transit Center are important, as are other Plan area open spaces.

"Open space connections to the five-acre Sky Park, I'll call it, on top of the Transit Center itself, are very, very important requirements on street widening, the taller you go, the wider the sidewalks should be, in general, to make it comfortable for these hopefully masses of people that will inhabit the area. There is a plan for a Second and Howard Open Space, individual open spaces that will complement the park on top of the Transit Center itself, are extremely important." *(Commissioner Ron Miguel)*

Response

Concerning the proposed City Park atop the new Transit Center currently under construction and the proposed Second and Howard Street open space, these are discussed in the EIR Project Description, p. 24. In terms of pedestrian connections to the City Park and the potential to create larger open spaces in the Plan area, p. 24 states:

> With regard to the residential and non-residential open space requirements currently mandated by the *Planning Code*, the draft Plan includes a number of objectives and policies that would encourage flexibility in meeting these requirements within the Plan area, particularly in the vicinity of, and to enhance connections to, the Transit Center's City Park (November 2009 Draft Plan, Objective 3.13). One approach included in the Plan is for future projects adjacent to the City Park to meet *Code*-mandated open space requirements by providing direct pedestrian connections to the City Park rather than incorporating privately owned, publicly accessible open spaces into project designs, as is typically the case with downtown buildings, in fulfillment of the requirements of *Planning Code* Section 138 (November 2009 Draft Plan, Policies 3.17 and 3.20). A payment of in-lieu fees is another measure proposed in the Plan to allow for greater flexibility in meeting open space requirements for individual projects within the Plan area (November 2009 Draft Plan, Policy 3.19). The draft Plan proposes these different approaches for projects to meet open space requirements in recognition of the fact that project-site-specific open spaces that are privately owned but publicly accessible are difficult to provide on constrained sites; could, over time, "erode the urban fabric"[footnote omitted] by creating a series of gaps in otherwise solid street walls; and, depending on access and design, do not always feel "public."

The proposed *Planning Code* revisions that would implement the draft Plan include Section 138(j), which provides that connections to the City Park that meet certain standards are counted towards required publicly accessible open space, as would publicly accessible observation decks and sky lobbies above a height of 600 feet and certain mid-block public pedestrian pathways within large lot developments. Additionally, proposed *Planning Code* Section 427(b) would establish an in-lieu fee that could be paid as an alternative to creating on-site publicly accessible open space. This fee and the resulting revenue would be administered in connection with a Transit Center District Open Space Impact Fee and Fund that is also proposed to be added to the *Code*.

Comment G-5: Privately Owned Public Open Spaces should be larger and complementary to one another.

"POPOS, the Privately Owned Public Open Spaces, that will accompany the office towers to be built, in my estimation, the Downtown Plan did a very good job and we heard that recently when we were discussing the one percent art situation, it's possible in this area if we are concentrating so many large buildings that those spaces should be expanded. They should be required to be larger and they should be able to complement each other." *(Commissioner Ron Miguel)*

Response

All office towers built since the adoption of the Downtown Plan have been required to include publicly accessible open space. While some of these spaces are more successful or more welcoming than others, it seems clear that among the most heavily used and, therefore, most successful, are those at several newer buildings, such as the outdoor plazas at 555 Mission Street and 560 Mission Street, the outdoor "poetry garden" at 199 Fremont Street, and the five-story indoor "greenhouse" at 101 Second Street. A number of pre-Downtown Plan office towers also provide publicly accessible open space that is well used, such as Marathon Plaza at 303 Second Street and the plazas at 50 Fremont Street, 525 Market Street, and 101 California Street, which is outside the Plan area. More importantly, it is noted that such publicly accessible open spaces have nearly all been created in connection with new development; that is, whether pre- or post-Downtown Plan, it is as a result of the development review process that these open spaces exist. However, as stated in the preceding response, the draft Plan proposes alternative approaches to the development of individual, building-by-building publicly accessible open spaces, such as creation of connections to City Park and payment of in-lieu fees.

Comment G-6: The Transbay Joint Powers Authority Cannot Proceed with Property Sales Until the EIR is Certified.

"Because the Draft EIR analyzes new height limits for these parcels, the TJPA cannot sell these properties until the EIR has been certified. To this end, we urge the Commission to close the comment period on November 28th as scheduled and the Department will respond to comments and present the Commission with the EIR for certification at the earliest possible date. Consistent with the vision that stimulated the plan, it is appropriate and important that impact fee revenues from the Transit Center District Plan, including fees from the Tower and Parcel F be directed towards the Transbay Program. We thank you for consideration of this important EIR, and we urge you to adopt the heights as recommended in Transit Tower and Parcel F, and maintain the current schedule for certification of the EIR." *(Robert Beck, Transbay Joint Powers Authority)*

Response

The comment urging a rapid certification of the EIR is noted and will be considered by the decision-makers.

Summary

Comment Sum-1: There is a word missing in the second sentence of the third paragraph on p. S-5.

"Pg. S-5: Amount (number of units) missing from the second sentence of the third paragraph: 'The building would have about (?) retail space ... '." *(Ron Downing, GGBHTD)*

Response

The amount of retail space proposed in the Transit Tower, 16,500 square feet, is given in the first sentence of the paragraph in question. The sentence noted by the commenter incorrectly included the word "about," which is hereby deleted (see Section E of this Comments and Responses document, Revisions to the Draft EIR, p. C&R-121). The same change is also made to EIR p. 39.

Comment Sum-2: There is an error in the title of the section heading on p. S-67.

"Pg. S-67: In the title of the section, the text should read '*...if* the Project is Implemented.'" *(Ron Downing, GGBHTD)*

Response

The correction noted by the commenter is hereby made (see Section E of this Comments and Responses document, Revisions to the Draft EIR, p. C&R-121).

Project Description

Comment PD-1: The EIR does not include a proposed project at 75 Howard Street

"Page 6 - I can't read the street names on those maps. Please redo these maps. That protruberant area on Howard Street is strange. There actually is a proposed high-rise - with associated height increase - for Howard on the south side between Spear and Steuart, aka 75 Howard Street. Is there yet another proposal RIGHT UP TO THE EMBARCADERO?

...

"[Page 47] 75 Howard has recently filed with the intention of increasing heights at THAT site near The Embarcadero. Please explain.

...

"**Page 113** - statement that 'no change (in heights) would occur east of Main Street, leaving the blocks closest to The Embarcadero, already densely built out with an earlier generation of high-rises, most less than 300 feet tall, essentially undisturbed' - is INCORRECT given the pendency of an application to increase the height limit for 75 Howard Street." *(Sue Hestor, on behalf of SFRG)*

Response

As requested by the commenter, Figure 1 on EIR p. 6 has been reprinted with street names enlarged (see the revised figure at the end of Section E of this Comments and Responses document, Revisions to the Draft EIR, following p. C&R-139). Concerning the "protruberant area on Howard Street" east of Steuart Street, this area—and a smaller area on the south side of Howard Street between Hawthorne and Third Streets—is included in the Plan area so that the Plan area encompasses all of the parcels currently within the C-3-O (SD) use district.

The site at 75 Howard Street is on the south side of Howard Street, west of Steuart Street, which is within the Plan area (but not within the "protruberant area" identified by the commenter). An application for a Preliminary Project Assessment was filed with the Planning Department for this site on September 28, 2011 (the day the Draft EIR was published); an Environmental Evaluation Application was filed on January 13, 2012, while this Comments and Responses document was in preparation. The proposed project (Case No. 2011.1122E) would demolish an existing eight-story, 550-space parking garage on the site and construct a new 175-unit residential building with below-grade parking for the dwelling units and approximately 100 public parking spaces to replace a portion of the spaces lost to demolition of the existing garage. The proposed project at 75 Howard Street would require a change to the *Planning Code* height and bulk map (rezoning) because the project sponsor is proposing a 284-foot-tall building in a 200-S height and bulk district, where the height limit is 200 feet. This change in height limit is *not* proposed in the draft Transit Center District Plan. Therefore, this project would be subject to project-specific environmental review as part of its application process and would require site-specific legislative action separate from the draft Plan. The statement in the Aesthetics analysis, p. 113, that no change in heights is proposed east of Main Street is correct, with respect to the draft Plan, which is what is analyzed in the EIR. Please see the response to Comment AE-7, p. C&R-42, for discussion of cumulative aesthetic impacts in connection with the proposed 75 Howard Street project.

Concerning cumulative growth-related effects of the proposed 75 Howard Street project, as stated on EIR p. 282, the transportation analysis includes increased travel demand (i.e., vehicle trips, transit trips, pedestrian trips, and other forms of travel) generated both by potential individual project sites within the Plan area and additional background growth as forecast by the San Francisco County Transportation Authority model through the year 2030. The background growth in this analysis assumes more than enough housing units to accommodate the proposed 75 Howard Street project, which is therefore subsumed within the cumulative growth assumptions relied upon in the EIR.

Comment PD-2: Specific projects discussed in the EIR are confusing.

"**Page 7 fn7** - do these addresses match the sites analyzed for such things as the shadow impacts of various buildings? It is hard to track lists of buildings throughout the DEIR." *(Sue Hestor, on behalf of SFRG)*

Response

The EIR analyzes development that could occur on 17 identified underutilized, or "soft," sites in the Plan area under the draft Plan. These sites include the locations of the five projects listed in footnote 7 on EIR p. 7. In some cases, the development proposed (or, in the case of 350 Mission Street, approved) on the site differs in certain characteristics from what could be developed under the draft Plan's land use controls. Since the EIR is required to analyze the physical changes that could result from the modified policies and land use controls proposed under the draft Plan, the EIR assumes development on these five sites that is consistent with the development potential under the draft Plan, rather than the specific projects on file for these five sites. Individual projects in the Plan area will be required to undergo project-specific environmental review to consider the impacts of development of each project as proposed.

The five proposed/approved projects are each included in the analysis of Alternative D, the Developer Scenario, in Chapter VI of the EIR (p. 687). These five projects are also further described in the EIR Project Description on pp. 47 – 49. As described in the discussion of Alternative D, this alternative would permit taller buildings than the draft Plan proposes at up to three locations. These sites are the Palace Hotel residential tower (727 feet proposed; 600 feet in draft Plan) and, potentially, projects at 50 First Street and 181 Fremont Street. On these latter two sites, the developer-proposed rooftop height is the same as that in the draft Plan, but the Plan would allow a greater total height of additional, unoccupied building elements as long as they do not cast significant shadow on protected open spaces, which is a determination that would be made based on more detailed analysis of each project. For two other locations, lesser height is assumed in Alternative D than under the draft Plan. These sites are 350 Mission Street, where a 375-foot-tall building was approved in 2011 (compared to 700 feet proposed under the draft Plan) and 41 Tehama Street, where a 342-foot-tall building is proposed, compared to the draft Plan's proposal for 360 feet. As further described in the analysis of Alternative D, EIR p. 687, overall impacts of this alternative would be similar to those of the draft Plan, with a small (approximately 4 percent) diminution, compared to the draft Plan, in peak-hour vehicle trip generation and comparable lessening of effects related to air quality, greenhouse gas emissions, and noise. The difference in building heights in the Developer Scenario, compared to the draft Plan, would alter shadow impacts. Shadow impacts would be greater on Union Square and Justin Herman Plaza, but lesser on St. Mary's Square and Portsmouth Square. Wind and other impacts would be similar to those of the draft Plan. There would be no new significant impacts, compared to the draft Plan, nor would any of the Plan's significant impacts be reduced under this alternative to a less-than-significant level.

Comment PD-3: The EIR does not discuss the Rincon Point/South Beach Redevelopment Plan.

"I don't remember seeing the Rincon Point/South Beach Redevelopment Plan/Area mentioned as one of the underlying controls. It clearly governed development of several parcels in the east part of the plan area." *(Sue Hestor, on behalf of SFRG)*

Response

The Rincon Point/South Beach Redevelopment Plan was adopted in 1981. The Redevelopment Plan area overlaps the proposed Transit Center District Plan area on the block bounded by Mission, Steuart, Howard, and Spear Streets (the location of Rincon Center and the Rincon Towers Apartments), the southern part of the block to the south, bounded by Howard, Steuart, Folsom, and Spear Streets (the location of the Gap Inc. building at 2 Folsom Street), and a small area of the block to the east—the "protruberant area" discussed above in Comment PD-1 and its response (which is occupied by a seven-story office building at 188 The Embarcadero). The Redevelopment Plan does not include the site of the newly proposed 75 Howard Street project (see Comment PD-1 above), which is on the northern portion of the block bounded by Howard, Steuart, Folsom, and Spear Streets. These overlapping areas constitute the entirety of the Rincon Point sub-area of the Redevelopment Plan, with the exception of Rincon Park, across the Embarcadero. (The South Beach sub-area of the Redevelopment Plan is several blocks south, on the south side of the Bay Bridge approach.)

The Redevelopment Plan area has been largely built out, including construction of approximately 2,800 dwelling units and 1.2 million square feet of office and retail space, along with Rincon Park, South Beach Park, a marina at South Beach, and AT&T Park, home of the San Francisco Giants baseball club. Several historic buildings in the Redevelopment Plan area were rehabilitated as part of plan implementation. The Rincon Point-South Beach Redevelopment Plan will remain in effect until January 2021. (Existing redevelopment plans remain intact, despite the State Supreme Court's December 2011 decision upholding the statewide dissolution of redevelopment agencies.) The Plan was most recently amended in 2007. As noted, the portions of the Redevelopment Plan that overlap with the proposed Transit Center District Plan area are substantially built out (Rincon Center and Rincon Towers apartments, the Gap building, and another office building). Therefore, no change is foreseen in this portion of the proposed Transit Center District Plan area. (See the response to Comment PD-1, p. C&R-18, concerning the proposed project at 75 Howard Street.)

Comment PD-4: The assumptions underlying the Plan are questionable due to economic conditions.

"**Page 8** - 2008 study by Seifel was clearly started before 2008. The economy has had a great shaking out in the intervening years. How valid are the projections, and what ASSUMPTIONS underlie those projections? What other similar projections has Seifel done for San Francisco? How did THOSE projections bear out.

"We have been in a significant **recession** (to use the most generous term) since 2008. It is very difficult to get construction financing. Even though SF continues to be in something of a housing bubble because of demand generated by Silicon Valley, SF has a huge backlog of housing approvals. Mostly for high end condo towers. The downtown office market has tanked and projections of office demand have been WAY OFF. Please refer to the 25 year report on the Downtown Plan to determine just how far off the estimates have been. Has the economy moved on?

"So please go back to the beginning and look at the most BASIC assumptions regarding NEED and FEASIBILITY.

"The project objectives in the DEIR do not set any for housing. Are there such? Is the goal of generating substantial funding from development rights (via an extraordinarily tall building) realistic in 2012?

"Also page 15 fn 17 (which has a typo - fn 9 is on page 8).

...

"**Page 69 - Downtown Plan growth projections.** See above re questions about how reliable the current projection of demand is in the context of prior projections.

"I have in my files an op-ed from at least one local architect written after the Prop M limit was adopted that 'the sky is falling' because the amount of DEMAND so exceeded the amount Prop M allowed. As can be seen in the 25-year report, the amount of office space that Prop M allowed WHICH WAS THE EXACT AMOUNT THE DEPARTMENT'S CONSULTANT PROJECTED WOULD BE NEEDED allowed for much more space than was actually needed.

...

"**Page 178** - what is the market demand for tower (premium tower) office space? Please consult the 25-year report on the Downtown Plan re the significant drop off in demand for space in TOWERS vs. more low-rise flexible space where people can function as a community.

...

"**Page 187** - note the statement re the declining office market in SF and the shift in location AND type to the technology sector. WHY does the City still want to pump up the amount of off-the-charts EXPENSIVE downtown office space. WHO WILL BE LEASING IT? This appears heading for a disaster. The amount of demand is not even equal to that projected in the Downtown Plan." *(Sue Hestor, on behalf of SFRG)*

"Two weeks ago, you had a report on this document here, Downtown Plan. You had a report two weeks ago that talked about the assumptions that were made by the City when this was drafted around 1980. The assumptions were made about how people were going to work, about the amount of office space, the way people wanted to work in buildings. The report you had two weeks ago was that people do not want to work in tower office buildings, that we have had a shrinkage in the financial district, that people want to work in different types of spaces like the last agenda item, and that the assumptions that were made on 20 or 25 years of growth in 1980 have not come to pass, and that we needed to think differently. This is going back to those assumptions.

"If you look at the EIR, and it's too heavy to lift, but I'll tell you what page it's on, it's on page 6, well, wait a minute, I'll show you because it can do it on the TV. The map of the area, this is the map of this planning area, C-3-O, and this is the planning area that you're looking at now.... So here we have this area that was planned in the Downtown Plan and here is what we have here. And the assumption in the Downtown Plan was that this area here, this green area where we're re-planning all over again, would have enormous growth of office buildings because that's where everyone wanted to go, and it hasn't

happened. So you have to think about whether a report that's given 25 years later, based on assumptions here—and I'm going to write this in comments—what were the assumptions that were made in the Downtown Plan? What were the assumptions made in Rincon Hill Plan in terms of how buildings would be built and occupied, and what the demand was, and where they are now. ... [T]he main thing is, you forget what you hear about your assumptions and the Planning Department doesn't really know how people want to work." *(Sue Hestor)*

"In this environmental impact report, the population of San Francisco County is projected to increase by twenty percent to about 934,000 people from the year 2005 to 2030. The population of San Francisco is currently estimated to be less than 250,000. The Sponsor for this plan is the San Francisco Planning Department.

"Total employment in San Francisco is projected to increase by fifty percent between 2005 and 2030 to a total of 793,000 jobs, an increase of 241,000 jobs. Page 188.

"The environmental impact report is incompetent. Population and job growth statistics are grossly unrealistic. And the proposed buildings are not necessary. The rationale that is offered by the EIR for this building project is to accommodate projected job growth for the next twenty-five years." *(Lloyd Schloegel)*

"[I]n terms of general demand, again, this is an Environmental Impact Report and we're commenting on the accuracy and the adequacy and the completeness of the plan; however, there were some comments about the direction of the plan and I think the plan is entirely on target as far as future growth. I think there are a lot of reasons why people are going to want to be here, both to live in and to work because of the $3.75 gas cost, time concerns, you know, maintenance of suburban space is really inefficient and counterproductive, and I think you've seen this happening. And I think if you build it, they'll come.

"And I think there will be a huge part of the business community that will still want space in towers, as they do today. There will be some that need the broader floor plates; it just sort of depends on what the particular function is. But I think you see towers built at other cities throughout the United States and other parts of the world and there is a demand for them, so I don't think it's going to be any different here.

"And I think this is also to some degree a throwback to the past and hopefully we'll reach a point, as we were in the first half of the 20th Century, where almost all business commercial activity took place in San Francisco and almost everyone who was employed here lived here because we were essentially an island. But also, almost everyone rode public transportation, too, because it made a lot of sense; if you didn't have to leave the city, it was just as easy to hop on a trolley car in those days, and so I think that we're moving in the right direction with this analysis." *(Commissioner Michael Antonini)*

"I think that although the Downtown Plan as it was presented to us before didn't completely fulfill, you might say, the sort of office and what we were thinking of in terms of office development at that time, I mean, there have been a number of buildings, office buildings built along especially Mission Street, South of Market, just before the recession started. And I think there will be, unless Occupy Wall Street is extremely successful, I would think there would be a continual need for the type of office space that is characterized by high-rise towers.

"And I think that the kind of development that we're seeing relative to high-tech will continue to be, I think, addressed, for example, in the Corridor Plan we just saw and perhaps in other areas of San Francisco." *(Commissioner Hisashi Sugaya)*

Response

The comment referring to the "2008 study by Seifel" refers to the report cited in EIR footnote 9 (p. 8), Seifel Consulting Inc., "Downtown San Francisco: Market Demand, Growth Projections, and Capacity Analysis," published in May 2008 and available on the Transit Center District Plan webpage at: http://www.sfplanning.org/ftp/CDG/docs/transit_center/R_TransitCenter_051308_Final.pdf. The comment does not address the adequacy or accuracy of the EIR, but rather speaks to the assumptions underlying the draft Transit Center District Plan itself. Therefore, no response is required. For clarification, the following is provided.

As stated on EIR p. 8, "A fundamental premise underlying the Transit Center District Plan is that, to accommodate projected office-related job growth in San Francisco, particularly under a so-called 'Smart Growth' scenario[footnote omitted] in which job growth is maximized in transit-accessible locations, additional office development capacity must be provided in downtown San Francisco." The omitted footnote 9 in the quoted text explains that the "Smart Growth" scenario was included in the Seifel Consulting report.

It should be noted that the Seifel report did not develop a new growth forecast. Rather, Seifel Consulting reviewed three different sets of employment projections and then compared the amount of office space that would be required to accommodate the projected growth in the year 2035. The three sets of projections were those prepared by the Association of Bay Area Governments (ABAG), whose regional growth forecasts, issued every three years, form the basis for much of the Bay region's long-term planning, and projections by two private firms, Moody's Analytics of Pennsylvania and Regional Economic Models Inc. (REMI) of Massachusetts. The Seifel report notes that while all three models simulate economic growth, the ABAG model expressly distributes regional growth on the basis of "smart growth" principles that encourage development of jobs near transit, whereas the other two models do not. Accordingly, ABAG forecasts greater office employment growth in downtown San Francisco than do the other two models. The Seifel report found that both the Moody's and REMI forecasts for employment growth generally align with historical job growth in San Francisco between 1969 and 2004. Therefore, these growth forecasts were use to develop a "Baseline" growth scenario, while the more aggressive ABAG forecasts were used for the "Smart Growth" scenario. The Seifel report compared growth under these two scenarios to three capacity (growth) scenarios for downtown, under existing zoning controls—"maximum office," "mixed development," and "maximum residential." The conclusion, as stated in the November 2009 Draft Plan and quoted on p. 15 of the EIR, was that "'there is about half of the necessary development capacity under current zoning to accommodate downtown projected job growth for the next 25 years.'" On the other hand, the Seifel report found adequate space available downtown for residential development. These findings are illustrated in **Figure C&R-1**, which reprints charts from p. 15 of the draft Plan,

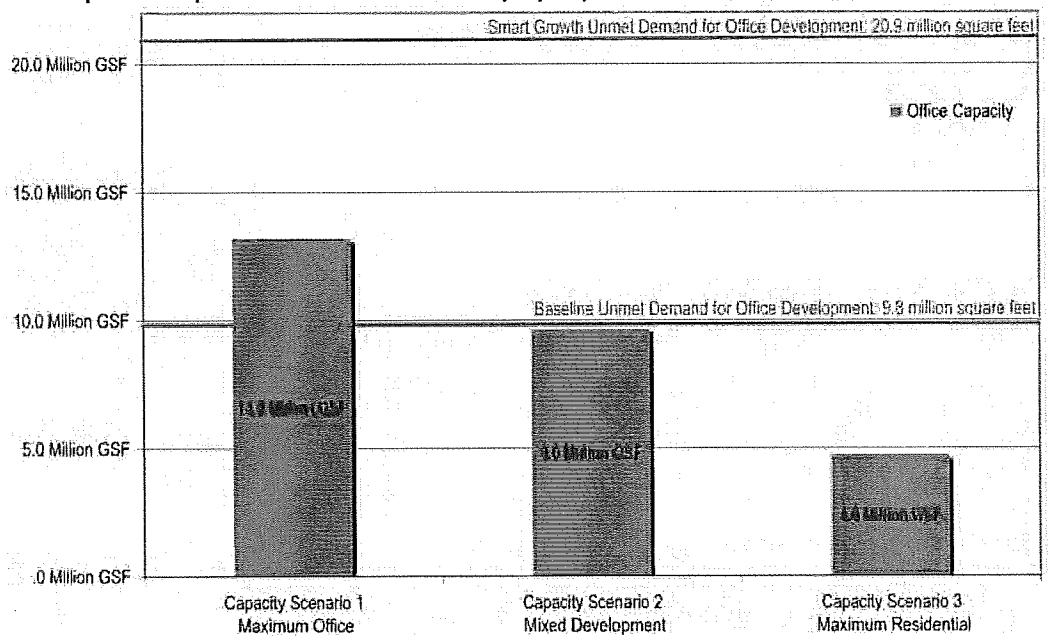
taken, in turn, from the Seifel report. Accordingly, as stated on EIR p. 8, "the draft Plan seeks to 'maintain Downtown San Francisco as the region's premier location for transit-oriented job growth within the Bay Area's (November 2009 Draft Plan, Objective 1.1) and to 'reinforce the role of downtown within the City as its major job center by protecting and enhancing the central district's remaining capacity, principally for employment growth' (November 2009 Draft Plan, Objective 1.2)."

By definition, all projections are necessarily speculative to some degree. As recognized in the state CEQA Guidelines, preparation of an EIR requires some degree of forecasting (CEQA Guidelines Section 15144). But as indicated in Figure C&R-1, even the more conservative "baseline" forecast of office demand would require all of the office capacity provided by the "mixed development" scenario, and even the "maximum office" scenario would fail to provide enough office space under the ABAG-based "smart growth" forecast, which incorporates both regional and local planning priorities that seek to focus employment growth in dense, transit-accessible locations such as downtown San Francisco.

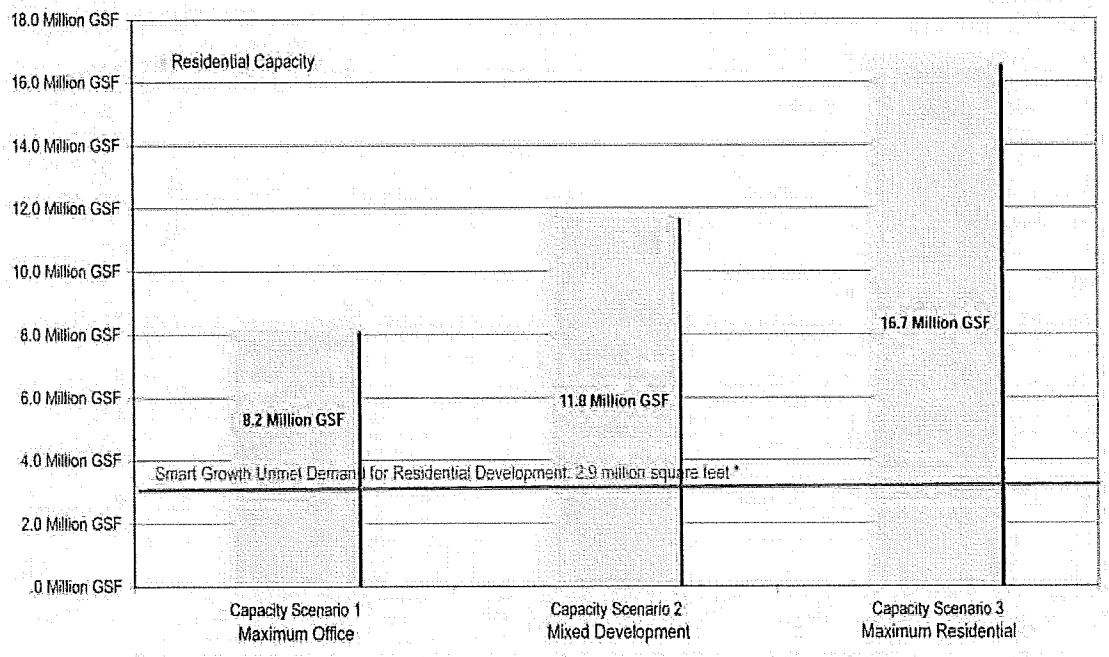
Regarding housing, as reiterated earlier in this response, the draft Plan is fundamentally a strategy to ensure that downtown San Francisco can provide sufficient space for anticipated office jobs in the future. In fact, as noted on p. 16 and illustrated in Figure 2, p. 13 of the EIR, the draft Plan proposes to limit the amount of non-commercial (e.g. residential, hotel, cultural) uses, relative to commercial development (e.g., office, retail, and other non-lodging, non-institutional uses), within a sub-district bounded generally by Market Street on the north, Main Street on the east, Zone 1 of the existing Transbay Redevelopment Area and Tehama Street on the south, and midway between Second and New Montgomery Streets on the west. However, as noted on EIR p. 5, the draft Plan does not propose any changes in use districts or height and bulk in Zone 1 of the Transbay Redevelopment Area, which extends generally along the north side of Folsom Street between Essex and Spear Streets and calls for development of some 2,700 residential units with ground-floor retail uses and open space. (As stated previously, existing redevelopment plans survive the December 2011 State Supreme Court decision upholding the statewide dissolution of redevelopment agencies. Therefore, it is assumed that residential development in Zone 1 of the Transbay Redevelopment Area will be constructed as anticipated in that Plan. It is noted, however, that the City will need to identify alternate funding sources for the planned public improvements in Zone 1 that were to have been funded by redevelopment's tax increment financing, such as Transbay Park, which is proposed for the center of the block bounded by Howard, Beale, Folsom, and Main Streets, where the Temporary Transbay Terminal is currently located. Under the Transbay Redevelopment Plan, funding for the park and other streetscape improvements was to come from tax increment monies that will no longer be available due to the dissolution of the San Francisco Redevelopment Agency on February 1, 2012.)

The financial feasibility of, and demand for, new high-rise office development, along with its accompanying fees, is not directly relevant to the draft Plan, which is intended to provide a long-term vision for the Plan area. However, it is noted that the office vacancy rate in San Francisco

Office Development: Comparison of Unmet Office Demand by Capacity Scenario, 2007-2035 Downtown San Francisco



Residential Development: Comparison of Unmet Residential Demand by Capacity Scenario, 2007-2035 Downtown San Francisco



*Under the Baseline growth scenario, there is no unmet demand for residential development within the Downtown.

SOURCE: Seifel Consulting Inc.

Figure C&R-1
Office and Residential Development:
Demand Versus Capacity, 2007 - 2035

has been trending downward since mid-2010 and, in January 2012, Salesforce.com announced a lease of 400,000 square feet of office space at 50 Fremont Street, the largest office lease in the City in more than 10 years.[4] As the commenter has noted (see Comment PD-5), while the draft Plan proposes to accommodate anticipated future demand for office space, the Plan cannot actually "create" office space or any other development, but merely allows for more or less demand—which must arise due to economic conditions—to be met. Moreover, nothing in the draft Plan would alter the City's existing annual limit on the amount of office space that can be developed, as established in Section 321 of the *Planning Code*.

The incorrect page reference to footnote 9 noted by the commenter is corrected in the Final EIR.

The comment stating that the "population of San Francisco is currently estimated to be less than 250,000" is in error. According to the most recent Census, the City's 2010 population is approximately 805,000.

Concerning the growth forecasts presented in the EIR, as stated on EIR p. 75, these forecasts are prepared by the Planning Department. The forecasts are based on growth projections set forth every three years by the Association of Bay Area Governments (ABAG). Planning staff refines the ABAG forecasts and allocates the anticipated growth throughout San Francisco.

Comments indicating that the Plan reasonably anticipated future employment growth are noted.

Comment PD-5: There is no certainty that the draft Plan will be implemented as proposed.

"**Page 10** - there have been three versions of a Rincon Hill Plan. The original one that came on the heels of the Downtown Plan. The 2-block plan that includes the area east of Fremont and is partially constructed. The current plan that provides for extremely tall towers and resulted in construction of One Rincon Hill. They all have elaborate policies to densely house residents, with neighborhood amenities, good design, parks, sunlight, etc etc. The REAL WORLD is not so glowing and should be analyzed in the same context as the Downtown Plan, Urban Design Element. It is stated that it will CREATE housing for as much as 20,000 new residents. That is bad terminology. It will accommodate.' Plans don't create anything because so few of them are fully implemented.

"Which leads to the next point. The Downtown Plan created a new zoning category - C-3-O(SD) which includes much of THIS Plan area. It was intended to be the most dense office space in the City. With sculpted buildings (YOUR term again), gracious spaces, active ground levels. It was IN THE PLAN. But it just didn't happen. Explain why THIS PLAN is going to be able to deliver all those things - and more? Go back to the Downtown Plan and explain what assumptions IT MADE for the amount of development that would occur in the C-3-O(SD).

...

[4] CBRE, "Market View: San Francisco Office, 4th Quarter 2011"; and San Francisco Business Times, "Salesforce lease could prompt new downtown tower," January 6, 2012. Available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E.

"The term 'sculpted' is thrown around in this document. Isn't that just a relative term that has no real meaning? Look at all the buildings built pursuant to the Downtown Plan. How 'sculpted' are they?" *(Sue Hestor, on behalf of SFRG)*

Response

The comment regarding terminology ("create" versus "accommodate") is noted and is acknowledged in the preceding response; however, no change to the text of the EIR is required. Regarding the Downtown Plan, the comment addresses the merits of the draft Transit Center District Plan, and not the adequacy or accuracy of the EIR. Therefore, no response is required. The following discussion is provided for informational purposes, however. The Planning Department's Downtown Plan 25-Year Monitoring Report documents that most of the office development since adoption of the Plan in 1985 has been in the C-3-O (SD) use district, all of which is within the Plan area.[5] Most of these new buildings provide for ground-floor retail and/or restaurant space to "activate" the ground floor and enhance the pedestrian experience. (The fact that some of these ground-floor spaces are not immediately leased upon construction is due to market conditions.) Additionally, more than two dozen publicly accessible open spaces have been created since adoption of the Downtown Plan—again, mostly in the C-3-O (SD) use district. As stated on EIR p. 70, many projects approved in the Downtown Plan area have requested and received exceptions to the Plan's bulk requirements, as is permitted under the *Planning Code* provisions that implement the Downtown Plan, resulting in less "sculpting" of upper floors, as described on EIR p. 89.

The term "sculpted" or "sculpturing" is initially used in the EIR in direct quotations taken from the Downtown Plan (EIR p. 55; Downtown Plan Policy 13.2) and the *General Plan* Urban Design Element (EIR pp. 60 and 113; Urban Design Element Policy 3.5). In particular, the Downtown Plan used these two terms in the context of its call in Policy 13.2 to "create less overpowering buildings and more interesting building tops, particularly the tops of towers." That policy referred to the Downtown Plan's proposed controls on building bulk for each component of a high-rise building—the base, the lower tower, and the upper tower, and also to the Plan's proposal to require that the overall volume enclosed by the upper tower be reduced by a percentage—based on the building height—of what the volume would be if the floor plate size of lower tower was continued to the top of the building. These controls were incorporated into the *Planning Code* in what is now Chart B accompanying Sections 270(d)(2)(A) and 270(d)(3)(A), and Chart C accompanying Section 271, but referred to in Section 270(d)(3)(B). The text accompanying Downtown Plan Policy 13.2 states, "As buildings increase in height, they should be sculptured or shaped to appear increasingly slender and delicate. Modifying the silhouette of a building, making the more visible upper portion slender, offsets the building's bulkiness." Additionally, the text accompanying Objective 13 ("Create an urban form for downtown that enhances San Francisco's stature as one of the world's most visually attractive cities.") states, "The bulkiness and repetitive boxiness of many recent structures have obscured the fine-scale

5 San Francisco Planning Department, *25 Years: Downtown Plan Monitoring Report, 1985 – 2009.* June 2011. Available on the internet at: http://www.sf-planning.org/index.aspx?page=1663#downtown_report; p. 10.

sculptured skyline of pre-World War II San Francisco. To create a new sculptured skyline, new buildings must have generally thinner and more complex shapes." Therefore, in the context of Downtown high-rise buildings, a "sculpted" tower is one that incorporates setbacks, particularly at the upper tower, as well as visual interest for pedestrians at ground level. Accordingly, the EIR, on p. 66, describes the draft Plan's proposed *Planning Code* amendments as including, among other things, "a requirement for sculpting of tall building forms through upper-story setbacks and horizontal modulation of street walls."

The terms "sculpted" or "sculpting" are used several times in Section IV.B, Aesthetics (pp. 109, 111, 113, 119, 139, and 153), in the same context, to describe the draft Plan's proposed tower controls, in quoting the Downtown Plan and the Urban Design Element, and in describing the expected appearance of a building compliant with the draft Plan's tower controls and the Plan's proposal that "the proposed Transit Tower and a limited number of other buildings taller than existing development to be separated by sufficient distance and to incorporate setbacks and sculpted massing such that they would not adversely affect important views." The word "sculpted" is also used in Section IV.I, Wind, pp. 461 – 462 and 465, to describe the potential that new buildings could result in lesser wind speeds than reported because the wind-tunnel test was based on rectilinear building massing models without the façade articulation or setbacks called for in the draft Plan, and in Chapter VI, Alternatives, to describe the potential that such façade articulation and setbacks could reduce both shadow and wind effects, compared to those of the massing models evaluated.

As stated on p. 19 of the EIR, the draft Plan would maintain the Downtown Plan's controls on separation between towers and would extend these controls to buildings greater than the current maximum 550-foot height limit, so that the top of a 1,000-foot-tall building would have to be set back 70 feet from the center of a typical major street in the Plan area. The draft Plan would maintain the existing maximum setback of 35 feet from an interior lot line (i.e., a lot line not facing a street) and would expand this requirement to multiple towers developed on the same property, so that separation of up to 70 feet would apply to these towers (35 feet from each tower to an imaginary interior lot line). The draft Plan would require that the average upper tower floor plate of a building taller than 650 feet be 25 percent smaller than the average floor plate of the lower tower. As stated on EIR pp. 19 – 20, "This requirement is similar to, although less restrictive than, the volume reduction requirement currently contained in *Planning Code* Section 270(d)(3)(B), which requires that the upper tower contain floor plates up to 40 percent smaller than those of the lower tower"; the maximum of 40 percent reduction is required for buildings with a lower tower average floor plate of 20,000 square feet or greater, while buildings with a lower tower average floor plate less than 16,000 square feet currently require an upper tower reduction of 25 percent or less.

The draft Plan and its implementing zoning would not eliminate the Planning Commission's discretion, under *Planning Code* Section 309, to grant exceptions to the *Code's* bulk requirements. Therefore, it would be speculative in the context of the EIR to presume the degree to which

individual project sponsors might request and receive exemptions to the bulk requirements. As stated on EIR p. 119, the visual simulations prepared to illustrate aesthetic impacts depict "the height and general massing of proposed and potential allowable development," but do not attempt to represent actual future projects that would comply with the draft Plan. Therefore, as also stated on p. 119, the analysis in Section IV.B, Aesthetics, is appropriate in its representation of what can be expected to occur given the provisions of the draft Plan and *Planning Code* revisions. The same holds true for the EIR's analysis of shadow and wind impacts, which are also based on generalized massing models.

Comment PD-6: The draft Plan proposes height increases at locations distant from transit.

"**Page 14** - The map of heights in the [Downtown] Plan was driven by locating the tallest buildings right next to the best transit access - the MUNI/BART stations because they would handle the greatest number of people coming into the downtown. The increased heights south of Mission contradict that policy of being close to MUNI/BART stations. Those facilities/transit lines are REAL. Please explain why large chunks of land are proposed for such a dramatic height increase when they are more remote from MUNI/BART stations/service?" *(Sue Hestor, on behalf of SFRG)*

Response

The comment addresses the merits of the draft Transit Center District Plan, and not the adequacy or accuracy of the EIR. Therefore, no response is required. The following discussion is provided for informational purposes, however. Of the six sites proposed in the draft Plan for a height limit of 600 feet or more (i.e., greater than the existing maximum 550-foot height limit), four (including the proposed Transit Tower site) are within one block of Market Street. The other two are two blocks south of Market Street and immediately adjacent to the site of the new Transit Center, which is currently under construction and which will be served directly by Muni, AC Transit, Golden Gate Transit, and SamTrans, and would be the terminus for Caltrain service, assuming eventual construction of the approved Caltrain Downtown Extension.

Comment PD-7: How will the draft Plan's proposed minimum floor area ratio be enforced?

"**Page 16** - inversion of FAR limit to be a FAR base. This really turns the Downtown Plan analysis of how to get appropriately designed buildings inside out. How do you FORCE that kind of density? And get 'sculpted' buildings. The new FAR FORCES extreme heights." *(Sue Hestor, on behalf of SFRG)*

Response

The comment is directed at the draft Plan, and does not address the adequacy or accuracy of the EIR. Therefore, no response is required. The following discussion is provided for informational purposes, however. The proposed minimum floor area ratio (FAR) would, if included in the *Planning Code*, be enforced in much the same way as any other *Code* provision; that is, a project would have to comply with the requirement in order to gain approval. It is noted that the draft Plan proposes a minimum FAR on sites larger than 15,000 square feet. Thus, for example, a

building on a 16,000-square-foot site would have to be at least nine stories if it covers the entire site, or 18 stories if its footprint and average floor plate were limited to 8,000 square feet. Or the same project could have a 12,000-square-foot base seven stories tall, along with 4,000 square feet of ground-floor open space, and eight additional stories of decreasing size, averaging 7,500 square feet per floor. The second and third of these options would qualify as "sculpted."

Characterizing building height as "extreme" is subjective. Given that most recent high-rise buildings have been built to the maximum permitted FAR of 18:1, a FAR of 9:1 is not high in the context of the Plan area or the remainder of Downtown San Francisco.

Comment PD-8: Older buildings may be better suited than newer buildings to active ground-floor uses.

"**Page 17** - active retail assumption/goal. Casual observation of 'new' buildings vs. 'old' buildings may show that the older buildings are more likely to have active retail on the ground floor. The Downtown Plan really wanted active retail, but it doesn't always happen that way. How do you intend to FORCE the owners to rent to the businesses the Department wants to be there?" *(Sue Hestor, on behalf of SFRG)*

Response

The comment addresses the merits of the draft Transit Center District Plan, and not the adequacy or accuracy of the EIR. Therefore, no response is required. The following discussion is provided for informational purposes, however. As stated in the response to Comment G-1, some ground-floor retail/restaurant spaces function more effectively than others, either for economic reasons or because the location or layout of one space is more suitable than another. The draft Plan and the *Planning Code* can require that ground-floor space be set aside for retail, restaurant, or other "active" uses, and can encourage that the space be developed with certain features that characterize successful ground-floor retail space (such as increased ceiling heights) but, as the commenter notes, the Planning Department cannot force a landlord to lease space to a particular tenant, nor can the Department force a tenant to lease space. Anecdotal evidence indicates that retail space in newer buildings in newly re-developing neighborhoods sometimes is not leased for a period of time, which can be as long as several years. This does not necessarily mean that a newer structure in itself is a detriment to active ground-floor use.

Comment PD-9: The term "elegant skyline" is overused.

"[Page 17] The term 'elegant skyline' is overused by the Department. In the real world what is actually building, vice the Downtown Plan, doesn't come out that way. If you wish REALLY hard...." *(Sue Hestor, on behalf of SFRG)*

Response

The comment does not address the adequacy or accuracy of the EIR, but rather speaks to the assumptions underlying the draft Transit Center District Plan. Therefore, no response is required. The following discussion is provided for informational purposes, however. The word "elegant"

appears five times in the 154-page draft Transit Center District Plan published in November 2009—in the introductory Vision on p. III: in Objective 2.2, "Create an elegant Downtown skyline, building on existing policy to craft a distinct Downtown 'hill' form, with its apex at the Transit Center, and tapering in all directions"; in text accompanying Policy 2.2, discussing the "elegant and unique sculptural termination to the top of the Transit Tower"; in Objective 2.6, discussing the need for buildings taller than 600 feet to "maintain elegant and slender proportions and profile"; and in text accompanying Policy 2.25, discussing the fact that most buildings in San Francisco "are light in tone and harmonize to form an elegant and unified cityscape." The EIR quotes the text of Objective 2.2 at two locations, on p. 17 in the Project Description and on p. 114 in the Aesthetics section, as well as in the Summary, on p. S-2. The term is not used in the EIR in a manner that qualifies or characterizes either the existing Downtown skyline or potential development pursuant to the draft Plan.

Comment PD-10: The EIR discussion of proposed height increases and development assumptions is confusing.

"**Page 19** - table listing various sites. It would be more helpful to give the name of the existing building or street address and not wait until page 74.

...

"**Page 47** - list of projects with applications on file. Make it clear that this is NOT the same thing as projects that will use the increased heights." *(Sue Hestor, on behalf of SFRG)*

Response

The lists of sites in Table 1 on EIR p. 19 and Table 3 on EIR p. 74 are not identical. Table 1 lists proposed increases in height limits under the draft Plan. While the draft Plan assumes development on a number of sites proposed for increased height limits, other sites listed in Table 3 are assumed to be developed at existing height limits, such as 201 and 222 Second Street, 524 and 543 Howard Street, and 661 – 667 Howard Street. Also, as noted in the EIR, a 375-foot-tall building was approved in 2011 at 350 Mission Street, which is less than the existing height limit of 550 feet for that site.

Comment PD-11: Exceptions to proposed Planning Code *controls would continue to be granted.*

"[Page 19] All those things that would 'remain in force' from the Downtown Plan need a clear explanation - that the DEPARTMENT/COMMISSION ROUTINELY GRANTS 'EXCEPTIONS' TO ALL THE RULES. The Downtown Plan sometimes appears to be Swiss cheese to outsiders. DO YOU HAVE A LIST OF EACH TYPE OF EXCEPTION AND WHICH PROJECTS WERE GRANTED IT?.

"Going to **page 20** et seq - what provisions are designed to be ABSOLUTES, with NO exceptions allowed?" *(Sue Hestor, on behalf of SFRG)*

Response

The comment addresses the merits of the draft Transit Center District Plan, and not the adequacy or accuracy of the EIR. The commenter is correct that, as stated above in the response to Comment PD-5, the draft Plan and its implementing zoning would not eliminate the Planning Commission's discretion, under *Planning Code* Section 309, to grant exceptions to the *Code's* bulk requirements. Although the draft Plan proposes certain explicit changes to the *Planning Code* (noted in *italics* in the EIR Project Description on pp. 22, 27, and 35), a complete package of *Planning Code* revisions will be brought before the Planning Commission and Board of Supervisors as part of the materials to be considered for project approval, as stated on EIR p. 49.

The EIR discusses some of the common *Planning Code* exceptions that have been granted on p. 70, in Chapter III, Compatibility with Existing Zoning and Plans. Please see Section C of this Comments and Responses document, p. C&R-4, for additional information on proposed *Planning Code* revisions. In terms of the EIR analysis, it is speculative to assume how exceptions might be granted in the future for individual projects in the Plan area.

Comment PD-12: What is the justification for a "mound" on Rincon Hill that blocks views?

"[Page 113] WHY is it necessary/desirable to 'create a secondary mound' on Rincon Hill if that 'mound' will block off views of the Bay Bridge and Bay from the middle of the City?" *(Sue Hestor, on behalf of SFRG)*

Response

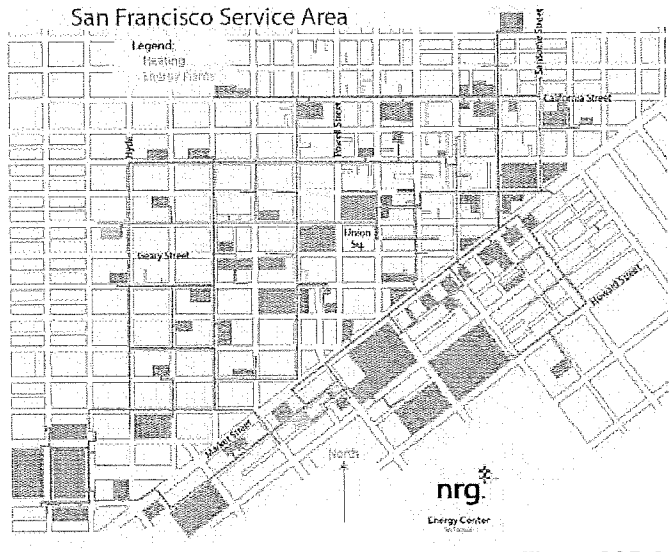
The comment does not address the adequacy or accuracy of the EIR, nor does the comment address the merits of the draft Transit Center District Plan. Instead, the comment addresses the Rincon Hill Plan, approved most recently in 2005. Therefore, no response is required. The following discussion is provided for informational purposes, however. Objective 3.2 of the adopted Rincon Hill Plan, an area plan within the *San Francisco General Plan*, states "Develop a distinctive skyline form for Rincon Hill that compliments the larger form of downtown, the natural landform, and the waterfront and the Bay, and responds to existing policies in the Urban Design Element." Objective 3.3 states, "Respect the natural topography of the hill and follow the policies already established in the Urban Design Element that restrict height near the water and allow increased height on the top of hills." And Objective 3.5 states, "Maintain view corridors through the area by means of height and bulk controls that insure carefully spaced slender towers rather than bulky, massive buildings." Nevertheless, the text accompanying these objectives notes, "Rincon Hill serves as a gateway to the city from the Bay Bridge and will have a prominent place on the skyline as viewed from many public vantages. Development on the hill will affect views from the bridge and the freeways, and views of the bridge."

Comment PD-13: The EIR does not analyze the potential for steam heat.

"[A]bout page 6, … it talks about cogeneration facilities and it doesn't specifically deal with steam heat, which is done in New York, and I'm not sure if that's part of the cogeneration plan because this is a perfect area for that kind of thing to happen because it's very efficient and there's one generating plant and it's piped to the different buildings and they don't have their own heating systems individually. So that's something that certainly should be looked at and perhaps analyzed if it isn't." *(Commissioner Michael Antonini)*

Response

The commenter correctly notes that the EIR discusses the potential of cogeneration (combined heat and power) facilities operating in the Plan area in the future (see EIR p. 36). The draft Plan contemplates an area-wide system of the kind that typically "involves the collection of what would otherwise be exhaust heat that is given off during the electricity generation process. This exhaust can be used to heat the air in an office building, provide hot water or steam, power a dehumidifier, or even drive an absorption chiller to provide refrigeration and cooling." However, as stated on p. 37, the EIR does not analyze a district-wide heat and power system in detail because no physical improvements have been proposed to implement such a system. Therefore, system(s) proposed in the future, including the requirement that buildings be connected to such a system, would be subject to subsequent environmental review.



SOURCE: NRG Thermal

Figure C&R-2
Downtown San Francisco Steam Loop

It is noted that Downtown San Francisco is currently served by an underground steam loop system, operated by NRG Thermal LLC, that provides steam to approximately 170 buildings for space heating, hot water, air conditioning and industrial process use. The system is powered by two natural-gas-fired power plants, one on lower Nob Hill and one just south of Market Street near Sixth Street (see **Figure C&R-2**).[6]

As stated on EIR p. 37, no specific cogeneration facilities are proposed at this time: "Because no physical improvements have been proposed to implement a district-wide heat and power system in the Plan area, this EIR analyzes this aspect of the draft Plan at a very general, programmatic

6 NRG Thermal LLC, "NRG Energy Center, San Francisco" website; reviewed February 2, 2012. http://www.nrgthermal.com/Centers/Sanfran/index.htm.

level. Any district-wide energy or heating and cooling system(s) proposed in the future, including the requirement that buildings be connected to such a system, would be subject to subsequent environmental review. Individual building cogeneration plants are typically subject to review by the Bay Area Air Quality Management District, in much the same manner as are individual boilers and generators."

Comment PD-14:

"Pages 37 and 400. General comment regarding Transit District Policy Goals 6.14 —6.19:

"The SFPUC is developing a program to address the onsite treatment of alternate water sources for non-potable applications in commercial structures. The SFPUC has been collaborating with San Francisco Department of Public Health and San Francisco Department of Building Inspection to provide a foundation for this program. SFPUC looks forward to the implementation of Transit District Policy Goals 6.14 - 6.19 regarding the use of non-potable water. SFPUC has been in contact with the Transbay Joint Powers Authority regarding their plans at the Transit Center for gray water and rainwater harvesting.

"Earlier this year the SFPUC completed a Sump Study looking at the water quality from dewatering operations for a small number of buildings in the eastern portion of San Francisco . One of the sites, Moscone Center, is near the Transit District, and provides preliminary insights on this topic. Please let SFPUC know a copy of this report is needed." *(Irina Torrey, San Francisco Public Utilities Commission)*

Response

The comment does not address the adequacy or accuracy of the EIR, but concerns goals and policies in the draft Plan that would encourage the use of recycled water. As stated on EIR p. 37, "The draft Plan calls for investigation of various potential sources of non-potable water, and the identification of potential site(s) in the Plan area for a treatment facility to supply non-potable water (November 2009 Draft Plan, Policies 6.15 and 6.18), along with a priority list of means by which buildings can reduce potable water use, including 'low-impact design.' However, no specific system is identified for consideration at this time (except at the proposed Transit Tower, as discussed below)." As stated on EIR p. 46, "The TJPA is developing plans to substantially decrease the use of potable water for non-potable use at both the Transit Center and the proposed Transit Tower. Methods could include collection and reuse, following treatment, of greywater from non-retail restroom sinks and stormwater runoff and reuse of greywater for toilet flushing. Additionally, the adjacent City Park—to be built atop the Transit Center—and Mission Square open spaces would provide opportunities for stormwater retention."

Aesthetics

Comment AE-1: The EIR should acknowledge the design effects of Urban Design Plan and Downtown Plan.

Page 93 - Downtown Plan assumptions on design - how well did they work out in the real world?

...

"**Page 110** - the **1971 Urban Design Plan** - this has been a mostly ignored plan for decades. It is still on the books, but a LOT more attention has been paid to the Downtown Plan because THAT was the document done by the more recent Planning Director. To the extent planning staff was 'grounded' in any plan, they were grounded in the Downtown Plan. We say that as those who have repeatedly cited Urban Design Plan policies which are disregarded as not quite up-to-date by the Department. It is nice to see it set out in THIS document, but it has been a long time since has been the focus of attention.

"The call for 'high-quality design' for prominent buildings - it would be nice if it had occurred.

...

"UDP policy on landscaping and lighting - are there several/many instances where this was done successfully?" *(Sue Hestor, on behalf of SFRG)*

Response

The comments speak to the City's past implementation of *General Plan* objectives and policies, and do not address the adequacy or accuracy of the EIR. Therefore, no response is required. However, for informational purposes, please see the response to Comment G-1 in regard to street-level design issues and the Downtown Plan, and the response to Comment PD-5 concerning bulk requirements in the Downtown Plan.

The commenter's opinion regarding the relative merits of the Urban Design Element and the Downtown Plan and the City's implementation thereof is noted.

Comment AE-2: Acknowledge the effects of the Plan area's transportation infrastructure and industrial past on aesthetics.

"[Page 93] The 'highly urbanized feel' given by those east/west streets - isn't that mostly FOR CARS? For pedestrians the feel is not very pleasant - unless this is what is meant by 'highly urbanized.'

"**Page 95** - 'ramps emphasize transportation-related attributes' - huh?

"Please note that the description of the mixed nature of the area - with lower human-scale buildings providing a variety of services and a high level of street activity - is a reflection of the INDUSTRIAL ZONING for most of THIS south of Market Street right up until the Downtown Plan changed the zoning." *(Sue Hestor, on behalf of SFRG)*

Response

The "highly urbanized feel" noted on p. 93 is in reference to the "generally regular sidewalks and intersections, overhead utility wires, and often heavy flows of traffic" on Plan area streets. No judgment as to the attractiveness of the area to pedestrians is implied.

Concerning the quoted phrase from EIR p. 95, in context, the statement refers to the Plan area containing several "off- and on-ramps, which connect the Plan area to the nearby freeways and the Bay Bridge."

Regarding the former industrial nature of much of the Plan area, this legacy is noted at several places in the EIR Aesthetics section (e.g., pp. 91, 99 [in the context of the New Montgomery-Second Conservation District and the Second and Howard National Register District], and 113).

Comment AE-3: Clarify the locations from which photographs were taken.

"[Page 95] It would be helpful if the photos were labeled to indicate which of them show 'Downtown Plan' buildings.

"Which are the C-3-O (SD) buildings on photos 101- 103?

"**Page 102** - Visual Resources - **Folsom Street** approaching the Bay IS a visual resource, giving people a sight of Yerba Buena Island AND the Bay itself several blocks west of The Embarcadero. It is the only eastbound unobstructed corridor. It is not clear where the pictures on p 105 were taken." *(Sue Hestor, on behalf of SFRG)*

Response

Buildings depicted in the photos in EIR Figures 16 – 24 (pp. 94 – 104) that were built in the Plan area since approval of the Downtown Plan in 1985 include Foundry Square, three 10-story office buildings at First and Howard Streets with a fourth approved but unbuilt (shown in the lower left photo of Figure 16, in the upper left and lower right photos of Figure 20, and in the lower left photo of Figure 22); the Millennium Tower residential building (upper right photo of Figure 20); 560 Mission Street (lower left photo of Figure 20); and 101 Second Street and 555 Mission Street (in the background of the upper right and lower left photos of Figure 21). In addition, the top right photo in Figure 24 shows, from left to right in the distance, 555 Mission Street, 301 Howard Street, 199 Fremont Street (approved as 300 Howard Street), and the Millennium Tower. Finally, Figure 19 depicts privately owned, publicly accessible open spaces at the GAP building at 2 Folsom Street (upper right), 560 Mission Street (lower left), and 199 Fremont Street (lower right), all of which were approved and built after 1985. (The upper left image in Figure 19 is at the Mission Street side of One Market Plaza, the two towers of which pre-date the Downtown Plan.) However, the fact that these buildings were constructed pursuant to land use controls enacted to implement the Downtown Plan does not affect the environmental analysis of the proposed Transit Center District Plan. As stated on EIR p. 119, and reiterated in the response to Comment PD-5, the visual simulations prepared to illustrate aesthetic impacts depict the height and generalized massing of potential development in the Plan area, but do not represent actual future projects that would comply with the draft Plan. Therefore, the analysis in Section IV.B, Aesthetics, is conservative, as is the EIR's analysis of shadow and wind impacts, which are also based on generalized massing models.

Regarding Folsom Street, the discussion on p. 102 summarizes the information from the *General Plan* Urban Design Element with respect to the quality of views along various streets, including Folsom Street. With regard to the Bay Bridge views in Figure 23, most photos were taken from locations on the Embarcadero; the lower right photo is from Folsom Street at Spear Street. As

stated on EIR p. 120, development in the Plan area pursuant to the draft Plan would not be anticipated to adversely affect the quality of views along Folsom Street , including from these locations.

Comment AE-4: Provide information on relative heights of tall buildings.

Page 112 - relative heights. Can you provide relative 'sky-line' heights for each building, i.e. the elevation at base PLUS the 'building height' to give context for buildings cited *(Sue Hestor, on behalf of SFRG)*

Response

The four towers mentioned on p. 112—the 853-foot-tall Transamerica Pyramid, the Bank of America Building (779 feet), the Millennium Tower (645 feet), and One Rincon Hill (605 feet)—comprise, along with the 693-foot 345 California Street building, the tallest buildings in San Francisco. Of these five buildings, One Rincon Hill is built at an elevation of approximately 107 feet, San Francisco Datum (SFD),[7] meaning it has an "effective" elevation at its roof of approximately 712 feet. The Bank of America Building is at an elevation of about 35 feet, SFD, so its roof is some 814 feet in elevation. The other three towers are built at elevations of between 2 and 6 feet, SFD; therefore the building height is very close to the elevation of the roof.

As for future development in the Plan area, each of the sites identified for a potential building of 600 feet or greater is at an elevation of less than 15 feet, SFD, with the exception of the proposed Palace Hotel tower, which would be built at an elevation of about 20 feet, SFD.

Comment AE-5: The EIR improperly characterizes aesthetic impacts.

"**Page 119** - last sentence - limiting some views of the sky **AND THE BAY BRIDGE AND THE BAY.**

"**Page 118** - mid-City view perspectives - there should be something more to the north of the Twin Peaks and Portola Drive perspective. Coming over the crest of the hill at 17th Street and all the area to the north and south of Market there is an unobstructed view to the northeast to the Bay and the Bay Bridge. In the text of THIS DEIR there are many comments about how various Plan sites will have VIEWS. In that area of the City housing costs are adjusted upwards by MANY thousands of dollars for those views of the Bay Bridge. Views that will be cut off if the already approved Rincon Hill projects area actually built. This proposal is to extend that area of obstruction several blocks to the north.

"**Impact AE-1 (page 109-120)** is NOT less than significant for the EXISTING residents in the middle of the City east of Twin Peaks. The 'scenic resources' are public streets (and secondarily the homes near them) in that area - Market, 17th Street, Portola, Clipper.

...

[7] San Francisco City Datum establishes the City's zero point for surveying purposes at approximately 8.6 feet above the mean sea level established by 1929 U.S. Geological Survey datum, and approximately 11.3 feet above the current 1988 North American Vertical Datum. Because tides are measured from mean lower low water, which is about 3.1 feet below mean sea level (MSL), an elevation of 0, SFD, is approximately 8.2 feet above MSL.

"**Page 153** - these buildings would '**provide an additional focal point**' - that is ONE way of saying that they would be visible because they are blocking out/interfering with views of the Bay or Bay Bridge." *(Sue Hestor, on behalf of SFRG)*

Response

The statement on EIR p. 119 refers to all of the visual simulations presented in the EIR. In context, the full statement is:

> As analyzed in the following discussion, the most obvious changes to Plan area views from almost all directions would be the general amplification of the southern portion of the existing downtown "mound" that characterizes the cluster of high-rises on either side of Market Street and the increase in the number and height of high-rise forms on the skyline, reducing the gaps that exist between the buildings and limiting some views of the sky.

The commenter's suggestion that the statement should make reference to changes in views of the Bay Bridge and San Francisco Bay is only true from a limited number of viewpoints depicted, principally those from the west. This change is discussed in detail under Impact AE-3, EIR pp. 129 – 139, and the impact is determined to be significant and unavoidable.

The commenter's statement that the EIR discusses views from new residential units that could be developed in the Plan area is incorrect. The impacts discussed are on views from publicly accessible locations, such as streets and sidewalks. The EIR does not discuss, nor does CEQA generally require, analysis of changes in views from private locations such as residences. Effects on views from elsewhere in San Francisco are discussed under Impacts AE-2 and AE-3.

Regarding the suggestion for an additional viewpoint to the north of Twin Peaks and Portola Drive, the view from 17th Street descending towards Market Street from Clayton Street is eastward towards the Mission Bay area, and would not be affected by development in the Plan area. Views from elsewhere on Market Street descending from Portola Drive, from Twin Peaks Boulevard, and from the Randall Museum off of Roosevelt Way would not be changed in a manner substantially different than those from Twin Peaks and Portola Drive, both of which are depicted in the EIR (Figures 33 and 34, pp. 135 – 138).

Concerning Impact AE-1, the analysis refers to the potential alteration to the visual character, and scenic resources within, the Plan area and its surroundings. The EIR concludes that this impact would be less than significant because "while the draft Plan would result in aesthetic changes within the Transit Center District Plan area due to the construction of new buildings, the adaptive reuse of historically significant buildings, and an overall intensification of urban uses, such changes would not necessarily be considered adverse" (EIR p. 116). The analysis notes that future development would be undertaken pursuant to the City's *General Plan* and the urban design controls and guidelines proposed by the draft Transit Center District Plan. With respect to visual and scenic resources, as also stated on p. 116, "the draft Plan does not envision substantial

disruption of the existing built environment. No natural scenic resources would be affected. Accordingly, the draft Plan would result in less-than-significant impacts on scenic resources."

Implementation of the draft Plan would not affect visual character or scenic resources of other neighborhoods in San Francisco. To the extent that the draft Plan would change views of and from those areas, these impacts are discussed under Impact AE-2 and AE-3, as stated above.

Comment AE-6: In the aesthetics section, the photographs and photomontages are of poor quality and some of the text is confusing.

"The photos on pp 130-148 are muddy. It is impossible to really tell the buildings in this area. Where the bay or the bay bridge is supposedly present, it disappears into foggy graphics. For visual analyzes, renderings that can actually be understood are IMPORTANT. We can't see the Bridge.

"**Page 139** - it is impossible to understand the paragraph that merges discussion of the TWO fairly separated sites on Hwy 101. Could not figure it out. Noted that text indicates the Palace Hotel tower is visible, but no such is labeled on the photo. Is it the green building to the left on p. 141?

"In general, could not distinguish any new building colored 'gray' - just the blue and green ones.

"Pictures from the Bay Bridge are pretty terrible in quality.

...

"**Page 151 - Bay Bridge view -** aesthetics of SF as seen from crossing the Bay Bridge are how one sees the form of the City (Urban Design Plan). These renderings totally obliterate ANY sense of the mountains in the middle of the City. Please correct." *(Sue Hestor, on behalf of SFRG)*

Response

There is a limit to the visual resolution that can be attained in the laser printing process. To improve the overall clarity of the images and the visibility of the Bay Bridge, the Bay Bridge west span towers have been labeled in Figure 34, which are the visual simulations from Twin Peaks. The revised figures are included at the end of Section E, Revisions to the DEIR, following p. C&R-139. It is noted that, from this viewpoint, the obstruction of at least two of the towers of the Bay Bridge west span would occur as a result of cumulative development outside the Plan area, including approved towers on Rincon Hill, depicted in gray, and the potential expansion of Moscone Convention Center, depicted in green (see top image in Figure 34B). In particular, the so-called Moscone East project assumed development of three mixed-use towers at heights of 600 to 675 feet at the northeast corner of Third and Folsom Streets. Subsequent to publication of the Draft EIR, a project was announced to renovate and add two stories to an existing vacant 10-story office building at 680 Folsom Street, which occupies about one-third of the Moscone East site assumed in the EIR. Therefore, while expansion of Moscone Convention Center could still occur, it would be in a form that differs from that depicted in the top image of Figure 34B. Pending a revised proposal for the Moscone East project, the renovated and expanded 12-story building at 680 Folsom Street would appear more like the green building farthest to the right in the bottom

image of Figure 34B, meaning that at least one additional tower of the Bay Bridge west span would remain visible from Twin Peaks.

As stated on EIR p. 132, in views from Twin Peaks and Portola Drive, "While buildings in the Plan area would be 'adequately spaced and slender to ensure that they are set apart from the overall physical form of the downtown and allow some views of the city, hills, the Bay Bridge, and other elements to permeate through the district,'[footnote omitted, citing Urban Design Element] it appears that full buildout under the Plan would at least partially obscure and/or overwhelm views of the Bay Bridge, Yerba Buena Island, and the East Bay hills." For this reason, the EIR concludes, on p. 139, "due to the reduced prominence of important visual features in a manner that could be considered inconsistent with the direction of the Urban Design Element, this impact is conservatively considered to be **significant and unavoidable**." The cumulative impact was likewise found to be significant and unavoidable. As stated on p. 173, "From the Twin Peaks and Portola Drive viewpoints, full buildout of these plans would result in substantial obscuring of the existing views of the Bay, Bay Bridge, and Yerba Buena Island. The *General Plan* Urban Design Element establishes that impacts to such major, orienting views would be adverse, as discussed above under Impact AE-3. Accordingly, this cumulative impact would be **significant and unavoidable**."

Concerning p. 139, the text does not discuss two separate viewpoints on U.S. Highway 101. Rather, as stated, the viewpoint depicted in Figure 35 is on U.S. 101 northbound at the UPS Building, approximately 16th Street, while the viewpoint in Figure 36 is on Interstate 280 at Sixth Street. As stated on EIR p. 119, in the visual simulations, "the blue color represents development sites within the Plan area, including the proposed Transit Tower, other sites for which applications have been filed, and opportunity sites with no application filed. Green indicates anticipated cumulative development on sites that are outside the Plan area. Gray represents projects that have been approved at either a programmatic or project level, both on Rincon Hill and in the Transbay Redevelopment Area, along Folsom Street." The Palace Hotel tower being a site within the Plan area for which an application has been filed, this project is depicted in blue, as the farthest left (west) of the blue massing models in the bottom ("Plan") image in Figures 35A and 36A. The green massing model at left in the upper ("Cumulative") image of Figure 35B represents the proposed project at 706 Mission Street, which is outside the Plan area. The gray buildings of Rincon Hill and the approved Transbay Redevelopment Plan Zone 1 can be seen at the right of the images in Figure 36B, between the Plan area and the One Rincon Hill building.

Regarding Figure 40, the visual simulations from the Bay Bridge, the intent was to capture the Plan area, Rincon Hill and the approved Transbay Redevelopment Plan Zone 1, and the existing downtown in a single image that a driver would see while traveling on the bridge. This necessitated the selection of a viewpoint at approximately the midpoint of the West Span, just west of the center anchorage. Twin Peaks and the City's other western hills become most apparent much farther west, around the westernmost tower of the bridge, by which time the center of downtown is to the northwest at approximately a 45 degree angle. At this point, the One

Rincon Hill building and the other approved development on Rincon Hill would be most apparent to a driver on the bridge, but Plan area development and the existing downtown would be far less visible.

Comment AE-7: Is the proposed project at 8 Washington Street included in the cumulative scenario photomontage from Treasure Island?

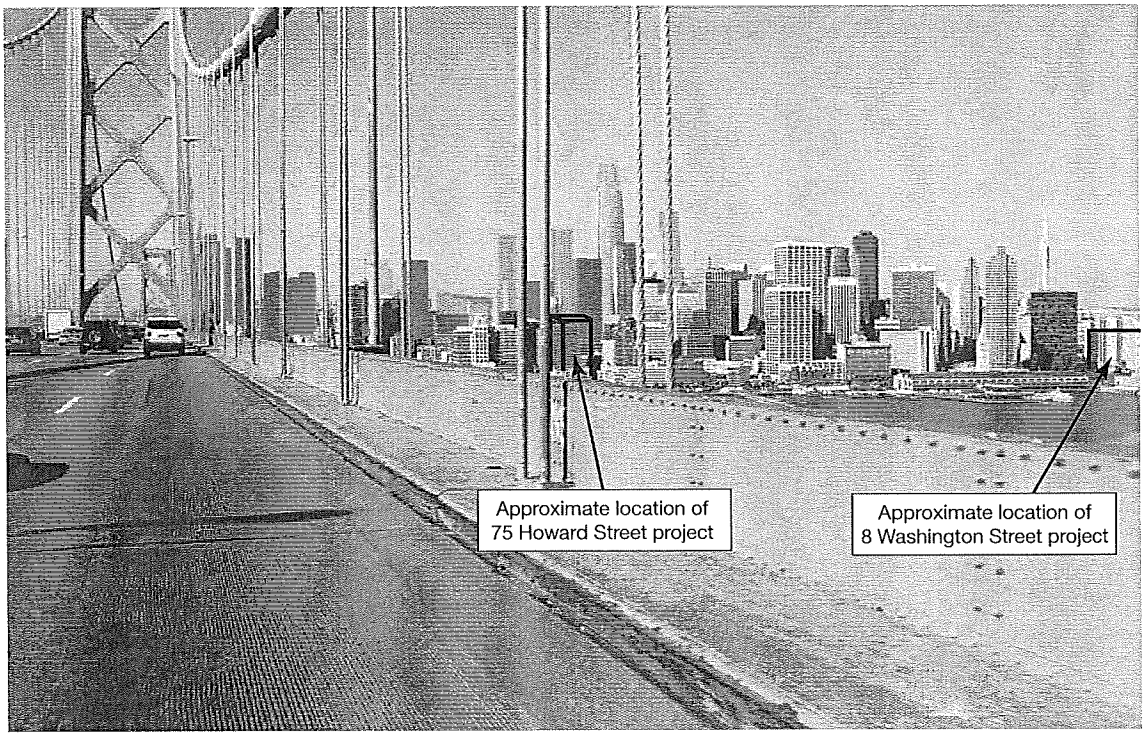
"Does cumulative development one from T.I. include the proposed 8 Washington project?" *(Sue Hestor, on behalf of SFRG)*

Response

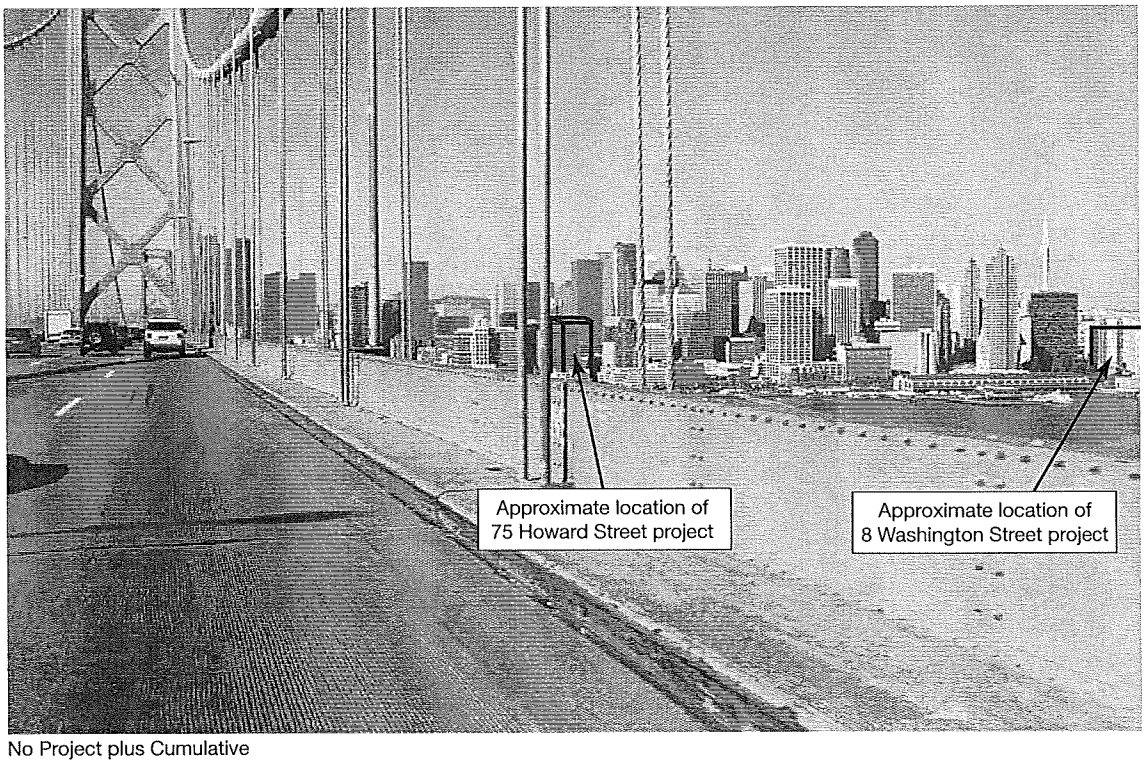
The project at 8 Washington Street (Case No. 2007.0030E, Final EIR certified and project approved by the Planning Commission on March 22, 2012) is not shown in the visual simulation from Treasure Island (EIR Figure 39B, p. 150), which depicts potential development in the Plan area and nearby cumulative towers. The 8 Washington Street project, which would be up to 136 feet in height, is proposed for a location approximately 2,200 feet (0.4 miles) northeast of the proposed Transit Tower site, and equally distant, or farther, from any location in the Plan area proposed for an increased height limit. Because Treasure Island is northeast of the Plan area (its southernmost location is at approximately the same latitude as the Municipal Pier at Aquatic Park), the view in Figure 39B is looking southwest. In this view, the 8 Washington Street project would be nearly indistinguishable against the immediate backdrop of the four 22- to 25-story residential buildings of Golden Gateway Center and the 27-story, 398-foot-tall office building at One Maritime Plaza (the former Alcoa Building). Even from the Bay Bridge, closer to San Francisco, as shown in EIR Figure 40B, p. 152, the proposed 8 Washington Street project would not result in a substantial adverse change in views. **Figure C&R-3** illustrates the approximate location and size of the approved 8 Washington Street project from this viewpoint, using a "wire-frame" model to demonstrate the generalized massing of this project. Therefore, the 8 Washington Street project would not combine with potential future development in the Plan area to result in a significant cumulative impact in views from Treasure Island.

The project at 8 Washington Street was initially proposed (at the time its Environmental Review Application was filed in 2007) at a height of 84 feet. The change to a proposed range of heights of between 30 and 136 feet did not occur until the sponsor of the 8 Washington Street project filed a revised Environmental Review Application in July 2010, two years after the Notice of Preparation was published for the Transit Center District Plan EIR.

Also not depicted in the cumulative visual simulation from Treasure Island (EIR Figure 39B) is a recently proposed project at 75 Howard Street, discussed in the response to Comment PD-1, p. C&R-18. As noted in that response, no application was on file for this building at the time the Draft EIR was published. This building would be approximately the same height as the Rincon Center towers across Howard Street, but would be taller than buildings west of it. However, in the cumulative scenario, as with 8 Washington Street, this building would largely blend in against proposed or anticipated buildings behind it in the view from Treasure Island. In the



Cumulative



No Project plus Cumulative

SOURCE: Square One Productions; ESA

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure C&R-3

Cumulative Visual Simulations: Bay Bridge Upper Deck

closer-in view from the Bay Bridge, the 75 Howard Street project would be more readily discernible, but the project would not stand out against other existing and cumulative development (see Figure C&R-3). The 75 Howard Street project would not be visible from other viewpoints depicted in the EIR. Therefore, as with the 8 Washington Street project, the 75 Howard Street project would not make a considerable contribution to cumulative aesthetic impacts of the Transit Center District Plan.

Comment AE-8: The EIR should include the Museum of Modern Art expansion project in the visual simulation from Yerba Buena Gardens

"[S]ince we have several large projects following each other very closely, I think the simulations looking from Yerba Buena East would be quite appropriate if we were to also at least to show the effect of the Museum of Modern Art's expansion because that will be so close to each other, that looking at it together, at least in one image, would be very helpful at least to me, and that is not biasing towards one or the other of the project, but in the spirit of cumulative, that particular project because we're going to be hearing it in a few weeks, these two things interact with each other and we might as well know what we're looking at it, and I'm not saying what my thoughts are because I don't have it, but I would like to see it." *(Commissioner Kathrin Moore)*

Response

As stated in footnote 71 on EIR p. 172, "The proposed Museum of Modern Art expansion is modeled as a 320-foot-tall tower, consistent with the information available at the time this analysis was undertaken. The museum has subsequently proposed a shorter building, approximately 200 feet tall, behind the existing museum, which is analyzed in the EIR for that project (Case Nos. 2009.0291E and 2010.0275E)."

EIR Figure 30B, depicting cumulative scenario visual simulations from Yerba Buena Gardens, has been revised to reflect the current design of the Museum of Modern Art expansion project, as approved by the Planning Commission on November 10, 2011. The revised figure is presented at the end of Section E, Revisions to the Draft EIR, following p. C&R-139. This additional information about the Museum of Modern Art expansion project does not change the EIR's conclusions about the visual impact of the draft Plan or Transit Tower.

Population and Housing, Business Activity and Employment

Comment PH-1: The EIR does not provide adequate information on existing housing in the Plan area.

Note to Reader: This comment references p. 92, in the EIR Aesthetics section, where several residential towers "constructed within the last 20 years" are discussed. It is included here because the focus of the comment is on housing attributes.

"**Page 92** - new housing in general area. Please provide information by type of housing (rental, condo, 'artist live/work'), # units in building, income level needed to afford unit, noting how many are in high-rise towers. The core information needed to understand how this new housing meets identified needs is

WHAT INCOME LEVEL IS BEING SERVED? How much parking is associated with each housing project - an important factor given the explicit policy in the Downtown Plan to severely limit the amount of cars on these streets because they are already way over capacity at rush hour." *(Sue Hestor, on behalf of SFRG)*

Response

As stated in the introductory note, this comment was made in reference to a passage in the EIR Aesthetics section. However, the comment does not address aesthetic impacts, but instead requests information regarding existing housing conditions that is beyond the level of detail required under CEQA. "The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives" (State CEQA Guidelines, Section 15125(a)). Data on housing unit type, size of residential buildings, rent or purchase price of units, and available parking is not necessary for analysis of the significant adverse physical environmental effects of the draft Transit Center District Plan. Nevertheless, the information in **Table C&R-1**, below, is provided in response to the comment, for informational purposes.

Because the proposed number of residential units in the Plan area is relatively small compared to the proposed office space, the great majority of trips made to and from the Plan area are projected to be trips to and from work—principally, offices in the Plan area.

TABLE C&R-1
SELECT RESIDENTIAL DEVELOPMENT PROJECTS IN THE PLAN AREA

Building / Year Completed	Units	Pkg. Spcs.	Sale Price [a]
Millennium / 2009	420	400	$650,000 / $815,000
One Hawthorne / 2010	135	135 [b]	$589,000 / $685,000 (asking)
199 New Montgomery / 2006	166	70	$302,000 / $512,000
246 Second Street / 1999	93	82	Not available / $450,000

NOTES:
a First number is initial sales price reported by Planning Department; second number is most recent available asking price. Figures provided are for one-bedroom units, if available.
b Parking provided in mechanical stackers.

SOURCE: San Francisco Planning Department *Housing Inventory 2010, 2009, 2006*; San Francisco Redevelopment Agency; Redfin

Comment PH-2: The EIR does not provide adequate information on the affordability of housing that would be developed in the Plan area.

"**Page 176-177** - please describe the market that will be accommodated in this new housing - in terms of the City's RHNA goals - Regional Housing Needs Allocation. The vast majority of housing needed is for the persons below the 'market rate' - actually HIGH MARKET RATE - level provided thus far in this part of the South of Market. In light of SF's RHNA goal, what 'demand' is there for residential high-rise towers both in this Plan and in the approved-but-not-yet-built housing including Rincon Hill?

...

"Mismatch between housing NEED and housing PRODUCED is seen on **page 181** first full paragraph. Housing prices in SOM/Rincon Hill have been 10% more expensive than city-wide median. How will the City get out of this imbalance when we are so NOT meeting the RHNA goals re the income levels of housing being produced? That is before development in this Plan Area creates a bigger hole re new affordable housing. Please note that this is one of the places where the DEIR cites a premium for housing in high-rises with VIEWS. It is just as valid to recognize those residents of the middle of the City who will LOSE their views.

"**Page 183** - RHNA goals for housing - there is a PITTANCE of housing being produced for those making 80-120% of AMI. 12.9% of the amount needed, v 153.4% of MARKET RATE HOUSING. Assuming the units come on line in this area as predominantly market rate (we know that is what has already been approved on Rincon Hill), how much further from attaining SF RHNA goals will we be?

"**Rincon Towers** - the largest residential development in this area - a REDEVELOPMENT SITE - is being substantially **rented as short-term furnished corporate housing**. Is this is compliance with the Rincon Point Redevelopment Plan? Is this consistent with the Rincon Point/South Beach Redevelopment Plan goals? (**p. 185**) Again the term justifying the cost of this housing being developed for the high-end market includes the word - VIEWS.

...

"**Page 188** - SF population increase projection - what is the projected mix of housing affordability needs? "Page 190 - additional housing to be provided in C-3/downtown. Without concentration on meeting RHNA goals, the housing will continue to be WAY ABOVE MARKET RATE. If that occurs, the City will be unable to meet its RHNA goals at all, and there will be increasing gentrification pressure on housing. The CONTEXT of this downtown area includes, the AAU is gutting the rental stock in the C-3/downtown area. Rincon Towers and Golden Gateway managing significant portions of their RENTAL HOUSING (built on subsidized Redevelopment Land) as corporate short-term housing. PLUS a gross shortfall in production of housing for those earning 80-120% of median income. Continuing on this path in the Plan area means an even worse housing disaster for San Francisco.

...

"The **page 204** conclusion that there is no impact on the housing supply appears to assume that everything is moving just fine for housing production AT APPROPRIATE INCOME LEVELS in San Francisco. This is a fallacious assumption. You cannot assume that Hunter Point housing, Treasure Island Housing, will be built just because their plans have been approved. Similarly that just because the Eastern Neighborhoods and Market/Octavia were zoned so they could accommodate more housing, that it will be built. This is particularly the case for housing for moderate income residents which is increasingly challenged. The '$53 million' in JHLP funds occurs on full build-out of the entire project. If that level of funding was paid, the full amount of office space would be built. Because the JHLP program funds provide only PART of the money needed to construct that housing, the City would be deeper in the hole

"**Page 200 - Increased residential capacity** - This is another of the Pollyanna-ish sections. Increase number of housing units will NOT help SF meet its RHNA goals if it is all (as usual) VERY high market

rate housing. We are developing and approving many more upper income housing units than are San Francisco's target. But the housing for people earning 80-120% of median income falls greater and greater behind. Growth in residential population must be seen in light of the balance in serving existing needs and existing residents and providing even more housing for a narrow section of the population who already have multiple choices. It is inappropriate to 'find' that the addition would not be substantial in the context of San Francisco and its downtown.

"**Page 201 - Regional Plans and growth** - ABAG has housing goals for San Francisco as well as regional projections for job growth. Infill housing CANNOT be just high-end housing and meet San Francisco's housing goals as set out in the RHNA goals. The major land available to develop new housing is in the South of Market and greater downtown. By focusing on 'smart growth' and 'transit-oriented development' while completely ignoring the gross imbalance in the production of housing by needed categories guts any hope for balanced communities. If working people in San Francisco are displaced because the vast majority of our land is being dedicated to a small part of the workforce, ultimately those who run the City, provide services, serve the tourist industry will continue to be forced out of the City, many into places without decent transit. This is neither 'smart growth' nor 'transit-oriented development.' Hitting our HOUSING GOALS BY AFFORDABILITY LEVEL MORE IMPORTANT TO THE ECONOMIC AND SOCIAL HEALTH OF SAN FRANCISCO THAN ACCOMMODATING MORE OFFICE WORKERS. We already have a glut of space for the latter and an identified need for the former.

"**Page 202 - PH-2 Finding** that the Plan would not displace a large number of people and their housing. IF all of the housing, or a major portion of it, is the usual high-end condos, as discussed above, this will mean gentrification and pushing out middle income San Francisco workers. This is a Significant Impact.

...

"**Page 205** - conclusion on housing. The summary here - that the Plan would provide for additional housing is grossly insufficient. The increased heights for HOUSING PROJECTS allows for **very upper end** housing -

"Palace Hotel	300' to 600' - for 449 DU
Golden Gate Univ	550 to 700 ' - for 104 DU
41 Tehama	200' to 400' - for 276 DU
191 Fremont	350' to 700' - for 61 DU
50 1st St	550' to 850' - for 165 DU
350 Mission	550' to 700' - for 67 DU
Parcel F	450' to 750' - for 96 DU
543 Howard	85' no change - for 58 DU
176 2nd St	150' no change - for 22 DU

"Producing the above housing will exacerbate new housing skewing to meet an even higher percent of upper income residents.

"The DEIR acknowledges that some of these units would be 'second homes.' This WOULD HAVE an impact on the housing market since the units would not be available to people who need a primary residence.

"Providing 'additional housing' independently of addressing the NEED for housing at the level of need set out in the RHNA indeed worsens housing balance BECAUSE OF THE LIMITED SUPPLY OF LAND and finite resources to produce needed housing.

"IT IS INAPPROPRIATE TO FIND THAT THERE IS NO MITIGATION REQUIRED FOR HOUSING NEEDS BECAUSE THE SUPPLY OF HOUSING WILL NOT BE AFFECTED.

"It is further not supported by evidence that the project would not contribute to a substantial growth in population or displace a large number of residents who would be without the resources to compete with the new residents for housing they can afford." *(Sue Hestor, on behalf of SFRG)*

Response

Issues concerning housing affordability raised in the comment relate to socioeconomic concerns, not physical impacts that are the purview of CEQA review. Thus, no response is required. However, the following discussion is provided for informational purposes. The EIR does not assume that housing production in San Francisco currently meets the needs of households of all income levels. Rather, the EIR acknowledges the difficulty of providing for affordable housing in San Francisco and the consequent fact that "increasing the housing supply and making housing more affordable have been key concerns of the City's policy-makers for decades" (EIR p. 182). Despite the fact that "[o]ne-third of the new housing units added in San Francisco from 2005 – 2009 were affordable units, meaning the units are rented or owned at prices affordable to households with low or moderate incomes, … San Francisco has not met the quantified housing goals established by the California Department of Housing and Community Development (HCD) and the Association of Bay Area Governments (ABAG)" (EIR p. 182). As shown in Table 5 on EIR p. 183, the City realized 83 percent of the ABAG housing production goal for very-low-income units and just over half of the goal for low-income units. For units that are affordable to moderate-income households (at around 100 percent of median income), only 13 percent of the target was met.

The EIR does not identify a significant impact with respect to housing, based on the significance criteria stated on p. 196. That is, the EIR finds that the project would neither displace a large number of people (involving either housing or employment), or create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply. As stated on EIR p. 203, assuming that all jobs created would be new jobs, employment growth in the Plan area by 2030 would result in a demand for approximately 10,250 housing units in San Francisco, or about 18 percent of the potential of approximately 58,000 units that could be developed under various areawide planning efforts and redevelopment plans identified in the 2009 Housing Element. However, actual housing demand would likely be less, because not all new employment space created results in jobs that are new to San Francisco, as noted on EIR p. 204.

The EIR recognizes the high cost of much of the housing in and around the Plan area. The reason that views from housing units in and near the Plan area is mentioned in Section IV.C., Population and Housing, Business Activity, and Employment, is simply to explain the nature of much of the

housing stock in Downtown San Francisco. Likewise, the discussion of existing housing units notes that a relatively high degree of finishes and amenities is provided in many of these units and their buildings. The EIR cites all of these factors, along with proximity to downtown, as being responsible for the relatively higher cost of housing in the Plan area and surrounding neighborhoods. As stated on EIR p. 205, new housing developed in the Plan area would be subject to the City's Residential Inclusionary Affordable Housing Program, as set forth in *Planning Code* Section 415. Large-scale non-residential development would also be required to pay fees in support of affordable housing, through the Jobs-Housing Linkage Program (*Planning Code* Section 413), as stated on p. 204.

Comment PH-3: Parts of the Population and Housing analysis are confusing.

"**Page 179** - info on workers and residents in SF is confusing. It is not always clear whether what is being discussed is people who LIVE AND WORK in SF, people who WORK in SF but live elsewhere and people who LIVE in SF but work elsewhere.

"Also confusing **page 180** last paragraph. Price range shows higher THEN LOWER number. Huh?" *(Sue Hestor, on behalf of SFRG)*

Response

The discussion on p. 179 concerns employment levels and locations for San Francisco residents. The phrase "employed residents" refers to residents of San Francisco who are employed, regardless of where they work. The second full paragraph on p. 179 states that, in 1960, 94 percent of employed residents of San Francisco (i.e., San Franciscans with jobs) worked in the City, and this share declined to approximately 76 to 78 percent in the late 2000s. The last, partial, paragraph on p. 179 states that, of all jobs in San Francisco, 56 percent are held by City residents, and 44 percent by non-residents.

Regarding p. 180, the cited text is: "In 2010, the median price for houses sold in San Francisco was $661,000—$248,500 (60 percent) higher than the regional median price of $412,000." This is not presenting a range; it is a relative clause, set off by an "em dash." The sentence written as follows would have the same meaning: "In 2010, the median price for houses sold in San Francisco was $661,000, which is $248,500 (60 percent) higher than the regional median price of $412,000."

Comment PH-4: Is the information concerning Golden Gate University's potential site development accurate and current?

"**Page 202 fn 119 - Golden Gate University**. There appears to have been no discussion directly with Golden Gate in 2 ½ years about whether they are still interested in a proposal to tear down their building to build a new school. The referenced article is based on PRE-ECONOMIC CRASH discussions in 2008, updated with further thoughts in mid-2009. There have been a lot of economic changes in the US economy since 2008. Has anyone talked to GGU about this recently? Have they reviewed the information in the DEIR, including the shadows impacts that would be cast by a building on their height? " *(Sue Hestor, SFRG)*

Response

Please see the response to Comment SH-2, p. C&R-81, which discusses information provided by a representative of Golden Gate University.

Comment PH-5: The EIR mischaracterizes the Jobs-Housing Linkage Program.

"**Page 192 - Job Housing Linkage Program** - this program resulted from massive community pressure, sustained over 6+ years to force Planning and the Mayor to require that commercial office developers pay a portion of the cost of new housing to accommodate their work force. In 1984/1985 the Board of Supervisors, working with community advocates, held the Downtown Plan hostage until the Office Affordable Housing Production Program was signed by Mayor Feinstein. The fee required pays only a portion of the cost of providing new housing to meet the needs of the work force.

...

"**Page 203 - SF Housing Supply.** This Section appears to conclude that the housing demands from the office space allowed would be 'covered' by the payments into the Jobs Housing Linkage Program. This is a gross misunderstanding of the JHLP. That fund only pays PART of the cost to provide additional housing. San Francisco housing non-profits currently have sites but NO MONEY (which comes from various government agencies) to build already approved housing. Money flowing from commercial projects only pays a portion of the cost of providing new housing. San Francisco is already in a hole on being able to construct needed housing. Perhaps it would be good to consult with the Mayor's Office of Housing on this section." *(Sue Hestor, on behalf of SFRG)*

Response

The comment concerning the history of the Jobs-Housing Linkage program is noted.

Regarding the text on p. 203, the EIR does not state that the Jobs-Housing Linkage Program would fully pay for all needed affordable housing in the City. The text says that the program "would help reduce the impact of the increased demand on housing prices and rents and the need for affordable housing in San Francisco" (emphasis added).

Please see the response to Comment PH-2 for additional information on affordable housing.

Cultural and Paleontological Resources

Historic Architectural Resources

Comment CP-1: Mitigation measures for effects on historic architectural resources should be enhanced.

"The HPC suggests that the mitigation measure described in M-CP-3A should be modified to accurately reflect the historic resources needing HABS and HAER documentation.

"The HPC believes the HABS and HAER documentation should include aerial photography.

"The HPC suggests that the mitigation measure described in M-CP-3B be modified to include both written and photographic data in the public interpretative display and that the proposed display be presented to the HPC prior to finalization.

"Given the amount of demolition proposed, the HPC suggests inclusion of a salvage mitigation measure." *(Charles Chase, San Francisco Historic Preservation Commission)*

Response

Mitigation Measure M-CP-3a (HABS/HAER Documentation), EIR p. 267, states, in part, "Prior to demolition or substantial adverse alteration of historical resource(s), the project sponsor of a development project in the Plan area shall contract with a qualified preservation architect, historic preservation expert, or other qualified individual to fully document the structure(s) to be demolished or altered." The "historical resources" to which this measure would apply would include all historical resources as defined by CEQA that would be demolished or adversely affected, as determined by a Planning Department Preservation Technical Specialist. As stated on EIR p. 207, "A 'historical resource" is defined, under CEQA Section 21084.1, as one that is listed in, or determined eligible for listing in, the California Register of Historical Resources."

Aerial photography may be appropriate in Historic American Buildings Survey and Historic American Engineering Survey (HABS/HAER) documentation in certain circumstances. According to the National Park Service, "Aerial photographs are generally used to record large complexes, historic districts and landscapes, as well as geographic or urban contexts."[8] As stated in Mitigation Measure M-CP-3a, EIR p. 267, "Documentation shall be undertaken following consultation with Planning Department preservation staff and the Historic Preservation Commission, and shall *at a minimum* be performed to HABS Level II documentation standards" (emphasis added). Aerial photography could, therefore, be required as part of this measure.

Regarding Mitigation Measure M-CP-3b (Public Interpretative Displays for historical resources that are significant due to event(s) that occurred in the building), this measure calls for the project sponsor to "develop, in consultation with Planning Department preservation staff, a permanent interpretative program/and or display that would commemorate such event(s)," and states that the program or display be publicly accessible, and that "content and location of the display shall be presented to the Historic Preservation Commission for review and comment." The precise content of such a program or display, and whether it would include "written and photographic data," would be determined on a case-by-case basis in consultation with Planning Department preservation staff.

Concerning "the amount of demolition proposed," it is noted that the draft Plan is not a development project, but does propose zoning changes, including increased height limits at certain locations in the Plan area, that could allow subsequent future development projects. (Many of these projects would be permitted, albeit with shorter buildings in some cases, under

[8] National Park Service, Heritage Documentation Programs, *HABS/HAER/HALS Photography Guidelines*, November 2011. Available on the internet at: http://www.nps.gov/history/hdp/standards/PhotoGuidelines_Nov2011.pdf.

existing zoning controls.) Development assumptions for the Plan area developed by the Planning Department in support of the EIR do assume demolition of some existing structures, including some that are identified as historic resources for purposes of CEQA review. Accordingly, the following component is added to Mitigation Measure M-CP-3 on EIR p. 268 following Mitigation Measure M-CP-3c:

> M-CP-3d: **Salvage of Historical Resources.** Prior to demolition of historical resource(s) that are significant due to architecture (resource(s) that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values), the project sponsor of a development project in the Plan area shall consult with a Planning Department Preservation Technical Specialist and/or other qualified parties regarding salvage of materials from the affected resource(s) for public information or reuse in other locations.

Mitigation Measure M-CP-3d is also added to Table S-1, Summary of Impacts and Mitigation Measures for the Proposed Transit Center District Plan, on p. S-10 and p. S-47.

Comment CP-2: Effects on the potential historic district near First and Mission Streets should be further discussed.

"The HPC would like to see impacts to the potential historic district at the intersection of 1st and Mission Streets be analyzed at the project level or reduced scope project.

"The HPC would like to see individual historic resources identified in the survey be formally designated and expansion to the existing Conservation District be implemented.

"The HPC would like to see the historic district identified at the intersection of 1st and Mission Streets be formally designated if the reduced scope project is implemented." *(Charles Chase, San Francisco Historic Preservation Commission)*

Response

As noted on p. 237 of the EIR, the historical resources survey and *Context Statement* for the Plan area "identified an additional potential historic district around First and Mission Streets that was determined to be eligible for listing on the California Register, a finding that was concurred in by the Landmarks Preservation Advisory Board (predecessor to the Historic Preservation Commission). This potential district, which is not listed on the California Register, is nevertheless considered a historical resource for purposes of CEQA review.'" As identified in the *Context Statement* and reported in the EIR, this potential district contains six buildings on the west side of First Street between Stevenson and Mission Streets, and a seventh at the northeast corner of First and Mission Streets. The *Context Statement* found that the two northernmost buildings on First Street have been extensively remodeled and therefore do not retain sufficient integrity to qualify for listing on the California Register of Historical Resources, either individually or as contributors

to a historic district.[9] Thus, the potential historic district contains only five buildings that could be considered contributors. The Plan area survey found that four of these five buildings were also eligible for the California Register as individual resources.

Of the five buildings that could be contributors to the potential historic district, three are proposed for demolition as part of a project proposed at 50 First Street (Case No. 2006.1523E), as described on EIR p. 264. The three buildings are the Marwedel Building at 76 First Street (rated "2S2," or determined individually eligible for the National Register), and the Neustadter Bros. Building at 62 First Street and the Brandenstein Building at 88 First Street (both rated "3CS" or individually eligible for listing in the California Register by the *Context Statement*). Project-specific environmental review for this project is currently being undertaken by the Planning Department and that CEQA analysis will fully evaluate the effects of the loss of these buildings on the potential historic district around First and Mission Streets. Of the two other potential contributors, one, at 82 – 84 First Street, is not part of the 50 First Street project site, and the other, at 440 Mission Street, is on the opposite side of First Street from the 50 First Street site.

Concerning the "individual historic resources identified in the survey" conducted for the Plan area, as noted on pp. 236 – 237 of the EIR, this survey, commissioned by the Planning Department, was formally adopted by the HPC's predecessor, the Landmarks Preservation Advisory Board (LPAB), in 2009. As described in Section C, Revisions to the Proposed Project, p. C&R-4, in February 2012, the HPC adopted a revision to the Transit Center District Survey. Accordingly, the Planning Department proposes to slightly increase the size of the proposed expansion of the existing New Montgomery–Second Street Conservation District, compared to the proposed expansion shown in the DEIR, and to identify approximately five additional buildings as contributors to the renamed "New Montgomery–Mission–Second Street Conservation District." The HPC also adopted revised historic survey forms and California Historical Resource status codes for a number of properties in the Plan area, both inside and outside the proposed expansion of the conservation district. The proposed revised conservation district boundary, along with other changes following from the HPC's adoption of the revised survey materials, are depicted in revised EIR Figure 7, Existing and Proposed Conservation and National Register Districts, which appears at the end of Section E of this Comments and Responses document, following p. C&R-139. Based on the adoption of the survey and update by the LPAB and HPC, respectively, the individual buildings identified as being eligible for listing on the California Register of Historical Resources are considered by the Planning Department to be historical resources for purposes of CEQA, as is the potential historic district around First and Mission Streets. The HPC's support for expansion of the existing conservation district and designation of the potential historic district at First and Mission Streets, as well as formal designation of the individual buildings—presumably under Article 11 of the Planning Code–is noted.

[9] As explained in footnote 125, p. 207 of the EIR, "Resources are listed in the California Register if they meet one of four criteria and also retain sufficient integrity. … Integrity entails the survival of characteristics or historic fabric that existed during the resource's period of significance; that is, the time it gained its historical importance. Integrity encompasses seven aspects: location, design, materials, workmanship, setting, feeling, and association."

Comment CP-3: The Historic Preservation Commission should be given an informational presentation on the draft Plan.

"The HPC believes an informational presentation or briefing prior to the DEIR hearing is warranted in order for the HPC to comment on the overall plan and proposed policies." *(Charles Chase, San Francisco Historic Preservation Commission)*

Response

The comment is noted and will be considered by Planning Department staff. The comment does not address the adequacy or accuracy of the EIR, and no further response is required. However, the following is provided for informational purposes. The proposed *Planning Code* revisions that would implement the draft Plan would establish a new *Code* Section 128.2, Downtown Historic Preservation Fund, which would be used for the following purposes:

- Support for staff or consultant efforts in survey or designation of historic resources in the C-3 districts and adjacent downtown areas, and related amendments to the *Planning Code*;
- Grants to owners of historic resources in the C-3 Districts for seismic upgrades, facade renovation, or other restoration or rehabilitation of such resources;
- Purchase of transferable development rights from qualified historic resources;
- Public educational, interpretative or commemorative programs or infrastructure related to downtown historic resources; and
- Educational or outreach materials to assist owners of historic resources related to preservation and maintenance.

An informational presentation on the draft Plan and proposed *Planning Code* revisions was made to the HPC on February 1, 2012, and a hearing is required for the HPC to comment on draft amendments to *Planning Code* Articles 10 and 11 prior to Planning Commission action; this hearing was held on May 2, 2012. (The proposed *Planning Code* amendments to implement the draft Plan include proposed amendments to Article 11, as described in the draft Plan.)

Comment CP-4: The Historic Preservation Commission disagrees with the EIR's conclusion as to the effectiveness of mitigation identified for construction-related effects on historic buildings.

"The HPC disagrees with the statement made under M-CP-4 that the mitigations would result in less than a significant impact and would like to see more information on how that determination was made." *(Charles Chase, San Francisco Historic Preservation Commission)*

Response

Note: It is presumed that this comment refers to Mitigation Measure M-CP-5a and 5b, given that Impact CP-5 is the only impact related to historic architectural resources for which the EIR identified mitigation measures that would reduce the impact to a less-than-significant level.

Impact CP-5, EIR p. 269, states, "Construction activity in the Plan area could result in damage to historic architectural resources." Mitigation was identified in the form of Construction Best Practices for Historical Resources (M-CP-5a), whereby construction contractor(s) would be required to use all feasible means to avoid damage to adjacent and nearby historic buildings; and a Construction Monitoring Program for Historical Resources (M-CP-5b), under which a project sponsor would undertake a preconstruction survey of nearby historical resource(s) to document and photograph the buildings' conditions prior to construction; establish a maximum vibration level that shall not be exceeded at each building; and monitor vibration levels at each structure and prohibit activities that generate vibration levels in excess of the applicable standard. Any damage would be remediated by the project sponsor. Such best practices and monitoring programs have been used successfully in San Francisco and elsewhere during construction of numerous high-rise buildings proximate to existing historic structures. Such measures are recommended by the National Park Service.[10] Accordingly, the EIR determined that Impact CP-5 could be mitigated to a less-than-significant level.

Comment CP-5: The Historic Preservation Commission would like more information about potential Plan area fees that could benefit historic architectural resources.

"Once developed, the HPC would like more information about the Downtown Rehabilitation Fund and In-Lieu Fee Program." *(Charles Chase, San Francisco Historic Preservation Commission)*

Response

The comment is noted and will be considered by Planning Department staff. However, the comment does not address the adequacy or accuracy of the EIR, and no further response is required. The proposed modifications to the *Planning Code* developed to implement the draft Plan address these programs, as described in Section C of this document, Revisions to the Proposed Project, p. C&R-4.

Comment CP-6: The Historic Preservation Commission would like to see more and better graphics in the EIR.

"The HPC believes the graphics and illustrations in the DEIR could be improved for consistency and clarify purposes. The DEIR should include the boundaries of the potential historic district at the intersection of 1st and Mission Streets." *(Charles Chase, San Francisco Historic Preservation Commission)*

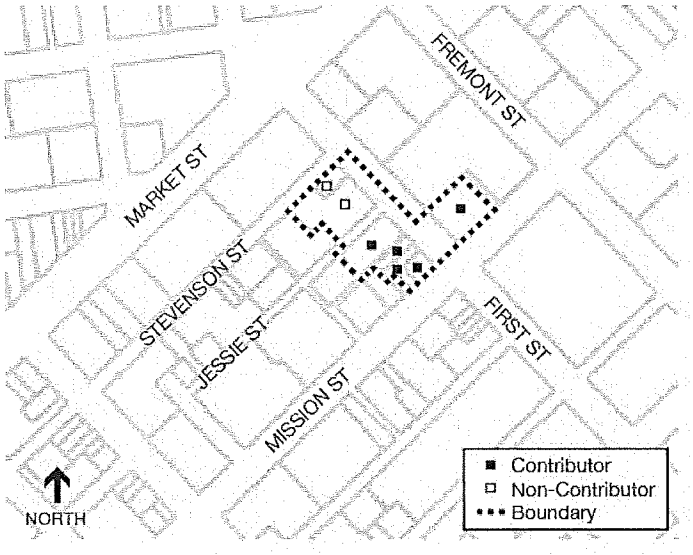
Response

The comment regarding graphics and illustrations, generally, is noted. Because no specific figures are referenced, no response is possible.

The potential historic district identified in the Plan area *Context Statement* is depicted in **Figure C&R-4**.

[10] National Park Service, Technical Preservation Services, "Preservation Tech Note 3: Temporary Protection." Available on the internet at: http://www.nps.gov/tps/how-to-preserve/tech-notes/Tech-Notes-Protection03.pdf.

Comment CP-7: The EIR should include additional graphical information about historical resources.



SOURCE: Kelly & VerPlanck

Figure C&R-4
Potential First and Mission Streets Historic District

"[I]n order to improve the public disclosure aspect of the EIR, I'd like to have the comments and responses add some graphics to the Cultural Resource section. There's only one map in that section and it shows the historic shoreline, more or less. And I think in terms of historic resources, it would be nice to have some graphics showing existing historic district boundaries, existing historic resources, National Register properties, California Register properties, city landmarks, maybe even eligible properties. It's already been all identified, so something more graphic to illustrate that would help." *(Commissioner Hisashi Sugaya)*

Response

Figure 7 in EIR Chapter II, Project Description, p. 33, identifies existing City Landmarks and in the Plan area, the City's existing New Montgomery—Second Street Conservation District, and the existing Second and Howard Streets Historic District that is listed in the National Register of Historic Places. Figure 7 also indicates the historic rating assigned to Plan area buildings under Article 11 of the *Planning Code*, Preservation of Buildings and Districts of Architectural, Historical, and Aesthetic Importance in the C-3 Districts, which implemented the "Preserving the Past" chapter of the Downtown Plan.

Figure 7 also depicts new City Landmarks proposed under the draft Plan, as well as the draft Plan's proposed expansion of the existing conservation district, which would be renamed the "New Montgomery–Mission–Second Street Conservation District." As well, the draft Plan proposes some revisions to Article 11 ratings, which are also shown in Figure 7.

Concerning resources listed on the National Register of Historic Places, as stated on EIR p. 235 (as revised in this Comments and Responses document), there are only three individually listed properties in the Plan area: the Matson and PG&E Buildings on Market Street between Main and Beale Streets; and Folger Coffee Company Building at Howard and Spear Streets. Another 19 buildings are listed on the National Register as contributors to the Second and Howard Streets Historic District (shown in Figure 7), as stated on EIR p. 236. Two additional properties—the Marwedel Building at 76 First Street and the Brizard and Young Building at 72 Tehama Street—have been determined eligible for listing in the National Register as individual properties, and a third building, the Wells Fargo Building at 71 Second Street, has been determined eligible for

listing in the National Register as a district contributor. All six of these buildings are therefore also listed in the California Register of Historical Resources. There are another 20 buildings in the Plan area that "appear eligible" for listing in the National Register but are not formally listed. These resources, as well as those identified by the City, such as the contributors to the locally designated New Montgomery-Second Street Conservation District, are considered historical resources for purposes of CEQA review and are treated as such in the EIR, as stated above in the response to Comment CP-2. Therefore, at least pending transmittal of the Transit Center District Plan survey documentation to the California Office of Historic Preservation, there are many fewer resources listed on and determined eligible for the California and National Registers than are considered historical resources under CEQA.

Transportation

Traffic, Parking, and Circulation

Comment TR-1: The transportation analysis assumes too small a mode share of vehicle travel and too large a share of transit use.

"Table 29 on page 120 of the [Transportation Impact Study] states that the proposed project would generate approximately 9,661 AM and 9,543 PM peak-hour person trips that includes 2;660 AM and 2,600 PM peak hour vehicle trips. From this Table, the analysis estimates that only approximately 30-33% of person trips will use auto as the mode of transport. Although there is a large number of transit services within the area, the Department believes that the mode split for vehicles is relatively low since residents living within the proposed area may not necessary work within the planned site. To provide a better representation of the mode. split within the planned area, the Department recommends the City to survey the travel patterns of existing residents within the plan area." *(Gary Arnold, Caltrans)*

Response

The comment refers to the Transportation Impact Study, a resource document used in preparation of the EIR. As stated in footnote 155 on p. 274 of the EIR, the Transportation Impact Study is available for review at the Planning Department.

As stated on p. 282 of the EIR, and discussed in more detail in the Transportation Impact Study, trip generation, trip distribution, trip purpose, and mode splits for the proposed project were based on data compiled in the San Francisco *Transportation Impact Analysis Guidelines for Environmental Review*, as well as information from the San Francisco County Transportation Authority's Chain Activity Modeling Process (SF CHAMP) Model. The *Guidelines* and SF CHAMP model are based on extensive locally collected data, including data specific to the downtown core; these resources are typically employed for transportation environmental analysis in San Francisco.

In addition, to better understand the travel characteristics of residential land uses within the downtown core, the City conducted a *Residential Travel Behavior Survey* in and around the Plan area in 2008, which collected information regarding respondents' place of home, place and type

of work, means of travel to work, incentives for transit use and other non-single-occupant-vehicle commuting, auto and bicycle ownership, and household characteristics. The survey results are presented in Appendix I of the Transportation Impact Study.[11] This survey augmented use of the *Guidelines* and SF CHAMP model to determine the travel modes for Plan area residents in the analysis reported in the EIR.

Overall, based on the above sources, the analysis in the Transportation Impact Study and EIR assumes a peak-hour automobile mode share of approximately 32 to 33 percent for travel demand generated by future development projects in the Plan area.

Comment TR-2: Changes to Howard Street could adversely affect the Fremont Street freeway off-ramp and the freeway itself.

"The project proposes to convert Howard Street west of Fremont Street, which is currently [a] one-way street, into a two-way street. The queue forming at the Howard Street and Fremont Street intersection currently backs up onto the Fremont Street off-ramp and causes the queue to spill onto the mainline freeway. Furthermore, both north and south side of Howard Street are currently being used as causal carpool drop off locations. If this section of Howard Street is converted to a two-way street, it will force all carpool drop offs to one side of the street. This will further reduce the throughput capacity of … Howard Street and exacerbate the existing Fremont off-ramp queue onto the freeway mainline, and will exacerbate existing safety concerns. From Tables 17 and 18, the TIS does not adequately show the impact of the project on Fremont off-ramp traffic since it does not capture delay greater than 80 seconds. Please include a section that includes the queue length on the Fremont off-ramp and Freeway mainline resulting and necessary mitigation measures to reduce this impact." *(Gary Arnold, Caltrans)*

Response

The comment refers to the Transportation Impact Study, a resource document used in preparation of the EIR. The EIR discusses potential impacts to the Bay Bridge off-ramp at Fremont Street, the changes noted in the directional orientation of Howard Street, and the proposed elimination of the existing "casual carpool" drop-off zone on the south side of Howard Street.

Concerning the off-ramp, the EIR identifies a significant and unavoidable impact on the Fremont Street off-ramp. Specifically, the EIR states, on p. 289, that Fremont Street traffic would be expected to back up due to a planned three-phase traffic signal where Fremont Street will intersect with Natoma Street and the ground-level bus plaza at the new Transit Center, currently under construction. As stated in the EIR, "delays would occur at the new signal, resulting in LOS F conditions on northbound Fremont Street and generating a queue of vehicles stretching back up onto the Bay Bridge off-ramp during the weekday a.m. peak period, when traffic along Fremont Street reaches its peak. During the weekday p.m. peak period, traffic volumes along Fremont Street are lower and could be accommodated with acceptable LOS and no significant

[11] The Transportation Impact Study is available for review at the Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2007.0558E.

queuing. This would be a **significant and unavoidable impact** to which Plan-generated traffic and the draft Plan's public realm improvements would contribute." As identified in the EIR, the reduction in capacity on Fremont Street resulting from the lane removal and the introduction of a three-phase traffic signal at the bus plaza would result in increased queuing onto the Bay Bridge, which would be a significant and unavoidable impact. Mitigation Measure M-TR-11 on p. 295 of the EIR states that the signals at Fremont/Natoma Streets and Fremont Street/Transit Center Bus Plaza egress could be designed with two signal phases instead of three. This signal timing would increase traffic capacity on Fremont Street and reduce potential for queues onto the off-ramp. However, MTA has determined that a two-phase signal would create operational and safety concerns for transit and pedestrians. Accordingly, the mitigation is considered infeasible and the impact would remain significant and unavoidable, as no feasible mitigation was identified. As to other effects on Caltrans facilities, the EIR states, on p. 298, that mitigation is not feasible for adverse effects to on-ramps at Fourth/Harrison Streets and First/Harrison Streets, due to physical constraints.

Regarding Howard Street, the EIR notes, on p. 290, that the Plan's proposed extension of two-way Howard Street from Fremont Street west to New Montgomery Street would result in additional congestion along Howard Street due to conflicts between two-way traffic and vehicles heading to the Bay Bridge via First Street. This condition would be at its worst in the p.m. peak hour. Regarding effects on the Fremont Street off-ramp at Harrison Street, where congestion is worst in the a.m. peak hour, the analysis in the EIR (specifically, Table 17, p. 286) shows that the change in intersection operations attributable to alteration of the lane configuration of Howard Street—as well as to other aspects of the draft Plan's public realm improvements, including the elimination of one northbound lane on Fremont Street—would increase the volume-to-capacity (v/c) ratio of the Fremont / Howard Streets intersection from 1.31 to 1.76. The analysis in the Transportation Impact Study shows that, under scenarios both with and without the public realm improvements, most of the effect on average vehicle delay and on v/c ratio is attributable to traffic on northbound Fremont Street (which primarily consists of vehicles that have exited the Bay Bridge via both the Fremont Street and Harrison Street off-ramps). The EIR states, on p. 290, "Lane reductions along Fremont Street and Beale Street, both key arterials for Bay Bridge traffic, would exacerbate conditions at intersections that already operate at unacceptable level of service at intersections on these streets," and that "there would be heavy congestion on northbound [Fremont Street] ... at Howard Street, Mission Street, and Market Street, exacerbated by high volumes of pedestrians crossing north-south across side streets. As a result, some vehicles may shift to Main Street, which would generally operate with much less congestion." Traffic conditions on Fremont Street, along with many other streets in the Plan area, were determined in the EIR to be subject to significant, unmitigable adverse impacts. Therefore, it is reasonable to assume that the queue length on Fremont Street could increase, compared to (i) existing conditions with Plan area growth but without the public realm improvements and (ii) future conditions with Plan area growth without the public realm improvements.

Regarding the Plan's proposed changes to casual carpool unloading, p. 317 of the EIR notes (as revised herein) that "an additional drop-off area would be designated in the proposed loading pocket on the west side of Fremont Street between Howard Street and the Bay Bridge off-ramp (mid-block between Howard Street and Folsom Street), during the a.m. peak hour." On p. 318, the EIR states, "Field observations indicate that the existing casual carpool drop-off zone on both sides of Howard Street is typically less than half occupied during periods of peak use. Most drop-off activities are completed within ten seconds, clearing the zone before one full signal cycle at Fremont Street / Howard Street." These observations were made both by the EIR transportation consultant and by Planning Department staff.

Based on these observations, the EIR concludes, on p. 318, "The addition of a drop-off area on Fremont Street would offset the loss of part of the Howard Street curb space for drop-off activities, and no substantial impacts to carpool activities or traffic flow along westbound Howard Street are expected with implementation of the draft Plan." The EIR also notes that MTA could, if future conditions warrant, designate an additional casual carpool drop-off zone during the weekday a.m. peak period along the north and/or south side of Natoma Street between First Street and Fremont Street, adjacent to the new Transit Center. Therefore, no significant impact was identified with respect to changes in casual carpool drop-off conditions. Because capacity would not be exceeded, no adverse traffic impacts would be anticipated.

Comment TR-3: The multi-use pathway described in the EIR is only one option under consideration.

"In the DEIR, it references that a new multi-use pedestrian and bicycle path proposed between Howard Street and Folsom Street near Essex Street and beneath the ramp that links the Transit Center to the Bay Bridge. However, please be advised .that this is only one alternative of the Westspan multi-use path project." *(Gary Arnold, Caltrans)*

Response

The comment is noted. The multi-use pathway is described in the EIR (p. 31 and p. S-4 in the Summary) for informational purposes, but is not anticipated to result in any adverse effects, regardless of whether the Essex Street option or another option is ultimately constructed.

Comment TR-4: Is a study of Downtown-area signalized intersections feasible?

"Pg. 296, Mitigation M-TR-1m: This mitigation states that as part of a RTSOP [Regional Traffic Signalization and Operations Program] project, the MTA could conduct a study of Downtown-area traffic signal systems; however, it does not indicate what would trigger such a study. Can such a study be accomplished within the program limitations?" *(Ron Downing, GGBHTD)*

Response

The Downtown-wide traffic signal study identified in Mitigation Measure M-TR-1m is one of several potential measures that are identified in the EIR to improve future operating conditions at study intersections in the Plan area. MTA does not at present have plans to undertake such a

study, nor is such a study proposed as part of the proposed Transit Center District Plan. As is the case with a number of other mitigation measures identified in the EIR with respect to intersection operating conditions, implementation of Mitigation Measure M-TR-1m would require separate action(s) be taken and funding identified by MTA. Moreover, it is not known whether such a Downtown traffic signal systems study would identify changes that could improve operating conditions and/or avoid a significant impact at one or more study intersections. For this reason, intersection impacts were determined to be significant and unavoidable, as stated on EIR p. 296. It is noted that Chapter 7, Funding Public Improvements, of the draft Plan, proposes devoting a portion of fee revenue generated in the Plan area towards "Additional Studies and Trials of Traffic and Circulation Changes in Plan."

Comment TR-5 The project description does not analyze a proposal to convert Folsom Street to two-way traffic.

"**Page 30** - what happened to **Folsom becoming 2-way with 2-way transit service west of 2nd Street**? It was discussed in just about every plan dealing with development along Folsom for the past 20 years. Included Rincon Hill Plan, Eastern Neighborhoods, and I believe the Redevelopment Plan for this area. It is key to improving east west transit service in the areas south of Market." *(Sue Hestor, SRFG)*

Response

The commenter is correct in noting that conversion of Folsom Street to two-way operation—either for transit or for all vehicles—has been discussed in planning documents and studies over the years. Under current plans, this proposal may be considered for implementation as part of MTA's Eastern Neighborhoods Transportation Implementation Planning Study (EN TRIPS), which would make transportation improvements in various parts of the City's Eastern Neighborhoods. To date, MTA has published background reports documenting existing conditions and projected future needs with respect to various modes of travel, and the Draft Final EN TRIPS report was published in December 2011. MTA is currently in the process of developing alternative conceptual designs. However, implementation of specific changes in travel patterns, such as conversion of Folsom Street to two-way operation, would require both detailed operational analysis and environmental review of a specific Folsom Street proposal. No funding has yet been identified for these analyses. As stated in the EIR Project Description, on p. 30, the draft Plan does propose two-way operations on Folsom Street east of Second Street, as part of the proposed public realm improvements. Folsom Street west of Second Street is largely outside of the Plan area. Therefore, it was not analyzed as part of this EIR.

Comment TR-6: Future traffic will be extremely congested.

"You can already see traffic really getting snarled in the neighborhood with existing Transit Center construction, central subway, and utility relocation. With the America's Cup hopefully coming our way, please don't drive into our [Rincon Hill] neighborhood for the next two or three years." *(Jamie Whitaker)*

"The traffic implications are impossible to imagine. This document, I think, does a decent job in trying to lay them out, but you look at every single street in the area is impacted. I started to write down a few as I

was going through, you know, Steuart, Beale, Howard, Folsom, Bryant, Harrison, Mission. You've got a situation now where the Market Street Design Advisory Board is probably going to suggest that some bus lines actually move off of market in order to stop mid-block mornings and move on to Mission where possible. So that will impact that area of Mission, as well." *(Commissioner Ron Miguel)*

Response

The first comment refers to existing and future traffic conditions in the Rincon Hill neighborhood, while the second comment addresses traffic more generally. Concerning the planned America's Cup sailing races, traffic and other effects were extensively analyzed in the EIR for that project (Case No. 2010.0493E; State Clearinghouse No. 2011022040), which is available on the Planning Department website as of the time of publication of this document. That EIR concluded that the America's Cup events would result in significant and unavoidable impacts during both 2012 and 2013 at a number of intersections, including intersections in and near Rincon Hill.

Regarding traffic more generally, intersections along Folsom and Harrison Streets in Rincon Hill are analyzed in the EIR in Section IV.E, Transportation. See, in particular, Tables 17 and 18, EIR pp. 286 and 287, concerning existing and future traffic conditions. As noted by the commenter, many intersections, particularly those on First Street that serve the approach to the Bay Bridge, already operate at unacceptable levels of service in the p.m. peak hour, and traffic operations are anticipated to deteriorate in the future with growth in the Plan area and other cumulative growth.

Concerning potential future changes on Market Street, effects of any proposed change in connection with the Better Market Street planning effort (which did not begin until after the Notice of Preparation was issued for this EIR) or other plans would be subject to CEQA review at the time such changes were proposed. As of this time, no specific street change designs have been developed at a sufficient level for transportation analysis, and therefore they are not analyzed in the EIR.

Transit

Comment TR-7: Potential impacts on regional transit carriers due to increased ridership are based on incorrect assumptions.

"BART is supportive of new infill development projects near BART stations.... At the same time, the BART system was designed in the 1950's and 60's, initiated operations in 1972, and is approaching 40 years of serving downtown San Francisco, and the region. The planning horizon of the original BART system has been surpassed by a decade, and system capacity improvements will eventually be needed to alleviate constraints on projected ridership. The Metropolitan Transportation Commission's (MTC's) Transportation 2035 (T2035) regional transportation plan does not include any significant funding to enable BART to address emerging capacity constraints (as identified in the DEIR), even as BART develops plans to increase capacity and throughput. To this end, BART looks forward to collaborating

with the City, and other funding partners, to develop a successful Project with substantial benefits for the public.

"We note that the plan contains many objectives which support transit including enhanced funding of capacity for regional transit service (Objective 4.13), demand management strategies to reduce automobile use (Objective 4.15), a parking plan to encourage transit (Objective 4.16), Increased incentives to take transit (Objective 4.17), and encouragement of non-auto modes of transportation (Objective 4.18).

"However, while these stated objectives are laudable and appropriate, we are concerned that erroneous assumptions in the DEIR may understate significant impacts. In addition, the DEIR does not contain a strategy to monitor transit capacity, particularly on BART and at the Montgomery and Embarcadero Stations, over the life of the plan. Finally the DEIR does not provide adequate mitigation, in the form of a clear strategy to address the need for operating or capital improvements to mitigate impacts that the DEIR acknowledges to be attributable to the Project.

"These issues should be acknowledged and appropriately addressed in the Final EIR for the Project.

"The assumptions regarding BART service in 2030, which are the basis for the TCDP DEIR analysis, are not consistent with BART's own service plans. This is existing information, readily available in public documents including the BART Fleet Management Plan (2010) and BART service expansion assumptions contained in environmental documents such as the Silicon Valley Rapid Transit Corridor Final EIS (2010), BART to Livermore Final Program EIR (2010), eBART Final EIR (2009). Relying on erroneous assumptions, the TCDP DEIR incorrectly analyzes BART's service frequency and Transbay capacity constraints and understates our year 2030 train capacity limits. Peak hour / peak direction train throughput at the Transbay screen line should total 31 trains and be based on the following service plan:

"• Warm Springs/Berryessa to Daly City = 5 trains peak hour/direction
"• South Hayward to Daly City = 3 trains peak hour/direction
"• Pittsburg/Bay Point to SFO = 5 trains peak hour/direction
"• Pittsburg/Bay Point to Daly City = I train peak hour/direction
"• Pleasant Hill to Montgomery = 4 trains peak hour/direction
"• Dublin Pleasanton to Daly City = 5 trains peak hour/direction
"• Richmond to Daly City/Millbrae = 8 trains peak hour/direction

...

"The transit ridership forecasts identified in the Technical Appendix (2011) differs from the earlier Transit Center District Plan - Transit Network Analysis memo (AECOM, Feb. 2, 2009) in terms of East Bay corridor transit mode allocation. Overall transit ridership increased as compared to the 2009 memo, but BART's ridership decreased. What explains the discrepancy? The FEIR should identify what has changed in the analysis. " *(Val Menotti, BART)*

"Pg. 300: The ridership projections for Golden Gate Transit (GGT) buses is inconsistent with the preliminary analysis conducted by the Metropolitan Transportation [Commission] as part of the Transit Sustainability Project.

...

"Pg. 26 [of the Transportation Study]. The second paragraph explains the origin of ridership projections used for the analysis. It appears that the projections from the SFCTA travel demand model and the MTC model are not consistent. Can/should this be resolved?" *(Ron Downing, GGBHTD)*

Response

Assumptions regarding capacity for regional transit services were based on the information available at the time of commencement of the analysis. The Notice of Preparation (NOP) of the EIR was published on July 20, 2008, before the publication of the cited BART documents and the commencement of work on the MTC's Transit Sustainability Project.

Concerning the February 2009 transit memorandum, this was prepared as part of an interim submittal with respect to the EIR's transportation analysis, and included draft analyses of future transit capacity and ridership conditions. The information contained within the document is no longer up-to-date, having been superseded by the analysis presented in the Transportation Impact Study and summarized in the EIR.

Please see also the response to Comment TR-8, below.

Comment TR-8: The presentation of regional transit ridership impacts is confusing, and it appears that mitigation is required for significant capacity-related impacts to regional transit carriers.

"On pages 302 - 305, Impact TR-3, the DEIR identifies two potential transit impacts, but with different significance conclusions:

"• Transit ridership related to the Draft Plan, including street changes, would cause substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result (Significant and Unavoidable with Mitigation). DEIR, p. 302.

"• Plan induced growth would contribute almost 3 percent additional ridership to conditions on BART and AC Transit, both of which would operate with ridership in excess of capacity under 2030 without project conditions, and 6 to 7 percent additional ridership on BART Peninsula service. However, the DEIR concludes that this impact is less than significant. DEIR, p. 304.

"It is difficult for the non-expert reader to interpret these conclusions. In particular, the DEIR reports transit demand changes attributable to the Project as percentages only, rather than reporting specific ridership projections as is typical in EIR analyses of transit impacts. See Table 22, Regional Transit Peak-hour Capacity Utilization (p. 301). The Transit Center District Plan Transportation Impact Study Technical Appendix, v.1, dated September 22, 2011 is apparently the source of these percentages. However, reporting the results as percentages has the effect of understating the impacts, by depriving the reader of necessary context. For example, where total ridership on the different transit systems may be very different, expressing the results in percentages only tends to downplay large ridership increases on systems with large ridership to begin with. Relevant transit ridership and mode share information from

the Technical Appendix should be incorporated into the Final EIR for the benefit of the public and decision-makers.

"BART's analysis of the data provided in the Technical Appendix (see Attachment 1), indicates that BART is forecast to carry 55% of AM Peak Hour riders across Regional Screenlines, when comparing Existing Conditions to the 2030 Baseline, and 44% of riders across All Regional and SFMTA Screenlines. When comparing the 2030 Baseline to 2030 plus Project Conditions, BART is forecast to carry 77% of AM Peak Hour riders across Regional Screenlines, and nearly 31% of across All Regional and SFMTA Screenlines. Table 22 on p. 301 indicates that demand on BART's East Bay routes will exceed capacity. Mitigations for addressing BART capacity should be identified and a strategy set forth to achieve them.

"The DEIR concludes that the impacts of 3 percent additional BART ridership generally, and 6 to 7 percent additional ridership on BART Peninsula service, are less than significant because these increases represent less than 5 percent of total future BART ridership. DEIR, p. 304. For the cumulative impacts shown in Table 25, p. 331, the DEIR asserts that project ridership is insignificant because it would be less than 0.75% of the total growth in 2030. This 'proportionality' argument has been rejected by the courts. See *Kings County Farm Bureau v. City of Hanford*, 221 Cal. App. 3rd 692 (1990) and *Communities for a Better Environment v. Resources Agency*, 103 Cal.App4th 98 (2002). These cases hold that a project's incremental contribution to an impact cannot be dismissed because it is small in proportion to the contributions of other sources. On the contrary, the courts concluded, the 'proportionality' approach violates CEQA because the more serious conditions are due to other sources, the greater the consequences may be of adding yet another increment. Therefore, the project's small contributions should be more closely scrutinized, not less, when other sources are already creating a problem. In this case, BART's expected increase in demand without the project, in the context of capacity constraints, give rise to greater concern over the additional contribution of the project." *(Val Menotti, BART)*

"Pg. 304: The second paragraph discusses ridership increases for regional carriers. Impacts on GGT ridership needs further clarification. It states that capacity utilization would increase from 2 to 7 percent for each carrier, with GGT exceeding the 100 percent capacity utilization standard in the AM peak, resulting in a significant impact. It then goes on to state that since plan ridership would 'cause add less' (clarify?) than 5 percent to GGT capacity utilization, it would be a less-than-significant impact. Would GGT simultaneously experience significant and less-than-significant impacts?" *(Ron Downing, GGBHTD)*

Response

Regarding the commenter's statements concerning "different significance conclusions," the EIR does present differing conclusions for effects on different transit agencies. The first citation noted by the commenter, "Significant and Unavoidable with Mitigation," is impact statement TR-3, impacts on transit service, which concludes that the project would result in significant impacts on transit that could not be mitigated. The EIR text goes on to evaluate effects of the draft Plan and the public realm plan's proposed street network changes on Muni operations, which are found to be significant with respect to the 10 corridors and screenlines given in the bulleted list near the top of p. 303. The finding of significant impact is based on the fact that Plan-generated ridership "would increase capacity utilization to beyond 85 percent and/or because it would contribute more than 5 percent of the total ridership," as stated in the first paragraph on p. 303. The

5 percent threshold is used where conditions without project ridership would already exceed established capacity utilization thresholds, to determine whether the project's contribution to already degraded conditions would be significant.[12] In this way, the analysis ensures, consistent with the courts' direction in the *Kings County* and *Communities for a Better Environment* cases noted by the commenter, that the project's incremental effects are considered in light of the contributions of other past, present, and future projects to environmental conditions. The lesson of the two cases cited by the commenter (and a third case that reached a similar conclusion, *Los Angeles Unified School District v. City of Los Angeles* (1997), 58 Cal. App. 4th 1019) is that it is not acceptable under CEQA to dismiss a project's seemingly minor contribution to a cumulative impact merely on the grounds that conditions are already degraded and that the project would make little difference. Rather, it is necessary for the lead agency to evaluate, through analysis, "whether any additional effect caused by the proposed project should be considered significant," particularly when environmental conditions without the project are already adverse (*Communities for a Better Environment v. California Resources Agency* (2002), 103 Cal. App. 4th 98, 118).[13] Here, the City has done exactly this, by establishing one threshold of significance that is triggered by a project that causes an exceedance of the transit agency's adopted standard for an acceptable capacity utilization (a measure of crowding), and a second threshold of significance, *to be used only in cases where capacity utilization without project-generated ridership already exceeds the transit agency's standard.* Use of this second threshold, which the City has established as a 5 percent increase in ridership, ensures that, when environmental conditions are degraded without the project impact (i.e., the first threshold has already been crossed), there is still a means of identifying a significant impact. The 5 percent threshold reflects City planners' reasoned judgment regarding an appropriate threshold for identifying a "considerable contribution" to cumulative effects. Such a quantitative threshold must be employed, for otherwise there is no way to reach a conclusion from the analysis required under the line of cases discussed above. Indeed, the appellate court in *Communities for a Better Environment* noted that the courts' reasoning "does not mean, however, that *any* additional effect ... *necessarily* creates a significant cumulative impact; the 'one [additional] ... molecule rule' is not the law" (*Communities for a Better Environment*, 103 Cal. App. 4th 98, 120; emphasis in original).

Regarding ridership on regional transit, the commenter correctly states that BART East Bay ridership would increase due to Plan-generated growth by approximately 3 percent and BART Peninsula ridership would increase by 6 to 7 percent (see EIR p. 304). The East Bay ridership increase was determined to be less than significant because, while BART capacity utilization would exceed BART's 100 percent standard even without project ridership, the increase would be less than the 5 percent threshold noted above. For Peninsula ridership (including locations from

[12] The same 5 percent increment is used as a threshold of significance for analysis of intersections where operating conditions are degraded even before the addition of project traffic.

[13] The *Communities for a Better Environment* case did not involve a lead agency, but instead challenged the adoption by the California Resources Agency of several sections of the state CEQA Guidelines. The appellate court found, among other things, that Guidelines sections that allowed a lead agency to find a cumulative impact to be less than significant if "environmental conditions would be essentially the same whether or not the proposed project is implanted" violated CEQA because these sections would have allowed such a conclusion absent analysis of the severity of existing and cumulative conditions.

16th Street south in San Francisco), capacity utilization would increase but would reach no more than 60 percent of capacity with the addition of project ridership. Therefore, the 5 percent threshold—intended to capture the project increment only when conditions are already degraded (i.e., capacity utilization is more than 100 percent)—does not apply. Because there would be sufficient capacity on the Peninsula corridor to accommodate the additional ridership, the impact was determined to be less than significant.

The use of percentages of capacity utilization to evaluate impacts to transit ridership is a standard methodology; it does not understate impacts, nor does it deprive the reader of context, as claimed by the commenter. To the contrary, it is the use of raw ridership numbers that would deprive the reader of context. As the commenter notes, the same numerical increase on a system with small ridership might have a proportionately greater effect than on a system with large ridership. Even more important, however, is that the same numerical increase on a system with small *capacity* would have a proportionately greater effect than on a system with large *capacity*. As the ridership data presented by the commenter shows, BART has an existing peak-hour capacity (40,950) that is three times the capacity of all other regional carriers combined (13,807). Even with future increases in capacity on other carriers, BART will continue to have nearly 2.5 times the combined capacity of other regional carriers. Therefore, it would stand to reason that, as noted by the commenter, BART would carry the great majority of regional transit riders under future conditions.

The foregoing should not be taken as an attempt to downplay the fact that, as stated on p. 304 of the EIR, BART, along with AC Transit, "would operate at conditions well in excess of capacity" in the future. The great majority of this ridership, however, would be attributable to growth other than that generated by the draft Plan—that is, growth elsewhere in San Francisco and the Bay Area—and, for that reason, and specifically because "Plan ridership would amount to less than 5 percent of future ridership," the impact was determined to be less than significant, both individually and cumulatively.

In terms of reducing potential impacts to transit carriers, it is acknowledged that increasing transit capacity requires a source of funding. Please see the response to Comment TR-11 for additional discussion regarding funding of regional transit.

Concerning effects on Golden Gate Transit, as shown in Table 22, EIR p. 301, the draft Plan would result in a significant impact on Golden Gate Transit bus service in the a.m. peak hour, because the Plan-generated increase in ridership would cause capacity utilization to newly exceed 100 percent. However, as indicated in the table, in the p.m. peak hour, while capacity utilization would exceed 100 percent both without and with the addition of Plan-generated ridership, the increase attributable to Plan implementation would be less than 5 percent, and would thus be less than significant. In other words, the analysis found that Golden Gate Transit would experience significant capacity utilization impacts in the a.m. peak hour and less-than-significant capacity utilization impacts in the p.m. peak hour.

To correct an editorial error, the last sentence of the second paragraph on DEIR p. 304 is revised as follows to clarify the impact analysis (new text is double-underlined; deleted text is shown in ~~strikethrough~~):

> Plan ridership would ~~cause~~ add less than 5 percent to Golden Gate Transit capacity utilization in the p.m. peak hour, and therefore would have a less-than-significant impact on p.m. peak-hour Golden Gate Transit bus service.

Beyond ridership exceeding capacity, the EIR also finds a significant effect on Muni and regional transit operations on City streets (Golden Gate Transit and San Mateo County Transit, or SamTrans) due to anticipated increases in travel time that would result from traffic congestion (pp. 303 and 305), and a significant impact on Muni, Golden Gate Transit, and SamTrans due to the public realm plan's proposed reconfiguration of transit-only lanes on Mission Street (pp. 304 and 305). Finally, as stated on p. 305, the EIR finds a significant impact with respect to anticipated peak-hour capacity constraints at BART's Montgomery Street and Embarcadero stations (p. 305). Further discussion of this last impact is provided in the response to the ensuing Comment TR-9.

Comment TR-9: No mitigation is identified for significant impacts to BART station capacity.

"While dismissing the increased percent ridership as insignificant, the DEIR does acknowledge peak-hour capacity constraints at two stations, the Montgomery Street and Embarcadero Stations (p. 305). The document concludes that increased ridership from Plan area development would almost all go through these two stations, and thus would cause a significant and unavoidable impact on regional transit.

"A significant and unavoidable finding is not a 'free pass' under CEQA. Impacts may only be found significant and unavoidable where mitigation to avoid or reduce the impacts to less than significant levels is infeasible as defined by CEQA.[n2] The DEIR contains no discussion of potential mitigation or claims of infeasibility. Moreover, when feasible mitigation can partly reduce an impact, even though the remaining impact after such mitigation is still 'significant and unavoidable,' the EIR must address mitigation to reduce the impact to the extent feasible.

"BART has developed preliminary plans to expand station capacity, improve the train control system to enable more frequent, expand the fleet of BART cars, and expand essential yards and shops. Because funding for these investments is scarce, a number of operational strategies could also alleviate capacity constraints on an interim basis. At a minimum, the plan should call for monitoring transit capacity over the life of the plan, and prioritize capacity investments to reduce and manage the safety of the traveling public. Even if the impact would remain significant and unavoidable, these are feasible mitigations which the Final EIR should consider." *(Val Menotti, BART)*

Response

While the City of San Francisco may participate in regional transportation planning efforts, including jointly seeking funding from state and federal sources, with other regional agencies

[n2] Pub. Res. Code §§ 21061.1, 21081; CEQA Guidelines §§ 15126.2, 15126.4.

including the Metropolitan Transportation Commission, it would not be appropriate for the City or the Transbay Joint Powers Authority to monitor the capacity and use of BART stations (any more than it would be appropriate for BART to monitor San Francisco Muni ridership), except as part of a joint effort with BART. Toward that end, it is noted that the draft Plan proposes to allocate approximately $10 million in fee revenue collected within the Plan area towards "Station Capacity Improvements to Montgomery and Embarcadero BART Stations" (November 2009 draft Plan, Chapter 7, Funding Public Improvements). However, station capacity improvements to address future growth—both in the Plan area and elsewhere—are likely to require more funding than would be available from Plan-generated fees. For example, BART's *Comprehensive Station Plan* for the Embarcadero station, referenced in the EIR on p. 305, identified $27 million, in 2004 dollars, in required capacity improvements for that station alone. Therefore, feasible mitigation beyond the above-noted commitment in Plan fee funding may not be available in the context of the proposed Transit Center District Plan alone, which is why the EIR identifies effects on BART station capacity as significant and unavoidable. Regarding funding of regional transit generally, please see the response to Comment TR-11 for additional discussion.

Comment TR-10: No mitigation is identified for indirect effects on transit due to an anticipated parking shortfall.

"In addition to and beyond the impacts discussed above, the DEIR acknowledges that the project's parking supply limitations could secondarily result in further crowding and capacity issues on BART and other transit systems. DEIR, p. 324. This indirect impact is also characterized as significant and unavoidable. As stated above, the significant and unavoidable finding does not relieve the lead agency from addressing mitigation to the extent feasible." *(Val Menotti, BART)*

Response

As described on EIR p. 323, a parking shortfall could lead to increased transit use, which "would be in keeping with the City's 'Transit First' policy. The City's Transit First Policy established in the City's Charter Article 8A, Section 8A.115, provides that 'parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation.'" Therefore, the City has made a policy decision not to attempt to meet parking demand, but instead to encourage transit use. The potential indirect impact of such increased transit use would be appropriately addressed by increasing transit capacity, as and where necessary. Regarding funding of increased regional transit capacity, please see the response to Comment TR-11 for additional discussion.

Comment TR-11: The discussion of impact fees as a potential means of funding enhancement of regional transit is unclear.

"The DEIR includes Mitigation Measure TR-3e, 'Increased Funding of Regional Transit,' as a proposed mitigation measure for Impact TR-3. DEIR, pp. 308-309. MM TR-3e provides that: 'Sponsors of development projects within the Plan area could be subject to one or more fair share fees to assist in service improvements, such as through the purchase of additional transit vehicles and vessels or contributions to operating costs, as necessary to mitigate Plan impacts.'

"BART agrees with the conclusion that it is speculative at this time to presume that fees could fully offset project impacts, so that Impact TR-3 remains significant and unavoidable. However, as written in the DEIR, MM TR-3e is too vague and uncertain to satisfy the requirements of CEQA. First, it is not even clear that the impact fee will be imposed at all, as MM TR-3e is not stated as a commitment: 'Sponsors ... *could be* subject' to the fees (p. 308, italics added). Second, it is not clear which transit operators may share in the revenue if the fees are implemented: 'These fee(s) *could be* dedicated to Golden Gate Transit, North Bay ferry operators, AC Transit, BART, *and/or* additional North Bay and East Bay transit operators' (p. 309, italics added). Most important, there is no discussion of standards for allocating fee revenues among recipients, not even a commitment to allocate revenues in proportion to the impacts identified in the EIR. The determination of the recipients, generation and allocation of fees is deferred to the future. However, CEQA does not allow the formulation of mitigation measures to be deferred to a future time, unless the EIR contains specific performance standards that will guide the future determination.[n3] BART recognizes that a detailed fee program is not available at this stage. Nevertheless, once the DEIR put forward the fee proposal as a form of mitigation for Impact TR-3, decision-makers and the public must be provided with some reasonable, general description of the proposed fee program. In the Final EIR, MM TR-3e should be revised to clarify and commit to actions that meet the CEQA standard of mitigation to the extent feasible." *(Val Menotti, BART)*

"Pg. 308, Mitigations M-TR-3d and M-TR-3e: These mitigations discuss the potential to establish a fair share fee to allow for the purchase of additional transit vehicles to mitigate impacts on transit travel time and calls for the funds include 'costs to store and maintain the vehicle.' How will the one-time fee be applied to the on-going costs to store and maintain the vehicles?" *(Ron Downing, GGBHTD)*

Response

As stated in the response to Comment TR-9, above, the draft Plan proposes to allocate approximately $10 million in fee revenue collected within the Plan area towards BART station improvements at the Montgomery and Embarcadero Stations. As stated in the project description on EIR p. 7, the draft Transit Center District Plan also "includes one or more financial programs to support the Transit Center Program[footnote omitted] and other public infrastructure and amenities in the area, through the implementation of one or more new fees, taxes, or assessments that would be applied to new development." As a parallel effort to the draft Plan, the Planning Department is undertaking a "nexus study," an analysis that must be undertaken by a local agency to justify imposition of a new fee by linking the fee to the effects of development that would be subject to the fee. This study would be considered by the decision-makers (San Francisco Planning Commission and Board of Supervisors) prior to adoption of any development fee or other fee(s) that would apply to future projects in the Plan area. While the amount, nature, and allocation of any proposed new fee(s) is not known at this time, these factors, along with input from other public agencies, would be considered by the decision-makers as the draft Plan is considered for approval. It is noted, however, that new fee(s) applicable to the Plan area could address only the effects of development within the Plan area and, as noted in the response to Comment TR-8, other growth, both in San Francisco and elsewhere in the region, would be

[n3] CEQA Guidelines § 15126.4(a)(I)(B).

responsible for the great majority of growth in transit ridership, both on Muni and on regional carriers.

Comment TR-12: Golden Gate Transit midday bus storage will shift locations in 2013.

"[T]he last paragraph [on EIR p. 304] states that 'Golden Gate Transit buses also use portions of Howard Street and Folsom Street when heading to and from Golden Gate Transit's mid- day yard at Eighth and Harrison Street.' GGT's San Francisco bus yard will be relocated to a new location on Perry Street between Third and Fourth streets in 2013. Thus, any analyses concerning GGT operations in any scenario other than existing should take this into consideration.

...

"Mitigation M-TR-3c: Footnote 174 refers to GGT's move from the Eighth and Harrison yard in 2017. In fact, the move will occur in 2013.

...

"Pg. 53: Figure 10 [of the Transportation Impact Study] erroneously shows GGT buses on Howard Street between Beale and Main streets.

"Pg. 102: Figure 18 [of the Transportation Impact Study] erroneously shows GGT buses on Howard Street west of Fourth Street and on Folsom Street west of Third Street. The GGT bus yard will be relocated to Perry Street between Third and Fourth streets in 2013, so buses will no longer operate in revenue service along these street segments in the Future Transit Network." *(Ron Downing, GGBHTD)*

Response

The fact that Golden Gate Transit's midday bus storage yard will move earlier than stated in the EIR means only that impacts related to travel to and from the Eight and Harrison Street location would be less likely to occur, because less development would have occurred in the Plan area by 2013 than by 2017, reducing the amount of congestion to which Golden Gate Transit vehicles would be subject when traveling to and from the Eighth and Harrison storage facility. However, Golden Gate Transit buses and other buses will continue to use the Temporary Transbay Terminal at Howard and Beale Streets until the new Transit Center opens in 2017. It is assumed that Golden Gate Transit buses will travel on Howard and Folsom Streets east of Third/Fourth Streets to reach the Temporary Transbay Terminal, although they might use Harrison and Bryant Streets. The EIR analyzes future cumulative conditions for a horizon year of 2030, by which time Golden Gate Transit will have moved to the new midday storage yard, whether this occurs in 2013 or 2017.

To incorporate the information from the commenter, the fourth sentence of the last paragraph on DEIR p. 304 is revised as follows (new language is <u>double-underlined</u>):

> Golden Gate Transit buses also use portions of Howard Street and Folsom Street when heading to and from Golden Gate Transit's mid-day yard, at Eighth and

Harrison Streets, although they will relocate to a new storage yard beneath the Bay Bridge west approach in 2013.

Additionally, footnote 174 on DEIR p. 307 is revised as indicated by the commenter (see Section E of this Comments and Responses document, Revisions to the Draft EIR, p. C&R-121).

Comment TR-13: Mitigation for transit impacts on Mission Street should apply to regional carriers, as well as to Muni

"Pg. 306, Mitigation M-TR-3a: This mitigation discusses the installation of transit-only and queue-jump lanes as improvements for Muni operations, but GGT and SamTrans operations are not mentioned.

"Pg. 307, Mitigation M-TR-3b: This mitigation measure proposes that Muni buses have exclusive use of boarding islands on Mission Street while regional carriers use the curbside bus stops. Regional carriers could either use the transit-only center lanes between stops or use only the curb lane. It is acknowledged that using curbside stops '... may result in unsafe maneuvers for regional transit vehicles and increase the potential for collisions and conflict between buses and vehicles or bicycles,' using only the curb lane would eliminate ' ... increased potential for collisions due to merging in and out of the transit-only lanes' and 'subject regional transit vehicles to substantial travel time delays as a result of traveling in mixed-flow traffic.' Both alternatives will have significant impacts to the safe and timely operation of GGT buses. While the possibility of regional carriers using the boarding islands was mentioned in the first paragraph on page 304, it was not adequately explored. It is not clear why having both Muni and regional buses in the boarding islands would be infeasible." *(Ron Downing, GGBHTD)*

Response

Mitigation Measure –TR-3a, Installation and Operation of Transit-Only and Transit Queue-Jump Lanes, is specifically drafted to reduce or avoid significant impacts on Muni service due to traffic congestion. A separate measure, Mitigation Measure M-TR-3c, Transit Improvements on Plan Area Streets, p. 307, is intended to reduce the effects of traffic congestion on regional carriers that operate on City streets (primarily Golden Gate Transit and SamTrans). As noted on p. 308, however, "it cannot be determined whether the impact would be reduced to a less-than-significant level. Therefore, this impact is considered **significant and unavoidable**. Moreover, it is noted that, because there is finite right-of-way at Plan area intersections, adding transit-only lanes could increase congestion for other traffic and, possibly, increase transit delays." It should also be noted that Golden Gate Transit and SamTrans buses would generally benefit from any new or reconfigured transit-only lanes proposed under the draft Plan, such as along Mission Street.

Comment TR-14: Sidewalk bulb-outs must accommodate bus turning radii.

"General comment on bulb-outs: The DEIR cites the possibility of installing bulb-outs at intersection crosswalks. The District would like to assure that such modifications maintain turning radii to accommodate the minimum turning radius of GGT buses.

...

"General comment on bulb-outs: While the [Transportation Impact Study] addresses concerns for heavy vehicles (i.e., tractor-trailers) and emergency vehicles relative to the installation of bulb-outs, it does not specifically address the need to maintain minimum turning radii requirements for buses, which may be significantly more than articulated vehicles such as tractor-trailer combo and ladder trucks." *(Ron Downing, GGBHTD)*

Response

The term "heavy vehicle" is used as a general term in the Transportation Impact Study to refer to any vehicle larger than a standard automobile for personal use, and includes both trucks and buses.

The MTA Sustainable Streets Division (formerly the Department of Parking and Traffic) reviews all street and sidewalk changes, including sidewalk widening and installation of sidewalk bulb-outs. During detailed engineering of sidewalk bulb-outs, MTA staff (conferring with other City and regional agencies as appropriate, including Golden Gate Transit) would ensure that all improvement(s) would accommodate transit buses and emergency vehicles as appropriate.

Comment TR-15: The Transportation Impact Study contains an incorrect reference to a mitigation measure.

"Pg. 444: Mitigation Measure DA-TRANSIT-5 [in the Transportation Impact Study] references 'Mitigation Measure P-TRANSIT-e,' but there is no such mitigation in the document." *(Ron Downing, GGBHTD)*

Response

The comment refers to the Transportation Impact Study, a resource document used in preparation of the EIR. The reference to Mitigation Measure P-Transit-e on p. 444 of the Transportation Impact Study was a typographical error. The text should have referenced Mitigation Measure P-TRANSIT-3.

Comment TR-16: Transit routes may have to be revised in the future due to severe traffic congestion.

"We have gridlock in certain areas of South of Market right now without any of this being built. We put into place particularly rail lines and overhead wire lines that are very expensive to move. It's easy to move just a bus from one block to another, comparatively, but when we start in with overhead lines and rail lines, it becomes very, very expensive and everyone is very reluctant to start making those changes. So any transit assumptions we have for this area must be built on a flexible underlay. They have to be. They're not going to stay the same way 20 years from now, 25 years from now, and they shouldn't. They should be flexible enough to be able to be changed with the times. We were just talking, obviously, about the Corridor Plan, Fourth Street, and the streets that surround it, and the cross streets there and what happens on Fourth in the Central Corridor are going to affect this area, they have to work in conjunction with each other. And that has to be flexible enough to work 10 years from now when we have a little better idea of how much of this that is planned for here, or studied here, will actually start to be built." *(Commissioner Ron Miguel)*

Response

The transit analysis in the EIR relies on existing and already planned Muni operations. Muni serves the Plan area with several bus lines on which electric trolleys operate. These include the 5-Fulton, 14-Mission, and 41-Union, all of which operate within the Plan area; the 6-Parnassus, 21-Hayes, and 31-Balboa, which operate on Market Street, as does the F-Market streetcar; and the 30-Stockton and 45-Union/Stockton, which operate on Third and Fourth Streets, west of the Plan area. The 5-Fulton and 41-Union currently serve the Temporary Transbay Terminal. As noted by the commenter, in the future bus routes may be modified and/or street configurations redesigned so that transit avoids or is insulated from traffic congestion. However, any such future action would be subject to separate environmental review at the time proposed. It is noted that electric trolley coaches provide benefits that counteract their relative lack of flexibility in routing compared to diesel coaches, foremost of which are improved air quality, lower noise levels, and greater durability.

Pedestrians

Comment TR-17: Pedestrian access to parks and open spaces should be analyzed.

"Please review the pedestrian experience proposed in the plan to access open spaces, particularly Recreation and Parks Department Open Spaces, using the anticipated changes in population, to assess the proposed transit tower and existing public open spaces. Please describe and analyze those patterns of use and routes anticipated and the design of these connections for safety and pedestrian access." *(Karen Mauney-Brodek, San Francisco Recreation and Park Department)*

Response

As stated on EIR p. 469 in the Shadow section and on p. 530 in the Recreation and Public Space section, there are no Recreation and Park Department parks or open spaces in the Plan area. The nearest Recreation and Park Department facilities are Justin Herman Plaza, one block east of the Plan area at the foot of Market Street; South Park, between Bryant and Brannan Streets and between Second and Third Streets, approximately two blocks south of the Plan area's southern boundary; Sue Bierman Park and Maritime Plaza, each about two blocks north of the Plan area between Washington and Clay Streets just west of the Embarcadero; Union Square, on the block bounded by Powell, Post, Stockton, and Geary Streets, about one-quarter mile west of the Plan area; and St. Mary's Square, between Sacramento and California Streets and between Grant Avenue and Kearny Street, about one-quarter mile northwest of the Plan area. Of these parks, South Park, St. Mary's Square, and Sue Bierman Park have playground equipment (newly added at the last of the three), while none of these six parks has active recreational facilities such as soccer or ball fields. Therefore, much of the activity at the nearest parks is limited to "passive" use, such as sitting, picnicking, and walking, although, as noted on EIR p. 520, St. Mary's Square, and Portsmouth Square to the north, are used for early morning exercise, often by nearby residents. The City parks nearest the Plan area that are equipped with a playing fields are Victoria Manolo Draves Park on Folsom Street near Seventh Street and North Beach/Joe DiMaggio Playground at Columbus Avenue and Greenwich Street in North Beach.

Because there are no City parks within the Plan area, access to Recreation and Park Department facilities would entail traveling outside the Plan area by Plan area residents and workers. The lack of City parks in the Plan area, particularly those with facilities for active use, also means that there would not be any single park that would be anticipated to be the most heavily used by Plan area residents and workers. Although Justin Herman Plaza is the closest City park, the seating facilities that it offers, particularly for workers lunching at midday, also would be available within the Plan area in numerous privately owned, publicly accessible open spaces, as well as the new City Park on top of the Transit Center. Because no single City park would be a major draw for Plan area residents or workers, it is not anticipated that the Plan would result in a substantial increase in travel to any of the nearby City parks, such that a safety hazard would arise.

Within the Plan area itself, as stated in the Project Description (p. 8), one of the draft Plan's fundamental core goals is, "Create a framework for a network of public streets and open spaces that support the transit system, and provides a wide variety of public amenities and a world-class pedestrian experience." For example, the draft Plan proposes the widening of sidewalks, the removal or reconfiguration of on-street parking and/or loading; the closure of one or more streets and alleys to general automobile traffic; installation of traffic-calming mechanisms; removal, addition or reconfiguration of auto travel lanes; conversion of one or more one-way streets into two-way operations; and dedication of transit-only lanes and delineation of pedestrian areas, as stated on EIR p. 27. Therefore, it can be expected that the pedestrian experience within the Plan area would be improved, compared to existing conditions.

Noise and Vibration

Comment [NO-1]

"Vibration: Impacts to vibration-sensitive equipment, which could have significant repercussions, are left out of the impact analysis in the Draft EIR without explanation. Also, the effectiveness of the Draft EIR's mitigation measure to 'limit pile driving' is unexplained and unknown. Lastly, data presented in the Draft EIR indicate that pile-driving during Tower construction could result in significant impacts, but no mitigation is proposed.

...

"Vibration Impacts

"With respect to construction-related vibration, the Final EIR should include an analysis of impacts to sensitive equipment, explain mitigation for Plan impacts with greater detail, and propose mitigation for impacts from Tower construction.

"The Draft EIR recognizes the potential for significant impact of construction-related vibration on humans and structures, noting on page 365, for example, that such vibration 'could result in harm to individuals and/or surrounding buildings.' It also recognizes '[s]ensitive receptors for vibration' on page 344, which include 'structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment.'

"The Draft EIR's analysis of impacts from vibration and proposed mitigation are presented in impacts NO-3, NO-5, and CP-5. To mitigate Plan-related vibration generally, the Draft EIR proposes mitigation measure M-NO-2a. That mitigation measure, entitled 'Noise Control Measures During Pile Driving,' consists of measures entirely specific to noise, except for the general requirement that project sponsors 'shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring use.' For Plan-related impacts to cultural resources, the Draft EIR also proposes mitigation measures M-CP-5a and M-CP-5b (the Draft EIR actually references M-CP-3b and M-CP-3c, but this reference appears to be in error), which require contractors to undertake best practices and to conduct pre-construction surveys and monitoring of historical resources within 125 feet of proposed construction. The Draft EIR proposes no mitigation for vibration impacts associated with Tower construction. The Draft EIR concludes that vibration impacts associated with the Plan are significant and unavoidable, while the impacts associated with the Tower are less than significant.

"CEQA requires that an EIR propose and describe mitigation measures to minimize the significant environmental effects identified in the EIR, even where the effects cannot be reduced to a level of insignificance. 14 C.C.R. §15126.2(b). The measures to mitigate vibration impacts as presented in the Draft EIR fall short of CEQA's requirements in several respects. First, although the Draft EIR identifies vibration-sensitive equipment as a sensitive receptor for vibration, impacts to such equipment are left out of the impact analysis without explanation. Notably, under CEQA, the significance of an impact on the physical environment may depend on social or economic factors beyond the physical change in the environment. 14 C.C.R. § 15131. Because damage to BlackRock's sensitive equipment could, despite BlackRock's business continuity procedures, result in large and adverse economic impacts, the potential to result in such damage should be evaluated in the EIR, and if found to be appreciable, mitigation should be proposed.

"Second, mitigation measure M-NO-2a does not adequately explain how pile driving will be limited, and how such limitation could result in the least disturbance to neighboring use. Under CEQA, mitigation measures must be described with sufficient definition and detail; measures are inadequate where they are so undefined that it is impossible to gauge their effectiveness. Here, it is impossible to gauge the effectiveness of the measure to 'limit' pile driving from the description provided. As a result, additional detail is needed.

"Finally, the Draft EIR does not include support for the conclusion in impact NO-5 that sensitive uses located greater than 82.5 feet away from the Tower site will not be significantly impacted by construction-related vibration. To the contrary, Table 30, located on page 363 of the Draft EIR, suggests that significant impact will occur at distances of 82.5 feet. Specifically, at 82.5 feet from a pile driver at the upper range, PPV is measured at 0.265 and RMS is measured at 106, both of which measurements greatly exceed the thresholds of significance (0.2 PPV and 80 RMS, respectively) given on page 353 for impacts to structures and humans. Given that the impact could be potentially significant, the EIR should propose mitigation. By way of comparison, the Transit Terminal EIR proposed mitigation for vibration associated with pile driving, which included the requirement that, '[a]t a minimum, processes such as pile driving would be prohibited at distances less than 250 feet from residences.' Transit Terminal EIR, at 5-214.

"In light of these observations, we recommend that the Final EIR provide an analysis of sensitive equipment, provide more detail on the mitigation measure requirement to limit pile driving, and reclassify impact NO-5 to 'potentially significant and propose measures to mitigate the impact. If the EIR

concludes that construction-related vibration could result in a significant impact by damaging sensitive equipment, then it should propose mitigation measures analogous to M-CP-5a and M-CP- 5b, which should incorporate requirements to use appropriate best practices and other feasible means into construction specifications and which should also involve surveys and monitoring. The requirement in M-NO-2a to limit pile driving should also involve incorporation of appropriate best practices and other appropriate measures into construction specifications." *(Thomas L. Bain, BlackRock)*

Response

Equipment that is particularly sensitive to vibration includes such things as very sensitive manufacturing or research equipment such as, for example, high-resolution lithography equipment and electron microscopes.[14] This category of equipment does not include typical office-based computing and communication equipment. A typical office use is not considered highly sensitive to vibration, and is classified by the Federal Transit Administration at the low end of uses that are sensitive to vibration.[15] EIR Table 30, p. 363, indicates the potential for building damage at vibration levels in excess of 0.2 inches per second, peak particle velocity (PPV), but such damage would be expected only in buildings extremely susceptible to vibration-caused damage, such as unreinforced masonry (i.e., brick) structures and in non-engineered timber and masonry buildings. It is for this reason that the EIR includes Mitigation Measures M-CP-5a and M-CP-5b, p. 270, to minimize damage to historic buildings. By contrast, a reinforced concrete or steel-frame building, such as the commenter's building at 400 Howard Street, would not be anticipated to sustain structural damage at vibration levels of less than 0.5 PPV.[16] As indicated in Table 30, even the upper range of pile driving vibration at a distance of 82.5 feet would produce far less vibration than 0.5 PPV. The 400 Howard Street building, which is located on Howard Street between First and Second Street, is within 82.5 feet (i.e., the distance across Fremont Street) of one proposed new building in the Plan area, at 181 Fremont Street. Assuming this building is pile-supported, vibration at the 400 Howard Street building would not be expected to exceed 0.265 PPV at the maximum vibration from pile driving. The 400 Howard Street building is more than 200 feet from the site of the proposed Transit Tower; therefore, construction-generated vibration levels from the Transit Tower would be anticipated to be less than those from the proposed building across Fremont Street. It is noted that 400 Howard Street, the third of the three Foundry Square buildings to be constructed to date at the intersection of First and Howard Streets, was built across the street from each of the two other Foundry Square buildings without causing apparent structural damage. Moreover, it is noted that pile-driving is commonly used in projects in downtown San Francisco without undue incident.

To ensure that potential impacts to historical resources from vibration during construction of the Transit Tower are reduced to a less-than-significant level, the following revisions are made to the

14 Federal Transit Administration, Office of Planning and Environment, *Transit Noise and Vibration Impact Assessment*, May 2006; p. 7-5. Available on the internet at: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Reviewed January 31, 2012.
15 Ibid; p. 8-3.
16 Ibid; p. 12-13.

beginning of EIR p. 367: (new text is double underlined; deleted text is indicated by ~~strikethrough~~):

> Concerning vibration, because there are no sensitive uses closer than across the street (i.e., greater than 82.5 feet) from the Transit Tower site, vibration impacts would be anticipated to be less than significant, as described in Impact NO-3, except for potential impacts to historical resources, for which Mitigation Measures M-CP-5a and M-CP-5b would reduce impacts to a less-than-significant level.
>
> *Mitigation Measures*
>
> **Implement Mitigation Measure M-NO-2a, Noise Control Measures for Pile Driving, ~~and~~ Mitigation Measure M-NO-2b, General Construction Noise Control Measures, Mitigation Measure M-CP-5a, Construction Best Practices for Historical Resources, p. 270, and Mitigation Measure and M-CP-5b, Construction Monitoring Program for Historical Resources, p. 270.**
>
> Level of Significance after Mitigation
>
> With implementation of Mitigation Measures M-NO-2a, ~~and~~ M-NO-2b, M-CP-5a, and M-CP-5b, project-specific construction noise and vibration impacts would be reduced to a less-than –significant level.

Concerning potential economic loss due to business interruption, this would be a potential socioeconomic impact with no associated significant adverse physical effects, and therefore would not be considered an indication of a substantial adverse physical effect on the environment that would rise to the level of significance under CEQA.

Regarding Mitigation Measure M-NO-2a, Noise Control Measures During Pile Driving, this measure expressly provides for the use of plywood noise barriers, use of "quiet" pile-driving techniques, monitoring of noise levels, and selection of methods to minimize pile-driving noise to neighboring uses, all to be employed as feasible, along with other feasible strategies recommended by a qualified acoustical consultant. Despite these measures, the EIR concludes, on p. 363, that "certain uses in close proximity to construction sites could, depending on the source and nature of the vibration, experience construction-related vibration that would be considered **significant and unavoidable**" (emphasis in original).

Regarding the mitigation measure in the EIR for the Transbay Terminal, Caltrain Downtown Extension, and Transbay Redevelopment Project to prohibit pile-driving within 250 feet of residential uses, this measure is considered infeasible, as it could preclude substantial development on many sites in the Plan area, including the Transit Tower, the site of which is across Fremont Street from the Millennium Tower residential building.

Air Quality

Comment AQ-1: Recycled water must be used in construction dust control.

"Page 383 (San Francisco Dust Control Ordinance):

"Non-potable Water Use for Dust Control and Soil Compaction - Non-potable water must be used for dust control and soil compaction activities during project construction as required by Ordinance 175-91. The SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant that provides recycled water for these activities at no charge. For more information please contact (415) 695-7358. Information on Ordinance 175-91 is available at the following webpage: http://sfwater.org/index.aspx?page=477." *(Irina Torrey, San Francisco Public Utilities Commission)*

Response

The requirement for the use of non-potable water in construction dust control is noted on EIR p. 383, which states, "Reclaimed water must be used if required by Article 21, Section 1100 et seq. of the San Francisco Public Works Code. If not required, reclaimed water should be used whenever possible."

Comment AQ-2: Traffic must be reduced to reduce air pollution.

"Air quality is my big concern and I think that there will always be a concern with the Bay Bridge outside my window, literally, and more parking spaces being proposed for projects like 8 Washington; I think there are 400 some odd parking spots there. I think there are tools to mitigate the traffic, that we just need to find some leaders politically to consider traffic, the congestion charge, a pilot at least, and give some folks some incentive to not be driving downtown, at least not to be leaving all at once, but between 3:00 p.m. and 7:00 p.m. So that's my main comment... I support -- well, this EIR looks fine to me; I just hope our politicians can embrace trying congestion fees to mitigate the air pollution." *(Jamie Whitaker)*

Response

The commenter makes suggestions concerning potential means of reducing traffic impacts in the Plan area and elsewhere in Downtown San Francisco. In particular, the commenter suggests imposition of a congestion charge on drivers who travel at periods of peak traffic volumes. In December 2010, the San Francisco County Transportation Authority (SFCTA) approved a preliminary report on this concept and authorized further study of potential future implementation. According to the SFCTA website, no action is likely to be taken on implementing such a program, if authorized, before 2015.[17]

[17] San Francisco County Transportation Authority, "Mobility, Access and Pricing Study" webpage. http://www.sfcta.org/content/view/302/148. Reviewed February 1, 2012.

Shadow and Wind

Comment SH-1: Individual development projects will require project-specific shadow analyses.

"As the Report indicates, several RPD properties are potentially impacted by the proposed plan and transit center. These properties include Chinese Recreation Center, Union Square, Portsmouth Square, St. Mary's Square, Woh Hei Yuen Park, Boeddeker Park, Gene Friend Recreation Center (aka 'SOMA Recreation Center'), South Park, Sue Bierman Park, Justin Herman Plaza, Maritime Park, Huntington Park, and Willie 'Woo Woo' Wong Playground.

Shadow

"The analysis provided within the DEIR for CEQA analysis has made two impact findings of Significant and Unavoidable shadow impacts to parks under the jurisdiction of the Recreation and Parks Department in the plan.

"Separate from the CEQA process, as the DEIR notes, the proposed plan, the proposed tower and other proposed projects may require review and necessary approvals as per Section 295 of the City Planning Code, which addresses shadow on parks under the jurisdiction of the Recreation and Parks Department. All projects in San Francisco which include new buildings over 40 feet in height and shadow or could shadow properties are subject to Section 295 requirements and analysis. This may require the Planning Commission and the Recreation and Parks Department to make findings and amend the Absolute Cumulative Limits for one or more parks.

"As has been discussed in previous hearings, it is unclear which projects or developments would be realized and at what time in the future depending on available financing and funding. At that time, each project presented for consideration must define the extent of shadow on each park affected for detailed and full analysis. It should include existing shadow on each park at that time including an analysis of both the quality and character of the shadow and the shadow portrayed on the park's existing topography and major features including buildings and other facilities. Though facilities may change over time, it is important to understand the current impacts with current topography and facilities." *(Karen Mauney-Brodek, San Francisco Recreation and Park Department)*

Response

The comment summarizes the review process that would be required for each subsequent development project in the Plan area pursuant to Section 295 of the *Planning Code*. This process is set forth at the bottom of EIR p. 467. As described on EIR p. 471, the analysis in the EIR addresses the effects of several potential future Plan area buildings at 500 feet in height or greater. This analysis, under Impact SH-1, includes the effects of all potential future buildings in the Plan area that would cast shadow on parks covered by Section 295. As noted by the commenter, individual building effects would be analyzed, both with respect to significant impacts under CEQA and in compliance with Section 295, at the time an individual project is proposed. (The analysis of the proposed Transit Tower under Impact SH-2, EIR p. 523, includes this project-specific detail for CEQA purposes.)

Comment SH-2: How would increasing the height limit on the Golden Gate University site affect the EIR analysis?

"**Page 18** - paragraph re shifting development zone 10 years in the future if no development taller than 700' is built. How would this occur? Is it reflected in the various analyses (e.g. shadows) in this DEIR?" *(Sue Hestor, on behalf of SFRG)*

"The Draft Transit Center District Plan dated November 2009 (the 'Draft Plan') provides that the Golden Gate University property located at 536 Mission Street (the 'GGU Property') could be rezoned in the future from the currently proposed 700-foot height district to an 850-foot height district....

...

"Sarah Jones of Environmental Planning has confirmed that programmatic level impacts would be within the same order of magnitude if an 850-foot tower were ultimately built on the GGU Property rather than the First and Mission site because there would only be one 850 foot tower in the Plan Area. As to potential project-specific impacts, shadow impacts have already been identified in the DEIR as significant and unavoidable so there could not be a new significant impact, though the location of the shadow might vary (see page 470 of the DEIR). Potential wind impacts are identified in the DEIR as less-than-significant with mitigation (see page 462 of the DEIR). Mitigation Measure M-WI-2 requires that additional wind-tunnel testing be performed for the future tower sites, including the GGU Property, and if the results of that testing were to identify potential adverse impacts, additional mitigation testing would be required (i.e. changes to the tower design) to reduce the impact to a less-than-significant level. That mitigation measure would be required to be implemented regardless of whether the tower height is 700 feet or 850 feet.

"Based on the foregoing, we have concluded that while additional wind and shadow analysis would be appropriate if the GGU Property were rezoned to an 850-foot height district, a taller building alone would not trigger a subsequent or supplemental EIR because there would not be a new significant impact or a substantial increase in the severity of a previously identified significant impact (see CEQA Guidelines Section 15162). We are writing to request your confirmation of our understanding. Thank you in advance for your courtesy. *(Caroline A. Guibert, on behalf of Golden Gate University)*

Response

The commenter representing Golden Gate University correctly notes that Mitigation Measure M-WI-2 requires that specific attention be paid to potential wind impacts of any tall building proposed for the Golden Gate University site, both with respect to pedestrian-level winds at grade and winds on the City Park open space atop the new Transit Center that is currently under construction. This measure was identified in response to the potential impacts on winds from the proposed Transit Tower and more than 10 other potential projects on development sites in the Plan area, all of which were included in the wind analysis for the draft Plan. The mitigation measure states, in part, "If wind-tunnel testing identifies adverse impacts, the project sponsor(s) shall conduct additional mitigation testing to resolve impacts to the maximum degree possible and to the satisfaction of Planning Department staff. Design features could include, but not be limited to, setting a tower atop a podium, which can interfere with "downwash" of winds from

higher elevations toward the ground; the use of setbacks on tower facades, particularly those facades facing into prevailing winds, which can have similar results; using chamfered and/or rounded corners to minimize the acceleration of upper-level winds as they round corners; façade articulation; and avoiding the placement of large, unbroken facades into prevailing winds." Because *Planning Code* Section 148 prohibits approval of a project that would create a new wind-hazard exceedance at pedestrian level, and because this measure explicitly calls for Planning Department staff to review potential wind impacts on City Park and for a potential project to "resolve impacts to the maximum degree possible," this measure would reduce the potential impact to a less-than-significant level.

With regard to shadow, the comment correctly states that a building-specific shadow study would be required for a high-rise building proposed at the Golden Gate University site, as must be undertaken in compliance with *Planning Code* Section 295. Like the wind analysis, the shadow analysis described impacts from the proposed Transit Tower and other potential projects on development sites in the Plan area. Unlike wind impacts, which are a function of building height and massing and the interplay of nearby buildings with one another, shadows increase in length in direct proportion to the height of the building(s) casting the shadow. However, shadow from an existing building can preclude a new building from casting any new shadow on a particular open space, if the two buildings are in line with the sun angle towards the open space at the time the new shadow would otherwise be cast. For example, absent any other new development, a building approximately 470 feet tall on the Golden Gate University site (allowable under existing zoning, as the existing height limit on this site is 550 feet) could cast new shadow on Union Square. On the other hand, if the Transit Tower as proposed is completed before development on the Golden Gate University site, some of the new shadow that the Golden Gate University building would otherwise cast on Union Square would already be cast by the Transit Tower, and would, therefore, not be considered new shadow. Thus, while it is true that the EIR identified a significant, unavoidable shadow impact from potential future Plan area development, the individual impacts of a particular building would have to be analyzed, and the conclusions regarding those impacts would be dependent, to some extent, on the existing setting at the time the building was evaluated under Section 295.

Concerning the height limit on the Golden Gate University site, as indicated in Figure 3, EIR p. 14 (which is taken from the draft Plan), that site is proposed under the draft Plan for a height limit of 700 feet. Any potential future increase in the height limit on that site, if proposed, would be processed as for any proposed change in the *Planning Code*, including its height and bulk maps: environmental review would be conducted and the proposal would be reviewed by the Planning Commission and, if recommended favorably, would be acted upon by the Board of Supervisors. As to the nature of environmental review required, it would be speculative to draw conclusions on that matter at this time, as it is not possible to know what other future changes in circumstances might have occurred by the time such a rezoning proposal were to be considered.

Comment SH-3: The draft Plan would violate Section 295 of the Planning Code.

> *"HOW DO YOU PROPOSE TO UNDO THE VOTE OF SAN FRANCISCO VOTERS WHO ADOPTED THE SHADOW LIMITATIONS OF PROPOSITION K* - **the legal foundation for Planning Code shadow limits? Do you have LEGAL clearance for a mere change in 'policy language?'**

"What modifications would be necessary if the public does not vote to change the terms of Prop K?

...

"**Page 66** - Proposition K Planning Code 295 - see comment above. Proposition K is VOTER-ADOPTED POLICY. City voters did NOT give Rec Park the ability to collude with the Planning Commission to violate the provisions the voters had ADOPTED. In the months leading to Prop K being put on the ballot there was substantial controversy over shadows being added to UNION SQUARE, to PORTSMOUTH SQUARE and the CHINESE PLAYGROUND. A professional study was done to define the base line - the amount of existing shadow on each affected park. But the LIMITS were established by the VOTERS. **What plan does the Department have to present amending Prop K to the voters at the next election?**

...

"SHADOWS

"**As is set out on page 3** [of the commenter's letter], **Prop K was adopted BY THE VOTERS OF SAN FRANCISCO and can only be amended BY THE VOTERS OF SAN FRANCISCO. The Rec Park Commission and the Planning Commission cannot amend the shadow limitations of Prop K.**

...

"**Page 520** - the first full paragraph appears to be a major policy change and should be labeled to draw attention to itself. SFRG does not agree that the Planning Commission and Rec Park have POWER to amend a vote of the citizens of San Francisco. These are SIGNIFICANT and UNAVOIDABLE IMPACTS and cannot be defined away." *(Sue Hestor, on behalf of SFRG)*

"[U]nlike other speakers, I care about Prop. K and the shadows go to Portsmouth Square, and if you are going to throw out the vote of the people, say you're going to put it on the ballot, don't interpret it away. Prop. K was voted on by the citizens of San Francisco and it limited shadow." *(Sue Hestor)*

"[T]he issue of [Prop. K] is something which continues to puzzle me and I think it puts a very unusual burden on this Commission to continue to grapple with an issue which I do not believe we fully understand. There are all the right reasons to look at [Proposition K] ... with respect to the public benefit we have to judge on, but I do think we need to have an independent, clear discussion about what it is we're doing. That is a legal issue, that is a historic planning issue, the voter approved initiative,... And I personally am troubled by it because I don't have a clear idea, really, what I am doing." *(Commissioner Kathrin Moore)*

Response

The commenter raises a policy issue regarding the implementation of Proposition K and Section 295 of the *Planning Code*. The EIR evaluates the physical impacts of development that could occur pursuant to the draft Plan, including the shadow impacts of such development, and finds that if this development were to occur the shadow impacts would impair the use and enjoyment of public spaces and would therefore result in a significant impact. The ability of the Planning Commission and Recreation and Park Commission to change the Absolute Cumulative Limit on affected parks has no bearing on the analysis of physical effects of shadow.

As stated on p. 466 of the EIR (and revised in Section E of this document, Revisions to the DEIR, to correct the date of adoption), Section 295 of the *Planning Code* was "adopted through voter approval of Proposition K in November 1984 to protect certain public open spaces from shadowing by new structures." This section states, in pertinent part, that the Planning Commission, following receipt of comment from the Recreation and Park Department and its commission, and following a public hearing, "shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant" (Section 295(b)). Section 295(c) states, "The City Planning Commission and the Recreation and Park Commission, after a joint meeting, shall adopt criteria for the implementation of the provisions of this Section." As stated on EIR p. 468, "In 1989, the two Commissions adopted shadow criteria for 14 downtown parks, including an Absolute Cumulative Limit for new shadow for each open space and qualitative criteria for assessing new shadow." The Absolute Cumulative Limit adopted by the two commissions for each of the 14 parks set forth the only numerical standards for evaluation of shadow impacts; there are no quantitative standards contained within the text of Section 295 itself and this was left to the interpretation of the implementing Commissions in their joint administration of the voters' will. Contrary to the commenter's assertion, no explicit quantitative limits on parks were established by Proposition K which created Section 295. The measure passed by the voters, including Section 295, specifically prohibited shadow impacts that are both "significant" and "adverse." The interpretation of these qualitative terms was left to the interpretation of the Planning and Recreation and Park Commissions, which subsequently adopted quantitative limits for certain specified parks.

As detailed in EIR Section IV.J, Shadow, these quantitative criteria have, on occasion, been adjusted by joint action of the Planning and Recreation and Park Commissions, as the quantitative limits were not imposed by Proposition K but rather by the Commissions in interpreting the qualitative directive from the voters. Specifically, the Absolute Cumulative Limit has been increased three times for Boeddeker Park. (It has also been increased for Civic Center Plaza, which would not be affected by Plan area buildings.) Additionally, new shadow has been permitted—within the established Absolute Cumulative Limits—on Union Square and Justin Herman Plaza. As noted in Table 41 on EIR p. 508, five other parks that could be affected by Plan

area development have an Absolute Cumulative Limit of 0.0% (i.e., no new shadow is permitted). These parks are St. Mary's Square, Portsmouth Square, Willie "Woo Woo" Wong Playground (formerly Chinese Playground), Maritime Plaza, and Chinese Recreation Center. No Absolute Cumulative Limit has been established for Woh Hei Yuen Park.[18]

Under procedures for implementation of *Planning Code* Section 295, any project that would cast new shadow on a park subject to Section 295 during the applicable hours (one hour after sunrise to one hour before sunset) must undergo both a quantitative evaluation to determine the amount of new shadow (measured in shadow-foot-hours) and a qualitative evaluation of the effects of shadow on the park, to determine whether use of the park would be adversely affected in a significant manner. For the 14 downtown parks for which an Absolute Cumulative Limit has been established, if the quantitative evaluation determines that new shadow from an individual building project would exceed the amount permitted under the Absolute Cumulative Limit, the City's procedures require the Absolute Cumulative Limit to be increased to accommodate the project in question. This includes cases in which the Absolute Cumulative Limit is zero, as it is for most of the 14 parks. In these instances, approval would likewise require that the Absolute Cumulative Limit be increased to accommodate the project. Eight of the nine Section 295 parks that would be affected by shadow from Plan area buildings have an established Absolute Cumulative Limit. As noted above, the one that does not have an Absolute Cumulative Limit is Woh Hei Yuen Park. Effects on parks for which no Absolute Cumulative Limit exists are typically analyzed on a case-by-case basis, using the same procedure for quantification of the amount of net new shadow and a qualitative evaluation of the effects of the shadow.

Because the analysis in EIR Section IV.J, Shadow, explains that the combined net new shadow from all Plan area development assumed in the EIR would exceed the Absolute Cumulative Limit for eight parks, the EIR correctly states on p. 520 that "approval of the Plan area buildings would require that the Absolute Cumulative Limit be increased on eight downtown parks," and therefore the EIR finds that the impact would be significant and unavoidable. (Evaluation would also have to be made of the shadow effects on Woh Hei Yuen Park.)

As noted, the decision as to whether to increase the Absolute Cumulative Limit is made as part of the consideration of project approval under Section 295. Because this EIR is a program EIR with respect to the proposed Transit Center District Plan and a project-specific analysis of the

[18] A project was approved in 2001 at 350 Bush Street (Case No. 2000.541), for a 19-story, approximately 353,000-square-foot office building with ground-floor retail space, that would add new shadow on St. Mary's Square. However, this project also would increase the size of St. Mary's Square by creating publicly accessible space on the roof of a related five-story building at 500 Pine Street, adjacent to St. Mary's Square, and dedicating that open space to the City. The net result would be a decrease in the percentage of shadow coverage of the enlarged St. Mary's Square, compared to the percentage of shadow coverage on the existing park. Because the 350 Bush Street project was dependent on the expansion of St. Mary's Square in conjunction with the 500 Pine Street project, and because neither has been built, the shadow effect of the 350 Bush Street project is not considered in the EIR. If the 350 Bush Street project were to be constructed, it would reduce the net addition of new shadow under the draft Plan, and the net addition for the proposed Transit Tower, because the 350 Bush Street project site is directly in line with shadow that would be cast on St. Mary's Square by the Transit Tower, as well as by a proposed project at 50 First Street. Thus, the first of these three projects to be constructed would add new shadow to St. Mary's Square and would diminish the amount of new shadow that would be cast on St. Mary's Square by either of the other two projects.

proposed Transit Tower, the only ensuing approval action under Section 295 would be for the proposed Transit Tower, as stated on EIR p. 50. As stated in footnote 40 on p. 50, "Other buildings that would cast shadow on Recreation and Park Department properties would also require modification of the Absolute Cumulative Limit for one or more parks. However, those subsequent projects would require their own project-specific CEQA analysis and would be considered for approval—including consideration of shadow limits—separately from the Transit Center District Plan and the Transit Tower." As has been the case for other instances in which an Absolute Cumulative Limit has been revised, an increase in the Absolute Cumulative Limit for one or more of the parks affected by the proposed Transit Tower (and, subsequently, by other buildings in the Plan area) would be made jointly by the Planning and Recreation and Park Commissions.

It is noted that the Draft EIR, on p. 524, overstated the number of parks for which the Absolute Cumulative Limit would have to be increased to permit approval of the proposed Transit Tower. Because Woh Hei Yuen Park has no established Absolute Cumulative Limit, approval of the Transit Tower would require that the Absolute Cumulative Limit be increased on six, not seven, parks—Portsmouth Square, St. Mary's Square, Justin Herman Plaza, Chinese Recreation Center, Maritime Plaza, and Boeddeker Park. (This revision is made to the EIR text in Section E of this Comments and Responses document, Revisions to the Draft EIR, p. C&R-121.) Union Square has sufficient available shadow remaining within its Absolute Cumulative Limit to allow for the shadow from the Transit Tower. However, approval of the Transit Tower would require a finding by the Planning Commission, upon the advice of the Recreation and Park Commission or General Manager, that project shadow would not adversely affect the use of Union Square or Woh Hei Yuen Park.

Comment SH-4: The shadow analysis should also include effects of fog and wind.

"The combination of SHADOW AND FOG - CLIMATE - is totally ignored. San Francisco has a setting where WIND coming in at the same time an area is in SHADOW makes the CLIMATE miserable for those affected. San Francisco needs to address our unique setting where shadows in the summer do not give respite from heat, but can chill one to the bone and make things quite unpleasant. The failure to even STATE that is hard to understand. This affects 'comfort levels.'

"Continued reliance SOLELY on a wind tunnel, which does not factor in shadows and reduced temperatures is not adequate for San Francisco. Particularly when the setting is not super highrise buildings." *(Sue Hestor, on behalf of SFRG)*

Response

The effects of fog on weather conditions in San Francisco, and particularly on pedestrian comfort, are acknowledged on EIR p. 464, in the wind analysis. As stated there, "The correlation between fog and wind speed is implicit in the actual wind speed – frequency distributions used in the analysis methodology; that is, fog is more likely to be present during the summer, when westerly winds prevail, whereas there is less chance of fog during strong winter storm winds. However,

because the wind test results represent conditions over a full year, it is not possible to confirm the presence or absence of fog at a given time during the year." Concerning fog and shadow, because the sun is lowest on the horizon at the winter solstice in December, the longest shadows occur around that time, in late fall and early winter. Fog's greatest influence in San Francisco is in the summer, particularly in the early morning and late afternoon (although, as any resident knows, fog sometimes hangs over the City for days at a time in summer). As described in Section IV.J, Shadow, with the exception of Justin Herman Plaza, net new shadow on Section 295 parks from Plan area buildings would generally be greatest in the early morning hours, mostly in fall and winter, except on Union Square and Boeddeker Park, where shadow would occur in the early morning in spring and summer. At Justin Herman Plaza, net new shadow would fall on the park in the midday in late fall and early winter. Thus, the majority of new shadow from Plan area buildings would occur during times of the day and year less likely to also be subject to fog. Moreover, in foggy conditions, the effect of shadow would be reduced because sunlight is obscured.

Regarding wind-tunnel testing as the basis for analysis of wind impacts, this is the City's standard practice and derives from the quantitative standards in Section 148 of the *Planning Code* (and other comparable sections that apply to certain areas outside the C-3 Downtown use districts). It is noted that there is no requirement in CEQA for analysis of changes in wind, shadow, and temperature that may result from a project, nor is the Planning Department aware of an accepted methodology for analysis of the effects of all three factors together. The City of San Francisco has incorporated into its CEQA Checklist a topic of environmental analysis entitled, "Wind and Shadow," based on local concern. The questions in the City's Checklist ask, "Would the project alter wind in a manner that substantially affects public areas?" and "Would the project create new shadow in a manner that substantially affects outdoor recreation facilities and other public areas?" The EIR analyzes both of these topics and determines that neither the draft Plan nor the proposed Transit Tower would result in significant impacts with respect to wind. However, both the draft Plan and the proposed Transit Tower would result in significant shadow effects that could not be mitigated to a less-than-significant level.

Comment SH-5: The shadow impact analysis is confusing.

"It is extremely hard to find/figure out the findings/recommendations for Impact SH-1 Which is found to be significant and unavoidable.

...

"**Shadow diagrams - 474 - 507.** It would be helpful if there was a key identifying BY NAME the buildings that cast shadows on ANY PARK.

...

"[Page 509] The explanation of shadow changes on Union Square needs clarification. Peter Bosselman from UC Berkeley was involved in the Macy's and related billboard cases after the work was complete

defining the amount of shadow cast at the time Prop K passed. Whoever wrote this section needs to rewrite it for clarity. There were other shadow allocations tied to billboards that have been omitted.

...

"**Page 511 - 512 - 514** - please label each building's shadows.

...

"**Pass thru shadow issue** -

"There is not enough information in the DEIR to allow informed comment on this issue.

"The structure of this section makes it hard to determine where one topic ends and another begins." *(Sue Hestor, on behalf of SFRG)*

Response

The analysis in Impact SH-1 evaluates shadow impacts of the draft Transit Center District Plan. Therefore, the analysis examines combined effects of all Plan area buildings that could cast substantial new shadow, particularly on parks subject to *Planning Code* Section 295, and also on other open spaces. As stated above in the response to Comment SH-3, the EIR concludes that because the combined net new shadow from all Plan area development assumed in the EIR would exceed the Absolute Cumulative Limit for eight parks, the impact would be significant and unavoidable.

Concerning Figures 60-A through 62-I, which depict new shadow from Plan area buildings hourly for the summer and winter solstices and the spring/fall equinoxes, the buildings depicted as casting shadow are those potential buildings greater than 150 feet in height on the development sites in the Plan area that are shown on Figure 14, p. 73, and Table 3, p. 74. Buildings on three development sites that would have height limits of 150 or less—176 Second Street (150 feet), 543 Howard Street (85 feet), and TJPA Parcel M (85 feet)—are not included in the analysis because their shadow would not reach any public open spaces, because the maximum length of building shadow during the hours covered by Section 295 is about 6.5 times the height of the building and there are no public open spaces within the applicable distances of any of these three building sites. Of the 13 potential buildings included in the analysis, only the Transit Tower is analyzed based on an actual proposed building design. This is because the EIR provides project-specific environmental review of the proposed Transit Tower, while the remainder of the analysis, of impacts of the draft Plan, is at a programmatic level. As stated on EIR p. 470, "For potential future buildings other than the Transit Tower, shadows analyzed are based on massing models representative of potential future development in the Plan area. Each individual development project that is proposed in the Plan area would be subject to *Planning Code* Sections 295, 146, and 147, and therefore project-specific shadow impacts would be analyzed at such a time as a subsequent project is being reviewed by the Planning Department."

To assist the reader in identifying the development sites on which potential Plan area buildings would cast new shadow as identified in the EIR, **Figure C&R-5** reproduces EIR Figure 60-A, labeled with a key as to the buildings shown casting shadow.

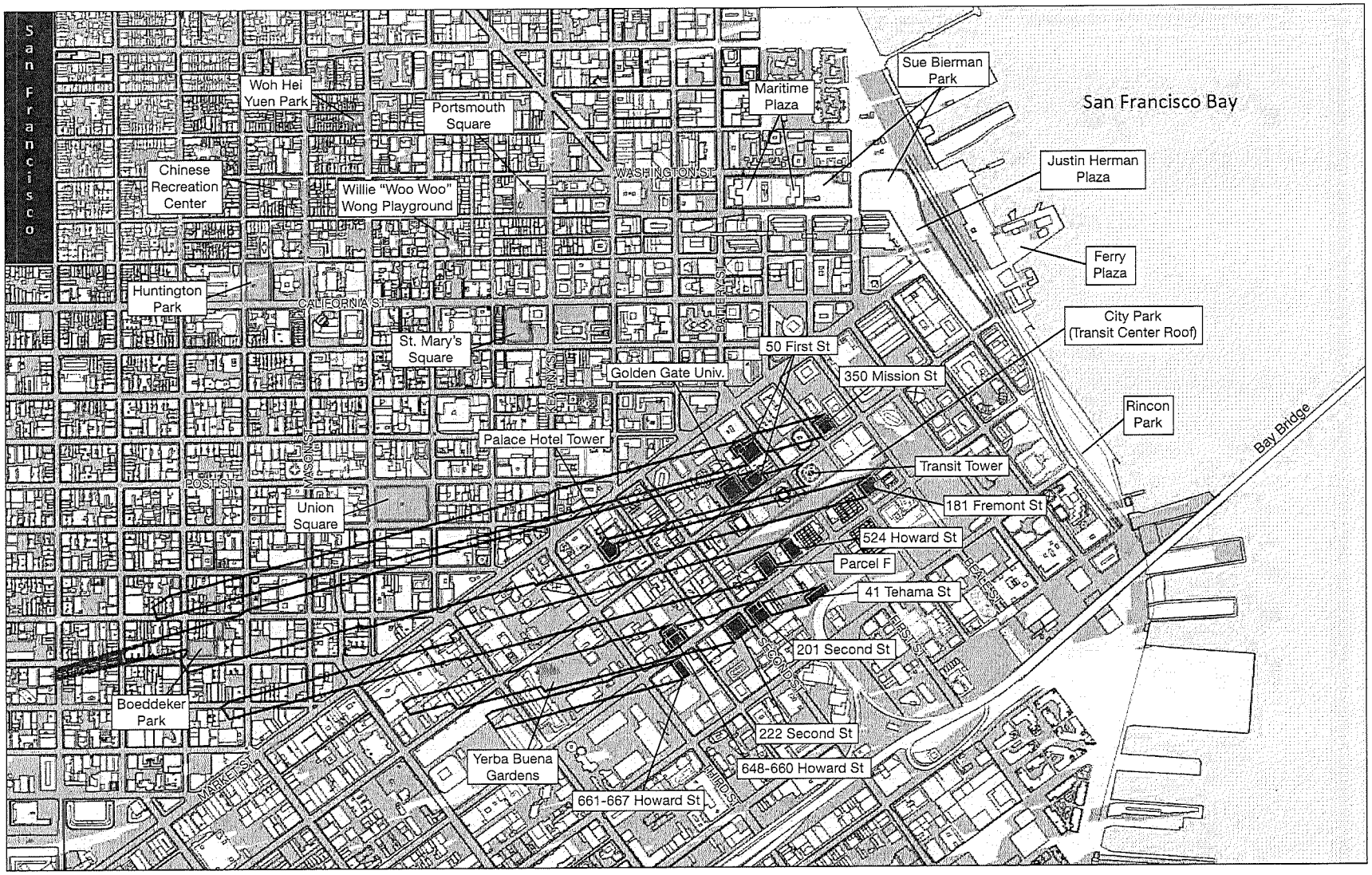
Concerning the figures that illustrate maximum extent of shadow on various parks on EIR pp. 511, 512, 514, 516, 517, and 526, the buildings casting the shadow are identified in the text for each open space. That is, on p. 510, the EIR states that the maximum shadow on Union Square (Figure 63, top) would be cast by the proposed Palace Hotel tower and the maximum shadow on Portsmouth Square (Figure 64, top) would be cast by the proposed project at 50 First Street; on p. 513, the EIR states that the maximum shadow on St. Mary's Square (Figure 65, top) would be cast by the proposed project at 50 First Street; and on p. 515, the EIR states that the maximum shadow on Justin Herman Plaza (Figure 66, top) would be cast by the Transit Tower. Also on p. 515, the EIR describes the maximum shadow on Willie "Woo Woo" Wong Playground (Figure 67, top). However, the DEIR does not note that this shadow would be cast by a potential 700-foot building on the TJPA's "Parcel F," located between the new Transit Center and Howard Street, east of Second Street. Accordingly, the third sentence of the first paragraph beneath the heading, "Willie 'Woo Woo' Wong Playground" on EIR p. 515 is revised as follows:

> The greatest area of new shadow at any one time would be approximately 4,000 square feet (about 15 percent of the total area of Willie Wong Playground), at 8:15 a.m. in late November and mid-January, from the building on TJPA Parcel F; at these times, shadow on the playground would increase from about 80 percent to about 97 percent shadow coverage (see **Figure 67**).

With respect to the other four parks, only the Transit Tower would cast new shadow on Maritime Plaza, Woh Hei Yuen Park, Chinese Recreation Center, and Boeddeker Park; therefore, shadow shown falling on those parks in Figures 66 (bottom image), 67 (bottom image), and 69 (both images) would be cast by the Transit Tower. It is noted that the DEIR neglected to include a detailed discussion or a figure reference for Chinese Recreation Center; accordingly, the following text is added following the first partial sentence on EIR p. 525 (continuing from p. 524):

> Likewise, the maximum one-time shadow on Chinese Recreation Center would occur for less than 15 minutes after the "first Proposition K minute" (8:23 a.m.) for one week in late February and one week in mid-October, when the Transit Tower would shade about 35 percent of the park's area (see **Figure 67**).

It is noted that the DEIR included two graphics in the shadow analysis which incorrectly presented the same figure, of draft Plan impacts, twice and did not depict Transit Tower shadow, Accordingly, EIR Figures 64 and 65, pp. 512 and 514, have been revised to depict maximum shadow from the proposed Transit Tower alone on Portsmouth Square and St. Mary's Square, respectively. The revised figures are included in this Comments and Responses document at the end of Section E, Revisions to the Draft EIR, following p. C&R-139.



SOURCE: CADP

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

Figure C&R-5
Key to Shadow Impacts

Concerning Union Square, the billboards that exist today, including those on the east side of the park where shadow from the Plan area would originate, were in existence at the time that Section 295 was added to the *Planning Code* in 1985, following voter approval of Proposition K in 1984. Subsequently, in 1997, after electronic billboards had been proposed for the east side of Stockton Street across from Union Square, the Board of Supervisors amended *Planning Code* Section 608.2 to prohibit new general advertising signs and all other signs larger than 200 square feet from locations within 200 feet of a City park, thereby precluding any new billboards across the street from Union Square.

It is unclear what the commenter means by "pass through shadow issue," and no response can be provided. Regarding the non-specific comment regarding the "structure" of the Shadow section of the EIR, it is noted that each of the five parks on which there would be new shadow from Plan area buildings other than the Transit Tower is discussed under its own heading on pp. 509 – 518, and impacts on the use of the affected parks is discussed on pp. 519 – 521. Parks that would be newly shaded only by the proposed Transit Tower are discussed in the project-specific analysis in Impact SH-2; this analysis is referenced in the Plan analysis in Impact SH-1, on p. 518.

Comment SH-6: New shadow described in the EIR should not be permitted on specific parks.

"**Page 470** - What is the justification for ANY increased shadow on Union Square from the Palace Hotel tower? That project is not necessary to fund a transit station. The shadow and wind impacts cause problems without ANY redeeming justification for the increased height. This is ONE HOUR A DAY FOR UP TO 6 MONTHS.

...

"**Page 509** - What justification is there for ANY increased shadow on Union Square from 50 1st Street, 181 Fremont Street, Golden Gate University? This is a violation of Prop K.

...

"[Page 509] It is inappropriate to 'weigh' shadow by time of day. Prop K allowed shadows one hour after sunrise and one hour before sunset. September and April are months when the City generally has nice weather. It is not the Commission's role/power to say that increased shadows are just fine. The rules for limits were established DECADES ago.

"**Page 510 - Portsmouth Square** - this was the second sensitive park that triggered passage of Prop K. It is a heavily use park ALL DAY LONG. Measuring sunlight in the context of the total number of sunlight over the entire year is not appropriate at THIS POINT. It was when the original analysis was done to establish how much was in sun/shadow when Prop K passed. This park has an absolute CUMULATIVE LIMIT of -0-. ZERO is ZERO, not 0.24% new shadow. The same holds true for Union Square.

...

"Remaining shadows - St Mary's Square, Justin Herman Plaza, Willie Wong Playground - same issue as above regarding the ability to change a VOTER ADOPTED LIMIT without going to the ballot.

"For Willie Wong Playground (formerly Chinese Playground) - this is the ONLY Rec Park public tennis court serving Chinatown and a basketball court. Please describe the activities that will be in shadow. THIS PLAYGROUND was one of the ones that triggered passage of Prop K because a planned development was going to cast this into SUBSTANTIAL shadow.

"Re **non-Prop K shadows** - which CEQA governs as well. Under PLANNING CODE policies, shadows on public sidewalks, particularly those around parks should be thought thru carefully. Often the 'best' way to use a park is to walk by it. That means on the sidewalk. Shadowing the sidewalk, particularly if it is windy out, may make it less desirable. Rincon Park is a resource for this area and should be protected.

"The hypocrisy of the Downtown Plan and this proposed plan is seen in how they 'create' parks and open spaces, then fail to protect them from shadows that would make them unpleasant. Page 525 discussion of the City Park to be built with the Transit Tower falls exactly into that category." *(Sue Hestor, on behalf of SFRG)*

"We are very concerned with the shadow impacts to Chinatown parks caused by the Transit Center Plan and Tower. Many of these parks are subject to Section 295, including St. Mary's Square, Portsmouth Square, Willie 'Woo Woo' Wong Playground, and Chinese Recreation Center. Woh Hei Yuen Recreation Center and Park is another Chinatown park impacted by Transit Center shadows although not subject to Section 295.

"As you may recall, Proposition K was approved by San Francisco voters in 1989 [sic] and established the 'Sunlight Ordinance' (Section 295), which created a shadow budget for 14 downtown parks and set a zero tolerance level for Chinatown parks. Among the reasons cited for passing the ordinance include the need to protect the quality of open space in high-needs downtown neighborhoods such as Chinatown.

"To this day, Chinatown remains the densest residential neighborhood west of Manhattan. 36% of households live in overcrowded conditions compared to the 17% citywide average.[fn 1] The population consists of primarily low-income, non-English speaking immigrant seniors and families. The median household income is $17,411 compared to the citywide median of $73,598.[fn 2] For this transit-dependent population in which 83% of households do not own a car, most residents rely on walking to access public open spaces. The last park established in Chinatown was the Woh Hei Yuen Recreation Center and Park in 1999 as a result of nearly an entire generation's struggle (almost 25 years) to create a new park in the neighborhood. In sum, Chinatown residents are already sorely lacking quality open space and they rely on access to public parks in this dense neighborhood to enjoy fresh air and sunlight.

"As such, we are deeply disturbed that the Transit Tower and 50 First Street will create new shadows on Portsmouth Square in the late fall and early winter. Portsmouth Square is affectionately known as the

[fn 1] SF Department of Public Health, Healthy Development Measurement Tool: http://www.thehdmt.org/indicators/view/125
[fn 2] SF Department of Public Health, Healthy Development Measurement Tool: http://www.thehdmt.org/indicators/view/162

'living room of Chinatown' to many of the single-occupancy hotel residents who rely on the park for recreation and exercises. The shadows will occur for almost 4 months from about 8am to just after 9am during the long winter months of November through January. To understand and evaluate the impacts on current park users, Chinatown CDC surveyed Portsmouth Square for a week between 8:15am and 9:15am in early November. We found that the park was frequented at this time by Chinese seniors practicing tai chi and engaging in other recreational activities. We believe that the new shadows will have a significant negative impact on the quality of life for Chinatown residents and will decrease access to quality open space in this high needs, low-income immigrant community.

"As Table 42 (p. 523 of DEIR) demonstrates, the proposed Transit Tower will result in an increase in shadow on eight affected open public spaces. Four out of those 8 public spaces are located in Chinatown, including Portsmouth Square, Woh Hei Yuen Recreation Center and Park, St. Mary's Square, and Chinese Recreation Center. Chinatown is the only neighborhood in the downtown core that is bearing the brunt of the burden of the impacted parks.

"As p. 524 of the DEIR states, 'The greatest one-time effect would be on Portsmouth Square. The Transit Tower would add about 22,500 sq ft of shadow, covering about 35% of the park, at 9:15am in early November and late January.' Figure 64 (p.512) shows that the maximum extent of new shadow on Portsmouth Square will cover the portion of the upper level of Portsmouth Square that currently provides the greatest amount of open space. This specific area is the primary open-air 'plaza' of the park and is often used for tai chi, exercising, and the stage area for cultural events in this neighborhood.

"We see the shadow impacts on the 4 Chinatown parks, and in particular Portsmouth Square, as a major environmental justice issue. It is unjust, plain and simple, that this neighborhood that is already sorely lacking in open space opportunities should bear the brunt of the burden and see a significant reduction of quality open space as a result of the Transit Center District Plan and Tower. We disagree with the comments that these shadows are insignificant or that these concerns over shadows are unwarranted. In the life of many low-income Chinatown residents, these Section 295 parks are the only respite from overcrowded housing conditions and thus efforts should be made to ensure that Chinatown should not suffer disproportionately due to its proximity to the Transit Tower. Chinatown is already a dense, walkable neighborhood in the Downtown Core and should not be sacrificed at the expense of creating another dense walkable neighborhood near the Transbay Terminal." *(Deland Chan, Chinatown Community Development Corporation)*

"Given our history and concern with the quality of Chinatown parks, we cannot stand by idly and watch the Transbay Transit Center and Tower rise at the expense of the quality of open space in Chinatown. **We strongly oppose this project** given that there will be significant shadowing as a result of the project at all Chinatown parks. We are ESPECIALLY concerned with the shadowing at Portsmouth Square that will increase shadow to up to 90 percent shadow coverage precisely during the wintertime when sunlight is already so precious and during the morning hours when Portsmouth Square is used by seniors for their morning recreational exercises. We are also very concerned about the planned development shadowing Chinese Playground, where new shadow will increase shadow on the playground to a total of 97 percent!

"From the community perspective, this project has no benefits for the Chinatown immigrant seniors and children who will have sunlight in parks taken away. We take offense at the EIR's analysis that shadowing from far away will be more 'diffuse' and hardly noticeable. Frankly, there is no way to

guarantee that the loss of sunlight will not be profoundly felt and experienced, at the human level, given that all of the Planning Department's analysis consists of bird' s eye plans and views. " *(Tan Chow, Committee for Better Parks and Recreation in Chinatown)*

"It is projected that the Transit Center District and Transit Tower will cast shadows in excess of the cumulative amount permitted by existing regulations. We are very concerned about the proposal to relax the Park Shadow ordinance and the loss of any sunshine on the Square. Once lost to shadows; sunlight can never be recaptured except by a tragic force of nature. Parks are the 'lungs' of the City and must be protected.

"Toward that end, we are steadfastly opposed to the proposed modification of the Absolute Cumulative Limit for new shadows that may be cast on certain City Parks. Doing so would effectively repeal Prop. K (the 1984 Park Shadow Ban ordinance) and leave parks at the mercy of developers. Further, we question the adequacy of the methodology used to estimate the shadow impacts. We are also concerned about the Plan's failure to include the additional shadow impact of other pending projects such as the Mexican American Museum highrise development at Jesse Square. The City must consider the full impact of the shadowing that may be imposed by a wall of projects to the south of Union Square." *(Linda Mjellem, Union Square Business Improvement District)*

Response

The comments express opposition to new shadow that would be cast by buildings in the Plan area, as is described in EIR Section IV.J, Shadow. These comments do not concern the adequacy or accuracy of the EIR, but are directed at the merits of the proposed project. As such, they will be considered by the decision-makers (Planning Commission, Board of Supervisors, Recreation and Park Commission, and other bodies noted on EIR pp. 49 – 50) in their consideration of the draft Plan and the proposed Transit Tower. As stated in the response to Comment SH-3, p. C&R-83, there are no quantitative standards contained within the language of *Planning Code* Section 295 (or Proposition K). Rather, the quantitative "Absolute Cumulative Limits" for 14 downtown parks were established by joint resolution of the Planning and Recreation and Park Commissions, based on analysis of existing and potential future shadow on those parks.

Concerning the "weighing" of shadow by time of day, the EIR reports when and where new shadow would fall on the open spaces analyzed. With regard to quantitative considerations, calculating the extent of new shadow does not involve weighting shadow impacts; rather, it involves modeling the area and the duration of the shadow that occurs between one hour after sunrise and one hour before sunset. As noted on EIR p. 468, the Planning and Recreation and Park Commissions not only adopted an Absolute Cumulative Limit for square-foot-hours for each of the 14 parks, but also adopted "qualitative criteria for assessing new shadow." These qualitative criteria were adopted for the three parks for which additional net new shadow was to be permitted, including two of the parks that would be affected by shadow from Plan area buildings as discussed below: Union Square and Justin Herman Plaza. These qualitative criteria for both parks incorporate the time of day when shadow would fall on a park and are applied after the calculations are made in order to implement the qualitative criteria of Section 295.

For Union Square, the qualitative criterion is "Avoid additional shadows during mid-day." As can be seen from EIR Table 41, p. 508, no new shadow would fall on Union Square during mid-day; net new shadow would end by 8:50 a.m. For Justin Herman Plaza, the qualitative criterion is "Avoid mid-day and Winter shadows." As indicated in Table 41, new shadow from Plan area buildings, including the proposed Transit Tower, would fall on Justin Herman Plaza during the mid-day (approximately 1:00 p.m. to 2:40 p.m.) between late fall and early winter. The Transit Tower would cast shadow between about 1:00 p.m. and 1:40 p.m., also during late fall and early winter, between mid-November and late January.

The comment regarding potential shading of Willie "Woo Woo" Wong Playground (formerly Chinese Playground) being a catalyst for the adoption of Section 295 is correct. As noted planner William H. Whyte writes in his book, *City: Rediscovering the Center*,[19] "One of the things [Proposition K] had going for it was visible outrage. It had manifested itself in Chinatown a decade earlier. This was the construction of the Pacific Telephone Building, a twenty-two story high rise of unparalleled ugliness... [that] cast a shadow that fell on much of St. Mary's Square at lunchtime most days of the year. [¶] Then, in 1982, a few blocks away, the tiny Chinese Playground was threatened by a prospective 140-foot-high condominium tower." Although the Planning Commission subsequently reduced the height limit around Chinese Playground, citizens placed Proposition K on the ballot in 1984 and secured passage, leading to the codification of Section 295.

Concerning the activities undertaken at Willie Wong Playground, similar to Portsmouth Square and St. Mary's Square, activity observed in the early morning at Willie Wong Playground consists largely of individuals, many elderly, exercising. Most of these individuals are performing exercises in portions of the playground that are in shadow under existing conditions, and there is no reason to believe that the increment of additional early-morning shadow added by development under the draft Plan, including the Transit Tower would alter this activity. Likewise, there is no reason to believe that similar existing activities at Portsmouth Square and St. Mary's Square—again, consisting mostly of people engaged in exercise, largely in areas shaded under existing conditions—would change with the additional shadow added by development under the draft Plan, including the Transit Tower. Moreover, new shadow on Willie Wong Playground would be cast by potential future development yet to be the subject of a specific proposal; most of the new shadow would be cast by a potential 700-foot-tall building on the TJPA's "Parcel F" site, on the north side of Howard Street between First and Second Streets, with a small increment from potential development of a 700-foot-tall building on the Golden Gate University site, on the north side of Mission Street between First and Second Streets.

Regarding Woh Hei Yuen Park, that park, like all Recreation and Park Department properties, is subject to Section 295. The difference between this park and the others discussed in the EIR is that there is no Absolute Cumulative Limit that has been established for Woh Hei Yuen Park, as this park was created after 1989, when the quantitative criteria were established for other parks. As

[19] Philadelphia : University of Pennsylvania Press, 2009; pp. 265 – 266. Available at the San Francisco Public Library.

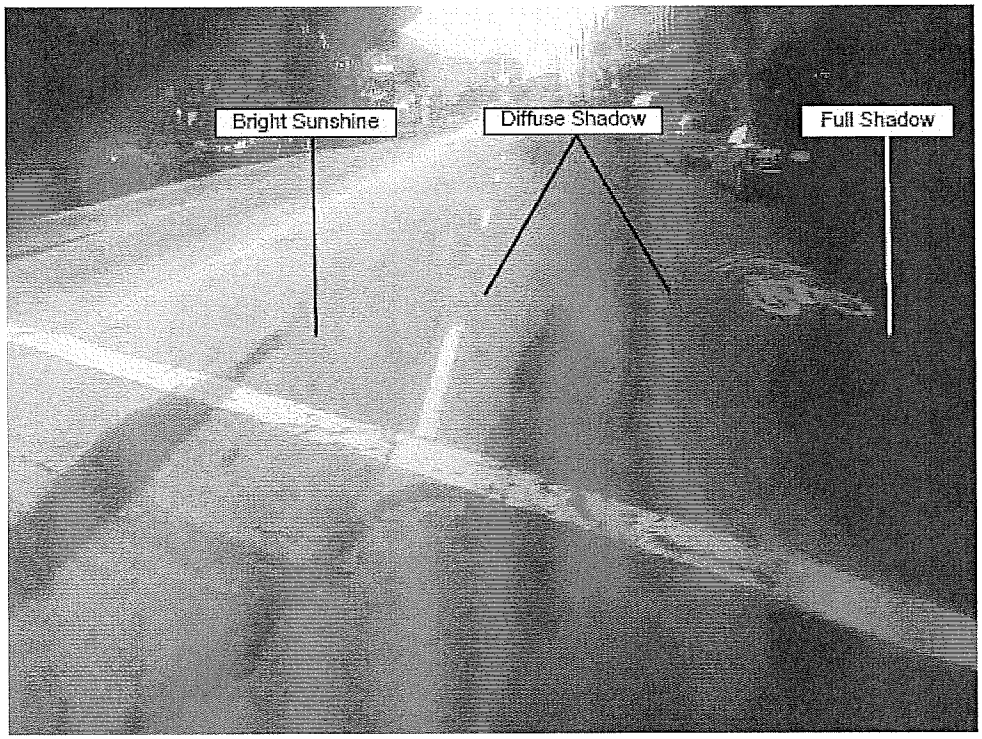
stated above in the response to Comment SH-3, shadow effects on parks for which no Absolute Cumulative Limit exists are typically analyzed on a case-by-case basis, using the same procedure for quantification of the amount of net new shadow and a qualitative evaluation of the effects of the shadow.

Please see the response to Comment SH-3, p. C&R-83, regarding the date of adoption of *Planning Code* Section 295. As stated in that response, Section 295 was adopted following passage of Proposition K on the November 1984 ballot. The Planning Commission and Recreation and Park Commission adopted quantitative and qualitative criteria for 14 downtown parks in 1989. Among those parks are several in and near Chinatown, including Portsmouth Square, Willie "Woo Woo" Wong Playground, Chinese Recreation Center, St. Mary's Square, and Woh Hei Yuen Park, although no Absolute Cumulative Limit has been adopted for Woh Hei Yuen Park, which was developed subsequent to the 1989 action with respect to 14 other downtown parks. Potential shadow impacts on all of these parks are analyzed in EIR Section IV.J. Shadow.

Concerning the comment about the survey conducted of Portsmouth Square by the Chinatown Community Development Center and the survey's finding that this park is "frequented ... by Chinese seniors practicing tai chi and engaging in other recreational activities" when new shadow would fall on Portsmouth Square, this agrees with the text of the EIR, on p. 519: "Portsmouth Square, at the eastern edge of Chinatown, a very dense residential neighborhood, is relatively heavily used even between 8:00 a.m. and 9:00 a.m., when new shadow from Plan area buildings would fall on the park. Much of the activity in Portsmouth Square at this time of day consists of individuals, many elderly, exercising."

Concerning the comment that the EIR characterizes some shadow as "'diffuse' and hardly noticeable," the EIR does not characterize shadow effects as being less noticeable because some of the shadow cast on affected parks would be diffuse. The discussion of shadow effects on each park on EIR pp. 509 – 525, including Figures 60 – 67 and Figure 69 and the quantification of impacts in Table 41, p. 508, and Table 41, p. 523, all report effects without taking into account the diffusion of light at long distance that would preclude the presence of a "bright-line" shadow on most affected parks, as illustrated in Figure 68, EIR p. 519. Moreover, the analysis in the EIR conservatively assumes the sun is a single point of light that is either fully blocked or fully unimpeded, whereas in reality, as stated on EIR p. 468 (and revised herein in Section E, Revisions to the Draft EIR, p. C&R-121), the sun is a disk that occupies approximately one-half of one degree (0.53 degrees) of a 360-degree circle that represents the sun's path across the sky. This means that an object, particularly one that is quite distant from the viewer, will only partially block the full disk of the sun at certain times as the sun moves behind the object, though the analysis conservatively assumes the sun's light is fully blocked. Indeed, structures located hundreds or thousands of feet from the viewer can at times actually be less wide than the sun is in the sky, thereby not fully blocking the sun's rays shining around the structure. The closer one is to a building, the wider that building is in relation to the sun, thereby causing more shadowing

on places closer to the building than on places farther away.[20] Thus, in the case of a building more than a few hundred feet from a particular park, the edge of the building intercepts only a portion of the sunlight at any given moment, and therefore the shadow from that building is cast as a diffuse "line" on the distant park, as some of the sun's rays pass around the edge of the building. Therefore, the methodology for analyzing shadow impacts in the EIR is conservative, in that it assumes that the edge of a building creates a "bright line" of shadow. **Figure C&R-6** illustrates this phenomenon for a location near Chinatown, on Columbus Avenue at Vallejo Street. This image was taken in the early morning on December 6, at approximately the first Proposition K minute, when the sun was passing behind the Transamerica Pyramid, approximately 1,800 feet (one-third mile) to the southeast. Bright sunlight is visible at the left side of Columbus Avenue, while the right side is in full shade, obscured by the Pyramid. In between, the boundary between



SOURCE: Environmental Science Associates

Figure C&R-6
Diffuse Shadow Cast by Transamerica Pyramid, December 6

bright sunshine and full shadow is not a distinct "line" where the shadow begins or ends, and the shadow cast by the pedestrian on the left is more vivid, against a lighter background, than the shadow cast by the photographer, against a darker background. However, in the images used in the EIR to determine the significance of shadow impacts, shadow is represented by a distinct line that corresponds to the point at which the center of the sun would be obscured by the building

[20] As an analogue, one's finger, when directly in front of the eye, can completely block the sun, whereas with the finger at arm's length, sunlight passes around each side of the finger.

edge. In the photograph in Figure C&R-6, for example, this line would fall well to the left of the fully shaded area on the right; that is, when calculated in accordance with the EIR approach, the results would be more conservative.

As noted on EIR p. 520, the EIR concludes that shadow from Plan area buildings would result in a significant, unavoidable impact on parks subject to Section 295 of the *Planning Code*, given that approval of the Plan area buildings would require that the Absolute Cumulative Limit be increased on eight downtown parks, and that certain parks, in particular Portsmouth Square and St. Mary's Square, would sustain new shadow that "would be expected to be readily noticeable to park users." Likewise, on p. 525, the EIR concludes that the proposed Transit Tower would also have a significant, unavoidable impact with respect to shadow.

It is noted that, because of a transcription error from the spreadsheet used to summarize shadow impacts in the Plan area, the DEIR incorrectly presented the percent of theoretical annual available sunlight that would be consumed by shadow cast by buildings in the Plan area on Portsmouth Square. The correct figure is 0.41 percent of the theoretical annual available sunlight, not 0.24 percent, as stated in DEIR Table 41 and on pp. 509 – 513. These corrections are noted in Section E, Revisions to the Draft EIR, p. C&R-121, of this Comments and Responses document. This change means that the Absolute Cumulative Limit for Portsmouth Square—adopted in 1989 as part of the implementation of *Planning Code* Section 295—would ultimately have to be increased, as part of the approval process for individual buildings in the Plan area, including the Transit Tower, to approximately 0.41 percent, if all Plan area buildings were to be approved.

This error notwithstanding, the physical impact of the new shadow—that is, the times of day and times of the year at which new shadow would be cast—is accurately described in the Draft EIR. Specifically with respect to Portsmouth Square, the EIR states, on p. 510, that new shadow from two potential buildings (the Transit Tower and the project at 50 First Street) would fall on Portsmouth Square for almost four months in the late fall and early winter, from about 8:00 a.m. until just after 9:00 a.m. The EIR further states that, because of the locations of the Transit Tower and 50 First Street relative to Portsmouth Square:

> shadow from these two projects would fall on the park in sequence during November and early December and again during January and early February. For these approximately 10 weeks, shadow from the First Street project would begin to fall on Portsmouth Square just as shadow from the Transit Tower is leaving the park, meaning that new shadow would be cast for about one hour each morning between about 8:00 and 9:00 a.m. On any given day during the rest of the time when Portsmouth Square would be newly shaded, new shadow would last less than 30 minutes. The greatest area of net new shadow at any one time would be approximately 27,600 square feet (about 43 percent of the total area of Portsmouth Square), at 8:30 a.m. in late November and mid-January, from the project at 50 First Street; at these times, shadow on Portsmouth Square would increase from about 50 percent to more than 90 percent shadow coverage ....

The foregoing description of physical impacts of new shadow on Portsmouth Square remains accurate, the transcription error in Table 41 notwithstanding. As stated above, the EIR concludes that shadow from both Plan area development and from the Transit Tower itself would result in a significant and unavoidable impact. The significance criterion for shadow in San Francisco is whether new shadow from a project would affect, in an adverse manner, the use of any park or open space under the jurisdiction of the Recreation and Park Department, or substantially affect the usability of publicly accessible open space or outdoor recreation facilities or other public areas. The significance determination in the Draft EIR considers physical impacts on the space itself, such as the times of the day and year in which shadow would occur and the types of activities that would be affected. Therefore, the calculation of the total amount of new shadow from Plan area development as 0.41 percent of the theoretical annual available sunlight, rather than 0.24 percent, would affect determinations under Section 295, but would not constitute a substantial increase in the severity of the impact identified in the DEIR.

With regard to Union Square, the text on p. 509 of the EIR correctly reports that

> shadow from development in the Plan area would fall on Union Square from late March through late September, about 6 months in all, between about 7:10 a.m. and 8:40 a.m.; on any given day during that period, new shadow would fall on Union Square for between a few minutes and about one hour, with the duration being less than 30 minutes on most days except between late August and mid-September and between late March and mid-April, when shadows would last up to about one hour.

However, this information was incorrectly summarized in Table 41, p. 508, which has been revised for consistency with the text. Additionally, Table 41 attributed too high a diminution in the percentage of the theoretical annual available sunlight to development in the Plan area. The correct figure is 0.19 percent, compared to 0.24 percent reported in the DEIR. Likewise, for Woh Hei Yuen Park, Table 41 reported a loss of 0.07 percent of the theoretical annual available sunlight; the correct figure is less than 0.01 percent. Finally, the start time of new shadow on St. Mary's Square, which was correctly reported as 8:10 a.m. in the text on EIR p. 513, was given as 8:40 a.m. in Table 41, and the table has also been revised to reflect this information. The revised Table 41 is included in Section E, Revisions to the Draft EIR, p. C&R-121 of this Comments and Responses document.

The Transit Tower's contribution to new shadow on Portsmouth Square, Union Square, and other parks was reported accurately in the Draft EIR, including Table 42, EIR p. 523.

Comment SH-7: New shadow described in the EIR is not substantial

"With reference to the issue of shadows and high-rise buildings, it is worthy to note that the Draft EIR before you today finds no adverse shadowing of park property. That is, any shadow issue is an inconsequential one, and would not violate the intent of the San Francisco's shadow protection ordinance." *(Ken Cleaveland, Building Owners and Managers Association)*

"City law requires high rise buildings to be judged against shadow impacts they may cause on Recreation and Park Department properties. The Draft EIR finds no adverse shadowing of park property. Increases in shadowing from the proposed new height limits are a fraction of a percent and appear to be insubstantial." *(Jim Lazarus, San Francisco Chamber of Commerce)*

"We have had the opportunity to review the shadow impacts of the Transit Center District Plan and Transit Center Tower. Page 470 of the DEIR notes: 'With one exception, shadow from any given potential building would cover part of any affected Section 295 park for less than 45 minutes per day over a period of time ranging from 4-12 weeks, per year.' The exception noted is the shadow to Union Square by the proposed addition to the Palace Hotel on New Montgomery Street.

"Table 41 on page 508 shows the potential shadow increases resulting from the plan. These shadow increases range from .24% to less than .01%. Even in the case of Union Square, the plan exceeds the existing shadow budget for the park by .2% which is only .5% of the total shadow budget for the park.

"We believe the value of this plan to enable the continued development of our walkable transit friendly downtown core outweighs the very small shadow impacts it generates." *(Sarah Karlinsky, San Francisco Planning and Urban Research Association)*

"I hope this note finds you well. I was born and raised in SF and I think it's high time we increase density in this city. I fully support the proposed building heights mentioned in the DEIR for the Transit Center District Plan and Transit Tower (PLANNING DEPARTMENT CASE NO. **2007.0558E and 2008.0789E**) and actually wouldn't mind if the allowed heights are increased beyond 1,070 ft. I don't believe the additional shadows created will be significant and in fact am wondering if there's a way to get a measure on the ballot to repeal the law which restricts buildings from casting significant shadows on public parks." *(Issa Kawas)*

Response

The comments stating that commenters do not find that project shadow effects would be substantial are noted, and will be considered by the decision-makers. However, the comments that the EIR "finds no adverse shadowing of park property" are incorrect. As stated in the EIR, and discussed in the prior responses, the EIR finds a significant, unavoidable effect due to new shadow from potential Plan area buildings together and from the proposed Transit Tower itself.

Concerning the duration of shadow, as correctly presented in the text of EIR pp. 509 – 515 and in Table 41, p. 508, new shadow could last up to about an hour and a half per day on Justin Herman Plaza. Accordingly, the last paragraph of EIR p. 470 is revised as follows for consistency with Table 41:

> With one exception, shadow from any given potential building would cover part of any affected Section 295 park for less than ~~45~~ 90 minutes per day over a period of time ranging from ~~4 to 12~~ 2 to 16 weeks (one-half to ~~three~~ almost four months) per year; the exception would be that Union Square would be newly shaded by up to about one hour per day, over a period of six months, by a 600-foot tower addition to the southwest corner of the Palace Hotel on New Montgomery

> Street.[footnote omitted] Most new shadow on Section 295 parks would be in the early morning hours, except that Justin Herman Plaza would be newly shaded in the early afternoon in late fall and early winter.

Concerning how much of Union Square's shadow "budget" would be consumed by Plan area buildings, please note that the 0.2 percent increment of new shadow from Plan area buildings does not represent a percentage increase over existing shadow, but rather a percentage of the total annual available sunlight, as stated in footnote 4 of Table 41.

Recreation and Public Space

Comment RE-1: The Recreation and Park Department desires further detail concerning the analysis of impacts on existing parks and open spaces.

"In terms of Impact RE-1, please provide further analysis of how the proposed determination was made that the additional office, retail, hotel, and residential density would not result in increased use that would lead to or accelerate their physical deterioration or require construction of new facilities. Many of the parks in the area of the plan are heavily used and in areas the city's general plan considers to be 'high-needs' in terms of new or improved open space. The proposed plan does include some new proposed open spaces. Please provide additional analysis of the future use of those spaces and existing open spaces based on user types, time of use and type of facility provided and other appropriate analysis methods." *(Karen Mauney-Brodek, San Francisco Recreation and Park Department)*

Response

In general, it is anticipated that office workers would normally frequent open spaces during the midday period, when many office workers spend the lunch hour in publicly accessible open spaces, during other midday breaks, and after work, particularly in the case of workers who are also City residents. There are no City parks within easy walking distance of most of the Plan area, and only Justin Herman Plaza and Sue Bierman park are close enough to reach on foot from the eastern portion of the Plan area for persons with a limited amount of time. Therefore, as under existing conditions, it is anticipated that most open space use by future employees in the Plan area would consist of lunchtime use of the numerous privately owned, publicly accessible open spaces in the Plan area. Likewise, hotel guests visiting for business purposes would not be expected to be frequent park users (assuming they would be spending most of their time on their appointed business). Leisure visitors, while they would use public parks, would be likely to visit parks citywide, notably Golden Gate Park and other iconic Recreation and Park Department properties.

Because the growth forecasts for the Plan area anticipate primarily employment growth and comparatively limited residential growth, and because all of the residential growth would be in multi-family buildings, many of which would be towers, relatively little demand for family recreational uses is anticipated. As noted on EIR p. 548, fewer than 1,000 new children are anticipated in the 6,100 new housing units in the Plan area. Accordingly, most new recreational

use resulting from Plan area development would likely be passive use (or organized games in leagues that use a limited number of citywide playfields outside the Plan area).

Moreover, as stated in EIR Chapter II, Project Description, the new 5-acre City Park will be created atop the Transit Center that is currently under construction and the proposed Transit Tower would develop Mission Square, a publicly accessible open space at Mission and Fremont Streets. In addition to helping fund open spaces in the Plan area such as Transbay Park (between Beale and Main and Tehama and Clementina Streets) and physical connections to the elevated City Park, the draft Plan also proposes an additional new open space at the northeast corner of Second and Howard Streets, as well as widespread streetscape improvements to enhance the pedestrian environment, plus funding for improvements to other Downtown open spaces. Therefore, it is expected that use of City parks by Plan area workers, visitors, and residents would not be so great that any significant effects related to physical deterioration of park facilities or construction of new facilities would be anticipated.

Comment RE-2: The DEIR improperly characterized the Embarcadero Promenade as being under the jurisdiction of the Recreation and Park Department.

"On page 529, the area generally referred to as the Embarcadero Promenade, as discussed, is owned by the Port of San Francisco, not the Recreation and Parks Department." *(Karen Mauney-Brodek, San Francisco Recreation and Park Department)*

Response

The commenter correctly notes an error in the setting portion of the EIR's Recreation and Public Space section. Accordingly, the second bullet beneath the heading "Plan Area Recreational Resources " on EIR p. 530 is deleted and new text is inserted following the last bullet, as follows:

> The Port of San Francisco has jurisdiction over the following facility in the vicinity of the Plan area:
>
> - Embarcadero Promenade – extending along the length of much of the City's eastern waterfront, the Embarcadero Promenade is located about a block east of the Plan area's eastern boundary. The paved pathway is used for active and passive recreation by joggers, bikers and urban hikers to enjoy unobstructed views of the bay and the Bay Bridge.

Biological Resources

Comment BI-1: The Recreation and Park Department supports the use of the City's recently adopted Standards for Bird-Safe Buildings.

"The Recreation and Parks Department manages numerous facilities citywide that provide special habitat for wildlife, including [birds]. We are encouraged that the Standards for Bird Safe Buildings have been adopted for potential use on projects such as this." *(Karen Mauney-Brodek, San Francisco Recreation and Park Department)*

Response

As stated on EIR p. 561, as the Draft EIR was published, the San Francisco Board of Supervisors had unanimously approved, on first reading, proposed *Planning Code* amendments to incorporate bird-safe building standards into the *Code*, and final approval was scheduled before the Supervisors the week the DEIR was published. As stated by the commenter, the standards have now been adopted and are included in Section 139 of the *Code*.[21]

Public Services and Utilities

Comment UT-1: The EIR should discuss the City's recycled water ordinances.

"Pages 35-37 (District Sustainability), 537-538 (Plan Impacts, Water), 598 (Recycled Water), and 610 (Recycled Water):

"Recycled Water Systems - Recycled Water Ordinances 390-91, 391-91, and 393-94 require property owners (including municipal) to install recycled water systems for recycled water use within the designated recycled water use areas. All but the very northwest corner of the Plan area is located within the designated recycled water use area and the installation of a recycled water system(s) in the buildings/facilities/green spaces located within the designated ordinance area is required. Although the northwest corner of the Plan area is not located within the designated area, it is contiguous to the rest of the Plan area that is within the designated area and, therefore could be served recycled water.

"The text of these ordinances can be found at the following webpage: http://sfwater.org/index.aspx?page=477." *(Irina Torrey, San Francisco Public Utilities Commission)*

Response

Recycled water requirements, including the fact that "all but the very northwest corner of the Plan area (northwest of the corner of Second and Mission Streets) is within the Eastside Reclaimed Water Use Area designated by Section 1029 of the Reclaimed Water Use Ordinance," are discussed on pp. 537 – 538 of the EIR. The comment that the northwest corner of the Plan area could also be served with recycled water is noted. As described in EIR Chapter II, Project Description, p. 35, "The draft Plan would implement a number of district-wide policies and controls aimed at supporting and, where possible, exceeding the City's existing environmental, sustainability and climate change objectives." Water conservation, in particular, is discussed on EIR p. 37.

Comment UT-2: The EIR does not address potential disruption of utilities due to construction.

"BlackRock's operations at 400 Howard Street involve conducting multiple *billions* of dollars of financial transactions each day on sophisticated telecommunications and data processing equipment that depend on the stability and security of the physical environment. We are therefore extremely sensitive to proposed changes in the environment around 400 Howard Street that could cause business disruptions. This sensitivity is heightened by the fact that in August 2009, a TJPA contractor severed an AT&T

[21] Ordinance 199-11, approved by the Board of Supervisors September 27, 2001 and signed by the mayor October 7, 2011.

communication cable serving BlackRock's operations at 400 Howard Street. Fortunately, no disruption of our ability to conduct financial transactions occurred. While BlackRock maintains robust business continuity procedures, even a temporary disruption in BlackRock's ability to conduct financial transactions of a duration that might seem inconsequentially short to others, could result in serious financial damage. Therefore, it is very important that activities of the TJPA do not impair operations at 400 Howard Street.

...

"Utilities: The Draft EIR does not appear to analyze the effect of construction activities damaging utilities, thereby causing a disruption in services, which could have significant repercussions. Accordingly, neither does the Draft EIR propose mitigation for this potentially significant impact.

...

"Disruption of Utilities

"With respect to utilities, the Final EIR should analyze the impact of construction-related damage to utilities and propose mitigation. It should also confirm that construction activities in the Plan area will not require the relocation of utilities.

"The Draft EIR does not appear to analyze the potentially significant effect of construction activities damaging utilities, thereby causing a disruption in services. Section L. Utilities and Service Systems does not analyze damage to utilities or disruption. On the other hand, Section O. Geology, Soils, and Seismicity does acknowledge that construction activities could adversely affect utilities. Specifically, on pages 591-592, the Draft EIR states that excavation activities, construction-related dewatering, and permanent dewatering, could all result in settlement of utilities. On page 592, the Draft EIR also acknowledges that 'repair to service lines under the street' could be necessary. As indicated above, BlackRock is familiar with the potential for accidents to disrupt utilities because of the August 2009 incident involving a TJPA subcontractor severing an AT&T communication cable serving BlackRock's operations at 400 Howard Street. .

"CEOA requires that an EIR propose mitigation for potentially Significant impacts to the environment. The significance of an impact to the physical environment, such as damage to utility lines, may depend on social or economic factors beyond the physical change in the environment. 14 C.C.R. § 15131. Although the Draft EIR acknowledges the potential for damage to utility lines, it does not analyze the impact or offer mitigation. Damage to utility lines should be considered a potentially significant impact because of the magnitude of the economic and social effects that could result from the physical damage. Accordingly, the EIR should analyze the potential for such damage and propose mitigation.

"By way of comparison, the Transit Terminal EIR did analyze the potential for damage to utilities from construction and planned relocation. Mitigation there centered on planning and strategizing with providers, as well as informing customers when short-term service disruptions would occur. Specifically, to mitigate the potential impact of damage to utility systems and disruption and degradation of service to local customers, the EIR proposed, among other measures, to coordinate with utility providers during preliminary engineering and through final design and construction and to avoid, relocate, and/or support

utilities during construction activities. Transit Terminal EIR, at 5-82. Similar planning and strategizing should be incorporated into proposed mitigation for the Plan and Tower.

"We note that the current Draft EIR could be read as analyzing the impacts related to damaged utilities within impacts GE-3 and GE-7, and concluding that such impacts are less than significant, in part because of the Department of Building Inspection ('DBI') requirements to prepare a geotechnical report that would address potential settlement and related impacts. However, this reading is problematic under CEQA for multiple reasons. First, this section does not explain how damage to utilities could be avoided; it even suggests damage would occur and the project proponent would pay for such damage. Second, as explained above, damage to utility lines should be considered a potentially significant impact, which would require formal mitigation measures to comply with CEQA.

"In light of these observations, we recommend that the Final EIR identify damage to utilities and disruption in utility service as a potentially significant impact, for both the Plan and Tower construction, and propose mitigation measures to minimize the risk of such damage. Some of the DBI requirements described on page 592 could form the basis for appropriate mitigation. Additionally, the EIR could incorporate some planning and coordination requirements similar to those required in the Transit Terminal EIR. However, any deferral of mitigation in the Final EIR (for instance, through the requirement to comply with a future geotechnical report or monitoring survey) would comply with CEQA only through articulation of specific performance standards and an analysis of how the various plan components can accomplish the performance standards. 14 C.C.R. § 15126.4(a)(1)(B).

Additionally, we request confirmation that construction in the Plan area will not involve any relocation of utilities. The Draft EIR did not discuss utility relocation, or potential impacts associated therewith. Presumably, this is because no utility relocation is anticipated." *(Thomas L. Bain, BlackRock)*

Response

Temporary disruption of utility service does not constitute a significant adverse effect on the environment for purposes of CEQA, although it may have economic consequences. Accordingly, disruption of utility service to an individual building, even disruption causing economic loss, would not be considered an adverse physical change in the environment, and would not result in a significant impact, because it would not trigger any of the significance criteria listed on EIR p. 537, in Section IV.L, Utilities and Service Systems. As described in EIR Section IV.O, Geology, Soils, and Seismicity, the Department of Building Inspection reviews proposed building plans for, among other things, potential effects on adjacent structures.

No utility relocations are likely to be required as a result of the development that could occur as a result of adoption of the draft Plan. This is because all of the potential development projects included in the analysis in this EIR would occur within existing block configurations and therefore would not require relocation of in-street utility lines. By contrast, the new Transit Center currently under construction requires relocation of multiple utility lines, both above grade and below, because the Transit Center will include basement levels spanning multiple blocks to accommodate potential future trains from high-speed rail operation and Caltrain. Thus the 2004 EIS/EIS for the Transbay Terminal replacement, Caltrain Downtown Extension, and Transbay

Redevelopment Project analyzed "the potential for damage to utilities from construction and planned relocation."

Disruption of business, should it occur, would be an economic impact and not a significant effect on the environment.

Effects related to soils stability are discussed in response to Comment GE-2, below.

Geology, Soils, and Seismicity

Comment GE-1: The EIR should discuss the implications of an earthquake on occupants of a 1,000-foot tower.

"[Page 17] Seismic underpinnings for 1000' tower. What are the implications of tenants going through a MAJOR earthquake in such a tall building. If the elevators have to go off for a period, the evacuation AND inability to reoccupy (with elevator shut off) AND will the building shed even a little bit of its skin so that the STRUCTURE can [ride] out the quake." *(Sue Hestor, on behalf of SFRG)*

Response

High-rise buildings are routinely equipped with backup generators to provide an emergency power source. As stated on EIR p. 397, this is required under the *Building Code* for buildings greater than 75 feet in height. Absent structural damage that would preclude the operation of elevators, a standby generator would enable the use of at least some portion of tall building's elevators to facilitate evacuation. As stated on p. 589, compliance with *Building Code* provisions "would ensure that the structure would not suffer substantial damage, substantial debris such as building exterior finishes or windows would not separate from the building, and that building occupants would be able to safely vacate the building following an earthquake, and that pedestrians and other bystanders would not be injured. While some damage could occur, building occupants could reoccupy the building after an earthquake and the completion of any necessary repairs." This is not to state that no debris would fall, but newer structures designed and built in accordance with the current *Code* would not be anticipated to shed large components.

Comment GE-2: The EIR does not present evidence to support its conclusion of less-than-significant impacts with respect to Geology and Soils.

"Geology and Soils: The Draft EIR concludes that potential impacts of soil subsidence and instability are 'less than significant,' despite standards of significance in the Draft EIR that suggest otherwise. The Draft EIR"s explanation for this conclusion places great reliance on the ability of geotechnical reports to prevent catastrophe without explaining how the reports create legally binding mechanisms to identify and avoid potential problems.

...

"Ground Instability

"With respect to soil and ground stability, the Final EIR should consider possible subsidence, instability, and similar effects as 'potentially significant' and should propose mitigation.

"Section O. Geology, Soils, and Seismicity describes potentially adverse impacts to buildings and utilities as a result of excavation, construction-related dewatering, ground heave as a result of pile driving, and permanent dewatering. These impacts are discussed in impact GE-3, with respect to the Plan, and Impact GE-7 with respect to the Tower. The Draft EIR concludes that the potential impacts are less than significant, and therefore no mitigation is proposed. This conclusion is based on the DBI requirements applicable to the project, which include principally a requirement to prepare a geotechnical report.

"The conclusions that the impacts are less than significant are not sufficiently supported in the Draft EIR. The Draft EIR, on pages 590 through 592 and 594, acknowledges the potential for soil to become unstable, for the ground to heave up, and for buildings, sidewalks, and utilities to settle. On page 587, the Draft EIR states that a project impact would be considered significant if it involved location 'on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.' CEQA requires that an EIR propose mitigation for potentially significant impacts to the environment. The appropriate analysis under CEQA would be to characterize the impact as potentially significant, and then propose mitigation, which could include some of the DBI requirements listed on page 592 of the Draft EIR.

"Note, however, that the DBI requirements, as presented on page 592 of the Draft EIR, would not constitute adequate mitigation under CEQA. Mitigation measures must describe the actions that will be taken to reduce or avoid an impact; deferral of the formulation of mitigation measures is ordinarily improper. 14 CCR § 15126.4(a)(1)(B). Here, the Draft EIR does not describe such actions. Rather, the Draft EIR states that, if unacceptable movement is observed during monitoring (*if* monitoring is required), 'corrective actions would be used to halt this settlement.' The only example of such corrective action given is groundwater recharge. No other examples of corrective action are offered, and it is not clear how any corrective action would avoid significant impacts associated with unacceptable movement. In short, the description of DBI requirements does not include a description of the actual actions that would be taken to reduce or avoid potential impacts. Instead, it relies on preparation of future reports, future actions, and undefined 'corrective action' without adequate explanation. To comply with CEQA, reliance on such future reports and actions must be accompanied by concrete performance standards that will be attained through well-defined methods described in the EIR.

"This shortcoming is especially pronounced in the case of the Tower construction. On page 594 of the Draft EIR, impact GE-7 states that ground settlement at the Transit Tower site could result from excavation, dewatering, and heave from pile-driving, but the effects

> "'would be less than significant with implementation of DBI procedures described above, including preparation of a detailed geotechnical report and site specific reports as needed to address the potential settlement and subsidence impacts ... ; implementation of a lateral movement and settlement survey ... if needed; and implementation of corrective actions, as necessary.'

"This analysis does not demonstrate why the potentially significant impacts of ground instability should be considered insignificant. In particular, it places great reliance on the ability of the geotechnical report to prevent any catastrophe without providing detail on how the reports create legally binding mechanisms to identify and mitigate potential problems. The report will include a 'determination' as to whether further surveys are required, but there is no assurance regarding the robustness of that determination, or the ability of the further surveys to identify unacceptable movement in a timely manner. Finally, the vague term 'corrective action' provides no meaningful assurance that significant impacts can be avoided once problems arise.

"In light of these observations, we recommend that the EIR re-classify impacts GE-3 and GE-7 as 'potentially significant,' and propose mitigation. Mitigation would probably be based on the DBI requirements described on page 592. It would also be appropriate to develop some of the ideas presented on page 591, relating to shoring, monitoring, dewatering planning, and surveying. These tactics, unenforceable as presented in the Draft EIR, could play an important role in enforceable mitigation. However, as discussed above, to the extent any mitigation defers the precise formulation of the mitigation measures, it must rely on performance standards and explain with specificity the types of actions that can and will accomplish the performance standards.

"Building Data Survey

"Given the scope of planned construction in the Plan area, and the magnitude of the Tower project itself, a pre-construction building data survey would enhance the analysis and mitigation proposed in the Draft EIR. Such a survey was required in the EIR/EIS for the Transbay Terminal / Caltrain Downtown Extension / Redevelopment Project ('Transbay Terminal EIR'). There, in connection with the planned construction of the Caltrain extension,

> "'[a] pre-construction structural survey would be completed to determine the integrity of existing buildings adjacent to and over the proposed extension. This survey would be used to finalize detailed construction techniques along the alignment and as the baseline for monitoring construction impacts during and following construction.'

"Transbay Terminal EIR, at 5-161. A similar survey would greatly enhance the mitigation proposed in the Draft EIR. Mitigation involving use or limitation of certain construction techniques, for example pile driving or shoring techniques, will be better informed to incorporate building-specific data. The specific impacts and mitigation measures discussed above would benefit from such data." *(Thomas L. Bain, BlackRock)*

Response

As stated on EIR p. 586, "The *San Francisco Building Code* is an amendment to the CBC [California Building Code]. It includes seismic safety performance standards that apply to all new construction in the City. In accordance with this code, the San Francisco Department of Building Inspection (DBI) could, in its review of building permit applications, require the project sponsor to prepare a geotechnical report pursuant to the State Seismic Hazards Mapping Act. ... [¶]As part of [the City's] permitting process, the final building plans would be reviewed by DBI. In reviewing building plans, DBI refers to a variety of information sources to determine existing

hazards and assess requirements for reducing or avoiding those hazards. ... If the need were indicated by available information, DBI would require that additional site-specific soils reports be prepared by a California-licensed geotechnical engineer prior to construction, and may require additional consultation with the project sponsor and peer review of the proposed design of the proposed project to ensure that it meets the seismic safety requirements of the *San Francisco Building Code*." Hence, the *San Francisco Building Code* is legally binding on permit holders, and DBI has the authority to enforce all of the applicable requirements. DBI may also require a project sponsor to comply with measures identified in a geotechnical report, prepared by a qualified expert, to ameliorate site-specific conditions. In addition to the *Building Code, California Civil Code* Section 832 requires property owners undertaking construction projects involving excavation to take appropriate measures to safeguard adjoining properties. It is not the preparation of a geotechnical report or soils study, in itself, that would ameliorate potential geologic, soils, and seismic impacts of new project. Rather, it is the City's established permit review process and compliance with the *San Francisco Building Code,* including the implementation of building design features required by the *Code,* as interpreted by DBI, that would avoid significant effects.

Regarding the significance criteria on EIR p. 587 that are noted by the commenter, the EIR analysis does not identify any of these geologic or soils hazards as resulting in a significant impact, when considering that the City's legally required permit review process assures compliance with the *Building Code.* Compliance with the *Building Code* is required as a matter of law, and therefore is properly assumed as part of the analysis, because DBI will not issue a building or other permit absent compliance with the *Code.* This holds true for the proposed Transit Tower, as well as for other all development in the Plan area.

Regarding the commenter's suggestion for a pre-construction structural survey of buildings near a planned construction site and the reference to a mitigation measure requiring such a survey in the "Transbay Terminal EIR," the mitigation measure in question was identified in connection with the planned subsurface extension of Caltrain tracks from the existing station at Fourth and Townsend Streets to the new Transit Center. Because that component of the project analyzed in the Transbay Terminal EIR would involve tunneling and boring within street rights of way and beneath existing structures, special attention was paid to the potential for construction damage, particularly because the planned route, along Second Street, would pass within mere feet of a number of more fragile historic buildings. It is noted that the EIR includes Mitigation Measure M-CP-5b, which would require a pre-construction survey for historical resources adjacent to new construction, because such resources, particularly if they are of masonry construction, are more likely than newer, reinforced concrete and steel buildings (such as the commenter's building at 400 Howard Street) to sustain damage from heavy construction activity.

Hazardous Materials

Comment HZ-1: The Transit Tower site could require remediation for contamination from prior uses, which must be analyzed in the EIR.

"Based on historic use of the [Transit Tower] project site (i.e. the now-demolished Transbay Terminal), we strongly recommend that sampling should be conducted to determine whether there is an issue which will need to be addressed in the CEQA compliance document. If hazardous substances are present, they will need to be addressed as part of this project.

"For example, if the remediation activities include the need for soil excavation, the CEQA document should include: (1) an assessment of air impacts and health impacts associated with the excavation activities; (2) identification of any applicable local standards which may be exceeded by the excavation activities, including dust levels and noise; (3) transportation impacts from the removal or remedial activities; and (4) risk of upset should there be an accident at the Site." *(Ryan Miya, DTSC)*

Response

The EIR evaluates the potential to encounter hazardous materials in the soil and groundwater in the Transit Center District Plan area in Impact HZ-2, EIR p. 637, and at the Transit Tower site in Impact HZ-7, p. 650. As discussed in these impact analyses, there is a high potential to encounter hazardous materials in the soil and groundwater during construction based on historic land uses in the Transit Center District Plan area. To address this, the project sponsor would be required by Mitigation Measure M-HZ-2a to comply with Article 22A of the San Francisco Health Code for the Transit Tower site and the portions of the Transit Center District Plan area that are bayward of the historic high tide line. This measure requires a site history report, and if appropriate, a soil investigation, soil analysis report, site mitigation plan, and certification report as well. If the presence of hazardous materials is indicated, a site health and safety plan would also be required. In accordance with Article 22A as specified in Mitigation Measure M-HZ-2a, soil and groundwater sampling would be conducted if the site history report indicates the potential for hazardous materials to be present in the soil or groundwater. These activities would be conducted under the oversight of the San Francisco Department of Public Health, and the Regional Water Quality Control Board or Department of Toxic Substances Control if appropriate. If exposure to any contaminants identified would be of a health concern, the project sponsor would be required by these agencies to implement a site mitigation plan specifying site cleanup level that are protective of human health and the environment, and would also be required to prepare a certification report documenting that the site mitigation requirements have been implemented. For portions of the Transit Center District Plan area that are landward of this historic high tide line, the project sponsor would be required to implement Mitigation Measure M-HZ-2b which includes similar requirements. At sites where potential exposure to vapors is expected, a project would also need to implement Mitigation Measure M-HZ-2c which requires implementation of a screening evaluation for vapor intrusion.

Air and health impacts associated with excavation activities would be addressed in the site mitigation plan prepared for the project in accordance with Mitigation Measure M-HZ-2a or

M-HZ-2b and the screening analysis conducted for vapor intrusion conducted in accordance with Mitigation Measure M-HZ-2c (as revised herein; see below). Noise standards for construction activities, including site remediation if needed, are addressed in Section F of the EIR (Impact NO-2), and dust levels are addressed in EIR Section IV.G, Air Quality, in Impact AQ-4, p. 408, and Impact AQ-6, p. 413. Transportation impacts related to construction activities are addressed in EIR Section IV.E, in Impact TR-9, p. 319, and Impact TR-16, p. 338. The health and safety plan prepared in accordance with Mitigation Measures M-HZ-2a or M-HZ-2b would address risk of upset should there be an accident at the site.

To reflect the fact that the Department of Toxic Substances Control has revised a final version of its Vapor Intrusion Guidance since publication of the DEIR (at which time only a draft version was available), Mitigation Measure M-HZ-2c, EIR p. 642, is revised as follows to reflect the final guidance document (new text is double-underlined; deleted text is shown in ~~strikethrough~~):

M-HZ-2c: Site Assessment and Corrective Action for All Sites. The project sponsor shall characterize the site, including subsurface features such as utility corridors, and identify whether volatile chemicals are detected at or above risk screening levels in the subsurface. ~~If potential exposure to vapors is suspected,~~ If so, a screening evaluation shall be conducted in accordance with guidance developed by the DTSC[fn357] to estimate worst case risks to building occupants from vapor intrusion using site specific data and conservative assumptions specified in the guidance. If an unacceptable risk were indicated by this conservative analysis, then additional site data shall be collected and a site specific vapor intrusion evaluation, including fate and transport modeling, shall be required to more accurately evaluate site risks. Should the site specific evaluation identify substantial risks, then additional measures shall be required to reduce risks to acceptable levels. These measures could include remediation of site soil and/or groundwater to remove vapor sources, or, should this be infeasible, use of engineering controls such as a passive or active vent system and a membrane system to control vapor intrusion. Where engineering controls are used, a deed restriction shall be required, and shall include a description of the potential cause of vapors, a prohibition against construction without removal or treatment of contamination to approved risk-based levels, monitoring of the engineering controls to prevent vapor intrusion until risk-based cleanup levels have been met, and notification requirements to utility workers or contractors who may have contact with contaminated soil and groundwater while installing utilities or undertaking construction activities. In addition, if remediation is necessary, the project sponsor shall implement long-term monitoring at the site as needed. The frequency of sampling and the duration

[fn357] California Department of Toxic Substances Control, ~~*Interim*~~ *Final, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance).* ~~December 15, 2004, revised February 7, 2005.~~October, 2011.

of monitoring will depend upon site-specific conditions and the degree of volatile chemical contamination.

The screening level and site-specific evaluations shall be conducted under the oversight of DPH and methods for compliance shall be specified in the site mitigation plan prepared in accordance with this measure, and subject to review and approval by the DPH. The deed restriction, if required, shall be recorded at the San Francisco Office of the Assessor-Recorder after approval by the DPH and DTSC.

Cumulative Impacts

Comment CU-1: The EIR does not analyze cumulative ground stability and vibration impacts.

"Cumulative Impacts: The Draft EIR does not analyze the cumulative ground stability and vibration impacts of the project combined with the impacts of the related and adjacent below-grade Transit Center construction, which is expected to begin in early 2012.

...

"The cumulative impacts discussion in Section O. Geology, Soils, and Seismicity on page 595 of the Draft EIR does not discuss the construction of the Transit Center or the Caltrain extension, both of which will involve large amounts of excavation in the area, which could lead to cumulative effects with regard to ground stability. The Final EIR should include a discussion of the impacts on ground stability from the excavations in the related, adjacent projects, in conjunction with impacts from construction in the Plan area and Tower construction.

"The cumulative impacts discussion in Section F. Noise and Vibration does mention the Transit Center and Caltrain extension on page 368. The analysis there notes that 'train track tunneling and construction would not occur until a later date, which is dependent on funding.' However, according to the TJPA website, excavation and bracing for the Transit Center below grade structure, which will accommodate future Caltrain and potential high-speed rail service, is expected to begin in early 2012. http://transbaycenter.org/construction-updates/project-schedule (visited on 11/11/11). This section of the Final EIR should address such construction, as should Section O. Geology, Soils and Seismicity." *(Thomas L. Bain, BlackRock)*

Response

Regarding cumulative vibration impacts involving ongoing construction on the new Transit Center and other projects, as stated in Impact NO-3, EIR p. 362, most construction activities other than pile driving do not generate substantial vibration at a distance equivalent to the width of a Plan area street (82.5 feet). For there to be a cumulative vibration impact, multiple projects would have to be engaged at the same time in activities causing substantial vibration. At the Transit Center site, demolition of the former Transbay Terminal was completed in 2010, the new shoring wall has been constructed, and piles supporting the temporary roadway and construction trestle

will be installed by the end of 2012. After this time, vibration levels will be diminished at the Transit Center construction site. Because it is likely that no other project in the Plan area, and particularly no other project proximate to the commenter's building at 400 Howard Street, would be ready to begin construction before 2013, no substantial cumulative vibration effects from construction would be anticipated.

Concerning ground stability, the commenter presents no facts in support of alleged "cumulative effects with regard to ground stability." As stated above in response to Comment GE-2, compliance with the *San Francisco Building Code* is required as a matter of law and the Department of Building Inspection (DBI) will not issue a building or other permit absent compliance with the *Code*. As part of its permit review procedures, DBI requires submittal of geotechnical, engineering, and foundation reports and plans that take account of the conditions extant on a particular building site. For example, excavation for the new Transbay Transit Center will be to a depth of 60 feet for the "train box" that would accommodate planned future rail service. Therefore, for a site adjacent to the new Transit Center, the design of any subsequent adjacent structures would have to take this excavation and the train box into account, which could limit the depth of excavation on the adjacent site.

The commenter is correct that construction has begun on the Transit Center's below-grade structure that would accommodate future train traffic. However, the reference on EIR p. 368 is to the potential future extension of the Caltrain tracks from Fourth and Townsend Streets to the new Transit Center, which, as indicated above in the response to Comment GE-2, would involve tunneling and trenching proximate to historical resources.

Alternatives

Comment ALT-1: The EIR should include a preservation alternative that would avoid demolition of any historic buildings.

"The HPC does not believe the reduced scope project should be regarded as a preservation alternative. The DEIR should include a true preservation alternative that looks at not demolishing any historic resources.

"The HPC disagrees with the finding in the DEIR that the reduced scope project will have a reduced impact to the Palace Hotel. While the reduced scope project may have less shadow impacts, there will be no difference between the proposed project and the reduced scope project to the Palace Hotel from a preservation perspective." *(Charles Chase, Historic Preservation Commission)*

Response

The commenter's opinion regarding the degree to which Alternative B, the Reduced Project Alternative, would reduce or avoid impacts to historic architectural resources is noted. The EIR does not describe Alternative B—or any of the other alternatives analyzed—as a "preservation alternative." A true preservation alternative most often is required by the Planning Department in an environmental impact report for an individual development project that would adversely

affect historic architectural resources. Such an alternative is generally designed to accommodate all or most of the project's development program in a manner that would avoid, or at least minimize to the maximum extent feasible, the proposed project's significant impacts on historic architectural resources. For example, a preservation alternative could entail adaptive reuse of a historic building, typically in compliance with the Secretary of the Interior's Standards for Rehabilitation. A preservation alternative might also involve the expansion of a historic building with an addition that is compatible with the building's historic fabric and character-defining features.

In the case of a program EIR such as this one, for which the project being analyzed is a policy framework for many square blocks, including rezoning to increase height limits on a dozen different sites, a preservation alternative that would preclude demolition of any historic buildings is far more complex. It must be understood at the outset that, as a rule, San Francisco does not currently prohibit the demolition or substantial alteration of historic buildings. Article 11 of the *Planning Code*, Preservation of Buildings and Districts of Architectural, Historical, and Aesthetic Importance in the C-3 Districts, generally governs the treatment of historic buildings in Downtown San Francisco. While the City has a number of controls, programs, and incentives aimed at avoiding adverse impacts to historic buildings, nothing in Article 11 fully precludes the demolition of historic architectural resources. As noted in the EIR on p. 234, Article 11 generally prohibits the demolition of "Significant" (Category I and II) buildings, unless it can be demonstrated that they have no substantial market value or reasonable use, after taking into account costs of rehabilitation and any development rights transferred to another site. (Demolition may also be approved if the building presents an imminent hazard.) The same controls apply to "Contributory" (Category III and IV) buildings from which development rights have been transferred to another site. For other Contributory buildings, retention is encouraged under Article 11, and Contributory buildings in a conservation district may not be demolished unless a replacement building is approved, having been found to not adversely affect the district.[22]

Given the existing controls in Article 11, an alternative that prohibits demolition of any and all identified historic buildings could entail designation of all historic buildings in the Plan area as Category I or II ("Significant") Buildings under Article 11, designation of all such structures as City Landmarks or as contributing resources to a Landmark District (formerly known as a Historic District) under Article 10 of the *Planning Code*, a substantial strengthening of existing controls in Article 11, or some combination of these or other strategies. All of these options would elevate the importance of at least some of the historic buildings in the Plan area beyond what is appropriate based on the completed evaluations of the historic importance—or lack thereof—of

[22] Separate controls apply to designated City Landmarks, under *Planning Code* Article 10. In general, demolition of Landmarks is more difficult to approve than demolition under Article 11, because Article 10 requires issuance of a Certificate of Appropriateness indicating that a project "will preserve, enhance or restore, and shall not damage or destroy, the exterior architectural features of the landmark" (*Planning Code* Section 1006.7(b)). Action on a request for demolition of a landmark may be delayed by the City for up to 360 days under Section 1006.6(b), to allow the City to pursue alternatives.

each building. In particular, designating all Plan area historic buildings as "Significant" under Article 11 or as City Landmarks or contributors to a Landmark District under Article 10 would circumvent the procedures in the *Planning Code* for case-by-case evaluation of buildings and districts identified for historic resource designation under the *Code*. Strengthening the controls in Article 11 to prohibit demolition of all historic buildings—both Significant and Contributory Buildings—would likely require overhaul of the City's existing regulations and incentives related to preservation, including substantial modification of the Transfer of Development Rights program. For these reasons, such an alternative is not considered feasible.

Moreover, an alternative that would preclude demolition of all historic architectural resources could be inconsistent with the direction in CEQA Guidelines Section 15126.6 that alternatives "feasibly attain most of the basic objectives of the project." As stated on p. 8 of the EIR, the "overarching premise" of the draft Plan is "'is to continue the concentration of additional growth where it is most responsible and productive to do so—in proximity to San Francisco's greatest concentration of public transit service,'" while also providing funding for development of the new Transit Center and other infrastructure improvements. Mandating the preservation of all historic buildings in the Plan area would make it more difficult to achieve the draft Plan's growth objectives, in that six of the 16 specific sites where development in the Plan area is assumed (see EIR Figure 14, p. 73) contain one or more historic buildings. While some of these sites could conceivably be developed at or near the intensity assumed in the growth forecasts prepared by the Planning Department in conjunction with the draft Plan, other sites would provide for substantially less development than envisioned under the draft Plan if all historic buildings were retained. For example, development on the 50 First Street site under Alternative B would accommodate about half the development program currently envisioned for that site, while a site at 648 – 660 Howard Street under Alternative B would provide for about one-third of the space assumed under the draft Plan. Under Alternative B, development of some other sites (described on EIR pp. 672 – 674) is still assumed to result in the loss of certain historic architectural resources, because some of the sites (e.g., 201 Second Street and 669 Howard Street) are either somewhat awkwardly configured and/or too small to incorporate full retention of all buildings and still provide for a viable development program that approaches that envisioned under the draft Plan.

Because it is not reasonable to conclude that no historical resources would be demolished over the lifetime of the draft Plan, if implemented, the EIR concludes, on p. 266, that "it is presumed that the demolition of one or more contributing resources to the existing and potential historic districts would occur during the lifetime of the Plan." Therefore, the EIR properly considers effects of the draft Plan on historic architectural resources to be significant and unavoidable, and does not identify an alternative that would preclude such effects for the reasons discussed above.

Concerning the Palace Hotel, as stated in the description of Alternative B, the Reduced Project Alternative (p. 673), it is presumed under this alternative "that development at five sites in the Plan area that contain identified or potential historic architectural resources would generally be

undertaken consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*[footnote omitted] (or otherwise determined by Planning Department preservation staff to result in less-than-significant impacts under CEQA, to the maximum extent feasible) in order that historical resources on these sites are minimally affected." This presumption applies to the Palace Hotel, among other buildings and sites. The Reduced Project Alternative would entail development of a 365-foot-tall tower at the southwestern corner of the Palace Hotel, compared to a 600-foot tower assumed under the draft Plan. As noted on pp. 234 – 235 of the EIR, the Palace Hotel is one of two Category II Significant Buildings under *Planning Code* Article 11 in the Plan area. Category II Buildings "permit additional height to be added, but only on certain portions and generally with reference to nearby buildings" (p. 234).

In the case of the Palace Hotel, the reference for additional height is the existing hotel building. Article 11 states that "a new structure or addition, including one of greater height than the existing building, may be permitted on that portion of the lot not restricted ... even if such structure or addition will be visible when viewing the principal facades at ground level, provided that the structure or addition does not affect the appearance of the retained portion as a separate structure when so viewing the principal facades and is compatible in form and design with the retained portion" (Sec. 1111.6(a)(7)). As noted, the description of the Reduced Project Alternative assumes that development on sites containing historical resources would result in less-than-significant impacts on those resources under CEQA. It is noted that compliance with *Planning Code* Article 11 can involve the application of different standards (such as those quoted above) than the standard for significant effect under CEQA, which, as stated on EIR p. 238, is whether a project would cause "a substantial adverse change in the significance of a historical resource"; that is, whether the project "'demolishes or materially alters, in an adverse manner, those physical characteristics"' of the resource that 'convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or account for its inclusion in a local register of historical resources....'"

As stated in the EIR on p. 264, the proposed Palace Hotel tower is subject to project-specific CEQA evaluation that, among other things, will consider that project's effects on the historic Palace Hotel (City Landmark No. 18). While the description of Alternative B assumes no significant impact on the Palace Hotel, if it were determined through further review that a shorter addition to the Palace Hotel is required to avoid a significant impact under CEQA, the effects of Reduced Project Alternative would be less than those described in the EIR.

It is also noted that the EIR includes the required No Project Alternative (Alternative A), which would entail no increase in height limits or other *Planning Code* revisions, nor adoption of the draft Plan, and which would result in lesser effects on historical resources. As stated on EIR p. 668, however, even under existing land use controls, significant adverse effects would be expected on one or more historical resources in the Plan area as a result of future development projects. Therefore, as with the proposed project, the No Project Alternative would have a significant and unavoidable impact on cultural resources.

Comment ALT-2: The EIR should analyze a taller alternative for the Transit Tower.

"After carefully viewing and reading your current EIR proposal of the height design for the Transbay Tower and comparing it with the original design of 80 stories and 1,200 feet, I deeply feel your original design is way superior than your current shortened design that you are currently proposing. In shortening the tower, you are defeating your own original vision for a much bolder, iconic tower that would truly stand out on the San Francisco skyline. Your renderings of the shortened tower around the city just doesn't look or feel like it dominates the skyline. From the different vistas it falls way flat. A 1,200 foot tower fulfills every aspect of an iconic tower. Your excuse of shadows doesn't make sense. When you plan to build to 1,000 feet or over, you are going to have shadows regardless what people estimate you are going to have. To say by going up to 1,200 feet you are casting more shadows and not build this tower at that height is ridiculous and hypercritical. San Francisco does not deserve a shortened down tower on its skyline. Its shortened stale skyline of the past 40 years needs a break out of its tired conservative chains that has stalled progress of any future iconic towers in this city that are talked about, but never truly realized or built because of selfish politics that go on in this city. San Francisco needs visionary pioneers that have the foresight and bold daring that aren't afraid of change.

"San Francisco needs ... Pelli, Clarke, Pelli's original design of 1,200 feet to rise to a soaring iconic breath taking height that will certainly do justice to our beautiful skyline for all the world to enjoy and visit. Also, one other negative aspect is that the shortened design of the tower would not have an observation deck or an entertaining restaurant for the visiting public to enjoy of the higher vistas it would see of the surrounding Bay Area. Remember, all great cities have one or more shadows, but does that stop you from visiting them? In our present day, shadows are more welcomed by the millions of people who suffer from skin cancer than in the past. Going with the 1,200 foot tower will not only put more people to work and create more jobs, but it would also raise rent prices higher in the upper floors of the tower. It would be more breathtaking on the skyline, which would draw more millions of tourists to the city, which would make more money for the San Francisco economy.

"Such as restaurants, hotels, and tourist attractions. It's a no brainer to go with the 1,200 foot tower design over the shortened 1,070 foot tower. For this one special time, and truly special iconic tower, cannot the board of the Planning Department bend the shadow zone rules for the higher more truly beautiful deserving 1,200 foot tower design for San Francisco to really shine as a world class city for the world to see?" *(Ruben Santiago)*

"I was in agreement to some degree with the gentleman who talked about the 1,200-foot tower. I don't see it analyzed here, I'm not saying it needs to be, but I guess, you know, my question is why it is not part of the analysis as an alternative. I'm not saying it needs to be, I think we have plenty of preferred option and, then, the other options that are presented being lower, but that was something that was brought in and maybe it could be answered in terms of a response." *(Commissioner Michael Antonini)*

Response

In general, "an EIR is required to consider '...a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...,'" as stated on EIR p. 662. Although the EIR does analyze a Developer Scenario (Alternative D, p. 687) that would include some taller buildings than proposed under the draft Plan, this alternative

reflects actual project applications on file with the Planning Department. The draft Plan does not propose a height limit of up to 1,200 feet, because there is no application on file for a building of that height and, therefore, a 1,200-foot-tall Transit Tower is not considered reasonably foreseeable. It is noted that an earlier proposal for the Transit Tower contemplated a 1,200-foot building. However, this was not a part of the draft Plan released in November 2009 and is not currently proposed by the Transbay Joint Powers Authority, as reflected in its application on file with the Planning Department, or by the developer selected by the Authority to build the Transit Tower, as reflected in applications recently filed in March 2012.

Comment ALT-3: A Reduced Height Alternative is Not Appropriate.

"The Transbay Transit Center program lies at the heart of the plan area and was a catalyst for the plan. When the Transbay Program was approved in 2004, the primary funding for the project was proceeds from the former Embarcadero Freeway parcels along Folsom Street, tax increment, bridge toll revenues, and San Francisco half-cent sales tax, but the program still had a significant funding shortfall.

"In 2006, Mayor Newsom and then Chair of the San Francisco Transportation Authority, Jake McGoldrick, convened a working group to ensure the entirety of the Transbay Program could be constructed as soon as possible. The working group recommended the creation of a special zoning district around the transit center permitting a limited number of tall buildings, including two on public parcels. This zoning district, developed in the plan and analyzed in the Draft EIR, would generate additional revenues for the Transbay Program in three ways, first, the sale of the two public properties rezoned the plan, the Transit Tower site, and the land between Natoma and Howard Streets known as Parcel F, will produce revenues for the Transbay Program.

"The manner of that revenue, however, hinges on the value for development and that flows directly from the zoning heights. While we are all concerned about shadows produced by the buildings of the heights proposed in the plan, we were pleased to see that the shadows from buildings on Parcels T and F will cast minimal additional shadow on City parks and that shadows will be diffuse due to the distance of the parks from the new buildings. Given the significance of the revenues from these property sales, the Transbay Program, and the importance of the Transbay Program to the City and the region, we do not believe that the shadows warrant a reduction of proposed heights for the Transit Tower and Parcel F of 1,070 and 750 feet, respectively." *(Robert Beck, Transbay Joint Powers Authority)*

Response

The commenter's support for the height limits as proposed under the draft Plan is noted, and will be considered by the decision-makers (Planning Commission, Board of Supervisors, and other bodies noted on EIR pp. 49 – 50) in their consideration of the draft Plan and the proposed Transit Tower.

Comments on the Merits of the Proposed Project

Comment PR-1: Comments on the merits of the proposed Transit Center District Plan and Transit Tower.

"In an article dated 9/23/11, Forbes Magazine ranked San Francisco as the 7th most stressful city in the U.S. The reasons given were 'Residents here deal with a 10.1% unemployment rate, the nation's second least affordable housing and a high cost of living – not to mention the country's sixth worst traffic congestion and the second highest population density.'

"Forbes Magazine ranked New York City as the second most stressful city in the U.S., in part, because it has the 'most extreme population density'.

"Over the past twenty-five years, San Franciscans have opposed the 'Manhattanization' of this city. San Franciscans have opposed the Manhattan model of development with its extreme density, in part, as this extreme density contributes to elevated levels of stress.

"With the proposed Transbay project expanding very tall buildings to this extent, the result will likely contribute to stress levels being elevated even further." *(Eileen Boken)*

"In Europe transit centers are built to low heights of four to ten stories. So if there is any national conflict there it will affect a decongested low built area. This was the thinking before the second World War. This is not what the Italians have been planning for the city of San Francisco, which has seismic sensitivities. Italian designers of the downtown plan are planning to construct six or more buildings at the transit center which would allow a 500 foot, a 700 foot, and a 1,000 foot height. A typical height per floor is eleven feet. This is a reckless and irresponsible plan and is totally unnecessary. Many office buildings in this area are under utilized now. There is a second 60 story building, an office tower, now completed across the street.

...

"The original plan for a nine story transit building here was better. I have seen such a nine story building in California which was a NUISANCE for waiting passengers. The old transit center building which has been demolished was eight stories high.

"There is no city in the world that has such a tall building at the transit center. This is very bad planning. Shanghai, China, and Japan both allowed buildings in excess of twenty stories at the transit center. Shanghai is over-built. San Francisco is becoming over-built in the downtown area. *(Lloyd Schloegel)*

"Very much looking forward to the construction progressing for all the different aspects of the Transbay Area and Rincon Hill, and I'm happy to say that construction cranes are starting to appear again in my neighborhood at 333 Harrison. I think 45 Lansing is probably going to start digging some dirt soon. It's exciting to see people moving in. Hopefully, neighborhood servicing businesses will come.

"...I'm totally supportive of the building heights and supportive of the Transbay JPA. I complimented them in the past; I think they've done a great job of keeping us informed every week. Every Friday, we get an email telling us, 'Here's the construction that's going to be happening for the next 10 days,' and that's commendable." *(Jamie Whitaker)*

Response

The comments do not address the adequacy or accuracy of the EIR, but rather speak to the assumptions underlying the draft Transit Center District Plan itself. Therefore, no response is required. The comments will be considered by the decision-makers (Planning Commission, Board of Supervisors, and other bodies noted on EIR pp. 49 – 50) in their consideration of the draft Plan and the proposed Transit Tower.

Concerning the prior Transbay Terminal that was demolished in 2011, that building was not eight stories tall, as stated by one commenter. It was a three-story building with basement, approximately 50 feet tall at its highest point. The new Transit Center currently under construction will be approximately 70 feet in height.

E. Revisions to the Draft EIR

Changes to DEIR Text

The following changes to the text of the Draft EIR are made in response to comments on the DEIR or are included to clarify the DEIR text. In each change, new language is double underlined, while deleted text is shown in ~~strikethrough~~; where text is added without any deletion, double-underlining is not used for ease of reading.

On page S-5, the second sentence of the second paragraph under "Transit Tower" is revised as follows to correct an editorial error:

> The building would have ~~about~~ retail space and a lobby on the ground floor, additional retail space on a portion of the fourth floor (connected by a footbridge to the planned City Park atop the new Transit Center), and 58 floors of office space, along with two mechanical floors.

On page S-10, a component is added to Mitigation Measure M-CP-3 in Table S-1, Summary of Impacts and Mitigation Measures for the Proposed Transit Center District Plan, and the same component is referenced in Mitigation Measure M-C-CP, on pages S-10 and S-47 (see text change for page 268, below).

On page S-11, Mitigation Measure M-TR-1c in Table S-1 is revised to correct a typographical error (see text change for page 292, below).

On page S-20, Mitigation Measure M-NO-1a in Table S-1 is revised to allow subsequent review of individual development projects to be tailored to project- and site-specific conditions (see text change for page 358, below).

On page S-21, Mitigation Measure M-NO-1e in Table S-1 is revised to clarify the requirements for analysis of noise from building mechanical equipment (see text change for page 358, below).

Also on page S-21, the references to cultural resources mitigation measures for construction vibration in Mitigation Measure M-NO-3 in Table S-1 are revised to correct an editorial error (see text change for page 363, below).

On page S-22, Mitigation Measure M-AQ-2 in Table S-1 is revised to conform to the Planning Department's current approach to health risk analysis (see text change for page 403, below).

On page S-23, Mitigation Measure M-AQ-3 in Table S-1 is revised to conform to the Planning Department's current approach to health risk analysis (see text change for page 405, below).

On page S-24, Mitigation Measure M-AQ-5 in Table S-1 is revised to conform to the Planning Department's current approach to health risk analysis (see text change for page 411, below).

On page S-37, Mitigation Measure M-HZ-2c in Table S-1 is revised to reflect the state's Final Vapor Intrusion Guidance that was released after publication of the DEIR (see text change for page 642, below).

On page S-51, Mitigation Measure M-AQ-7 in Table S-1 is revised to conform to the Planning Department's current approach to health risk analysis (see text change for page 417, below).

On page S-67, the section title at the top of the page is revised as follows to correct an editorial error:

C. Significant Environmental Impacts That Cannot Be Avoided ~~in~~ if the Project Is Implemented

On page 6, Figure 1 has been revised to enlarge the street names enlarged. (The revised figure appears following p. C&R-139.)

On page 14, in Figure 3, the proposed height limit for the site at 41 Tehama Street is revised from 400 feet to 360 feet and proposed height limit for the Transbay Transit Center site is revised to 100 feet, from 80, 450, and 550 feet at present, to incorporate April 2012 revisions to the November 2009 Draft Plan. The revised Figure 3 appears following p. C&R-139.

On page 16, the second bulleted paragraph is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> On development sites larger than 15,000 square feet within a prescribed sub-area of the C-3-O (SD) district, new construction greater than 6:1 FAR would be required to have at least ~~three~~ two square feet of commercial space for every one square foot of residential~~, hotel, or cultural~~ space. (November 2009 Draft Plan, p. 19; April 2012 Plan Supplement, p. 3)

On page 17, the following paragraph is added immediately preceding the heading "Urban Form: Building Height and Design" to clarify that, under the draft Plan, both residential and non-residential density would be limited only by building height and bulk restrictions, and not by limits on floor area ratio or dwelling unit density:

> In addition to the elimination of limit on FAR, the draft Plan would also eliminate the existing maximum dwelling unit density in the C-3-O (SD) use district. Thus, both residential and non-residential density would be limited only by building height and bulk restrictions. The Draft Plan also proposes elimination of the requirement for Conditional Use authorization for residential densities greater than 1 unit per 125 square feet of lot area.

On page 18, the following text is added to the second full paragraph to incorporate an April 2012 revision to the November 2009 draft Plan:

> The Plan also states that, if the Transit Tower is ultimately constructed to a height less than 900 feet, the City should consider creating a 1,000-foot height zone near First and Mission Streets to ensure creation of "a new crown to the skyline adjacent to the Transit Center" (April 2012 Plan Supplement).

Also on page 18, the following text is added prior to the last paragraph to incorporate an April 2012 revision to the November 2009 draft Plan:

> The April 2012 Supplement to the draft Plan proposes to limit shadow effects from buildings taller than the existing maximum height limit of 550 feet, stating:
>
> > The typical height limit rules that apply to buildings in the S bulk districts which allow tower extensions and that govern architectural elements at the tops of buildings should not apply to

buildings taller than 550 feet. Instead, a new bulk district, S-2, with specific rules should be crafted to apply to such tall buildings to reflect their central and iconic positions on the skyline in order to enhance their appearance while minimizing potential visual and shadow impacts.

Under existing zoning, *Planning Code* Section 263.9 allows a building to have additional height up to 10 percent above the height limit if the bulk of the building's "upper tower" (approximately the upper one-third) is reduced by a specified percentage (defined in Section 271), compared to the bulk that would result from a vertical extension of the lower tower. As a condition of the additional height, the Planning Commission must find, pursuant to the Section 309 approval process, that "the upper tower volume is distributed in a way that will add significantly to the sense of slenderness of the building and to the visual interest to the termination of the building, and that the added height will improve the appearance of the sky-line when viewed from a distance, will not adversely affect light and air to adjacent properties, and will not add significant shadows to public open spaces."

The draft Plan, as amended, proposes that, in the proposed new S-2 bulk district, buildings greater than 550 feet in height may gain approval for additional height only to accommodate unoccupied building features, including mechanical/elevator penthouses, enclosed and unenclosed rooftop screening, and "unenclosed architectural features." The Planning Commission would have to review and approve such additional height pursuant to *Planning Code* Section 309, and would have to determine that three specific criteria are met: 1) the additional building elements would "not add more than insignificant amounts of additional shadow compared to the same building without such additional elements on any public open space"; 2) other than a spire limited to 50 feet in height and 18 feet in maximum plan dimension, the additional height would be limited to 7.5 percent of the roof height of the highest occupied floor (except that no limit would apply to a building in the 1,000-foot height district—which is to say that the proposed Transit Tower would not be limited in the height of its rooftop sculptural feature); and 3) the additional rooftop building elements "are designed as integral components of the building design, enhance both the overall silhouette of the building and the City skyline as viewed from distant public vantage points by producing an elegant and unique building top, and achieve overall design excellence" (April 2012 Plan Supplement, p. 6)

On page 19, in Table 1, the proposed height limit for the site at 41 Tehama Street is revised from 400 feet to 360 feet to incorporate an April 2012 revision to the November 2009 Draft Plan.

On page 21, the second sentence of the fifth paragraph is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

A ~~10~~ 12.5-foot setback would be required along the south side of Mission Street between First and Fremont Streets (location of the Transit Tower site).

On page 27, the following text is added prior to the heading "Streets and Circulation" to incorporate an April 2012 revision to the November 2009 draft Plan:

Regarding off-street freight loading, the draft Plan states:

- *Amend Section 155.2 to establish six as the maximum number of required off-street loading spaces for non-residential buildings (April 2012 Plan Supplement, p. 8).*

On page 29, Figure 6 has been revised to depict bicycle lanes proposed on Fremont, Main, and Beale Streets, to incorporate an April 2012 revision to the November 2009 draft Plan. (The revised figure appears following p. C&R-139.)

On page 31, the second sentence of the last (partial) paragraph, continuing onto page 32, is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> The Plan ~~does not~~ proposes new bicycle lanes on ~~existing streets, but does propose that lane configurations on~~ Fremont, Beale, and Main Streets ~~"maintain flexibility for consideration of future bicycle improvements"~~ (see Figure 6).

On page 35, the four bullets in the center of the page concerning Planning Code changes to implement the draft Plan's historic resources policy direction are revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

- *Based on the District Plan proposal to rezone all of the Plan area to C-3-O (SD) with a base FAR of 6:1, modify the TDR rules in the Planning Code for the Plan area to require that development purchase TDR for all gross square footage between 6:1 and 9:1 FAR. For development projects that have been entitled prior to January 1, 2012 and purchased TDR prior to 2012 (as certified in a recorded transfer to that property by the Planning Department) in anticipation of needing it for entitlement based on prior TDR rules, allow use of those TDR units and provide partial waiver of new impact fees. (November 2009 Draft Plan, p. 100; April 2012 Plan Supplement, p. 9).*
- ~~*Modify the TDR rules for the C-3-O (SD) to enable eligible historic properties to sell TDR equivalent between the existing square footage of the lot and 9:1 FAR, rather than just to base FAR 6:1 (November 2009 Draft Plan, p. 100).*~~
- *Pursue expansion of the supply of available TDR to meet expected demand or provide flexibility for development in satisfaction of the TDR requirement by providing an in-lieu mechanism that directly benefits the preservation, rehabilitation, maintenance and public education of historic resources in the downtown. (November 2009 Draft Plan, Policy 5.8; April 2012 Plan Supplement, p. 9)*

~~Revision to the *Planning Code* proposed in connection with the above policies is as follows:~~

- ~~*Establish a Downtown Historic Preservation and Rehabilitation Fund and a TDR In-Lieu Fee, whose proceeds would be deposited in the Fund. Give project sponsors the option to pay into this Fund in lieu of purchasing TDR. The price of the fee shall be set at such a rate that it is more than the historical average market price for TDR, such that purchasing TDR continues to be the preferred option (November 2009 Draft Plan, p. 100).*~~

On page 36, the wording of Plan Policies 6.1 and 6.5 is revised as follows to incorporate April 2012 revisions to the November 2009 draft Plan:

- Create efficient, shared district-scale energy~~, heating and cooling~~ systems in the district (November 2009 Draft Plan, Policy 6.1; April 2012 Plan Supplement, p. 11).
- Identify and protect either suitable public sites or major development sites with the Plan area for locating renewable or CHP generation facilities (November 2009 Draft Plan, Policy 6.5; April 2012 Plan Supplement, p. 11).

On page 38, the same change (deletion of the word "about") as noted above on page S-5 is made to the second sentence of the second paragraph under "Transit Tower."

On page 48, to correct an error in the description of the proposed project at 181 Fremont Street, the fourth sentence in the first bulleted paragraph (entitled "177-187 Fremont Street") is revised as follows:

> As proposed, this project would ~~not~~ be consistent with the Plan's proposed 3:1 ratio of office to non-office space.

Also on page 48, the seventh sentence in the first bulleted paragraph (entitled "177-187 Fremont Street") is revised as follows to incorporate an April 2012 revision to the November 2009 Draft Plan:

> The draft Plan states, in the context of the proposed Transit Tower, "Building elements (e.g. mechanical penthouses) above ~~that height~~ 1,000 feet should be set back considerably from the building's façade or limited in bulk and enclosure such that they would not cast additional significant shadows...."

On page 66, to correct a typographical error, the following revision is made to the first sentence under the heading, "Planning Code Section 295":

> Section 295 of the Planning Code, the Sunlight Ordinance, was adopted through voter approval of Proposition K in November 1984 ~~1994~~ to protect certain public open spaces from shadowing by new structures.

On page 74, in Table 3, the proposed height limit for the site at 41 Tehama Street is revised from 400 feet to 360 feet to incorporate an April 2012 revision to the November 2009 Draft Plan.

On page 128, Figure 30B has been revised to include the approved design for the Museum of Modern Art expansion project. (The revised figure appears following p. C&R-139.)

On pages 137 and 138, Figures 34A and 34B have been revised to add identifying labels to the towers of the Bay Bridge West Span. (The revised figures appear following p. C&R-139.)

On page 235, the last paragraph is revised as follows to correct the number of historical resources in the Plan area individually listed on the National Register of Historic Places:

> There are ~~two~~ three individually listed National Register properties within the Plan area: the Matson Building and Annex, at 215 Market Street; ~~and~~ the PG&E Office Building and Annex, at 245 Market Street; and the J.A. Folger & Co. Building at 101 Howard Street.

On page 236, comparable edits are made to the fourth sentence in the paragraph under "California Register of Historical Resources," as follows:

> The ~~two~~ three designated National Register-listed properties in the Plan area described above, the Matson Building and Annex, at 215 Market Street; ~~and~~ the PG&E Office Building and Annex, at 245 Market Street; and the Folger Building at 101 Howard Street, as well as the Second and Howard Streets Historic District, are also listed in the California Register, as are three buildings formally determined eligible for listing on the National Register, at 76 First Street, 72 Tehama Street, and 85 Second Street.

On page 237, the third line is revised as follows to include the building at 145 Natoma Street in the list of buildings that were found to appear eligible for listing on the California Register of Historical Resources as part of the Plan area survey:

> ... Street; 116, 145, and 147 Natoma Street; 111, 137, and 140 New Montgomery Street; 79 Stevenson Street; ...

On page 267, the second sentence of the first paragraph is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> Among other things, the draft Plan would reduce the square footage requirement for the purchase of development rights by each individual development project from all floor area greater than a floor area ratio (FAR) of 6:1 to floor area between6:1 and 9:1 FAR, seek to expand the supply of TDR through designation of eligible buildings, and potentially establish a Downtown Historic Preservation and Rehabilitation Fund and an in-lieu fee (whose proceeds would go to the fund) that developers could pay in lieu of purchasing transferrable development rights.

On page 268, the following mitigation component is added to Mitigation Measure M-CP-3 to provide for potential additional mitigation for adverse effects on historic architectural resources:

> **M-CP-3d: Salvage of Historical Resources.** Prior to demolition of historical resource(s) that are significant due to architecture (resource(s) that embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values), the project sponsor of a development project in the Plan area shall consult with a Planning Department Preservation Technical Specialist and/or other qualified parties regarding salvage of materials from the affected resource(s) for public information or reuse in other locations.

On page 270, the second full sentence of the first partial paragraph is revised as follows to correct the references to the mitigation measures that follow:

> Mitigation Measures M-CP-5a ~~3b~~ and M-CP-5b ~~3c~~ would require contractors to undertake best practices during construction and to conduct pre-construction surveys of historical resources within 125 feet of proposed construction (to allow for a 25 percent safety factor) and to conduct construction-period monitoring of these resources to ensure that potential construction impacts would be reduced to a less-than-significant level.

On page 273, Mitigation Measure M-C-CP is revised as follows to incorporate the new component of Mitigation Measure M-CP-3:

> **M-C-CP:** Implement Mitigation Measures M-CP-3a, **HABS/HAER Documentation,** ~~and~~ M-CP-3b, **Public Interpretive Displays,** ~~and~~ M-CP-3c, **Relocation of Historical Resources** and M-CP-3d, **Salvage of Historical Resources.**

On page 292, Mitigation Measure M-TR-1c is revised as follows to correct a typographical error:

> **M-TR-1c: Beale / Mission Streets Bulbs and Optimization:** At the intersection of Beale and Mission Streets, the Municipal Transportation Agency (MTA) and Department of Public Works (DPW) could install bulb-outs on the north and south crosswalks to reduce pedestrian crossing distances and times and optimize the signal timing plan at this intersection during the weekday p.m. peak hour by reallocating green time from the less-congested ~~westbound~~ eastbound / westbound Mission Street approaches to the southbound Beale Street approach.

On page 304, the last sentence of the second paragraph is revised as follows to clarify the impact on Golden Gate Transit:

> Plan ridership would ~~cause~~ add less than 5 percent to Golden Gate Transit capacity utilization in the p.m. peak hour, and therefore would have a less-than-significant impact on p.m. peak-hour Golden Gate Transit bus service.

Also on page 304, the fourth sentence of the last paragraph is revised as follows to correct the date that Golden Gate Transit will relocate its mid-day bus storage yard:

> Golden Gate Transit buses also use portions of Howard Street and Folsom Street when heading to and from Golden Gate Transit's mid-day yard, at Eighth and Harrison Streets, although they will relocate to a new storage yard beneath the Bay Bridge west approach in 2013.

On page 307, footnote 174 is revised as follows to correct the date that Golden Gate Transit will relocate its mid-day bus storage yard:

> 174 It is anticipated that Golden Gate Transit will move midday bus storage to the area beneath the elevated I-80 freeway at Fourth Street in connection with the operation of the Transit Center, in 2013 ~~by 2017~~.

On page 312, the paragraph immediately preceding Impact TR-5 is revised as follows to clarify the conclusion regarding pedestrian congestion at street corners:

> It is noted that the street corner congestion that would occur at First/Mission Streets, New Montgomery/Howard Streets, and Beale/Howard Streets, ~~although not~~ a significant impact due to Plan growth only but not with the inclusion of the public realm improvements, would be resolved by the sidewalk improvements (bulbs and widening) proposed as part of the draft Plan's public realm improvements. Therefore, no further improvement is required to mitigate impacts of the overall Plan.

On page 317, the parenthetical statement in the last line is revised as follows to correct an editorial error:

> ... (mid-block between Howard Street and ~~Fremont~~ Folsom Street) ...

On page 358, Mitigation Measure M-NO-1a is revised as follows to allow subsequent review of individual development projects to be tailored to project- and site-specific conditions:

> **M-NO-1a: Noise Survey and Measurements for Residential Uses.** For new residential development located along streets with noise levels above 70 dBA Ldn, the Planning Department shall require the preparation of an analysis that includes, at a minimum, a site survey to identify potential noise-generating uses within two blocks of the project site, and including at least one 24-hour noise measurement (with average and maximum noise level readings taken so as to be able to accurately describe maximum levels reached during nighttime hours ~~computed every 10 seconds~~), prior to completion of the environmental review for each subsequent residential project in the Plan area. The analysis shall be completed by person(s) qualified in acoustical analysis and shall demonstrate with reasonable certainty that Title 24 standards, where applicable, can be met, and that there are no particular circumstances about the proposed project site that appear to warrant heightened concern about noise levels in the vicinity. Should such concerns be present, the Department may require the

completion of a detailed noise assessment by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that acceptable interior noise levels consistent with those in the Title 24 standards can be attained.

Also on page 358, continuing onto page 359, Mitigation Measure M-NO-1e is revised as follows to clarify the requirements for analysis of noise from building mechanical equipment:

M-NO-1e: Interior Mechanical Equipment. The Planning Department shall require, as part of subsequent project-specific review under CEQA, that effects of mechanical equipment noise on adjacent and nearby noise-sensitive uses be evaluated by a qualified acoustical consultant and that control of mechanical noise, as specified by the acoustical consultant, be incorporated into the final project design ~~and that design of commercial~~ new buildings ~~that incorporates~~ to achieve the maximum feasible reduction of building equipment noise, consistent with *Building Code* and Noise Ordinance requirements and CEQA thresholds, such as through the use of fully noise-insulated enclosures around rooftop equipment and/or incorporation of mechanical equipment into intermediate building floor(s).

On page 363, the references to cultural resources mitigation measures for construction vibration are revised as follows to correct an editorial error:

Implement Mitigation Measure M-CP-5a ~~3b~~, Construction Best Practices for Historical Resources, p. 270, and Mitigation Measure and M-CP-5b ~~3c~~, Construction Monitoring Program for Historical Resources, p. 270.

Level of Significance after Mitigation

Implementation of Mitigation Measures M-NO-2a, M-CP-5a ~~3b~~ and M-CP-5b ~~3c~~ would reduce the vibration impact from future construction throughout most of the Plan area to a less than significant level.

On page 367, the following revisions are made to the text at the top of the page to ensure that potential impacts to historical resources from vibration during construction of the Transit Tower are reduced to a less-than-significant level:

Concerning vibration, because there are no sensitive uses closer than across the street (i.e., greater than 82.5 feet) from the Transit Tower site, vibration impacts would be anticipated to be less than significant, as described in Impact NO-3, except for potential impacts to historical resources, for which Mitigation Measures M-CP-5a and M-CP-5b would reduce impacts to a less-than-significant level.

Mitigation Measures

Implement Mitigation Measure M-NO-2a, Noise Control Measures for Pile Driving, ~~and~~ Mitigation Measure M-NO-2b, General Construction Noise Control Measures, Mitigation Measure M-CP-5a, p. 270, Construction Best Practices for Historical Resources, and Mitigation Measure and M-CP-5b, Construction Monitoring Program for Historical Resources, p. 270.

Level of Significance after Mitigation

With implementation of Mitigation Measures M-NO-2a, ~~and~~ M-NO-2b, M-CP-5a, and M-CP-5b, project-specific construction noise and vibration impacts would be reduced to a less-than – significant level.

On page 372, the first full sentence of the first (partial) paragraph is revised as follows to correct a transcription error:

As shown in Table 31, no exceedances of state CO standards were recorded between ~~2004~~ 2006 and ~~2008~~ 2010.

Also on page 372, the last paragraph (continuing onto p. 373) is revised as follows to correct a transcription error:

Table 31 shows that exceedances of the state PM_{10} standard have occurred periodically in San Francisco. The state 24-hour PM_{10} standard is estimated to have been exceeded between 3 and 21 days in 2006, and 2 and 14 days in 2007, but not exceeded in ~~2005 and~~ 2008 through 2010. The BAAQMD began monitoring $PM_{2.5}$ concentrations in San Francisco in 2002.[23] The federal 24-hour $PM_{2.5}$ standard was exceeded on three days in 2006 and five days in 2007, but not exceeded in 2008. It was exceeded on one day in 2009 and about 3 days in 2010. The state annual average standard was not exceeded between ~~2004~~ 2006 and ~~2008~~ 2010.

On page 393, the last sentence of the first (partial) paragraph is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

For example, the draft Plan proposes that "all major development in the Plan Area to produce a detailed Energy Strategy document outlining how the design of the building minimizes its use of fossil fuel driven heating, cooling and power—through energy efficiency, efficient supply, and no or low carbon generation" (November 2009 Draft Plan, Policy 6.8); that all new buildings in the Plan area be "of leading edge design in terms of sustainability" (Objective 6.4); and that "all major buildings in the Plan Area … achieve the minimum LEED levels established in the SF Green Building Ordinance, not including credits for the given inherent factors of location, density, and existing City parking controls, in order to achieve high-performance buildings" (Policy 6.12).~~and "should exceed the minimum credits required by the SF Green Building Ordinance under the Energy and Water categories of the LEED schemes" (Policy 6.13)~~.

On page 399, the first sentence of the last paragraph is revised as follows to clarify the requirements of Mitigation Measure M-AQ-2:

These potential significant air-quality impacts due to exposure to roadway pollutants and stationary source risks, including $PM_{2.5}$ concentrations and cancer and non-cancer health risks, would be reduced with implementation of Mitigation Measure AQ-2, which would require that the final Transit Center District Plan provide that the entire Plan area be encompassed within an ~~overlay zone~~ area in which site-specific analysis or refined modeling would be required in advance of the approval of subsequent development projects that would include sensitive receptors, and that the Transit Center District Plan include "goals, policies, and objectives to minimize potential impacts."[fn242]

[23] PM concentrations are not measured daily; hence, the number of annual exceedances is estimated by extrapolating sampling data for approximately 60 days per year.

[fn242] BAAQMD, *CEQA Air Quality Guidelines* (see footnote 205, p. 373); p. 9-7.

On page 403 and continuing on to page 404, Mitigation Measure M-AQ-2 is revised as follows to conform to the Planning Department's current approach to health risk analysis:

M-AQ-2 Implementation of Risk and Hazard Overlay Zone and Identification of Health Risk Reduction Policies: To reduce the potential health risk resulting from exposure of new sensitive receptors to health risks from roadways, and stationary sources, and other non-permitted sources $PM_{2.5}$ and TACs, the ~~final Transit Center District Plan shall provide that the entire Plan area shall be included in an overlay zone, as recommended by BAAQMD, that would~~ Planning Department shall require analysis of potential site-specific health risks ~~(lifetime cancer risk, chronic and acute hazard index, and $PM_{2.5}$ concentration)~~ for all projects that would include sensitive receptors, ~~and implementation of measures to reduce exposure to such risks that are in excess of the BAAQMD significance thresholds (or any future superseding~~ based on criteria as established by the Planning Department~~)~~, as ~~they~~ such criteria may be amended from time to time. For purposes of this measure, sensitive receptors are considered to include dwelling units; child-care centers; schools (high school age and below); and inpatient health care facilities, including nursing or retirement homes and similar establishments. Parks and similar spaces are not considered sensitive receptors for purposes of this measure unless it is reasonably shown that a substantial number of persons are likely to spend three hours per day, on a daily basis, at such facilities.

Development projects in the Plan area that would include sensitive receptors shall undergo, during the environmental review process and no later than the first ~~prior to~~ project approval action, a screening-level health risk analysis, consistent with methodology approved by the Planning Department, to determine if ~~cancer~~ health risks~~, hazard index, and/or $PM_{2.5}$~~ from pollutant concentrations would exceed BAAQMD thresholds or other applicable criteria as determined by the Environmental Review Officer. If one or more thresholds would be exceeded at the site of the subsequent project where sensitive receptors would be located, the project (or portion of the project containing sensitive receptors, in the case of a mixed-use project) shall be equipped with filtration systems with a Minimum Efficiency Reporting Value (MERV) rating of 13 or higher, as necessary to reduce the outdoor-to-indoor infiltration of air pollutants by 80 percent ~~health risk(s) to the maximum extent feasible~~. The ventilation system shall be designed by an engineer certified by the American Society of Heating, Refrigeration and Air-Conditioning Engineers, who shall provide a written report documenting that the system offers the best available technology to minimize outdoor to indoor transmission of air pollution. The project sponsor shall present a plan to ensure ongoing maintenance of ventilation and filtration systems and shall ensure the disclosure to buyers and/or renters regarding the findings of the analysis and inform occupants as to proper use of any installed air filtration.

On page 405 and continuing on to page 406, Mitigation Measure M-AQ-3 is revised as follows to conform to the Planning Department's current approach to health risk analysis:

M-AQ-3 Siting of Uses that Emit DPM and Other TACs: To minimize potential exposure of sensitive receptors to diesel particulate matter (DPM), for new development including warehousing and distribution centers, and for new development including commercial, industrial or other uses that would be expected to generate substantial levels of toxic air contaminants (TACs) as part of everyday operations, whether from stationary or mobile sources, the Planning Department shall require, during the environmental review process but no later than the ~~prior to~~ the first project approval action, the preparation of an analysis that includes, at a minimum, a site survey to identify residential or other sensitive uses within 1,000 feet of the project site, and ~~dispersion modeling~~ an assessment

of the health risk from ~~all~~ potential stationary and mobile sources of TACs generated by the project. ~~The analysis shall include estimated lifetime cancer risk, and chronic and acute hazard index at the nearest sensitive receptor and at other nearby receptor(s) as determined necessary by the Planning Department.~~ If risks to nearby receptors are found to exceed applicable significance thresholds, then emissions controls ~~reduction or other comparable measures~~ would be required prior to project approval to ensure that health risks would not be significant. ~~This measure shall be applicable, at a minimum, to the following uses: backup generators (whether diesel- or propane-fueled); dry cleaners; drive-through restaurants; gas dispensing facilities; auto body shops; metal plating shops; photographic processing shops; textiles; apparel and furniture upholstery; leather and leather products; appliance repair shops; mechanical assembly cleaning; printing shops; hospitals and medical clinics; biotechnology research facilities; warehousing and distribution centers; and any use served by at least 100 trucks per day or 40 refrigerated trucks per day, and any project for which a stationary source is proposed (e.g., a generator). Should the results of this analysis conclude that the project would exceed the BAAQMD significance thresholds, the project sponsor shall be required to identify and implement all feasible mitigation measures to reduce health risks impacts below BAAQMD significance thresholds. If it is determined that identified mitigation measures are not feasible, the project sponsor shall document, to the satisfaction of the Environmental Review Officer, that the project sponsor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.~~

On page 411 and continuing on to page 412, Mitigation Measure M-AQ-5 is revised as follows to conform to the Planning Department's current approach to health risk analysis:

M-AQ-5 **Construction Vehicle Emissions Evaluation and Minimization:** To reduce the potential health risk resulting from project construction activities, the project sponsor of each development project in the Plan area shall undertake a project-specific health risk analysis, or other appropriate analysis as ~~appropriate and~~ determined by the Environmental Planning Division of the Planning Department, for diesel-powered and other applicable construction equipment, using the methodology recommended by the ~~BAAQMD and/or the~~ Planning Department. If the ~~health risk~~ analysis determines that construction emissions would exceed applicable health risk significance threshold(s) identified by ~~BAAQMD and/or~~ the Planning Department, the project sponsor shall include in contract specifications a requirement that the contractor use the cleanest possible construction equipment and exercise best practices for limiting construction exhaust. Measures may include, but are not limited to, ~~for~~ the following ~~BAAQMD recommended measures~~:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes;
- The project shall develop a Construction Emissions Minimization Plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to the maximum extent feasible ~~achieve a project wide fleet average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent project modeled fleet wide average~~. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards ~~equipment retrofitted with CARB Level 3 Verified Diesel Emissions Control System (VDECS, which includes diesel particulate filters)~~, the use of other late model engines, low-emission diesel products, alternative fuels,

engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available;

- All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use;
- All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and
- The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available.

During the environmental review process, the project sponsor shall submit a Construction Emissions Minimization Plan demonstrating compliance with the requirements of this mitigation measure.

On page 417 and continuing on to page 418, Mitigation Measure M-AQ-7 is revised as follows to conform to the Planning Department's current approach to health risk analysis:

M-AQ-7 Construction Vehicle Emissions Minimization: To reduce the potential health risk resulting from project construction activities, the project sponsor shall include in contract specifications a requirement for the following BAAQMD-recommended measures:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes;
- The project shall develop a Construction Emissions Minimization Plan demonstrating that emissions from the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would be reduced to a less-than-significant level, if feasible. Acceptable options for reducing emissions include, as the primary option, use of Interim Tier 4 equipment where such equipment is available and feasible for use, use of equipment meeting Tier 2/Tier 3 or higher emissions standards, the use of other late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available; ~~All off-road construction equipment shall be equipped with Tier 3 (Tier 2 if greater than 750 horsepower) diesel engines or better. The following types of equipment are identified as candidates for retrofitting with CARB-certified Level 3-verified diesel emission controls (Level 3-Verified Diesel Emissions Control Devices, or VDECS, which are capable of reducing DPM emissions by 85 percent or more), due to their expected operating modes (i.e., fairly constant use at high revolution per minute):~~

  - ~~Excavators~~
  - ~~Backhoes~~
  - ~~Rubber-Tired Dozers~~
  - ~~Concrete Boom Pumps~~
  - ~~Concrete Trailer Pumps~~
  - ~~Concrete Placing Booms~~
  - ~~Soil Mix Drill Rigs~~
  - ~~Soldier Pile Rigs~~
  - ~~Shoring Drill Rigs;~~

- All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM, including Tier 2/3 or alternative fuel engines where such equipment is available and feasible for use;
- All contractors shall use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines; and
- The project construction contractor shall not use diesel generators for construction purposes where feasible alternative sources of power are available. All diesel generators used for project construction shall meet Tier 4 emissions standards.

~~The equipment listed above may or may not be used for the project. To the extent that the above-listed (or reasonably comparable) equipment is used for project construction, those equipment types shall meet DPM emission standards equivalent to Tier 3 (Tier 2 if greater than 750 horsepower) engines with Level 3 VDECS, if feasible.~~ For the purposes of this mitigation measure, "feasibility" refers to the availability of newer equipment in the contractor's or a subcontractor's fleet that meets these standards, or the availability of older equipment in the contractor's or a subcontractor's fleet that can be feasibly retrofitted ~~modified to incorporate Level 3 VDECS~~. It should be noted that for specialty equipment types (e.g. drill rigs, shoring rigs and concrete pumps) it may not be feasible for construction contractors to modify their current, older equipment to accommodate the particulate filters, or for them to provide newer models with these filters pre-installed. Therefore, this mitigation measure may be infeasible.

Should it be determined by the construction contractor or its subcontractor(s) that compliance with the emissions control requirements of this mitigation measure is infeasible for any one of the above listed construction equipment, the construction contractor must demonstrate an alternative method of compliance that achieves an equivalent reduction in the project's fleet-wide DPM and other TAC emissions. If alternative means of compliance with the emissions exhaust requirements are further determined to be infeasible, the construction contractor must document, to the satisfaction of the Environmental Review Officer, that the contractor has complied with this mitigation measure to the extent feasible and why full compliance with the mitigation measure is infeasible.

On page 423, the third sentence of the second paragraph under Impact C-AQ is revised as follows to correct the reference to a prior impact discussion:

> As noted under Impact AQ-5 ~~7~~, construction on multiple projects in the Plan area could result in emissions at sensitive receptors proximate to several future project sites that would exceed the BAAQMD's significance criteria for cumulative impacts, which are 100 in one million cancer risk, non-cancer hazard index of 10, and a $PM_{2.5}$ concentration of 0.8 micrograms per cubic meter.

On page 439, the wording of Policy 6.1 is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> **Policy 6.1:** Create efficient, shared district-scale energy~~, heating and cooling~~ systems in the district.

On page 440, Policy 6.13 is deleted to reflect an April 2012 revision to the November 2009 draft Plan.

Also on page 440, the wording of Policy 6.15 is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> **Policy 6.15:** Pursue a variety of potential sources of non-potable water, including municipally-supplied recycled water and district-based graeywater, blackwater, stormwater, and ~~building de-watering~~ foundation drainage water.

Also on page 440, the wording of Policy 6.19 is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> **Policy 6.19:** All new and large redevelopment projects in the city should adhere to the following hierarchical approach to maximize resources and minimize use of potable water:
>
> - Reduce demands by installing efficient water fixtures and behaviors;
> - ~~Design sites to reduce the total amounts of stormwater generated on site; through the use of alternative surfaces and collection and treatment devices;~~
> - Identify all on-site sources (rainwater, cooling tower blow down, fog, graeywater, blackwater, stormwater, and ~~diverted sump~~ foundation drainage water);
> - Install appropriate on-site collection, treatment, storage and conveyance systems for ~~non-potable needs~~ toilet flushing, irrigation and additional identified nonpotable applications;
> - Meet ~~all other unmet~~ surplus non-potable demands using district non-potable water or municipal recycled water; and
> - Meet all other ~~unmet~~ remaining demands using potable water.

On page 466, to correct a typographical error, the following revision is made to the first sentence under the heading, "Sunlight Ordinance":

> Section 295 of the Planning Code, the Sunlight Ordinance, was adopted through voter approval of Proposition K in November 1984 ~~1994~~ to protect certain public open spaces from shadowing by new structures.

On page 470, the last paragraph is revised as follows to correct the text and ensure consistency with pages 509 – 515 and Table 41, page 508:

> With one exception, shadow from any given potential building would cover part of any affected Section 295 park for less than ~~45~~ 90 minutes per day over a period of time ranging from ~~4 to 12~~ 2 to 16 weeks (one-half to ~~three~~ almost four months) per year; the exception would be that Union Square would be newly shaded by up to about one hour per day, over a period of six months, by a 600-foot tower addition to the southwest corner of the Palace Hotel on New Montgomery Street.[footnote omitted] Most new shadow on Section 295 parks would be in the early morning hours, except that Justin Herman Plaza would be newly shaded in the early afternoon in late fall and early winter.

On page 508, revisions are made to Table 41 to correct the amount of Plan shadow on Union Square (0.19%, not 0.24% as stated in the DEIR), Portsmouth Square (0.41%, not 0.24% as stated in the DEIR, and Who Hei Yuen Park (less than 0.01%, not 0.07% as stated in the DEIR). Also corrected are the times and/or dates of Plan shadow on Union Square, St. Mary's Square and Portsmouth Square, and the existing remaining portion of the Absolute Cumulative Limit for Union Square. A revised Table 41 is presented at the end of this section, following p. C&R-139.

On page 510, to correct the duration of shadow on Portsmouth Square, the third sentence of the first paragraph under the heading "Portsmouth Square" is revised as follows:

> New shadow would reach Portsmouth Square between ~~mid-~~ late October and ~~early December, and between early January~~ and ~~late~~ mid-February (almost 4 months in all), from about 8:00 a.m. until just after 9:00 a.m.

Also on page 510, to correct the amount of new shadow on Portsmouth Square from buildings in the Plan area, the last paragraph (continuing onto page 513) is revised as follows:

> New shadow from potential Plan area buildings would eliminate about ~~0.24~~ 0.41 percent of the theoretical annual available sunlight from Portsmouth Square, increasing the annual shadow load from approximately 39 percent to about ~~39.2~~ 39.4 percent. Under the criteria adopted by the Planning and Recreation and Park Commissions in 1989, Portsmouth Square has an Absolute Cumulative Limit of 0.0 percent, meaning that no additional shadow may be permitted. Therefore, in order for Plan area buildings that would add new shadow to Portsmouth Square to be approved, the Absolute Cumulative Limit would have to be increased—as part of individual building approvals—to approximately ~~0.24~~ 0.41 percent, if all Plan area buildings were to be approved.

On pages 512 and 514, Figures 64 and 65 are revised to depict maximum shadow from the proposed Transit Tower alone on Portsmouth Square and St. Mary's Square, respectively. (The revised figures appear following p. C&R-139.)

On page 515, to add a reference to the building that would cast the greatest amount of new shadow on "Willie 'Woo Woo' Wong Playground," the third sentence of the first paragraph beneath the heading, "Willie 'Woo Woo' Wong Playground" is revised as follows:

> The greatest area of new shadow at any one time would be approximately 4,000 square feet (about 15 percent of the total area of Willie Wong Playground), at 8:15 a.m. in late November and mid-January, from the building on TJPA Parcel F; at these times, shadow on the playground would increase from about 80 percent to about 97 percent shadow coverage (see **Figure 67**).

On page 518, the paragraph under the heading "Other Section 295 Parks" is revised as follows to correct downward the amount of net new shadow from Plan area buildings on Woh Hei Yuen Recreation Center and Park:

> Development pursuant to the draft Plan would also result in net new shadow falling on Maritime Plaza (about 0.004 percent of theoretical annual available sunlight), Chinese Recreation Center (about 0.008 percent of theoretical annual available sunlight; see Figure 67), Boeddeker Park (about 0.003 percent of theoretical annual available sunlight), and Woh Hei Yuen Recreation Center and Park (about ~~0.07~~ 0.001 percent of theoretical annual available sunlight). The first three of these parks have an Absolute Cumulative Limit of 0.0 percent, meaning that no additional shadow may be permitted; no Absolute Cumulative Limit has been established for Woh Hei Yuen Park, as this facility was developed subsequent to the 1989 action that set these limits for 14 downtown parks. Therefore, in order for Plan area buildings that would add new shadow to Maritime Plaza, Boeddeker Park, Chinese Recreation Center, or Woh Hei Yuen Park to be approved, the Absolute Cumulative Limit would have to be increased to between ~~.003~~ 0.001 percent and ~~0.07~~ 0.008 percent, depending on the park. Because only the proposed Transit Tower would shade these parks, those shadows are discussed in detail under impact SH-2, below.

Also on page 518, to correct the EIR's description of the workings of the solar system, the third sentence of the second full paragraph is revised as follows:

> The reason for this is that the sun, when observed from earth at any given moment, is seen as a disk that occupies approximately one-half of one degree (0.53 degrees) of a 360-degree circle that represents the sun's path across the sky ~~orbit around the earth~~.

On page 523, Table 42 is revised the start time of Transit Tower shadow on St. Mary's Square, which is revised to 8:30 a.m. from 8:40 a.m. in the Draft EIR, as well as to correct the existing remaining portion of the Absolute Cumulative Limit for Union Square.

On page 524, the first full paragraph is revised as follows to correct downward the amount of net new shadow from Plan area buildings on Woh Hei Yuen Recreation Center and Park, to correct the reference to the approval process under Section 295 of the *Planning Code*, and to clarify that Woh Hei Yuen Park has no established Absolute Cumulative Limit:

> As can be seen in Table 42, the quantitative analysis found that the proposed Transit Tower would result in an increase in shadow on the eight affected open spaces of between 0.003 percent and 0.133 percent of the Theoretical Annual Available Sunlight (TAAS). The greatest impact would occur on Portsmouth Square (0.133 percent of TAAS), followed by ~~Woh Hei Yuen Recreation Center and Park (0.073 percent),~~ St. Mary's Square (0.048 percent of TAAS), Justin Herman Plaza (0.046 percent), Union Square (0.011 percent), Chinese Recreation Center (0.008 percent), Maritime Plaza (0.004 percent), ~~and~~ Boeddeker Park (0.003 percent), and Woh Hei Yuen Recreation Center and Park (0.001 percent). Approval of the proposed Transit Tower would require that the Absolute Cumulative Limit for ~~seven~~ six of these eight parks be increased to accommodate project shadow, in general by the amount of new shadow that would be cast by the Transit Tower.[24] Union Square has sufficient available shadow remaining within its Absolute Cumulative Limit to allow for the shadow from the Transit Tower, although approval would require a finding by the Planning Commission, upon the advice of the Recreation and Park Commission or General Manager, that project shadow would not adversely affect the use of Union Square. Woh Hei Yuen Park has no Absolute Cumulative Limit; however, effects on this park would also have to be found to not adversely affect its use.

On page 525, to add additional detail regarding effects of the Transit Tower on Chinese Recreation Center, the following text is added following the first partial sentence (continuing from p. 524):

> Likewise, the maximum one-time shadow on Chinese Recreation Center would occur for less than 15 minutes after the "first Proposition K minute" (8:23 a.m.) for one week in late February and one week in mid-October, when the Transit Tower would shade about 35 percent of the park's area (see **Figure 67**).

Also on page 525, to correct the reference to the approval process under Section 295 of the *Planning Code*, the third sentence of the first full paragraph is revised as follows:

> Therefore, given that approval of the Transit Tower would require that the Absolute Cumulative Limit be increased on ~~five~~ six downtown parks, the impact of the Transit Tower with respect to shading of Section 295 parks is considered adverse.

---

[24] Justin Herman Plaza has approximately 0.007 percent of theoretical available annual sunlight remaining to be allocated; thus, the Absolute Cumulative Limit for this par, would have to be increased to 0.167 percent in order for the Transit Tower to be approved.

On page 529, to correct an error in the setting portion of the EIR's Recreation and Public Space section, the second bullet beneath the heading "Plan Area Recreational Resources" is deleted and new text is added following the last bullet, as follows:

> The Port of San Francisco has jurisdiction over the following facility in the vicinity of the Plan area:
>
> - Embarcadero Promenade – extending along the length of much of the City's eastern waterfront, the Embarcadero Promenade is located about a block east of the Plan area's eastern boundary. The paved pathway is used for active and passive recreation by joggers, bikers and urban hikers to enjoy unobstructed views of the bay and the Bay Bridge.

On page 539, the first full sentence of the first partial paragraph is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> Buildout pursuant to the Plan Policies 6.19 and 6.20—including the implementation of on-site collection, treatment, storage and conveyance systems for rainwater, fog, graeywater, blackwater, stormwater, and ~~diverted sump~~ foundation drainage water and Low-Impact Development techniques for public spaces—would reduce storm water flow as compared to existing conditions.

On page 540, the second sentence of the second paragraph is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> Policies 6.8 through 6.12 ~~6.13~~ call for individual projects to be designed not only to meet LEED levels established in the San Francisco Green Building Ordinance, but also to take advantage of specific energy-saving measures, such as on-site renewable energy systems, natural ventilation, and passive solar heating and lighting. Adherence to such policies would lower overall energy demand.

On page 642, to reflect the fact that the Department of Toxic Substances Control has revised a final version of its Vapor Intrusion Guidance since publication of the DEIR (at which time only a draft version was available), Mitigation Measure M-HZ-2c, is revised as follows to reflect the final guidance document:

> **M-HZ-2c: Site Assessment and Corrective Action for All Sites.** The project sponsor shall characterize the site, including subsurface features such as utility corridors, and identify whether volatile chemicals are detected at or above risk screening levels in the subsurface. ~~If potential exposure to vapors is suspected,~~ If so, a screening evaluation shall be conducted in accordance with guidance developed by the DTSC[fn357] to estimate worst case risks to building occupants from vapor intrusion using site specific data and conservative assumptions specified in the guidance. If an unacceptable risk were indicated by this conservative analysis, then additional site data shall be collected and a site specific vapor intrusion evaluation, including fate and transport modeling, shall be required to more accurately evaluate site risks. Should the site specific evaluation identify substantial risks, then additional measures shall be required to reduce risks to acceptable levels. These measures could include remediation of site soil and/or groundwater to remove vapor sources, or, should this be infeasible, use of engineering controls such as a passive or active vent system and a membrane system to control vapor intrusion. Where engineering controls are used, a deed restriction shall be required, and shall include a description of the potential cause of vapors, a prohibition against

[fn357] California Department of Toxic Substances Control, ~~*Interim* Final~~, *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*. ~~December 15, 2004, revised February 7, 2005.~~October, 2011.

construction without removal or treatment of contamination to approved risk-based levels, monitoring of the engineering controls to prevent vapor intrusion until risk-based cleanup levels have been met, and notification requirements to utility workers or contractors who may have contact with contaminated soil and groundwater while installing utilities or undertaking construction activities. In addition, if remediation is necessary, the project sponsor shall implement long-term monitoring at the site as needed. The frequency of sampling and the duration of monitoring will depend upon site-specific conditions and the degree of volatile chemical contamination.

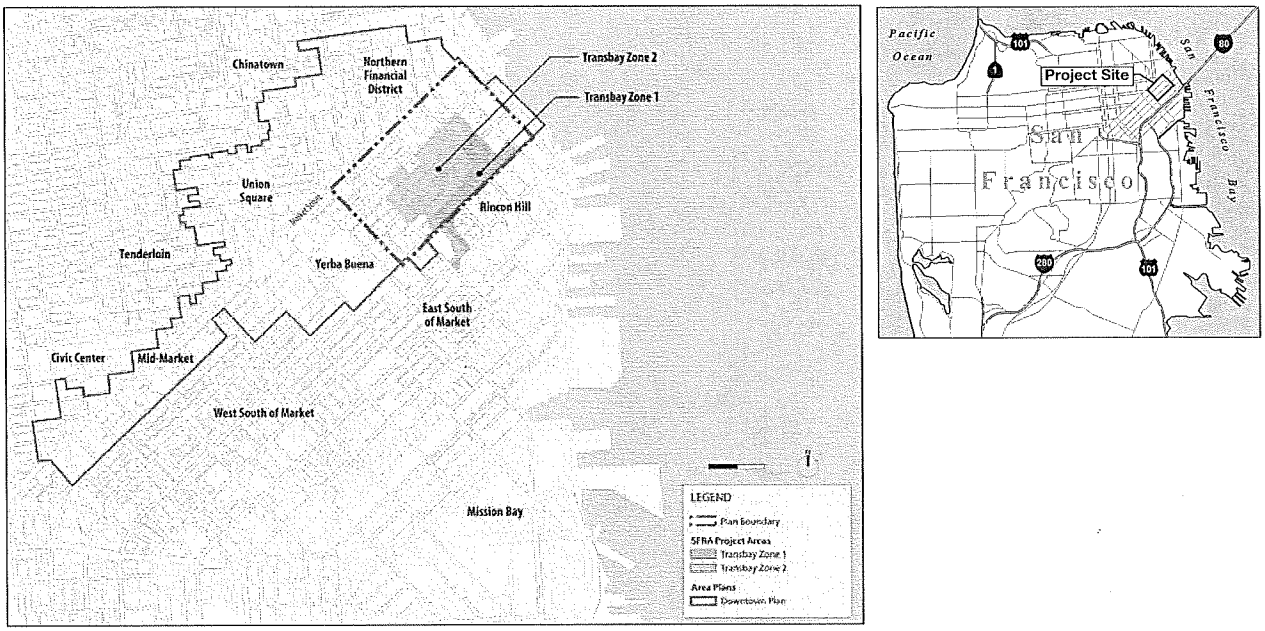
The screening level and site-specific evaluations shall be conducted under the oversight of DPH and methods for compliance shall be specified in the site mitigation plan prepared in accordance with this measure, and subject to review and approval by the DPH. The deed restriction, if required, shall be recorded at the San Francisco Office of the Assessor-Recorder after approval by the DPH and DTSC.

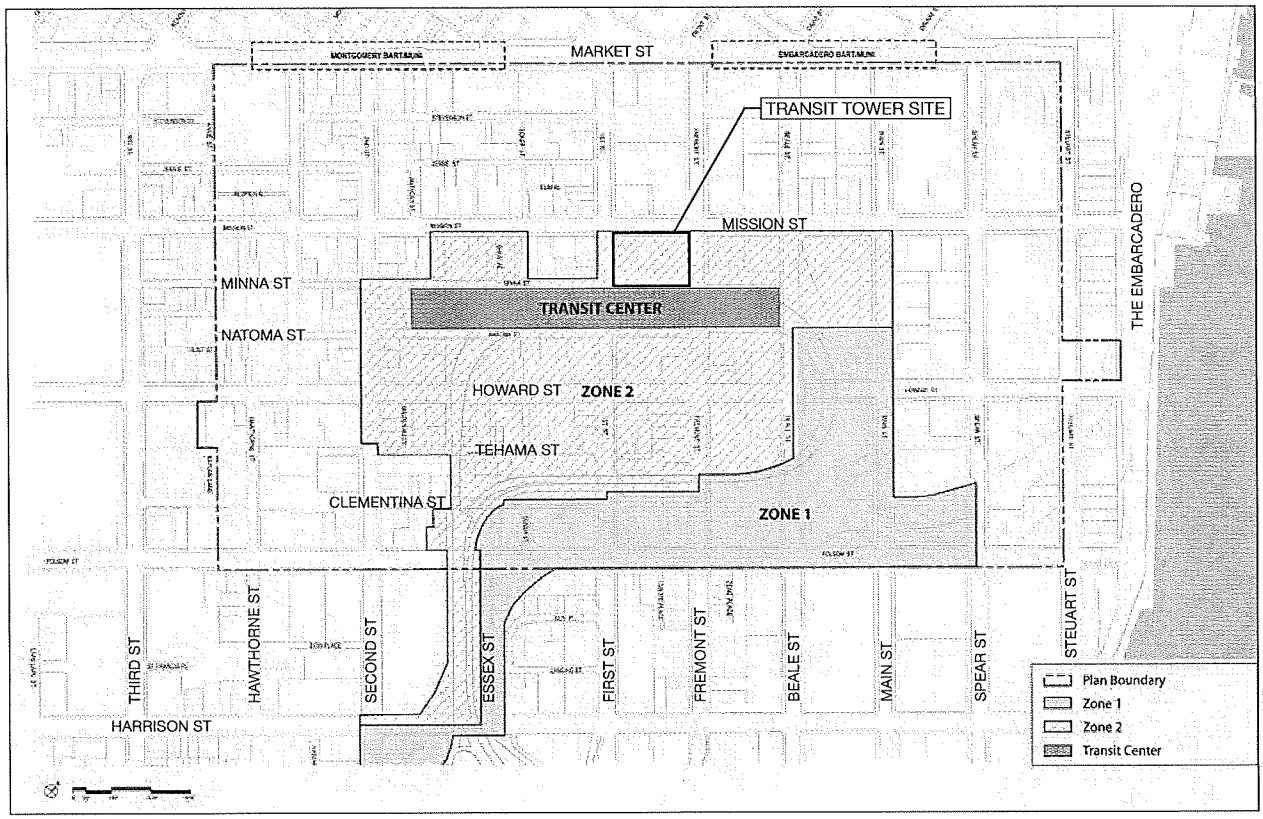
On page 654, the fifth sentence of the second paragraph under Impact ME-1 is revised as follows to incorporate an April 2012 revision to the November 2009 draft Plan:

> And ~~Policies~~ Policy 6.12 ~~and 6.13~~ calls for new development to ~~exceed~~ achieve basic LEED (Leadership in Energy and Environmental Design) standards established in the Green Building Ordinance, without considering the benefits of location ~~both with respect to energy and water use~~.

On page 664, in Table 45, the proposed height limit for the site at 41 Tehama Street is revised—for the draft Plan, Reduced Project Alternative, and Reduced Shadow Alternative, from 400 feet to 360 feet to incorporate an April 2012 revision to the November 2009 Draft Plan.

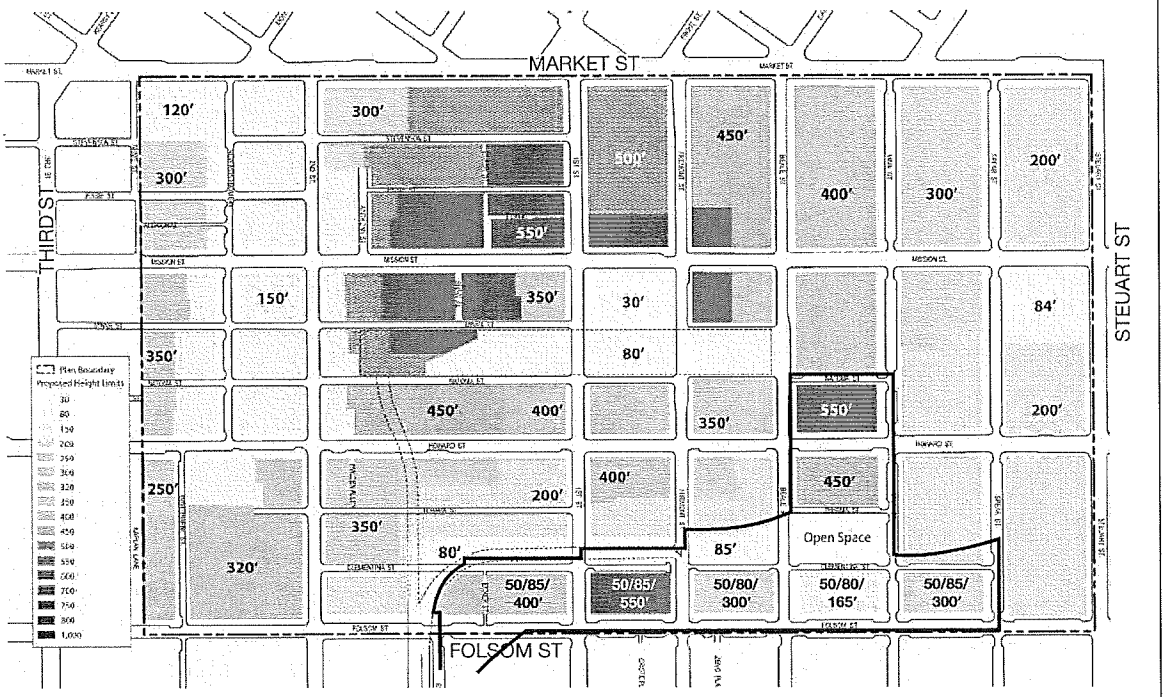
Changes to DEIR Figures and Tables



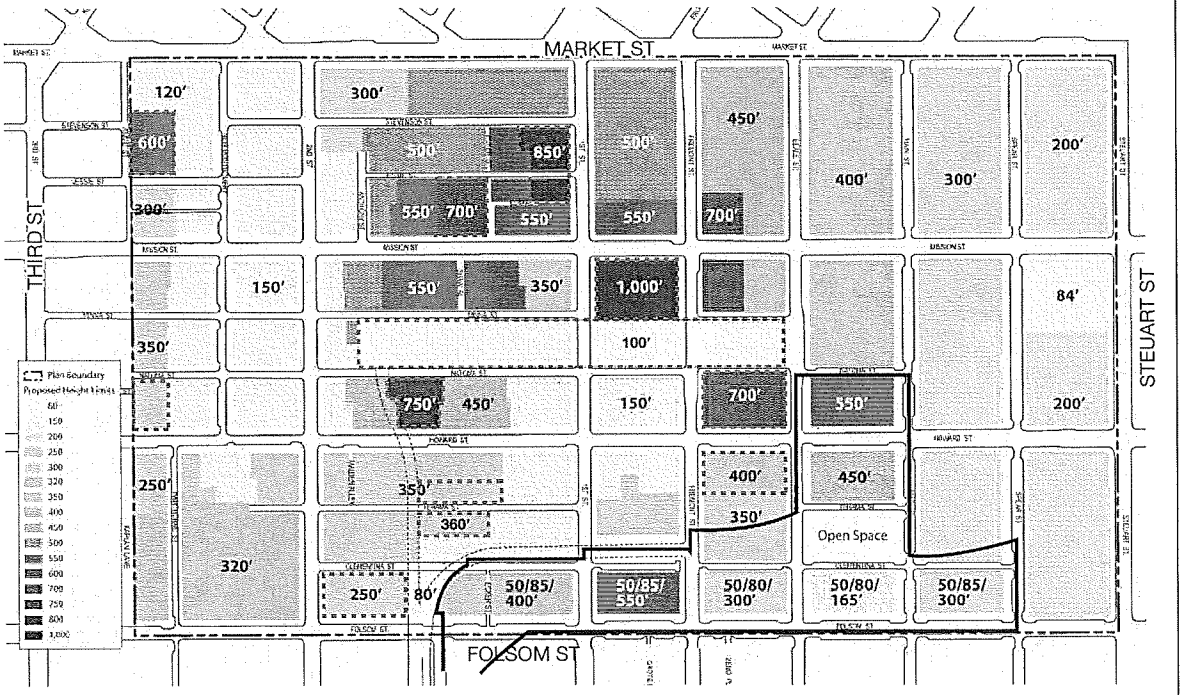


SOURCE: San Francisco Planning Department

Figure 1 (revised)
Project Location and Plan Area Boundaries



Existing Height Limits



Proposed Height Limits

Areas Proposed for Increased Height Limits

Transbay Redevelopment Plan (Zone 1)

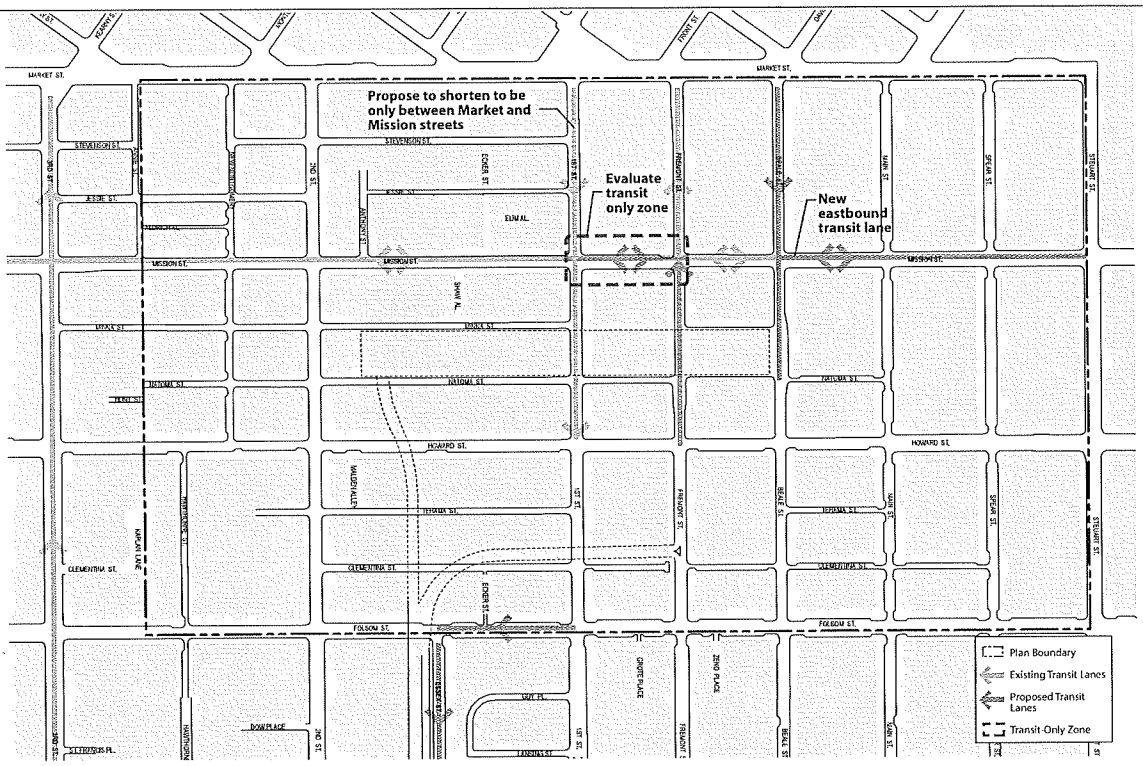
0 300 Feet

Note: Proposed height limits of 600 feet and greater would not include 10% additional height per Planning Code Sec. 263.9.

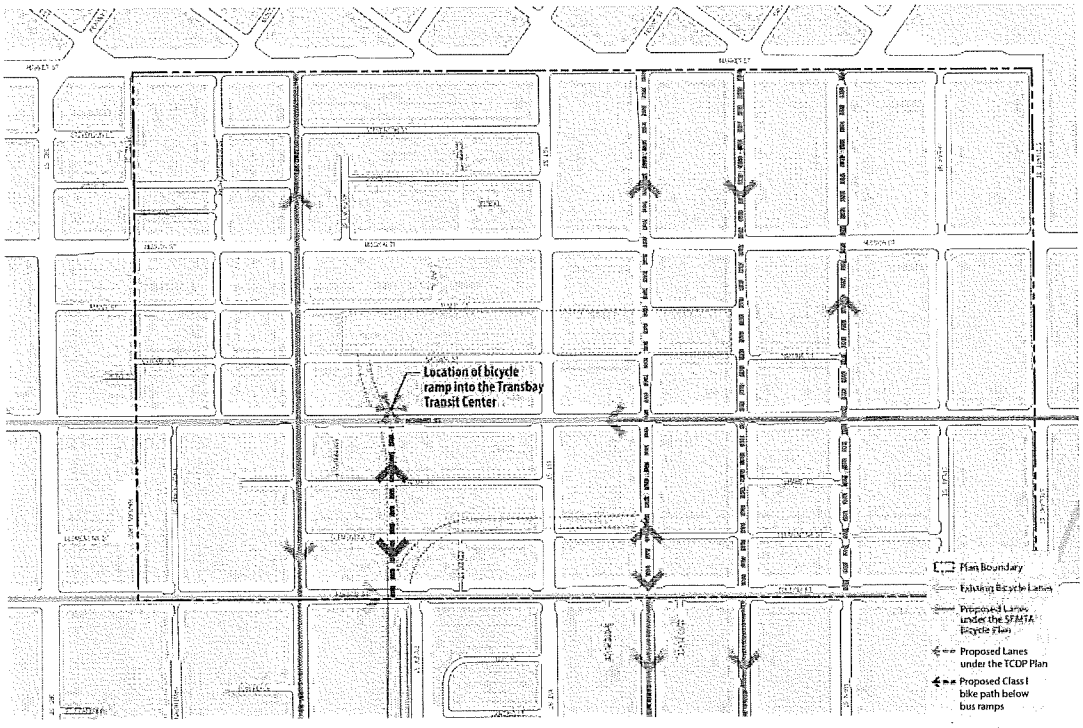
SOURCE: San Francisco Planning Department, 2009, 2012

Figure 3 (revised)

Existing and Proposed Height Limits



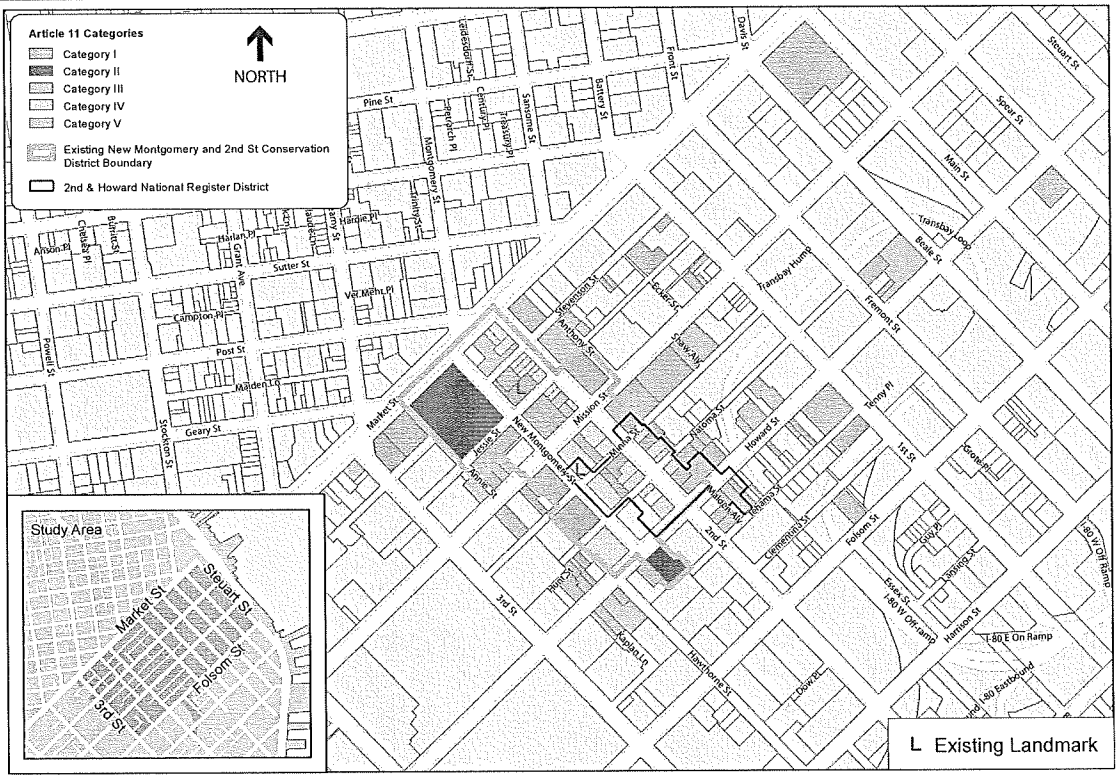
Transit Lanes



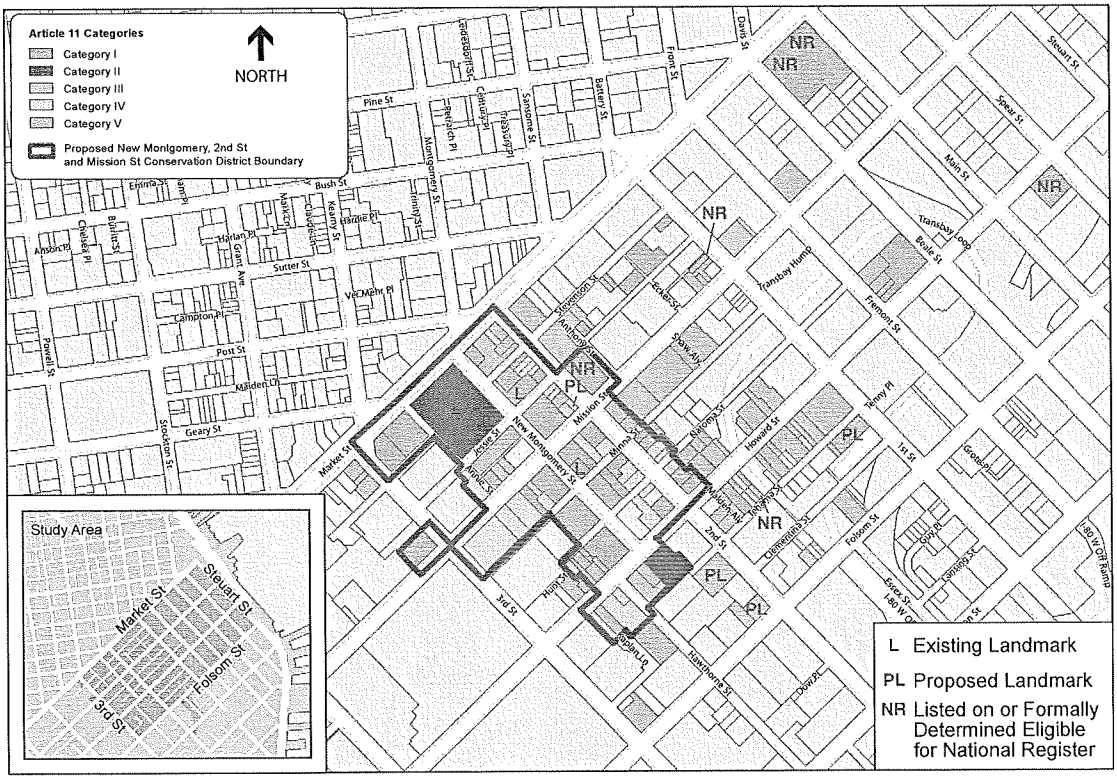
Bicycle Lanes

SOURCE: San Francisco Planning Department, 2009

Figure 6 (revised)
Transit and Bicycle Lanes



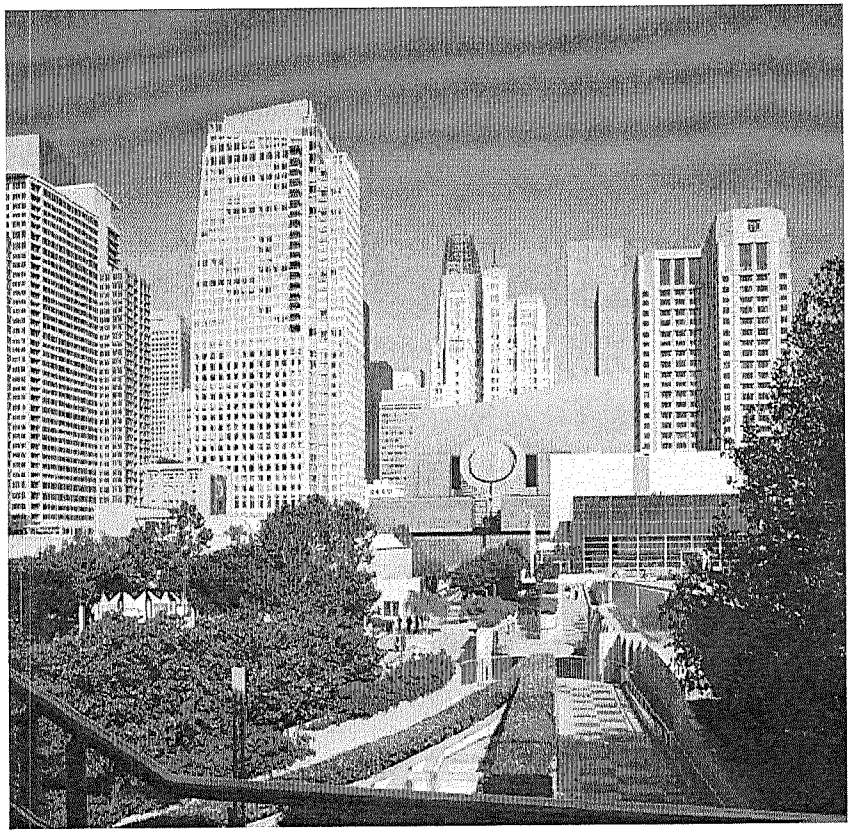
Existing Article 11 Designations and Historic Districts



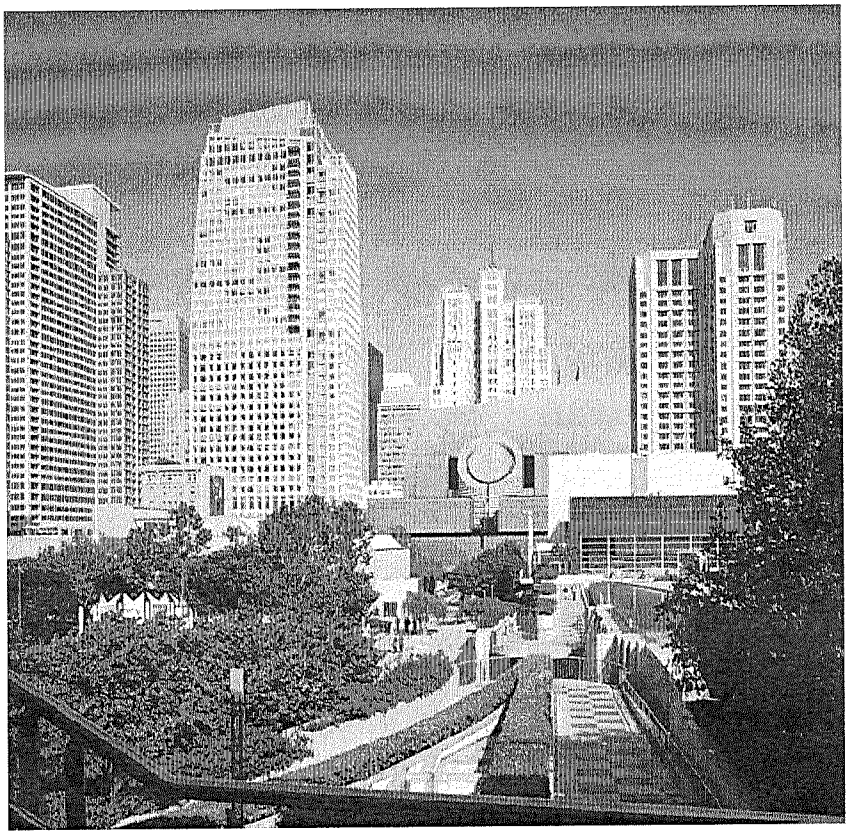
Proposed Article 11 Designations and Historic Districts

SOURCE: San Francisco Planning Department, 2009, 2012

Figure 7 (revised)
Historical Resources



Cumulative



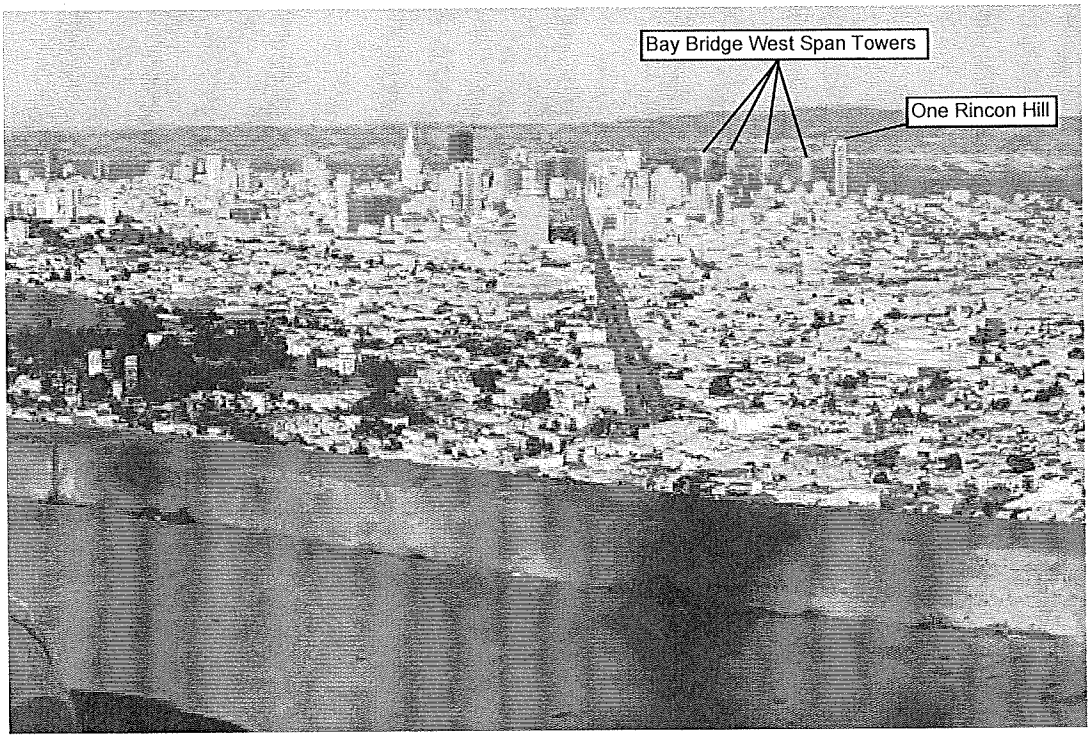
No Project plus Cumulative

SOURCE: Square One Productions

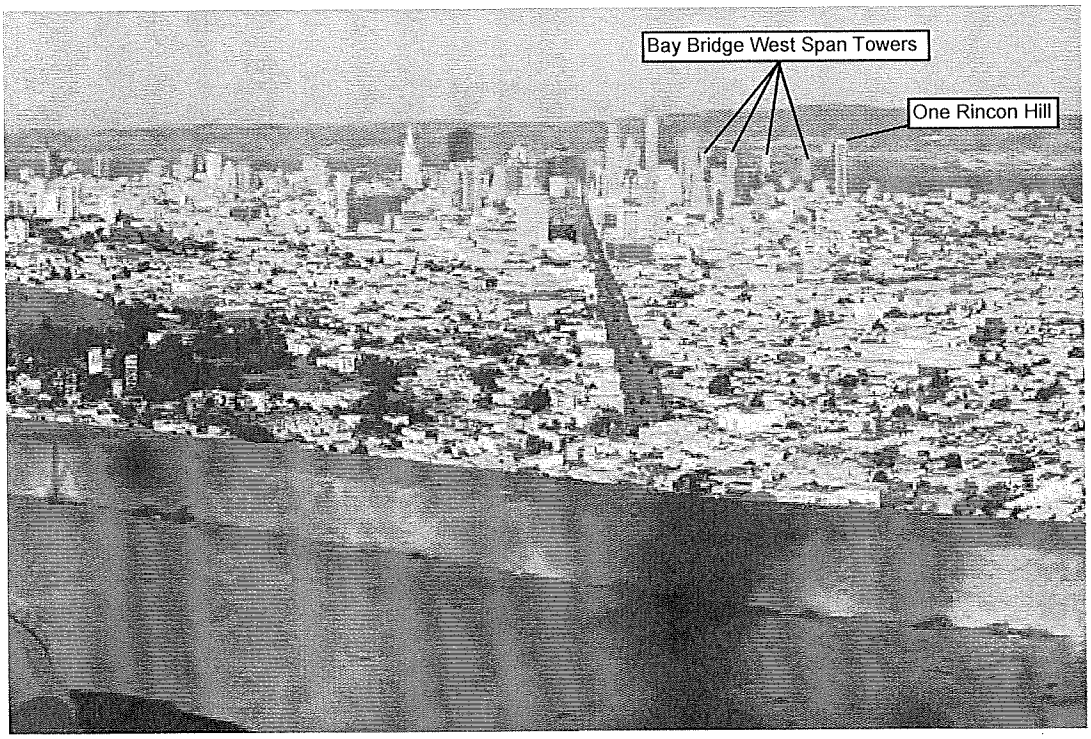
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

● Figure 30B (revised)

Visual Simulations: Yerba Buena Gardens



Existing

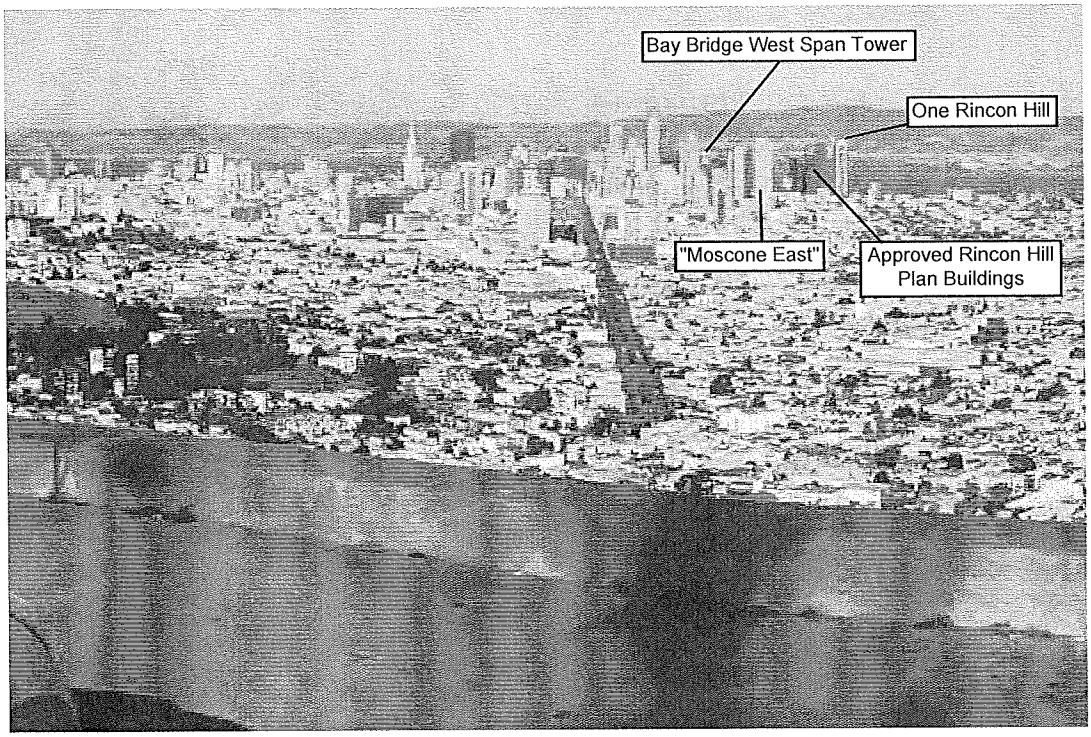


Plan

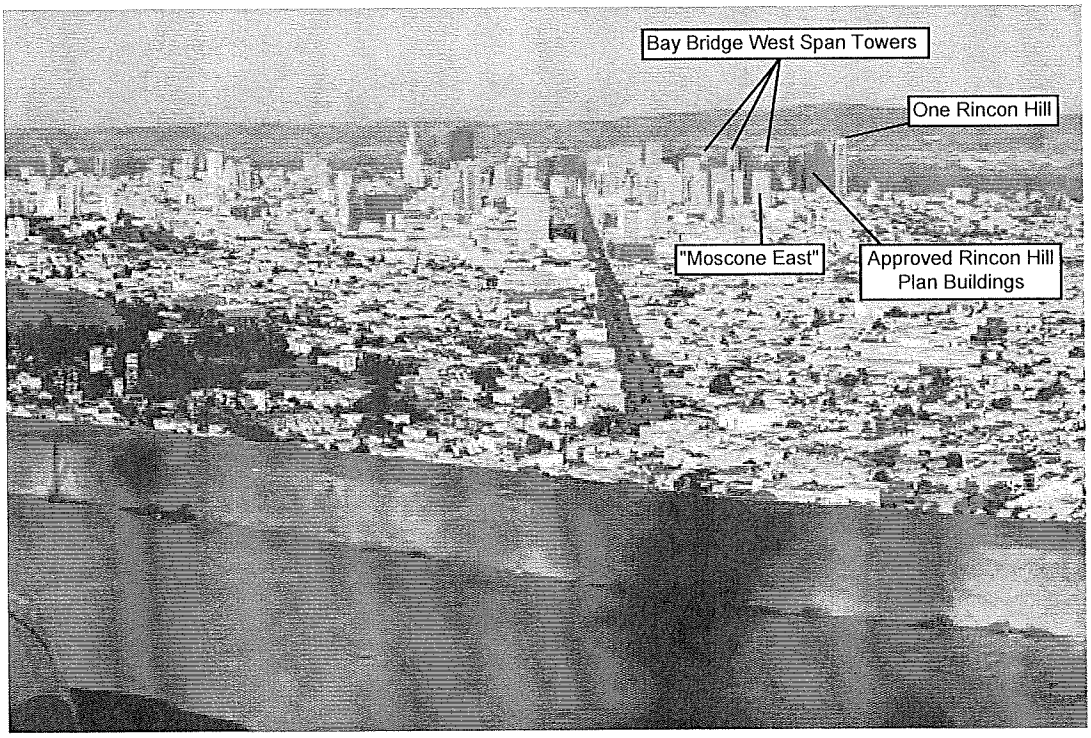
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: Square One Productions

● Figure 34A (revised)
Visual Simulation: Twin Peaks



Cumulative



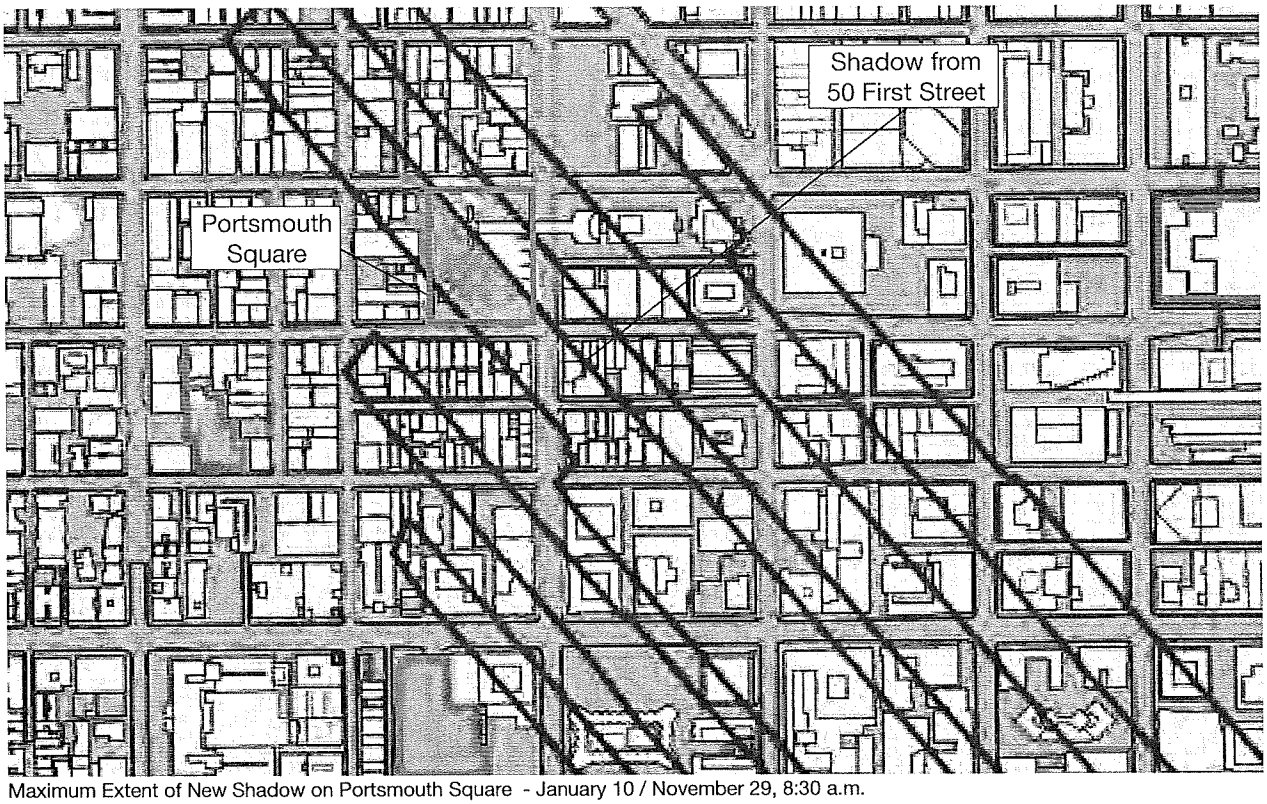
No Project plus Cumulative

SOURCE: Square One Productions

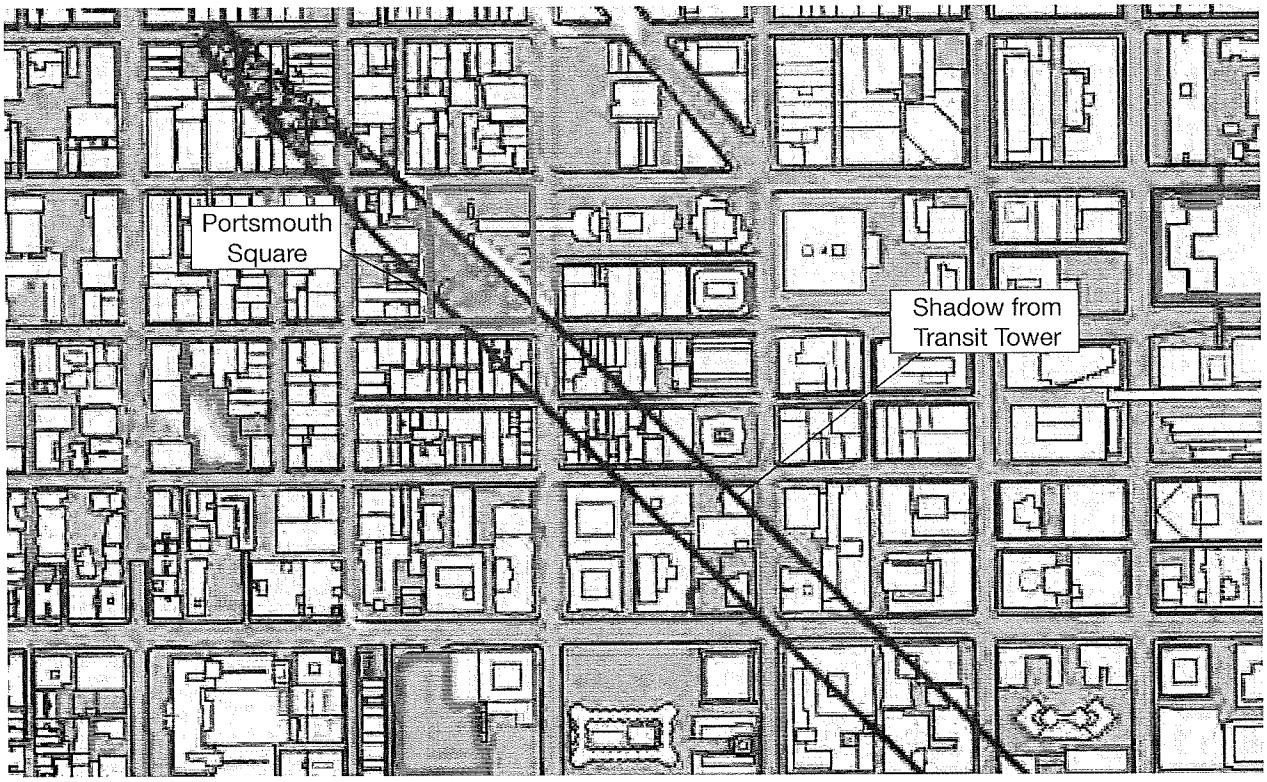
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

● Figure 34B (revised)

Visual Simulation: Twin Peaks



Maximum Extent of New Shadow on Portsmouth Square - January 10 / November 29, 8:30 a.m.



Maximum Extent of New Shadow on Portsmouth Square - January 31 / November 8, 8:15 a.m.

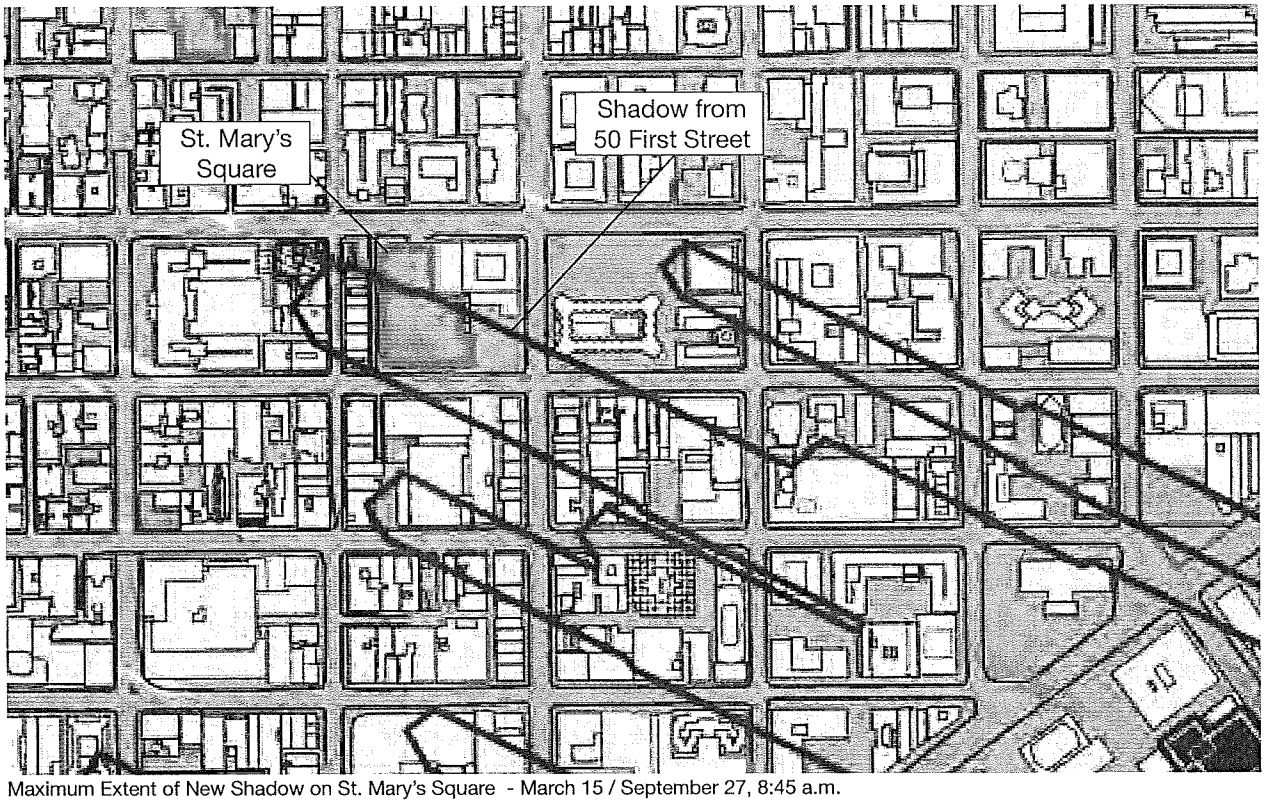
Net New Shadow Shadow Outline from New Buildings Existing Shadow

Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

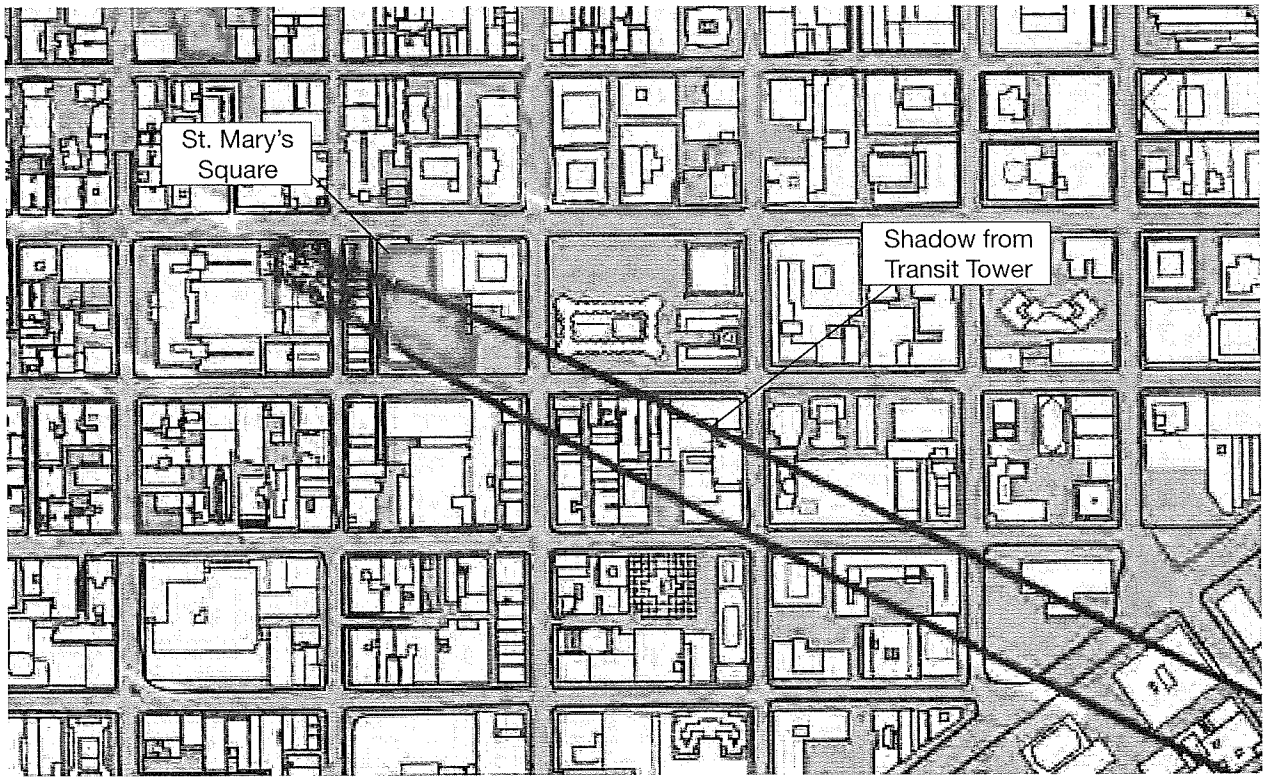
SOURCE: CADP

Figure 64 (revised)

Maximum Extent of New Shadow on Portsmouth Square



Maximum Extent of New Shadow on St. Mary's Square - March 15 / September 27, 8:45 a.m.



Maximum Extent of New Shadow on St. Mary's Square - March 15 / September 27, 8:45 a.m.

Net New Shadow Shadow Outline from New Buildings Existing Shadow

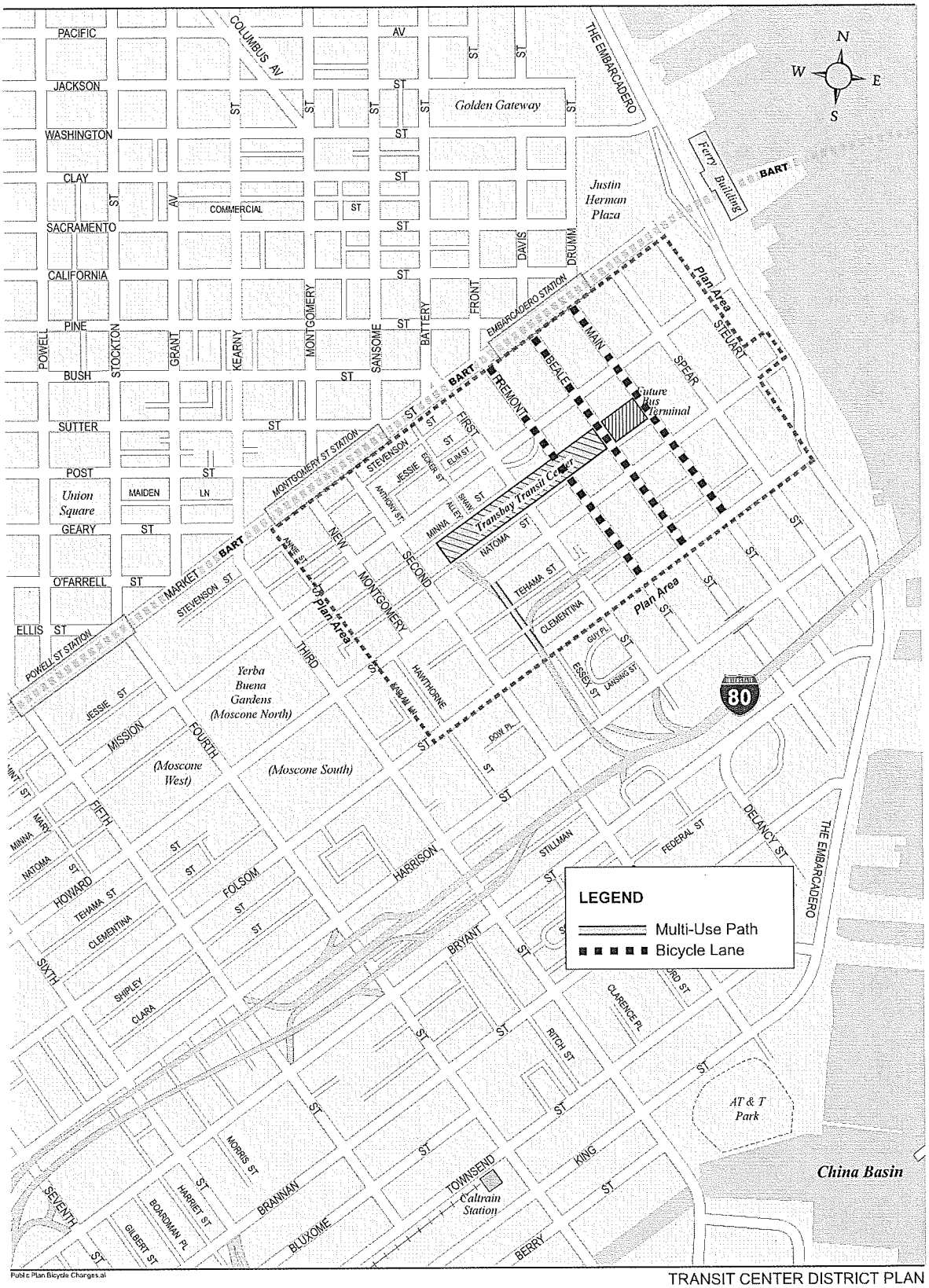
Case No. 2007.0558E: Transit Center District Plan and Transit Tower . 207439

SOURCE: CADP

Figure 65 (revised)

Maximum Extent of New Shadow on St. Mary's Square

AECOM



Public Plan Bicycle Changes.ai

May 12, 2011

TRANSIT CENTER DISTRICT PLAN

Figure 3d

● PUBLIC REALM PLAN
Revised Bicycle Network Changes

TABLE 41 (REVISED)
SHADOW ON SECTION 295 PARKS FROM DEVELOPMENT IN THE PLAN AREA

Open Space	Existing Shadow[1]	Permitted Shadow[2]	Shaded By:[3]	Plan Shadow[4]	Shadow w/Plan[5]	Time/Date of Net New Shadow	Maximum Shadow[6]
Union Square[7]	38.30%	0.1% (0.0898%)	Pal., 50 F, TT, GGU, 181 Frmt.	0.19% ~~0.24%~~	38.5%	mid-March – late September– 7:10 - 8:40 a.m. ~~mid-July – late September; mid-March – late May – 7:20 – 8:50 a.m.~~	24.5% (8:00 am, early Apr. & early Sept.)
St. Mary's Square[8]	51.90%	0.0%	TT, 50 F, GGU	0.09%	52.0%	mid- Sep – mid-October; late February – late March – 8:10 ~~8:40~~ - 9:10 a.m.	26.3% (8:45 am, mid-Mar. & late Sept.)
Portsmouth Square	39.00%	0.0%	TT, 50 First	0.41% ~~0.24%~~	39.4% ~~39.2%~~	~~mid-~~ late October – ~~early December; early January – late~~ mid-February – 8:00 - 9:10 a.m.	42.5% (8:30 am, mid-Jan. & late Nov.)
Justin Herman Plaza[9]	37.60%	0.1% (0.007%)	TT, 50 F, 350 Msh.	0.09%	37.7%	early November - early February – 1:00 - 2:40 p.m.	10.1% (1:15 pm, early Jan. & early Dec.)
Willie "Woo Woo" Wong Plgrd.	52.80%	0.0%	P-F; GGU	0.03%	52.83%	early November. - early December; January – 8:00 - 8:20 a.m.	15.1% (8:15 am, mid-Jan. & late Nov.)
Maritime Plaza	68.40%	0.0%	Transit Tower	<0.01%	68.4%	early to mid-December; late December- early January – 10:40 to 11:05 a.m.	1.9% (10:45 am, late December)
Woh Hei Yuen Park[10]	n/a	n/a	Transit Tower	<0.01% ~~0.07%~~	n/a	Early November and early February, approximately 7:45 a.m.	~~87.7~~ 1.9% (7:44 am,* late Jan. & early Nov.)
Chinese Recreation Ctr.	n/a	0.0%	Transit Tower	<0.01%	n/a	Mid-October and mid-February, approximately 8:25 a.m.	36.5%(8:23 am,* late Feb. & mid-Oct.)
Boeddeker Park[11]	37.70%	0.244% (0.000%)	Transit Tower	<0.01%	37.70%	early June – early July, from 6:50 to 7:00 a.m.	2.9% (6:47 am,* late June)

1 Existing Shadow is the existing amount of shadow cast by existing buildings, measured by the percentage of theoretical annual available sunlight (TAAS) that would be available if no existing buildings were present (based on 1989 Planning Department analysis). TAAS is computed by multiplying the area of each park by 3,721.4 (number of hours covered by Sec. 295). n/a – Not Available

2 Permitted Shadow is the additional amount of **net new** shadow allowed (the Absolute Cumulative Limit) under Sec. 295 for each park. This includes any changes that have occurred since 1989. Bottom figure (in parentheses) indicates remaining budget available, if applicable.

3 Shaded By indicates Plan area buildings that would shade each park: TT – Transit Tower; Pal. – Palace Hotel tower addition; 50 F – 50 First Street; 181 Frmt. – 177 – 187 Fremont; GGU – Golden Gate University site tower; P-F – TJPA Parcel F; 350 Msh. – 350 Mission Street tower (at 700 feet, in accordance with the draft Plan height; this is taller than the 375-foot-tall approved project at this site).

4 Plan Shadow is the amount of net new shadow, given as an approximate percentage of the theoretical annual available sunlight, that would be cast on each park on an annual basis.

5 Shadow w/Plan is the percentage of theoretical annual available sunlight that would be shaded by existing building ***plus*** the proposed project, on an annual basis. Top number is entire Transit Tower; bottom number excludes rooftop element.

6 Maximum Shadow is the greatest amount of each park that would be newly shaded by Plan area buildings at any one moment. Percent of park area that would be shaded is given first column; dates and time in parentheses). Asterisk (*) indicates time is first minute subject to Section 295.

7 The shadow budget remaining within the Absolute Cumulative Limit (ACL) for Union Square has been partially reduced since 1989. In 2004, 69,540 square foot hours was allocated to a project at 690 Market Street, which rehabilitated and expanded the historic De Young (Chronicle) Building, now the Four Seasons Residences, reducing the 0.1 percent budget by 0.02 percent.

8 Existing sunlight and existing shadow coverage for St. Mary's Square, as calculated by the Planning Department, assumed future expansion of this park.

9 The shadow budget remaining within the Absolute Cumulative Limit (ACL) for Justin Herman Plaza has been reduced since 1989, when an ACL for this park was established at 0.1 percent, by the allocation of most of the shadow budget. In 2000, the Planning Commission allocated more than nine-tenths of the available shadow under the 0.1 percent ACL to the Hotel Vitale at Spear and Mission Streets, reducing the remaining available shadow to 0.008 percent of theoretical annual available sunlight. In 2008, the Commission allocated an additional 0.001 percent of the available shadow to a proposed vertical expansion of an office building at 100 California Street (Case No. 2006.0660K), reducing the remaining available shadow to 0.007 percent of theoretical annual available sunlight. This latter project has not been constructed.

10 No Absolute Cumulative Limit has been established for Woh Hei Yuen Park.

11 The Absolute Cumulative Limit (ACL) for Boeddeker Park has been adjusted three times since 1989, to accommodate the Emporium/Bloomingdales project (amendment to the Yerba Buena Center Redevelopment Project, for which the ACL was increased from 0.0%to 0.007%); the Tenderloin Neighborhood Development Center (TNDC) Curran House residential project at 145 Taylor Street (0.087%); and, most recently, in 2009, the TNDC Eddy & Jones Family Housing Project (0.244%). This latter project has not yet been constructed.

SOURCE: San Francisco Planning Department; CADP; Environmental Science Associates

Attachment 1: Comment Letters

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN JR., Governor

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5541
FAX (510) 286-5559
TTY 711

RECEIVED
NOV 2 8 2011
CITY & COUNTY OF S.F.
PLANNING DEPARTMENT

Flex your power!
Be energy efficient!

November 28, 2011

SF080134
SF-80-5.56
SCH#2008072073

Mr. Bill Wycko
Planning Department
City and County of San Francisco
1650 Mission, Suite 400
San Francisco, CA 94103

Dear Mr. Wycko:

Transit Center District and Transit Tower – Draft Environmental Impact Report and Traffic Impact Study

Thank you for continuing to include the California Department of Transportation (Department) in the environmental review process for the Transit Center District and Transit Tower. The following comments are based on the Draft Environmental Impact Report (DEIR) and Traffic Impact Study (TIS). The Department is specifically concerned with traffic queuing onto through lanes of Interstate (I-) 80, resulting in potentially significant impacts to traffic safety. We are also concerned with traffic mode splits, impacts to freeway off ramps and mainlines, and access to the proposed San Francisco Oakland Bay Bridge Westspan multi-use path.

Traffic Forecasting
Table 29 on page 12 of the TIS states that the proposed project would generate approximately 9,661AM and 9,543PM peak hour person trips that includes 2,660 AM and 2,600 PM peak hour vehicle trips. From this Table, the analysis estimates that only approximately 30-33% of person trips will use auto as the mode of transport. Although there is a large number of transit services within the area, the Department believes that the mode split for vehicles is relatively low since residents living within the proposed area may not necessary work within the planned site. To provide a better representation of the mode split within the planned area, the Department recommends the City to survey the travel patterns of existing residents within the plan area.

TR-1

Impacts to State Facilities
The project proposes to convert Howard Street west of Fremont Street, which is currently an one-way street, into a two-way street. The queue forming at the Howard Street and Fremont Street intersection currently backs up onto the Fremont Street off-ramp and causes the queue to spill onto the mainline freeway. Furthermore, both north and south side of Howard Street are currently being used as causal carpool drop off locations. If this section of the Howard Street is converted to a two-way street, it will force all carpool drop offs to one side of the street. This will further reduce the throughput capacity of the Howard Street and exacerbate the existing Fremont off-ramp queue onto the freeway mainline, and will exacerbate existing safety concerns. From

TR-2

Tables 17 and 18, the TIS does not adequately show the impact of project on Fremont off-ramp traffic since it does not capture delay greater than 80 seconds. Please include a section that includes the queue length on the Fremont off-ramp and Freeway mainline resulting and necessary mitigation measures to reduce this impact.

TR-2 (cont'd.)

San Francisco Oakland Bay Bridge Westspan Multi-use Path
In the DEIR, it references that a new multi-use pedestrian and bicycle path proposed between Howard Street and Folsom Streets, near Essex Street and beneath the ramp that links the Transit Center to the Bay Bridge. However, please be advised that this is only one alternative of the Westspan multi-use path project.

TR-3

Should you have any questions regarding this letter, please call Yatman Kwan of my staff at (510) 622-1670.

Sincerely,

GARY ARNOLD
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

RECEIVED
OCT 31 2011
CITY & COUNTY OF S.F.
PLANNING DEPARTMENT

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Deborah O. Raphael, Director
700 Heinz Avenue
Berkeley, California 94710-2721

Edmund G. Brown Jr.
Governor

October 28, 2011

Ms. Sarah B. Jones
San Francisco Planning Department
Environmental Planning
1650 Mission Street, Suite 400
San Francisco, California 94103

Dear Ms. Jones:

Thank you for the opportunity to comment on the Draft Environmental Impact Report for Transit Center District Plan and Transit Tower (SCH# 2008072073). As you may be aware, the California Department of Toxic Substances Control (DTSC) oversees the cleanup of sites where hazardous substances have been released pursuant to the California Health and Safety Code, Division 20, Chapter 6.8. As a potential Responsible Agency, DTSC is submitting comments to ensure that the environmental documentation prepared for this project to address the California Environmental Quality Act (CEQA) adequately addresses any required remediation activities which may be required to address any hazardous substances release.

Based on historic use of the project site (i.e. the now-demolished Transbay Terminal), we strongly recommend that sampling should be conducted to determine whether there is an issue which will need to be addressed in the CEQA compliance document. If hazardous substances are present, they will need to be addressed as part of this project.

HZ-1

For example, if the remediation activities include the need for soil excavation, the CEQA document should include: (1) an assessment of air impacts and health impacts associated with the excavation activities; (2) identification of any applicable local standards which may be exceeded by the excavation activities, including dust levels and noise; (3) transportation impacts from the removal or remedial activities; and (4) risk of upset should there be an accident at the Site.

DTSC and the Regional Water Quality Control Boards (Regional Boards) signed a Memorandum of Agreement, March 1, 2005 (MOA) aimed to avoid duplication of efforts among the agencies in the regulatory oversight of investigation and cleanup activities at brownfield sites. Under the MOA, anyone requesting oversight from DTSC or a

Printed on Recycled Paper

Regional Board must submit an application to initiate the process to assign the appropriate oversight agency. The completed application and site information may be submitted to either DTSC or Regional Board office in your geographical area. The application is available at http://www.calepa.ca.gov/brownfields/MOA/application.pdf.

Please contact me at (510) 540-3775 if you have any questions or would like to schedule a meeting. Thank you in advance for your cooperation in this matter.

Sincerely,

Ryan Mlya

Ryan Mlya
Senior Hazardous Substances Scientist
Northern California - Coastal Cleanup
Operations Branch

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95814-3044

CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

BART

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
300 Lakeside Drive, P.O. Box 12688
Oakland, CA 94604-2688
(510) 464-6000

2011

Bob Franklin
PRESIDENT

John McPartland
VICE PRESIDENT

Grace Crunican
GENERAL MANAGER

DIRECTORS

Gail Murray
1ST DISTRICT

Joel Keller
2ND DISTRICT

Bob Franklin
3RD DISTRICT

Robert Raburn
4TH DISTRICT

John McPartland
5TH DISTRICT

Thomas M. Blalock, P.E.
6TH DISTRICT

Lynette Sweet
7TH DISTRICT

James Fang
8TH DISTRICT

Tom Radulovich
9TH DISTRICT

November 23, 2011

Bill Wycko, Environmental Review Office
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, Ca 94103

Re: Transit Center District Plan and Transit Tower
Comments on Draft Environmental Impact Report
Case No 2007.0558E and 2008.0789E
State Clearinghouse No. 2008072073

Dear Mr. Wycko:

This letter provides the comments of the San Francisco Bay Area Rapid Transit District ("BART") on the draft Environmental Report ("DEIR") prepared for the Transit Center District Plan and Transit Tower ("TCDP") by the City and County of San Francisco (City) as lead agency under the California Environmental Quality Act ("CEQA").[1] BART appreciates the opportunity to continue to participate in this process and provides the below comments on the DEIR.

Comment 1 – BART Supports High Quality Transit-Oriented Development.
Initially, BART notes that, as described, the Project addresses development of an area comprising approximately 145 acres and a Transit Tower, proposed by the Transbay Joint Powers Authority that would rise 61 stories, in a 1,070-foot-tall office building located on the northern third of the block bounded by First, Mission, Fremont, and Howard Streets. The Transit Tower would include approximately 1.3 million square feet provide 1.47 million square feet of office space and 16,500 square feet of retail space. The plan area abuts both the Embarcadero and the Montgomery BART Stations.

The vision of the 2008 BART Strategic Plan identifies that "BART is a high-quality transit service that supports a sustainable region." In that spirit, BART is supportive of new infill development projects near BART stations. As provided in BART's 2005 Transit-Oriented Development (TOD) Policy, BART believes that by "promoting high quality, more intensive development on and near BART-owned property, [BART] can increase ridership, support long-term system capacity and generate new revenues for transit." At the same time, the BART system was designed in the 1950's and 60's, initiated operations in 1972, and is approaching 40 years of serving downtown San Francisco, and the region. The planning horizon of the original BART system has been surpassed by a decade, and system capacity improvements will eventually be needed to alleviate constraints on projected ridership. The Metropolitan Transportation Commission's (MTC's) Transportation 2035 (T2035) regional transportation plan does not include any significant funding to enable BART to address emerging capacity constraints (as identified in the DEIR), even as BART develops plans to increase capacity and throughput. To this end, BART looks forward to collaborating with the City, and other funding partners, to develop a successful Project with substantial benefits for the public.

TR-7

We note that the plan contains many objectives which support transit including enhanced funding of capacity for regional transit service (Objective 4.13), demand management strategies to reduce automobile use (Objective 4.15), a parking plan to encourage transit (Objective 4.16), Increased incentives to take transit (Objective 4.17), and encouragement of non-auto modes of transportation (Objective 4.18).

However, while these stated objectives are laudable and appropriate, we are concerned that erroneous assumptions in the DEIR may understate significant impacts. In addition, the DEIR does not contain a strategy to monitor transit capacity, particularly on BART and at the Montgomery and Embarcadero Stations, over the life of the plan. Finally the DEIR does not provide adequate mitigation, in the form of a clear strategy to address the need for operating or capital improvements to mitigate impacts that the DEIR acknowledges to be attributable to the Project.

These issues should be acknowledged and appropriately addressed in the Final EIR for the Project.

TR-7 (cont'd.)

Comment 2 – Error in BART Service Assumptions.
The assumptions regarding BART service in 2030, which are the basis for the TCDP DEIR analysis, are not consistent with BART's own service plans. This is existing information, readily available in public documents including the BART Fleet Management Plan (2010) and BART service expansion assumptions contained in environmental documents such as the Silicon Valley Rapid Transit Corridor Final EIS (2010), BART to Livermore Final Program EIR (2010), eBART Final EIR (2009). Relying on erroneous assumptions, the TCDP DEIR incorrectly analyzes BART's service frequency and Transbay capacity constraints and understates our year 2030 train capacity limits. Peak hour / peak direction train throughput at the Transbay screen line should total 31 trains and be based on the following service plan:

- Warm Springs/Berryessa to Daly City = 5 trains peak hour/direction
- South Hayward to Daly City = 3 trains peak hour/direction
- Pittsburg/Bay Point to SFO = 5 trains peak hour/direction
- Pittsburg/Bay Point to Daly City = 1 train peak hour/direction
- Pleasant Hill to Montgomery = 4 trains peak hour/direction
- Dublin Pleasanton to Daly City = 5 trains peak hour/direction
- Richmond to Daly City/Millbrae = 8 trains peak hour/direction

[1] Public Resources Code § 21000 et seq. CEQA is implemented through the State CEQA Guidelines ("Guidelines"), 14 Cal. Code Regs. § 15000 et seq.

Comment 3—Need to Provide Ridership Analysis Results.
On pages 302 - 305, Impact TR-3, the DEIR identifies two potential transit impacts, but with different significance conclusions:

- Transit ridership related to the Draft Plan, including street changes, would cause substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; and would cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result (Significant and Unavoidable with Mitigation). DEIR, p. 302.
- Plan induced growth would contribute almost 3 percent additional ridership to conditions on BART and AC Transit, both of which would operate with ridership in excess of capacity under 2030 without project conditions, and 6 to 7 percent additional ridership on BART Peninsula service. However, the DEIR concludes that this impact is less than significant. DEIR, p. 304.

It is difficult for the non-expert reader to interpret these conclusions. In particular, the DEIR reports transit demand changes attributable to the Project as percentages only, rather than reporting specific ridership projections as is typical in EIR analyses of transit impacts. See Table 22, Regional Transit Peak-hour Capacity Utilization (p. 301). The Transit Center District Plan *Transportation Impact Study Technical Appendix*, v.1, dated September 22, 2011 is apparently the source of these percentages. However, reporting the results as percentages has the effect of understating the impacts, by depriving the reader of necessary context. For example, where total ridership on the different transit systems may be very different, expressing the results in percentages only tends to downplay large ridership increases on systems with large ridership to begin with. Relevant transit ridership and mode share information from the *Technical Appendix* should be incorporated into the Final EIR for the benefit of the public and decision-makers.

TR-8

BART's analysis of the data provided in the *Technical Appendix* (see Attachment 1), indicates that BART is forecast to carry 55% of AM Peak Hour riders across Regional Screenlines, when comparing Existing Conditions to the 2030 Baseline, and 44% of riders across All Regional and SFMTA Screenlines. When comparing the 2030 Baseline to 2030 plus Project Conditions, BART is forecast to carry 77% of AM Peak Hour riders across Regional Screenlines, and nearly 31% of across All Regional and SFMTA Screenlines. Table 22 on p. 301 indicates that demand on BART's East Bay routes will exceed capacity. Mitigations for addressing BART capacity should be identified and a strategy set forth to achieve them.

Comment 4—Improper Conclusion of Insignificance Based on "Proportionality."
The DEIR concludes that the impacts of 3 percent additional BART ridership generally, and 6 to 7 percent additional ridership on BART Peninsula service, are less than significant because these increases represent less than 5 percent of total future BART ridership. DEIR, p. 304. For the cumulative impacts shown in Table 25, p. 331, the DEIR asserts that project ridership is insignificant because it would be less than 0.75% of the total growth in 2030. This "proportionality" argument has been rejected by the courts. See *Kings County Farm Bureau v. City of Hanford*, 221 Cal. App. 3rd 692 (1990) and *Communities for a Better Environment v. Resources Agency*, 103 Cal.App.4th 98 (2002). These cases hold that a project's incremental contribution to an impact cannot be dismissed because it is small in proportion to the

contributions of other sources. On the contrary, the courts concluded, the "proportionality" approach violates CEQA because the more serious conditions are due to other sources, the greater the consequences may be of adding yet another increment. Therefore, the project's small contributions should be more closely scrutinized, not less, when other sources are already creating a problem. In this case, BART's expected increase in demand without the project, in the context of capacity constraints, give rise to greater concern over the additional contribution of the project.

TR-8 (cont'd.)

Comment 5—Change from 2009 Analysis.
The transit ridership forecasts identified in the *Technical Appendix* (2011) differs from the earlier Transit Center District Plan – Transit Network Analysis memo (AECOM, Feb. 2, 2009) in terms of East Bay corridor transit mode allocation. Overall transit ridership increased as compared to the 2009 memo, but BART's ridership decreased. What explains the discrepancy? The FEIR should identify what has changed in the analysis.

TR-7

Comment 6—Lack of Mitigation for Station Capacity Impacts.
While dismissing the increased percent ridership as insignificant, the DEIR does acknowledge peak-hour capacity constraints at two stations, the Montgomery Street and Embarcadero Stations (p305). The document concludes that increased ridership from Plan area development would almost all go through these two stations, and thus would cause a significant and unavoidable impact on regional transit.

A significant and unavoidable finding is not a "free pass" under CEQA. Impacts may only be found significant and unavoidable where mitigation to avoid or reduce the impacts to less than significant levels is infeasible as defined by CEQA.[2] The DEIR contains no discussion of potential mitigation or claims of infeasibility. Moreover, when feasible mitigation can partly reduce an impact, even though the remaining impact after such mitigation is still "significant and unavoidable", the EIR must address mitigation to reduce the impact to the extent feasible.

TR-9

BART has developed preliminary plans to expand station capacity, improve the train control system to enable more frequent, expand the fleet of BART cars, and expand essential yards and shops. Because funding for these investments is scarce, a number of operational strategies could also alleviate capacity constraints on an interim basis. At a minimum, the plan should call for monitoring transit capacity over the life of the plan, and prioritize capacity investments to reduce and manage the safety of the traveling public. Even if the impact would remain significant and unavoidable, these are feasible mitigations which the Final EIR should consider.

Comment 7—Lack of Mitigation for Indirect Transit Impacts.
In addition to and beyond the impacts discussed above, the DEIR acknowledges that the project's parking supply limitations could secondarily result in further crowding and capacity issues on BART and other transit systems. DEIR, p. 324. This indirect impact is also characterized as significant and unavoidable. As stated above, the significant and unavoidable finding does not relieve the lead agency from addressing mitigation to the extent feasible.

TR-10

[2] Pub. Res. Code §§ 21061.1, 21081; CEQA Guidelines §§ 15126.2, 15126.4.

Comment 8—Need for Clarification on Impact Fees.
The DEIR includes Mitigation Measure TR-3e, "Increased Funding of Regional Transit", as a proposed mitigation measure for Impact TR-3. DEIR, pp. 308-309. MM TR-3e provides that: "Sponsors of development projects within the Plan area could be subject to one or more fair share fees to assist in service improvements, such as through the purchase of additional transit vehicles and vessels or contributions to operating costs, as necessary to mitigate Plan impacts."

BART agrees with the conclusion that it is speculative at this time to presume that fees could fully offset project impacts, so that Impact TR-3 remains significant and unavoidable. However, as written in the DEIR, MM TR-3e is too vague and uncertain to satisfy the requirements of CEQA. First, it is not even clear that the impact fee will be imposed at all, as MM TR-3e is not stated as a commitment: "Sponsors. . . *could be* subject" to the fees (p. 308, italics added). Second, it is not clear which transit operators may share in the revenue if the fees are implemented: "These fee(s) *could be* dedicated to Golden Gate Transit, North Bay ferry operators, AC Transit, BART, *and/or* additional North Bay and East Bay transit operators" (p. 309, italics added). Most important, there is no discussion of standards for allocating fee revenues among recipients, not even a commitment to allocate revenues in proportion to the impacts identified in the EIR. The determination of the recipients, generation and allocation of fees is deferred to the future. However, CEQA does not allow the formulation of mitigation measures to be deferred to a future time, unless the EIR contains specific performance standards that will guide the future determination.[3] BART recognizes that a detailed fee program is not available at this stage. Nevertheless, once the DEIR put forward the fee proposal as a form of mitigation for Impact TR-3, decision-makers and the public must be provided with some reasonable, general description of the proposed fee program. In the Final EIR, MM TR-3e should be revised to clarify and commit to actions that meet the CEQA standard of mitigation to the extent feasible. TR-11

We look forward to working with the City of San Francisco on this important project. If you have any questions, please contact me at 510.287.4794 or at VMenott@bart.gov.

Thank you again for the opportunity to provide input on this project.

Sincerely,

Val Joseph Menotti
Planning Department Manager

[3] CEQA Guidelines § 15126.4(a)(1)(B).

Attachment 1: Transit Load Capacity (Peak Hour) A.M. Peak

	Existing Conditions (2007)			2030 Baseline (1B)			Change (2030 Baseline vs. 2007 Existing)	2030 plus Project Conditions (3A)			[illegible]
AM Peak Hour											
	Riders	Capacity	Util	Riders	Capacity	Util	Riders	Riders	Capacity	Util	Riders
SFMTA	20,191	30,218	67%	26,404	36,082	73%	6,213	29,592	36,082	82%	3,188
East Bay	19,391	24,150	80%	33,253	29,400	113%	13,862	34,158	29,400	116%	945
South Bay (w/ 16 St and south)	10,841	16,800	65%	11,828	21,000	56%	987	12,511	21,000	60%	683
BART	30,232	40,950	74%	45,081	50,400	89%	14,849	46,709	50,400	93%	1,628
East Bay (including BART)	21,728	28,394	77%	43,585	37,286	117%	21,857	44,824	37,286	120%	1,239
North Bay	2,459	4,355	56%	4,247	4,355	98%	1,788	4,338	4,355	100%	91
South Bay (including BART)	13,655	21,110	65%	17,197	28,760	60%	3,542	17,975	28,760	63%	778
All Regional Screenlines	37,842	53,859	70%	65,029	70,401	92%	27,187	67,137	70,401	95%	2,108
Regional + SFMTA Screenlines	58,033	84,077	69%	91,433	106,483	86%	33,400	96,729	106,483	91%	5,296

	55%
	44%

	77%
	31%

BART % of Ridership Growth in TCDP
of All Regional Screenlines
of Regional + SFMTA Screenlines

Attachment 1: Transit Load Capacity (Peak Hour) P.M. Peak

	Existing Conditions (2007)			2030 Baseline (1B)			Change (2030 Baseline vs. 2007 Existing)	2030 plus Project Conditions (3A)			
PM Peak Hour											
	Riders	Capacity	Util	Riders	Capacity	Util	Riders	Riders	Capacity	Util	Riders
SFMTA	20,609	30,373	68%	27,628	35,074	79%	7,019	29,592	35,074	84%	1,964
East Bay	20,067	24,150	83%	32,225	29,400	110%	12,158	33,084	29,400	113%	859
South Bay (w/ 16 St and south)	10,202	16,800	61%	11,202	21,000	53%	1,000	11,907	21,000	57%	705
BART	30,269	40,950	74%	43,427	50,400	86%	13,158	44,991	50,400	89%	1,564
East Bay (including BART)	23,286	29,862	78%	41,819	38,719	108%	18,533	42,935	38,719	111%	1,116
North Bay	2,303	3,905	59%	4,135	3,905	106%	1,832	4,227	3,905	108%	92
South Bay (including BART)	12,763	20,990	61%	15,659	28,640	55%	2,896	16,453	28,640	57%	794
All Regional Screenlines	38,352	54,757	70%	61,613	71,264	86%	13,261	63,615	71,264	89%	3,002
Regional + SFMTA Screenlines	58,961	85,130	69%	89,241	106,338	84%	30,280	93,207	106,338	88%	5,966

BART % of Ridership Growth in TCDP
of All Regional Screenlines
of Regional + SFMTA Screenlines

43%	57%
39%	78%

November 14, 2011

Mr. Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

RE: Transit Center District Plan and Transit Tower DEIR

Dear Mr. Wycko:

Golden Gate Bridge, Highway and Transportation District (GGBHTD) staff has completed a review of the DEIR for the Transit Center District Plan and Transit Tower project and the Transportation Impact Study for the Transit Center District Plan, and would like to offer the following comments for consideration in preparation of the final environmental document:

Transit Center District Plan and Transit Tower DEIR:

- **Pg. S-5:** Amount (number of units) missing from the second sentence of the third paragraph: "The building would have about (?) retail space…". | Sum-1
- **Pg. S-67:** In the title of the section, the sentence should read "…*if* the Project is Implemented." | Sum-2
- **Pg. 296, Mitigation M-TR-1m:** This mitigation states that as part of a RTSOP project, the MTA *could* conduct a study of Downtown-area traffic signal systems; however, it does not indicate what would trigger such a study. Can such a study be accomplished within the program limitations? | TR-4
- **Pg. 300:** The ridership projections for Golden Gate Transit (GGT) buses is inconsistent with the preliminary analysis conducted by the Metropolitan Transportation Committee as part of the Transit Sustainability Project. | TR-7
- **Pg. 304:** The second paragraph discusses ridership increases for regional carriers. Impacts on GGT ridership needs further clarification. It states that capacity utilization would increase from 2 to 7 percent for each carrier, with GGT exceeding the 100 percent capacity utilization standard in the AM peak, resulting in a significant impact. It then goes on to state that since plan ridership would "cause add less" (clarify?) than 5 percent to GGT capacity utilization, it would be a less-than-significant impact. Would GGT simultaneously experience significant *and* less-than-significant impacts? | TR-8
- Also, the last paragraph states that "Golden Gate Transit buses also use portions of Howard Street and Folsom Street when heading to and from Golden Gate Transit's mid- | TR-12

1011 ANDERSEN DRIVE • SAN RAFAEL, CA 94901-5381 • USA

day yard at Eighth and Harrison Street." GGT's San Francisco bus yard will be relocated to a new location on Perry Street between Third and Fourth streets in 2013. Thus, any analyses concerning GGT operations in any scenario other than existing should take this into consideration. TR-12 (cont'd.)

- **Pg. 306, Mitigation M-TR-3a:** This mitigation discusses the installation of transit-only and queue-jump lanes as improvements for Muni operations, but GGT and SamTrans operations are not mentioned.

- **Pg. 307, Mitigation M-TR-3b:** This mitigation measure proposes that Muni buses have exclusive use of boarding islands on Mission Street while regional carriers use the curbside bus stops. Regional carriers could either use the transit-only center lanes between stops or use only the curb lane. It is acknowledged that using curbside stops "…may result in unsafe maneuvers for regional transit vehicles and increase the potential for collisions and conflict between buses and vehicles or bicycles," using only the curb lane would eliminate "…increased potential for collisions due to merging in and out of the transit-only lanes" and "subject regional transit vehicles to substantial travel time delays as a result of traveling in mixed-flow traffic." Both alternatives will have significant impacts to the safe and timely operation of GGT buses. While the possibility of regional carriers using the boarding islands was mentioned in the first paragraph on page 304, it was not adequately explored. It is not clear why having both Muni and regional buses in the boarding islands would be infeasible. TR-13

- **Mitigation M-TR-3c:** Footnote 174 refers to GGT's move from the Eighth and Harrison yard in 2017. In fact, the move will occur in 2013. TR-12

- **Pg. 308, Mitigations M-TR-3d and M-TR-3e:** These mitigations discuss the potential to establish a fair share fee to allow for the purchase of additional transit vehicles to mitigate impacts on transit travel time and calls for the funds include "costs to store and maintain the vehicle." How will the one-time fee be applied to the on-going costs to store and maintain the vehicles? TR-11

- **General comment on bulb-outs:** The DEIR cites the possibility of installing bulb-outs at intersection crosswalks. The District would like to assure that such modifications maintain turning radii to accommodate the minimum turning radius of GGT buses. TR-14

Comments on Transit Center District Plan Transportation Impact Study:

- **Pg. 26:** The second paragraph explains the origin of ridership projections used for the analysis. It appears that the projections from the SFCTA travel demand model and the MTC model are not consistent. Can/should this be resolved? TR-7

- **Pg. 53:** Figure 10 erroneously shows GGT buses on Howard Street between Beale and Main streets. TR-12

- **Pg. 102:** Figure 18 erroneously shows GGT buses on Howard Street west of Fourth Street and on Folsom Street west of Third Street. The GGT bus yard will be relocated to Perry Street between Third and Fourth streets in 2013, so buses will no longer operate in revenue service along these street segments in the Future Transit Network. TR-12 (cont'd.)

- **Pg. 444:** Mitigation Measure DA-TRANSIT-5 references "Mitigation Measure P-TRANSIT-c," but there is no such mitigation in the document. TR-15

- **General comment on bulb-outs:** While the TIS addresses concerns for heavy vehicles (i.e., tractor-trailers) and emergency vehicles relative to the installation of bulb-outs, it does not specifically address the need to maintain minimum turning radii requirements for buses, which may be significantly more than articulated vehicles such as tractor-trailer combo and ladder trucks. TR-14

Thank you for the opportunity to review the DEIR and TIS for the Transit Center District Plan and Transit Tower. If you have any questions regarding any of our comments, please contact Raymond Santiago, Senior Planner, at (415) 257-4443 or rsantiago@goldengate.org.

Sincerely,

Ron Downing
Director of Planning

cc: Raymond Santiago
Maurice Palumbo
David Davenport

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

November 30, 2011

Mr. Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, 4th Floor
San Francisco, CA 94103

Dear Mr. Wycko,

On November 2, 2011, the Historic Preservation Commission (HPC) held a public hearing and took public comment on the Draft Environmental Impact Report (DEIR) for the proposed Transit Center District Plan and Transit Tower. After discussion, the HPC arrived at the comments below:

- The HPC does not believe the reduced scope project should be regarded as a preservation alternative. The DEIR should include a true preservation alternative that looks at not demolishing any historic resources. — ALT-1
- The HPC disagrees with the finding in the DEIR that the reduced scope project will have a reduced impact to the Palace Hotel. While the reduced scope project may have less shadow impacts, there will be no difference between the proposed project and the reduced scope project to the Palace Hotel from a preservation perspective.
- The HPC suggests that the mitigation measure described in M-CP-3A should be modified to accurately reflect the historic resources needing HABS and HAER documentation. — CP-1
- The HPC believes the HABS and HAER documentation should include aerial photography.
- The HPC suggests that the mitigation measure described in M-CP-3B be modified to include both written and photographic data in the public interpretative display and that the proposed display be presented to the HPC prior to finalization.
- Given the amount of demolition proposed, the HPC suggests inclusion of a salvage mitigation measure.
- The HPC would like to see impacts to the potential historic district at the intersection of 1st and Mission Streets be analyzed at the project level or reduced scope project. — CP-2
- The HPC would like to see individual historic resources identified in the survey be formally designated and expansion to the existing Conservation District be implemented.
- The HPC would like to see the historic district identified at the intersection of 1st and Mission Streets be formally designated if the reduced scope project is implemented.

- The HPC believes an informational presentation or briefing prior to the DEIR hearing is warranted in order for the HPC to comment on the overall plan and proposed policies. — CP-3
- The HPC disagrees with the statement made under M-CP-4 that the mitigations would result in less than a significant impact and would like to see more information on how that determination was made. — CP-4
- Once developed, the HPC would like more information about the Downtown Rehabilitation Fund and In-Lieu Fee Program. — CP-5
- The HPC believes the graphics and illustrations in the DEIR could be improved for consistency and clarify purposes. The DEIR should include the boundaries of the potential historic district at the intersection of 1st and Mission Streets. — CP-6

The HPC appreciates the opportunity to participate in review of this environmental document.

Sincerely,

Charles Edwin Chase, President
Historic Preservation Commission

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

INTEROFFICE MEMORANDUM

EDWIN M. LEE
MAYOR

FRANCESCA VIETOR
PRESIDENT

ANSON MORAN
VICE PRESIDENT

ANN MOLLER CAEN
COMMISSIONER

ART TORRES
COMMISSIONER

VINCE COURTNEY
COMMISSIONER

ED HARRINGTON
GENERAL MANAGER

To: Bill Wycko, Environmental Review Officer
Attention: Sarah Jones, Senior Environmental Planner
Environmental Planning Division
San Francisco Planning Department

From: Irina P. Torrey, AICP, Manager
Bureau of Environmental Management

Date: November 10, 2011

Subject: Draft Environmental Impact Report
Transit Center District Plan and Transit Tower
Planning Department File Numbers 2007.0558E and 2008.0789E

Thank you for the opportunity to review and comment on the Draft Environmental Impact Report for the Transit Center District Plan and Transit Tower. The San Francisco Public Utilities Commission staff has reviewed the draft document and offer the following comments.

Pages 35-37 (District Sustainability), 537-538 (Plan Impacts, *Water*), 598 (Recycled Water), and 610 (Recycled Water):

> Recycled Water Systems - Recycled Water Ordinances 390-91, 391-91, and 393-94 require property owners (including municipal) to install recycled water systems for recycled water use within the designated recycled water use areas. All but the very northwest corner of the Plan area is located within the designated recycled water use area and the installation of a recycled water system(s) in the buildings/facilities/green spaces located within the designated ordinance area is required. Although the northwest corner of the Plan area is not located within the designated area, it is contiguous to the rest of the Plan area that is within the designated area and, therefore could be served recycled water.
>
> The text of these ordinances can be found at the following webpage: http://sfwater.org/index.aspx?page=477

UT-1

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

INTEROFFICE MEMORANDUM

Page 383 (San Francisco Dust Control Ordinance):

> Non-potable Water Use for Dust Control and Soil Compaction - Non-potable water must be used for dust control and soil compaction activities during project construction as required by Ordinance 175-91. The SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant that provides recycled water for these activities at no charge. For more information please contact (415) 695-7358. Information on Ordinance 175-91 is available at the following webpage: http://sfwater.org/index.aspx?page=477

AQ-1

Pages 37 and 400. General comment regarding Transit District Policy Goals 6.14 – 6.19:

> The SFPUC is developing a program to address the onsite treatment of alternate water sources for non-potable applications in commercial structures. The SFPUC has been collaborating with San Francisco Department of Public Health and San Francisco Department of Building Inspection to provide a foundation for this program. SFPUC looks forward to the implementation of Transit District Policy Goals 6.14 – 6.19 regarding the use of non-potable water. SFPUC has been in contact with the Transbay Joint Powers Authority regarding their plans at the Transit Center for gray water and rainwater harvesting.
>
> Earlier this year the SFPUC completed a Sump Study looking at the water quality from dewatering operations for a small number of buildings in the eastern portion of San Francisco. One of the sites, Moscone Center, is near the Transit District, and provides preliminary insights on this topic. Please let SFPUC know a copy of this report is needed (Sarah L. Rhodes, srhodes@sfwater.org).

PD-14

Thank you for your cooperation.

Mayor Edwin M. Lee
Phillip A. Ginsburg, General Manager

December 12, 2011

Bill Wycko, Environmental Impact Officer
1650 Mission Street, Suite 400
San Francisco, CA 94103

RE: Transit Center District Plan and Transit Center Draft Environmental Impact Report,
Case Nos. 2007.0558E & 2008.0789E

Dear Mr. Wycko:

Thank you for providing the City of San Francisco's Recreation and Parks Department (RPD) with the opportunity to review the Draft Environmental Impact Report (DEIR) for the Transit Center District Plan and Transit Center and provide comments for your consideration. As the Report indicates, several RPD properties are potentially impacted by the proposed plan and transit center.

These properties include Chinese Recreation Center, Union Square, Portsmouth Square, St. Mary's Square, Woh Hei Yuen Park, Boeddeker Park, Gene Friend Recreation Center (aka "SOMA Recreation Center"), South Park, Sue Bierman Park, Justin Herman Plaza, Maritime Park, Huntington Park, and Willie "Woo Woo" Wong Playground.

Shadow
The analysis provided within the DEIR for CEQA analysis has made two impact findings of Significant and Unavoidable shadow impacts to parks under the jurisdiction of the Recreation and Parks Department in the plan.

Separate from the CEQA process, as the DEIR notes, the proposed plan, the proposed tower and other proposed projects may require review and necessary approvals as per Section 295 of the City Planning Code, which addresses shadow on parks under the jurisdiction of the Recreation and Parks Department. All projects in San Francisco which include new buildings over 40 feet in height and shadow or could shadow properties are subject to Section 295 requirements and analysis. This may require the Planning Commission and the Recreation and Parks Department to make findings and amend the Absolute Cumulative Limits for one or more parks.

As has been discussed in previous hearings, it is unclear which projects or developments would be realized and at what time in the future depending on available financing and funding. At that time, each project presented for consideration must define the extent of shadow on each park affected for detailed and full analysis. It should include existing shadow on each park at that time including an analysis of both the quality and character of the shadow and the shadow portrayed on the park's existing topography and major features including buildings and other

SH-1

facilities. Though facilities may change over time, it is important to understand the current impacts with current topography and facilities.

SH-1 (cont'd.)

Transportation
Please review the pedestrian experience proposed in the plan to access open spaces, particularly Recreation and Parks Department Open Spaces, using the anticipated changes in population, to access to proposed transit tower and existing public open spaces. Please describe and analyze those patterns of use and routes anticipated and the design of these connections for safety and pedestrian access.

TR-17

Biology
The Recreation and Parks Department manages numerous properties citywide that provide special habitat for wildlife, including birds. We are encouraged that the Standards for Bird Safe Buildings have been adopted for potential use on projects such as this.

BI-1

Existing Recreational Facilities
In terms of Impact RE-1, please provide further analysis of how the proposed determination was made that the additional office, retail, hotel, and residential density would not result in increased use that would lead to or accelerate their physical deterioration or require construction of new facilities. Many of the parks in the area of the plan are heavily used and in areas the city's general plan considers to be "high-needs" in terms of new or improved open space. The proposed plan does include some new proposed open spaces. Please provide additional analysis of the future use of those spaces and existing open spaces based on user types, time of use and type of facility provided and other appropriate analysis methods.

RE-1

Note: On page 529, the area generally referred to as the Embarcadero Promenade, as discussed, is owned by the Port of San Francisco, not the Recreation and Parks Department.

RE-2

Thank you for your time and consideration.

Sincerely,

Karen Mauney-Brodek
Deputy Director for Park Planning
Planning and Capital Division
City of San Francisco
Recreation and Parks
Karen.Mauney-Brodek@sfgov.org
(415) 575-5601

SUE C. HESTOR
Attorney at Law
870 Market Street, Suite 1128 • San Francisco, CA 94102
(415) 362-2778 • FAX (415) 362-8048

November 28, 2011

Sarah B Jones
Planning Department
1650 Mission St 4th fl
San Francisco CA 94103

2007.0558E & 2008.0789E - Transit Center District Plan & Transit Tower - Draft EIR

Dear Ms. Jones:

On behalf of San Franciscans for Reasonable Growth I am submitting the following comments on the Transit Center Draft EIR.

The most appropriate of the DEIR is POLLYANNAish. If that is a word.

This DEIR - as well as the planning staff working on/promoting this "plan" - would be well served to have an impartial group evaluate the street level quality/experience of the high-rise buildings that have been built since the Urban Design Plan, the Downtown Plan and even the various Rincon Hill plans were approved. There is an AWFUL lot of reliance on the LANGUAGE in various policies - the Urban Design Plan, the Downtown Plan and the Rincon Hill Plan. The language of those "plans" is lovingly set out as though the nice words actually resulted in changes at street level. There is little "evaluation" or recognition that high-flown policies don't actually result in implementation in real world San Francisco. This analysis could also be extended to the Code language that was adopted that turned around and allowed "exceptions" which became the norm when a building was actually reviewed and approved.

The Aesthetics evaluation should mostly focus at the STREET LEVEL, since that is where most people will experience these buildings. While we also care about how these buildings affect the skyline and important public views - see later comments here - much of what has been built in the last 35-40 years didn't quite result in the wonderful ground-level perspectives (the ideals) set out in those plans. Development in the past 35-40 years was theoretically guided by the *policies* of the Urban Design Plan, the Downtown Plan or the Rincon Hill Plan. How did it REALLY work out? What is the level of POSITIVE ground level pedestrian activity around the NEW TALL buildings. What about their "plazas" or other softening aspects? How much do they welcome people, both those who work in their building or those in the area? How much of the ground level space is ACTIVE retail or services? Are the NEW buildings providing those spaces, or is it in the OLDER buildings? How "friendly" is the pedestrian experience. How ACTIVE are these spaces in the REAL world?

G-1

Our sense is that there are an awful lot of "policies" that look terrific on paper, but aren't really implemented all the way through in construction details, in ground level active uses and in creating a strong public realm in/around NEW high-rise buildings.

Which BUILDINGS worked they way the "plans" intended? Vs. which created inactive, under-used spaces? Which "outdoor" access spaces REALLY work? What population do they serve?

The Planning Department itself may not be the best judge of its own efforts. Perhaps one of the Architecture/Design schools that regularly put students into SF planning issues - UC Berkeley, Cal Poly - could be asked to do a human level evaluation of the NEW downtown buildings and how they function at the ground level. The students are guided by professionals in their Department, but may come to this with a fresh view. Architecture students don't have a stake in justifying Planning Department policies.

G-1 (cont'd.)

Page 6 - I can't read the street names on those maps. Please redo these maps. That protruberant area on Howard Street is strange. There actually is a proposed high-rise - with associated height increase - for Howard on the south side between Spear and Steuart, aka 75 Howard Street. Is there yet another proposal RIGHT UP TO THE EMBARCADERO?

PD-1

Page 7 fn7 - do these addresses match the sites analyzed for such things as the shadow impacts of various buildings? It is hard to track lists of buildings throughout the DEIR.

PD-2

I don't remember seeing the Rincon Point/South Beach Redevelopment Plan/Area mentioned as one of the underlying controls. It clearly governed development of several parcels in the east part of the plan area.

PD-3

Page 8 - 2008 study by Seifel was clearly started before 2008. The economy has had a great shaking out in the intervening years. How valid are the projections, and what ASSUMPTIONS underlie those projections? What other similar projections has Seifel done for San Francisco? How did THOSE projections bear out.

We have been in a significant **recession** (to use the most generous term) since 2008. It is very difficult to get construction financing. Even though SF continues to be in something of a housing bubble because of demand generated by Silicon Valley, SF has a huge backlog of housing approvals. Mostly for high end condo towers. The downtown office market has tanked and projections of office demand have been WAY OFF. Please refer to the 25 year report on the Downtown Plan to determine just how far off the estimates have been. Has the economy moved on?

So please go back to the beginning and look at the most BASIC assumptions regarding NEED and FEASIBILITY.

The project objectives in the DEIR do not set any for housing. Are there such? Is the goal of generating substantial funding from development rights (via an extraordinarily tall building) realistic in 2012? Also page 15 fn 17 (which has a typo - fn 9 is on page 8)

PD-4

Page 10 - there have been three versions of a Rincon Hill Plan. The original one that came on the heels of the Downtown Plan. The 2-block plan that includes the area east of Fremont and is partially

PD-5

constructed. The current plan that provides for extremely tall towers and resulted in construction of One Rincon Hill. They all have elaborate policies to densely house residents, with neighborhood amenities, good design, parks, sunlight, etc etc. The REAL WORLD is not so glowing and should be analyzed in the same context as the Downtown Plan, Urban Design Element. It is stated that it will CREATE housing for as much as 20,000 new residents. That is bad terminology. It will "accommodate." Plans don't create anything because so few of them are fully implemented. PD-5 (cont'd.)

Which leads to the next point. The Downtown Plan created a new zoning category - C-3-O(SD) which includes much of THIS Plan area. It was intended to be the most dense office space in the City. With sculpted buildings (YOUR term again), gracious spaces, active ground levels. It was IN THE PLAN. But it just didn't happen. Explain why THIS PLAN is going to be able to deliver all those things - and more? Go back to the Downtown Plan and explain what assumptions IT MADE for the amount of development that would occur in the C-3-O(SD).

Page 14 - The map of heights in the DTPlan was driven by locating the tallest buildings right next to the best transit access - the MUNI/BART stations because they would handle the greatest number of people coming into the downtown. The increased heights south of Mission contradict that policy of being close to MUNI/BART stations. Those facilities/transit lines are REAL. Please explain why large chunks of land are proposed for such a dramatic height increase when they are more remote from MUNI/BART stations/service? PD-6

Page 16 - inversion of FAR limit to be a FAR base. This really turns the Downtown Plan analysis of how to get appropriately designed buildings inside out. How do you FORCE that kind of density? And get "sculpted" buildings. The new FAR FORCES extreme heights. PD-7

Page 17 - active retail assumption/goal. Casual observation of "new"buildings vs. "old" buildings may show that the older buildings are more likely to have active retail on the ground floor. The Downtown Plan really wanted active retail, but it doesn't always happen that way. How do you intend to FORCE the owners to rent to the businesses the Department wants to be there? PD-8

The term "elegant skyline" is overused by the Department. In the real world what is actually building, vice the Downtown Plan, doesn't come out that way. If you wish REALLY hard.... PD-9

Seismic underpinnings for 1000' tower. What are the implications of tenants going through a MAJOR earthquake in such a tall building. If the elevators have to go off for a period, the evacuation AND inability to reoccupy (with elevator shut off) AND will the building shed even a little bit of its skin so that the STRUCTURE can right out the quake. GE-1

Page 18 - paragraph re shifting development zone 10 years in the future if no development taller than 700' is built. How would this occur? Is it reflected in the various analyses (e.g. shadows) in this DEIR? SH-2

HOW DO YOU PROPOSE TO UNDO THE VOTE OF SAN FRANCISCO VOTERS WHO ADOPTED THE SHADOW LIMITATIONS OF PROPOSITION K **- the legal foundation for Planning Code shadow limits? Do you have LEGAL clearance for a mere change in "policy language?"** SH-3

What modifications would be necessary if the public does not vote to change the terms of Prop K?

Page 19 - table listing various sites. It would be more helpful to give the name of the existing building or street address and not wait until page 74. PD-10

All those things that would "remain in force" from the Downtown Plan need a clear explanation - that the DEPARTMENT/COMMISSION ROUTINELY GRANTS "EXCEPTIONS" TO ALL THE RULES. The Downtown Plan sometimes appears to be swiss cheese to outsiders. DO YOU HAVE A LIST OF EACH TYPE OF EXCEPTION AND WHICH PROJECTS WERE GRANTED IT? PD-11

Going to **page 20** et seq - what provisions are designed to be ABSOLUTES, with NO exceptions allowed?

Page 30 - what happened to **Folsom becoming 2-way with 2-way transit service west of 2nd Street**? It was discussed in just about every plan dealing with development along Folsom for the past 20 years. Included Rincon Hill Plan, Eastern Neighbhorhoods, and I believe the Redevelopment Plan for this area. It is key to improving east west transit service in the areas south of Market. TR-5

Page 47 - list of projects with applications on file. Make it clear that this is NOT the same thing as projects that will use the increased heights. 75 Howard has recently filed with the intention of increasing heights at THAT site near The Embarcadero. Please explain. PD-10 PD-1

Page 66 - Proposition K Planning Code 295 - see comment above. Proposition K is VOTER-ADOPTED POLICY. City voters did NOT give Rec Park the ability to collude with the Planning Commission to violate the provisions the voters had ADOPTED. In the months leading to Prop K being put on the ballot there was substantial controversy over shadows being added to UNION SQUARE, to PORTSMOUTH SQUARE and the CHINESE PLAYGROUND. A professional study was done to define the base line - the amount of existing shadow on each affected park. But the LIMITS were established by the VOTERS. **What plan does the Department have to present amending Prop K to the voters at the next election?** SH-3

Page 69 - Downtown Plan growth projections. See above re questions about how reliable the current projection of demand is in the context of prior projections.

I have in my files an op-ed from at least one local architect written after the Prop M limit was adopted that "the sky is falling" because the amount of DEMAND so exceeded the amount Prop M allowed. As can be seen in the 25-year report, the amount of office space that Prop M allowed WHICH WAS THE EXACT AMOUNT THE DEPARTMENT'S CONSULTANTE PROJECTED WOULD BE NEEDED allowed for much more space than was actually needed. PD-4

Page 92 - new housing in general area. Please provide information by type of housing (rental, condo, "artist live/work"), # units in building, income level needed to afford unit, noting how many are in high-rise towers. The core information needed to understand how this new housing meets identified needs is **WHAT INCOME LEVEL IS BEING SERVED?** How much parking is associated with each housing project - an important factor given the explicit policy in the Downtown Plan to severely limit the amount of cars on these streets because they are already way over capacity at rush hour. PH-1

Page 93 - Downtown Plan assumptions on design - how well did they work out in the real world? The "highly urbanized feel" given by those east/west streets - isn't that mostly FOR CARS? For pedestrians the feel is not very pleasant - unless this is what is meant by "highly urbanized." AE-1

Page 95 - "ramps emphasize transportation-related attributes" - huh?

Please note that the description of the mixed nature of the area - with lower human-scale buildings providing a variety of services and a high level of street activity - is a reflection of the INDUSTRIAL ZONING for most of THIS south of Market Street right up until the Downtown Plan changed the zoning. It would be helpful if the photos were labeled to indicate which of them show "Downtown Plan" buildings. AE-2

Which are the C-3-O (SD) buildings on photos 101- 103?

Page 102 - Visual Resources - **Folsom Street** approaching the Bay IS a visual resource, giving people a sight of Yerba Buena Island AND the Bay itself several blocks west of The Embarcadero. It is the only eastbound unobstructed corridor. It is not clear where the pictures on p 105 were taken. AE-3

Page 110 - the **1971 Urban Design Plan** - this has been a mostly ignored plan for decades. It is still on the books, but a LOT more attention has been paid to the Downtown Plan because THAT was the document done by the more recent Planning Director. To the extent planning staff was "grounded" in any plan, they were grounded in the Downtown Plan. We say that as those who have repeatedly cited Urban Design Plan policies which are disregarded as not quite up-to-date by the Department. It is nice to see it set out in THIS document, but it has been a long time since has been the focus of attention. AE-1

The call for "high-quality design" for prominent buildings - it would be nice if it had occurred.

Page 112 - relative heights. Can you provide relative "sky-line" heights for each building, i.e. the elevation at base PLUS the "building height" to give context for buildings cited. AE-4

UDP policy on landscaping and lighting - are there several/many instances where this was done successfully? AE-1

Page 113 - statement that "no change (in heights) would occur east of Main Street, leaving the blocks closest to The Embarcadero, already densely built out with an earlier generation of high-rises, most less than 300 feet tall, essentially undisturbed" - is INCORRECT given the pendency of an application to increase the height limit for 75 Howard Street AE-5

WHY is it necessary/desirable to "create a secondary mound" on Rincon Hill if that "mound" will block off views of the Bay Bridge and Bay from the middle of the City? PD-12

The term "sculpted" is thrown around in this document. Isn't that just a relative term that has no real meaning? Look at all the buildings built pursuant to the Downtown Plan. How "sculpted" are they? PD-5

Page 119 - last sentence - limiting some views of the sky **AND THE BAY BRIDGE AND THE BAY.**

Page 118 - mid-City view perspectives - there should be something more to the north of the Twin Peaks and Portola Drive perspective. Coming over the crest of the hill at 17th Street and all the area to the north and south of Market there is an unobstructed view to the northeast to the Bay and the Bay Bridge. In the text of THIS DEIR there are many comments about how various Plan sites will have VIEWS. In that area of the City housing costs are adjusted upwards by MANY thousands of dollars for those views of the Bay Bridge. Views that will be cut off if the already approved Rincon Hill projects area actually built. This proposal is to extend that area of obstruction several blocks to the north. AE-5

Impact AE-1 (page 109-120) is NOT less than significant for the EXISTING residents in the middle of the City east of Twin Peaks. The "scenic resources" are public streets (and secondarily the homes near them) in that area - Market, 17th Street, Portola, Clipper.

The photos on pp 130-148 are muddy. It is impossible to really tell the buildings in this area. Where the bay or the bay bridge is supposedly present, it disappears into foggy graphics. For visual analyzes, renderings that can actually be understood are IMPORTANT. We can't see the Bridge.

Page 139 - it is impossible to understand the paragraph that merges discussion of the TWO fairly separated sites on Hwy 101. Could not figure it out. Noted that text indicates the Palace Hotel tower is visible, but no such is labeled on the photo. Is it the green building to the left on p. 141? AE-6

In general, could not distinguish any new building colored "gray" - just the blue and green ones.

Pictures from the Bay Bridge are pretty terrible in quality.

Does cumulative development one from T.I. include the proposed 8 Washington project?

Page 151 - Bay Bridge view - aesthetics of SF as seen from crossing the Bay Bridge are how one sees the form of the City (Urban Design Plan). These renderings totally obliterate ANY sense of the mountains in the middle of the City. Please correct. AE-6

Page 153 - these buildings would "**provide an additional focal point**" - that is ONE way of saying that they would be visible because they are blocking out/interfering with views of the Bay or Bay Bridge. AE-5

Page 176-177 - please describe the market that will be accommodated in this new housing - in terms of the City's RHNA goals - Regional Housing Needs Allocation. The vast majority of housing needed is for the persons below the "market rate" - actually HIGH MARKET RATE - level provided thus far in this part of the South of Market. In light of SF's RHNA goal, what "demand" is there for residential high-rise towers both in this Plan and in the approved-but-not-yet-built housing including Rincon Hill? PH-2

Page 178 - what is the market demand for tower (premium tower) office space? Please consult the 25-year report on the Downtown Plan re the significant drop off in demand for space in TOWERS vs more low-rise flexible space where people can function as a community. PD-4

Page 179 - info on workers and residents in SF is confusing. It is not always clear whether what is being discussed is people who LIVE AND WORK in SF, people who WORK in SF but live elsewhere and people who LIVE in SF but work elsewhere.

PH-3

Also confusing **page 180** last paragraph. Price range shows higher THEN LOWER number. Huh?

Mismatch between housing NEED and housing PRODUCED is seen on **page 181** first full paragraph. Housing prices in SOM/Rincon Hill have been 10% more expensive than city-wide median. How will the City get out of this imbalance when we are so NOT meeting the RHNA goals re the income levels of housing being produced? That is before development in this Plan Area creates a bigger hole re new affordable housing. Please note that this is one of the places where the DEIR cites a premium for housing in high-rises with VIEWS. It is just as valid to recognize those residents of the middle of the City who will LOSE their views.

Page 183 - RHNA goals for housing - there is a PITTANCE of housing being produced for those making 80-120% of AMI. 12.9% of the amount needed, v 153.4% of MARKET RATE HOUSING. Assuming the units come on line in this area as predominantly market rate (we know that is what has already been approved on Rincon Hill), how much further from attaining SF RHNA goals will we be?

PH-2

Rincon Towers - the largest residential development in this area - a REDEVELOPMENT SITE - is being substantially **rented as short-term furnished corporate housing**. Is this is compliance with the Rincon Point Redevelopent Plan? Is this consistent with the Rincon Point/South Beach Redevelopment Plan goals? (**p. 185**) Again the term justifying the cost of this housing being developed for the high-end market includes the word - VIEWS.

Page 187 - note the statement re the declining office market in SF and the shift in location AND type to the technology sector. WHY does the City still want to pump up the amount of off-the-charts EXPENSIVE downtown office space. WHO WILL BE LEASING IT? This appears heading for a disaster. The amount of demand is not even equal to that projected in the Downtown Plan.

PD-4

Page 188 - SF population increase projection - what is the projected mix of housing affordability needs? Page 190 - additional housing to be provided in C-3/downtown. Without concentration on meeting RHNA goals, the housing will continue to be WAY ABOVE MARKET RATE. If that occurs, the City will be unable to meet its RHNA goals at all, and there will be increasing gentrification pressure on housing. The CONTEXT of this downtown area includes, the AAU is gutting the rental stock in the C-3/downtown area. Rincon Towers and Golden Gateway managing significant portions of their RENTAL HOUSING (built on subsidized Redevelopment Land) as corporate short-term housing. PLUS a gross shortfall in production of housing for those earning 80-120% of median income. Continuing on this path in the Plan area means an even worse housing disaster for San Francisco.

PH-2

Page 192 - Job Housing Linkage Program - this program resulted from massive community pressure, sustained over 6+ years to force Planning and the Mayor to require that commercial office developers pay a portion of the cost of new housing to accommodate their work force. In 1984/1985 the Board of Supervisors, working with community advocates, held the Downtown Plan hostage until the Office Affordable Housing Production Program was signed by Mayor Feinstein. The fee required pays only a portion of the cost of providing new housing to meet the needs of the work force.

PH-5

The **page 204** conclusion that there is no impact on the housing supply appears to assume that everything is moving just fine for housing production AT APPROPRIATE INCOME LEVELS in San Francisco. This is a fallacious assumption. You cannot assume that Hunter Point housing, Treasure Island Housing, will be built just because their plans have been approved. Similarly that just because the Eastern Neighborhoods and Market/Octavia were zoned so they could accommodate more housing, that it will be built. This is particularly the case for housing for moderate income residents which is increasingly challenged. The "$53 million" in JHLP funds occurs on full build-out of the entire project. If that level of funding was paid, the full amount of office space would be built. Because the JHLP program funds provide only PART of the money needed to construct that housing, the City would be deeper in the hole

Page 200 - Increased residential capacity - This is another of the Pollyanna-ish sections. Increase number of housing units will NOT help SF meet its RHNA goals if it is all (as usual) VERY high market rate housing. We are developing and approving many more upper income housing units than are San Francisco's target. But the housing for people earning 80-120% of median income falls greater and greater behind. Growth in residential population must be seen in light of the balance in serving existing needs and existing residents and providing even more housing for a narrow section of the population who already have multiple choices. It is inappropriate to "find" that the addition would not be substantial in the context of San Francisco and its downtown.

PH-2

Page 201 - Regional Plans and growth - ABAG has housing goals for San Francisco as well as regional projections for job growth. Infill housing CANNOT be just high-end housing and meet San Francisco's housing goals as set out in the RHNA goals. The major land available to develop new housing is in the South of Market and greater downtown. By focusing on "smart growth" and "transit-oriented development" while completely ignoring the gross imbalance in the production of housing by needed categories guts any hope for balanced communities. If working people in San Francisco are displaced because the vast majority of our land is being dedicated to a small part of the workforce, ultimately those who run the City, provide services, serve the tourist industry will continue to be forced out of the City, many into places without decent transit. This is neither "smart growth" nor "transit-oriented development." Hitting our HOUSING GOALS BY AFFORDABILITY LEVEL MORE IMPORTANT TO THE ECONOMIC AND SOCIAL HEALTH OF SAN FRANCISCO THAN ACCOMMODATING MORE OFFICE WORKERS. We already have a glut of space for the latter and an identified need for the former.

Page 202 - PH-2 Finding that the Plan would not displace a large number of people and their housing. IF all of the housing, or a major portion of it, is the usual high-end condos, as discussed above, this will mean gentrification and pushing out middle income San Francisco workers. This is a Significant Impact.

Page 202 fn 119 - Golden Gate University. There appears to have been no discussion directly with Golden Gate in 2 ½ years about whether they are still interested in a proposal to tear down their building to build a new school. The referenced article is based on PRE-ECONOMIC CRASH discussions in 2008, updated with further thoughts in mid-2009. There have been a lot of economic changes in the US economy since 2008. Has anyone talked to GGU about this recently? Have they reviewed the information in the DEIR, including the shadows impacts that would be cast by a building on their height?

PH-4

Page 203 - SF Housing Supply. This Section appears to conclude that the housing demands from the office space allowed would be "covered" by the payments into the Jobs Housing Linkage Program. This is a gross misunderstanding of the JHLP. That fund only pays PART of the cost to provide additional housing. San Francisco housing non-profits currently have sites but NO MONEY (which comes from various government agencies) to build already approved housing. Money flowing from commercial projects only pays a portion of the cost of providing new housing. San Francisco is already in a hole on being able to construct needed housing. Perhaps it would be good to consult with the Mayor's Office of Housing on this section.

PH-5

Page 205 - conclusion on housing. The summary here - that the Plan would provide for additional housing is grossly insufficient. The increased heights for HOUSING PROJECTS allows for **very upper end** housing -

Palace Hotel	300' to 600' - for 449 DU
Golden Gate Univ	550 to 700 ' - for 104 DU
41 Tehama	200' to 400' - for 276 DU
191 Fremont	350' to 700' - for 61 DU
50 1st St	550' to 850' - for 165 DU
350 Mission	550' to 700' - for 67 DU
Parcel F	450' to 750' - for 96 DU
543 Howard	85' no change - for 58 DU
176 2nd St	150' no change - for 22 DU

Producing the above housing will exacerbate new housing skeweing to meet an even higher percent of upper income residents.

The DEIR acknowledges that some of these units would be "second homes." This WOULD HAVE an impact on the housing market since the units would not be available to people who need a primary residence.

PH-2

Providing "additional housing" independently of addressing the NEED for housing at the level of need set out in the RHNA indeed worsens housing balance BECAUSE OF THE LIMITED SUPPLY OF LAND and finite resources to produce needed housing.

IT IS INAPPROPRIATE TO FIND THAT THERE IS NO MITIGATION REQUIRED FOR HOUSING NEEDS BECAUSE THE SUPPLY OF HOUSING WILL NOT BE AFFECTED.

It is further not supported by evidence that the project would not contribute to a substantial growth in population or displace a large number of residents who would be without the resources to compete with the new residents for housing they can afford.

The combination of SHADOW AND FOG - CLIMATE - is totally ignored. San Francisco has a setting where WIND coming in at the same time an area is in SHADOW makes the CLIMATE miserable for those affected. San Francisco needs to address our unique setting where shadows in the summer do not give respite from heat, but can chill one to the bone and make things quite unpleasant. The failure to even STATE that is hard to understand. This affects "comfort levels."

SH-4

Continued reliance SOLELY on a wind tunnel, which does not factor in shadows and reduced temperatures is not adequate for San Francisco. Particularly when the setting is not super highrise buildings.

SH-4 (cont'd.)

SHADOWS

As is set out on page 3, Prop K was adopted BY THE VOTERS OF SAN FRANCISCO and can only be amended BY THE VOTERS OF SAN FRANCISCO. The Rec Park Commission and the Planning Commission cannot amend the shadow limitations of Prop K.

SH-3

It is extremely hard to find/figure out the findings/recommendations for Impact SH-1 Which is found to be significant and unavoidable.

SH-5

Page 470 - What is the justification for ANY increased shadow on Union Square from the **Palace Hotel** tower? That project is not necessary to fund a transit station. The shadow and wind impacts cause problems without ANY redeeming justification for the increased height. This is ONE HOUR A DAY FOR UP TO 6 MONTHS.

SH-6

Shadow diagrams - 474 - 507. It would be helpful if there was a key identifying BY NAME the buildings that cast shadows on ANY PARK.

SH-5

Page 509 - What justification is there for ANY increased shadow on **Union Square** from **50 1st Street, 181 Fremont Street, Golden Gate University**? This is a violation of Prop K.

SH-6

The explanation of shadow changes on **Union Square** needs clarification. Peter Bosselmann from UC Berkeley was involved in the Macy's and related billboard cases after the work was complete defining the amount of shadow cast at the time Prop K passed. Whoever wrote this section needs to rewrite it for clarity. There were other shadow allocations tied to billboards that have been omitted.

SH-5

It is inappropriate to "weigh" shadow by time of day. Prop K allowed shadows one hour after sunrise and one hour before sunset. September and April are months when the City generally has nice weather. It is not the Commission's role/power to say that increased shadows are just fine. The rules for limits were established DECADES ago.

Page 510 - Portsmouth Square - this was the second sensitive park that triggered passage of Prop K. It is a heavily use park ALL DAY LONG. Measuring sunlight in the context of the total number of sunlight over the entire year is not appropriate at THIS POINT. It was when the original analysis was done to establish how much was in sun/shadow when Prop K passed. This park has an absolute CUMULATIVE LIMIT of -0-. ZERO is ZERO, not 0.24% new shadow. The same holds true for Union Square.

SH-6

Page 511 - 512 - 514 - please label each building's shadows

SH-5

Remaining shadows - St Mary's Square, Justin Heman Plaza, Willie Wong Playground - same issue as above regarding the ability to change a VOTER ADOPTED LIMIT without going to the ballot.

SH-6

For Willie Wong Playground (formerly Chinese Playground) - this is the ONLY Rec Park public tennis court serving Chinatown and a basketball court. Please describe the activities that will be In shadow. THIS PLAYGROUND was one of the ones that triggered passage of Prop K because a planned development was going to cast this into SUBSTANTIAL shadow.

SH-6 (cont'd.)

Pass thru shadow issue -

There is not enough information in the DEIR to allow informed comment on this issue.

SH-5

The structure of this section makes it hard to determine where one topic ends and another begins.

Page 520 - the first full paragraph appears to be a major policy change and should be labeled to draw attention to itself. SFRG does not agree that the Planning Commission and Rec Park have POWER to amend a vote of the citizens of San Francisco. These are SIGNIFICANT and UNAVOIDABLE IMPACTS and cannot be defined away.

SH-3

Re **non-Prop K shadows** - which CEQA governs as well. Under PLANNING CODE policies, shadows on public sidewalks, particularly those around parks should be thought thru carefully. Often the "best" way to use a park is to walk by it. That means on the sidewalk. Shadowing the sidewalk, particularly if it is windy out, may make it less desirable. Rincon Park is a resource for this area and should be protected.

The hypocrisy of the Downtown Plan and this proposed plan is seen in how they "create" parks and open spaces, then fail to protect them from shadows that would make them unpleasant. **Page 525** discussion of the City Park to be built with the Transit Tower falls exactly into that category.

SH-6

Respectfully submitted,

Sue C. Hestor

cc: Brad Paul
Bill Maher
Ian Lewis

BLACKROCK®

400 Howard Street
San Francisco, CA 94105
Tel 415.670.2000
www.blackrock.com

November 25, 2011

Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

Dear Mr. Wycko:

Thank you for the opportunity to comment on the Transit Center District Plan Draft EIR. BlackRock occupies the entirety of 400 Howard Street, adjacent to the Transbay Terminal, at the heart of the new Transit Center project. We have been working closely with the Transbay Joint Powers Authority ("TJPA") to ensure our principal concerns are communicated and addressed, while supporting the projects.

BlackRock's operations at 400 Howard Street involve conducting multiple *billions* of dollars of financial transactions *each day* on sophisticated telecommunications and data processing equipment that depend on the stability and security of the physical environment. We are therefore extremely sensitive to proposed changes in the environment around 400 Howard Street that could cause business disruptions. This sensitivity is heightened by the fact that in August 2009, a TJPA contractor severed an AT&T communication cable serving BlackRock's operations at 400 Howard Street. Fortunately, no disruption of our ability to conduct financial transactions occurred. While BlackRock maintains robust business continuity procedures, even a temporary disruption in BlackRock's ability to conduct financial transactions of a duratSH-6 might seem inconsequentially short to others, could result in serious financial damage. Therefore, it is very important that activities of the TJPA do not impair operations at 400 Howard Street.

UT-2

The EIR addresses certain potential impacts to our operations at 400 Howard Street that could occur in connection with construction in the Transit Center District Plan ("Plan") area. These include impacts related to vibrations from pile driving, damage to utilities that service 400 Howard Street, and reduction of ground and soil stability underneath and surrounding 400 Howard Street. In our view, the analyses in the Draft EIR in these areas would benefit from supplementation in order to better demonstrate that project construction will not result in adverse impact to BlackRock, and that the project complies with CEQA. Specifically, as discussed in detail below, in preparing the Final EIR, the Planning Department should address the following issues:

G-2

- Vibration: Impacts to vibration-sensitive equipment, which could have significant repercussions, are left out of the impact analysis in the Draft EIR without explanation. Also, the effectiveness of the Draft EIR's mitigation measure to "limit pile driving" is unexplained and unknown. Lastly, data presented in the Draft EIR indicate that pile-driving during Tower construction could result in significant impacts, but no mitigation is proposed.

NO-1

- Utilities: The Draft EIR does not appear to analyze the effect of construction activities damaging utilities, thereby causing a disruption in services, which could have significant repercussions. Accordingly, neither does the Draft EIR propose mitigation for this potentially significant impact.

UT-2

- Geology and Soils: The Draft EIR concludes that potential impacts of soil subsidence and instability are "less than significant," despite standards of significance in the Draft EIR that suggest otherwise. The Draft EIR's explanation for this conclusion places great reliance on the ability of geotechnical reports to prevent catastrophe without explaining how the reports create legally binding mechanisms to identify and avoid potential problems.

GE-2

- Cumulative Impacts: The Draft EIR does not analyze the cumulative ground stability and vibration impacts of the project combined with the impacts of the related and adjacent below-grade Transit Center construction, which is expected to begin in early 2012. CU-1

These issues are discussed in greater detail below with recommendations for improvement as appropriate. We also suggest including a requirement to perform a comprehensive and holistic pre-construction survey of buildings and utility infrastructure, which would increase the robustness of the analyses and mitigation, as well as provide greater assurance to neighbors, such as BlackRock, that the Plan construction will occur with the least possible adverse impact.

Vibration Impacts

With respect to construction-related vibration, the Final EIR should include an analysis of impacts to sensitive equipment, explain mitigation for Plan impacts with greater detail, and propose mitigation for impacts from Tower construction.

The Draft EIR recognizes the potential for significant impact of construction-related vibration on humans and structures, noting on page 365, for example, that such vibration "could result in harm to individuals and/or surrounding buildings." It also recognizes "[s]ensitive receptors for vibration" on page 344, which include "structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment."

The Draft EIR's analysis of impacts from vibration and proposed mitigation are presented in impacts NO-3, NO-5, and CP-5. To mitigate Plan-related vibration generally, the Draft EIR proposes mitigation measure M-NO-2a. That mitigation measure, entitled "Noise Control Measures During Pile Driving," consists of measures entirely specific to noise, except for the general requirement that project sponsors "shall require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring use." For Plan-related impacts to cultural resources, the Draft EIR also proposes mitigation measures M-CP-5a and M-CP-5b (the Draft EIR actually references M-CP-3b and M-CP-3c, but this reference appears to be in error), which require contractors to undertake best practices and to conduct pre-construction surveys and monitoring of historical resources within 125 feet of proposed construction. The Draft EIR proposes no mitigation for vibration impacts associated with Tower construction. The Draft EIR concludes that vibration impacts associated with the Plan are significant and unavoidable, while the impacts associated with the Tower are less than significant. NO-1

CEQA requires that an EIR propose and describe mitigation measures to minimize the significant environmental effects identified in the EIR, even where the effects cannot be reduced to a level of insignificance. 14 C.C.R. §15126.2(b). The measures to mitigate vibration impacts as presented in the Draft EIR fall short of CEQA's requirements in several respects. First, although the Draft EIR identifies vibration-sensitive equipment as a sensitive receptor for vibration, impacts to such equipment are left out of the impact analysis without explanation. Notably, under CEQA, the significance of an impact on the physical environment may depend on social or economic factors beyond the physical change in the environment. 14 C.C.R. § 15131. Because damage to BlackRock's sensitive equipment could, despite BlackRock's business continuity procedures, result in large and adverse economic impacts, the potential to result in such damage should be evaluated in the EIR, and if found to be appreciable, mitigation should be proposed.

Second, mitigation measure M-NO-2a does not adequately explain how pile driving will be limited, and how such limitation could result in the least disturbance to neighboring use. Under CEQA, mitigation measures must be described with sufficient definition and detail; measures are inadequate where they are so undefined that it is impossible to gauge their effectiveness. Here, it is impossible to

gauge the effectiveness of the measure to "limit" pile driving from the description provided. As a result, additional detail is needed.

Finally, the Draft EIR does not include support for the conclusion in impact NO-5 that sensitive uses located greater than 82.5 feet away from the Tower site will not be significantly impacted by construction-related vibration. To the contrary, Table 30, located on page 363 of the Draft EIR, suggests that significant impact *will* occur at distances of 82.5 feet. Specifically, at 82.5 feet from a pile driver at the upper range, PPV is measured at 0.265 and RMS is measured at 106, both of which measurements greatly exceed the thresholds of significance (0.2 PPV and 80 RMS, respectively) given on page 353 for impacts to structures and humans. Given that the impact could be potentially significant, the EIR should propose mitigation. By way of comparison, the Transit Terminal EIR proposed mitigation for vibration associated with pile driving, which included the requirement that, "[a]t a minimum, processes such as pile driving would be prohibited at distances less than 250 feet from residences." Transit Terminal EIR, at 5-214. NO-1 (cont'd.)

In light of these observations, we recommend that the Final EIR provide an analysis of sensitive equipment, provide more detail on the mitigation measure requirement to limit pile driving, and re-classify impact NO-5 to "potentially significant" and propose measures to mitigate the impact. If the EIR concludes that construction-related vibration could result in a significant impact by damaging sensitive equipment, then it should propose mitigation measures analogous to M-CP-5a and M-CP-5b, which should incorporate requirements to use appropriate best practices and other feasible means into construction specifications and which should also involve surveys and monitoring. The requirement in M-NO-2a to limit pile driving should also involve incorporation of appropriate best practices and other appropriate measures into construction specifications.

Disruption to Utilities

With respect to utilities, the Final EIR should analyze the impact of construction-related damage to utilities and propose mitigation. It should also confirm that construction activities in the Plan area will not require the relocation of utilities.

The Draft EIR does not appear to analyze the potentially significant effect of construction activities damaging utilities, thereby causing a disruption in services. Section L. Utilities and Service Systems does not analyze damage to utilities or disruption. On the other hand, Section O. Geology, Soils, and Seismicity does acknowledge that construction activities could adversely affect utilities. Specifically, on pages 591-592, the Draft EIR states that excavation activities, construction-related dewatering, and permanent dewatering, could all result in settlement of utilities. On page 592, the Draft EIR also acknowledges that "repair to service lines under the street" could be necessary. As indicated above, BlackRock is familiar with the potential for accidents to disrupt utilities because of the August 2009 incident involving a TJPA subcontractor severing an AT&T communication cable serving BlackRock's operations at 400 Howard Street. UT-2

CEQA requires that an EIR propose mitigation for potentially significant impacts to the environment. The significance of an impact to the physical environment, such as damage to utility lines, may depend on social or economic factors beyond the physical change in the environment. 14 C.C.R. § 15131. Although the Draft EIR acknowledges the potential for damage to utility lines, it does not analyze the impact or offer mitigation. Damage to utility lines should be considered a potentially significant impact because of the magnitude of the economic and social effects that could result from the physical damage. Accordingly, the EIR should analyze the potential for such damage and propose mitigation.

By way of comparison, the Transit Terminal EIR did analyze the potential for damage to utilities from construction and planned relocation. Mitigation there centered on planning and strategizing with providers, as well as informing customers when short-term service disruptions would occur. Specifically, to mitigate the potential impact of damage to utility systems and disruption and degradation of service to local customers, the EIR proposed, among other measures, to coordinate with utility providers during preliminary engineering and through final design and construction and to avoid, relocate, and/or support utilities during construction activities. Transit Terminal EIR, at 5-82. Similar planning and strategizing should be incorporated into proposed mitigation for the Plan and Tower.

We note that the current Draft EIR could be read as analyzing the impacts related to damaged utilities within impacts GE-3 and GE-7, and concluding that such impacts are less than significant, in part because of the Department of Building Inspection ("DBI") requirements to prepare a geotechnical report that would address potential settlement and related impacts. However, this reading is problematic under CEQA for multiple reasons. First, this section does not explain how damage to utilities could be avoided; it even suggests damage would occur and the project proponent would pay for such damage. Second, as explained above, damage to utility lines should be considered a potentially significant impact, which would require formal mitigation measures to comply with CEQA.

UT-2 (cont'd.)

In light of these observations, we recommend that the Final EIR identify damage to utilities and disruption in utility service as a potentially significant impact, for both the Plan and Tower construction, and propose mitigation measures to minimize the risk of such damage. Some of the DBI requirements described on page 592 could form the basis for appropriate mitigation. Additionally, the EIR could incorporate some planning and coordination requirements similar to those required in the Transit Terminal EIR. However, any deferral of mitigation in the Final EIR (for instance, through the requirement to comply with a future geotechnical report or monitoring survey) would comply with CEQA only through articulation of specific performance standards and an analysis of how the various plan components can accomplish the performance standards. 14 C.C.R. § 15126.4(a)(1)(B).

Additionally, we request confirmation that construction in the Plan area will not involve any relocation of utilities. The Draft EIR did not discuss utility relocation, or potential impacts associated therewith. Presumably, this is because no utility relocation is anticipated.

Ground Instability

With respect to soil and ground stability, the Final EIR should consider possible subsidence, instability, and similar effects as "potentially significant" and should propose mitigation.

Section O. Geology, Soils, and Seismicity describes potentially adverse impacts to buildings and utilities as a result of excavation, construction-related dewatering, ground heave as a result of pile driving, and permanent dewatering. These impacts are discussed in impact GE-3, with respect to the Plan, and Impact GE-7 with respect to the Tower. The Draft EIR concludes that the potential impacts are less than significant, and therefore no mitigation is proposed. This conclusion is based on the DBI requirements applicable to the project, which include principally a requirement to prepare a geotechnical report.

GE-2

The conclusions that the impacts are less than significant are not sufficiently supported in the Draft EIR. The Draft EIR, on pages 590 through 592 and 594, acknowledges the potential for soil to become unstable, for the ground to heave up, and for buildings, sidewalks, and utilities to settle. On page 587, the Draft EIR states that a project impact would be considered significant if it involved location "on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or

collapse." CEQA requires that an EIR propose mitigation for potentially significant impacts to the environment. The appropriate analysis under CEQA would be to characterize the impact as potentially significant, and then propose mitigation, which could include some of the DBI requirements listed on page 592 of the Draft EIR.

Note, however, that the DBI requirements, as presented on page 592 of the Draft EIR, would not constitute adequate mitigation under CEQA. Mitigation measures must describe the actions that will be taken to reduce or avoid an impact; deferral of the formulation of mitigation measures is ordinarily improper. 14 C.C.R. § 15126.4(a)(1)(B). Here, the Draft EIR does not describe such actions. Rather, the Draft EIR states that, if unacceptable movement is observed during monitoring (*if* monitoring is required), "corrective actions would be used to halt this settlement." The only example of such corrective action given is groundwater recharge. No other examples of corrective action are offered, and it is not clear how any corrective action would avoid significant impacts associated with unacceptable movement. In short, the description of DBI requirements does not include a description of the actual actions that would be taken to reduce or avoid potential impacts. Instead, it relies on preparation of future reports, future actions, and undefined "corrective action" without adequate explanation. To comply with CEQA, reliance on such future reports and actions must be accompanied by concrete performance standards that will be attained through well-defined methods described in the EIR.

This shortcoming is especially pronounced in the case of the Tower construction. On page 594 of the Draft EIR, impact GE-7 states that ground settlement at the Transit Tower site could result from excavation, dewatering, and heave from pile-driving, but the effects

> "would be less than significant with implementation of DBI procedures described above, including preparation of a detailed geotechnical report and site specific reports as needed to address the potential settlement and subsidence impacts . . . ; implementation of a lateral movement and settlement survey . . . if needed; and implementation of corrective actions, as necessary."

GE-2 (cont'd.)

This analysis does not demonstrate why the potentially significant impacts of ground instability should be considered insignificant. In particular, it places great reliance on the ability of the geotechnical report to prevent any catastrophe without providing detail on how the reports create legally binding mechanisms to identify and mitigate potential problems. The report will include a "determination" as to whether further surveys are required, but there is no assurance regarding the robustness of that determination, or the ability of the further surveys to identify unacceptable movement in a timely manner. Finally, the vague term "corrective action" provides no meaningful assurance that significant impacts can be avoided once problems arise.

In light of these observations, we recommend that the EIR re-classify impacts GE-3 and GE-7 as "potentially significant," and propose mitigation. Mitigation would probably be based on the DBI requirements described on page 592. It would also be appropriate to develop some of the ideas presented on page 591, relating to shoring, monitoring, dewatering planning, and surveying. These tactics, unenforceable as presented in the Draft EIR, could play an important role in enforceable mitigation. However, as discussed above, to the extent any mitigation defers the precise formulation of the mitigation measures, it must rely on performance standards and explain with specificity the types of actions that can and will accomplish the performance standards.

Building Data Survey

Given the scope of planned construction in the Plan area, and the magnitude of the Tower project itself, a pre-construction building data survey would enhance the analysis and mitigation proposed in the Draft EIR. Such a survey was required in the EIR/EIS for the Transbay Terminal / Caltrain Downtown Extension / Redevelopment Project ("Transbay Terminal EIR"). There, in connection with the planned construction of the Caltrain extension,

> "[a] pre-construction structural survey would be completed to determine the integrity of existing buildings adjacent to and over the proposed extension. This survey would be used to finalize detailed construction techniques along the alignment and as the baseline for monitoring construction impacts during and following construction."

GE-2 (cont'd.)

Transbay Terminal EIR, at 5-161. A similar survey would greatly enhance the mitigation proposed in the Draft EIR. Mitigation involving use or limitation of certain construction techniques, for example pile driving or shoring techniques, will be better informed to incorporate building-specific data. The specific impacts and mitigation measures discussed above would benefit from such data.

Cumulative Impacts

The cumulative impacts discussion in Section O. Geology, Soils, and Seismicity on page 595 of the Draft EIR does not discuss the construction of the Transit Center or the Caltrain extension, both of which will involve large amounts of excavation in the area, which could lead to cumulative effects with regard to ground stability. The Final EIR should include a discussion of the impacts on ground stability from the excavations in the related, adjacent projects, in conjunction with impacts from construction in the Plan area and Tower construction.

CU-1

The cumulative impacts discussion in Section F. Noise and Vibration does mention the Transit Center and Caltrain extension on page 368. The analysis there notes that "train track tunneling and construction would not occur until a later date, which is dependent on funding." However, according to the TJPA website, excavation and bracing for the Transit Center below grade structure, which will accommodate future Caltrain and potential high-speed rail service, is expected to begin in early 2012. http://transbaycenter.org/construction-updates/project-schedule (visited on 11/11/11). This section of the Final EIR should address such construction, as should Section O. Geology, Soils and Seismicity.

Please consider the foregoing suggestions in light of the points discussed, including our unique position situated near the center of heavy construction with highly sensitive ongoing uses. We are in support of the project, and submit this comment letter in an effort to ensure the projects associated with the Plan are carried out in a manner sensitive to our interests and fully in compliance with CEQA. We appreciate the opportunity to provide comments and participate in the planning process.

Sincerely,

Thomas S. Bain
Managing Director

BOMA

November 3, 2011

Hon. Christina Olague
President
Planning Commission
1650 Mission Street, 4th Floor
San Francisco, CA 94103

RE: Item 15 Transit Center District Plan

Dear Commissioner Olague:

The Building Owners and Managers Association of San Francisco (BOMA San Francisco), urges the honorable members of the Planning Commission to approve the Transit Center District Plan and the Draft Environmental Impact Report (EIR) presented before you today.

The Transit Center Plan will yield a number of benefits to the South of Market District including an increase in transportation options, cultural recourses and quality of life improvements.

BOMA San Francisco represents over 72 million square feet of commercial office space in the San Francisco Bay Area which houses over a quarter million workers every day. With the limited availability of land on which to build in San Francisco, our organization believes that the Transit Center District Plan will tidily provide the additional commercial space needed to accommodate businesses that want to locate here in the near future. The aggregate economic vitality produced by this project will deliver increased tax revenue to fund essential city services for the San Francisco electorate.

With reference to the issue of shadows and high-rise buildings, it is worthy to note that the Draft EIR before you today finds no adverse shadowing of park property. That is, any shadow issue is an inconsequential one, and would not violate the intent of the San Francisco's shadow protection ordinance.

SH-7

BOMA San Francisco strongly supports the Transit Center District Plan and the Draft EIR and urges the Planning Commission to approve them.

Respectfully,

Ken Cleaveland
Director of Government and Public Affairs

cc: Members of the Planning Commission
Planning Director

Advancing the Commercial Real Estate Industry Through Advocacy, Professional Development and Information Exchange
BUILDING OWNERS AND MANAGERS ASSOCIATION OF SAN FRANCISCO
233 Sansome Street, 8th Fl., San Francisco, CA 94104-2314 Telephone 415.362.8567 Fax 415.362.8634
Federated with BOMA International, member of BOMA California

RECEIVED
NOV 22 2011
CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
M.E.A.

Chinatown Community Development Center
華埠中心

1525 Grant Avenue
San Francisco, CA 94133
TEL 415.984.1450
FAX 415.362.7992
TTY 415.984.9910
www.chinatowncdc.org

Bill Wycko, Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

November 18, 2011

Comments on the Transit Center District Plan and Tower DEIR (Case No. 2007.0558E and 2008.0789E)

Dear Mr. Wycko:

After reviewing the Transit Center District Plan and Transit Tower Draft EIR, the Chinatown Community Development Center would like to submit the following comments to be included in the public record:

We are very concerned with the shadow impacts to Chinatown parks caused by the Transit Center Plan and Tower. Many of these parks are subject to Section 295, including St. Mary's Square, Portsmouth Square, Willie "Woo Woo" Wong Playground, and Chinese Recreation Center. Woh Hei Yuen Recreation Center and Park is another Chinatown park impacted by Transit Center shadows although not subject to Section 295.

As you may recall, Proposition K was approved by San Francisco voters in 1989 and established the "Sunlight Ordinance" (Section 295), which created a shadow budget for 14 downtown parks and set a zero tolerance level for Chinatown parks. Among the reasons cited for passing the ordinance include the need to protect the quality of open space in high-needs downtown neighborhoods such as Chinatown.

To this day, Chinatown remains the densest residential neighborhood west of Manhattan. 36% of households live in overcrowded conditions compared to the 17% citywide average.[1] The population consists of primarily low-income, non-English speaking immigrant seniors and families. The median household income is $17,411 compared to the citywide median of $73,596.[2] For this transit-dependent population in which 83% of households do not own a car, most residents rely on walking to access public open spaces. The last park established in Chinatown was the Woh Hei Yuen Recreation Center and Park in 1999 as a result of nearly an entire generation's struggle (almost 25 years) to create a new park in the neighborhood. **In sum, Chinatown residents are already sorely lacking quality open space and they rely on access to public parks in this dense neighborhood to enjoy fresh air and sunlight.**

SH-6

[1] SF Department of Public Health, Healthy Development Measurement Tool: http://www.thehdmt.org/indicators/view/125
[2] SF Department of Public Health, Healthy Development Measurement Tool: http://www.thehdmt.org/indicators/view/162

NeighborWorks
Financial contributions received by Chinatown Community Development Center in the last three years from each source (e.g., national corporations, foundations, etc.) and the amount of each contribution: [illegible]

Chinatown Community Development Center
華埠中心

1525 Grant Avenue
San Francisco, CA 94133
TEL 415.984.1450
FAX 415.362.7992
TTY 415.984.9910
www.chinatowncdc.org

As such, we are deeply disturbed that the Transit Tower and 50 First Street will create new shadows on Portsmouth Square in the late fall and early winter. Portsmouth Square is affectionately known as the "living room of Chinatown" to many of the single-occupancy hotel residents who rely on the park for recreation and exercises. The shadows will occur for almost 4 months from about 8am to just after 9am during the long winter months of November through January. To understand and evaluate the impacts on current park users, Chinatown CDC surveyed Portsmouth Square for a week between 8:15am and 9:15am in early November. We found that the park was frequented at this time by Chinese seniors practicing tai chi and engaging in other recreational activities. **We believe that the new shadows will have a significant negative impact on the quality of life for Chinatown residents and will decrease access to quality open space in this high needs, low-income immigrant community.**

As Table 42 (p. 523 of DEIR) demonstrates, the proposed Transit Tower will result in an increase in shadow on eight affected open public spaces. Four out of those 8 public spaces are located in Chinatown, including Portsmouth Square, Woh Hei Yuen Recreation Center and Park, St. Mary's Square, and Chinese Recreation Center. Chinatown is the only neighborhood in the downtown core that is bearing the brunt of the burden of the impacted parks.

As p. 524 of the DEIR states, "The greatest one-time effect would be on Portsmouth Square. The Transit Tower would add about 22,500 sq ft of shadow, covering about 35% of the park, at 9:15am in early November and late January." Figure 64 (p.512) shows that the maximum extent of new shadow on Portsmouth Square will cover the portion of the upper level of Portsmouth Square that currently provides the greatest amount of open space. This specific area is the primary open-air "plaza" of the park and is often used for tai chi, exercising, and the stage area for cultural events in this neighborhood.

We see the shadow impacts on the 4 Chinatown parks, and in particular Portsmouth Square, as a major environmental justice issue. It is unjust, plain and simple, that this neighborhood that is already sorely lacking in open space opportunities should bear the brunt of the burden and see a significant reduction of quality open space as a result of the Transit Center District Plan and Tower. We disagree with the comments that these shadows are insignificant or that these concerns over shadows are unwarranted. In the life of many low-income Chinatown residents, these Section 295 parks are the only respite from overcrowded housing conditions and thus efforts should be made to ensure that Chinatown should not suffer disproportionately due to its proximity to the Transit Tower. Chinatown is already a dense, walkable neighborhood in the Downtown Core and should not be sacrificed at the expense of creating another dense walkable neighborhood near the Transbay Terminal.

SH-6
(cont'd.)

We look forward to future discussions with the City and SF Planning Department. I can be reached at (415) 984-1497 or by e-mail at dechan@chinatowncdc.org.

Sincerely,

Deland Chan
Interim Community Planning Manager

NeighborWorks
Financial contributions received by Chinatown Community Development Center in the last three years from each source (e.g., national corporations, foundations, etc.) and the amount of each contribution: [illegible]

華埠公園康樂會

Committee for Better Parks and Recreation in Chinatown

Bill Wycko, Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

November 28, 2011

Comments on the Transit Center District Plan and Tower DEIR (Case No. 2007.0558E and 2008.0789E)

Dear Mr. Wycko:

On behalf of the Committee for Better Parks and Recreation in Chinatown (CBPRC), we strongly oppose the Transit Center District Plan and Transit Tower project because the level of shadowing on Chinatown parks is simply unacceptable.

Founded in the 1970s, the Committee for Better Parks and Recreation in Chinatown (CBPRC) emerged out of the battle to fight the 5-story development that would have cast complete shadows over Chinese Playground (Willie "Woo Woo" Wong Park). Given the residential density of Chinatown, a group of concerned citizens and volunteers quickly mobilized and responded in outrage to the potential loss of good quality open space in the neighborhood, where any loss of precious fresh air and sunlight for the public good should not be taken for granted. We fought the developer of the project and we won—turning out hundreds of people at community meetings and rallies—and ultimately, we prevented additional shadowing of the Chinese Playground.

In 1974, CBPRC regrouped to engage in a 25-year battle to establish a new park in Chinatown. Woh Hei Yuen Recreation Center and Park emerged out of this effort after nearly a generation of struggle. After a protracted battle with the owners of a former mortuary site, the community prevailed. The groundbreaking ceremony for the park finally took place in 1996 after several decades of community involvement and movement led by many strong leaders over time.

Given our history and concern with the quality of Chinatown parks, we cannot stand by idly and watch the Transbay Transit Center and Tower rise at the expense of the quality of open space in Chinatown. **We strongly oppose this project** given that there will be significant shadowing as a result of the project at all Chinatown parks. We are ESPECIALLY concerned with the shadowing at Portsmouth Square that will increase shadow to up to 90 percent shadow coverage precisely during the wintertime when sunlight is already so precious and during the morning hours when Portsmouth Square is used by seniors for their morning recreational exercises. We are also very concerned about the planned development shadowing Chinese Playground, where new shadow will increase shadow on the playground to a total of 97 percent!

SH-6

From the community perspective, this project has no benefits for the Chinatown immigrant seniors and children who will have sunlight in parks taken away. We take offense at the EIR's analysis that shadowing from far away will be more "diffuse" and hardly noticeable. Frankly, there is no way to guarantee that the loss of sunlight will not be profoundly felt and experienced, at the human level, given that all of the Planning Department's analysis consists of bird's eye plans and views.

SH-6
(cont'd.)

I can be reached at 415-939-3780, tandchow@gmail.com

Sincerely,

Tan Chow
Organizer,
Committee for Better Park and Recreation in Chinatown

COBLENTZ,
PATCH, DUFFY
& BASS LLP ATTORNEYS AT LAW

One Ferry Building, Suite 200
San Francisco, California
94111-4213

phone: 415.391.4800
fax: 415.989.1663
web: www.cpdb.com

Caroline A. Gulbert
Direct: 415.772.5793
E-mail: cgulbert@coblentzlaw.com

November 14, 2011

VIA E-MAIL AND MESSENGER

Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

Re: Transit Center District Plan and Transit Tower Draft EIR

Dear Mr. Wycko:

I am writing on behalf of Golden Gate University regarding the Draft EIR for the Transit Center District Plan and Transit Tower (the "DEIR"). The Draft Transit Center District Plan dated November 2009 (the "Draft Plan") provides that the Golden Gate University property located at 536 Mission Street (the "GGU Property") could be rezoned in the future from the currently proposed 700-foot height district to an 850-foot height district:

> As shown in the proposed height map, an area on the west side of First Street, north of Elim Alley, is proposed for a height limit of 850 feet. Should a building taller than 700 feet not be built in this zone within a sufficient amount of time, such as ten years, or otherwise reasonably judged unlikely to come to fruition, the City should consider reclassifying the 700-foot zone on the north side of Mission Street just west of Ecker Street to enable a building up to 850 feet to be constructed on that site. (Draft Plan, pages 26-27).

SH-2

This possibility is addressed on page 18 of the DEIR:

> The Plan proposes an 850-foot height district on the west side of First Street between Stevenson Street and Elim Alley, just north of First Street (see Figure 3). Recognizing that private interests will be responsible for the majority of the development activity in the Plan area, the Plan calls for consideration of shifting this zone slightly to the west, along Mission Street, 10 years hence should no building taller than 700 feet be erected in the 850-foot zone.

Sarah Jones of Environmental Planning has confirmed that programmatic level impacts would be within the same order of magnitude if an 850-foot tower were ultimately built on the GGU Property rather than the First and Mission site because there would only be one 850 foot tower in the Plan Area. As to potential project-specific impacts, shadow impacts have already been identified in the DEIR as significant and unavoidable so there could not be a new significant impact, though the location of the shadow might vary (see page 470 of the DEIR). Potential wind impacts are identified in the DEIR as less-than-significant with mitigation (see page 462 of the DEIR). Mitigation Measure M-WI-2 requires that additional wind-tunnel testing be performed for the future tower sites, including the GGU Property, and if the results of that testing were to identify potential adverse impacts, additional mitigation testing would be required (i.e. changes to the tower design) to reduce the impact to a less-than-significant level. That mitigation measure would be required to be implemented regardless of whether the tower height is 700 feet or 850 feet.

Based on the foregoing, we have concluded that while additional wind and shadow analysis would be appropriate if the GGU Property were rezoned to an 850-foot height district, a taller building alone would not trigger a subsequent or supplemental EIR because there would not be a new significant impact or a substantial increase in the severity of a previously identified significant impact (see CEQA Guidelines Section 15162). We are writing to request your confirmation of our understanding. Than you in advance for your courtesy.

SH-2
(cont'd.)

Respectfully submitted,

Caroline A. Gulbert
For Coblentz, Patch, Duffy & Bass LLP

cc: Golden Gate University
Sarah Jones, Planning Department, Environmental Planning
Joshua Switzky, Planning Department

SAN FRANCISCO
CHAMBER OF COMMERCE

November 1, 2011

Hon. Christina Olague
President
Planning Commission
1650 Mission Street, 4th Floor
San Francisco, CA 94103

RE: Item 15 Transit Center District Plan

Dear Commissioner Olague:

The San Francisco Chamber of Commerce, representing over 1,500 local businesses, strongly supports the proposed Transit Center District Plan and the Draft EIR which will be presented to your commission this week.

With the historic Financial District and much of the Southern Financial District fully built out, the Transit Center Plan creates an area where the city can accommodate future commercial growth. This growth will be in an area rich with transit and residential options, enhanced pedestrian spaces and parks.

City law requires high rise buildings to be judged against shadow impacts they may cause on Recreation and Park Department properties. The Draft EIR finds no adverse shadowing of park property. Increases in shadowing from the proposed new height limits are a fraction of a percent and appear to be insubstantial. SH-7

While retaining useable park properties is an important public policy for our downtown's residents, workforce and visitors, it is equally important for the city to accommodate our share of regional growth, helping to minimize suburban sprawl. Reasonable growth in the downtown and South of Market areas is appropriate, especially in light of the significant rail transit improvements coming to TransBay neighborhood over the next two decades.

The San Francisco Chamber of Commerce urges the Planning Commission to approve the Transit Center District Plan Draft EIR.

Sincerely,

JIM LAZARUS
Sr. Vice President

cc: Each Member of the Planning Commission
Planning Director

235 Montgomery St., 12th Fl., San Francisco, CA 94104 • tel 415 392 4520 / fax 415 392 0485

SPUR SAN FRANCISCO PLANNING + URBAN RESEARCH ASSOCIATION

654 Mission Street
San Francisco, California
94105
415.781.8726 t
415.781.7291 f
www.spur.org

Co-Chairs
Lee Blitch
Linda Jo Fitz

Executive Director
Gabriel Metcalf

Vice Chairs
Emilio Cruz
David Friedman
Mary McCue
Bill Rosetti
V. Fei Tsen

Treasurer
Bob Gamble

Secretary
Tomiquia Moss

Immediate Past Chair
Andy Barnes

Advisory Council Co-Chairs
Michael Alexander
Paul Sedway

Board Members
Carl Anthony
Alexa Arena
Fred Blackwell
Chris Block
Larry Burnett
Michaela Cassidy
Michael Cohen
Madeline Chun
Charmaine Curtis
Gia Daniller-Katz
Oscar De La Torre
Kelly Dearman
Shelley Doran
Oz Erickson
Manny Florez
Norman Fong
Gillian Gillett
Chris Gruwell
Anne Halsted
Dave Hartley
Mary Huss
Chris Iglesias
Laurie Johnson
Ken Kirkey
Florence Kong
Dick Lagergan
Ellen Lou
Janis MacKenzie
John Madden
Gordon Mar
Jacinta McCann
Chris Meany
Ezra Mersey
Terry Micheau
Jenne Myerson
Mary Murphy
Brad Paul
Chris Poland
Teresa Rea
Byron Rhett
Wade Rose
Victor Seeto
Elizabeth Seifel
Chi-Hsin Shao
Orlando Smith
Raphael Sperry
Bill Stotler
Stuart Sunshine
Michael Teitz
James Tracy
Will Travis
Steve Vettel
Debra Walker
Cynthia Wilusz-Lovell
Cindy Wu

November 1st, 2011

Hon. Christina Olague, President
San Francisco Planning Commission
1650 Mission Street, Suite 400
San Francisco, CA 94103

Dear President Olague and Commissioners,

Thank you for the opportunity to comment on the Transit Center District Plan and Transit Center Tower DEIR. **We believe that the DEIR adequately analyzes the impacts of the Transit Center District Plan and Transit Center Tower.**

The Transit Center District Plan is critical to the future of San Francisco and the region. San Francisco's downtown is a major regional job center, home to over 250,000 jobs. Unlike other locations in the region, over 50 percent of workers in San Francisco's downtown use a sustainable transportation mode (public transit, walking and bicycling) to get to their jobs. This is largely due to two facts:

1. San Francisco's downtown has the best regional transit access west of the Mississippi.
2. San Francisco's downtown core is dense, compact and walkable.

The development Transbay Transit Center will build on these successes by creating a world-class multimodal station, including the terminus of Caltrain and California High Speed Rail.

Page S-2 of the DEIR notes that the Planning Department commissioned a study to evaluate future job and housing growth in San Francisco. The study concluded that "…downtown San Francisco would not meet the future demand for office space under existing zoning." **The Transit Center District Plan addresses this critical need by increasing zoning capacity for commercial space.**

We have had the opportunity to review the shadow impacts of the Transit Center District Plan and Transit Center Tower. Page 470 of the DEIR notes: "With one exception, shadow from any given potential building would cover part of any affected Section 295 park for less than 45 minutes per day over a period of time ranging from 4-12 weeks, per year." The exception noted is the shadow to Union Square by the proposed addition to the Palace Hotel on New Montgomery Street. SH-7

Table 41 on page 508 shows the potential shadow increases resulting from the plan. **These shadow increases range from .24% to less than .01%.** Even in the case of Union Square, the plan exceeds the existing shadow budget for the park by .2% which is only .5% of the total shadow budget for the park.

We believe the value of this plan to enable the continued development of our walkable transit friendly downtown core outweighs the very small shadow impacts it generates.

SH-7 (cont'd.)

Thank you for your consideration of our position. Should you have any questions, please do not hesitate to contact me.

Sincerely,

Sarah Karlinsky
Deputy Director

November 11, 2011

Bill Wycko
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103

RE: Comments on the Transit Center District Plan and Transit Tower Draft EIR

Dear Mr. Wycko:

On behalf of the Union Square Business Improvement District I am submitting comments on the above referenced Draft EIR.

Union Square is the most frequented neighborhood destination by San Francisco visitors. Fully two-thirds of those who travel to the City visit Union Square at some point in time during their stay. Union Square Park lies at the heart of the district and is enjoyed by one and all. The terraced lawns and seating on the Geary Street side of the Park are a particular favorite providing a place for visitors, workers and residents alike to sit in the sun, enjoy the company of others, people watch or just relax in a quiet respite from the hardscape of the urban center.

It is projected that the Transit Center District and Transit Tower will cast shadows in excess of the cumulative amount permitted by existing regulations. We are very concerned about the proposal to relax the Park Shadow ordinance and the loss of any sunshine on the Square. Once lost to shadows, sunlight can never be recaptured except by a tragic force of nature. Parks are the "lungs" of the City and must be protected.

SH-6

Toward that end, we are steadfastly opposed to the proposed modification of the Absolute Cumulative Limit for new shadows that may be cast on certain City Parks. Doing so would effectively repeal Prop. K (the 1984 Park Shadow Ban ordinance) and leave parks at the mercy of developers. Further, we question the adequacy of the methodology used to estimate the shadow impacts. We are also concerned about the Plan's failure to include the additional shadow impact of other pending projects such as the Mexican American Museum highrise development at Jesse Square. The City must consider the full impact of the shadowing that may be imposed by a wall of projects to the south of Union Square.

Respectfully,

Linda Mjellem
Executive Director

UNION SQUARE BUSINESS IMPROVEMENT DISTRICT

COMMENTS TO TRANSBAY EIR

In an article dated 9/23/11, Forbes Magazine ranked San Francisco as the 7th most stressful city in the U.S. The reasons given were " Residents here deal with a 10.1% unemployment rate, the nation's second least affordable housing and a high cost of living – not to mention the country's sixth worst traffic congestion and the second highest population density."

Forbes Magazine ranked New York City as the second most stressful city in the U.S., in part, because it has the "most extreme population density".

PR-1

Over the past twenty-five years, San Franciscans have opposed the "Manhattanization" of this city. San Franciscans have opposed the Manhattan model of development with its extreme density, in part, as this extreme density contributes to elevated levels of stress.

With the proposed Transbay project expanding very tall buildings to this extent, the result will likely contribute to stress levels being elevated even further.

Eileen Boken

District 4 homeowner

RECEIVED
OCT 17 2011
CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
RECEPTION DESK

Dear Mr. Bill Wycko,

Environmental Review Officer

1650 Mission Street, Suite 400

San Francisco, CA 94103

I hope this note finds you well. I was born and raised in SF and I think it's high time we increase density in this city. I fully support the proposed building heights mentioned in the DEIR for the Transit Center District Plan and Transit Tower (PLANNING DEPARTMENT CASE NO. 2007.0558E and 2008.0789E) and actually wouldn't mind if the allowed heights are increased beyond 1,070 ft. I don't believe the additional shadows created will be significant and in fact am wondering if there's a way to get a measure on the ballot to repeal the law which restricts buildings from casting significant shadows on public parks.

SH-7

Best,

10/15/11

Issa Kawas

3949 25th ST

SF CA 94114

RECEIVED
NOV 15 2011
CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
I/E A

Ruben Santiago
P.O. Box 56631
Hayward, CA 94545
(510) 795-6586

November 3, 2011

Dear Mr. Wycko;

After carefully viewing and reading your current EIR proposal of the height design for the Transbay Tower and comparing it with the original design of 80 stories and 1,200 feet, I deeply feel your original design is way superior than your current shortened design that you are currently proposing. In shortening the tower, you are defeating your own original vision for a much bolder, iconic tower that would truly stand out on the San Francisco skyline. Your renderings of the shortened tower around the city just doesn't look or feel like it dominates the skyline. From the different vistas it falls way flat. A 1,200 foot tower fulfills every aspect of an iconic tower. Your excuse of shadows doesn't make sense. When you plan to build to 1,000 feet or over, you are going to have shadows regardless what people estimate you are going to have. To say by going up to 1,200 feet you are casting more shadows and not build this tower at that height is ridiculous and hypercritical. San Francisco does not deserve a shortened down tower on its skyline. Its shortened stale skyline of the past 40 years needs a break out of its tired conservative chains that has stalled progress of any future iconic towers in this city that are talked about, but never truly realized or built because of selfish politics that go on in this city. San Francisco needs visionary pioneers that have the foresight and bold daring that aren't afraid of change. ALT-2

San Francisco needs the Peli, Clark, Peli's original design of 1,200 feet to rise to a soaring iconic breath taking height that will certainly do justice to our beautiful skyline for all the world to enjoy and visit. Also, one other negative aspect is that the shortened design of the tower would not have an observation deck or an entertaining restaurant for the visiting public to enjoy of the higher vistas it would see of the surrounding Bay Area. Remember, all great cities have one or more shadows, but does that stop you from visiting them? In our present day, shadows are more welcomed by the millions of people who suffer from skin cancer than in the past. Going with the 1,200 foot tower will not only put more people to work and create more jobs, but it would also raise rent prices higher in the upper floors of the tower. It would be more breathtaking on the skyline, which would draw more millions of tourists to the city, which would make more money for the San Francisco economy.

Such as restaurants, hotels, and tourist attractions. It's a no brainer to go with the 1,200 foot tower design over the shortened 1,070 foot tower. For this one special time, and truly special iconic tower, cannot the board of the Planning Department bend the shadow zone rules for the higher more truly beautiful deserving 1,200 foot tower design for San Francisco to really shine as a world class city for the world to see? ALT-2 (cont'd.)

Sincerely,

Ruben Santiago

Ruben Santiago

RECEIVED AT CPC DURING 11/3/11
S. Jones 2007.0558E/2008.0789

Lloyd W. Schloegel
General Delivery
SAN FRANCISCO,
CALIFORNIA 94142

November 3, 2011

TO
SAN FRANCISCO
PLANNING COMMISSION

SAN FRANCISCO, CALIFORNIA

Regarding SAN FRANCISCO TRANSIT CENTER DISTRICT PLAN, EIR, which includes a 61 Story tower at 425 MISSION STREET AT FIRST STREET; 2007.0558E and 2008.0789E; NOV 3, 2011 Agenda.

STATEMENT IN OPPOSITION:

In Europe transit centers are built to low heights of four to ten stories. So if there is any national conflict there it will affect a decongested low built area. This was the thinking before the second World War. This is not what the Italians have been planning for the city of San Francisco, which has seismic sensitivities. Italian designers of the downtown plan are planning to construct six or more buildings at the transit center which would allow a 500 foot, a 700 foot, and a 1,000 foot height. A typical height per floor is eleven feet. This is a reckless and irresponsible plan and is totally unnecessary. Many office buildings in the area are under utilized now. There is a second 60 Story building, an office tower, now completed across the street.

PR-1

Statement in Opposition to TRANSIT CENTER DISTRICT PLAN 2007.0558E, 61 Story Tower, NOVEMBER 3, 2011

In this ENVIRONMENTAL IMPACT REPORT, the population of San Francisco County is projected to increase by twenty percent to about 934,000 people from the year 2005 to 2030. The population of SAN FRANCISCO is currently estimated to be less than 250,000. The Sponsor for this plan is the SAN FRANCISCO PLANNING DEPARTMENT.

Total Employment in SAN FRANCISCO is projected to increase by fifty percent between 2005 and 2030 to a total of 793,000 jobs, an increase of 241,000 jobs. Page 188.

PD-4

The ENVIRONMENTAL IMPACT Report is incompetent. Population and job growth statistics are grossly unrealistic. And the proposed buildings are not necessary. The RATIONALE that is offered by the EIR for this building project is to accommodate projected job growth for the next twenty-five years.

The original plan for a NINE STORY TRANSIT center building here was better. I have seen such a nine story building in California which was a NUISANCE for waiting PASSENGERS. The old transit center building which has been demolished was eight stories high.

PR-1

There is no city in the world that has such a tall building at the TRANSIT center. This is very BAD PLANNING. Shanghai, China, and Japan both allowed buildings in excess of twenty stories at the TRANSIT Center. Shanghai is over-built. SAN FRANCISCO is becoming over-built in the downtown AREA.

Lloyd Schloegel

Attachment 2: Transcript of DEIR Public Hearing

San Francisco Planning Commission

Commission Chambers
Room 400
City Hall, 1 Dr. Carlton B. Goodlett Place
San Francisco, California

Thursday, November 3, 2011

12:00 P.M.

Reported by
Tahsha Sanbrailo

APPEARANCES

Present:

Christina R. Olague, President

Ron Miguel, Vice-President

Michael J. Antonini, Commissioner

Gwyneth Borden, Commissioner

Rodney Fong, Commissioner

Kathrin Moore, Commissioner

Hisashi Sugaya, Commissioner

John Rahaim, Director of Planning

Jonas Ionin, Secretary

Tahsha Sanbrailo, Reporter

1

PROCEEDINGS

NOVEMBER 3, 2011 6:45 P.M.

-oOo-

Item 15. Case No. 2007.0558E and 2008.0789E - Transit Center District Plan and Transit Tower -- Public Hearing on Draft EIR.

MR. IONIN: Commissioners, this will place us on Item 15. Case No. 2007.0558E and 2008.0789E for the Transit Center District Plan and Transit Tower, Public Hearing on Draft Environmental Impact Report. Please note that written comments will be accepted at the Planning Department's Offices until the close of business on --

PRESIDENT OLAGUE: The end of the month because we have -- it was the 14th.

MR. IONIN: Right.

PRESIDENT OLAGUE: Then we have the Thanksgiving Day holiday, so I would say the -- let me look at my calendar. Just a couple of weeks out, really.

MR. IONIN: The 28th?

PRESIDENT OLAGUE: Yeah, the 28th. Yeah, that's great.

MR. IONIN: Okay.

PRESIDENT OLAGUE: So Wednesday at 5:00 or -- it's usually a Monday --

MR. IONIN: Monday, sorry.

MS. JONES: Should we start?

PRESIDENT OLAGUE: Yes, thank you.

MS. JONES: Good evening, Commissioners, President Olague, my name is Sarah Jones. I'm with the Environmental Planning Division of the Planning Department. I am the EIR Coordinator for the Transit Center District Plan and Transit Tower EIR. From our Environmental Planning staff, I'm joined here tonight by Victoria Wise who was the Transportation Coordinator, also by Jeanie Poling and Karl Heisler of ESA, our environmental consultant is here, as well.

The Draft EIR that we're discussing tonight analyzes the Draft Transit Center District Plan, which would change zoning regulations and promote public realm improvements to support the new Transit Center facility that's located at the site of the former Transbay Terminal. The Draft EIR also contains a project level analysis of the transit tower, which is a proposed 170-foot office building that would be constructed on Mission Street between Fremont and First Streets, immediately to the north of the new Transit Center.

Before you tonight is review and comment on the Draft EIR for this project, which was published on September 28th. And the comment period, as we've just learned, will continue until November 28th, 2011. Yesterday, we held a

hearing at the Historic Preservation Commission where they prepared comments for the Draft EIR.

This Draft EIR concluded that the plan would have the following significant unavoidable environmental impacts in the following topic areas: aesthetics, historic resources, transportation, noise and vibration, air quality, and shadow. And for the Transit Tower itself, the EIR found the following topic areas for project specific significant unavoidable impacts. Those are transportation, air quality, and shadow.

Planning staff is not here to answer comments today. The comments that are made will be transcribed and responded to in writing in the Comments and Responses document, which will respond to all verbal comments received today and written comments received throughout the comment period. Today's comments should be directed to the adequacy and accuracy of the information contained in the Draft EIR.

If commenters could please speak slowly and clearly so that our Court Reporter can produce an accurate transcript, also commenters should state their name and address so they can be properly identified and so that they can receive a copy of the Comments and Responses document when it's completed.

After hearing from the general public, we will also take comments from the Planning Commission. This

concludes my presentation. Unless the Commission members have questions on the Draft EIR, I would suggest the public comment period be opened.

PRESIDENT OLAGUE: Thank you. Commissioner Sugaya.

COMMISSIONER SUGAYA: Yes. I would like to clarify one thing. In the Environmental document, there is a citation to Carey and Company, that's the company that I work for. And the citation is in relationship to some historic resource evaluation work that Carey and Company undertook not for this EIR, but for TJPA a number of years ago. And in consulting with the City Attorney's Office on possible conflict of interest, we've concluded that I do not have to recues myself at this point.

MS. JONES: Thank you, Commissioner Sugaya. That's good to know.

PRESIDENT OLAGUE: I would like to open it up for public comment, then. Sir, the gentleman who -- now is your time to -- okay, this is it. And then we'll hear from Sarah Karlinsky.

MR. SANTIAGO: My name is Ruben Santiago and I would like to read my comments. [Reading] "After carefully viewing and reading your current EIR proposal of the height design for the Transbay Tower, and comparing it with the original design of 80 stories and 1,200 feet, I deeply feel

ALT-2

your original design is way superior than your current shortened design that you are currently proposing. In shortening the tower, you are defeating your own original vision for a much bolder iconic tower that would truly stand out on the San Francisco skyline. Your renderings of the shortened tower around the City just doesn't look or feel like it dominates the skyline. From different vistas, it falls way flat. A 1,200-foot tower fulfills every aspect of an iconic tower. Your excuse of shadows doesn't make sense; when you plan to build to 1,000-feet or over, you're going to have shadows, regardless of what people estimate you're going to have. To say by going up to 1,200-feet you are casting more shadows and not build this tower at that height is ridiculous and hypocritical. San Francisco does not deserve a shortened down tower on its skyline. Its short and stale skyline of the past 40 years needs a breakout of its tired conservative chains that have stalled progress of any future iconic towers in this City that are talked about, but never truly realized or built because of the selfish politics that go on in this City. San Francisco needs visionary pioneers that have the foresight and bold daring that aren't afraid of change. San Francisco needs the Pelli Clarke Pelli's original design of 1,200-feet to rise to a soaring, iconic, breathtaking height that will certainly do justice to our beautiful skyline for all the world to enjoy

ALT-2 (cont'd.)

and visit. Also, one negative aspect is that the shortened design of the tower would not have an observation deck or an entertaining restaurant for the visiting public to enjoy of the higher vistas they would see of the surrounding Bay Area. Remember, all great cities have one or more shadows, but does that stop you from visiting them? For this one special time and truly special iconic tower, cannot the Board Planning Department…?

ALT-2 (cont'd.)

PRESIDENT OLAGUE: Thank you, sir. And everyone gets three minutes, but you can certainly turn your comments in in writing and you have until the 28th of November.

MR. SANTIAGO: Okay.

PRESIDENT OLAGUE: Or you can hand them in today.

MR. SANTIAGO: Okay, thank you.

PRESIDENT OLAGUE: So thank you very much.

MS. KARLINSKY: Good evening, Commissioners. My name is Sarah Karlinsky. I'm with San Francisco Planning and Urban Research. I -- we drafted a comment letter on the Draft EIR and what I'm going to do now is just read that into the record. [Reading] "Thank you for the opportunity to comment on the Transit Center District Plan and Transit Center Tower DEIR. We believe that the DEIR adequately analyzes the impacts of the Transit Center District Plan and Transit Center Tower. The Transit Center District Plan is critical to the future of San Francisco and the region. San

Francisco's downtown is a major regional job center, home to over 250,000 jobs. Unlike other locations in the region, over 50 percent of workers in San Francisco's downtown uses sustainable transportation mode, public transit, walking, and bicycling to get to their jobs. This is largely due to two facts, first, San Francisco's downtown has the best regional transit access west of the Mississippi and, second, San Francisco's downtown core is dense, compact, and walkable. The development of Transbay Transit Center will build on these successes by creating a world class multi-mobile station, including the terminus of CalTrain and California High Speed Rail. Page S--2 of the DEIR notes that the Planning Department commissioned a study to evaluate future job and housing growth in San Francisco. The study concluded that [quote], 'Downtown San Francisco would not meet the future demand for office space under the existing zoning.' The Transit Center District Plan addresses this critical need by increasing zoning capacity for commercial space. We've had the opportunity to review the shadow impacts of the Transit Center District Plan. Page 470 of DEIR notes [quote], 'With one exception, shadow from any given potential building would cover part of any affected Section 295 park for less than 45 minutes per day, over a period of time ranging from four to 12 weeks per year.' The exception noted is the shadow to Union Square by

SH-7

the proposed addition of the Palace Hotel on New Montgomery Street. Table 41 on page 508 shows the potential shadow increases resulting from the plan. These shadow increases range from .24 percent to less than .01 percent. Even in the case of Union Square, the plan exceeds the existing shadow budget for the park by .2 percent, which is only .5 percent of the total shadow budget for the park. We believe that the value of this plan to enable the continued development of our walkable transit for the downtown core outweighs the very small shadow impact it generates. Thank you for your consideration of our position."

SH-7 (cont'd.)

PRESIDENT OLAGUE: Thank you. Is there additional public comment?

MR. BECK: Good evening, Commissioners. Robert Beck with the Transbay Joint Powers Authority, 201 Mission Street, Suite 2100. I wanted to thank the Planning Department staff for their efforts in preparing the draft Transit Center District Plan EIR. The Transbay Transit Center program lies at the heart of the plan area and was a catalyst for the plan. When the Transbay Program was approved in 2004, the primary funding for the project was proceeds from the former Embarcadero Freeway parcels along Folsom Street, tax increment, bridge toll revenues, and San Francisco half-cent sales tax, but the program still had a significant funding shortfall. In 2006, Mayor Newsom and

ALT-3

then Chair of the San Francisco Transportation Authority, Jake McGoldrick, convened a working group to ensure the entirety of the Transbay Program could be constructed as soon as possible. The working group recommended the creation of a special zoning district around the transit center permitting a limited number of tall buildings, including two on public parcels. This zoning district, developed in the plan and analyzed in the Draft EIR, would generate additional revenues for the Transbay Program in three ways, first, the sale of the two public properties rezoned the plan, the Transit Tower site, and the land between Natomas and Howard Streets known as Parcel F, will produce revenues for the Transbay Program. The manner of that revenue, however, hinges on the value for development and that flows directly from the zoning heights. While we are all concerned about shadows produced by the buildings of the heights proposed in the plan, we were pleased to see that the shadows from buildings on Parcels T and F will cast minimal additional shadow on City parks and that shadows will be diffuse due to the distance of the parks from the new buildings. Given the significance of the revenues from these property sales, the Transbay Program, and the importance of the Transbay Program to the City and the region, we do not believe that the shadows warrant a reduction of proposed heights for the Transit Tower and

ALT-3 (cont'd.)

Parcel F of 1,070 and 750-feet, respectively. Because the Draft EIR analyzes new height limits for these parcels, the TJPA cannot sell these properties until the EIR has been certified. To this end, we urge the Commission to close the comment period on November 28th as scheduled and the Department will respond to comments and present the Commission with the EIR for certification at the earliest possible date. Consistent with the vision that stimulated the plan, it is appropriate and important that impact fee revenues from the Transit Center District Plan, including fees from the Tower and Parcel F be directed towards the Transbay Program. We thank you for consideration of this important EIR, and we urge you to adopt the heights as recommended in Transit Tower and Parcel F, and maintain the current schedule for certification of the EIR. Thank you.

ALT-3 (cont'd.)

G-6

PRESIDENT OLAGUE: Thank you. Is there additional? Yeah.

MR. WHITAKER: Good evening, Commissioners. My name is Jamie Whittaker and I live in the Rincon Hill Neighborhood at Bay Crest Towers, 201 Harrison Street, Unit 229, a humble studio. Very much looking forward to the construction progressing for all the different aspects of the Transbay Area and Rincon Hill, and I'm happy to say that construction cranes are starting to appear again in my neighborhood at 333 Harrison. I think 45 Lansing is

PR-1

probably going to start digging some dirt soon. It's exciting to see people moving in. Hopefully, neighborhood servicing businesses will come. Air quality is my big concern and I think that there will always be a concern with the Bay Bridge outside my window, literally, and more parking spaces being proposed for projects like 8 Washington; I think there are 400 some odd parking spots there. I think there are tools to mitigate the traffic, that we just need to find some leaders politically to consider traffic, the congestion charge, a pilot at least, and give some folks some incentive to not be driving downtown, at least not to be leaving all at once, but between 3:00 p.m. and 7:00 p.m. So that's my main comment. You can already see traffic really getting snarled in the neighborhood with existing Transit Center construction, central subway, and utility relocation. With the America's Cup hopefully coming our way, please don't drive into our neighborhood for the next two or three years. But I'm totally supportive of the building heights and supportive of the Transbay JPA. I complimented them in the past; I think they've done a great job of keeping us informed every week. Every Friday, we get an email telling us, "Here's the construction that's going to be happening for the next 10 days," and that's commendable. I support -- well, this EIR looks fine to me; I just hope our politicians can embrace

AQ-2

TR-6

PR-1

AQ-2

trying congestion fees to mitigate the air pollution. Thank you.

AQ-2 (cont'd.)

PRESIDENT OLAGUE: Thank you.

MS. HESTOR: I'm Sue Hestor. I noticed no one has struggled to bring this document up because it weighs so much. Two weeks ago, you had a report on this document here, Downtown Plan. You had a report two weeks ago that talked about the assumptions that were made by the City when this was drafted around 1980. The assumptions were made about how people were going to work, about the amount of office space, the way people wanted to work in buildings. The report you had two weeks ago was that people do not want to work in tower office buildings, that we have had a shrinkage in the financial district, that people want to work in different types of spaces like the last agenda item, and that the assumptions that were made on 20 or 25 years of growth in 1980 have not come to pass, and that we needed to think differently. This is going back to those assumptions. If you look at the EIR, and it's too heavy to lift, but I'll tell you what page it's on, it's on page 6, well, wait a minute, I'll show you because it can do it on the TV. The map of the area, this is the map of this planning area, C-3-O, and this is the planning area that you're looking at now -- my finger is too fat. So here we have this area that was planned in the Downtown Plan and here is what we have here.

PD-4

And the assumption in the Downtown Plan was that this area here, this green area where we're re-planning all over again, would have enormous growth of office buildings because that's where everyone wanted to go, and it hasn't happened. So you have to think about whether a report that's given 25 years later, based on assumptions here -- and I'm going to write this in comments -- what were the assumptions that were made in the Downtown Plan? What were the assumptions made in Rincon Hill Plan in terms of how buildings would be built and occupied, and what the demand was, and where they are now. Also, there's the South Beach Area that should be on this map. There was a Redevelopment Plan Area along the waterfront. That is one thing. The second thing is, unlike other speakers, I care about Prop. K and the shadows go to Portsmouth Square, and if you are going to throw out the vote of the people, say you're going to put it on the ballot, don't interpret it away. Prop. K was voted on by the citizens of San Francisco and it limited shadow. But the main thing is, you forget what you hear about your assumptions and the Planning Department doesn't really know how people want to work. Thank you.

PD-4 (cont'd.)

PD-3

SH-3

PD-4

PRESIDENT OLAGUE: Thank you. Is there any other public comment on this item? Seeing none, public comment is closed. Commissioner Antonini.

COMMISSIONER ANTONINI: Well, thank you. I think

this is a very well done Environmental Impact Report and there were a couple of questions I wanted to ask.

I guess on page -- I think it's at the very beginning, about page 6, but I'm not sure -- it talks about cogeneration facilities and it doesn't specifically deal with steam heat, which is done in New York, and I'm not sure if that's part of the cogeneration plan because this is a perfect area for that kind of thing to happen because it's very efficient and there's one generating plant and it's piped to the different buildings and they don't have their own heating systems individually. So that's something that certainly should be looked at and perhaps analyzed if it isn't.

PD-13

I was in agreement to some degree with the gentleman who talked about the 1,200-foot tower. I don't see it analyzed here, I'm not saying it needs to be, but I guess, you know, my question is why it is not part of the analysis as an alternative. I'm not saying it needs to be, I think we have plenty of preferred option and, then, the other options that are presented being lower, but that was something that was brought in and maybe it could be answered in terms of a response.

ALT-2

And in terms of general demand, again, this is an Environmental Impact Report and we're commenting on the accuracy and the adequacy and the completeness of the plan;

PD-4

however, there were some comments about the direction of the plan and I think the plan is entirely on target as far as future growth. I think there are a lot of reasons why people are going to want to be here, both to live in and to work because of the $3.75 gas cost, time concerns, you know, maintenance of suburban space is really inefficient and counterproductive, and I think you've seen this happening. And I think if you build it, they'll come.

And I think there will be a huge part of the business community that will still want space in towers, as they do today. There will be some that need the broader floor plates; it just sort of depends on what the particular function is. But I think you see towers built at other cities throughout the United States and other parts of the world and there is a demand for them, so I don't think it's going to be any different here.

And I think this is also to some degree a throwback to the past and hopefully we'll reach a point, as we were in the first half of the 20th Century, where almost all business commercial activity took place in San Francisco and almost everyone who was employed here lived here because we were essentially an island. But also, almost everyone rode public transportation, too, because it made a lot of sense; if you didn't have to leave the city, it was just as easy to hop on a trolley car in those days, and so I think

PD-4 (cont'd.)

that we're moving in the right direction with this analysis.

PD-4 (cont'd.)

And I think the analysis of the various factors, be they shadow, wind, and all the other ones that are brought in here, traffic impacts, and historical, are quite well done. And I'm very happy with the report so far. I will have other comments I will send in writing.

G-3

PRESIDENT OLAGUE: Commissioner Miguel.

COMMISSIONER MIGUEL: Yes. I find it very interesting we move from recently Western SoMa, east to the Central Corridor that we just started, and now we're moving further east to the Transit Center adjoining areas, but they're very very very different.

As to the EIR, I think it adequately covers such things as the FEIR and the tower separation. It obviously, as an EIR should, considers the maximum build-out. I do not truthfully expect that maximum build-out ever to be achieved; I think it's going to be a lot less, but then I'm no economic guru. In any case, it's going to totally change the Downtown skyline and I think the photo simulations give us a good idea of that.

G-3

My concern is not with such things as the towers at their top and the separation, I am still, as I voiced before, concerned with what happens down on the ground. We have, and they are commented upon in the document, the Downtown Streetscape Plan of '95, the Transbay Streetscape

G-1

Plan of 2006, and certainly the Better Streets Plan from 2010. There are comments regarding sidewalk improvements, mid-block crossings, that's where I think everything is important. That's where the public is going to thrive and that's where the district is going to thrive.

The manner of the built form at the sidewalk is much much more important to me than tower separation or some flagpole on top of a tower somewhere in order to achieve an extra 50-feet in height. Those things at the top are easy to work with. The personal impact on the ground level is extremely difficult to deal with because it comes in the public realm and we often deal with the actual individual buildings without having a good idea of how the mass of them, because many will be built, are going to affect the street level.

Open space connections to the five-acre Sky Park, I'll call it, on top of the Transit Center itself, are very very important requirements on street widening, the taller you go, the wider the sidewalks should be, in general, to make it comfortable for these hopefully masses of people that will inhabit the area. There is a plan for a Second and Howard Open Space, individual open spaces that will complement the park on top of the Transit Center itself, are extremely important.

POPOS, the Privately Owned Public Open Spaces,

G-1 (cont'd.)

G-4

G-5

that will accompany the office towers to be built, in my estimation, the Downtown Plan did a very good job and we heard that recently when we were discussing the one percent art situation, it's possible in this area if we are concentrating so many large buildings that those spaces should be expanded. They should be required to be larger and they should be able to complement each other.

The traffic implications are impossible to imagine. This document, I think, does a decent job in trying to lay them out, but you look at every single street in the area is impacted. I started to write down a few as I was going through, you know, Steuart, Beale, Howard, Folsom, Bryant, Harrison, Mission. You've got a situation now where the Market Street Design Advisory Board is probably going to suggest that some bus lines actually move off of market in order to stop mid-block mornings and move on to Mission where possible. So that will impact that area of Mission, as well.

We have gridlock in certain areas of South of Market right now without any of this being built. We put into place particularly rail lines and overhead wire lines that are very expensive to move. It's easy to move just a bus from one block to another, comparatively, but when we start in with overhead lines and rail lines, it becomes very very expensive and everyone is very reluctant to start

G-5 (cont'd.)

TR-6

TR-16

making those changes. So any transit assumptions we have for this area must be built on a flexible underlay. They have to be. They're not going to stay the same way 20 years from now, 25 years from now, and they shouldn't. They should be flexible enough to be able to be changed with the times. We were just talking, obviously, about the Corridor Plan, Fourth Street, and the streets that surround it, and the cross streets there and what happens on Fourth in the Central Corridor are going to affect this area, they have to work in conjunction with each other. And that has to be flexible enough to work 10 years from now when we have a little better idea of how much of this that is planned for here, or studied here, will actually start to be built. And as I say, I have a question of how much will actually be built. If we get 50 percent of it, in my estimation, we'll be doing good.

TR-16 (cont'.d)

PRESIDENT OLAGUE: Commissioner Sugaya.

COMMISSIONER SUGAYA: Let's see, in order to improve the public disclosure aspect of the EIR, I'd like to have the comments and responses add some graphics to the Cultural Resource section. There's only one map in that section and it shows the historic shoreline, more or less. And I think in terms of historic resources, it would be nice to have some graphics showing existing historic district boundaries, existing historic resources, National Register

CP-7

properties, California Register properties, city landmarks, maybe even eligible properties. It's already been all identified, so something more graphic to illustrate that would help.

CP-7 (cont'.d)

And then, just to comment, I think that although the Downtown Plan as it was presented to us before didn't completely fulfill, you might say, the sort of office and what we were thinking of in terms of office development at that time, I mean, there have been a number of buildings, office buildings built along especially Mission Street, South of Market, just before the recession started. And I think there will be, unless Occupy Wall Street is extremely successful, I would think there would be a continual need for the type of office space that is characterized by high-rise towers.

PD-4

And I think that the kind of development that we're seeing relative to high-tech will continue to be, I think, addressed, for example, in the Corridor Plan we just saw and perhaps in other areas of San Francisco.

PRESIDENT OLAGUE: Commissioner Moore.

COMMISSIONER MOORE: I'm not quite sure as to whether or not I can ask the question, but since we have several large projects following each other very closely, I think the simulations looking from Yerba Buena East would be quite appropriate if we were to also at least to show the

AE-8

effect of the Museum of Modern Art's expansion because that will be so close to each other, that looking at it together, at least in one image, would be very helpful at least to me, and that is not biasing towards one or the other of the project, but in the spirit of cumulative, that particular project because we're going to be hearing it in a few weeks, these two things interact with each other and we might as well know what we're looking at it, and I'm not saying what my thoughts are because I don't have it, but I would like to see it.

AE-8 (cont'd)

And again, the issue of Prop. M is something which continues to puzzle me and I think it puts a very unusual burden on this Commission to continue to grapple with an issue which I do not believe we fully understand. There are all the right reasons to look at Proposition M --

PRESIDENT OLAGUE: K or Prop. M?

COMMISSIONER MOORE: -- with respect to the public benefit we have to judge on, but I do think we need to have an independent, clear discussion about what it is we're doing. That is a legal issue, that is a historic planning issue, the voter approved initiative, it's --

SH-3

PRESIDENT OLAGUE: Prop. M or Prop. K?

COMMISSIONER MOORE: Prop. K, I'm sorry, I meant to say the shadow of Prop. K. Thank you for saying that. And I personally am troubled by it because I don't have a

clear idea, really, what I am doing. That would be helpful.

SH-3 (cont.d)

PRESIDENT OLAGUE: Okay, I think that's it.

(Adjourned at 7:20 p.m.)

CHAPTER VIII
Appendices

A. Notice of Preparation
B. Plan Objectives and Policies
C. Proposed Public Realm Plan
D. Air Quality
E. Transit Tower Wind Tunnel Analysis

APPENDIX A
Notice of Preparation

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Notice of Preparation of Environmental Impact Report

Date:	July 20, 2008
Case No.:	**2007.0558E; 2008.0789E**
Project Title:	**TRANSIT CENTER DISTRICT PLAN AND TRANSIT TOWER**
Zoning:	Multiple Zoning and Height and Bulk Districts
Block/Lot:	Multiple
Lot Size:	N/A
Project Sponsor	San Francisco Planning Department and Transbay Joint Powers Authority Joshua Switzky - (415) 575-6815
Lead Agency:	San Francisco Planning Department
Staff Contact:	Sarah Jones – (415) 575-9034 Sarah.B.Jones@sfgov.org

PROJECT DESCRIPTION

The Transit Center District Plan (Plan or proposed project) is a comprehensive plan for the southern portion of the downtown Financial District, roughly bounded by Market Street, the Embarcadero, Folsom Street, and Third Street (Plan Area). The area includes both private properties and properties owned or to be acquired by the Transbay Joint Powers Authority (TJPA) in and around the adopted Transbay Redevelopment Project Area (a plan for which was adopted in 2005) and Transbay Terminal. The Plan Area includes all of Zone 2 of the Transbay Redevelopment Area; streetscape changes and road modifications would occur within Zone 1 of the Redevelopment Area, but no land use or height changes are envisioned within this area. The Transit Tower, a high-rise office tower (approximately 1,000 feet in height) would be located adjacent to a new Transbay Transit Center. The Transit Tower would be located on the southeast corner of First Street and Mission Street at 425 Mission Street, Assessor's Block 3720 Lot 001, in the P (Public) zoning district and the 30-X/80-X height and bulk district.

The proposed project would result in new planning policies and controls for land use, urban form, and building design, as well as impact fees and other funding mechanisms to direct funding to the Transit Center and Caltrain Downtown Extension projects and other public infrastructure in the area. The proposed project includes a comprehensive plan for improvements and changes to streets, circulation, and open space in the area to support the existing, planned, and proposed land uses and activity in the area. The Plan also proposes amendments to the San Francisco *General Plan, Planning Code* and Zoning Maps. For the purposes of environmental review the proposed project includes both the Plan, which will be analyzed at a programmatic level, and the Transit Tower, which will be analyzed at a project level.

A more detailed project description is provided following this NOP or can be obtained from the staff contact listed above or at http://www.sfgov.org/site/planning_index.asp?id=80504.

FINDING

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State CEQA Guidelines, Section 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance). The purpose of the EIR is to provide information about potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project. Preparation of an NOP or EIR does not indicate a decision by the City to approve or to disapprove the project. However, prior to making any such decision, the decision makers must review and consider the information contained in the EIR.

SCOPING OF ENVIRONMENTAL REVIEW

Pursuant to the State of California Public Resources Code Section 21083.9 and California Environmental Quality Act Guidelines Section 15206, the Planning Department will hold a public scoping meeting to receive oral comments concerning the scope of the EIR. The meeting will be held on **August 6, 2008 at 6:00 p.m. at the San Francisco State University Downtown Campus, 835 Market Street, Room 626/627.** Written comments will also be accepted at this meeting and until the close of business on **August 19, 2008.** Written comments should be sent to Bill Wycko, Acting Environmental Review Officer, Transit Center District Plan NOP, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

State Agencies: We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency. Thank you.

July 17, 2008
Date

Rick Cooper, for
Bill Wycko
Acting Environmental Review Officer

Transit Center District Plan and Transit Tower
Case No. 2007.0558E and 2008.0789E

PROJECT DESCRIPTION

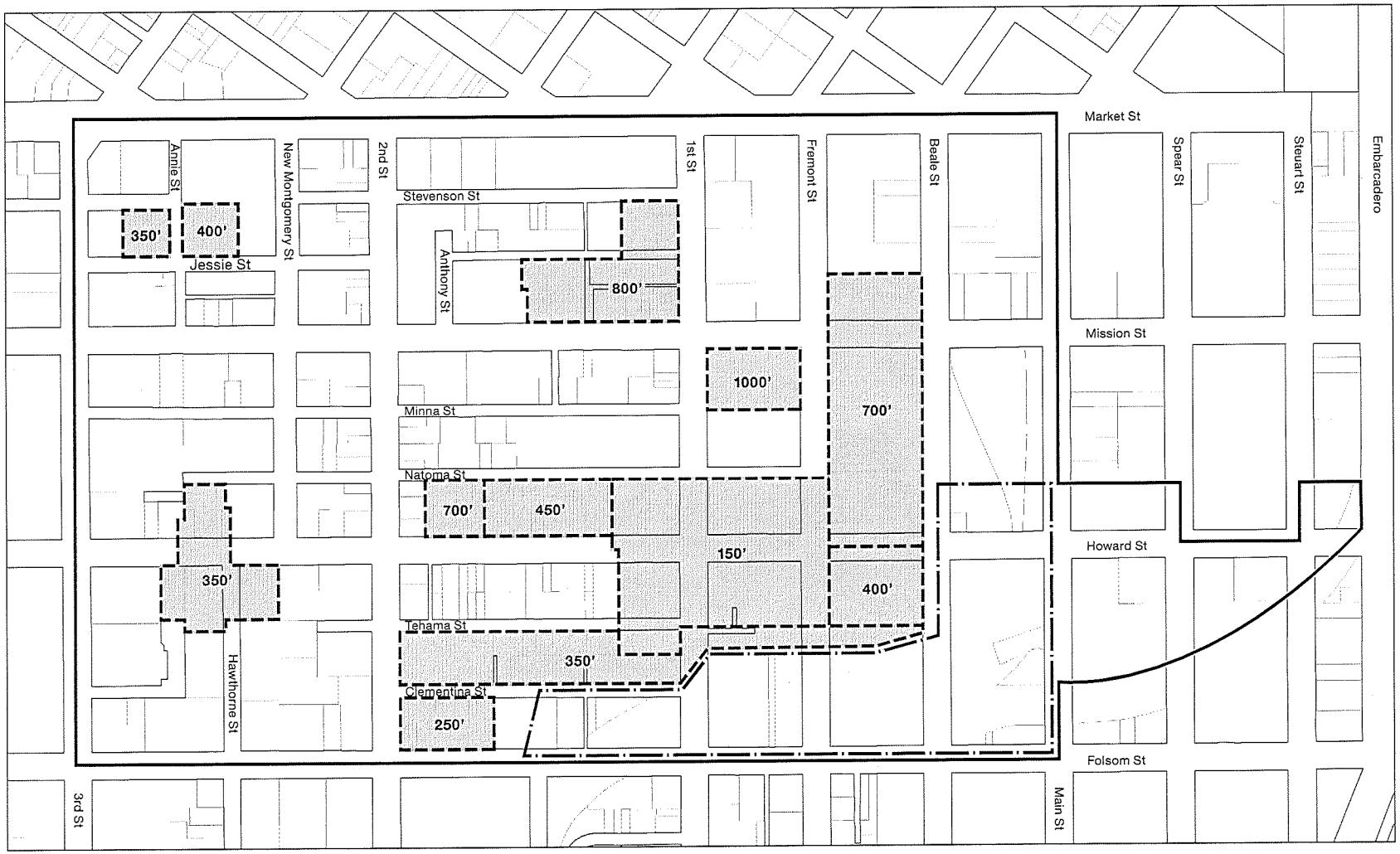
Overview

The Transit Center District Plan (Plan) is a comprehensive plan for the southern portion of the downtown Financial District, roughly bounded by Market Street, the Embarcadero, Folsom Street, and Third Street. The area includes private properties as well as properties owned or to be acquired by the Transbay Joint Powers Authority (TJPA) in and around the Transbay Redevelopment Project Area (a plan for which was adopted in 2005) and Transbay Terminal. The Plan Area includes all of Zone 2 of the Transbay Redevelopment Area, but generally excludes Zone 1 (see Figure 1). The Transit Tower, a high-rise office tower (approximately 1,000 feet in height, plus additional design features for a total height of up to approximately 1,200 feet) would be located adjacent to a new Transbay Terminal, or "Transit Center," on the south side of Mission Street between Fremont Street and First Street. The Transit Center District Plan and Transit Tower together comprise the proposed project for analysis.

The Proposed Project would result in new planning policies and controls for land use, urban form, building height and design, and street network modifications/public realm improvements. The Plan would allow for height limit increases in subareas comprised of multiple parcels or blocks within the Plan Area (See Figure 1). It would also propose one or more programs to support the Transit Center Program and other necessary public infrastructure and amenities in the area (Note: "Transit Center Program" includes the rebuilt Transbay Transit Center on the site of the existing Transbay Terminal, and the downtown extension of rail for Caltrain and future California High-Speed Rail from the current rail terminus at 4th/King Streets into the Transit Center). The Proposed Project would result in a comprehensive plan and implementing mechanisms, including *General Plan, Planning Code* and Zoning Map amendments, as necessary.

The main goals and objectives of the proposed plan are outlined below. In general, they include increasing the amount of allowable development in the transit-rich downtown core, while at the same time improving public amenities, modifying the system of streets and circulation to meet the needs and goals of a dense transit-oriented district, providing additional open space, and implementing policies to preserve existing historic structures. A primary goal of the proposed urban design controls is to alter the downtown skyline in a manner consistent with the existing objective of creating a downtown "hill" form, while relating the proposed structures to the surrounding mid- and low-rise residential and commercial neighborhoods.

The Planning Department will prepare a programmatic environmental impact report (EIR) to evaluate the physical environmental effects of the proposed Transit Center District Plan project. This document will contain the cumulative environmental impact analysis of development under the Proposed Project through the year 2030. The EIR also will analyze the project-specific effects of developing the proposed Transit Tower. In addition to the new policies and controls (including modified building height controls) proposed by the Planning Department for the Transit Center District Plan, the EIR will also analyze a Developer-Proposed Scenario, which would consist of a program-level analysis that reflects several applications submitted to the



SOURCE: San Francisco Planing Department, 2008

Case No. 2007.0558E: Transit Center Plan . 207439

Figure 1

Proposed Transit Center District Plan Boundaries and Analysis Subareas

Planning Department by private project sponsors proposing individual buildings, generally at heights that exceed the height limits identified in the proposed Plan.[1]

The EIR will also evaluate a No Project Alternative, which would entail a continuation of existing zoning controls within the Plan Area, including existing height limits and *General Plan* policies, as well as one or more reduced-intensity project alternatives that could potentially reduce or avoid any significant environmental impacts associated with the Proposed Project.

The Planning Department has held two public workshops to date on the Plan, addressing a variety of topics including citywide and downtown growth, land use, urban form, shadows, historic resources, and the public realm (streets and open spaces). Additional workshops will be held in the future as the Plan evolves. As part of the review process under the California Environmental Quality Act (CEQA), the Planning Department will convene a public scoping meeting at which public comment will be solicited on the issues that will be covered in the EIR. This notice provides a summary description of the Proposed Project, identifies environmental issues anticipated to be analyzed in the EIR, and provides the time, date, and location of the public scoping meeting.

BACKGROUND

In response to development trends and infrastructure investments in the vicinity of downtown San Francisco, the Planning Department is drafting a comprehensive plan for the area around the Transbay Transit Center. These recent changes include:

- *Transbay Transit Center/Rail Extension* – The Transbay Transit Center project will replace the existing Transbay Terminal with a new modern multimodal Transit Center that will serve multiple transportation systems under one roof and anchor the Transbay Redevelopment Area. The new terminal also would accommodate an underground extension of Caltrain line as well as the future California High-Speed Rail from Fourth and King Streets to the new terminal.[2]

- *2005 Transbay Redevelopment Plan* - The Transbay Redevelopment Project Area, created in 2005, encompasses about 40 acres and is generally bounded by Mission, Main, Folsom, and Second Streets. The Redevelopment Plan Area contains the existing Transbay Terminal and access ramps, as well as a number of vacant and underutilized properties and older buildings, many of which are substantially deteriorated and/or constructed of unreinforced masonry. The Redevelopment Plan is intended to address these conditions of "blight." The Plan sets forth various projects and programs that will be funded with tax increment dollars over the life of the Redevelopment Plan. Approximately $178 million of the net tax increment will be pledged to the Transbay Joint Powers Authority to help pay the cost of rebuilding the Transbay Terminal into a regional transit hub (the Transbay Transit Center). The

1 These individual proposed projects include 350 Mission Street (Case No. 2006.1524), 50 First Street (Case No 2006.1523), 41 Tehama Street (Case No. 2008.0801), 181 Fremont Street (Case No. 2007.0456), and 2 New Montgomery Street (Case No. 2005.1101). These case files are available for review by appointment at the Planning Department, 1650 Mission Street, Suite 400.

2 U.S. Department of Transportation Federal Transit Administration, the City and County of San Francisco, Peninsula Corridor Joint Powers Board, and San Francisco Redevelopment Agency, *Transbay Terminal/Caltrain Downtown Extension/ Redevelopment Project Final Environmental Impact Statement/Environmental Impact Report and Section 4(f) Evaluation, June 2004.* Available for review by appointment at the Planning Department, 1650 Mission Street, Suite 400, in Case No 2007.0558E and also available at http://www.transbaycenter.org/TransBay/content.aspx?id=114.

Plan also calls for new residential development on parcels along Folsom Street formerly occupied by the Embarcadero Freeway ramps, as well as office space adjacent to the new terminal (the Transit Tower). The Transbay Redevelopment Plan was analyzed in the previously-referenced EIR for the Transbay Transit Center/Rail Extension.

- *Rincon Hill Plan* - The Rincon Hill Plan, adopted in 2005, encourages high-density residential development and greater building heights in the area between Folsom Street and the Bay Bridge. The goal of the Plan is to encourage the ongoing transformation of the area into a new mixed-use residential neighborhood adjacent to the downtown, with both strong urban design controls and implementing mechanisms to fund the necessary public infrastructure, including open space, streets, community facilities, and affordable housing. Together with plans for the Transbay Redevelopment Plan, the Rincon Hill Plan will create housing for as many as 20,000 new residents. The Plan calls for location of retail shops and neighborhood services along Folsom Street, and transformation of Main, Beale, and Spear Streets into traffic-calmed, landscaped residential streets lined with townhouses and front doors. Funding is also included, from development impact fees, for the acquisition and development of open space in the district.

- *2006 Mayor's Interagency Working Group* - In early 2006, a Mayor's Interagency Working Group concluded that raising certain height limits and increasing development potential in the Transit Center district area would be consistent with the City's existing vision for downtown. It identifies a potential for generating additional funds for the Transit Center Program, which would result from the changes in controls of land use and urban form.

The Planning Department has determined that, due to the changes described above, coupled with the realization of moving forward with the Transit Center Program and the fact that substantial growth has occurred in the 20+ years since the *1985 Downtown Plan* was adopted, the land uses, urban form and public realm of the downtown core should be reexamined. This planning effort is intended to shape the next generation of downtown growth, extrapolating on the core principles of city building at the heart of the Urban Design Element and *Downtown Plan.*

The proposed Transit Center District Plan would build on the City's *1985 Downtown Plan* that envisioned the area around the Transbay Terminal as the heart of the expanded downtown, which at the time was concentrated north of Market Street. In contrast to the adopted *2005 Transbay Redevelopment Plan,* which focuses mostly on public properties south of the Transit Center along Folsom Street, this new effort focuses on both private properties and properties owned or to be owned by the TJPA around the Transit Center itself and extending toward Market Street. The Plan will include mechanisms to direct fund the construction of the Transit Center and other public improvements in the area.

The Plan Area overlaps with the Transbay Redevelopment Project Area, and includes all of Zone 2 of the Project area.[3] The San Francisco Redevelopment Agency has implemented a Delegation Agreement with the Planning Department to generally delegate responsibility and jurisdiction

3 The proposed Transit Center District Plan would include streetscape changes and road modifications within Zone 1 of the Transbay Redevelopment Area, although no land use or height changes are envisioned within this area.

for planning, zoning, and project entitlements to the *Planning Code*, Planning Department and Planning Commission. The Plan is being conducted in partnership with the Redevelopment Agency and involves the review by the Agency's Transbay Citizen's Advisory Committee.

MAJOR PROJECT COMPONENTS

The proposed project consists of an area plan that would produce new policies and land use controls for multiple plan subareas identified as appropriate sites for future downtown growth. Development assumptions concerning specific land uses within the different building types will be identified in the EIR.

Land Use

Office and Residential Controls

One of the major goals of the proposed Plan is to ensure that there is sufficient growth opportunity for high-density jobs in the downtown core, immediately proximate to the region's best transit service. To this end, the Plan would limit the amount of non-office space in major new construction opportunity sites within the district in an effort to achieve an overall ratio of no less than 70 percent office space within the Plan Area. To achieve this, the Planning Department is considering a preliminary recommendation that major new construction on large opportunity sites through most of the Plan Area (construction of greater than 7:1 Floor Area Ratio (FAR) on sites larger than 15,000 square feet) be required to have a minimum ratio of commercial to non-commercial (e.g. residential, hotel, cultural) uses of approximately 3:1.

Floor Area Ratio and TDR

As part of the proposed zoning amendments for the Plan Area, the current 18:1 FAR maximum limitation would be eliminated. The existing Transfer of Development Rights (TDR)[4] program would likely remain in place for projects achieving up to 18:1 FAR, with land use control mechanisms and/or appropriate fees applying to projects with FAR greater than 18:1.

Building Heights and Form

Figure 1 illustrates the subareas where height limits are proposed to be increased within the Plan Area. Heights greater than 600 feet constitute total heights of enclosed building space (including major mechanical penthouses), but exclude any thin or non-enclosed spires or ornamentation at the top of the building. All other building heights represent the highest occupied floor, excluding mechanical penthouses.

Within the proposed 800-foot Height District, the Plan would allow for only one building on the multiple potential opportunity sites in that zone to surpass 600 feet and reach a height of 800 feet.

Additional bulk, form, and ground-floor design controls and guidelines would also be included as part of the proposed project. Table 1, below, summarizes the proposed changes to height districts within each of the Plan subareas.

4 Zoning provisions that allow for the purchase of the right to develop land located in one particular area (a sending area) and the transfer of these rights to land located in another area (a receiving area). The "base" allowable FAR in the area varies, but is generally 9:1. A project may achieve up to a maximum of 18:1 through purchase and application of transferrable development rights ("TDR") from qualifying historic buildings in the downtown.

TABLE 1
PROPOSED HEIGHT DISTRICT CHANGES, BY SUBAREA

Subarea Location	Existing Height District(s) (feet)	Proposed Height District (feet)
Transit Tower (Mission and First Streets)	30	1,000
Between Fremont and Beale Streets, from north of Mission Street to Howard Street	Ranges from 80 to 550	700
Between Fremont and Beale Streets, from Howard Street to north of Folsom Street	Ranges from 200 to 350	400
Between Second and Beale Streets, from Tehama to Clementina Streets	Ranges from 80 to 350	350
Between Clementina and Folsom Streets, from Second Street to west of First Street	200	250
Between Natoma Street and south of Tehama Street, from Fremont Street to west of First Street	Ranges from 200 to 400	150
Between Natoma and Howard Streets, mid-block between First and Second Streets	450	450
Between Natoma and Howard Streets, east of Second Street	450	700
Between Stevenson and Mission Streets, west of First Street	550	800
Between Stevenson and Jessie Streets, west of Annie Street	120	350
Between Stevenson and Jessie Streets, from Annie to New Montgomery Streets	Ranges from 150 to 300	400
Between Natoma Street to north of Folsom Street, mid-block between Second and Third Streets	Ranges from 150 to 250	350

TRANSIT TOWER

As noted above, the EIR also will analyze on a project-specific level (in contrast to the program-level analysis otherwise contained in the EIR) the environmental impacts associated with developing the Transit Tower, an 80-story, 1,000-1,200-foot office building proposed for Block 3720, Lot 001, at Mission and First Streets. The Transit Tower project site is approximately 50,000 square feet in size and is currently used as the Transbay Terminal passenger waiting and loading area, with only a few offices occupied within the existing terminal building. Under the proposed Transit Tower project, the usable space within the building would encompass approximately 1,880,000 square feet and the tower would be constructed on a footprint of about 29,000 square feet, with approximately 170-foot frontages along each side. The new tower would include three floors of below-grade parking with approximately 400 to 600 parking spaces (combined), retail space within the first four floors, and office space spanning the remainder of the 80-story tower (see Figures 2 and 3). The Transit Tower would be projected to accommodate approximately 5,000 to 6,000 employees.

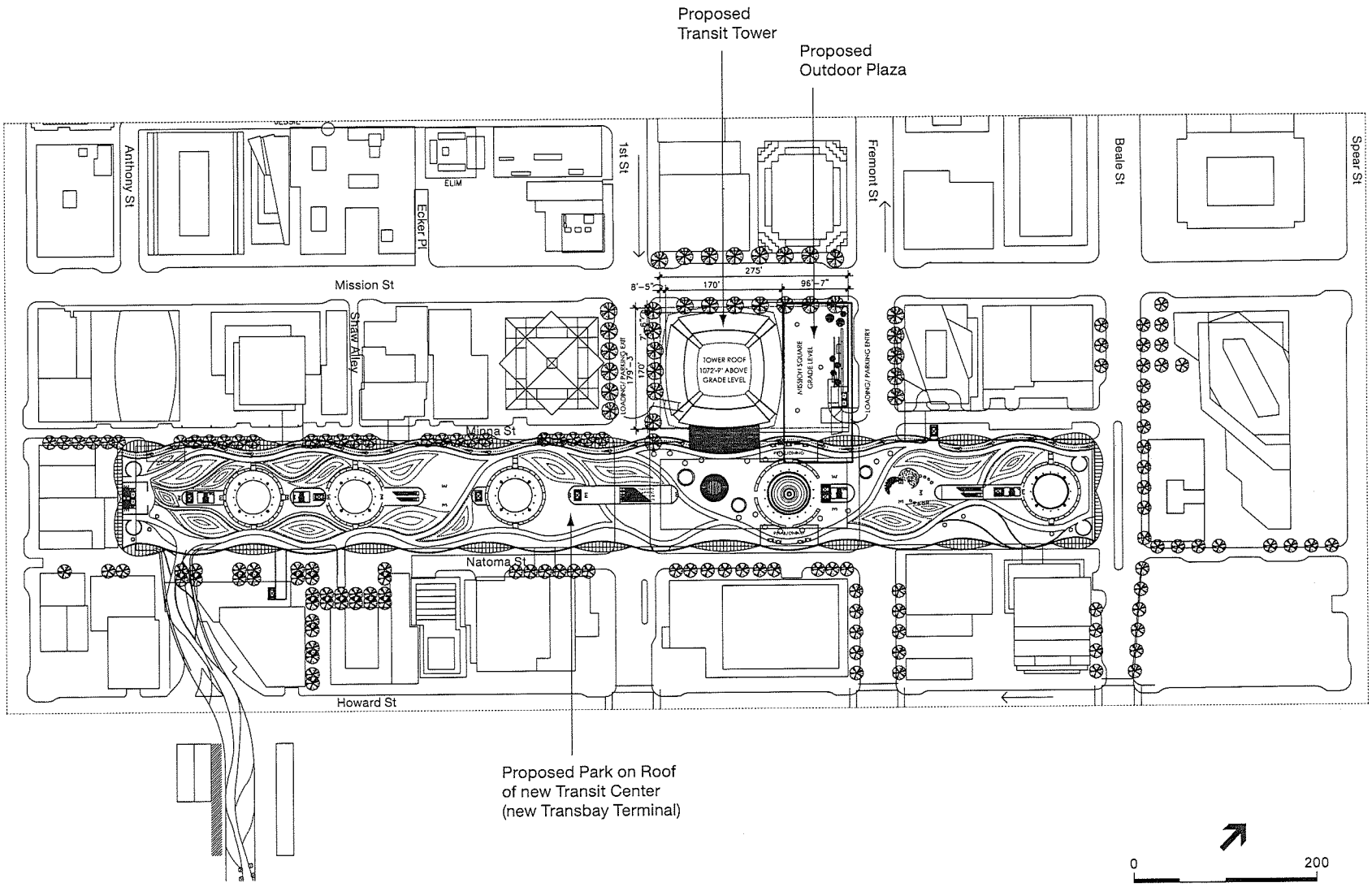
Historic Resources

The New Montgomery-Second Street Conservation District and the Second and Howard National Register District are located entirely within the Transit Center District Plan Area. The Planning Department is in the process of completing historic surveys within and surrounding the Plan Area in order to identify additional historic resources for potential preservation and rehabilitation in the future. Based on the preliminary findings of these surveys, an expansion of the existing local conservation district would likely be proposed as part of or in conjunction with the Transit Center District Plan. The proposed expansion would encompass areas along Howard Street, between First and Second Streets, and areas along Mission Street, between New Montgomery and Third Streets. The San Francisco Planning Department also could seek expansion of the existing Second and Howard National Register District through the State Office of Historic Preservation.

The *Planning Code* Article 11 ratings for individual buildings in the potentially expanded conservation district would be revised and updated, and newly-rated buildings would become eligible to sell TDR to development sites in the downtown. A small number of individual buildings outside of the current and proposed expanded Conservation District may be proposed for Article 10 or Article 11 rated status. These buildings are still being assessed through the Historic Resources survey process.

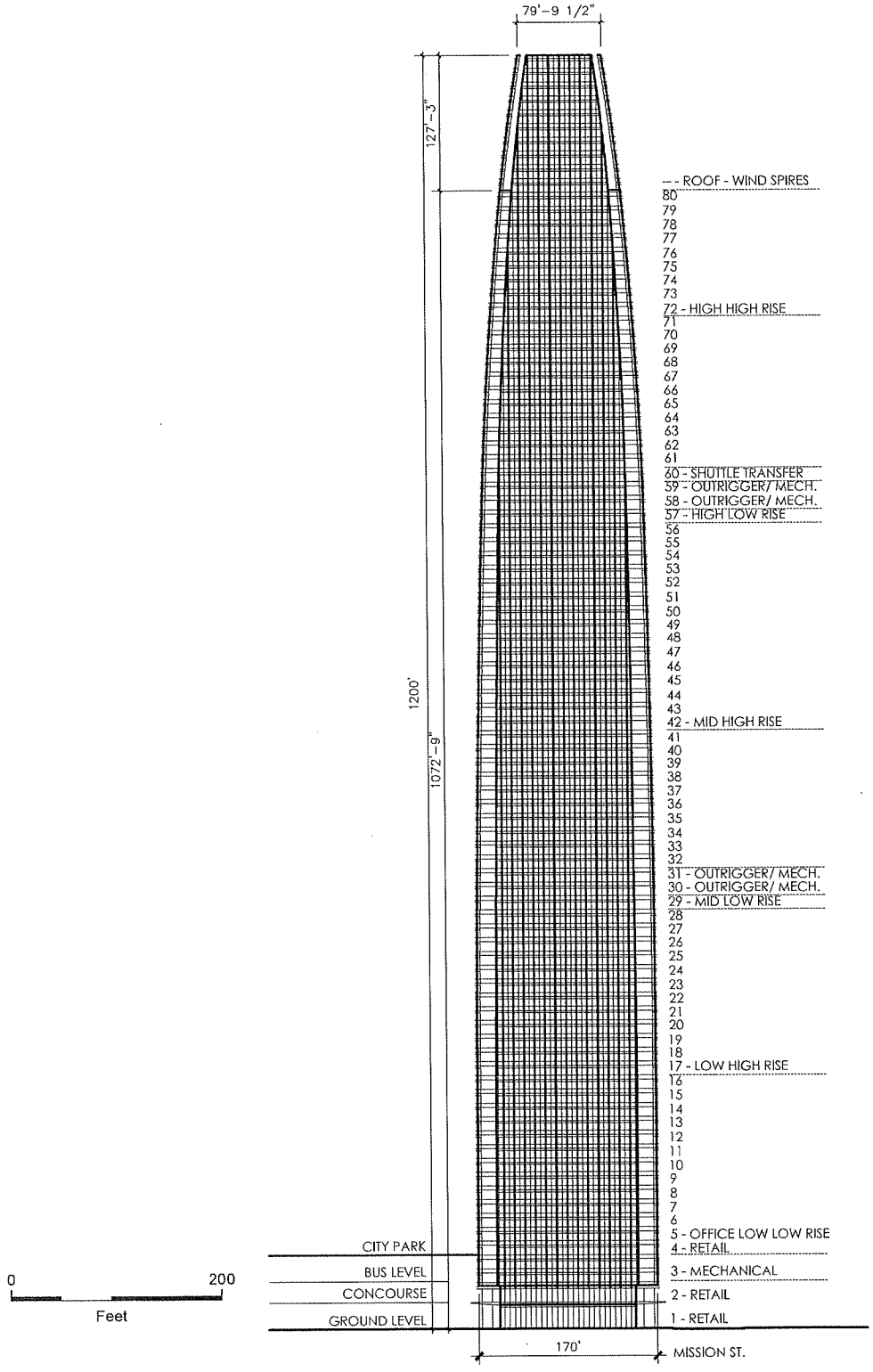
Streets and Circulation

The Proposed Project would reconfigure many of the existing right-of-ways throughout the Plan Area in an effort to meet the changing transportation and public space needs within the area, particularly to accommodate anticipated increases in pedestrian volume that would result from the intensification of the land uses and the completion of the Transbay Transit Center Program.



SOURCE: Pelli Clarke Pelli Architects, 2008

Figure 2
Transit Tower Site Plan



SOURCE: Pelli Clarke Pelli Architects, 2008

Case No. 2007.0558E: Transit Center Plan . 207439

Figure 3

Transit Tower Elevation View

Such modifications could include the widening of sidewalks, the removal or reconfiguration of parking and/or loading areas, the closure of one or more streets and alleys to general automobile traffic, installation of traffic-calming mechanisms, removal, addition or reconfiguration of auto travel lanes, conversion of one or more streets into a one-way or two-way operation, and dedication of transit-only lanes and delineation of pedestrian areas. Specific street and circulation improvements are currently being developed in collaboration with the San Francisco Municipal Transportation Agency and other agencies.

Open Space

In addition, as part of the Transit Center project being analyzed and implemented by the TJPA, a 5.4-acre "City Park" would be constructed atop the new Transit Center, and would contain various ecological settings representative of Northern California, different types of public spaces, walking paths, and areas for art exhibitions. In addition to the park atop the new Transit Center, discussed above, the Plan proposes to create a new public space at the northeast corner of Howard and Second Streets (Block 3721/ Lots 022, 023, 025, 092-106, 109-118), that would include a vertical circulation feature connecting to the rooftop park on the Transit Center and the connecting elevated bus ramps. This public space would be located on the combined parcels now occupied by the buildings identified for demolition as part of cut-and-cover construction for the Caltrain Downtown Extension (DTX), analyzed in the EIS/EIR for that project. The public space could be an open plaza, an indoor space, or a combination of indoor and outdoor space.

PROJECT OBJECTIVES:

The objectives for the Transit Center District Plan include the following:

(1) Create appropriate transit-oriented land use and density of development to provide supporting ridership for existing and planned mass transit infrastructure, including the Transit Center Program.

(2) Increase capacity for job growth in the existing downtown core to reflect local and regional smart growth and environmental sustainability strategies (e.g., location of growth in major urbanized centers proximate to major transit infrastructure).

(3) Create additional funding for the Transit Center Program and other necessary public improvements and infrastructure in the area, including streets and open space improvements.

(4) Modify building height and other form controls to create an elegant downtown skyline, building on existing policy to craft a distinct downtown "hill" form, with its apex at the Transit Center, tapering in all directions; provide distinct transitions to adjacent neighborhoods, topographic, and man made features of the cityscape.

(5) Enact urban design controls to ensure that the ground-level interface of buildings are active and engaging for pedestrians, in addition to providing adequate supporting retail and public services for the district.

(6) Ensure that changes to building heights and the skyline enhance, and do not detract from, important public viewpoints throughout the City and region, enhancing the perception of the City's and region's unique setting, features and quality of place, including views of key features, such as the Bay, bridges, hills, and neighborhoods, amongst others.

(7) Ensure that revisions to building heights meet the intent and requirements of Proposition K [Section 295 of the *Planning Code*] to minimize reduction of sunlight access on key downtown open spaces; balance shadow-related considerations with other major goals and objectives of the Plan.

(8) Protect important historical resources in the area, including both districts and individual structures.

(9) Modify the streets in the district to accommodate projected high pedestrian volumes, provide an enjoyable pedestrian experience, and enhance the level of landscaping, pedestrian amenity and consistency in streetscape treatments.

(10) Facilitate and improve surface transit movement to the Transit Center and through the district.

(11) Facilitate and improve facilities, circulation and safety for non-single-occupant-auto modes of transportation in the area.

(12) Enhance the open space network in the area to serve increasing numbers of workers, residents, and visitors, including provision of additional ground-level public open spaces.

(13) Create access points and maximize the visibility of the future rooftop park on the Transit Center from the surrounding neighborhoods, especially neighborhoods to the south.

(14) Adopt standards and guidelines for buildings and public improvements to ensure the highest-achievable levels of ecological performance and resource efficiency for individual projects and for the Plan Area as a whole.

POTENTIAL ENVIRONMENTAL ISSUES

The Proposed Project could result in potentially significant environmental effects. As required by CEQA, the EIR will examine those effects, identify mitigation measures, and analyze whether proposed mitigation measures would reduce the environmental effects to a less than significant level. As noted in the Overview, the EIR will analyze a Proposed Project based on the proposed new planning policies and controls for land use, urban form, building design, and street network/public realm improvements and including the Transit Tower, and will also analyze the Developer-Proposed Scenario, the No Project Alternative, and one or more reduced-project alternatives.

The following environmental issues are likely to be addressed in the EIR:

Land Use

By amending the existing land use and zoning controls, the proposed Transit Center District Plan would encourage increased density within the Plan Area and emphasize opportunities for office development. The EIR will analyze whether these changes could result in potential conflicts between uses and whether the existing neighborhoods surrounding the Transbay Terminal could be adversely affected. As part of the land use impact analysis, the EIR will describe and map the existing land uses within the Plan Area, as well as the proposed land use and zoning changes, which will be based on proposed controls and the Department's growth forecasts. The EIR will also consider any land use impacts associated with the development of the Transit Tower and the

associated change in use of its site. Any existing or potential land use conflicts will be described and analyzed.

The EIR will compare existing land uses to potential land use changes under proposed rezoning and describe the nature and magnitude of the change (types of uses, amounts of space lost and gained). Potential conflicts in land uses, should they arise, would be discussed in the context of the physical effect, and, thus, would be discussed under applicable topics such as noise and air quality.

The EIR will discuss consistency with the City's adopted *General Plan* and its relevant elements (notably the Housing and Urban Design Elements), including the *Downtown Plan,* Urban Design Element, Transportation Element, and *Rincon Hill Area Plan.* Other applicable planning documents and efforts will be discussed for context, including, among others, the *Transbay Redevelopment Plan, Bicycle Plan, and Climate Action Plan.* The EIR will also discuss the relationship between the proposed project and the San Francisco *Planning Code,* including specific sections relevant to downtown, such as Sections 124 (Floor Area Ratio), 128 (Transferrable Development Rights), 270 (Bulk), 309 (C-3 permit review), 321 (office limit), 148 (wind), and 295 (shadow).

Visual Quality

The potential addition of a handful of very tall towers, along with the ongoing and already approved increases in high-rise development in the eastern South of Market area, could engender the most dramatic change in San Francisco's skyline since the building boom of the late 1960s and early 1970s. The EIR will describe the existing urban design features for the environmental setting, including visual character, views and viewsheds, urban form, orientation, and shading of parks and streets. Assessment of height and urban design effects will be conducted by considering the Transit Tower within the visual setting of downtown and by translating land use changes, as well as modifications in building height and bulk, into physical changes that would be predicted to occur under the proposed rezoning.

In addition, visual simulations from at least ten publicly accessible viewpoints located throughout San Francisco will be presented for the existing setting, the proposed project, the Developer-Proposed Scenario, and the No-Project Alternative. The analysis of potential effects on existing visual character will focus on visual contrast and compatibility, including consistency with urban design objectives for the overall City form and skyline, and changes to visibility and relationship of major aspects of the City's and region's defining physical features, such as the Bay, bridges, hills, open spaces, and neighborhoods. Impacts will be described in terms of the type and magnitude of change in the visual components identified in the setting. Potential project effects on views and view corridors will be described. Potential effects on visual quality under the Developer-Proposed Scenario will also be described.

Population, Housing, and Employment

The EIR will adapt and summarize the results of the study titled *Downtown San Francisco: Market Demand, Growth Projections and Capacity Analysis,* completed by Seifel Consulting[5] in May 2008. In addition, it will describe existing and expected future conditions for housing supply, population,

5 Available for review by appointment at the San Francisco Planning Department, 1650 Mission Street, Suite 400, in Project File Case No. 2007.0558E, or on the internet at http://www.sfgov.org/site/uploadedfiles/planning/City_Design_Group/R_TransitCenter_051308_Final.pdf.

housing market conditions, business activity, and employment in the Plan Area, selected nearby neighborhoods and districts, the rest of the City, and the rest of the region, as relevant. The impact analysis will consider how the proposed project, specifically including the Transit Tower and generally comprising new development in the Plan Area, would influence population and employment growth patterns in the City and the region—evaluating the potential for net additions to growth as well as geographic shifts of growth that might otherwise occur in other locations.

The EIR will evaluate potential for displacement of housing, population, business activity and jobs—from both the Plan Area and, indirectly, from nearby areas, as appropriate. Finally, the analysis will evaluate the proposed Plan's implications for San Francisco's housing market and on housing affordability. This will include assessment of the Plan Area jobs/housing relationship in the context of jobs and housing in the rest of the City and the region.

Archaeological and Historical Resources

The analysis of potential archaeological impacts will include an areawide summary of the findings of existing archaeological research. This analysis may include a map of archaeological mitigation zones or specific areas of heightened concern for potential resources, for which project-specific mitigation will be required for subsequent development projects. The EIR will also describe specific conditions and any necessary mitigation measures for archaeological resources on the Transit Tower site.

The EIR will describe previously listed historical resources and those newly identified in the survey effort currently underway, and will identify potential impacts on historic resources that could be considered "at risk," based on anticipated development patterns resulting from land use changes and areas of potentially increased development density. Provisions for taking into consideration potential impacts on properties that are not currently identified as having historic significance will be described, including the City's ongoing procedures for review of future development proposals.

Transportation

The EIR will summarize the Transportation Study that will be prepared for the proposed project and will include an analysis of specific transportation impacts and mitigation measures associated with the Transit Tower and program-level impacts and mitigation measures associated with the Plan. Future traffic volumes will be developed from output of the San Francisco County Transportation Authority's travel demand model (herein referred to as the "SFCTA Model"), as the 2030 Base scenario. The travel demand associated with the alternatives studied will be obtained from the SFCTA Model based upon the anticipated future land uses that will be developed as a result of the land use controls under those options.

Transit conditions will be assessed, with future ridership also derived from the SFCTA Model. Pedestrian and bicycle conditions, freight loading, and parking conditions will be analyzed.

Noise

The EIR will evaluate the project design and land use mix for noise compatibility with existing and proposed land uses as well as with future traffic levels (including planned bus operations). Noise analysis will use available published information, such as the Department of Public Health's (DPH) recently prepared map of roadway noise levels, to evaluate compatibility of new

uses with traffic noise levels.[6] The EIR also will describe construction-period noise levels and identify sensitive receptors (residences) nearest to locations of anticipated major development and construction activities.

Air Quality

The air quality analysis will be prepared in accordance with the *BAAQMD CEQA Guidelines'* direction for plans, with the significance based upon Plan consistency with the most recent *Clean Air Plan* (currently the *Bay Area 2005 Ozone Strategy*), including the *Clean Air Plan*'s transportation control measures. The EIR also will analyze the air quality effects of the proposed Transit Tower on a project-specific level. The EIR will include a discussion of roadway-generated pollutant concentrations, notably $PM_{2.5}$ and diesel particulate emissions. The EIR also will quantify anticipated greenhouse gas emissions that could result from the Transit Tower and other development in the Plan Area, including analysis of the project's consistency with the California Global Warming Solutions Act of 2006 (AB 32). The EIR will also discuss issues associated with air quality for new development in close proximity to high-volume traffic corridors, consistent with DPH's *Assessment and Mitigation of Air Pollution Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review.*[7]

Wind Impacts

Tall structures (those over 100 feet in height) tend to redirect winds downward along the building facades and have the potential to result in adverse impacts on the pedestrian wind environment. Wind testing is currently under way to model existing wind conditions within the Plan Area as well as wind conditions that might result with the introduction of the Transit Tower and other very tall towers within the area. The EIR will summarize the results of the wind tests and will describe any mitigation measures intended to alleviate potentially adverse wind conditions in areas where wind speeds might exceed the established wind hazard criterion. The methodology used for conducting the wind testing is one that has been used for prior projects in downtown San Francisco. Wind testing will also be conducted for the Developer-Proposed Scenario and the No Project Alternative, and will be likewise summarized in the EIR.

Shadow Impacts

At least six major parks regulated under Section 295 of the *Planning Code* could be affected by the Transit Center District Plan: Union Square, Justin Herman Plaza, Portsmouth Square, St. Mary's Square, Maritime Plaza, and Ferry Park. Additional smaller parks also may be affected by the proposed project. It is likely that the Transit Tower would shade one or more protected open spaces, and at least some of the proposed and contemplated building heights for other parcels in the Plan Area could result in additional shadow. In accordance with Section 295 of the *Planning Code*, the EIR will prepare graphical depictions of net new shadow from the Proposed Project, the Developer-Proposed Scenario, and the No-Project Alternative. The EIR will also quantify Transit Tower-related and cumulative shadow impacts in terms of the durations and amounts of open space surface areas that may be shaded with the implementation of the proposed land use controls and building height modifications. Mitigation measures for shadow impacts will be identified as appropriate.

6 The Department of Public Health noise map is available online at http://www.sfdph.org/dph/files/EHSdocs/ehsPublsdocs/Noise/noisemap2.pdf.

7 This document can be viewed online at http://www.sfgov.org/site/frame.asp?u=http://www.dph.sf.ca.us/ (accessed June 23, 2008).

Recreation & Public Space; Utilities & Service Systems; Public Services

The EIR will analyze whether the San Francisco Public Utilities Commission has adequate water and sewer infrastructure in the area to provide both potable water and sewage treatment services with the implementation of the proposed project. The EIR also will assess the adequacy of parks and open space facilities and programs, schools, and the Fire and Police Departments, to determine whether the increased development in the Plan Area, including taller high-rise buildings than now exist in the City, would raise specific issues regarding current equipment, preparedness, or practices regarding public safety or fire protection, or would result in increased school enrollment or park and recreation facility use to a level that would result in significant environmental impacts.

Geology, Soils, and Seismicity

This section will summarize the geotechnical analysis for the Plan Area that is currently being prepared. The EIR will disclose the geotechnical feasibility of development pursuant to the Transit Center District Plan, including the proposal for several very tall towers, and will specifically identify geotechnical considerations for the Transit Tower.

Hydrology and Water Quality

This EIR section will assess potential construction-related impacts to water quality and will qualitatively analyze potential changes in municipal sewage and stormwater runoff associated with project implementation. This section will describe the City's combined sewer-storm drain system, discuss the regulatory framework for control of water quality, qualitatively assess changes in the volume of discharges to the combined sewer system, if any, as a result of the Transit Tower and other development anticipated in the Plan Area (along with any substantial cumulative increases from other development), and discuss the effects of any project-generated discharges to the SFPUC's Sewer System Master Plan currently being developed.

Hazards and Hazardous Materials

This section will be based on an area-wide Phase I environmental site assessment and environmental database review, will describe the legal requirements and required processes for remediation of contaminated sites, and will discuss the types of contaminants that are expected to be encountered on the Transit Tower site and within the Plan Area, based on historic land uses and subsurface conditions.

Energy

The EIR will evaluate energy use associated with the proposed project and also will consider potential energy savings of development at the Transit Tower site or on other locations in the Plan Area, compared to a comparable degree of development elsewhere, due to accessibility of jobs to housing, the relatively high density of development, and the numerous transit options in the Plan Area. This analysis will also identify potential energy savings, compared to development under the *Building Code* and Green Building Ordinance, for higher levels of LEED certification in buildings, if such structures are proposed by the TJPA and/or private developers.

Other Issues

The EIR will briefly discuss potential effects related to biological resources, mineral resources, and agricultural resources.

APPENDIX B
Plan Objectives and Policies

1. Land Use

Objective 1.1: Maintain downtown San Francisco as the region's premier location for transit-oriented job growth within the Bay Area.

Objective 1.2: Reinforce the role of downtown within the city as its major job center by protecting and enhancing the central District's remaining capacity, principally for employment growth.

Objective 1.3: Continue to foster a mix of land uses to reinforce the 24-hour character of the area.

Policy 1.1: Increase the overall capacity of the Transit Center District for additional growth.

Policy 1.2: Revise height and bulk limits in the Plan Area consistent with other Plan objectives and considerations.

Policy 1.3: Reserve the bulk of remaining space in the core Transit Center District for job growth, by limiting the amount of non-commercial uses on major opportunity sites.

Policy 1.4: Prevent long-term under-building in the area by requiring minimum building intensities for new development on major sites.

Policy 1.5: Consider the complexity and size of projects in establishing the duration for entitlements for large development projects.

Objective 1.4: Ensure the District maintains areas that contain concentrations of ground-level public-serving retail and convenience uses for workers and visitors.

Objective 1.5 :Activate alleys and mid-block pedestrian walkways with active uses in adjacent buildings to make these spaces attractive and enjoyable.

Policy 1.6: Designate certain select street frontages as active retail areas and limit non-retail commercial uses, such as office lobbies, real estate offices, brokerages, and medical offices, from dominating the street level spaces.

2. Urban Form

Objective 2.1 :Maximize building envelope and density in the Plan Area within the bounds of urban form and livability objectives of the San Francisco General Plan.

Objective 2.2: Create an elegant downtown skyline, building on existing policy to craft a distinct downtown "hill" form, with its apex at the transit center, and tapering in all directions.

Objective 2.3: Form the downtown skyline to emphasize the Transit Center as the center of downtown, reinforcing the primacy of public transit in organizing the city's development pattern, and recognizing the location 's importance in local and regional accessibility, activity, and density.

Objective 2.4: Provide distinct transitions to adjacent neighborhoods and to topographic and man-made features of the cityscape to ensure the skyline enhances, and does not detract from, important public views throughout the city and region.

Objective 2.5: Balance consideration of shadow impacts on key public open spaces with other major goals and objectives of the Plan, and if possible, avoid shading key public spaces during prime usage times.

Policy 2.1: Establish the Transit Tower as the "crown" of the downtown core—its tallest and most prominent building—at an enclosed height of 1,000 feet.

Policy 2.2: Create a light, transparent sculptural element to terminate the Transit Tower to enhance skyline expression without casting significant shadows. This vertical element may extend above the 1,000 foot height limit.

Policy 2.3: Create a balanced skyline by permitting a limited number of tall buildings to rise above the dense cluster that forms the downtown core, stepping down from the Transit Tower in significant height increments.

Policy 2.4: Transition heights downward from Mission Street to Folsom Street and maintain a lower "saddle" to clearly distinguish the downtown form from the Rincon Hill form and to maintain views between the city's central hills and the Bay Bridge.

Policy 2.5: Transition heights down to adjacent areas, with particular attention on the transitions to the southwest and west in the lower scale South of Market areas and to the waterfront to the east.

Policy 2.6: Establish a minimum height requirement for the Transit Tower site, as well as other adjacent sites zoned for a height limit of 750 feet or greater.

Policy 2.7: Establish controls for building elements extending above maximum height limits to incorporate design considerations and reduce shadow impacts.

Objective 2.6: Provide flexibility and sufficient allowance for the structural core of tall buildings (taller than 600 feet), while ensuring that the buildings maintain elegant and slender proportions and profile.

Objective 2.7: Ensure articulation and reduction to the mass of the upper portions and tops of towers in order to create visual interest in the skyline and help maintain views.

Objective 2.8: Maintain separation between tall buildings to permit air and light to reach the street, as well as to help reduce 'urban canyon' effects.

Policy 2.8: Do not limit the floorplate or dimensions of the lower tower for buildings taller than 550 feet.

Policy 2.9: Require a minimum 25 percent reduction in the average floorplate and average diagonal dimension for the upper tower as related to the lower tower.

Policy 2.10: Maintain current tower separation rules for buildings up to 550 feet in height, extend these requirements for buildings taller than 550 feet, and define limited exceptions to these requirements to account for unique circumstances, including adjacency to the Transit Center and historic structures. Proposed changes include:

Objective 2.9: Provide building articulation above a building base to maintain or create a distinctive streetwall compatible with the street's width and character.

Objective 2.10: Maintain appropriate character-defining building scale in the historic District.

Policy 2.11: Ensure that buildings taller than 150 feet in height establish a distinct base element to define the street realm at a comfortable height of not more than 1.25 times the width of the street.

Policy 2.12: Where construction of the downtown rail extension must unavoidably demolish buildings, reduce impacts on the District's character by facilitating appropriate re-use of these parcels.

Objective 2.11: Pursue building setbacks to augment a sidewalk widening program on street frontages where significant contiguous stretches of parcels are likely to be redeveloped.

Policy 2.13: As appropriate on a case-by-case basis, require new buildings located at major street corners (outside of the Conservation District) in the Plan Area to modestly chamfer the corner of the building at the ground level (if the building is otherwise built out to the property line) in order to provide additional pedestrian space at busy corners.

Policy 2.14: Require building setbacks for new buildings to expand the roadway where necessary to accommodate needed transit, bicycle and pedestrian facilities.

Objective 2.12: Ensure that development is pedestrian-oriented, fostering a vital and active street life.

Objective 2.13: Enact urban design controls to ensure that the ground-level interface of buildings is active and engaging for pedestrians, in addition to providing adequate supporting retail and public services for the District.

Objective 2.14: Encourage tall and spacious ground floor spaces.

Objective 2.15: Encourage articulation of the building façade to help define the pedestrian realm.

Objective 2.16: Minimize and prohibit blank walls and access to off-street parking and loading at the ground floor on primary streets to help preserve a safe and active pedestrian environment.

Policy 2.15: Establish a pedestrian zone below a building height of 20 to 25 feet through the use of façade treatments, such as building projections, changes in materials, setbacks, or other such architectural articulation.

Policy 2.16: Require major entrances, corners of buildings, and street corners to be clearly articulated within the building's streetwall.

Policy 2.17: Allow overhead horizontal projections of a decorative character to be deeper than one foot at all levels of a building on major streets.

Policy 2.18: Limit the street frontage of lobbies and require the remaining frontage to be occupied with public-oriented uses, including commercial uses and public open space.

Policy 2.19: Discourage the use of arcades along street frontages, particularly in lieu of setting buildings back.

Policy 2.20: Require transparency of ground-level facades (containing non-residential uses) that face public spaces.

Policy 2.21 :Limit the width of the individual commercial frontages on 2nd Street to maintain a dense diversity of active uses.

Policy 2.22: Prohibit access to off-street parking and loading on key street frontages. Whenever possible, all loading areas should be accessed from alleys.

Objective 2.17: Promote a high level of quality of design and execution, and enhance the design and material quality of the neighboring architecture.

Policy 2.23: Assure that new buildings contribute to the visual unity of the city.

Policy 2.24: Maximize daylight on streets and open spaces and reduce heat-island effect, by using materials with high light reflectance, without producing glare.

Policy 2.25: Encourage the use of green, or "living," walls as part of a building design in order to reduce solar heat gain as well as to add interest and lushness to the pedestrian realm.

3. Public Realm

Objective 3.1: Make walking a safe, pleasant, and convenient means of moving about throughout the District.

Objective 3.2: Create a high-quality pedestrian environment in the District consistent with the vision for the central District of a world-class city.

Objective 3.3 Graciously accommodate increases in pedestrian volumes in the District.

Objective 3.4: Emphasize the importance of streets and sidewalks as the largest component of public open space in the Transit Center District.

Policy 3.1: Create and implement a District streetscape plan to ensure consistent corridor-length streetscape treatments.

Policy 3.2: Widen sidewalks to improve the pedestrian environment by providing space for necessary infrastructure, amenities and streetscape improvements.

Policy 3.3: Facilitate pedestrian circulation by providing sidewalk widths that meet the needs of projected pedestrian volumes and provide a comfortable and safe walking environment.

Policy 3.4: Amend the Downtown Streetscape Plan to reflect sidewalk width and streetscape changes proposed in the Transit Center District Plan.

Policy 3.5: Continue the Living Streets treatment to create linear plazas along Beale, Main, and Spear streets.

Policy 3.6: Create additional pedestrian capacity and shorten pedestrian crossing distances by narrowing roadways and creating corner curb bulb-outs.

Policy 3.7: Enhance pedestrian crossings with special treatments (e.g. paving, lighting, raised crossings) to enhance pedestrian safety and comfort, especially where bulb-outs cannot be installed.

Policy 3.8: Develop "quality of place" and "quality of service" indicators and benchmarks for the pedestrian realm in the District, and measure progress in achieving benchmarks on a regular basis.

Objective 3.5: Restrict curb cuts on key streets to increase pedestrian comfort and safety, to provide a continuous building edge of ground floor uses, to provide a continuous sidewalk for streetscape improvements and amenities, and to eliminate conflicts with transit.

Policy 3.9: Designate Plan Area streets where no curb cuts are allowed or are discouraged. Where curb cuts are necessary, they should be limited in number and designed to avoid maneuvering on sidewalks or in street traffic. When crossing sidewalks, driveways should be only as wide as necessary to accomplish this function.

Objective 3.6: Enhance the pedestrian network with new linkages to provide direct and varied pathways , to shorten walking distances, and to relieve congestion at major street corners,

Objective 3.7: Encourage pedestrians arriving at or leaving the Transit Center to use all entrances along the full length of the Transit Center by maximizing access via mid-block passageways and crosswalks.

Objective 3.8: Ensure that new development enhances the pedestrian network and reduces the scale of long blocks by maintaining and improving public access along existing alleys and creating new through-block pedestrian connections where none exist.

Objective 3.9: Ensure that mid-block crosswalks and through-block passageways are convenient, safe, and inviting.

Policy 3.10: Create convenient pedestrian access by providing signalized mid-block crosswalks, especially on blocks longer than 300 feet.

Policy 3.11: Prohibit the elimination of existing alleys within the District. Consider the benefits of shifting or re-configuring alley alignments if the proposal provides an equivalent or greater degree of public circulation.

Policy 3.12: Design new and improved through-block pedestrian passages to make them attractive and functional parts of the public pedestrian network.

Policy 3.13: Require a new public mid-block pedestrian pathway on Block 3721, connecting Howard and Natoma streets between First and Second streets.

Policy 3.14: Close Shaw Alley permanently to vehicles and design it as a pedestrian-only open space for thru-connection to the Transit Center.

Policy 3.15: Convert the western portion of Natoma Street between First and Second streets on the south side of the Transit Center to a primarily pedestrian-only street.

Objective 3.10: Enhance the open space network in the area to serve increasing numbers of workers, residents, and visitors.

Policy 3.16: Create a new public plaza at the northeast corner of Second and Howard streets.

Objective 3.11: Enhance access and maximize the visibility of the Transit Center's future rooftop park from the surrounding neighborhoods, especially neighborhoods to the south.

Policy 3.17: Ensure that highly visible, welcoming, and grand means of public access to the Transit Center Park are provided directly from key public spaces and buildings adjacent to the Transit Center.

Policy 3.18: Encourage the rooftop Transit Center Park to remain open from sunrise to sunset, seven days a week.

Policy 3.19:Permit buildings to satisfy open space requirements through direct connections to the Transit Center Park.

Policy 3.20: Consider extending the Transit Center rooftop park along the new bus ramp, so that it connects to a future Bay Bridge multi-use pathway.

Objective 3.12: Ensure that private open space both enhances the public open space network and achieves the Plan's open space goals.

Objective 3.13: Provide flexibility and alternatives to meeting open space requirements that achieve the District's open space vision , and that enhance and improve access to planned public space, particularly the Transit Center Park.

Policy 3.21: Permit payment of an in-lieu fee as an alternative to fulfilling Section 138 Open Space Requirements in C-3 Districts.

Policy 3.22: Permit and encourage buildings to satisfy open space requirements through direct connections across Minna and Natoma Streets to the Transit Center Park.

Objective 3.14: Ensure that indoor open space functions as public space independent of the building's primary uses.

Policy 3.23: Design interior open spaces to have a distinct street presence separate from the building's primary building entrance and lobby functions.

Objective 3.15: Encourage provision of publicly accessible amenities in the District's tallest towers.

Policy 3.24: The tallest buildings in the District should have a facility of public accommodation at a level no lower than 650 feet above grade that provides the general public the opportunity for views of the cityscape and Bay.

4. Moving About

Objective 4.1: The District's transportation system will prioritize and incentivize the use of transit. Public transportation will be the main, non-pedestrian mode for moving into and between destinations in the Transit Center District.

Objective 4.2: The District's transportation system will implement and require transportation demand management strategies to minimize growth in auto trips and reduce volumes as necessary. Actively manage the transportation system to optimize person-carrying capacity.

Objective 4.3: The District's transportation system will meet changing transit needs, particularly to support the new Transbay Transit Center and accommodate increased densities. Make changes in the circulation network that ensure delivery of reliable and convenient transit service to the Transbay Transit Center and for District residents, employees, and visitors.

Objective 4.4: The District's transportation system will prioritize pedestrian amenity and safety. Invest in circulation modifications and urban design measures that support the creation of an attractive and memorable public realm.

Objective 4.5: The District's transportation system will build on successful traffic and parking management programs and policies that are in place. Expand and strengthen existing adopted policies (e.g. Downtown Plan, C-3 parking controls) and current planning initiatives (e.g. Transit Effectiveness Project, SFPark).

Objective 4.6: The District's transportation system will require management of Bay Bridge queues to reduce and mitigate impacts of regional traffic on transit circulation and the public realm in the District.

Objective 4.7: The District's transportation system will further sustainability goals. Advance the goals of the city's Climate Action Plan, by reducing greenhouse gas emissions generated by vehicular transportation.

Objective 4.8: Design the circulation system and transit facilities to accommodate anticipated growth in travel to and through the District in 2030 and beyond.

Objective 4.9: Prioritize transit movements through and within the District over all other transportation modes .

Objective 4.10: Design transit facilities to improve the reliability and function of transit movements and to enhance the rider experience.

Objective 4.11: Ensure that changes to the circulation network, including pedestrian and streetscape improvements, are designed to support and enhance the operation of transit.

Policy 4.1: Extend self-enforcing, dedicated transit lanes throughout the District.

Policy 4.2: Design all transit lanes to be self-enforcing and to heighten awareness of transit facilities.

Policy 4.3: Evaluate the concept for a transit-only zone on Mission between First and Fremont streets.

Objective 4.12: Provide high-quality facilities and experience for transit passengers.

Policy 4.4: Provide sidewalk space and facilities for enhanced transit stops with passenger amenities on Mission Street and other primary transit streets.

Objective 4.13: Support enhanced funding and capacity for regional transit service to support increases in population and employment growth as well as shifts from auto to public transit travel.

Policy 4.5: Support funding and construction of the Transbay Transit Center project to further goals of the District Plan, including completion of the Downtown Extension for Caltrain and High Speed Rail.

Policy 4.6: Ensure that regional transit carriers operating on city streets are prioritized along with local transit by implementing the surface transit priority improvements proposed in this plan.

Policy 4.7: Work with BART to identify and fund measures to increase capacity as necessary to serve the District, particularly at the Montgomery and Embarcadero stations.

Objective 4.14: Support enhanced funding and capacity for local transit service to support increases in population and employment growth as well as shifts from auto to public transit travel .

Policy 4.8: Support revenue measures and investments essential to enhancing Muni's capacity, reliability and operational efficiency in providing service to and within the District.

Objective 4.15: Use demand management strategies to reduce overall levels of auto traffic in the Plan Area and downtown, particularly in the peak hours, in order to reduce auto impacts on other transportation modes and enable the creation of a high quality public realm.

Policy 4.9: Complete a detailed traffic analysis for the downtown and the District specifically to determine which TDM measures will be most effective and necessary to reduce traffic volumes and traffic impacts on the District.

Policy 4.10: Update the goals of the Downtown Plan and establish specific targets for cumulative traffic volumes and non-auto travel that are necessary to achieve the conditions that enable the flow of transit, the flow of local circulation, and the creation of the public realm infrastructure as proposed by the Plan.

Policy 4.11: Study the feasibility of and implement, as feasibility and necessity determines, congestion pricing of roadways as a primary tool to reduce overall traffic levels in the Plan Area, particularly peak-hour bridge and freeway queues.

Objective 4.16: Create a parking plan that encourages the use of public transit and other modes of transportation that are alternatives to single-occupant vehicles.

Objective 4.17: Create and ensure compliance with mechanisms that provide workers and residents with incentives to take transit and use modes of transportation other than single-occupant autos.

Policy 4.12: Ensure compliance with the Commuter Benefits Ordinance.

Policy 4.13: Pursue creation of requirements for transportation incentives and brokerage services for large residential properties in the District.

Objective 4.18: Encourage the use of non-auto modes of transportation by requiring participation in a transportation demand management program in new buildings throughout the District.

Objective 4.19: Ensure that brokerage and TDM requirements are appropriate for current and future travel patterns for the District and downtown, are designed for greatest effectiveness while maintaining flexibility, include all modes of transportation, and provide a toolkit of financial incentives to reduce auto trips.

Policy 4.14: Reduce the size threshold for new and renovated buildings to trigger the requirement for transportation demand management and participation in the Transportation Management Association (TMA).

Policy 4.15: Expand the TMA requirement to include non-office uses, including hotels, large retail, cultural, and institutional uses.

Policy 4.16: Require commercial property managers or owners to monitor and report yearly mode split or peak-hour vehicle trips of their employees and to increase or modify TDM programs if targets are not being met.

Policy 4.17: Fund a comprehensive study to develop recommendations on the structure, operations, and authority of the existing downtown Transportation Management Association (TMA), update the goals and tools available to the TMA, and evaluate whether a District-specific TMA is needed.

Policy 4.18: Expand the purview and funding of the existing downtown Transportation Management Association (TMA) or create a District-specific TMA.

Policy 4.19: Require that the downtown Transportation Management Association (TMA) duties, programs, and funding be reviewed and updated every 5 years and updated if necessary.

Policy 4.20: Develop a transportation monitoring and enforcement plan for the District based on adopted performance measures; to be implemented by the TMA with annual reports submitted to Planning and San Francisco Municipal Transportation Agency.

Objective 4.20: Make walking a safe, pleasant, and convenient means of moving to and throughout the District.

Objective 4.21: Create a high-quality pedestrian environment in the District consistent with the vision for the central district of a world-class central city.

Objective 4.22: Graciously accommodate increases in pedestrian volumes in the District.

Objective 4.23: Emphasize the importance of streets and sidewalks as the largest component of public open space in the Transit Center District.

Policy 4.21: Facilitate pedestrian circulation by providing sidewalk widths that meet the needs of projected pedestrian volumes and provide a comfortable and safe walking environment.

Policy 4.22: Create and implement a District streetscape plan to ensure consistent corridor-length streetscape treatments.

Policy 4.23: Widen sidewalks to improve the pedestrian environment by providing space for necessary infrastructure, amenities and streetscape improvements.

Policy 4.24: Facilitate pedestrian circulation by providing sidewalk widths that meet the needs of projected pedestrian volumes and provide a comfortable and safe walking environment.

Policy 4.25: Continue the Living Streets treatment to create linear plazas along Beale, Main, and Spear streets.

Policy 4.26: Create additional pedestrian capacity and shorten pedestrian crossing distances by narrowing roadways, and creating corner curb bulb-outs.

Policy 4.27: Enhance crosswalks with special treatments (e.g. paving, lighting, raised crossings) to enhance pedestrian safety and comfort especially at potential conflict locations, such as at new mid-block crosswalks or where bulb-outs cannot be installed.

Policy 4.28: Develop "quality of service" indicators and benchmarks for pedestrian travel to and through the District, and measure progress in achieving benchmarks on a regular basis.

Objective 4.24: Restrict curb cuts on key streets to increase pedestrian comfort and safety, to provide a continuous building edge of ground floor uses , to provide a continuous sidewalk for streetscape improvements and amenities , and to eliminate conflicts with transit.

Policy 4.29: Designate Plan Area streets where no curb cuts are allowed or are discouraged. Where curb cuts are necessary, they should be limited in number and designed to avoid maneuvering on sidewalks or in street traffic.

Objective 4.25: Enhance the pedestrian network with new linkages to provide direct and varied pathways, to shorten walking distances, and to relieve congestion at major street corners.

Objective 4.26: Encourage pedestrians arriving at or leaving the Transit Center to use all entrances along the full length of the Transit Center by maximizing access via mid-block passageways and crosswalks.

Objective 4.27: Ensure that new development enhances the pedestrian network and reduces the scale of long blocks by maintaining and improving public access along existing alleys and by creating new through-block pedestrian connections where none exist.

Objective 4.28: Ensure that mid-block crosswalks and through-block passageways are convenient, safe, and inviting.

Policy 4.30: Create convenient pedestrian access by providing signalized mid-block crosswalks, especially on blocks longer than 300 feet

Policy 4.31: Prohibit the elimination of existing alleys within the District. Consider the benefits of shifting or re-configuring alley alignments if the proposal provides an equivalent or greater degree of public circulation.

Policy 4.32: Design new and improved through-block pedestrian passages to make them attractive and functional parts of the public pedestrian network.

Policy 4.33: Require a new public mid-block pedestrian pathway on Block 3721, connecting Howard and Natoma Streets between First and Second streets.

Policy 4.34: Close Shaw Alley permanently to vehicles and design it as a pedestrian-only open space for thru-connection to the Transit Center.

Policy 4.35: Convert the western portion of Natoma Street between First and Second streets on the south side of the Transit Center to a primarily pedestrian-only street.

Objective 4.29: Make cycling a safe, pleasant, and convenient means of transportation throughout the District.

Objective 4.30: Ensure high-quality on-street bicycle connections to the Transbay Transit Center.

Objective 4.31: Enhance facilities for intra-District bicycle travel.

Objective 4.32: Ensure local connections to regional bicycle facilities.

Policy 4.36: Expand the Bike Network in the area.

Policy 4.37: Provide the necessary connections to the future bicycle ramp on Howard Street between First and Second streets, which will be the primary access point for bicycles to the Transit Center, including a bicycle station at the train concourse level.

Policy 4.38: Do not preclude future connections to a potential Bay Bridge multi-use pathway.

Objective 4.33: Ensure the provision of adequate secure, on- and off-street bicycle parking facilities to accommodate and encourage employees to cycle for commuting and daily needs.

Policy 4.39: Increase the requirement for secure bicycle parking in new and renovated non-residential buildings to a minimum of five percent of peak on-site employees and visitors.

Policy 4.40: Develop a plan to identify demand and locations for installation of on-street bicycle parking in the Plan Area to supplement current process of bicycle racks being installed at the request of building owners.

Policy 4.41: Pursue legislation to require existing commercial and industrial development to provide secure bicycle parking in conformance with current requirements or to allow employees to bring bicycles into the building if parking is not provided.

Policy 4.42: Support and implement a public bicycle sharing program in the District.

Policy 4.43: Update and publish an improved Bicycle Parking Design Guidelines document to establish appropriate parameters for off-street bicycle parking in new residential, commercial, and industrial development, consistent with the requirements in the Planning Code.

Objective 4.34: Facilitate traffic flow to and through the District at levels that are consistent with envisioned improvements for transit, pedestrians and bicycles.

Objective 4.35: Mitigate the impacts of regional auto traffic within the District.

Objective 4.36: Design streets to slow and calm traffic, to improve safety and attractiveness for all road users, commerce and for social interaction.

Objective 4.37: Facilitate improved circulation within the District for local destinations.

Policy 4.44: Do not compromise pedestrian, bicycle, or transit amenity or service within the District to accommodate or maintain levels of service for regional auto trips.

Policy 4.45: Pursue measures to actively manage traffic volumes and bridge and freeway vehicle queues in order to achieve appropriate levels of traffic necessary to allow for the creation of the public realm and circulation system envisioned and necessary for the District.

Policy 4.46: Prioritize vehicle trips that increase the efficiency and person-carrying capacity of the transportation system (e.g. carpools, taxis) and that are "high-value" (e.g. goods movement, emergency response).

Policy 4.47: Consider rerouting bridge and freeway vehicle queues onto other streets outside the core of the District, avoiding primary transit, bicycle, and pedestrian streets.

Policy 4.48: Consider converting some one-way streets to two-way in order to improve local circulation.

Policy 4.49: Support taxi use and circulation in the District but manage their circulation to prevent conflicts with other transportation modes, particularly transit and bicycles.

Objective 4.38: Create a parking supply and demand management plan that encourages the use of public transit and other non-single occupant vehicle modes of transportation.

Objective 4.39: Limit growth in auto trips to the District and congestion through strict limits on the supply of parking.

Objective 4.40: Establish a parking pricing structure as a primary strategy to manage parking demand and achieve goals for parking turnover and availability.

Objective 4.41: Implement parking management strategies and technologies that facilitate the dynamic management of parking supply and demand.

Objective 4.42: Minimize the impacts of parking facilities on transit, pedestrians, and building design by regulating the location and design of parking facilities , including entrance and egress locations.

Objective 4.43: Limit the continuance of surface parking lots and ensure that lots contribute to the public realm.

Policy 4.50: Establish an absolute maximum cap on number of parking spaces in the District and adjacent areas based on the established targets for traffic reduction and goals for transit usage.

Policy 4.51: Scrutinize and restrict new accessory and non-accessory parking in the Plan Area until a comprehensive cap on new parking is adopted.

Policy 4.52: Increase and expand active management of on- and off-street parking.

Policy 4.53: Prohibit parking and loading curb cuts on key transit and pedestrian streets, including Mission, Second, and Folsom streets.

Policy 4.54: Do not permit any new surface parking lots in the District, including as temporary uses.

Policy 4.55: Ensure that existing surface parking lots provide landscaping and other amenities to improve the public realm and mitigate their ecological impacts.

Policy 4.56: Require that temporary surface parking lots, as a condition of any re-authorization, include facilities for other non-private auto modes, including parking for car sharing vehicles and bicycles.

Policy 4.57: Develop an administrative enforcement mechanism and authority to levy administrative fines for the existing Planning Code requirement for short-term parking pricing and prohibitions on discount rates for long-term parking.

Policy 4.58: Consider making all non-residential parking, including accessory parking, subject to the City's Parking Tax, regardless of whether such parking is made available to the public for a fee.

Policy 4.59: Develop a local enforcement mechanism for the existing State of California "parking cash-out" law for parking accessory to commercial development.

Policy 4.60: Develop a local parking cash-out ordinance to apply to all parking accessory to commercial development.

Policy 4.61: Support the establishment of a multimodal transportation fee for new development based on the number of parking spaces and auto trips generated, and invest the revenue in projects and programs that reduce or mitigate vehicle trips.

Objective 4.44: Ensure continued access to freight and business delivery services in the District.

Objective 4.45: Minimize conflicts of loading activity with pedestrians, transit, bicycles , and automobile traffic through siting, design, and operational regulation of loading.

Objective 4.46: Improve enforcement of loading and truck restrictions.

Policy 4.62: Maintain off-street loading facility requirements for all major new development, but recognize that there are substantial efficiencies for large projects.

Policy 4.63: Require loading docks to be located only on alleys and on streets where curb cuts are not restricted.

Policy 4.64: Restrict commercial loading and deliveries to non-peak periods .

Policy 4.65: Where sidewalks are widened through the elimination of on-street parking, consider the creation of on-street loading "pull-outs" where sufficient sidewalk space exists without compromising pedestrian space and infrastructure.

Policy 4.66: Restrict the use of commercial freight/delivery vehicles over 30 feet long during peak-hour travel periods when street capacity is constrained.

Policy 4.67: Explore the feasibility of using the TMA to facilitate coordination of deliveries for member buildings.

Policy 4.68: Explore the feasibility of creating centralized distribution centers in or near the District for commercial deliveries, enabling the use of smaller and non-motorized vehicles for deliveries within the District.

Policy 4.69: Develop and adopt an enforcement mechanism to effectively impose loading and truck limitations.

Objective 4.47: Ensure that adequate space is provided for car sharing services throughout the District accessible to residents, employees, and visitors.

Policy 4.70: Pursue the dedication of on-street parking spaces for car sharing vehicles. Work with the MTA to identify appropriate locations for dedicated on-street parking spaces for car sharing vehicles.

Objective 4.48: Support the casual carpool system by enhancing existing facilities and amenities. If necessary, the carpool facilities should be reconfigured or relocated to equally convenient locations.

Policy 4.72: Create sufficient sidewalk waiting and passenger loading/unloading space at casual carpool locations in the Plan Area.

Policy 4.73: Add passenger amenities at evening waiting locations, including shelters, informational signage, and other supportive services.

Objective 4.49: Encourage the creation of new and extended alleys wherever feasible to enhance the pedestrian and bicycle network, provide off-street loading opportunities, and enhance access for service and emergency response vehicles.

Policy 4.74: Create new public alleys on long blocks, including at the following locations:

- Natoma Street (1 block between Beale and Main Streets)
- Tehama Street (1 block between Beale and Main Streets)
- Clementina Street (2 blocks between 1st and Beale Streets)
- Clementina Street (2 blocks between Beale and Spear Streets)

5. Historic Preservation

Objective 5.1: Protect, preserve, and reuse those historic resources that have been identified and evaluated within the Transit Center Plan Area.

Policy 5.1: Protect individually significant historic and cultural resources and historic districts in the Transit Center District Plan from demolition or adverse alteration.

Policy 5.2: Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties in conjunction with applicable Articles 10 and 11 of the Planning Code requirements to the Transit Center District Plan Area and objectives for all projects involving historic or cultural resources.

Policy 5.3: Pursue formal recognition and designation of the Transit Center historic and cultural resources, as appropriate.

Policy 5.4: Recognize and protect historic and cultural resources that are less than fifty years old that may display exceptional significance to the recent past.

Objective 5.2: Provide preservation incentives, guidance, and leadership within the Transit Center District Plan Area.

Policy 5.5: Develop incentives that promote the retention and rehabilitation of significant resources within the Transit Center District Plan Area.

Policy 5.6: Maintain the TDR program as a critical component of the historic preservation program in the downtown and the Plan Area, but modify the program in the Plan Area based on updated information about the TDR program and on other objectives of this Plan.

Policy 5.7: Balance the TDR requirement with other public benefits programs in the District by reducing the square footage requirement for the purchase of TDR by each individual development project.

Policy 5.8: Provide expansion of the supply of available TDR to meet expected demand or provide flexibility for development in satisfaction of the TDR requirement by providing an in-lieu mechanism that directly benefits the preservation, rehabilitation, maintenance and public education of historic resources in the downtown.

Objective 5.3: Foster public awareness and appreciation of historic and cultural resources within the Transit Center District Plan Area.

Policy 5.9: Foster education and appreciation of historic and cultural resources within the Transit Center District Plan Area among business leaders, neighborhood groups, and the general public through outreach efforts.

Objective 5.4: Promote well-designed, contemporary infill development within the historic core of the Transit Center District Plan Area.

Policy 5.10: Encourage well-designed, contemporary buildings for vacant sites, or to replace non-contributing buildings within the Conservation District that meet the Secretary of the Interior's Standards.

Policy 5.11: Provide technical assistance to government agencies and property owners for the development of buildings and amenities within the New Montgomery-Mission-Second Street Conservation District that strengthen its historic character and improve the public realm.

6. District Sustainability

Objective 6.1: Increase energy efficiency, reduce carbon intensiveness of energy production, and enhance energy reliability in the District.

Objective 6.2: Capitalize on the balanced, dense, mixed-use development in the Transit Center District and Transbay Redevelopment Areas to enact district-scale energy measures.

Objective 6.3: Streamline potential implementation of a district energy distribution network by phasing major streetscape and utility works in line with new building development in the Transit Center District and Transbay Redevelopment Area.

Policy 6.1: Pursue creation of efficient, shared district-scale energy, systems in the District.

Policy 6.2: Pursue a Combined Heat and Power (CHP) system or series of systems for the Transit Center District and the Transbay Redevelopment Area (Zone 1).

Policy 6.3: Require all new buildings to be designed to plug into such a system in the future.

Policy 6.4: Require all buildings undergoing major refurbishment (defined as requiring new HVAC plant) to be designed to plug into such a system in the future.

Policy 6.5: Identify and protect either suitable public sites or major development sites within the Plan Area for locating renewable or CHP generation facilities.

Policy 6.6: Require all major development to demonstrate that proposed heating and cooling systems have been designed in accordance with the following order of diminishing preference:

- Connection to sources of waste heat or underutilized boiler or CHP plant within the Transit Center District or adjacent areas
- Connection to existing district heating, cooling, and/or power plant or distribution networks with excess capacity
- Site-wide CHP powered by renewable energy
- Site-wide CHP powered by natural gas
- Building level communal heating and cooling powered by renewable energy
- Building level communal heating and cooling powered by natural gas

Policy 6.7: Investigate City support for Energy Service Companies to finance, build, operate, and maintain Transit Center District energy networks; and work with PG&E to facilitate connection of new electricity supply from CHP to the grid.

Policy 6.8: Require all major development in the Plan Area to produce a detailed Energy Strategy document outlining how the design minimizes its use of fossil fuel driven heating, cooling and power—through energy efficiency, efficient supply, and no or low carbon generation.

Objective 6.4: Ensure that new buildings constructed in the Plan Area will be of leading edge design in terms of sustainability, both high performance for their inhabitants and low impact for the environment.

Policy 6.9: Encourage buildings to take maximum advantage of San Francisco's moderate year-round climate by integrating passive solar features into building design.

Policy 6.10: Encourage the use of natural ventilation to reduce the need for mechanical air conditioning.

Policy 6.11: Use renewable energy systems to reduce the use of fossil fuel generated energy.

Policy 6.12: Consider requiring all major buildings in the Plan Area to achieve the minimum LEED levels established in the SF Green Building Ordinance excluding credits for the given inherent factors of location, density, and existing City parking controls, in order to achieve high-performance buildings.

Policy 6.13: All major buildings in the Plan Area should exceed the minimum credits required by the SF Green Building Ordinance under the Energy and Water categories of the LEED schemes.

Objective 6.5: Reduce the amount of potable water used in new development in the District.

Objective 6.6: Reduce stormwater runoff from the District into the sewer system to improve bay water quality and reduce strain on treatment plants during wet weather events.

Objective 6.7: Take advantage of significant concentrated development and infrastructure reconstruction in the District and adjacent areas to create district-scale water efficiency and reuse measures.

Policy 6.14:Create a reliable supply of non-potable water that can be used throughout the Plan Area to reduce potable water demand.

Policy 6.15: Pursue a variety of potential sources of non-potable water, including municipally-supplied recycled water and district-based graywater, black water, stormwater, and foundation drainage water.

Policy 6.16: Create infrastructure in the Transit Center District and immediately adjacent areas for non-potable water use, including treatment and distribution.

Policy 6.17: Include distribution pipes and other necessary infrastructure for non-potable water when undertaking any major streetscape or other infrastructure work in the right-of-ways in the Transit Center District and immediately vicinity.

Policy 6.18: Identify and protect suitable sites within the Plan Area or immediate vicinity for locating a treatment facility for creating a local non-potable supply.

Policy 6.19: All new and large redevelopment projects in the city should adhere to the following hierarchical approach to maximize resources and minimize use of potable water:

- Reduce demands by installing efficient water fixtures and behaviors;
- Identify all on-site sources (rainwater, cooling tower blow down, fog, graywater, black water, stormwater, and foundation drainage water);
- Install appropriate on-site collection, treatment, storage and conveyance systems for toilet flushing, irrigation and additional identified non-potable needs;
- Meet surplus non-potable demands using district non-potable water or municipal recycled water; and
- Meet all other unmet demands using potable water.

Policy 6.20: Ensure projects use Low Impact Design (L.I.D.) techniques in all streetscape, public space, and development projects to reduce the quantity of stormwater runoff and slow its flow into the sewer system, and to harvest this water for on-site uses.

7. Funding Public Improvements

Objective 1: Ensure that private development contributes financially to building essential public improvements in proportion to the impact that such new development generates in the District.

Objective 7.2: Generate private development funding to help complete the Transbay Transit Center project and to establish a sustainable resource program within the District.

Objective 7.3: Balance the cost to be paid by private projects for public improvements in the District with the economic feasibility of these developments.

Policy 7.1: Require new development to participate in applicable components of a Funding Program as a condition of approval.

Policy 7.2: Require that new development continue to be subject to existing impact fee programs and inclusionary housing requirements.

Policy 7.3: Create a community facilities district to fund capital improvements, particularly the Transit Center, as well as operations and maintenance of new public spaces and facilities.

Policy 7.4: Require all new development to pay development impact fees to fund implementation of the public improvements plan, proportional to the impact generated by new development.

Policy 7.5: Within the limits of the established nexus for new fees, create tiers of the new impact fee to assess higher fees for more intensive projects where economically feasible.

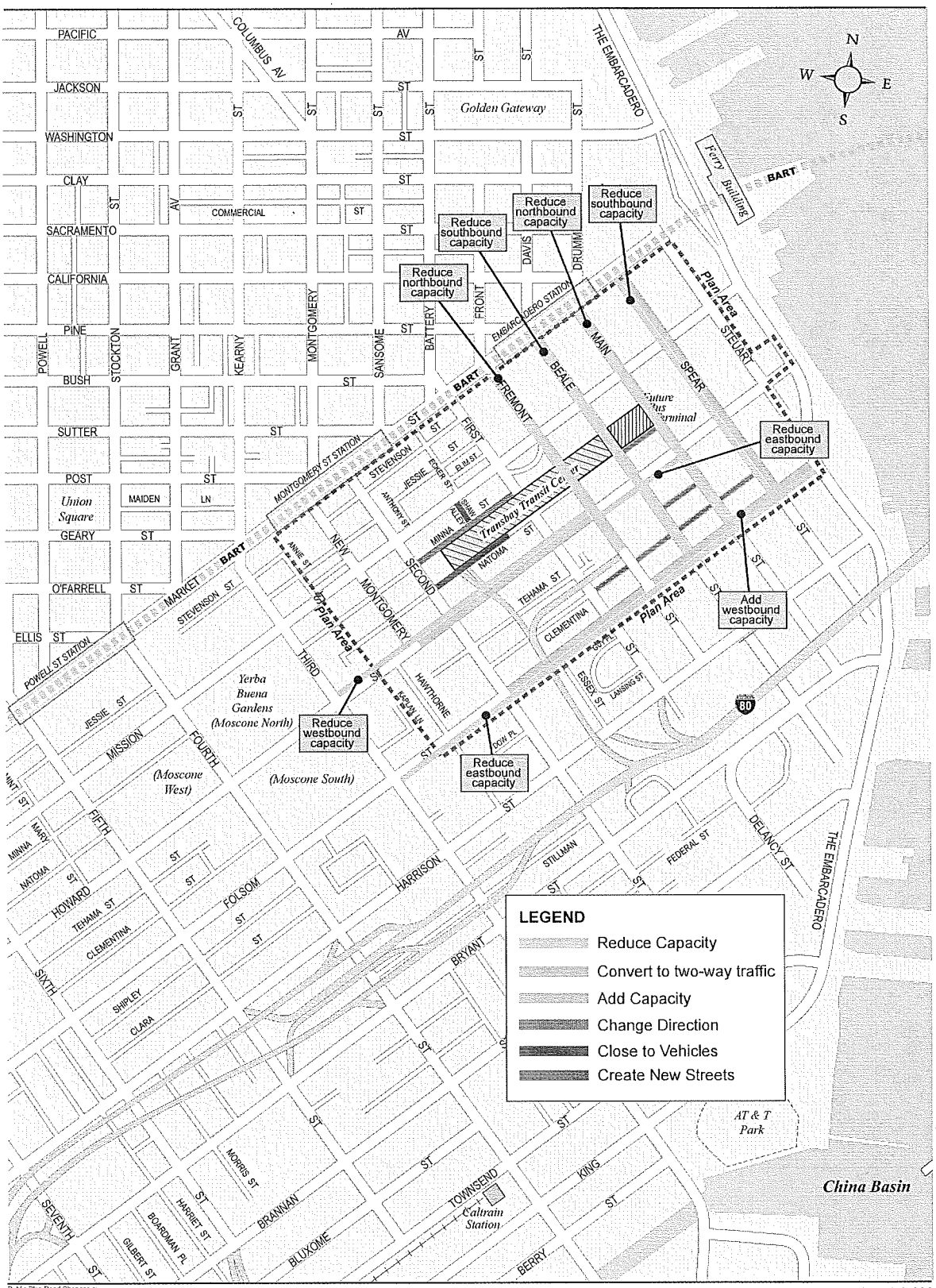
Policy 7.6: Provide flexibility for developers to meet Funding Program obligations through one-time charges, ongoing revenue streams, or in-kind contributions.

Policy 7.7: Seek additional funding sources for necessary or desirable public improvements that are not funded by the Funding Program and existing fees and requirements.

Policy 7.8: Create a Transit Center District Plan Program Implementation Document that outlines the Funding Program and guides future decision making in allocating revenues to public improvements.

APPENDIX C
Proposed Public Realm Plan

AECOM



Public Plan Road Changes.ai

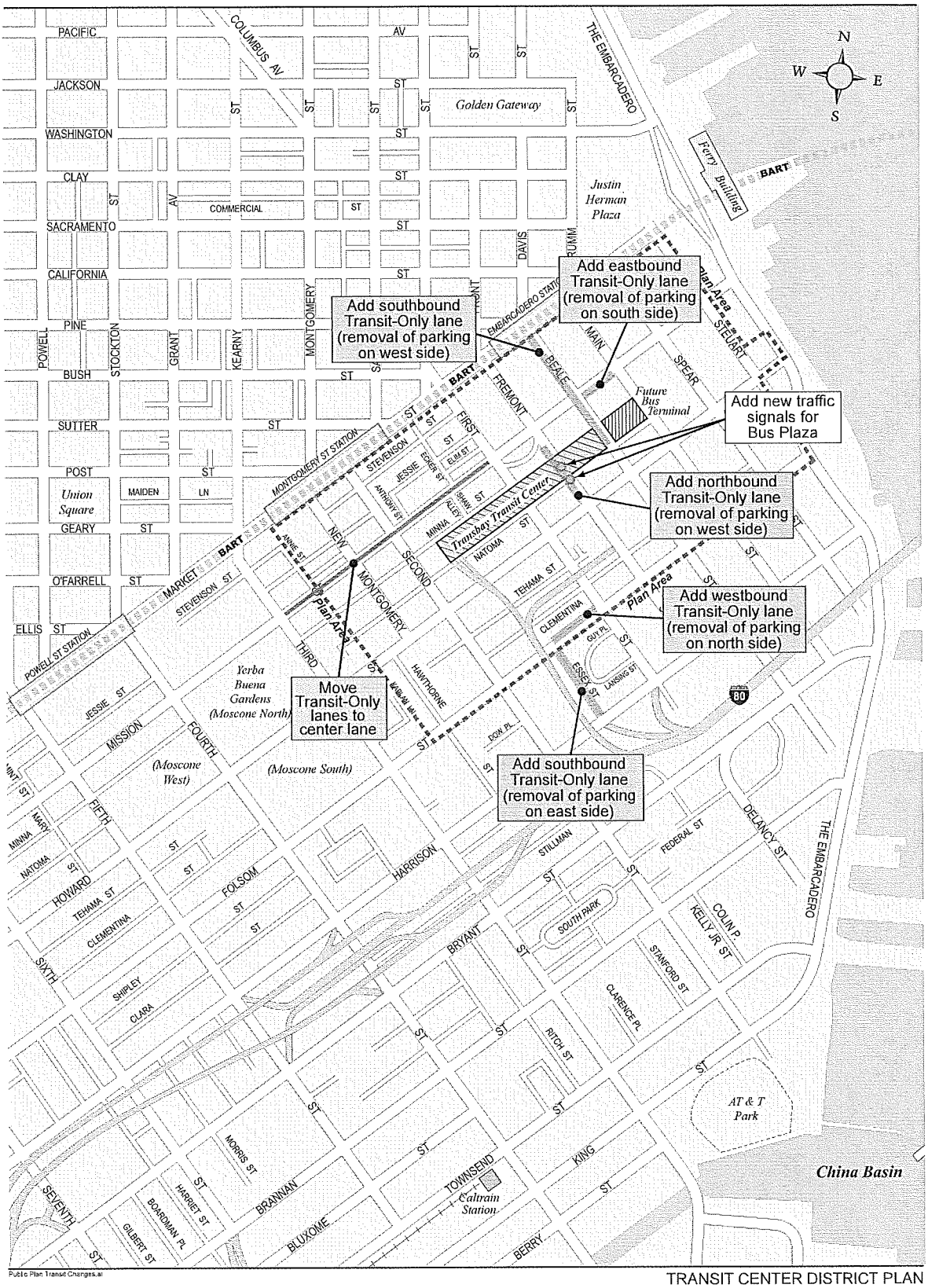
June 24, 2011

TRANSIT CENTER DISTRICT PLAN

Figure 3a

PUBLIC REALM PLAN
Roadway Network Changes

AECOM



Public Plan Transit Changes.ai

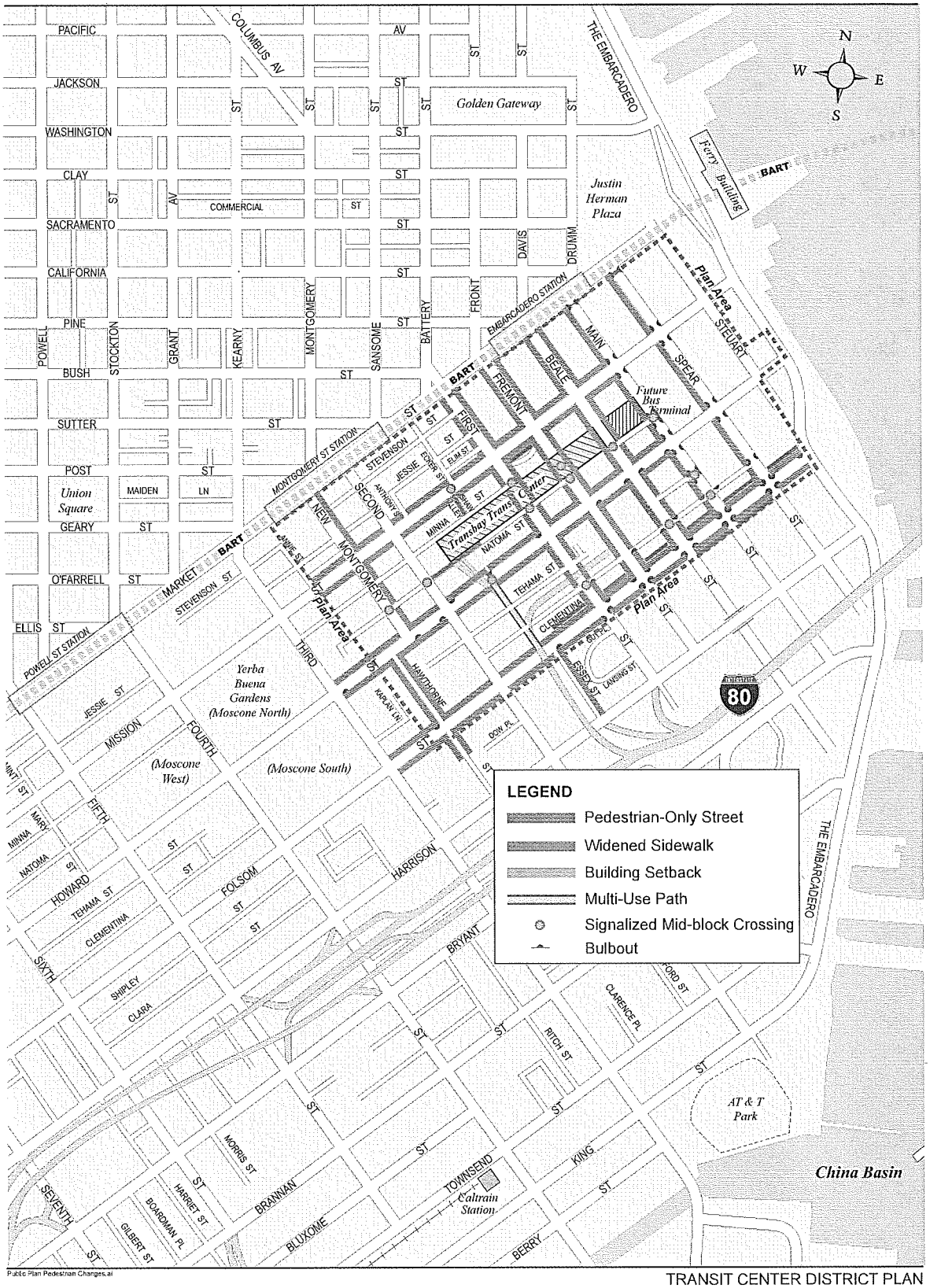
May 12, 2011

TRANSIT CENTER DISTRICT PLAN

Figure 3b

PUBLIC REALM PLAN
Transit Network Changes

AECOM



Public Plan Pedestrian Changes.ai

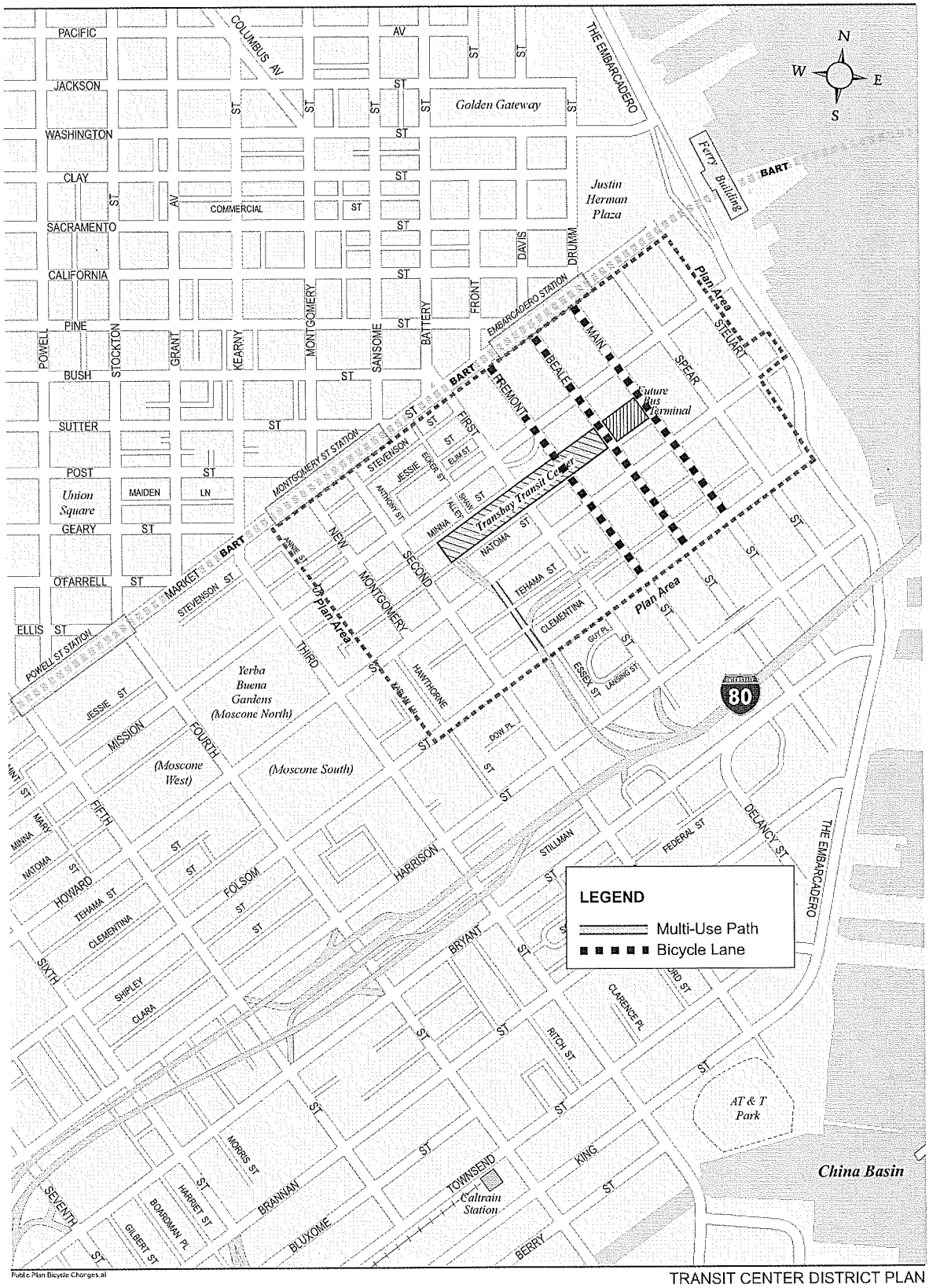
May 12, 2011

TRANSIT CENTER DISTRICT PLAN

Figure 3c

PUBLIC REALM PLAN
Pedestrian Network Changes

AECOM



Public Plan Bicycle Changes.ai

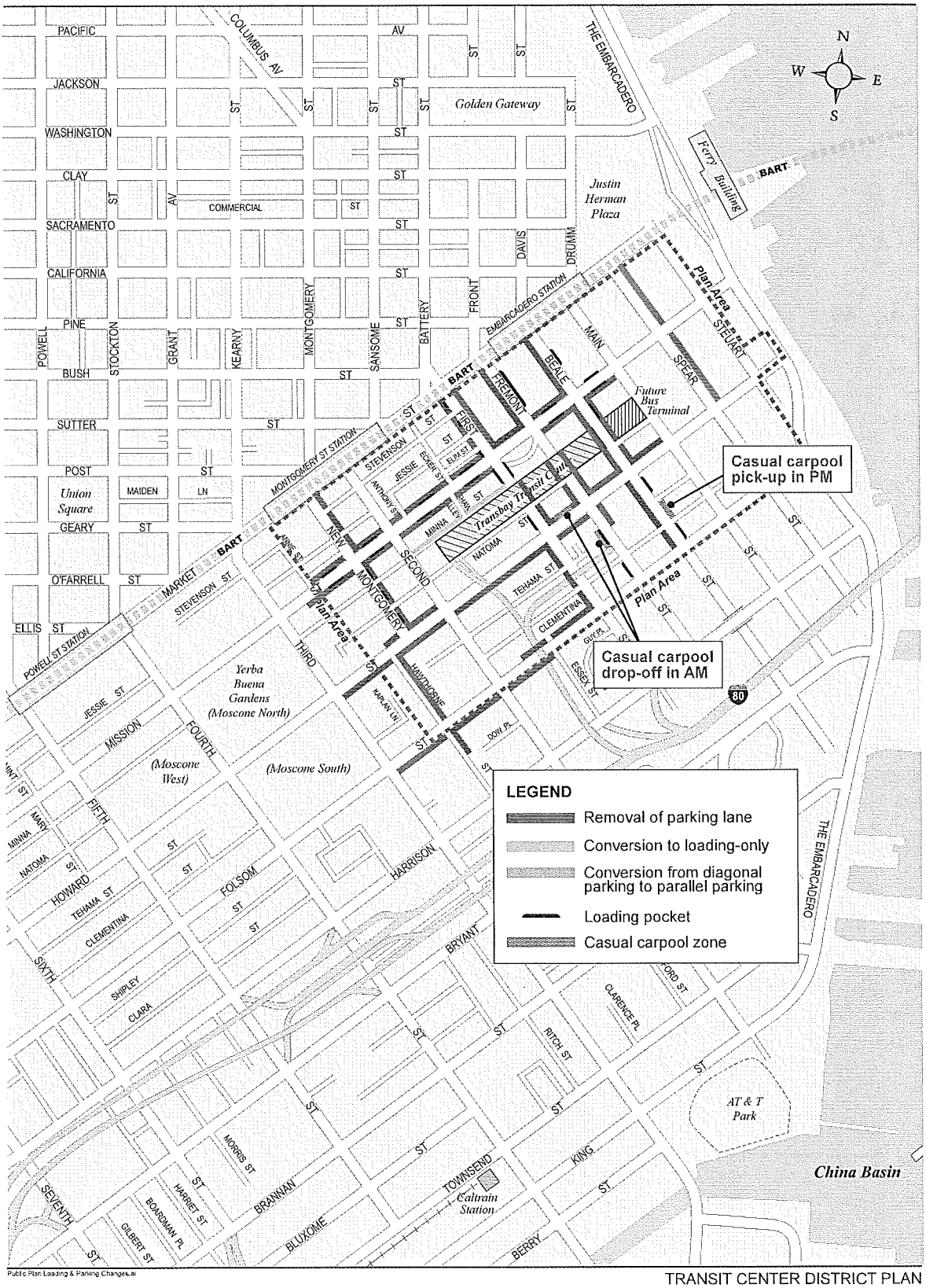
May 12, 2011

TRANSIT CENTER DISTRICT PLAN

Figure 3d

● PUBLIC REALM PLAN
Revised Bicycle Network Changes

AECOM



Public Plan Loading & Parking Changes.ai

May 12, 2011

TRANSIT CENTER DISTRICT PLAN

Figure 3e

PUBLIC REALM PLAN
Loading and Parking Changes

APPENDIX D
Air Quality

7/5/2011 4:55:26 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Users\kfh\AppData\Roaming\Urbemis\Version9a\Projects\Transit_Tower_rev_11-0705.urb924

Project Name: Transit Tower

Project Location: San Francisco County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	5.11	52.67	80.53	0.11	759.84	2.20	762.05	158.71	2.03	160.74	11,476.69
2013 TOTALS (lbs/day mitigated)	5.11	52.67	80.53	0.11	359.61	2.20	361.81	75.13	2.03	77.16	11,476.69
2014 TOTALS (lbs/day unmitigated)	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
2014 TOTALS (lbs/day mitigated)	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
2015 TOTALS (lbs/day unmitigated)	114.45	11.03	70.21	0.11	0.53	0.61	1.13	0.19	0.53	0.72	11,615.54
2015 TOTALS (lbs/day mitigated)	40.45	11.03	70.21	0.11	0.53	0.61	1.13	0.19	0.53	0.72	11,615.54
2016 TOTALS (lbs/day unmitigated)	111.75	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
2016 TOTALS (lbs/day mitigated)	37.18	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43

7/5/2011 4:55:26 PM

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.31	9.20	10.78	0.00	0.03	0.03	10,997.02
TOTALS (lbs/day, mitigated)	1.18	7.37	9.25	0.00	0.02	0.02	8,798.74
Percent Reduction	9.92	19.89	14.19	NaN	33.33	33.33	19.99

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	27.51	21.54	216.19	0.31	55.09	10.42	30,708.07

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	28.82	30.74	226.97	0.31	55.12	10.45	41,705.09

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 7/1/2013-9/30/2013 Active Days: 66	5.11	**52.67**	24.65	0.06	**759.84**	**2.20**	**762.05**	**158.71**	**2.03**	**160.74**	9,632.25
Mass Grading 07/01/2013-09/30/2013	5.11	52.67	24.65	0.06	759.84	2.20	762.05	158.71	2.03	160.74	9,632.25
Mass Grading Dust	0.00	0.00	0.00	0.00	759.60	0.00	759.60	158.63	0.00	158.63	0.00
Mass Grading Off Road Diesel	3.14	24.92	14.36	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,794.41
Mass Grading On Road Diesel	1.93	27.70	9.28	0.06	0.23	0.96	1.20	0.08	0.88	0.96	6,710.02
Mass Grading Worker Trips	0.03	0.05	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.82

7/5/2011 4:55:26 PM

Time Slice 10/1/2013-12/31/2013 Active Days: 66	3.23	13.37	**80.53**	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building 10/01/2013-12/31/2015	3.23	13.37	80.53	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building Off Road Diesel	0.44	2.89	2.23	0.00	0.00	0.24	0.24	0.00	0.22	0.22	327.46
Building Vendor Trips	0.57	6.64	6.91	0.02	0.08	0.24	0.33	0.03	0.22	0.25	2,206.33
Building Worker Trips	2.21	3.84	71.39	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,942.90
Time Slice 1/1/2014-12/31/2014 Active Days: 261	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building 10/01/2013-12/31/2015	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building Off Road Diesel	0.40	2.69	2.22	0.00	0.00	0.21	0.21	0.00	0.19	0.19	327.46
Building Vendor Trips	0.53	5.93	6.49	0.02	0.08	0.22	0.30	0.03	0.20	0.23	2,206.55
Building Worker Trips	2.00	3.50	65.96	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,945.85
Time Slice 1/1/2015-6/30/2015 Active Days: 129	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Time Slice 7/1/2015-12/31/2015 Active Days: 132	**114.45**	11.03	70.21	**0.11**	0.53	0.61	1.13	0.19	0.53	0.72	**11,615.54**
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Coating 07/01/2015-06/30/2016	111.75	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41
Architectural Coating	111.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41

Time Slice 1/1/2016-6/30/2016 Active Days: 130	111.75	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Coating 07/01/2015-06/30/2016	111.75	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Architectural Coating	111.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43

Phase Assumptions

Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Grading Description

Total Acres Disturbed: 1.16

Maximum Daily Acreage Disturbed: 1.16

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 0 cubic yards/day; Offsite Cut/Fill: 1700 cubic yards/day

On Road Truck Travel (VMT): 1666.67

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/1/2013 - 12/31/2015 - Default Building Construction Description

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2015 - 6/30/2016 - Default Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 7/1/2013-9/30/2013 Active Days: 66	5.11	**52.67**	24.65	0.06	359.61	**2.20**	361.81	75.13	**2.03**	77.16	9,632.25
Mass Grading 07/01/2013-09/30/2013	5.11	52.67	24.65	0.06	359.61	2.20	361.81	75.13	2.03	77.16	9,632.25
Mass Grading Dust	0.00	0.00	0.00	0.00	359.37	0.00	359.37	75.05	0.00	75.05	0.00
Mass Grading Off Road Diesel	3.14	24.92	14.36	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,794.41
Mass Grading On Road Diesel	1.93	27.70	9.28	0.06	0.23	0.96	1.20	0.08	0.88	0.96	6,710.02
Mass Grading Worker Trips	0.03	0.05	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.82
Time Slice 10/1/2013-12/31/2013 Active Days: 66	3.23	13.37	**80.53**	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building 10/01/2013-12/31/2015	3.23	13.37	80.53	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building Off Road Diesel	0.44	2.89	2.23	0.00	0.00	0.24	0.24	0.00	0.22	0.22	327.46
Building Vendor Trips	0.57	6.64	6.91	0.02	0.08	0.24	0.33	0.03	0.22	0.25	2,206.33
Building Worker Trips	2.21	3.84	71.39	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,942.90
Time Slice 1/1/2014-12/31/2014 Active Days: 261	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building 10/01/2013-12/31/2015	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building Off Road Diesel	0.40	2.69	2.22	0.00	0.00	0.21	0.21	0.00	0.19	0.19	327.46
Building Vendor Trips	0.53	5.93	6.49	0.02	0.08	0.22	0.30	0.03	0.20	0.23	2,206.55
Building Worker Trips	2.00	3.50	65.96	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,945.85

Time Slice 1/1/2015-6/30/2015 Active Days: 129	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Time Slice 7/1/2015-12/31/2015 Active Days: 132	40.45	11.03	70.21	**0.11**	0.53	0.61	1.13	0.19	0.53	0.72	**11,615.54**
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Coating 07/01/2015-06/30/2016	37.76	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41
Architectural Coating	37.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41
Time Slice 1/1/2016-6/30/2016 Active Days: 130	37.18	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Coating 07/01/2015-06/30/2016	37.18	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Architectural Coating	37.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

7/5/2011 4:55:26 PM

The following mitigation measures apply to Phase: Architectural Coating 7/1/2015 - 6/30/2016 - Default Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 95%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.66	9.16	7.69	0.00	0.02	0.02	10,991.40
Hearth							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.40						
TOTALS (lbs/day, unmitigated)	1.31	9.20	10.78	0.00	0.03	0.03	10,997.02

7/5/2011 4:55:26 PM

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.53	7.33	6.16	0.00	0.01	0.01	8,793.12
Hearth							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.40						
TOTALS (lbs/day, mitigated)	1.18	7.37	9.25	0.00	0.02	0.02	8,798.74

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

The nonresidential percentage of surface area repainted each year changed from 10% to 0.5%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hardware/paint store	1.61	1.98	19.23	0.03	5.03	0.95	2,788.99
General office building	25.90	19.56	196.96	0.28	50.06	9.47	27,919.08
TOTALS (lbs/day, unmitigated)	27.51	21.54	216.19	0.31	55.09	10.42	30,708.07

Operational Settings:

7/5/2011 4:55:26 PM

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hardware/paint store		24.06	1000 sq ft	16.50	396.99	2,934.95
General office building		2.67	1000 sq ft	1,350.00	3,604.50	29,205.46
					4,001.49	32,140.41

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	60.9	0.2	99.6	0.2
Light Truck < 3750 lbs	11.0	0.0	99.1	0.9
Light Truck 3751-5750 lbs	16.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	4.7	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.1	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.3	0.0	0.0	100.0
Motorcycle	3.5	45.7	54.3	0.0
School Bus	0.1	0.0	0.0	100.0

7/5/2011 4:55:26 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.2	0.0	100.0	0.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hardware/paint store				2.0	1.0	97.0
General office building				35.0	17.5	47.5

Operational Changes to Defaults

7/5/2011 4:56:02 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Users\kfh\AppData\Roaming\Urbemis\Version9a\Projects\Transit_Tower_rev_11-0705.urb924

Project Name: Transit Tower

Project Location: San Francisco County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	5.11	52.67	80.53	0.11	759.84	2.20	762.05	158.71	2.03	160.74	11,476.69
2013 TOTALS (lbs/day mitigated)	5.11	52.67	80.53	0.11	359.61	2.20	361.81	75.13	2.03	77.16	11,476.69
2014 TOTALS (lbs/day unmitigated)	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
2014 TOTALS (lbs/day mitigated)	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
2015 TOTALS (lbs/day unmitigated)	114.45	11.03	70.21	0.11	0.53	0.61	1.13	0.19	0.53	0.72	11,615.54
2015 TOTALS (lbs/day mitigated)	40.45	11.03	70.21	0.11	0.53	0.61	1.13	0.19	0.53	0.72	11,615.54
2016 TOTALS (lbs/day unmitigated)	111.75	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
2016 TOTALS (lbs/day mitigated)	37.18	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43

7/5/2011 4:56:02 PM

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.06	9.16	7.69	0.00	0.02	0.02	10,991.40
TOTALS (lbs/day, mitigated)	0.93	7.33	6.16	0.00	0.01	0.01	8,793.12
Percent Reduction	12.26	19.98	19.90	NaN	50.00	50.00	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	19.85	31.55	226.07	0.26	55.09	10.42	26,484.44

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	20.91	40.71	233.76	0.26	55.11	10.44	37,475.84

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 7/1/2013-9/30/2013 Active Days: 66	5.11	**52.67**	24.65	0.06	**759.84**	**2.20**	**762.05**	**158.71**	**2.03**	**160.74**	9,632.25
Mass Grading 07/01/2013-09/30/2013	5.11	52.67	24.65	0.06	759.84	2.20	762.05	158.71	2.03	160.74	9,632.25
Mass Grading Dust	0.00	0.00	0.00	0.00	759.60	0.00	759.60	158.63	0.00	158.63	0.00
Mass Grading Off Road Diesel	3.14	24.92	14.36	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,794.41
Mass Grading On Road Diesel	1.93	27.70	9.28	0.06	0.23	0.96	1.20	0.08	0.88	0.96	6,710.02
Mass Grading Worker Trips	0.03	0.05	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.82

7/5/2011 4:56:02 PM

Time Slice 10/1/2013-12/31/2013 Active Days: 66	3.23	13.37	**80.53**	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building 10/01/2013-12/31/2015	3.23	13.37	80.53	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building Off Road Diesel	0.44	2.89	2.23	0.00	0.00	0.24	0.24	0.00	0.22	0.22	327.46
Building Vendor Trips	0.57	6.64	6.91	0.02	0.08	0.24	0.33	0.03	0.22	0.25	2,206.33
Building Worker Trips	2.21	3.84	71.39	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,942.90
Time Slice 1/1/2014-12/31/2014 Active Days: 261	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building 10/01/2013-12/31/2015	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building Off Road Diesel	0.40	2.69	2.22	0.00	0.00	0.21	0.21	0.00	0.19	0.19	327.46
Building Vendor Trips	0.53	5.93	6.49	0.02	0.08	0.22	0.30	0.03	0.20	0.23	2,206.55
Building Worker Trips	2.00	3.50	65.96	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,945.85
Time Slice 1/1/2015-6/30/2015 Active Days: 129	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Time Slice 7/1/2015-12/31/2015 Active Days: 132	**114.45**	11.03	70.21	**0.11**	0.53	0.61	1.13	0.19	0.53	0.72	**11,615.54**
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Coating 07/01/2015-06/30/2016	111.75	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41
Architectural Coating	111.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41

Time Slice 1/1/2016-6/30/2016 Active Days: 130	111.75	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Coating 07/01/2015-06/30/2016	111.75	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Architectural Coating	111.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43

Phase Assumptions

Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Grading Description

Total Acres Disturbed: 1.16

Maximum Daily Acreage Disturbed: 1.16

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 0 cubic yards/day; Offsite Cut/Fill: 1700 cubic yards/day

On Road Truck Travel (VMT): 1666.67

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 10/1/2013 - 12/31/2015 - Default Building Construction Description

Off-Road Equipment:

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 7/1/2015 - 6/30/2016 - Default Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 7/1/2013-9/30/2013 Active Days: 66	5.11	**52.67**	24.65	0.06	359.61	**2.20**	361.81	75.13	**2.03**	77.16	9,632.25
Mass Grading 07/01/2013-09/30/2013	5.11	52.67	24.65	0.06	359.61	2.20	361.81	75.13	2.03	77.16	9,632.25
Mass Grading Dust	0.00	0.00	0.00	0.00	359.37	0.00	359.37	75.05	0.00	75.05	0.00
Mass Grading Off Road Diesel	3.14	24.92	14.36	0.00	0.00	1.24	1.24	0.00	1.14	1.14	2,794.41
Mass Grading On Road Diesel	1.93	27.70	9.28	0.06	0.23	0.96	1.20	0.08	0.88	0.96	6,710.02
Mass Grading Worker Trips	0.03	0.05	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.82
Time Slice 10/1/2013-12/31/2013 Active Days: 66	3.23	13.37	**80.53**	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building 10/01/2013-12/31/2015	3.23	13.37	80.53	0.11	0.52	0.70	1.22	0.19	0.62	0.80	11,476.69
Building Off Road Diesel	0.44	2.89	2.23	0.00	0.00	0.24	0.24	0.00	0.22	0.22	327.46
Building Vendor Trips	0.57	6.64	6.91	0.02	0.08	0.24	0.33	0.03	0.22	0.25	2,206.33
Building Worker Trips	2.21	3.84	71.39	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,942.90
Time Slice 1/1/2014-12/31/2014 Active Days: 261	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building 10/01/2013-12/31/2015	2.94	12.12	74.67	0.11	0.52	0.64	1.16	0.19	0.57	0.75	11,479.86
Building Off Road Diesel	0.40	2.69	2.22	0.00	0.00	0.21	0.21	0.00	0.19	0.19	327.46
Building Vendor Trips	0.53	5.93	6.49	0.02	0.08	0.22	0.30	0.03	0.20	0.23	2,206.55
Building Worker Trips	2.00	3.50	65.96	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,945.85

Time Slice 1/1/2015-6/30/2015 Active Days: 129	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Time Slice 7/1/2015-12/31/2015 Active Days: 132	40.45	11.03	70.21	**0.11**	0.53	0.61	1.13	0.19	0.53	0.72	**11,615.54**
Building 10/01/2013-12/31/2015	2.69	10.98	69.30	0.11	0.52	0.60	1.12	0.19	0.53	0.72	11,482.14
Building Off Road Diesel	0.37	2.45	2.20	0.00	0.00	0.19	0.19	0.00	0.17	0.17	327.46
Building Vendor Trips	0.50	5.32	6.10	0.02	0.08	0.20	0.28	0.03	0.18	0.21	2,206.79
Building Worker Trips	1.83	3.20	61.00	0.09	0.44	0.21	0.65	0.16	0.17	0.33	8,947.89
Coating 07/01/2015-06/30/2016	37.76	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41
Architectural Coating	37.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.41
Time Slice 1/1/2016-6/30/2016 Active Days: 130	37.18	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Coating 07/01/2015-06/30/2016	37.18	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43
Architectural Coating	37.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.02	0.04	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	133.43

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Grading Description

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

7/5/2011 4:56:02 PM

The following mitigation measures apply to Phase: Architectural Coating 7/1/2015 - 6/30/2016 - Default Coating Description

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 95%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.66	9.16	7.69	0.00	0.02	0.02	10,991.40
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.40						
TOTALS (lbs/day, unmitigated)	1.06	9.16	7.69	0.00	0.02	0.02	10,991.40

7/5/2011 4:56:02 PM

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.53	7.33	6.16	0.00	0.01	0.01	8,793.12
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.40						
TOTALS (lbs/day, mitigated)	0.93	7.33	6.16	0.00	0.01	0.01	8,793.12

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

The nonresidential percentage of surface area repainted each year changed from 10% to 0.5%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hardware/paint store	1.84	2.89	20.57	0.02	5.03	0.95	2,403.30
General office building	18.01	28.66	205.50	0.24	50.06	9.47	24,081.14
TOTALS (lbs/day, unmitigated)	19.85	31.55	226.07	0.26	55.09	10.42	26,484.44

Operational Settings:

7/5/2011 4:56:02 PM

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2016 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hardware/paint store		24.06	1000 sq ft	16.50	396.99	2,934.95
General office building		2.67	1000 sq ft	1,350.00	3,604.50	29,205.46
					4,001.49	32,140.41

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	60.9	0.2	99.6	0.2
Light Truck < 3750 lbs	11.0	0.0	99.1	0.9
Light Truck 3751-5750 lbs	16.5	0.0	100.0	0.0
Med Truck 5751-8500 lbs	4.7	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.1	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.3	0.0	0.0	100.0
Motorcycle	3.5	45.7	54.3	0.0
School Bus	0.1	0.0	0.0	100.0

7/5/2011 4:56:02 PM

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.2	0.0	100.0	0.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hardware/paint store				2.0	1.0	97.0
General office building				35.0	17.5	47.5

Operational Changes to Defaults

7/5/2011 4:56:18 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Users\kfh\AppData\Roaming\Urbemis\Version9a\Projects\Transit_Tower_rev_11-0705.urb924

Project Name: Transit Tower

Project Location: San Francisco County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.27	2.18	3.47	0.01	25.09	0.10	25.19	5.24	0.09	5.33	696.59
2013 TOTALS (tons/year mitigated)	0.27	2.18	3.47	0.01	11.88	0.10	11.98	2.49	0.09	2.57	696.59
Percent Reduction	0.00	0.00	0.00	0.00	52.64	0.00	52.44	52.60	0.00	51.74	0.00
2014 TOTALS (tons/year unmitigated)	0.38	1.58	9.74	0.01	0.07	0.08	0.15	0.02	0.07	0.10	1,498.12
2014 TOTALS (tons/year mitigated)	0.38	1.58	9.74	0.01	0.07	0.08	0.15	0.02	0.07	0.10	1,498.12
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015 TOTALS (tons/year unmitigated)	7.73	1.44	9.10	0.01	0.07	0.08	0.15	0.02	0.07	0.09	1,507.22
2015 TOTALS (tons/year mitigated)	2.84	1.44	9.10	0.01	0.07	0.08	0.15	0.02	0.07	0.09	1,507.22
Percent Reduction	63.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016 TOTALS (tons/year unmitigated)	7.26	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.67

7/5/2011 4:56:18 PM

2016 TOTALS (tons/year mitigated)	2.42	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.67
Percent Reduction	66.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.21	1.67	1.68	0.00	0.00	0.00	2,006.44
TOTALS (tons/year, mitigated)	0.19	1.34	1.40	0.00	0.00	0.00	1,605.25
Percent Reduction	9.52	19.76	16.67	NaN	NaN	NaN	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.56	4.54	40.06	0.05	10.06	1.90	5,347.29

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.77	6.21	41.74	0.05	10.06	1.90	7,353.73

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

DRAFT

Table 1 Summary of Emissions From Construction[1,2,3]
Transit Tower Project Level Analysis
San Francisco, CA

Construction Year	DPM	$PM_{2.5}$	TOG
	[tons/yr]	[tons/yr]	[lbs/day]
2013	0.05	0.10	3.7
2014	0.03	0.03	--
2015	0.03	0.03	--
2016	0	0	--

Notes:

1. Emissions were calculated by California Emissions Estimator Model (CalEEMod).
2. Construction schedule and equipment information were obtained from Karl Heisler of Environmental Science Associates (ESA).
3. Default emissions factors for diesel equipment were used. No mitigation measures were assumed in the emissions calculations.

Abbreviations:

CalEEMod: California Emissions Estimator Model
DPM: Diesel Particulate Matter
ESA: Environmental Science Associates
lbs: pounds
$PM_{2.5}$: particles in the atmosphere with a diameter of 2.5 micrometers or less
TOG: Total Organic Gases
yr: year

DRAFT

Table 2 Summary of Emissions From Operation of an Emergency Generator
Transit Tower Project Level Analysis
San Francisco, CA

	BHP[1]	EF[2]	Hours per year[3]	Emissions	Emissions
		[g/hp-hr]	[hrs/yr]	[lbs/yr]	[lbs/hr]
DPM	1750	0.07	50	14	--
TOG	1750	0.3	--	--	1.2

Notes:

1. Brake horsepower was obtained from Karl Heisler of Environmental Science Associates (ESA).
2. Tier 4 interim standard was assumed to calculate emergency generator emissions.
3. Maximum hours of operation allowed by BAAQMD was assumed to be conservative.

Abbreviations:

BHP: Brake Horsepower
DPM: Diesel Particulate Matter
EF: Emission Factor
ESA: Environmental Science Associates
g: gram
hp: horsepower
hr: hour
lbs: pounds
TOG: Total Organic Gases
yr: year

DRAFT

Table 3 Estimated Health Risks from Construction on the Maximum Exposed Individual [1]
Transit Tower Project Level Analysis
San Francisco, CA

Analysis	MEI Location	Population	Building Level	Risk Value	Risk Unit
Cancer Risk	Millennium Tower	Residential Child	3rd Floor	17	# in one million
Chronic HI	Millennium Tower	Residential Child	3rd Floor	0.02	[-]
Acute HI	Proposed 50 1st St. Residential	Residential Adult	2nd Floor	0.35	[-]
$PM_{2.5}$ Concentration	Millennium Tower	Residential Child	3rd Floor	0.2	ug/m^3

Notes:
1. Resident child was assumed to be exposed to the construction emissions from the third trimester of pregnancy till the end of the construction.
2. All exposure assumptions were based on recommendations by the Office of Environmental Health Hazard Assessment OEHHA 2009 and BAAQMD 2010.

Abbreviations:
HI: Hazard Index
m: meter
MEI: Maximum Exposed Individual
$PM_{2.5}$: particles in the atmosphere with a diameter of 2.5 micrometers or less
ug: microgram

References:
Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January.
Office of Environmental Health Hazard Assessment (OEHHA). 2009. Technical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures. May.

DRAFT

Table 4 Estimated Health Risks from Operation of an Emergency Generator on the Maximum Exposed Individual[1]
Transit Tower Project Level Analysis
San Francisco, CA

Analysis	MEI Location	Population	Building Level	Risk Value	Risk Unit
Cancer Risk	Millennium Tower	Residential Adult	3rd Floor	0.7	# in one million
Chronic HI	Millennium Tower	Residential Adult	3rd Floor	0.0003	[-]
Acute HI	Millennium Tower	Residential Adult	3rd Floor	0.10	[-]
$PM_{2.5}$ Concentration	Millennium Tower	Residential Adult	3rd Floor	0.001	ug/m^3

Notes:
1. Resident adult was assumed to be exposed to the emergency generators emissions for the life time of 70 years.
2. All exposure assumptions were based on recommendations by the Office of Environmental Health Hazard Assessment OEHHA 2009 and BAAQMD 2010.

Abbreviations:
BAAQMD: Bay Area Air Quality Management District
HI: Hazard Index
m: meter
MEI: Maximum Exposed Individual
OEHHA: Office of Environmental Health Hazard Assessment
$PM_{2.5}$: particles in the atmosphere with a diameter of 2.5 micrometers or less
ug: microgram

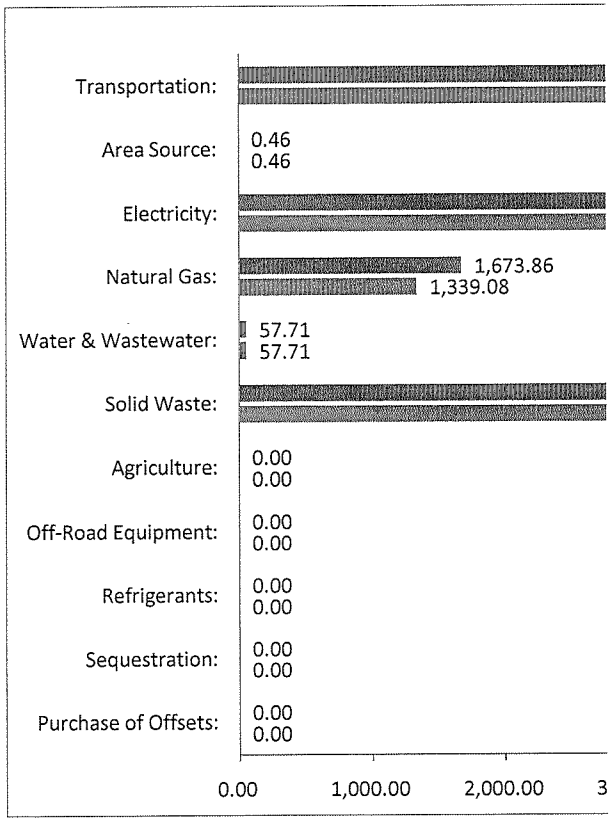
References:
Bay Area Air Quality Management District (BAAQMD). 2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January.
Office of Environmental Health Hazard Assessment (OEHHA). 2009. Technical Support Document for Cancer Potency Factors: Methodologies for derivation, listing of available values, and adjustments to allow for early life stage exposures. May.

Summary Results

Project Name: Transit Tower
Project and Baseline Years: 2016 N/A

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	4,522.49	4,522.49
Area Source:	0.46	0.46
Electricity:	7,602.88	6,082.31
Natural Gas:	1,673.86	1,339.08
Water & Wastewater:	57.71	57.71
Solid Waste:	9,424.66	4,712.33
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	23,282.07	16,714.38

Baseline is currently: **OFF**
Baseline Project Name:
Go to Settings Tab to Turn On Baseline



Detailed Results

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				4,522.49	19.42%
Area Source:	0.46	0.00	0.00	0.46	0.00%
Electricity:	7,590.74	0.06	0.03	7,602.88	32.66%
Natural Gas:	1,669.58	0.16	0.00	1,673.86	7.19%
Water & Wastewater:	57.62	0.00	0.00	57.71	0.25%
Solid Waste:	68.09	445.55	N/A	9,424.66	40.48%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				23,282.07	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.
After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley"
regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air condi
Finally, CO2e is adjusted to account for th low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				4,522.49	27.06%
Area Source:	0.46	0.00	0.00	0.46	0.00%
Electricity:	6,072.59	0.05	0.03	6,082.31	36.39%
Natural Gas:	1,335.66	0.13	0.00	1,339.08	8.01%
Water & Wastewater:	57.62	0.00	0.00	57.71	0.35%
Solid Waste:	34.05	222.78	N/A	4,712.33	28.19%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total:				16,714.38	100.00%

Mitigation Measures Selected:

Transportation: Go to the following tab: Transp. Detail Mit for a list of the transportation mitigation measures selected (in URBE

Electricity: The following mitigation measure(s) have been selected to reduce electricity emissions.

Natural Gas: The following mitigation measure(s) have been selected to reduce natural gas emissions.

Water and Wastewater: The following mitigation measure(s) have been selected to reduce water and wastewater emissions.

Drought Tolerant Landscaping	68.23 % Reduction Outdoor Use
Low Flush Toilets	68.24 % Reduction Indoor Use

Solid Waste: The following mitigation measure has been selected to reduce solid waste related GHG emissions.

Reduce Solid Waste by the Following Percentage	50 Solid Waste Reduction %

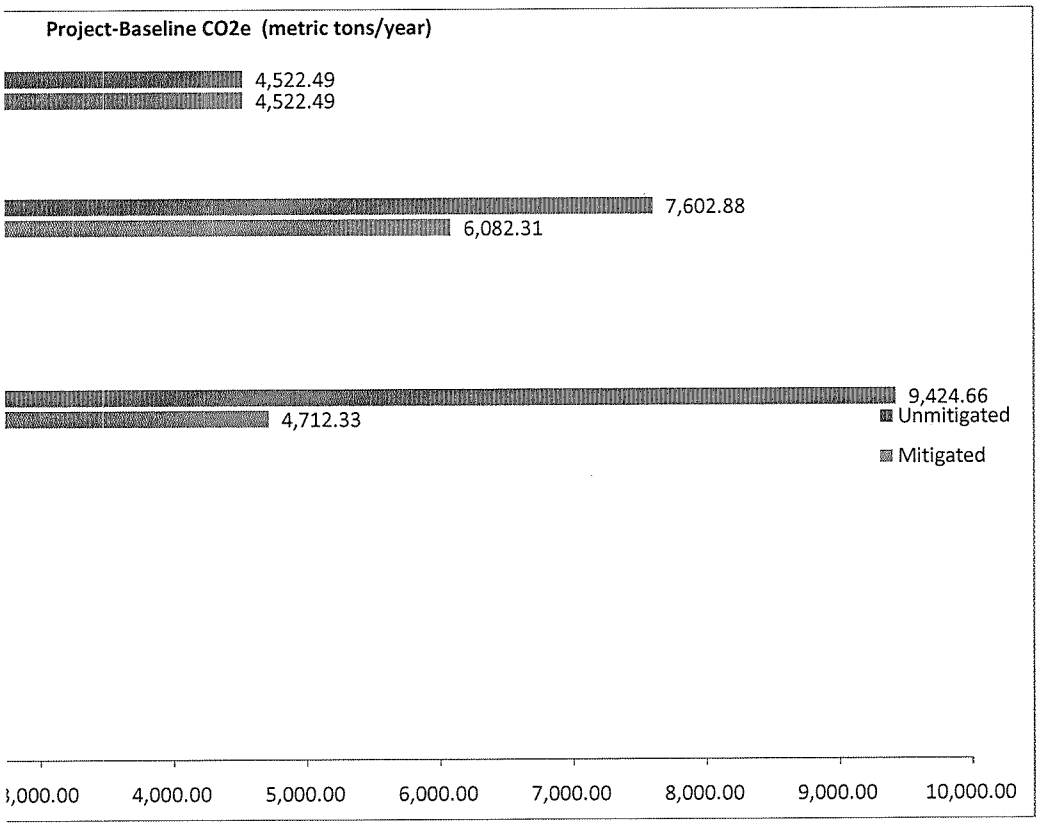
Ag: No existing mitigation measures available.

Off-Road Equipment: No existing mitigation measures available.

Refrigerants: The following mitigation measure has ben selected to reduce refrigerant emissions:

Carbon Sequestration: Project does not include carbon sequestration through tree planting.

Emission Offsets/Credits: Project does not include purchase of emission offsets/credits.


Project-Baseline CO2e (metric tons/year)
4,522.49
4,522.49
7,602.88
6,082.31
9,424.66
4,712.33
Unmitigated
Mitigated
,000.00
4,000.00
5,000.00
6,000.00
7,000.00
8,000.00
9,000.00
10,000.00

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				0.00	N/A
Area Source:	0.00	0.00	0.00	0.00	N/A
Electricity:	0.00	0.00	0.00	0.00	N/A
Natural Gas:	0.00	0.00	0.00	0.00	N/A
Water & Wastewater:	0.00	0.00	0.00	0.00	N/A
Solid Waste:	0.00	0.00	N/A	0.00	N/A
Agriculture:	0.00	0.00	0.00	0.00	N/A
Off-Road Equipment:	0.00	0.00	0.00	0.00	N/A
Refrigerants:	N/A	N/A	N/A	0.00	N/A
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				0.00	0.00%

tioners]).

APPENDIX E
Transit Tower Wind-Tunnel Analysis

CONSULTING ENGINEERS
& SCIENTISTS

Tel: 519.823.1311
Fax: 519.823.1316

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West
Guelph, Ontario, Canada
N1K 1B8

Transbay Tower San Francisco, California

Pedestrian Level Wind Study

RWDI # 1012134
June 24, 2011

SUBMITTED TO:
Karl F. Heisler
Community Development Group Manager
ESA | Environmental Science Associates
kheisler@esaassoc.com

SUBMITTED BY
Derek J. Taylor, C.Tech.
Microclimate Coordinator
Derek.Taylor@rwdi.com

Frank Kriksic, B.E.S., C.E.T., LEED AP.
Principal / Senior Project Manager
Frank.Kriksic@rwdi.com

Hanqing Wu., Ph.D., P.Eng.
Project Director
Hanqing.Wu@rwdi.com

CONSULTING ENGINEERS & SCIENTISTS

TABLE OF CONTENTS

1. INTRODUCTION 1
2. PRINCIPAL RESULTS 1
3. METHODOLOGY 2
3.1 Wind Tunnel Testing 2
3.2 Local Climate 3
3.3 San Francisco Planning Code Requirements 3
3.4 Cumulative Configuration 5
4. TEST RESULTS 6
4.1 Wind Comfort Conditions 6
4.2 Wind Hazard Conditions 7
4.3 Recommendations 8
5. APPLICABILITY OF RESULTS 9
6. REFERENCES 10

Tables

Table 1: Comfort Results
Table 2: Wind Hazard Results

Figures

Figure 1a: Wind Tunnel Study Model – Existing Configuration
Figure 1b: Wind Tunnel Study Model – Existing plus Project Configuration
Figure 1c: Wind Tunnel Study Model – Project plus Cumulative Configuration
Figure 2a to 2c: Location of Wind Speed Measurements

Appendices

Appendix A: Drawing List for Model Construction
Appendix B: San Francisco Planning Code Section 148

DRAFT

1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by the ESA | Environmental Science Associates to conduct a Pedestrian Wind Study for a portion of the proposed Transit Center District Plan (TCDP) in San Francisco, California. The purpose of the study was to assess the wind environment around the proposed Transbay Tower in terms of pedestrian comfort and hazard relative to wind metrics specified in the San Francisco Planning Code Section 148. The study objective was achieved through wind tunnel testing of a 1:400 (approximately 1 inch = 33 feet) scale model for the following three development configurations:

A – Existing: all existing buildings on-site and in the surroundings;

B – Existing plus Project: proposed Transbay Tower with existing surrounding buildings; and,

C – Project plus Cumulative: proposed Transbay Tower present with existing surrounding buildings, as well as anticipated proposed/future buildings.

The project site is located in the Financial District of San Francisco's downtown core. The development site is located south of Mission Street between 1st and Fremont Streets, and is directly north of the Transit Center Terminal. The proposed tower is approximately 1070 feet tall. The test model was constructed using the design information and drawings listed in Appendix A.

This report summarizes the methodology used for wind tunnel studies of pedestrian wind conditions, describes the wind comfort and wind hazard criteria associated with wind force, as used in the current study, and presents the test results and recommendations of conceptual wind control measures, where necessary.

The placement of wind measurement locations was based on our experience and understanding of pedestrian usage for this site. These were reviewed by ESA | Environmental Science Associates prior to the wind tunnel testing.

2. PRINCIPAL RESULTS

The results of the tests are discussed in detail in Section 5 of this report and may be summarized as follows:

- Wind comfort conditions for the Existing plus Project Configuration were similar to the existing conditions. Wind speeds increased slightly for the Project plus Cumulative Configuration.
- All test locations met the wind hazard criterion for the Existing and Existing plus Project Configurations. With the cumulative buildings in place (Project plus Cumulative Configuration), wind conditions increased slightly, in that one (1) out of 207 test locations exceeded the hazard criterion.

3. METHODOLOGY

3.1 Wind Tunnel Testing

As shown in Figures 1a through 1c, the wind tunnel model included the project site and all relevant surrounding buildings and topography within a 1600 foot radius of the study site at full scale and 4 feet at model scale. The mean speed profile and turbulence of the natural wind approaching the modelled area were simulated in RWDI's boundary-layer wind tunnel. The model was instrumented with 207 wind speed sensors to measure mean and gust wind speeds at a full-scale height of approximately 5 feet above the local grade. These measurements were recorded for 36 equally incremented wind directions; however, as required by the Planning Code, the analysis focused on the west-southwest, west, west-northwest and northwest wind directions only.

Surface wind speed sensors [1, 2] were used for the current wind-tunnel tests. They were calibrated against the more traditional thermal anemometers (i.e., hot-wire) and are capable of measuring mean speeds and turbulence fluctuations accurately and efficiently. These sensors are sturdy and suitable for a large amount of test points at a fixed height (e.g., 5 feet in full scale). No alignment with wind direction is required due to the axi-symmetric geometry of the surface wind sensor.

Upwind Profiles

Beyond the modeled area, the influence of the upwind terrain on the planetary boundary layer was simulated in the testing by appropriate roughness on the wind tunnel floor and flow conditioning spires at the upwind end of the working section for each wind direction. This simulation, and subsequent analysis of the data from the model, was targeted to represent the appropriate upwind terrain conditions.

The locations and coverage of all 207 wind speed sensors can be seen in Figures 2a through 2c. The scale model being 8 feet in diameter extends well beyond the furthest wind speed sensors from the center of the model. This coverage ensures that measurements are not taken too closely to the outer edge of the scale model where data may be less reliable due to edge and upwind blockage effects.

The methodology used for this wind tunnel study met or exceeded the requirements stated in the ASCE, "Manual of Practice for Wind Tunnel Studies of Buildings and Structures", Manual Number 67, American Society of Civil Engineers, 1999.

Quality Assurance

RWDI considers quality to be an important part of every project. Consequently, our general Quality Control Policy contains the following requirements that are tailored specifically to each project:

- Each project must have a Project Director that is a Principal and/or Specialist whose role is to provide the overall technical direction and leadership and to ensure quality of services is provided. If the Project Director is not the technical expert in a certain area, a Technical Director will be assigned to provide technical direction.

- Each project must have a Project Manager whose role is the primary contact between the Client and the internal team and will ensure that the scope and quality of the services provided are consistent with the proposed objectives and schedule.

- The Project Director / Project Manager will define the scope of work and schedule for each activity in the work program to ensure that all team members are clear on project requirements.

- The Project Manager is supported technically by the Project Director and a Senior Engineer / Coordinator whose main responsibility is to provide technical guidance to the Technical Coordinator(s) performing the work and to conduct quality control reviews at pre-specified intervals throughout the process.

- RWDI project teams are comprised of RWDI staff, and have been selected based on their abilities to provide the specific expertise required to conduct thorough and comprehensive studies.

- Regular team meetings are used to facilitate coordination and information exchange.

- Where appropriate, standardized procedures are applied for completion of technical activities.

- Every study must undergo a review process during which QA/QC check sheets are used to facilitate a review of the work. Forms are developed, signed and dated by every team member upon completion of their critical task. The Senior Specialists and/or Project Director for the project will sign and date the forms once the quality review has been completed and they are satisfied that the level of quality is up to RWDI's standards.

3.2 Local Climate

Average wind speeds in San Francisco are the highest in the summer and lowest in winter. However the strongest peak winds occur in winter. On a daily basis, the highest average wind speeds occur in mid-afternoon and the lowest in the early morning. Westerly to northwesterly winds are the most frequent and strongest winds during all seasons.

Data describing the speed, direction, and frequency of occurrence of winds were gathered at the old San Francisco Federal Building at 50 United Nations Plaza (at a height of 132 feet) during the period of 1945 to 1950. Measurements taken hourly and averaged over one minute have been tabulated in three-hour periods using seven classes of wind speed and 16 compass directions. Analysis of these data shows that during the hours from 6:00 a.m. to 8:00 p.m., about 65% of all winds blow from four of the 16 directions as follows: Northwest (NW), 14%; West-Northwest (WNW), 28%; West (W), 19%; West-Southwest (WSW), 4%; and all other winds account for 35%. Calm conditions occur 4.9% of the time. More than 90% of measured winds over 13 mph blow from these four wind directions. Of the primary wind directions, four have the greatest frequency of occurrence and make up the majority of the strong winds that occur. These winds include the northwest, west-northwest, west and west-southwest.

3.3 San Francisco Planning Code Requirements

This project is located in an area that is subject to the San Francisco Planning Code Section 148, Reduction of Ground-level Wind Currents in C-3 Districts. The Code specifically outlines wind reduction

criteria for the C-3 District. This assessment is performed using the wind testing analysis and evaluation methods to determine conformity with the Code. These requirements are further described in Appendix B.

The Planning Code requires buildings to be shaped so as not to cause ground-level wind currents to exceed defined comfort and hazard criteria. The comfort criteria are that wind speeds will not exceed, more than 10% of the time, 11 mph in substantial pedestrian use areas, and 7 mph in public seating areas. Similarly, the hazard criterion of the Code requires that buildings not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph as averaged from a single full hour of the year. The hazard criterion is based on winds that are measured for one hour and averaged corresponding to a one-minute average of 36 mph, to distinguish between the wind comfort conditions and hazardous winds. The Planning Code defines these wind speeds in terms of equivalent wind speeds, and average wind speed (mean velocity), adjusted to include the level of gustiness and turbulence.

The equivalent wind speeds were calculated according to the specifications in the San Francisco Planning Code Section 148, whereby the mean hourly wind speed is increased when the turbulence intensity is greater than 15% according to the following formula [3, 4]:

$$EWS = Vm(2*TI+0.7)$$

Where: *EWS* = equivalent wind speed
Vm = mean pedestrian-level wind speed
TI = turbulence intensity

DRAFT

3.4 Cumulative Configuration

Anticipated proposed/future buildings are located to the south (TJPA "Parcel F", 524 Howard Street, 41 Tehama St., 181 Fremont Street, and six un-named projects in "Zone 1"), to the west (176 Second St, Howard (N.Side), 222 Second St., 2d/Howard (SE)), and to the north (Golden Gate University Site, 50 First Street).

Projects in the Cumulative Setting

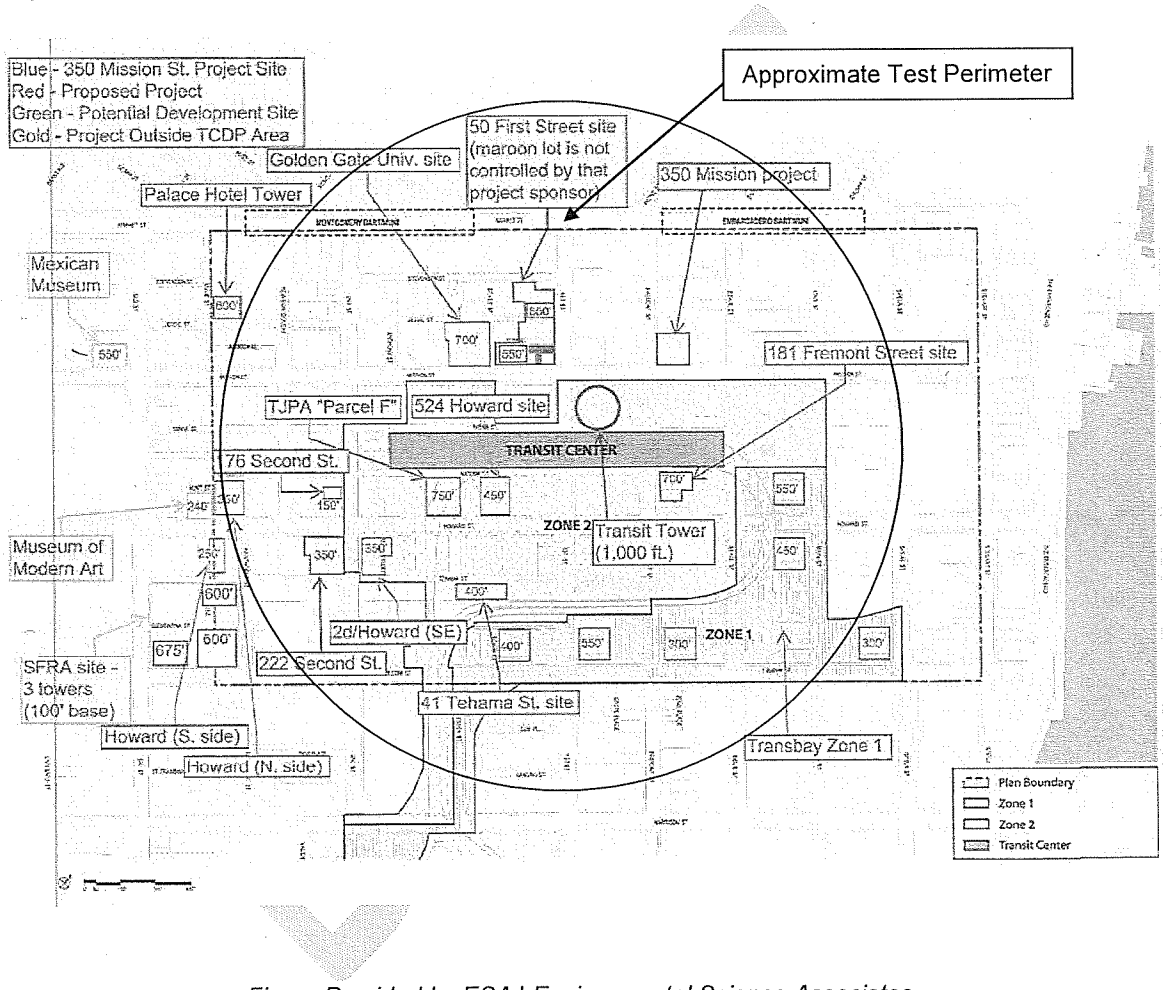


Figure Provided by ESA | Environmental Science Associates

For the Cumulative Configuration, a total of 16 new towers were added to the wind tunnel model, creating a considerable blockage effect in the wind tunnel. One potential impact of this effect is to induce higher wind speeds closer to the outer edge of the model (i.e., between the side walls of the wind tunnel and the large building mass at the center of the model disk). In addition, for the west and west-southwest winds, the sensors on the outer disk were close to the windward edge of the disk and there were not enough upwind buildings to provide shelter as in the actual city setting. Therefore, in the current study, sensors that were originally placed on the outer model diskdue to the unusually large size of the Transit Center

(i.e., along 2nd Street, Natoma Street, and Minna Street) were removed to ensure the quality of measurement results presented in this report.

Note that this study involved advanced measurement and analysis techniques to predict wind conditions on and around the development site. Some uncertainty remains in predicting wind comfort and hazard, and this must be kept in mind. For example, the sensation of comfort among individuals can be quite variable. Unforeseen changes in the project area can affect the conditions experienced at the site. Finally, the prediction of wind speeds is necessarily a statistical procedure. The wind speeds reported are for the frequency of occurrence stated (10% of the time or once per year). Higher wind speeds will occur but on a less frequent basis. Any conclusion drawn from a wind tunnel study should be based on not only the comparison of results against the city ordinance and guidelines, but also comparisons of the wind results between various development configurations.

4. TEST RESULTS

Table 1, located in the tables section of this report, presents the wind comfort results for the three development configurations tested. For each measurement point, the measured 10% exceeded (90th percentile) equivalent wind speed and the percentage of time that the wind speed exceeds 11 mph is shown for areas considered to be used primarily for walking. A lower-speed criterion (7 mph exceeded 10% of the time) can also be considered, which applies to "seating" areas, and in most cases refers to publicly accessible (although often privately owned) open spaces with passive pedestrian activities intended.

Table 2 presents the wind hazard results, and lists the predicted wind speed to be exceeded one hour per year. The predicted number of hours per year that the Section 148 wind hazard criterion (one minute wind speed of 36 mph) is exceeded is also provided.

Wind speed measurements were taken at 171 locations for the Existing Configuration, and 206 locations for the Existing plus Project and Project plus Cumulative Configurations. Measurement locations were also included on the roof of the Transbay Transit Terminal (Locations 25 through 74). Figures 2a through 2c depict the sensor locations on and around the project site. Discussions regarding building and sensor locations and direction refer to "Project North", while wind directionality refers to "True North".

4.1 Wind Comfort Conditions

Existing Conditions

For the Existing Configuration in the vicinity of the project site, wind activity was generally high with wind speeds averaging 9 mph, and the average percentage of time winds exceed the 11 mph comfort criteria at 5%. The highest wind speeds occurred between Mission and Minna Streets (20 mph at Location 150 in Table 1 and Figure 2b). These high wind speeds were caused by winds downwashing and accelerating between the existing buildings west of the proposed Transbay Tower. Wind speeds at 79 of the 171 test locations currently exceed the Planning Code's 7 and 11 mph pedestrian comfort criteria. For the Existing Configuration, of the 14 test locations immediately adjacent to the project site (Locations 1, 5, 8, 12, 14,

and 16 through 24 in Figure 2c) the 10% wind speeds range from 8 to 16 mph, with ten (Locations 1, 8, 12, 14, 16 through 19, 22 and 24) exceeding pedestrian comfort criterion.

Existing plus Project

For the Existing plus Project Configuration, wind speeds were generally similar to those recorded in the Existing Configuration with average wind speeds increasing slightly from 9 mph to 10 mph. The number of comfort criterion exceedances increased to 101 out of 206 sensor locations. The highest wind speed remained between Mission Street and Minna Street (19 mph at Locations 150 and 151). At test locations adjacent to the project (Locations 1 through 24 in Figure 2c), the 10% wind speeds ranged from 8 to 14 mph, with 20 of the 24 locations exceeding the 7 mph, and 11 mph pedestrian comfort criteria. Overall, the percent of time the winds exceeded 11 mph increased from 5% in the Existing Configuration, to 9% of the time in the Existing plus Project Configuration.

Project plus Cumulative

With the Project plus Cumulative Configuration in place, winds generally increased from the Existing Configuration and the Existing plus Project Configuration; the average wind speed for all test locations increased to 11 mph with winds exceeding the 11 mph criteria for 11% of the time. The highest wind speed area occurred on the top west side of the Transbay Transit Center (20 mph at Location 28). Of the 24 test locations around the project site (Figure 2c), 21 locations had winds that exceeded the pedestrian comfort criterion stipulated in the Planning Code. In the vicinity of the proposed project, wind speeds ranged from 8 to 15 mph, similar to those recorded in the other two configurations. With the Project plus Cumulative Configuration in place, the number of exceedances of the comfort criteria increased from the Existing and Existing plus Project Configurations from 79 out of 171, and 101 out of 206, to 117 out of 206. There was an average speed increase relative to existing conditions of 2 mph.

Summary of Pedestrian Wind Comfort

Overall, as indicated in Table 1, wind conditions were similar for the Existing and Existing plus Project Configurations, with an increase in the number of wind speed exceedances occurring around the tower. This increase was also observed for the Project plus Cumulative Configuration. The average wind speeds increased slightly from the Existing and Existing plus Project Configurations as well as for the Project plus Cumulative Configuration.

4.2 Wind Hazard Conditions

Existing

As indicated in Table 2, all test locations currently meet the wind hazard criterion. The average wind speed exceeded was 18 mph for the Existing Configuration.

Existing plus Project

All test locations met the wind hazard criterion for the Existing plus Project Configuration and the average wind speed exceeded was 19 mph.

Project plus Cumulative

The addition of the cumulative developments resulted in one additional hazardous wind exceedance. This hazardous wind condition was observed on the east side of 1st Street north of Mission Street (Location 101 in Table 2 and Figure 2b). The strong winds in this area were primarily caused by the predominant northwest winds accelerating around the southwest building at the corner of 1st Street and Market Street, and the northwest winds channelling between the buildings on 1st Street. As indicated at the bottom of Table 2, the average wind speed exceeded was 20 mph, slightly higher than those for the Existing (18 mph) and the Existing plus Project (19 mph) Configurations.

4.3 Recommendations

If improved wind comfort is desired at seating areas or areas where passive activities are anticipated, wind mitigation in the form of landscaping, trellises, and/or wind screens could be considered to provide localized protection from the wind (see Images 1 through 4). In addition, the massing of proposed future buildings could be refined (e.g., shape, orientation, tower setbacks, etc.) in an effort to further improve predicted wind conditions for the Project plus Cumulative Configuration.

For the wind hazard exceedance in the Project plus Cumulative Configuration (Location 101 in Figure 2b), wind mitigation should be further investigated during the design of the future building on the west side of 1st Street which is the primary cause for these strong wind conditions.

The model tested in the wind tunnel used the City of San Francisco's standard testing methodology, which does not account for the street furniture, landscaping, etc. present in the area. Depending on the placement and density of such elements, the wind comfort conditions recorded could be improved to be suitable for the intended usage at all but the most extreme cases. The impact of these elements in wind reduction tends to be localized, whereas high wind speeds were predicted in areas both near, and away from the development site. Therefore, it was determined that the potential for effective on-site wind control measures to reduce wind speeds off-site, was limited.

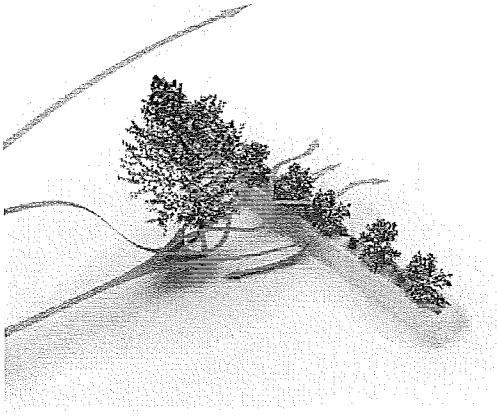


Image 1 – *Landscaping*



Image 2 – *Landscaping on the existing site of the Transit Center Tower building (Image Courtesy of Google Earth ™)*

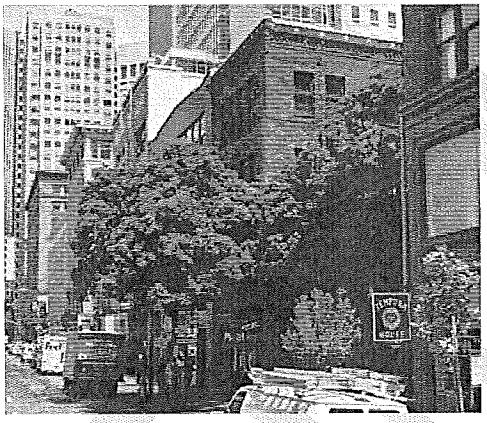


Image 3 –*Landscaping at the corner of 2nd Street & Natoma Street (Image Courtesy of Google Earth ™)*

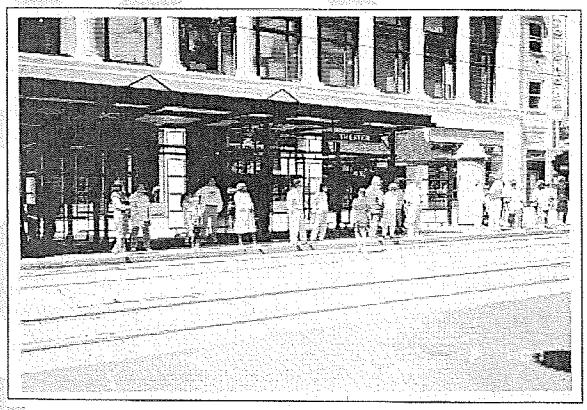


Image 4 – *Example Wind Screen / Shelter*

5. APPLICABILITY OF RESULTS

The results presented in this report pertain to the model of the proposed Transbay Tower and a portion of the Transit Center District Plan development constructed using the architectural design drawings listed in Appendix A. Should there be design changes that deviate from this list of drawings, the results presented may change. Therefore, if substantial changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

6. REFERENCES

[1] Irwin, H.P.A.H. (1981), "A simple omni-directional sensor for wind-tunnel studies of pedestrian-level winds", *Journal of Wind Engineering and Industrial Aerodynamics*, vol. 7, pp 219-239.

[2] ASCE Task Committee on Outdoor Human Comfort (2004). *Outdoor Human Comfort and Its Assessment*, 68 pages, American Society of Civil Engineers, Reston, Virginia, USA.

[3] Arens, E., Ballanti, D, Bennet, C., Guldman, S. And White, B. (1989), "Developing the San Francisco wind ordinance and its guidelines for compliance", *Building and Environment*, vol 24(4), pp 297-303

[4] White, B.R. (1992), "Analysis and wind tunnel simulation of pedestrian level winds in San Francisco", *Journal of Wind Engineering and Industrial Aerodynamics*, vol. 41-44, pp 2353-2364.

[5] Irwin, P.A. (1981), *The Design of Spires for Wind Simulation*, Journal of Wind Engineering and Industrial Aerodynamics, vol. 7, pp. 361-366.

DRAFT

TABLES

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Existing plus Project				Project plus Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
1	11	12	14%	e	14	24%	2	e	15	25%	3	e
2	7	-	-		14	23%	-	e	13	20%	-	e
3	7	-	-		9	4%	-	e	9	4%	-	e
4	7	-	-		11	10%	-	e	10	6%	-	e
5	11	10	6%		13	20%	3	e	12	14%	2	e
6	11	-	-		13	21%	-	e	13	20%	-	e
7	11	-	-		13	19%	-	e	13	21%	-	e
8	11	13	15%	e	13	19%	0	e	13	20%	0	e
9	11	-	-		12	13%	-	e	13	19%	-	e
10	11	-	-		10	5%	-		12	13%	-	e
11	7	-	-		14	24%	-	e	14	25%	-	e
12	7	11	10%	e	13	19%	2	e	13	17%	2	e
13	7	-	-		14	21%	-	e	11	10%	-	e
14	7	9	4%	e	12	12%	3	e	9	4%	0	e
15	7	-	-		9	3%	-	e	9	4%	-	e
16	7	11	10%	e	9	2%	-2	e	8	2%	-3	e
17	7	11	10%	e	9	2%	-2	e	8	3%	-3	e
18	7	11	10%	e	8	1%	-3	e	8	1%	-3	e
19	7	11	10%	e	9	2%	-2	e	8	1%	-3	e
20	11	10	6%		13	19%	3	e	12	14%	2	e
21	11	8	1%		10	7%	2		9	4%	1	
22	11	12	12%	e	12	15%	0	e	11	10%	-1	
23	11	9	2%		9	3%	0		9	3%	0	
24	11	16	29%	e	11	10%	-5		13	18%	-3	e
25	7	11	10%	e	13	20%	2	e	17	35%	6	e
26	7	8	1%	e	10	6%	2	e	15	25%	7	e
27	7	9	2%	e	12	12%	3	e	19	39%	10	e
28	7	9	2%	e	11	10%	2	e	20	42%	11	e
29	7	7	0%		6	0%	-1		12	13%	5	e
30	7	7	0%		6	0%	-1		12	14%	5	e

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Existing plus Project				Project plus Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
31	7	8	1%	e	9	3%	1	e	15	27%	7	e
32	7	8	1%	e	6	0%	-2		9	2%	1	e
33	7	8	0%	e	7	0%	-1		15	25%	7	e
34	7	8	1%	e	9	2%	1	e	19	37%	11	e
35	7	7	0%		8	1%	1	e	19	37%	12	e
36	7	8	1%	e	7	0%	-1		14	22%	6	e
37	7	8	1%	e	7	1%	-1		16	30%	8	e
38	7	8	2%	e	7	0%	-1		14	19%	6	e
39	7	7	0%		7	1%	0		17	32%	10	e
40	7	8	2%	e	8	1%	0	e	15	26%	7	e
41	7	8	3%	e	9	3%	1	e	13	18%	5	e
42	7	8	1%	e	7	1%	-1		16	27%	8	e
43	7	8	1%	e	7	1%	-1		17	31%	9	e
44	7	9	5%	e	11	10%	2	e	14	21%	5	e
45	7	9	3%	e	10	6%	1	e	12	14%	3	e
46	7	9	4%	e	8	1%	-1	e	14	22%	5	e
47	7	8	2%	e	10	5%	2	e	14	20%	6	e
48	7	9	3%	e	11	10%	2	e	7	1%	-2	
49	7	9	2%	e	13	18%	4	e	12	13%	3	e
50	7	10	7%	e	14	22%	4	e	10	6%	0	e
51	7	9	5%	e	13	18%	4	e	13	18%	4	e
52	7	10	6%	e	14	20%	4	e	13	19%	3	e
53	7	9	2%	e	11	10%	2	e	10	4%	1	e
54	7	8	1%	e	10	6%	2	e	8	1%	0	e
55	7	10	6%	e	13	19%	3	e	13	16%	3	e
56	7	10	6%	e	12	15%	2	e	11	10%	1	e
57	7	8	1%	e	10	6%	2	e	10	5%	2	e
58	7	9	2%	e	10	8%	1	e	10	7%	1	e
59	7	8	1%	e	12	16%	4	e	11	10%	3	e
60	7	11	10%	e	12	12%	1	e	10	9%	-1	e

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Project				Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
61	7	8	1%	e	8	1%	0	e	8	2%	0	e
62	7	10	6%	e	12	13%	2	e	11	10%	1	e
63	7	10	5%	e	12	15%	2	e	13	15%	3	e
64	7	11	10%	e	13	19%	2	e	13	15%	2	e
65	7	8	0%	e	4	0%	-4		5	0%	-3	
66	7	9	2%	e	12	14%	3	e	12	13%	3	e
67	7	10	6%	e	12	16%	2	e	12	12%	2	e
68	7	6	0%		8	1%	2	e	6	0%	0	
69	7	8	1%	e	10	5%	2	e	11	10%	3	e
70	7	9	2%	e	12	14%	3	e	12	12%	3	e
71	7	9	2%	e	11	10%	2	e	10	6%	1	e
72	7	8	2%	e	7	0%	-1		6	0%	-2	
73	7	12	13%	e	10	7%	-2	e	10	9%	-2	e
74	7	10	7%	e	12	13%	2	e	10	4%	0	e
75	11	5	0%		4	0%	-1		7	0%	2	
76	11	11	10%		9	4%	-2		10	5%	-1	
77	11	9	2%		7	1%	-2		7	0%	-2	
78	11	8	1%		6	0%	-2		6	0%	-2	
79	11	6	0%		7	1%	1		8	1%	2	
80	11	7	0%		8	1%	1		9	3%	2	
81	11	7	1%		7	1%	0		10	4%	3	
82	11	7	1%		4	0%	-3		4	0%	-3	
83	7	-	-		13	16%	-	e	13	16%	-	e
84	7	8	1%	e	11	10%	3	e	13	17%	5	e
85	7	11	10%	e	11	10%	0	e	11	10%	0	e
86	7	11	10%	e	13	16%	2	e	14	22%	3	e
87	11	7	0%		10	8%	3		10	7%	3	
88	11	9	3%		7	1%	-2		13	18%	4	e
89	11	8	1%		9	2%	1		11	10%	3	
90	11	8	1%		9	3%	1		12	13%	4	e

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Existing plus Project				Project plus Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
91	11	9	4%		8	2%	-1		9	2%	0	
92	11	9	4%		9	4%	0		8	3%	-1	
93	11	11	10%		10	6%	-1		9	5%	-2	
94	11	11	10%		12	15%	1	e	10	7%	-1	
95	11	10	8%		11	10%	1		11	10%	1	
96	11	14	22%	e	15	25%	1	e	14	23%	0	e
97	11	-	-		10	4%	-		9	4%	-	
98	11	-	-		11	10%	-		13	17%	-	e
99	11	-	-		11	10%	-		14	19%	-	e
100	11	-	-		9	5%	-		12	15%	-	e
101	7	-	-		15	22%	-	e	18	37%	-	e
102	11	-	-		10	8%	-		14	19%	-	e
103	7	-	-		9	2%	-	e	8	1%	-	e
104	7	-	-		17	34%	-	e	17	34%	-	e
105	11	-	-		14	20%	-	e	13	19%	-	e
106	11	-	-		17	34%	-	e	17	35%	-	e
107	7	-	-		13	17%	-	e	12	16%	-	e
108	11	-	-		9	2%	-		8	2%	-	
109	11	-	-		14	25%	-	e	12	15%	-	e
110	11	-	-		10	5%	-		10	4%	-	
111	11	11	10%		14	23%	3	e	13	20%	2	e
112	11	10	7%		12	14%	2	e	11	10%	1	
113	11	11	10%		12	15%	1	e	10	5%	-1	
114	11	10	5%		10	6%	0		8	3%	-2	
115	11	10	7%		10	6%	0		9	3%	-1	
116	11	8	1%		7	0%	-1		8	1%	0	
117	11	11	10%		9	4%	-2		9	3%	-2	
118	11	9	4%		8	3%	-1		11	10%	2	
119	11	9	4%		9	6%	0		11	10%	2	
120	11	7	0%		7	0%	0		9	3%	2	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Project				Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
121	7	9	4%	e	11	10%	2	e	11	10%	2	e
122	11	8	1%		11	10%	3		11	10%	3	
123	11	9	2%		11	10%	2		7	0%	-2	
124	7	10	5%	e	10	5%	0	e	7	0%	-3	
125	11	7	0%		6	0%	-1		5	0%	-2	
126	11	11	10%		8	1%	-3		7	0%	-4	
127	11	8	1%		8	1%	0		6	0%	-2	
128	11	13	14%	e	6	1%	-7		7	1%	-6	
129	11	8	1%		8	1%	0		7	0%	-1	
130	11	13	16%	e	7	1%	-6		8	2%	-5	
131	11	8	4%		4	0%	-4		4	0%	-4	
132	11	13	10%	e	7	1%	-6		8	2%	-5	
133	11	11	10%		6	1%	-5		7	1%	-4	
134	11	13	10%	e	8	1%	-5		6	0%	-7	
135	11	8	2%		9	3%	1		6	0%	-2	
136	11	12	10%	e	9	4%	-3		9	3%	-3	
137	11	15	23%	e	6	0%	-9		7	1%	-8	
138	7	14	20%	e	11	10%	-3	e	9	6%	-5	e
139	11	15	23%	e	10	7%	-5		8	4%	-7	
140	11	-	-		10	5%	-		8	2%	-	
141	11	11	10%		10	7%	-1		9	3%	-2	
142	11	10	8%		10	4%	0		8	1%	-2	
143	11	-	-		12	16%	-	e	9	4%	-	
144	11	-	-		10	7%	-		9	4%	-	
145	11	-	-		13	17%	-	e	12	14%	-	e
146	11	12	14%	e	14	21%	2	e	16	30%	4	e
147	11	-	-		13	16%	-	e	18	36%	-	e
148	11	16	31%	e	14	22%	-2	e	16	32%	0	e
149	11	24	49%	e	19	-45%	-8	e	18	37%	-6	e
150	7	20	42%	e	19	42%	-1	e	17	35%	-3	e

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Existing plus Project				Project plus Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
151	7	18	37%	e	19	41%	1	e	17	34%	-1	e
152	7	16	29%	e	17	35%	1	e	17	37%	1	e
153	11	9	2%		9	3%	0		9	2%	0	
154	11	9	4%		10	6%	1		14	20%	5	e
155	11	12	12%	e	12	15%	0	e	15	24%	3	e
156	11	10	4%		9	3%	-1		13	19%	3	e
157	11	8	1%		8	2%	0		11	10%	3	
158	11	8	1%		8	1%	0		11	10%	3	
159	11	10	5%		13	17%	3	e	13	19%	3	e
160	11	9	3%		7	1%	-2		11	10%	2	
161	11	8	3%		7	0%	-1		11	10%	3	
162	11	10	8%		6	0%	-4		8	2%	-2	
163	11	10	4%		7	0%	-3		7	1%	-3	
164	11	14	10%	e	10	7%	-4		8	4%	-6	
165	11	8	1%		5	0%	-3		9	3%	1	
166	11	10	6%		11	10%	1		19	42%	9	e
167	11	8	1%		6	0%	-2		16	30%	8	e
168	11	10	5%		12	14%	2	e	17	34%	7	e
169	11	8	1%		9	3%	1		19	39%	11	e
170	11	7	0%		7	1%	0		14	22%	7	e
171	11	7	0%		8	2%	1		13	18%	6	e
172	11	6	0%		8	1%	2		10	4%	4	
173	11	5	0%		7	0%	2		11	10%	6	
174	11	7	0%		9	3%	2		12	13%	5	e
175	11	6	0%		8	1%	2		12	14%	6	e
176	11	6	0%		5	0%	-1		9	2%	3	
177	11	6	0%		6	0%	0		11	10%	5	
178	11	8	1%		7	0%	-1		10	5%	2	
179	11	16	28%	e	17	36%	1	e	11	10%	-5	
180	11	10	6%		10	4%	0		15	24%	5	e

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 1: Comfort Results

References		Existing			Project				Cumulative			
Location Number	Comfort Criterion Speed (*mph*)	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds	Wind Speed Exceeded 10% of Time (mph)	Percent of Time Wind Speed Exceeds 11mph	Speed Change Relative to Existing (mph)	exceeds
181	11	11	10%		12	12%	1	e	10	7%	-1	
182	11	10	7%		14	22%	4	e	17	33%	7	e
183	11	6	0%		7	0%	1		6	0%	0	
184	7	9	5%	e	10	6%	1	e	7	1%	-2	
185	7	-	-		8	1%	-	e	8	2%	-	e
186	7	7	1%		8	1%	1	e	8	1%	1	e
187	7	7	0%		7	0%	0		6	0%	-1	
188	7	8	2%	e	9	3%	1	e	10	4%	2	e
189	11	6	0%		6	0%	0		4	0%	-2	
190	11	7	0%		7	0%	0		5	0%	-2	
191	11	7	0%		7	0%	0		6	0%	-1	
192	11	5	0%		6	0%	1		4	0%	-1	
193	11	7	0%		7	1%	0		6	0%	-1	
194	11	6	0%		6	0%	0		5	0%	-1	
195	11	7	0%		8	1%	1		7	1%	0	
196	11	6	0%		10	4%	4		7	1%	1	
197	7	-	-		9	2%	-	e	10	5%	-	e
198	11	6	0%		7	1%	1		8	1%	2	
199	11	6	0%		7	0%	1		10	5%	4	
200	11	9	4%		12	12%	3	e	4	0%	-5	
201	11	6	0%		6	0%	0		6	0%	0	
202	11	5	0%		5	0%	0		5	0%	0	
203	11	7	0%		5	0%	-2		4	0%	-3	
204	7	-	-		9	3%	-	e	11	10%	-	e
205	7	-	-		12	16%	-	e	13	17%	-	e
206	11	10	5%		12	12%	2	e	14	19%	4	e
207	7	-	-		11	10%	-	e	10	7%	-	e
Average mph and %		9 mph	5%		10 mph	9%	1 mph		11 mph	11%	2 mph	
Exceedances		Existing	79 of 171		Project		101 of 206		Cumulative		117 of 206	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

References	Existing			Project				Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
1	21	<1		25	<1	0		25	<1	0	
2	-	-		26	<1	-		24	<1	-	
3	-	-		18	<1	-		24	<1	-	
4	-	-		20	<1	-		18	<1	-	
5	20	<1		24	<1	0		22	<1	0	
6	-	-		23	<1	-		25	<1	-	
7	-	-		23	<1	-		25	<1	-	
8	26	<1		22	<1	0		25	<1	0	
9	-	-		21	<1	-		23	<1	-	
10	-	-		18	<1	-		20	<1	-	
11	-	-		26	<1	-		28	<1	-	
12	19	<1		24	<1	0		24	<1	0	
13	-	-		26	<1	-		23	<1	-	
14	18	<1		22	<1	0		22	<1	0	
15	-	-		17	<1	-		23	<1	-	
16	21	<1		16	<1	0		19	<1	0	
17	19	<1		16	<1	0		19	<1	0	
18	21	<1		14	<1	0		14	<1	0	
19	21	<1		16	<1	0		15	<1	0	
20	20	<1		24	<1	0		22	<1	0	
21	16	<1		19	<1	0		17	<1	0	
22	27	<1		23	<1	0		24	<1	0	
23	16	<1		19	<1	0		17	<1	0	
24	30	<1		22	<1	0		25	<1	0	
25	22	<1		23	<1	0		30	<1	0	
26	17	<1		19	<1	0		25	<1	0	
27	20	<1		22	<1	0		32	<1	0	
28	19	<1		20	<1	0		35	<1	0	
29	13	<1		14	<1	0		20	<1	0	
30	12	<1		13	<1	0		21	<1	0	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

References	Existing			Project				Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
31	14	<1		17	<1	0		26	<1	0	
32	13	<1		12	<1	0		16	<1	0	
33	15	<1		15	<1	0		28	<1	0	
34	15	<1		17	<1	0		33	<1	0	
35	14	<1		17	<1	0		33	<1	0	
36	14	<1		16	<1	0		24	<1	0	
37	14	<1		18	<1	0		28	<1	0	
38	16	<1		16	<1	0		24	<1	0	
39	14	<1		17	<1	0		29	<1	0	
40	16	<1		18	<1	0		27	<1	0	
41	20	<1		18	<1	0		24	<1	0	
42	15	<1		17	<1	0		27	<1	0	
43	15	<1		17	<1	0		29	<1	0	
44	19	<1		21	<1	0		25	<1	0	
45	17	<1		19	<1	0		21	<1	0	
46	18	<1		17	<1	0		25	<1	0	
47	15	<1		18	<1	0		24	<1	0	
48	17	<1		19	<1	0		16	<1	0	
49	15	<1		22	<1	0		20	<1	0	
50	19	<1		23	<1	0		21	<1	0	
51	18	<1		24	<1	0		22	<1	0	
52	19	<1		27	<1	0		23	<1	0	
53	16	<1		19	<1	0		16	<1	0	
54	15	<1		21	<1	0		15	<1	0	
55	19	<1		25	<1	0		23	<1	0	
56	19	<1		21	<1	0		20	<1	0	
57	15	<1		18	<1	0		18	<1	0	
58	16	<1		23	<1	0		18	<1	0	
59	15	<1		24	<1	0		20	<1	0	
60	19	<1		21	<1	0		19	<1	0	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

References	Existing			Project				Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
61	14	<1		14	<1	0		15	<1	0	
62	18	<1		23	<1	0		20	<1	0	
63	17	<1		22	<1	0		24	<1	0	
64	19	<1		23	<1	0		23	<1	0	
65	13	<1		7	<1	0		8	<1	0	
66	16	<1		21	<1	0		22	<1	0	
67	18	<1		22	<1	0		22	<1	0	
68	12	<1		17	<1	0		12	<1	0	
69	15	<1		19	<1	0		20	<1	0	
70	17	<1		22	<1	0		22	<1	0	
71	16	<1		20	<1	0		18	<1	0	
72	16	<1		12	<1	0		11	<1	0	
73	25	<1		19	<1	0		19	<1	0	
74	20	<1		22	<1	0		17	<1	0	
75	10	<1		8	<1	0		13	<1	0	
76	19	<1		19	<1	0		18	<1	0	
77	16	<1		15	<1	0		13	<1	0	
78	15	<1		13	<1	0		10	<1	0	
79	11	<1		14	<1	0		14	<1	0	
80	13	<1		15	<1	0		16	<1	0	
81	14	<1		14	<1	0		17	<1	0	
82	17	<1		7	<1	0		7	<1	0	
83	-	-		24	<1	-		22	<1	-	
84	17	<1		20	<1	0		22	<1	0	
85	19	<1		20	<1	0		20	<1	0	
86	21	<1		25	<1	0		25	<1	0	
87	15	<1		19	<1	0		18	<1	0	
88	17	<1		13	<1	0		23	<1	0	
89	14	<1		15	<1	0		19	<1	0	
90	14	<1		16	<1	0		20	<1	0	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

References	Existing			Project				Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
91	17	<1		15	<1	0		16	<1	0	
92	22	<1		17	<1	0		21	<1	0	
93	24	<1		18	<1	0		23	<1	0	
94	25	<1		25	<1	0		29	<1	0	
95	26	<1		20	<1	0		27	<1	0	
96	25	<1		25	<1	0		24	<1	0	
97	-	-		19	<1	-		22	<1	-	
98	-	-		25	<1	-		27	<1	-	
99	-	-		27	<1	-		30	<1	-	
100	-	-		25	<1	-		28	<1	-	
101	-	-		35	<1	-		37	3		e
102	-	-		22	<1	-		35	<1	-	
103	-	-		16	<1	-		14	<1	-	
104	-	-		29	<1	-		29	<1	-	
105	-	-		24	<1	-		22	<1	-	
106	-	-		30	<1	-		29	<1	-	
107	-	-		22	<1	-		21	<1	-	
108	-	-		16	<1	-		16	<1	-	
109	-	-		26	<1	-		23	<1	-	
110	-	-		18	<1	-		18	<1	-	
111	19	<1		26	<1	0		24	<1	0	
112	21	<1		24	<1	0		19	<1	0	
113	19	<1		22	<1	0		21	<1	0	
114	18	<1		18	<1	0		19	<1	0	
115	18	<1		19	<1	0		20	<1	0	
116	13	<1		13	<1	0		16	<1	0	
117	19	<1		19	<1	0		16	<1	0	
118	17	<1		18	<1	0		21	<1	0	
119	17	<1		20	<1	0		21	<1	0	
120	12	<1		13	<1	0		17	<1	0	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

References	Existing			Project				Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
121	18	<1		22	<1	0		21	<1	0	
122	16	<1		19	<1	0		21	<1	0	
123	16	<1		19	<1	0		13	<1	0	
124	19	<1		19	<1	0		14	<1	0	
125	13	<1		11	<1	0		9	<1	0	
126	24	<1		15	<1	0		13	<1	0	
127	15	<1		15	<1	0		11	<1	0	
128	27	<1		16	<1	0		16	<1	0	
129	15	<1		15	<1	0		13	<1	0	
130	27	<1		18	<1	0		17	<1	0	
131	18	<1		8	<1	0		8	<1	0	
132	27	<1		17	<1	0		18	<1	0	
133	24	<1		15	<1	0		16	<1	0	
134	28	<1		15	<1	0		13	<1	0	
135	16	<1		16	<1	0		12	<1	0	
136	27	<1		20	<1	0		18	<1	0	
137	30	<1		12	<1	0		15	<1	0	
138	30	<1		22	<1	0		22	<1	0	
139	31	<1		18	<1	0		20	<1	0	
140	-	-		17	<1	-		18	<1	-	
141	31	<1		21	<1	0		20	<1	0	
142	23	<1		17	<1	0		14	<1	0	
143	-	-		24	<1	-		19	<1	-	
144	-	-		19	<1	-		20	<1	-	
145	-	-		23	<1	-		21	<1	-	
146	21	<1		24	<1	0		28	<1	0	
147	-	-		24	<1	-		35	<1	-	
148	29	<1		24	<1	0		28	<1	0	
149	-	-	-	-	-	-		-	-	-	
150	34	<1		33	<1	0		29	<1	0	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

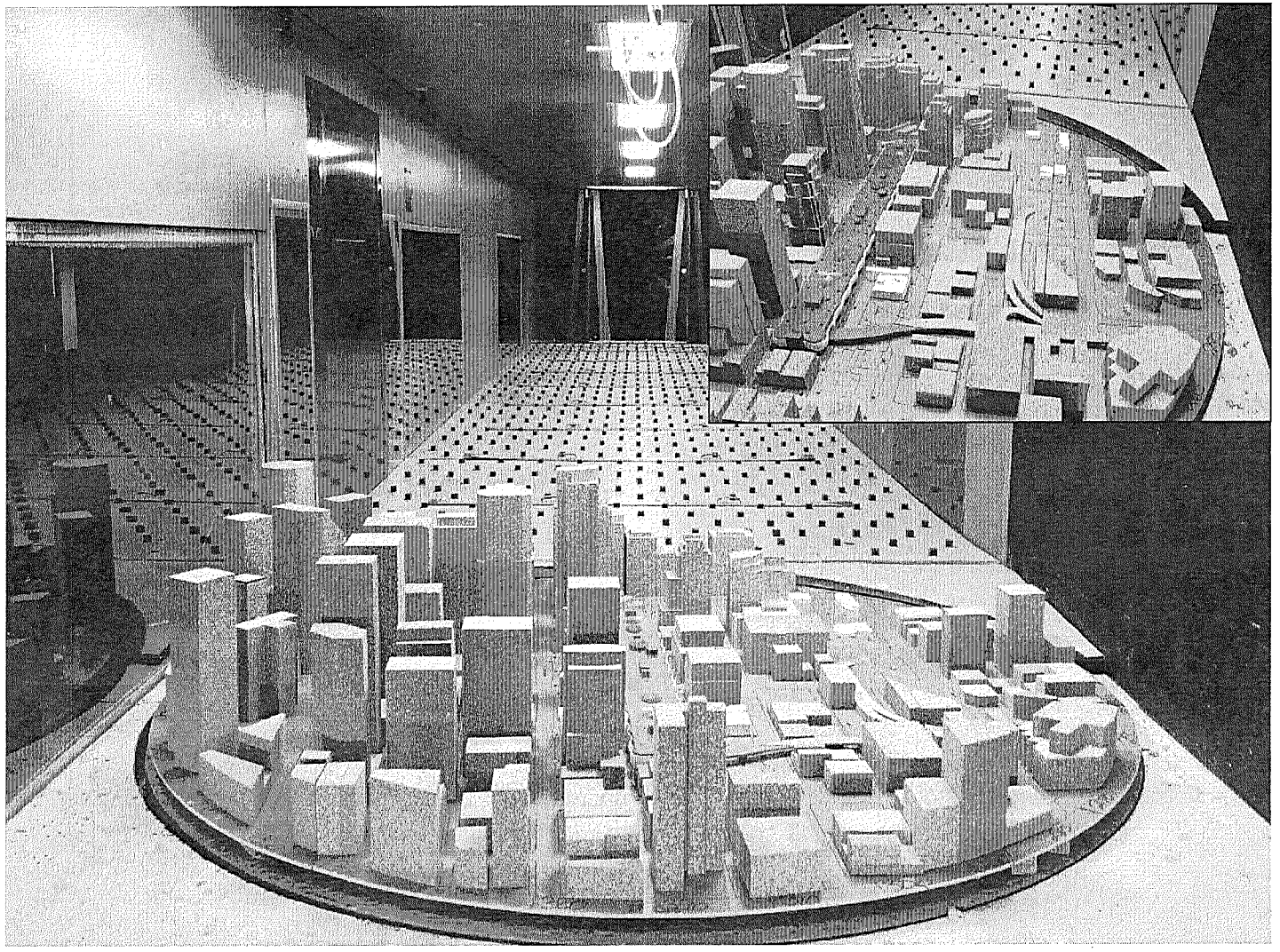
References	Existing			Project				Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
151	31	<1		35	<1	0		30	<1	0	
152	28	<1		31	<1	0		30	<1	0	
153	15	<1		17	<1	0		16	<1	0	
154	17	<1		19	<1	0		24	<1	0	
155	20	<1		23	<1	0		26	<1	0	
156	17	<1		18	<1	0		24	<1	0	
157	13	<1		16	<1	0		20	<1	0	
158	15	<1		14	<1	0		21	<1	0	
159	18	<1		22	<1	0		23	<1	0	
160	18	<1		14	<1	0		21	<1	0	
161	19	<1		12	<1	0		19	<1	0	
162	25	<1		13	<1	0		18	<1	0	
163	18	<1		14	<1	0		15	<1	0	
164	26	<1		20	<1	0		24	<1	0	
165	14	<1		10	<1	0		16	<1	0	
166	18	<1		20	<1	0		33	<1	0	
167	15	<1		11	<1	0		28	<1	0	
168	18	<1		21	<1	0		30	<1	0	
169	15	<1		16	<1	0		32	<1	0	
170	14	<1		13	<1	0		26	<1	0	
171	14	<1		15	<1	0		23	<1	0	
172	13	<1		14	<1	0		16	<1	0	
173	11	<1		13	<1	0		20	<1	0	
174	17	<1		16	<1	0		20	<1	0	
175	15	<1		14	<1	0		22	<1	0	
176	12	<1		10	<1	0		15	<1	0	
177	12	<1		11	<1	0		19	<1	0	
178	13	<1		13	<1	0		17	<1	0	
179	28	<1		30	<1	0		19	<1	0	
180	18	<1		17	<1	0		26	<1	0	

RWDI
CONSULTING ENGINEERS & SCIENTISTS

Table 2: Wind Hazard Results

References	Existing			Existing plus Project				Project plus Cumulative			
Location Number	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hour/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
181	21	<1		21	<1	0		18	<1	0	
182	22	<1		27	<1	0		30	<1	0	
183	11	<1		12	<1	0		10	<1	0	
184	21	<1		18	<1	0		14	<1	0	
185	-	-		14	<1	-		15	<1	-	
186	14	<1		16	<1	0		15	<1	0	
187	13	<1		16	<1	0		15	<1	0	
188	17	<1		19	<1	0		19	<1	0	
189	11	<1		11	<1	0		7	<1	0	
190	13	<1		14	<1	0		9	<1	0	
191	12	<1		14	<1	0		11	<1	0	
192	10	<1		11	<1	0		8	<1	0	
193	12	<1		14	<1	0		11	<1	0	
194	11	<1		12	<1	0		9	<1	0	
195	12	<1		14	<1	0		14	<1	0	
196	11	<1		18	<1	0		16	<1	0	
197	-	-		16	<1	-		17	<1	-	
198	11	<1		15	<1	0		14	<1	0	
199	11	<1		13	<1	0		17	<1	0	
200	21	<1		22	<1	0		7	<1	0	
201	11	<1		11	<1	0		10	<1	0	
202	10	<1		9	<1	0		8	<1	0	
203	12	<1		9	<1	0		7	<1	0	
204	-	-		16	<1	-		19	<1	-	
205	-	-		23	<1	-		25	<1	-	
206	21	<1		20	<1	0		24	<1	0	
207	-	-		19	<1	-		19	<1	-	
Average mph and total hours per year	18 mph	0 hrs		19 mph	0 hrs	0 hrs		20 mph	3 hrs	3 hrs	
Exceedances	Existing	0 of 171		Project		0 of 206		Cumulative		1 of 206	

FIGURES



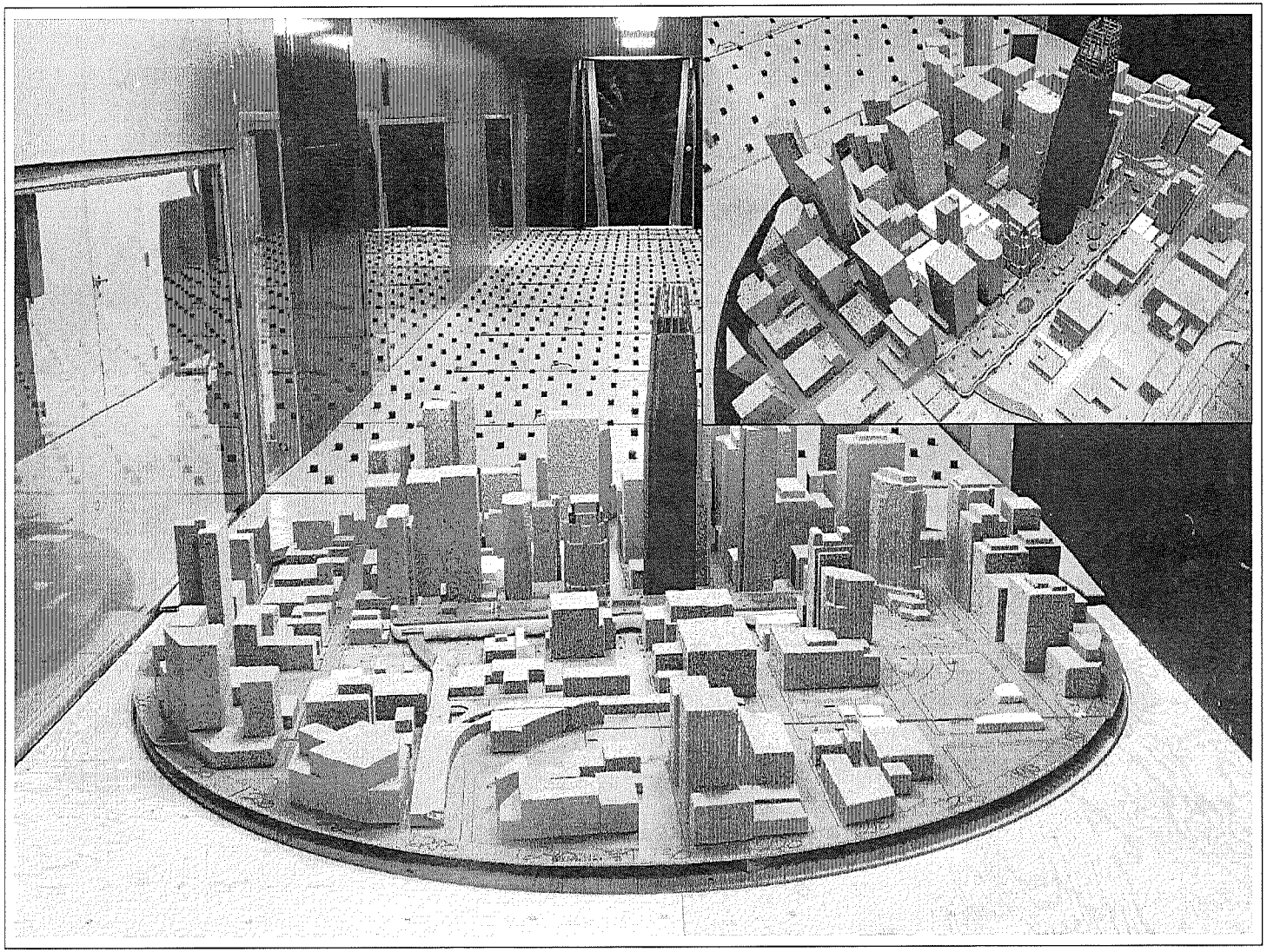
Wind Tunnel Study Model
Configuration - Existing

Transit Center District Plan - San Francisco, California Project #1012134

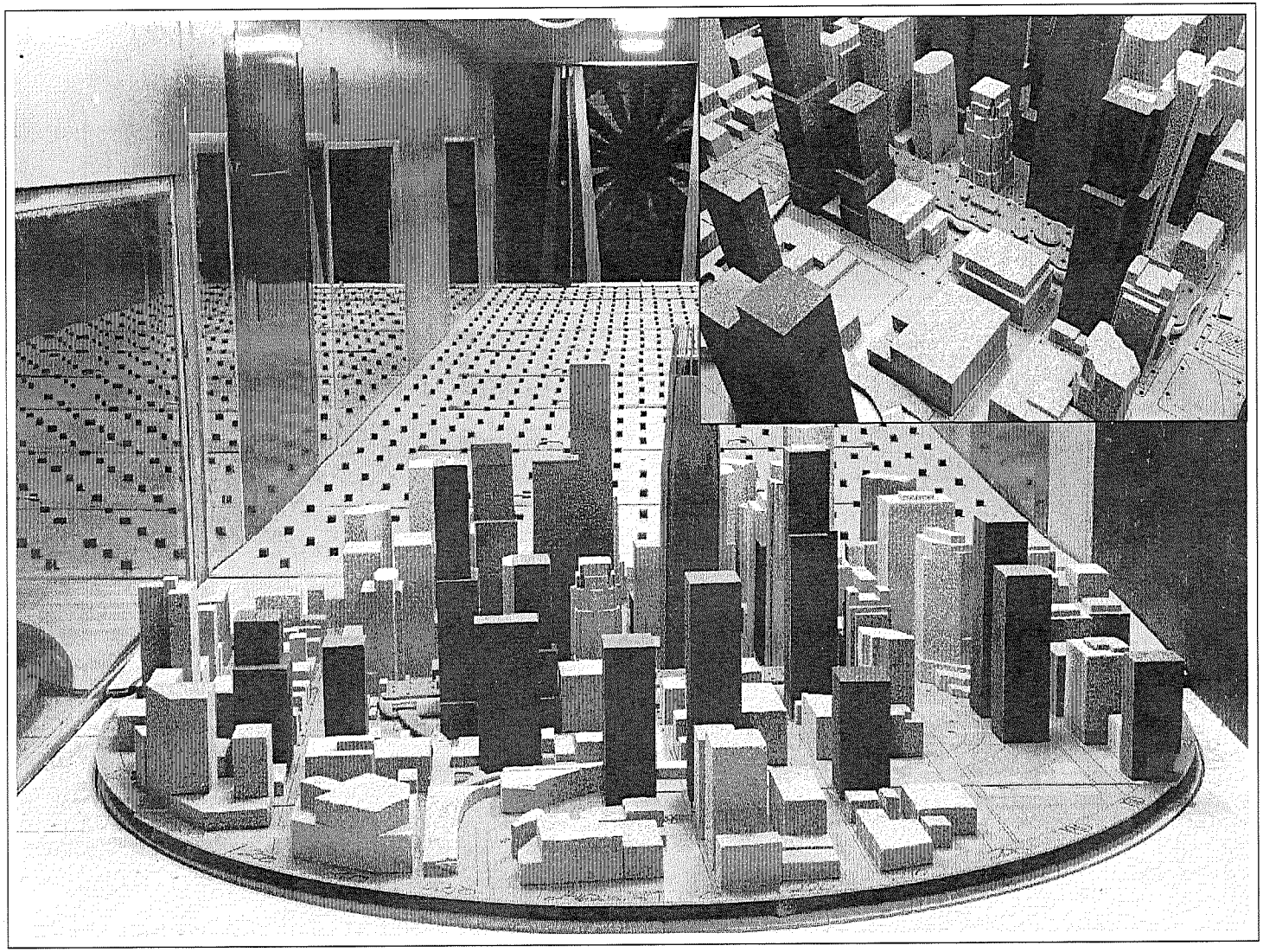
Figure: 1a

Date: March 31, 2011

RWDI



Wind Tunnel Study Model **Configuration - Existing plus Project** Transit Center District Plan - San Francisco, California Project #1012134	Figure: 1b Date: March 31, 2011	RWDI



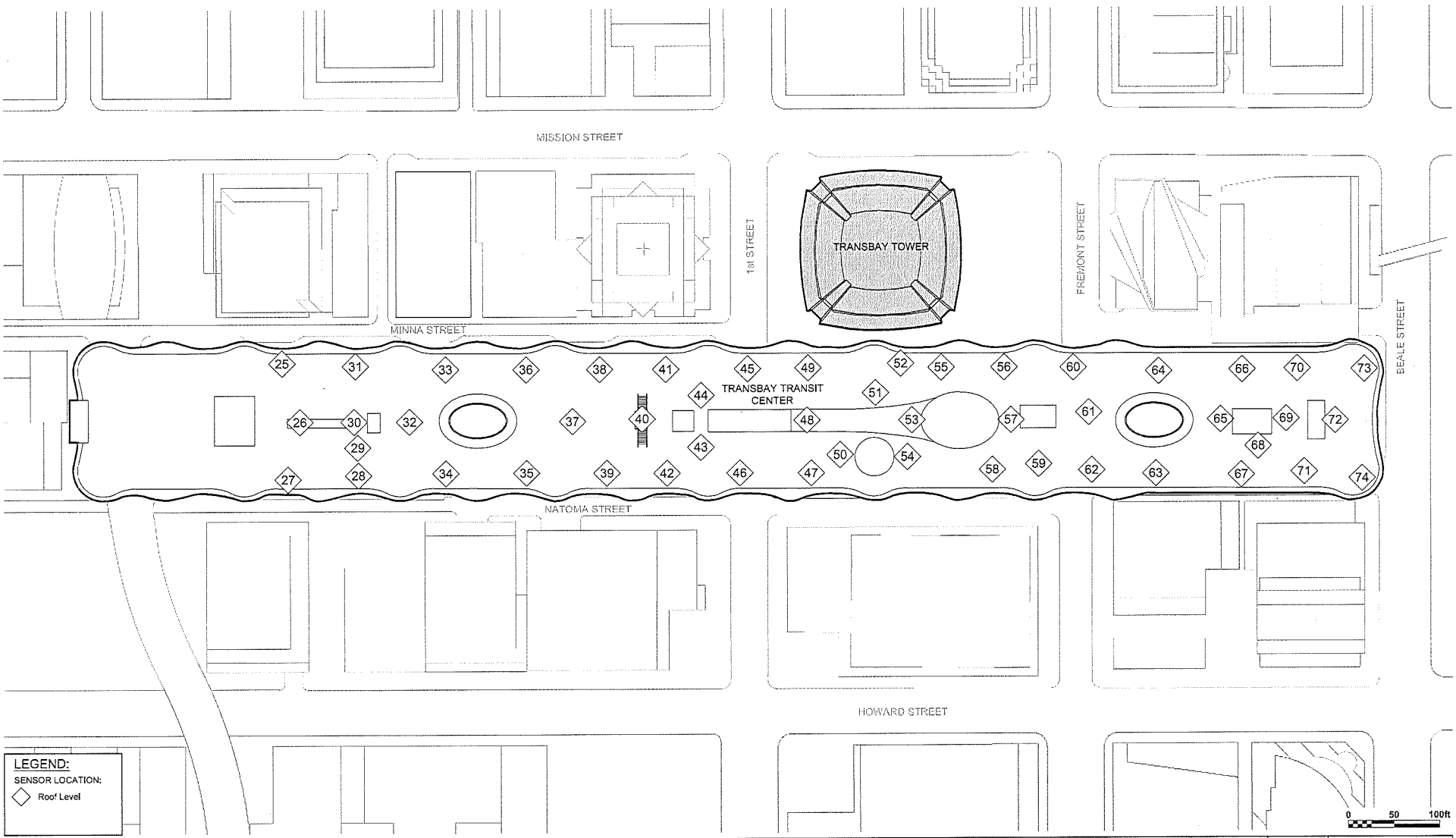
Wind Tunnel Study Model
Configuration - Project plus Cumulative

Transit Center District Plan - San Francisco, California Project #1012134

Figure: 1c

Date: March 31, 2011

RWDI



Sensor Location Plan - Transbay Roof Level

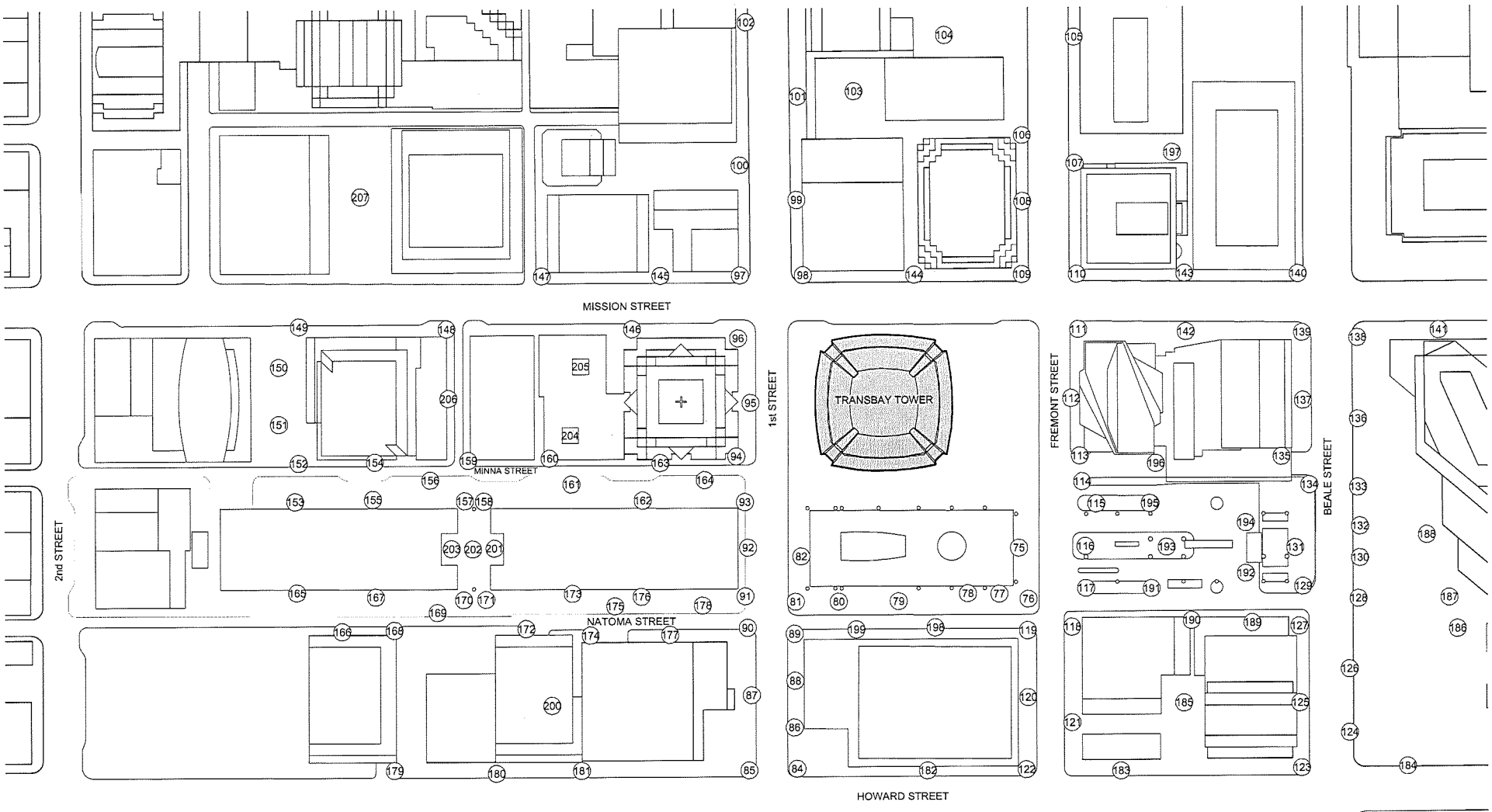
Project North True North

Transit Center District Plan - San Francisco, California

Project #1012134

Drawn by:	EJS	Figure:	2a
Approx. Scale:	1"=100'		
Date Revised:	May 13, 2011		

RWDI



Sensor Location Plan - Off Site

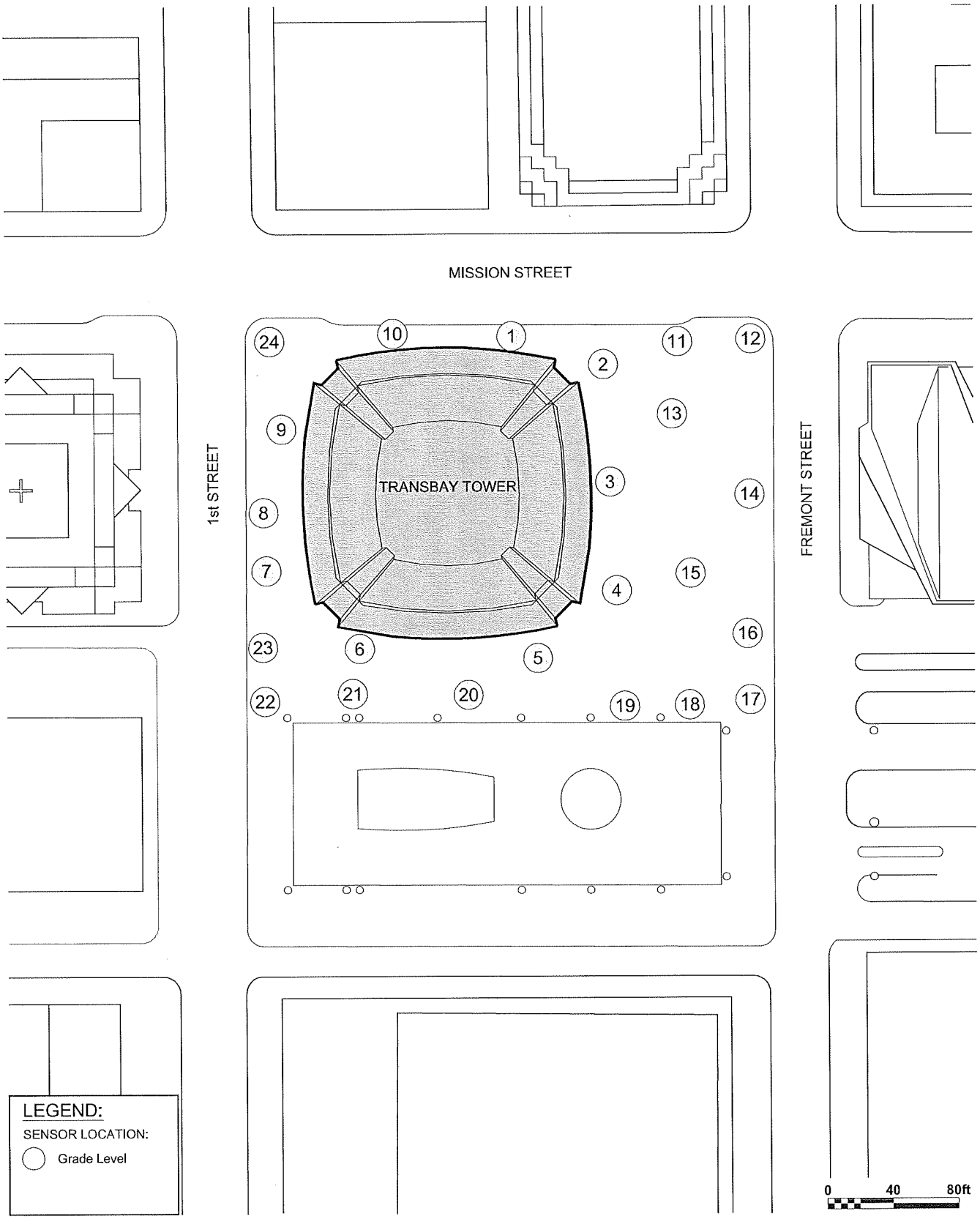
Transit Center District Plan - San Francisco, California

Project North True North

Project #1012134

Drawn by:	EJS	Figure:	2b
Approx. Scale:	1"=120'		
Date Revised:	May 13, 2011		

RWDI



Sensor Location Plan - On Site

Project North True North

Transit Center District Plan - San Francisco, California

Project #1012134

Drawn by:	EJS	Figure:	2c
Approx. Scale:			1"=80'
Date Revised:	May 13, 2011		

RWDI

APPENDIX A

APPENDIX A: DRAWING LIST FOR MODEL CONSTRUCTION

The drawings and information listed below were received from Environmental Science Associates and were used to construct the scale model of the proposed Transbay Tower. Should there be any design changes that deviate from this list of drawings, the results may change. Therefore, if changes in the design area made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

File Name	File Type	Date Received (dd/mm/yyyy)
Blk-3708_50First+GGUniv	PDF	09/09/2010
Blk-3710_350Mission	PDF	09/09/2010
Blk-3722_Moma+NoHoward	PDF	09/09/2010
Blk-3735_SFRA+SoHoward	PDF	09/09/2010
Palace_100%25_SD_April_4_2008	PDF	20/10/2010
222 Second elevations	PDF	20/10/2010
TCDP-bulding-sites4_BW_Alts	PDF	11/04/2010
Transbay Tower Design Update	PDF	12/3/2010
Scan of plan	PDF	10/28/2010

APPENDIX B

APPENDIX B: SAN FRANCISCO PLANNING CODE SECTION 148

Reduction of Ground-level Wind Currents in C-3 Districts

a) **Requirement and Exception.** In C-3 Districts, buildings and additions to existing buildings shall be shaped, or other wind-baffling measures shall be adopted, so that the developments will not cause ground-level wind currents to exceed, more than 10 percent of the time year round, between 7:00 a.m. and 6:00 p.m., the comfort level of 11 m.p.h. equivalent wind speed in areas of substantial pedestrian use and seven m.p.h. equivalent wind speed in public seating areas.

When preexisting ambient wind speeds exceed the comfort level, or when a proposed building or addition may cause ambient wind speeds to exceed the comfort level, the building shall be designed to reduce the ambient wind speeds to meet the requirements. An exception may be granted, in accordance with the provisions of Section 309, allowing the building or addition to add to the amount of time that the comfort level is exceed by the least practical amount if (1) it can be shown that a building or addition cannot be shaped and other wind-baffling measures cannot be adopted to meet the foregoing requirements without creating an unattractive and ungainly building form and without unduly restricting the development potential of the building site in question, and (2) it is concluded that, because of the limited amount by which the comfort level is exceeded, the limited location in which the comfort level is exceeded, or the limited time during which the comfort level is exceeded, the addition is insubstantial.

No exception shall be granted and no building or addition shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year.

b) **Definition.** The term "equivalent wind speed" shall mean and hourly mean wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians.

c) **Guidelines.** Procedures and Methodologies for implementing this section shall be specified by the Office of Environmental Review of the Department of City Planning. (added by Ord. 414-85, App. 9/17/85)

APPENDIX F

Special-Status Plant and Animal Species

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Landscape
Database query for SF North 7.5 minute USGS topographic quadrangle

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1	***Arctostaphylos franciscana***	Franciscan manzanita	PDERI040J3			G1	S1	1B.1	
2	***Arctostaphylos hookeri ssp. ravenii***	Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1	
3	***Arenaria paludicola***	marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1	
4	***Astragalus tener var. tener***	alkali milk-vetch	PDFAB0F8R1			G1T1	S1.1	1B.2	
5	***Carex comosa***	bristly sedge	PMCYP032Y0			G5	S2?	2.1	
6	***Chorizanthe cuspidata var. cuspidata***	San Francisco Bay spineflower	PDPGN04081			G2T2	S2.2	1B.2	
7	***Cicindela hirticollis gravida***	sandy beach tiger beetle	IICOL02101			G5T2	S1		
8	***Cirsium andrewsii***	Franciscan thistle	PDAST2E050			G2	S2.2	1B.2	
9	***Clarkia franciscana***	Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1.1	1B.1	
10	***Collinsia corymbosa***	round-headed Chinese-houses	PDSCR0H060			G1	S1.2	1B.2	
11	***Collinsia multicolor***	San Francisco collinsia	PDSCR0H0B0			G2	S2.2	1B.2	
12	***Cordylanthus maritimus ssp. palustris***	Point Reyes bird's-beak	PDSCR0J0C3			G4?T2	S2.2	1B.2	
13	***Corynorhinus townsendii***	Townsend's big-eared bat	AMACC08010			G4	S2S3		SC
14	***Danaus plexippus***	monarch butterfly	IILEPP2010			G5	S3		
15	***Emys marmorata***	western pond turtle	ARAAD02030			G3G4	S3		SC
16	***Enhydra lutris nereis***	southern sea otter	AMAJF09012	Threatened		G4T2	S2		
17	***Euphydryas editha bayensis***	Bay checkerspot butterfly	IILEPK4055	Threatened		G5T1	S1		
18	***Fritillaria liliacea***	fragrant fritillary	PMLIL0V0C0			G2	S2.2	1B.2	
19	***Gilia capitata ssp. chamissonis***	blue coast gilia	PDPLM040B3			G5T2	S2.1	1B.1	
20	***Gilia millefoliata***	dark-eyed gilia	PDPLM04130			G2	S2.2	1B.2	
21	***Grindelia hirsutula var. maritima***	San Francisco gumplant	PDAST470D3			G5T2	S2.1	1B.2	
22	***Hemizonia congesta ssp. congesta***	seaside tarplant	PDAST4R065			G5T2T3	S2S3	1B.2	
23	***Hesperolinon congestum***	Marin western flax	PDLIN01060	Threatened	Threatened	G2	S2.1	1B.1	
24	***Horkelia cuneata ssp. sericea***	Kellogg's horkelia	PDROS0W043			G4T1	S1.1	1B.1	
25	***Lasiurus blossevillii***	western red bat	AMACC05060			G5	S3?		SC
26	***Lasiurus cinereus***	hoary bat	AMACC05030			G5	S4?		
27	***Laterallus jamaicensis coturniculus***	California black rail	ABNME03041		Threatened	G4T1	S1		
28	***Layia carnosa***	beach layia	PDAST5N010	Endangered	Endangered	G2	S2.1	1B.1	
29	***Leptosiphon rosaceus***	rose leptosiphon	PDPLM09180			G1	S1.1	1B.1	
30	***Lessingia germanorum***	San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1.1	1B.1	
31	***Lichnanthe ursina***	bumblebee scarab beetle	IICOL67020			G2	S2		
32	***Melospiza melodia samuelis***	San Pablo song sparrow	ABPBXA301W			G5T2?	S2?		SC
33	***Microseris paludosa***	marsh microseris	PDAST6E0D0			G2	S2.2	1B.2	

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
34	***Pentachaeta bellidiflora***	white-rayed pentachaeta	PDAST6X030	Endangered	Endangered	G1	S1.1	1B.1	
35	***Phalacrocorax auritus***	double-crested cormorant	ABNFD01020			G5	S3		
36	***Plagiobothrys chorisianus var. chorisianus***	Choris' popcorn-flower	PDBOR0V061			G3T2Q	S2.2	1B.2	
37	***Plagiobothrys diffusus***	San Francisco popcorn-flower	PDBOR0V080		Endangered	G1Q	S1.1	1B.1	
38	***Plagiobothrys glaber***	hairless popcorn-flower	PDBOR0V0B0			GH	SH	1A	
39	***Plebejus icarioides missionensis***	Mission blue butterfly	IILEPG801A	Endangered		G5T1	S1		
40	***Polemonium carneum***	Oregon polemonium	PDPLM0E050			G4	S1	2.2	
41	***Rana draytonii***	California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3		SC
42	***Riparia riparia***	bank swallow	ABPAU08010		Threatened	G5	S2S3		
43	***Sanicula maritima***	adobe sanicle	PDAPI1Z0D0		Rare	G2	S2.2	1B.1	
44	***Scapanus latimanus insularis***	Angel Island mole	AMABB02032			G5T1	S1		
45	***Silene verecunda ssp. verecunda***	San Francisco campion	PDCAR0U213			G5T2	S2.2	1B.2	
46	***Speyeria callippe callippe***	callippe silverspot butterfly	IILEPJ6091	Endangered		G5T1	S1		
47	***Stebbinsoseris decipiens***	Santa Cruz microseris	PDAST6E050			G2	S2.2	1B.2	
48	***Taxidea taxus***	American badger	AMAJF04010			G5	S4		SC
49	***Trachusa gummifera***	A leaf-cutter bee	IIHYM80010			G1	S1		
50	***Triphysaria floribunda***	San Francisco owl's-clover	PDSCR2T010			G2	S2.2	1B.2	
51	***Triquetrella californica***	coastal triquetrella	NBMUS7S010			G1	S1	1B.2	
52	***Vespericola marinensis***	Marin hesperian	IMGASA4140			G2G3	S2S3		
53	***Zapus trinotatus orarius***	Point Reyes jumping mouse	AMAFH01031			G5T1T3Q	S1S3		SC

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

July 30, 2010

Document Number: 100730110200

Martha E. Lowe
Environmental Science Associates
350 Frank H. Ogawa Plaza
Suite 300
Oakland, CA 94612

Subject: Species List for San Francisco Transit Center District Plan and Transit Tower

Dear: Ms. Lowe

We are sending this official species list in response to your July 30, 2010 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 28, 2010.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 100730110200

Database Last Updated: April 29, 2010

Quad Lists

Listed Species

Invertebrates

Haliotes cracherodii
- black abalone (E) (NMFS)

Haliotes sorenseni
- white abalone (E) (NMFS)

Icaricia icarioides missionensis
- mission blue butterfly (E)

Speyeria callippe callippe
- callippe silverspot butterfly (E)

Fish

Acipenser medirostris
- green sturgeon (T) (NMFS)

Eucyclogobius newberryi
- tidewater goby (E)

Hypomesus transpacificus
- delta smelt (T)

Oncorhynchus kisutch
- coho salmon - central CA coast (E) (NMFS)
- Critical habitat, coho salmon - central CA coast (X) (NMFS)

Oncorhynchus mykiss
- Central California Coastal steelhead (T) (NMFS)
- Central Valley steelhead (T) (NMFS)
- Critical habitat, Central California coastal steelhead (X) (NMFS)
- Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
- Central Valley spring-run chinook salmon (T) (NMFS)
- Critical habitat, winter-run chinook salmon (X) (NMFS)
- winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
- California red-legged frog (T)

Birds

Charadrius alexandrinus nivosus

western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Enhydra lutris nereis
southern sea otter (T)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Critical Habitat, Steller (=northern) sea-lion (X) (NMFS)
Steller (=northern) sea-lion (T) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Clarkia franciscana
Presidio clarkia (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Lessingia germanorum
San Francisco lessingia (E)

Quads Containing Listed, Proposed or Candidate Species:

SAN FRANCISCO NORTH (466C)

County Lists

San Francisco County

Listed Species

Invertebrates

Haliotes cracherodii
black abalone (E) (NMFS)

Haliotes sorenseni
white abalone (E) (NMFS)

Icaricia icarioides missionensis
mission blue butterfly (E)

Incisalia mossii bayensis
San Bruno elfin butterfly (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Eucyclogobius newberryi
tidewater goby (E)

Oncorhynchus kisutch
coho salmon - central CA coast (E) (NMFS)

Oncorhynchus mykiss
Central California Coastal steelhead (T) (NMFS)
Critical habitat, Central California coastal steelhead (X) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
California red-legged frog (T)

Reptiles

Caretta caretta
loggerhead turtle (T) (NMFS)

Chelonia mydas (incl. agassizi)
green turtle (T) (NMFS)

Dermochelys coriacea
leatherback turtle (E) (NMFS)

Lepidochelys olivacea
olive (=Pacific) ridley sea turtle (T) (NMFS)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Diomedea albatrus
short-tailed albatross (E)

Pelecanus occidentalis californicus
California brown pelican (E)

Rallus longirostris obsoletus
California clapper rail (E)

Mammals

Arctocephalus townsendi
Guadalupe fur seal (T) (NMFS)

Balaenoptera borealis
sei whale (E) (NMFS)

Balaenoptera musculus
blue whale (E) (NMFS)

Balaenoptera physalus
finback (=fin) whale (E) (NMFS)

Eubalaena (=Balaena) glacialis
right whale (E) (NMFS)

Eumetopias jubatus
Critical Habitat, Steller (=northern) sea-lion (X) (NMFS)
Steller (=northern) sea-lion (T) (NMFS)

Megaptera novaeangliae
humpback whale (E) (NMFS)

Physeter catodon (=macrocephalus)
sperm whale (E) (NMFS)

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Plants

Arctostaphylos hookeri ssp. ravenii
Presidio (=Raven's) manzanita (E)

Clarkia franciscana
Presidio clarkia (E)

Hesperolinon congestum
Marin dwarf-flax (=western flax) (T)

Lessingia germanorum
San Francisco lessingia (E)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be

found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 28, 2010.

California Native Plant Society listed plant species for SF County and SF North USGS 7.5 minute topographic quadrangle

Scientific name	Family	Life form	Bloom period	Communities	Elevation	Status
Arctostaphylos franciscana	Ericaceae	perennial evergreen shrub	Feb-Apr	•Coastal scrub (CoScr)(serpentinite)	60 - 300 meters	List 1B.1
Arctostaphylos hookeri* ssp. *ravenii	Ericaceae	perennial evergreen shrub	Feb-Mar	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/serpentinite outcrop	45 - 215 meters	List 1B.1
Arenaria paludicola	Caryophyllaceae	perennial stoloniferous herb	May-Aug	•Marshes and swamps (MshSw)(freshwateror brackish)/sandy, openings	3 - 170 meters	List 1B.1
Astragalus tener* var. *tener	Fabaceae	annual herb	Mar-Jun	•Playas (Plyas) •Valley and foothill grassland (VFGrs)(adobe clay) •Vernal pools (VnPls)/alkaline	1 - 60 meters	List 1B.2
Carex comosa	Cyperaceae	perennial rhizomatous herb	May-Sep	•Coastal prairie (CoPrr) •Marshes and swamps (MshSw)(lake margins) •Valley and foothill grassland (VFGrs)	0 - 625 meters	List 2.1
Chorizanthe cuspidata* var. *cuspidata	Polygonaceae	annual herb	Apr-Jul(Aug) Months in parentheses are uncommon.	•Coastal bluff scrub (CBScr) •Coastal dunes (CoDns) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/sandy	3 - 215 meters	List 1B.2
Cirsium andrewsii	Asteraceae	perennial herb	Mar-Jul	•Broadleafed upland forest (BUFrs) •Coastal bluff scrub (CBScr) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/mesic, sometimes serpentinite	0 - 150 meters	List 1B.2
Clarkia franciscana	Onagraceae	annual herb	May-Jul	•Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)(serpentinite)	25 - 335 meters	List 1B.1
Collinsia corymbosa	Scrophulariaceae	annual herb	Apr-Jun	•Coastal dunes (CoDns)	0 - 20 meters	List 1B.2

California Native Plant Society listed plant species for SF County and SF North USGS 7.5 minute topographic quadrangle

Scientific name	Family	Life form	Bloom period	Communities	Elevation	Status
Collinsia multicolor	Scrophulariaceae	annual herb	Mar-May	•Closed-cone coniferous forest (CCFrs) •Coastal scrub (CoScr)/sometimes serpentinite	30 - 250 meters	List 1B.2
Cordylanthus maritimus* ssp. *palustris	Scrophulariaceae	annual herb hemiparasitic	Jun-Oct	•Marshes and swamps (MshSw)(coastal salt)	0 - 10 meters	List 1B.2
Fritillaria liliacea	Liliaceae	perennial bulbiferous herb	Feb-Apr	•Cismontane woodland (CmWld) •Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/often serpentinite	3 - 410 meters	List 1B.2
Gilia capitata* ssp. *chamissonis	Polemoniaceae	annual herb	Apr-Jul	•Coastal dunes (CoDns) •Coastal scrub (CoScr)	2 - 200 meters	List 1B.1
Gilia millefoliata	Polemoniaceae	annual herb	Apr-Jul	•Coastal dunes (CoDns)	2 - 30 meters	List 1B.2
Grindelia hirsutula* var. *maritima	Asteraceae	perennial herb	Jun-Sep	•Coastal bluff scrub (CBScr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/sandy or serpentinite	15 - 400 meters	List 1B.2
Hemizonia congesta* ssp. *congesta	Asteraceae	annual herb	Apr-Nov	•Valley and foothill grassland (VFGrs)/sometimes roadsides	20 - 560 meters	List 1B.2
Hesperolinon congestum	Linaceae	annual herb	Apr-Jul	•Chaparral (Chprl) •Valley and foothill grassland (VFGrs)/serpentinite	5 - 370 meters	List 1B.1
Horkelia cuneata* ssp. *sericea	Rosaceae	perennial herb	Apr-Sep	•Closed-cone coniferous forest (CCFrs) •Chaparral (Chprl)(maritime) •Coastal dunes (CoDns) •Coastal scrub (CoScr)/sandy or gravelly, openings	10 - 200 meters	List 1B.1
Layia carnosa	Asteraceae	annual herb	Mar-Jul	•Coastal dunes (CoDns) •Coastal scrub (CoScr)(sandy)	0 - 60 meters	List 1B.1
Leptosiphon rosaceus	Polemoniaceae	annual herb	Apr-Jul	•Coastal bluff scrub (CBScr)	0 - 100 meters	List 1B.1
Lessingia germanorum	Asteraceae	annual herb	(Jun)Jul-Nov Months in parentheses are uncommon.	•Coastal scrub (CoScr)(remnant dunes)	25 - 110 meters	List 1B.1

California Native Plant Society listed plant species for SF County and SF North USGS 7.5 minute topographic quadrangle

Scientific name	Family	Life form	Bloom period	Communities	Elevation	Status
Micropus amphibolus	Asteraceae	annual herb	Mar-May	•Broadleafed upland forest (BUFrs) •Chaparral (Chprl) •Cismontane woodland (CmWld) •Valley and foothill grassland (VFGrs)/rocky	45 - 825 meters	List 3.2
Microseris paludosa	Asteraceae	perennial herb	Apr-Jun(Jul) Months in parentheses are uncommon.	•Closed-cone coniferous forest (CCFrs) •Cismontane woodland (CmWld) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)	5 - 300 meters	List 1B.2
Plagiobothrys chorisianus* var. *chorisianus	Boraginaceae	annual herb	Mar-Jun	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr)/mesic	15 - 160 meters	List 1B.2
Plagiobothrys diffusus	Boraginaceae	annual herb	Mar-Jun	•Coastal prairie (CoPrr) •Valley and foothill grassland (VFGrs)	60 - 360 meters	List 1B.1
Polemonium carneum	Polemoniaceae	perennial herb	Apr-Sep	•Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Lower montane coniferous forest (LCFrs)	0 - 1830 meters	List 2.2
Sanicula maritima	Apiaceae	perennial herb	Feb-May	•Chaparral (Chprl) •Coastal prairie (CoPrr) •Meadows and seeps (Medws) •Valley and foothill grassland (VFGrs)/clay, serpentinite	30 - 240 meters	List 1B.1
Silene verecunda* ssp. *verecunda	Caryophyllaceae	perennial herb	Mar-Jun(Aug) Months in parentheses are uncommon.	•Coastal bluff scrub (CBScr) •Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/sandy	30 - 645 meters	List 1B.2
Stebbinsoseris decipiens	Asteraceae	annual herb	Apr-May	•Broadleafed upland forest (BUFrs) •Closed-cone coniferous forest (CCFrs) •Chaparral (Chprl) •Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/open areas, sometimes serpentinite	10 - 500 meters	List 1B.2

California Native Plant Society listed plant species for SF County and SF North USGS 7.5 minute topographic quadrangle

Scientific name	Family	Life form	Bloom period	Communities	Elevation	Status
Triphysaria floribunda	Scrophulariaceae	annual herb	Apr-Jun	•Coastal prairie (CoPrr) •Coastal scrub (CoScr) •Valley and foothill grassland (VFGrs)/usually serpentinite	10 - 160 meters	List 1B.2
Triquetrella californica	Pottiaceae	moss	•Coastal bluff scrub (CBScr) •Coastal scrub (CoScr)/soil	10 - 100 meters	List 1B.2	

CHAPTER IX
EIR Authors and Consultants

EIR Authors

San Francisco Planning Department
Environmental Planning
1650 Mission Street, Suite 400
San Francisco, California 94103
Environmental Review Officer: Bill Wycko
EIR Coordinator: Sarah B. Jones
Transportation Planner: Viktoriya Wise
Preservation Planner: Tim Frye
Deputy City Attorney: John Malamut

EIR Consultants

Environmental Science Associates (Prime Consultant)
225 Bush Street, Suite 1700
San Francisco, California 94104-4207
Project Manager: Karl F. Heisler
Deputy Project Mgr.: Tania Sheyner, AICP
Participants: Cory Barringhaus, Lisa Bautista, Chuck Bennett, Bill Boynton, Brad Brewster, Jon Carey, AICP, John Hart, Jack Hutchison, P.E., Perry Jung, Elizabeth Kanner, Martha Lowe, Anthony Padilla, Chris Sanchez, Ron Teitel, Linda Uehara

AECOM (Transportation)
300 S. Grand Avenue, 2nd Floor
Los Angeles, CA 90071
Tim A. Erney, AICP/PTP, Project Manager

Rowan Williams Davies & Irwin Inc. (Wind)
650 Woodlawn Road West
Guelph, Ontario, Canada N1K 1B8
Frank Kriksic, BES, CET, LEED AP, Principal

Geier + Geier Consulting (Air Quality, Noise, Geology, Hydrology, Hazards)
P.O. Box 5054
Berkeley, CA 94705
Valerie Chew Geier, Project Manager
Joyce S. Hsiao
Mary Lucas McDonald
Hans Giroux

Hausrath Economics Group (Population, Housing, and Employment)
1212 Broadway, Suite 1500
Oakland, CA 94612
Sally E. Nielsen

CADP (Shadow)
219 Evergreen Avenue
Mill Valley, CA 94941
Adam Noble, Principal

Environ International (Air Quality/Health Risk)
201 California Street, Suite 1280
San Francisco, CA 94111
Elizabeth Miesner, Principal
Michael Keinath

Square One Productions (Visual Simulations)
1736 Stockton Street, Studio 7
San Francisco, CA 94133
Angela Lin, Principal
Chris Montreuil

Far Western Anthropological Research Group (Archeology)
2727 Del Rio Place
Davis CA 95618
Brian Byrd, Ph.D., Principal Investigator

Project Sponsor (Transit Center District Plan)

San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103
John Rahaim, Director of Planning
David Alumbaugh, Program Director, City Design Group
Josh Switzky, Lead Planner, Transit Center District Plan

Project Sponsor (Transit Tower)

Transbay Joint Powers Authority
201 Mission Street, Suite 2100
San Francisco, California 94105
Maria Ayerdi-Kaplan, Executive Director
Robert Beck, Senior Program Manager

Print Form

Introduction Form

By a Member of the Board of Supervisors or the Mayor

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2018 SEP -4 PM 4:55
BY
Time stamp or meeting date

I hereby submit the following item for introduction (select only one):

☒ 1. For reference to Committee. (An Ordinance, Resolution, Motion, or Charter Amendment)

☐ 2. Request for next printed agenda Without Reference to Committee.

☐ 3. Request for hearing on a subject matter at Committee.

☐ 4. Request for letter beginning "Supervisor _____ inquires"

☐ 5. City Attorney request.

☐ 6. Call File No. _____ from Committee.

☐ 7. Budget Analyst request (attach written motion).

☒ 8. Substitute Legislation File No. 180801

☐ 9. Reactivate File No. _____

☐ 10. Question(s) submitted for Mayoral Appearance before the BOS on _____

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative Form.

Sponsor(s):

Supervisor Kim

Subject:

[Ordinance No. 1061 - Sidewalk Width Change - Portions of Beale Street, Howard Street, Main Street, and Mission Street]

The text is listed below or attached:

Ordinance amending Ordinance No. 1061 titled "Regulating the Width of Sidewalks" to change the official sidewalk width of certain locations fronting Assessor's Block 3718, along the northeasterly side of Beale Street between

Signature of Sponsoring Supervisor: _____

For Clerk's Use Only:

Print Form

Introduction Form

By a Member of the Board of Supervisors or the Mayor

RECEIVED
BOARD OF SUPERVISORS
SAN FRANCISCO
2018 JUL 31 PM 2:56
Time stamp or meeting date
BY AK

I hereby submit the following item for introduction (select only one):

☒ 1. For reference to Committee. (An Ordinance, Resolution, Motion, or Charter Amendment)

☐ 2. Request for next printed agenda Without Reference to Committee.

☐ 3. Request for hearing on a subject matter at Committee.

☐ 4. Request for letter beginning "Supervisor [ ] inquires"

☐ 5. City Attorney request.

☐ 6. Call File No. [ ] from Committee.

☐ 7. Budget Analyst request (attach written motion).

☐ 8. Substitute Legislation File No. [ ]

☐ 9. Reactivate File No. [ ]

☐ 10. Question(s) submitted for Mayoral Appearance before the BOS on [ ]

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative Form.

Sponsor(s):

Supervisor Kim

Subject:

[Ordinance No. 1061 - Sidewalk Width Change - Portions of Beale Street, Howard Street, and Main Street]

The text is listed below or attached:

Ordinance amending Ordinance No. 1061 titled "Regulating the Width of Sidewalks" to change the official sidewalk width of certain locations fronting Assessor's Block 3718, along the northeasterly side of Beale Street between

Signature of Sponsoring Supervisor: [signature]

For Clerk's Use Only: