



MEMORANDUM

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Project #:
18149.0

To: Andrew Junius
Reuben, Junius & Rose, LLP
One Bush Street, Suite 600
San Francisco, CA 94104

From: Tim Erney

Project: Transbay Block 1 Transportation Assessment

Subject: Results of Preliminary Transportation Significance Evaluation (Updated)

This memorandum summarizes the results of the preliminary transportation evaluation for the proposed new development at Block 1 within the Transbay Redevelopment Project Area of downtown San Francisco, California (herein referred to as the “Block 1 Project”), updated to incorporate a discussion of future cumulative conditions.

In 2004, the *Transbay Terminal / Caltrain Downtown Extension / Redevelopment Project EIS/EIR* (herein referred to as the “Transbay EIS/EIR”) was adopted, which environmentally cleared the proposed new Transbay Transit Center (TTC), extension of Caltrain from its current terminus to the TTC, and a Redevelopment Plan for parcels formerly owned by the State of California and under control of the Transbay Joint Powers Authority (TJPA), collectively referred to as the “Transbay Project.”

The Redevelopment Plan, as defined by the San Francisco Redevelopment Agency,¹ included development for 12 blocks (Blocks 1 through 12) and two parcels (Parcels T and F) within the Redevelopment Area. In combination, buildout at these sites was projected to include up to 7,617,400 square feet of new residential, office, hotel, and retail space.

With the proposed Block 1 Project, it is being considered whether the total development for Block 1 could be 390 residential units (138 one-bedroom, 201 two-bedroom, 33 three-bedroom, and 18

¹ The obligations of the Redevelopment Agency have been transferred to the Office of Community Investment and Infrastructure (OCII).

penthouse, for a total of 547,023 square feet of residential space) and 8,773 square feet of retail space, for a total square footage of 555,796 square feet.

The purpose of this evaluation is to identify the flexibility of the development program for Block 1; in particular, whether the currently proposed Block 1 Project land use program would affect any of the findings of adverse effects/significant impacts in the Transbay EIS/EIR.

BLOCK 1 IN THE TRANSBAY EIS/EIR

Figure 1 presents the development levels associated for Block 1 and the boundary of the Redevelopment Area as defined in the Transbay EIS/EIR.

Transbay Block 1 (outlined in red) incorporates Assessor's Block #3740 and is bounded by Clementina Street to the north, Spear Street to the east, Folsom Street to the south, and Main Street to the west. As shown in the figure, Block 1 was evaluated with 531 residential units (637,020 square feet of residential space) and 30,780 square feet of retail space in the Transbay EIR/EIS.

Figure 1: Plan Area and Redevelopment Assumptions

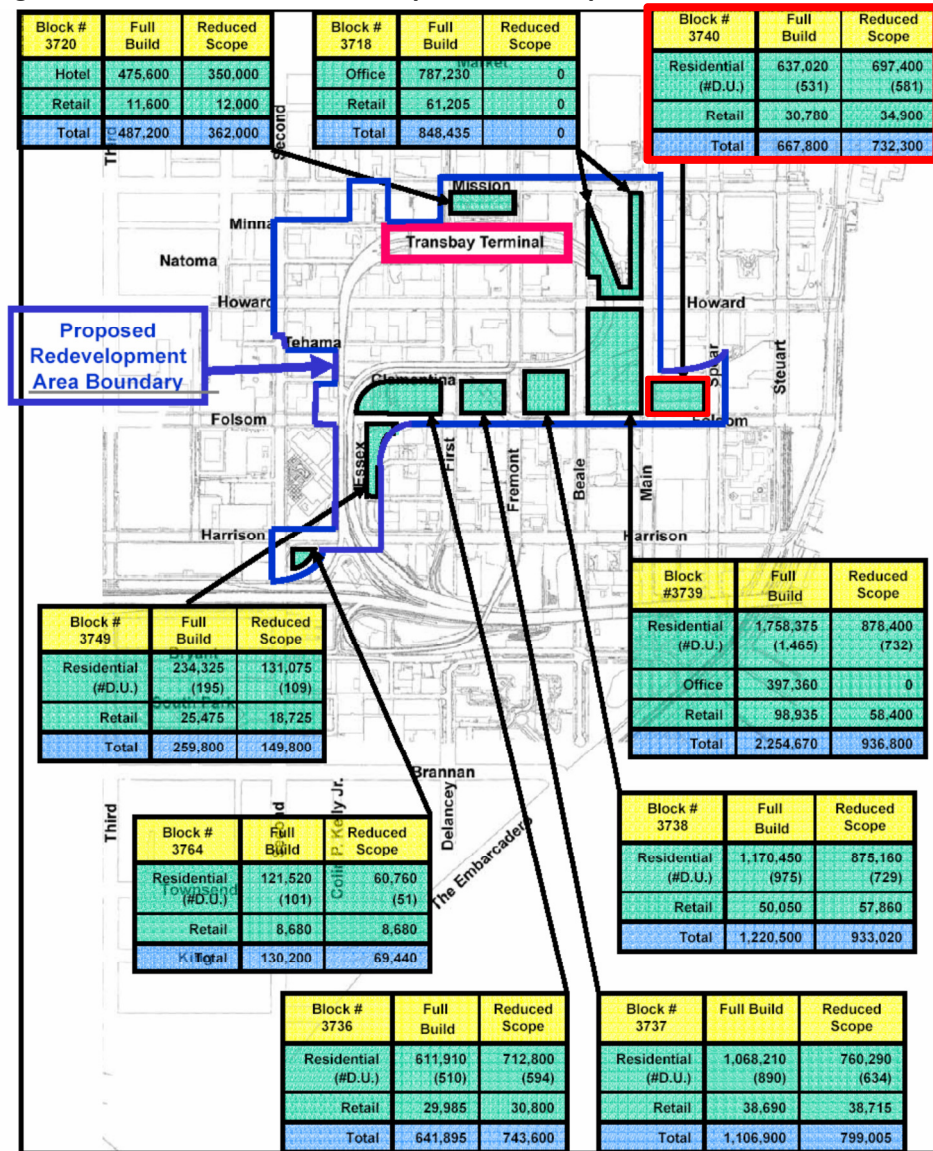


Figure 2.2-25: Development Levels Assumed for Full Build & Reduced Scope Redevelopment Alternatives & Proposed Redevelopment Area Boundary

Source: Transbay EIS/EIR

SUMMARY OF TRANSBAY EIS/EIR FINDINGS

To address the potential transportation-related effects of the proposed Redevelopment Plan and the other project components, the Transbay EIS/EIR included a detailed analysis of traffic, transit, parking, and non-motorized traffic conditions. The subsequent sections highlight the findings for each of these topics.

Traffic

A technical evaluation was conducted of intersection level of service (LOS) operating conditions for key locations in and around the Redevelopment Area. Conditions were assessed for three scenarios:

- Future baseline without the Project (2020 No Project);
- Future baseline with the complete Transbay Project (2020 Term./Ext Project); and
- Future cumulative with other known development in the downtown area (2020 Cumulative).

Future growth was developed using output from the San Francisco County Transportation Authority (SFCTA) travel demand model from 2002 (herein referred to as the “SFCTA Model”). The results of the intersection analysis are shown in Figure 2.

Figure 2: Transbay EIS/EIR Intersection Evaluation

Table 3.19-4: Intersection Level of Service – Existing and 2020 Conditions, Weekday P.M. Peak Hour

Intersection	Existing			2020 No-Project			2020 Term./Ext. Project			2020 Cumulative		
	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS	v/c
1. First/Market	25.9	D	-	34.9	D	-	54.9	E	1.16	>60	F	1.17
2. Fremont/Market	15.2	C	-	26.0	D	-	30.3	D	-	34.4	D	-
3. Second/Mission	10.2	B	-	16.1	C	-	21.1	C	-	31.6	D	-
4. First/Mission	27.1	D	-	53.5	E	1.13	>60	F	1.22	>60	F	1.22
5. Fremont/Mission	21.8	C	-	21.9	C	-	29.2	D	-	30.5	D	-
6. Beale/Mission	14.9	B	-	19.9	C	-	33.0	D	-	33.0	D	-
7. Main/Mission	15.6	C	-	20.3	C	-	22.6	C	-	26.6	D	-
8. Second/Howard	15.1	C	-	25.9	D	-	25.1	D	-	27.3	D	-
9. First/Howard	31.9	D	-	40.9	E	1.09	>60	F	1.21	>60	F	1.24
10. Fremont/Howard	20.1	C	-	28.7	D	-	44.3	E	1.03	42.4	E	1.03
11. Beale/Howard	16.3	C	-	28.1	D	-	>60	F	1.19	>60	F	1.21
12. Main/Howard	15.4	C	-	25.1	D	-	33.7	D	-	39.6	D	-
13. Spear/Howard	13.9	B	-	13.5	C	-	31.7	D	-	33.7	D	-
14. Second/Folsom	32.5	D	-	>60	F	1.15	>60	F	1.18	>60	F	1.24
15. First/Folsom	>60	F	1.17	>60	F	1.15	>60	F	1.21	>60	F	1.24
16. Fremont/Folsom	7.7	B	-	22.4	C	-	25.5	D	-	26.2	D	-
17. Beale/Folsom	14.5	B	-	14.7	B	-	15.8	C	-	15.8	C	-
18. Main/Folsom	12.1	B	-	13.9	C	-	34.5	D	-	34.1	D	-
19. Spear/Folsom	11.1	B	-	13.2	B	-	14.1	B	-	16.5	C	-
20. The Embarcadero/Folsom	18.2	C	-	26.5	D	-	39.0	D	-	47.5	E	0.95
21. Second/Harrison	44.9	E	1.11	>60	F	1.19	>60	F	1.26	>60	F	1.32
22. Essex/Harrison	>60	F	1.13	>60	F	1.17	>60	F	1.18	>60	F	1.19
23. First/Harrison	>60	F	1.26	>60	F	1.23	>60	F	1.29	>60	F	1.33
24. Fremont/Harrison	36.2	D	-	49.5	E	0.93	59.1	E	0.96	>60	F	0.99
25. Main/Harrison	32.0	D	-	40.9	F	0.83	56.1	F	0.89	>60	F	0.95
26. Spear/Harrison	15.4	C	-	30.4	C	-	31.9	D	-	37.0	D	-
27. Second/Bryant	>60	F	1.18	>60	F	1.23	>60	F	1.28	>60	F	1.31

Notes: Delay presented in seconds per vehicle. v/c = volume-to-capacity ratio for all intersections at LOS E or F.
Source: Wilbur Smith Associates, December 2001

Source: Transbay EIS/EIR

Note: According to the San Francisco Planning Department, LOS E and F are considered unacceptable operating conditions.

As documented in the Transbay EIR/EIR, the Transbay Project was identified to have the several significant traffic-related impacts, as indicated in Figure 3:

Figure 3: Transbay EIS/EIR Intersection Significance Findings

Table 5.19-3: Project Impact Determination for Intersections at LOS E or F Under 2020 Baseline Plus Project and 2020 Cumulative Conditions		
Intersections	2020 Baseline Plus Project	2020 Cumulative
First/Market	Adverse Effect	Adverse Effect
First/Mission	Adverse Effect	Adverse Effect
First/Howard	Adverse Effect	Adverse Effect
Fremont/Howard	Adverse Effect	Adverse Effect
Beale/Howard	Adverse Effect	Adverse Effect
Second/Folsom	Adverse Effect	Adverse Effect
First/Folsom	Not an Adverse Effect	Not an Adverse Effect
The Embarcadero/Folsom	Not LOS E or F under Existing Plus Project	Not an Adverse Effect
Second/Harrison	Not an Adverse Effect	Not an Adverse Effect
Harrison/Essex	Not an Adverse Effect	Not an Adverse Effect
Harrison/First	Not an Adverse Effect	Not an Adverse Effect
Harrison/Fremont	Not an Adverse Effect	Not an Adverse Effect
Main/Harrison	Not an Adverse Effect	Not an Adverse Effect
Second/Bryant	Adverse Effect	Adverse Effect
Source: San Francisco Planning Department, January 2002.		

Source: Transbay EIS/EIR

Overall, it was determined that the Redevelopment Plan component of the Transbay Project would have significant impacts/adverse effects under 2020 Baseline plus Project conditions at seven of the 27 intersections studied during the weekday PM peak hour: First/Market, First/Mission, First/Howard, Fremont/Howard, Beale/Howard, Second/Folsom, and Second/Bryant. The complete Transbay Project would have the same adverse effects under 2020 Cumulative conditions (based on the Transbay Project’s contribution to future cumulative conditions at these locations).

Transit

In terms of transit evaluations, the Transbay EIS/EIR focused on changes to operations for the bus lines that would serve the new TBT, capacity of the terminal facility, and changes in ridership with the extension of Caltrain. With respect to the Redevelopment Plan component of the Transbay Project, no quantitative analysis was conducted. In general, it was discussed that the new development as part of the Redevelopment Plan would result in increased transit usage, which would help defray costs of the new transit facilities. Overall, no significant impacts/adverse effects to transit operations were determined with the Transbay Project.

Parking

The parking evaluation in the Transbay EIS/EIR focused on the displacement of off-street parking in and around the Transbay Terminal. In addition, it was noted that new buildings that would be developed as part of the Redevelopment Plan would provide individual off-street parking. Although there would be the potential for parking shortfalls throughout the greater Redevelopment Plan area, shortfalls relative to demand were not considered to be permanent physical effects. In addition, a shortage of parking spaces would encourage increased transit usage. Overall, no significant impacts/adverse effects to parking conditions were determined with the Transbay Project.

Pedestrians

A detailed assessment of pedestrian operations, in terms of crosswalks, sidewalks and corners operating conditions, was included in the Transbay EIS/EIR. The evaluation considered the increase in pedestrians due to the new TBT and the Caltrain Extension, plus the Redevelopment Plan. Changes in pedestrian volumes were developed using output from the SFCTA Model and a rerouting of pedestrians to and from the TBT facility. The analysis concluded that four of the five pedestrian analysis locations would operate at unacceptable levels of service under 2020 plus Project conditions; however, it was determined that the Transbay Project would not have a significant contribution to the pedestrian volumes at these locations. Overall, no significant impacts/adverse effects to pedestrian operations were determined with the Transbay Project.

Bicyclists

A qualitative evaluation of bicycle conditions was conducted as part of the Transbay EIS/EIR, in particular a review of the anticipated increase in bicycle activity with the Transbay Project. Increases in bicycle volumes were developed using output from the SFCTA Model and included additional riders due to the TBT, Caltrain Extension and the Redevelopment Plan. It was concluded that these bicycle volumes could be accommodated on the area streets, benefited, in part, by the new bicycle lanes proposed by the City. Overall, no significant impacts/adverse effects to bicycle conditions were determined with the Transbay Project.

LAND USE COMPARISON

As presented earlier, the current proposal for Block 1 would include fewer residential units and less retail space than projected in the Redevelopment Plan for the site (390 units versus 531 units and 8,773 retail square feet versus 30,780 retail square feet, respectively). As such, the proposed Block 1 development program would be within the values that were assessed in the Transbay EIR/EIS.

TRAVEL DEMAND ESTIMATES

For the Transbay EIS/EIR, the travel demand estimates (the number of trips generated by a proposed development, separated out by mode of travel) for each Block and Parcel within the Redevelopment Area was calculated using output from the SFCTA Model. The SFCTA Model assumes generic residential and retail spaces, with average residential unit mixes (typically 50 percent 1 bedroom units and 50 percent 2+ bedroom units) and general commercial retail space.

Given that the current Block 1 land use program includes a higher percentage of 2+ bedroom units and the retail space may include higher generator uses (such as a restaurant), it is possible that the current Block 1 Project may exceed the travel demand estimated in the Transbay EIR/EIS.

The SFCTA Model does not provide trip generation numbers by land use type (e.g., office or retail uses). As such, it is not possible to test the sensitivity of changes to the development program for the entire Redevelopment Plan, or for specific Blocks, using the results in the Transbay EIR/EIS. Instead, to determine the potential effect of a modification in the development program for Block 1, the travel demand assumptions (trip generation, mode split and average vehicle occupancy) was taken from the San Francisco Planning Department’s standard rates as modified for the Transit Center District Plan EIR (TCDP EIR), which is the latest environmental document for the area.²

Table 1 presents the standard trip generation and mode split rates for typical residential and retail uses within downtown San Francisco. Note that since the type of retail space within Block 1 has not been determined, data for the highest trip generation version of retail space (restaurant) has also been provided.

Table 1: Standard Travel Demand Characteristics for Residential/Retail Space in Area

Land Use	Trip Generation ¹		Weekday PM Peak Hour Mode Split ²			
	Weekday Daily	Weekday PM Peak Hour	Auto	Transit	Other	Persons per Vehicle ³
Residential (1 bedroom)	7.5 trips/unit	1.3 trips/unit	31.9%	38.4%	29.7%	1.58
Residential (2+ bedroom)	10.0 trips/unit	1.7 trips/unit	31.9%	38.4%	29.7%	1.58
General Retail	150 trips/1,000 sqft	13.5 trips/1,000 sqft	28.4%	17.0%	54.6%	1.75
Restaurant	200 trips/1,000 sqft	27.0 trips/1,000 sqft	28.4%	17.0%	54.6%	1.75

Source: San Francisco Planning Department (2002), TCDP EIR (2012), Kittelson & Associates, Inc. (2014)

Notes:

All data taken for C-3 District office and retail land uses.

¹ Residential: PM peak hour = 17.3% of daily; Retail: PM peak hour = 9.0% of daily; Restaurant: PM peak hour = 13.5% of daily.

² Mode split based on weighted average of work/non-work trips. Other = walk, bicycle and other modes.

³ Average vehicle occupancy based on weighted average of work/non-work trips.

Given the San Francisco Planning Department’s rates shown in Table 1, the travel demand estimates for Block 1 were estimated for both the development plan assumed in the Transbay EIR/EIS and the current proposal. For this assessment, the restaurant rates were assumed for Block 1 as this use

² Note that the travel demand assumptions between the SFCTA Model and the Planning Department are not consistent. Therefore, it is not possible to use the Planning Department rates to modify the travel demand of a project assessed using the SFCTA Model. Since the Block 1 site falls within the TCDP EIR study area, it is anticipated that any future technical analysis on the project would be based on the TCDP EIR assumptions and methodology.

generates more trips per 1,000 square feet than general retail and thus would be the most conservative. In addition, the ratio of 1 bedroom units to 2+ bedroom units from the Block 1 land use plan was also assumed.

As shown in Table 2, using these travel demand assumptions, the proposed Block 1 Project would generate fewer weekday daily and PM peak hour trips than the Redevelopment Plan uses for the site. As such, it can be estimated that the Block 1 land use program would not result in an increase in trips as compared to what was evaluated in the Transbay EIR/EIS.

Table 2: Comparison of Estimated Weekday Daily and Peak Hour Trips by Mode

Land Use	Daily	Weekday PM Peak Hour ²				
	Total Person Trips	Auto Person Trips	Transit Person Trips	Other Person Trips	Total Person Trips	Vehicle Trips
Redevelopment Plan for Block 1 in Transbay EIR/EIS	9,263	372	376	464	1,212	228
Proposed Block 1	5,310	261	274	310	845	161
Difference	-3,954	-111	-102	-154	-367	-67

Source: San Francisco Planning Department (2002), TCDP EIR (2012), Kittelson & Associates, Inc. (2014)

Notes:
 All data taken for C-3 District office and retail land uses.
¹ Residential: PM peak hour = 17.3% of daily; Retail: PM peak hour = 9.0% of daily.
² Mode split based on weighted average of work/non-work trips. Other = walk, bicycle and other modes.
³ Average vehicle occupancy based on weighted average of work/non-work trips.

IMPACT COMPARISON

As noted earlier, the Transbay EIR/EIS determined that the Redevelopment Plan and the Transbay Project would not have significant impacts to transit, parking, pedestrian, and bicyclist conditions. However, the Redevelopment Plan would have significant impacts at seven study intersections during the weekday PM peak hour.

Given that the current Block 1 land use program would have a reduction in residential units and retail space as compared to the Redevelopment Plan, and likely a reduction in weekday daily and PM peak hour trips, it is anticipated that it would not have any impacts over-and-above those already disclosed in the Transbay EIR/EIS.

CUMULATIVE CONDITIONS

Since the time the Transbay EIS/EIR was approved, there have been several changes to the land uses and transportation networks in the vicinity of the Block 1 site. These include, but not limited to:

- Transit Center District Plan (land use plan and modifications to the roadway network);
- Eastern Neighborhoods Area Plan (land use plan and modifications to the roadway network);
- Central SoMa Plan (land use plan and modifications to the roadway network) – still under review;
- Safer Market Street / Better Market Street (modifications to the roadway network) – still under review;
- San Francisco Bicycle Plan (modifications to the roadway network); and,
- SFMTA Transit Effectiveness Project (modifications to the local transit service).

These plans called for the following major transportation elements in the general vicinity of the Redevelopment Area:

- Establishment of new bicycle lanes on Second Street, Folsom Street and Harrison Street;
- Conversion of Howard Street and Folsom Street from one-way to two-way operations to the west of Fremont Street;
- Removal of a travel lane on Beale Street and Main Street to the north of Folsom Street;
- Conversion of Spear Street from one-way to two-way operations between Market Street and Folsom Street;
- Limitations of turns onto Market Street to reduce through trips;
- Widening sidewalks in the Transbay area; and,
- Modifications to bus stop locations and transit-only lanes along multiple streets.

Although these projects (both those approved and under review) were not expressly included in the prior Transbay EIS/EIR study, they are not expected to affect the results of the transportation assessment for Block 1, as presented above. In particular:

- The analysis for the Block 1 Project included the projected development potential and roadway network changes in the immediate vicinity, including the remainder of the Redevelopment Plan and those proposed in the Rincon Hill Area Plan. Although there have been other roadway changes and increases in development intensity in the surrounding area, they would not directly affect the critical intersections along the primary access route to Block 1. As such, implementation of these future projects would not be expected to materially affect the findings of the analysis for the intersections immediate adjacent to Block 1.
- The current project description for Block 1 is smaller than that which was included in the Redevelopment Plan. As documented earlier, the current Block 1 Project would generate between 30 percent to 40 percent fewer trips than estimated in the Transbay EIS/EIR for the site. As such, the Block 1 Project's share of the contribution to cumulative conditions would be lower than under the Transbay EIS/EIR. Therefore, the currently proposed Block 1 Project

would not have an increased contribution to any cumulative impacts beyond what was analyzed in the Transbay EIS/EIR.

- All major plans and programs are required to conduct their own transportation impact evaluation, including those projects listed above. Given that the Transbay EIS/EIR has been approved and adopted, its development plan and roadway changes have been incorporated into the future cumulative conditions for each of these projects. As such, the effects of the Block 1 Project have already been addressed as part of the background cumulative context.

Overall, although there are changed conditions in the area, they would not result in additional significant impacts/adverse effects associated with the Block 1 Project.

CONCLUSION

Based on the analyses and reviews conducted and documented in this technical memorandum, it has been determined that:

- The proposed Block 1 Project would have fewer residential units and less retail square feet than was assumed in the Redevelopment Plan.
- Based on estimated travel demand assumptions, the Block 1 Project would be expected to generate fewer trips than the Block 1 program analyzed in the Transbay EIS/EIR.
- The Transbay EIS/EIR identified adverse effects to operating conditions at seven analysis intersections, but no adverse effects to transit, parking, pedestrian, or bicycle conditions.
- The proposed change in the project description at Block 1 would not be anticipated to result in new transportation-related significant impacts/adverse effects over and above those already identified in the Transbay EIS/EIR.
- A change in the cumulative context since adoption of the Transbay EIS/EIR would not substantially affect the conclusions of the assessment for the Block 1 Project.

As a result, it can be concluded that the proposed Block 1 Project land use program would not affect the findings in the Transbay EIS/EIR.