

## Carroll, John (BOS)

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**From:** Rebecca Davis <rebecca@lozeaudrury.com>  
**Sent:** Monday, January 25, 2016 2:47 PM  
**To:** Board of Supervisors, (BOS); BOS Legislation, (BOS); Jones, Sarah (CPC); Avalos, John (BOS); Breed, London (BOS); Campos, David (BOS); Cohen, Malia (BOS); Farrell, Mark (BOS); Kim, Jane (BOS); Mar, Eric (BOS); Peskin, Aaron (BOS); Tang, Katy (BOS); Wiener, Scott; Yee, Norman (BOS)  
**Cc:** Richard Drury  
**Subject:** Comment re: BOS File No. 151269 SFMTA Commuter Shuttle Program Appeal  
**Attachments:** 2016.01.25 BOS Hearing Comment Letter.pdf  
**Categories:** 151269

Dear Honorable Members of the Board of Supervisors:

In advance of tomorrow's hearing on the appeal to the SFMTA's Commuter Shuttle Permit Program, I am attaching a supplemental comment from Appellants for your review and consideration. Please let me know if you have any trouble accessing the document, or if you have any other questions.

Sincerely,

Rebecca Davis

Rebecca L. Davis

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January 25, 2016

***Via Electronic Mail***

President London Breed and  
Board of Supervisors of the City and County of San Francisco  
c/o Ms. Angela Calvillo, Clerk of the Board  
1 Dr. Carlton B. Goodlett Place  
City Hall, Room 244  
San Francisco, CA 94102-4689  
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Dear President Breed and Honorable Members of the Board of Supervisors:

I am writing on behalf of the Coalition for Fair, Legal and Environmental Transit (“Coalition”), Service Employees International Union Local Union 1021 (“SEIU 1021”), Sue Vaughan, and Robert Planthold (collectively, “Appellants”) concerning the San Francisco Municipal Transportation Agency (“SFMTA”) Commuter Shuttle Permit Program and recent amendments to Transportation Code, Division II, to establish a Commuter Shuttle Permit Program to authorize certain shuttle buses to stop in designated Muni stops and passenger loading zones for the purpose of loading or unloading passengers, and establish permit conditions for such permits (“Project” or “Shuttle Project”). These comments supplement our earlier comments on this on this matter.

The Board should reject the Shuttle Project because under state law, it is illegal for private vehicles to stop in public bus stops. Vehicle Code § 22500. Commuter shuttles should be treated just like Greyhound buses or tour buses. They should have their own separate terminals that do not interfere with Muni buses, pedestrians, and bicyclists. The City does not allow Greyhound buses or tour buses to use Muni stops, and it should not allow private commuter shuttles to do so either. Appellants are not proposing a ban on commuter shuttles, rather they are seeking to have commuter shuttles stop in locations that do not interfere with Muni, just like Greyhound and tour buses.

If the Board is not inclined to reject the Shuttle Project outright, then they should approve the “permanent” program on a “temporary” basis for 12 months to allow time for an environmental impact report (“EIR”) to be prepared under CEQA prior to adopting the project. Staff should then bring the program back to the Board of Supervisors for consideration in light of the EIR so that the City can impose all feasible mitigation measures. This would ensure that all

of the Shuttle Project's impacts are disclosed and mitigated. This is what was done for Muni's own Transit Effectiveness Program ("TEP"), which involves rerouting certain Muni lines to improve efficiency, and the private commuter shuttles should be held to the same standard.

No comprehensive assessment has ever been completed by SFMTA or any other City agency on the full impacts of the commuter shuttles on City infrastructure costs, traffic and traffic delays, pedestrian and bicycle safety, or housing costs and displacement along shuttle routes. An EIR would analyze the impacts of the commuter shuttles, and the City would be legally required to adopt all feasible mitigation measures and alternatives to reduce impacts, such as selecting stops that do not interfere with Muni, pedestrians or bicyclists, requirements for low emissions buses, and mitigation for displacement impacts, such as contributions to low income housing.

**A. The Shuttle Project will have Significant Impacts Related to Displacement of Low and Moderate Income Communities.**

CEQA requires the lead agency to determine whether the "environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly," (Pub. Res. Code § 21083(b)(3), (d)), and to "take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached."

CEQA Guidelines Appendix G, Section XIII provides that a project will have significant impacts where it will:

Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Commuter shuttles and the Shuttle Project are displacing low and moderate income residents and commuters who live, work, and recreate in the areas near proposed commuter shuttle stops, and replaces them with workers from the private technical companies sponsoring the shuttles, who are wealthier and less likely to come from communities of color. Such environmental justice impacts are recognized under CEQA. See Kamala D. Harris, Attorney General, "Environmental Justice at the Local and Regional Level," May 8, 2012, available at [http://oag.ca.gov/sites/all/files/pdfs/environment/ej\\_fact\\_sheet\\_final\\_050712.pdf](http://oag.ca.gov/sites/all/files/pdfs/environment/ej_fact_sheet_final_050712.pdf).

This impact is well documented by scientific research. Alexandra Goldman of University of California Berkeley has conducted extensive research concluding that "Google Shuttles are driving up rental prices within a walking distance (half mile) of five of the shuttle stops." Goldman concludes that rental prices have risen much more steeply around Google shuttle stops than in other areas. In fact, a survey of advertisements shows that rental advertisements highlight proximity to Google Shuttle stops as a selling point.

Researcher Chris Walker concluded in January 2014 that the private commuter shuttles have created "Clusters of Affluence" around the shuttle stops.

[http://www.datawovn.com/#!/San\\_Francisco\\_Private\\_Shuttles](http://www.datawovn.com/#!/San_Francisco_Private_Shuttles). The San Francisco Chronicle quotes Mr. Walker:

As Walker sees it, technology companies stationed their bus stops in fun, hip neighborhoods where their young workers were increasingly moving. Those new residents, with plenty of disposable income, prompted more new restaurants, cafes and bars to open - drawing more tech workers, raising housing prices and luring more new businesses.

"It becomes this vicious circle where you see the neighborhoods just keep getting more affluent, and that's where you see an uptick in evictions and people getting forced out," Walker said. "That's where a lot of unrest and anger is coming from."

While many neighborhoods around San Francisco contain Walker's "clusters of affluence" - from the Castro to South of Market to North Beach and more - the Mission is ground zero.

Companies like Google, Apple, Yahoo and Facebook hire private shuttles to pick up their workers in the Mission, and it's there that protesters in recent months have blocked some buses, arguing that tech companies are responsible for the neighborhood's skyrocketing housing prices and rampant evictions.

A recent UC-Berkeley study found the average tech shuttle rider is a single male about 30 years old who pulls down \$100,000 or more a year.

San Francisco Chronicle, Heather Knight, *Where tech buses roam, affluence* (February 12, 2014).

Some shuttle supporters contend that the shuttles have little or no displacement impact since they argue that without the shuttles, riders would simply continue to live in San Francisco, but would drive single-passenger cars. However, research by Dai and Weinzimmer shows that less than one-half of shuttle riders (48%) would drive cars if not for the shuttles. The largest share of the non-driving shuttle riders would instead live closer to their work near San Jose. Thus, a very significant number of shuttle passengers would not live in San Francisco but for the shuttles.

In a report commissioned by the James Irvine Foundation, the Stamen Group of researchers found that the commuter shuttles have facilitated a reversal of the flow of workers. Whereas historically, workers have flowed from homes in the suburbs to jobs in the City, the shuttles allow workers to live in the City and commute to jobs in the suburbs. Thus, without the shuttles, far fewer highly paid technology workers would be displacing low-income San Francisco residents.

There is substantial evidence that the Shuttle Project will have a significant impact in that it will "displace substantial numbers of people." Unless the City assumes these displaced people

will become homeless, these people will need homes elsewhere. Thus their displacement will “necessitate the construction of replacement housing elsewhere.” CEQA review is required to analyze the displacement impacts of the Shuttle Project and to propose feasible mitigation measures and alternatives. Feasible mitigation could include requiring shuttle beneficiaries to contribute to funding low and moderate income housing.

**B. The Shuttle Project has Discriminatory Impacts that Violate Government Code Section 11135.**

California Government code section 11135 prohibits discrimination in public and private sector “programs and activities” that receive state financial assistance. Section 11135 prohibits activities that have a discrimination impact, even if there is no discriminatory intent:

“No person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state. Notwithstanding Section 11000, this section applies to the California State University.”

The statute by its terms prohibits (1) discrimination based on any of ten factors; (2) in programs or activities that (a) are conducted, operated or administered by the state; (b) funded directly by the state; or (c) receive any financial assistance from the state. (See, Cal. Code Regs., tit. 22, § 98100, 98101, 98010.)

SFMTA receives funding from the State, and Government Code 11135 therefore applies to SFMTA. The Commuter Shuttle Project has a discriminatory impact by displacing lower income communities of color and replacing them with tech workers who are overwhelmingly white and wealthy. This is in effect the opposite of affirmative action school busing. Rather than busing low-income children of color to wealthy neighborhoods with good schools, this program buses wealthy white adults into communities of color where they displace the low-income residents of color. As such, the program violates Government Code §11135.

**C. Incorporation of Previous Comments.**

Given the similarities between the Shuttle Project and the Pilot Program, our comments submitted to this Board previously in support of the appeal of the Pilot Program are attached hereto, and incorporated by reference in full. These comments detail many environmental impacts that result from both the Pilot Program and the Shuttle Project, including impacts to public transit, pedestrians and bicyclists, traffic, noise, air quality impacts, and displacement.

Thank you for your consideration of this Appeal. Please include this letter, and each of the accompanying comment letters from the appeal of the Pilot Program, into the Administrative Record for the Shuttle Project.

Sincerely,

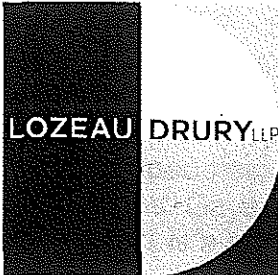
A handwritten signature in blue ink, appearing to read 'Rebecca L. Davis', written over a horizontal line.

Rebecca L. Davis  
Richard T. Drury  
Lozeau Drury LLP

Enclosures

CC: Environmental Review Officer  
(pursuant to SF Administrative Code § 31.16(b)(1))  
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# EXHIBIT 1



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**Via Hand Delivery and Electronic Mail**

President David Chiu  
c/o Ms. Angela Calvillo, Clerk of the Board  
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RECEIVED  
BOARD OF SUPERVISORS  
SAN FRANCISCO  
FEB 19 PM 3:47

**Re: Appeal of SFMTA Resolution No. 14-023, CEQA Categorical Exemption Determinations for Commuter Shuttle Policy and Pilot Program and amending Transportation Code, Division II, and Approval of Motion to Suspend Article 4, Section 10 of the SFMTA Board of Directors Rules of Order Regarding Published Notice (January 21, 2014)**

Dear President Chiu and Honorable Members of the Board of Supervisors:

I am writing on behalf of Sara Shortt, the Harvey Milk Lesbian, Gay, Bisexual, Transgender Democratic Club ("Milk Club"), Service Employees International Union Local Union 1021 ("SEIU Local 1021"), and the San Francisco League of Pissed Off Voters (collectively, "Appellants"), concerning the San Francisco Municipal Transportation Authority ("SFMTA") Commuter Shuttle Policy and Pilot Program and proposed amendments to Transportation Code, Division II, to authorize establishing a pilot permit program to authorize certain shuttle buses to stop in designated Muni stops for the purpose of loading or unloading passengers and establishing a fee for such permits and penalties for permit violations (collectively, "Project" or "Commuter Shuttle Project").

Ms. Shortt is a San Francisco resident who previously submitted comments to SFMTA on the Project on January 21, 2014. A true and correct copy of Ms. Shortt's January 21 comment letter is attached hereto as Exhibit A. The Milk Club is San Francisco's largest Democratic Club. The Club works within the Democratic Party and elsewhere to bring the issue of Lesbian / Gay / Bisexual / Transgender rights to the forefront of political campaigns; to lobby for



legislation which upholds the rights of Lesbians, Gays, Bisexuals, Transgendered and other peoples; and encourages and supports the election and appointment of Lesbians, Gays, Bisexuals, and Transgendered people to public office. SEIU Local 1021 is a non-profit public and private service employees' union with over 6000 members living in the City and County of San Francisco. The San Francisco League of Pissed Off Voters is a volunteer-based organization with members that live, work, and commute in and around San Francisco. Ms. Shortt, along with members of the Milk Club, SEIU Local 1021, and San Francisco League of Pissed Off Voters live within the areas of displacement, traffic, and air quality impacts of the Commuter Shuttle Project, and regularly use public thoroughfares and public transportation in areas that will be impacted by the Project.

**A. Decision Being Appealed (Admin. Code §§ 31.16(a); (b)(1), (e)).**

Pursuant to San Francisco Administrative Code ("Admin. Code") Section 31.16, Appellants hereby appeal the January 21, 2014 decision of SFMTA approving Resolution No. 14-023, including but not limited to (1) SFMTA's approval of the Project; (2) approval of the January 8, 2014 SFMTA determination that the Project is exempt from environmental review pursuant to Title 14 of the California Code of Regulations ("CEQA Guidelines") Section 15306 as a Class 6 (Information Collection) categorical exemption ("SFMTA CEQA Determination"); (3) approval of the January 9, 2014 City Planning Department concurrence with SFMTA's CEQA Determination ("CEQA Concurrence"); and (4) the approval of a motion to suspend Article 4, Section 10 of the SFMTA Board of Directors Rules of Order regarding published notice for implementing the Project (collectively, "Approval Action"). Pursuant to Admin. Code Section 31.16(b)(1), true and correct copies of Resolution No. 14-023 and the related SFMTA CEQA Determination and CEQA Concurrence are attached hereto as Exhibit B. Pursuant to Admin Code Section 31.16(b)(1), a copy of this Appeal Letter is simultaneously being submitted to the Environmental Review Officer.

**B. Grounds For Appeal (Admin. Code § 31.16(b)(1), (e)).**

Appellants urge the Board of Supervisors to reverse the Approval Actions by SFMTA for the Project on the grounds that the Project is not exempt from the requirements of the California Environmental Quality Act, Pub. Res. Code §§ 21000 et seq. ("CEQA"), and in particular is not subject to a categorical exemption under CEQA Guidelines Section 15306 because there is a fair argument that the Project will have significant environmental impacts that the City has failed to analyze and mitigate. These include impacts on the residents of San Francisco and surrounding municipalities and counties, including Appellant

members. Appellants, and indeed all San Franciscans and Californians, deserve the best, most sustainable Commuter Shuttle Project possible under CEQA and local law.

CEQA applies to agency projects that may have an adverse environmental impact. *CBE v. SCAQMD* 48 Cal.4<sup>th</sup> 310, 319 (2010); *Friends of Mammoth v. Board of Supervisors*, 8 Cal.3d 247, 259 (1972). CEQA's procedural and substantive requirements are "interpreted . . . to afford the fullest possible protection to the environment within its reasonable scope of the statutory language." *Friends of Mammoth*, 8 Cal.3d at 259. CEQA has two broad purposes: 1) avoiding, reducing or preventing environmental damage by requiring alternatives and mitigation measures. CEQA Guidelines § 15002(a); and 2) providing information to decision-makers and the public concerning the environmental effects of the proposed project. CEQA Guidelines § 15002(a)(1). If a project will have a significant effect on the environment, an EIR is required. CEQA Guidelines §§ 15002(k), 15063(b)(2), 15070.

CEQA and its regulations provide that certain projects may be exempt. However, ***"[a]n activity that may have a significant effect on the environment cannot be categorically exempt."*** *Salmon Protectors v. County of Marin* (2004) 125 Cal.App.4th 1098, 1107; *Azusa Land Reclamation v. Main San Gabriel Basin* (1997) 52 Cal.App.4th 1165, 1191, 1202. And "[s]ince a determination that a project falls within a categorical exemption excuses any further compliance with CEQA whatsoever, we must construe the exemptions narrowly in order to afford the fullest possible environmental protection. *Save Our Carmel River v. Monterey Peninsula Water Management Dist.* (2006) 141 Cal. App. 4th 677, 697.

CEQA's unique "fair argument" standard applies when reviewing a CEQA exemption. Under the "fair argument" standard, an agency is precluded under the Guidelines from relying on a categorical exemption when there is a fair argument that a project will have a significant effect on the environment. *Berkeley Hillside Pres. v. City of Berkeley* (2012) 203 Cal. App. 4th 656, 670-671; *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego ("Bankers Hill")* (2006) 139 Cal. App. 4th 249, 266. In other words, "where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper." *Id.*; *Dunn-Edwards Corp.*, 9 Cal.App.4th at 654-655.

Under these principles, there is no CEQA exemption that can reasonably apply to the Commuter Shuttle Project, because there is a fair argument that the Project will result in significant environmental impacts, including air pollution, the displacement of people and housing, and the displacement of low income

communities and communities of color that live, work, and commute in the areas proposed for Commuter Shuttle activities.

CEQA requires the lead agency to determine whether the “environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly,” (PRC § 21083(b)(3), (d)), and to “take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.” See PRC §21000 et seq. Specifically, CEQA Guidelines Appendix G, Section XII provides that a project will have significant impacts where it will:

- Induce substantial population growth or concentration of population in an area, either directly (for example, by proposing new housing or businesses), or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. See CEQA Guidelines Appendix G, Section XII.

Here, the Commuter Shuttle Project is likely to displace numerous residents and commuters who currently live, work, commute, and recreate in the areas proposed for the Commuter Shuttle stops, and replace them with workers from the private technical companies sponsoring the shuttles, who are wealthier and less likely to come from communities of color. For the same reasons, the Project also violates Gov. Code 11135, which prohibits any government support for programs that have a discriminatory impact. See Kalama D. Harris, Attorney General, “Environmental Justice at the Local and Regional Level,” May 8, 2012, available at [http://oag.ca.gov/sites/all/files/pdfs/environment/ej\\_fact\\_sheet\\_final\\_050712.pdf](http://oag.ca.gov/sites/all/files/pdfs/environment/ej_fact_sheet_final_050712.pdf).

Furthermore, the Section 15306 categorical exemption (“Information Collection”) does not apply on its face because the Project is not limited to “basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource,” which is a facial prerequisite for the claimed exemption. CEQA Guidelines § 15306.

Finally, the Project is not subject to any categorical exemption because the Project is subject to exceptions to categorical exemptions, including but not limited to Project location (Section 15306 exemptions are qualified by consideration of where the project is to be located--a project that is ordinarily

insignificant in its impact on the environment may in a particularly sensitive environment be significant), and unusual circumstances due to the likelihood of displacement of people and housing. CEQA Guidelines § 15300.2(a), (c).

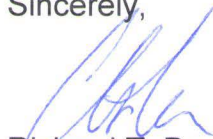
### C. Additional Appeal Procedures.

Appeal of SFMTA's Approval Action to the Board of Supervisors is authorized under CEQA and the Admin. Code. Pub. Res. Code § 21151(c); Admin. Code § 31.16(b), (e). This Appeal is timely because it is being filed within 30 days of January 21, 2014, the date of SFMTA's Approval Action of the Project. See Admin. Code § 31.16(e)(1), (2)(A), (B); see Resolution No. 14-023, p. 2 ("this approval is the Approval Action as defined by San Francisco Administrative Code Chapter 31").

Appellants expressly reserve the right to submit additional written and oral comments, and additional evidence in support of this Appeal, to the City and County of San Francisco and its departments ("City") and to the Board of Supervisors up to and including the final hearing on this Appeal and any and all subsequent permitting proceedings or approvals undertaken by the City or any other permitting agency for the Project. PRC § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* ("Bakersfield") (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121; Admin Code § 31.16(b)(4), (5), (6).

Thank you for consideration of this Appeal. We ask that this Appeal Letter be placed in the Administrative Record for the Commuter Shuttle Project, and that Appellants be provided with timely notice of the hearing date set for this Appeal. Admin. Code § 31.16(b)(4).

Sincerely,



Richard T. Drury  
Christina M. Caro  
Lozeau | Drury LLP

Enclosures

cc. Environmental Review Officer  
(pursuant to SF Administrative Code § 31.16(b)(1))

# EXHIBIT A

## Brandt-Hawley Law Group

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January 21, 2014

Tom Nolan, Chairman  
and Members of the Board  
San Francisco MTA  
*via email*

Edward D. Reiskin  
Director of Transportation  
*via email*

Subject: *SFMTA Board Agenda Item 14*  
Adopting Commuter Shuttle Policy and Pilot Program and  
Amending the Transportation Code

Dear Chairman Nolan, Members of the Board, and Director Reiskin,

I am writing on behalf of San Francisco resident Sara Short to request that this Board conduct environmental review as required by the California Environmental Quality Act before approving any commuter bus pilot program.

The pilot program being proposed to you relies on a "Class 6" categorical exemption from CEQA. That section allows "basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded."

It is easy to understand the reason that CEQA provides a Class 6 exemption. Research and data collection, including "resource evaluation activities," are normally performed by professional staff and do not have environmental impacts. Studies simply provide data from which environmental decisions can be made.

This is different. There are environmental impacts associated with the current problematic commuter buses as well as with the pilot program itself. The complexity of the situation is reflected in the detailed proposed ordinance before you today that recites that it was developed by City staff in collaboration with the businesses that use the commuter buses.

The concerned public has been left out.

Approval of a pilot program that will impact the public and the San Francisco environment is being thrust upon City residents without opportunity for input. The materials before you mention that two alternate pilot programs were considered and rejected by staff. A public CEQA process should explore other possible scenarios that may have fewer environmental impacts -- before you approve a pilot program. The program itself requires analysis and mitigation and consideration of alternatives. This 18-month program appears designed to legitimize the current environmentally-destructive status quo.

What are the potentially significant environmental impacts of the pilot program? You have not been told, and the public has not been told. And because there is a "reasonable possibility" that the program may have significant impacts, categorical exemption is not allowed under CEQA Guideline section 15300.2 (c).

Please defer consideration of this pilot program pending CEQA review.

Thank you.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'S. Brandt-Hawley', with a stylized flourish at the end.

Susan Brandt-Hawley

# EXHIBIT B



SAN FRANCISCO  
MUNICIPAL TRANSPORTATION AGENCY  
BOARD OF DIRECTORS

RESOLUTION No. 14-023

WHEREAS, The use of shuttle buses for the purpose of providing commuter shuttle service for the benefit of employees, students and others is a growing means of sustainable transportation in San Francisco and the greater Bay Area; and,

WHEREAS, Shuttle bus service provides significant benefits to the community by replacing single occupant trips with more efficient transportation, contributing to a reduction in parking demand, and supporting the City's goal of having of 50 percent of all trips made by sustainable modes by 2018; and,

WHEREAS, Shuttle bus service currently operating in San Francisco reduces vehicle miles traveled (VMT) in the City by at least 45 million miles annually, and reduces greenhouse gas emissions for trips originating or ending in the City by 11,000 metric tons annually; and,

WHEREAS, The unregulated use of Muni stops by shuttle bus service providers has resulted in unintended adverse impacts, including delaying public transit service, increasing traffic congestion, diverting bicyclists from bicycle lanes into mixed-flow lanes, and diverting motor vehicle traffic into adjacent travel lanes, and preventing public transit vehicles from being able to access the curb in order to load and unload passengers; and

WHEREAS, The SFMTA's lack of complete information about shuttle bus operations, including routes, frequency of service and stops has been a barrier to resolving and preventing conflicts with shuttle service providers' operations, including adverse impacts on Muni service and increased traffic congestion; and

WHEREAS, Inconsistent or inaccurate identification of, and lack of contact information for, shuttle bus service providers has made it difficult for the SFMTA to effectively and timely communicate with shuttle bus service providers to prevent or resolve conflicts and makes enforcement of traffic and parking regulations difficult; and

WHEREAS, Regulation by the SFMTA of stop use by shuttle bus services to provide safe loading and unloading zones for those services, whose cumulative ridership is equivalent to that of a small transit system, is consistent with City's Transit First policy; and

WHEREAS, SFMTA has evaluated the impacts of shuttle service operations on Muni operations and other users of the transportation system and worked with shuttle sponsors and shuttle service providers to develop SFMTA's Commuter Shuttle Policy and Pilot Program to guide SFMTA's implementation and evaluation of a pilot program to authorize commuter shuttle buses to stop in designated Muni stops; and

WHEREAS, Pursuant to Charter Section 16.112, published notice was provided in the City's official newspaper for a five-day period beginning on January 10, 2014, that the Board of Directors will hold a public hearing on January 21, 2014, to consider implementing as an 18 month pilot, a permit program including a permit and use fee for shuttle buses authorized under the program to use designated Muni stops for loading and unloading passengers; and,

WHEREAS, On January 8, 2014, the SFMTA, under the authority delegated by the Planning Department, determined that the proposed Commuter Shuttle Policy and Pilot Program and Transportation Code amendments to implement an 18 month pilot program were exempt from environmental review pursuant to Title 14 of the California Code of Regulations Section 15306 as a Class 6 (Information Collection) categorical exemption, and on January 9, 2014, the City Planning Department issued a concurrence with SFMTA's determination; and,

WHEREAS. The proposed pilot program will provide the opportunity for SFMTA to gather information and collect data on the shuttle services' use of shared Muni stops and the effect of the program on transportation in the City that will help inform future implementation of regulations for shuttle services; and,

WHEREAS, A copy of the SFMTA's determination and the Planning Department's concurrence are on file in the office of the Secretary for the SFMTA Board of Directors, and this approval is the Approval Action as defined by San Francisco Administrative Code Chapter 31; and,

WHEREAS, On January 21, 2014, the SFMTA Board of Directors approved a motion to suspend Article 4, Section 10 of the SFMTA Board of Directors Rules of Order regarding published notice for implementing as an 18 month pilot, a permit program including a permit and use fee for shuttle buses authorized under the program to use designated Muni stops for loading and unloading passengers; now, therefore, be it

RESOLVED, That the San Francisco Municipal Transportation Agency Board of Directors adopts the Commuter Shuttle Policy and Pilot Program; and be it further

RESOLVED, That the San Francisco Municipal Transportation Agency Board of Directors amends Transportation Code, Division II, to authorize establishing a pilot permit program to authorize certain shuttle buses to stop in designated Muni stops for the purpose of loading or unloading passengers and establishing a fee for such permits and penalties for permit violations.

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of January 21, 2014.

*R. Pozornek*

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Secretary to the Board of Directors  
San Francisco Municipal Transportation Agency

[Transportation Code – Pilot Permit Program For Shuttle Buses Using Designated Muni Stops]

**Resolution amending Division II of the Transportation Code to establish a pilot permit program to authorize certain shuttle buses to stop in designated Muni stops for the purpose of loading or unloading passengers, and establishing fees for such permits.**

NOTE: Additions are single-underline Times New Roman;  
deletions are ~~strike-through Times New Roman~~.

The Municipal Transportation Agency Board of Directors of the City and County of San Francisco enacts the following regulations:

Section 1. Article 900 of Division II of the Transportation Code is hereby amended by adding Section 914, to read as follows:

**Sec. 914. SHUTTLE STOP PERMITS**

**(a) Definitions**

As used in this Section 914, the following words and phrases shall have the following meanings:

Designated Stop. An SFMTA bus stop designated by SFMTA as a stop available for loading and/or unloading of passengers by Shuttle Service Providers that have been issued a Shuttle Permit under this Section 914.

Director. The Director of Transportation or his or her designee.

Shuttle Bus. A motor vehicle designed, used or maintained by or for a charter-party carrier of passengers, a passenger stage corporation, or any highway carrier of passengers required to register with the California Public Utilities Commission that is being operated in Shuttle Service.

Shuttle Permit. A permit issued by the SFMTA that authorizes a Shuttle Service Provider to load and/or unload passengers at specified Designated Stops in one or more Shuttle Buses.

Shuttle Placard. A placard issued by SFMTA that is visible from outside the Shuttle Bus at front and rear locations as specified by the SFMTA and that identifies the Shuttle Permit authorizing the Shuttle Bus to use Designated Stops.

Shuttle Service. Transportation by Private Buses offered for the exclusive or primary use of a discrete group or groups, such as clients, patients, students, paid or unpaid staff, visitors, and/or residents, between an organization or entity's facilities or between the organization or entity's facilities and other locations, on a regularly-scheduled basis.

Shuttle Service Provider. Any Person using Shuttle Buses to provide Shuttle Service within the City.

Stop Event. An instance of stopping by a Shuttle Bus at a Designated Stop for the purpose of loading and/or unloading passengers.

**(b) Findings.**

(1) The use of Shuttle Buses for the purpose of providing Shuttle Service is a growing means of transportation in San Francisco and the greater Bay Area.

(2) Shuttle Service provides significant benefits to the community by replacing single occupant trips with more efficient transportation, contributing to a reduction in parking demand, and supporting the City's goal of having of 50 percent of all trips made by sustainable modes by 2018.

(3) Shuttle Service currently operating in San Francisco reduces vehicle miles traveled (VMT) in the City by at least 45 million miles annually, and reduces greenhouse gas emissions from trips originating or ending in the City by 11,000 metric tons annually.

(4) Unregulated use of Muni stops by Shuttle Service Providers has resulted in unintended adverse impacts, including delaying transit bus service, increasing traffic congestion, diverting bicyclists from bicycle lanes into mixed-flow lanes, and diverting motor vehicle traffic into adjacent travel lanes, and preventing transit buses from being able to access the curb in order to load and unload passengers.

(5) The SFMTA's lack of complete information about Shuttle Service operations, including routes, frequency of service and stops has been a barrier to resolving and preventing conflicts with Shuttle Service Providers' operations, including adverse impacts on Muni service and increased traffic congestion.

(6) Inconsistent or inaccurate identification of, and lack of contact information for, Shuttle Service Providers has made it difficult for the SFMTA to effectively and timely communicate with Shuttle Service Providers to prevent or resolve conflicts and makes enforcement of traffic and parking regulations difficult.

(7) Regulation by the SFMTA of stop use by Shuttle Services to provide safe loading and unloading zones for Shuttle Services, whose cumulative ridership is equivalent to that of a small transit system, is consistent with City's Transit First policy.

(8) The pilot program established under this Section 914 is intended to enable SFMTA to evaluate whether shared use of Muni stops by Shuttle Buses is consistent with efficient operation of the City's public transit system.

**(c) General Permit Program Requirements.**

(1) The Director is authorized to implement a pilot program for the issuance of Shuttle Permits beginning on a date designated by the Director. The duration of the pilot program shall not exceed 18 months from the date of commencement designated by the Director.

(2) The Director may issue a Shuttle Permit for the use of Designated Stops upon receipt of an application from a Shuttle Service Provider on a form prescribed by the SFMTA which application meets the requirements of this Section 914.

(3) The Shuttle Permit shall authorize the Shuttle Service Provider to receive a specified number of Shuttle Placards issued by SFMTA.

(4) The Director is authorized to establish up to 200 Designated Stops for the purposes of this pilot program. The Director may establish additional Designated Stops following a public hearing.

(d) Application Requirements. Each application for a permit or renewal of a permit shall contain the following information:

(1) The name, business location, telephone number, fax number and email address of the Shuttle Service Provider;

(2) The name, title and contact information of one or more persons representing the Shuttle Service Provider to be notified by SFMTA in the event of a problem or permit violation relating to the Permittee's Shuttle Service;

(3) The total number of Shuttle Buses the Shuttle Service Provider intends to use to deliver Shuttle Service using Designated Stops, and the make, passenger capacity and license plate number of each of its Shuttle Buses that would be authorized, when bearing a Shuttle Placard, to use one or more Designated Stops;

(4) The total number of Shuttle Placards requested;

(5) The number of shuttle routes for which the permit applicant is proposing to provide Shuttle Service, including the frequency of service on each route, the neighborhoods served by each route, the origin and terminus of each route, and the frequency of Shuttle Service on each route. In lieu of a map, the permit applicant may provide a narrative statement describing the routes. The applicant need only identify the route to the extent that it lies within the City. Where the point of origin or termination is outside of the City, the applicant need only provide the county in which the point of origin or termination is located;

(6) A list of the Designated Stops the permit applicant proposes to use on each shuttle route, along with the proposed frequency of use of each Designated Stop per day, resulting in a calculation of the total number of Stop Events per day at Designated Stops; and

(7) Documentation of the Applicant's registration status with the California Public Utilities Commission ("CPUC"), including any Charter Party Carrier ("TCP") authorization or permits, or registration as a private carrier of passengers, and documentation that the Applicant maintains insurance in compliance with the applicable requirements imposed by the CPUC.

(e) Permit Issuance. After evaluating an applicant's permit application, the Director shall grant the Permit as requested, or grant the Permit with modifications, or deny the Permit. Where the Permit is granted with modifications or denied, the notice shall explain the basis for the Director's decision. The Director may issue procedures for reviewing the Director's decision upon request of the permit applicant.

(f) Permit Terms and Conditions. The Director shall establish terms and conditions for Permits. In addition to any other requirements imposed by the Director, Permits shall include the following terms:

(1) Any Shuttle Bus being operated in Shuttle Service shall be listed on the permit application and shall display a valid SFMTA-issued Shuttle Placard visible from outside the Shuttle Bus at front and rear locations on the Shuttle Bus as specified by the SFMTA, at all times such vehicle is being operated in Shuttle Service in the City. Shuttle Placards may be transferred between any Shuttle Buses in the Shuttle Service Provider's fleet that are listed on the Permit.

(2) A Shuttle Bus bearing valid Shuttle Placards shall be allowed to stop at any Designated Stop subject to the following conditions:

(A) The Shuttle Bus shall give priority to any transit buses that are approaching or departing a Designated Stop;

(B) The Shuttle Bus shall not stop at any Muni stops other than Designated Stops;

(C) The Shuttle Bus shall use Designated Stops only for active loading or unloading of passengers, and such loading and unloading shall be conducted as quickly as possible without compromising the safety of passengers, pedestrians, bicyclists or other motorists;

(D) Loading and unloading of passengers shall not take place in, or impede travel in, a lane of traffic or bicycle lane.

(3) A Shuttle Permit and Shuttle Placard shall not exempt a Shuttle Bus from any other Parking restrictions or traffic regulations except as authorized by this Section 914, and a Shuttle Bus stopping or parking at any Muni stop, including a Designated Stop, in violation of the terms and conditions set forth in this Subsection (f) may be cited for violation of California Vehicle Code Section 22500(i).

(4) The Permittee shall comply with all applicable federal, state and local laws, including this Code, the California Vehicle Code and CPUC requirements, including those for registration, insurance, vehicle inspection and regulation of drivers;

(5) The Permittee shall equip each Shuttle Bus with an on-board device capable of providing real-time location data to the SFMTA in accordance with specifications issued by the Director, and shall maintain a continuous feed of the specified data at all times when the Shuttle Bus is being used to provide Shuttle Service within the City. The Permittee shall begin providing a continuous feed of such data to the SFMTA on the first day that the Permittee begins providing Shuttle Service under the Permit unless the Director establishes an alternate date. Notwithstanding the foregoing requirements stated in this subsection (f)(5), if the Permittee is unable to provide the required data in accordance with specifications issued by the Director, the Permittee shall install an on-board device (OBD) prescribed by the SFMTA in each Shuttle Bus. The SFMTA shall not be responsible for any equipment, or for the failure of any equipment, installed inside any Shuttle Bus for any reason, including for the purpose of complying with this Section 914. If a Shuttle Bus becomes unable to provide the required data for any reason, Permittee shall not operate that Shuttle Bus in Shuttle Service without first notifying SFMTA of the identity of the bus, the route affected and the time at which Permittee expects the data transmission to be restored. To facilitate SFMTA's



monitoring of Shuttle Bus operations, the Director may issue regulations limiting the duration that a Shuttle Bus may operate in Shuttle Service without being able to provide the required data.

(6) The Permittee shall, in a timely manner and as otherwise required by law, pay all traffic and parking citations issued to its Shuttle Buses in the course of providing Shuttle Service, subject to the Permittee's right under applicable law to contest such citations.

(7) Where the Director determines that the continued use of a particular Shuttle Bus listed on a Shuttle Provider's permit application would constitute a risk to public safety, the Director shall notify the Shuttle Provider in writing, and said Shuttle Bus shall immediately be ineligible to use any Designated Stops unless and until the Shuttle Provider has proven to the satisfaction of the Director that the Shuttle Bus no longer constitutes a risk to public safety.

(g) **Duration of Shuttle Permit.** Shuttle Permits initially issued under this Section shall expire six months from the date of commencement of the pilot program designated by the Director pursuant to subsection (c)(1), unless a shorter term is requested by the Permittee, the Permit is revoked, or the Director for good cause finds a shorter term is warranted. Permits issued or renewed on or after that six months' date shall expire 18 months from the date of program commencement, unless a shorter term is requested by the Permittee, the Permit is revoked or the Director for good cause finds a shorter term is required.

(h) **Fees.**

(1) Shuttle Service Providers shall pay a Designated Stop use and permit fee as set forth below. The fee is intended to cover the cost to SFMTA of permit program implementation, administration enforcement and evaluation. The Designated Stop use fee component shall be determined by multiplying the total number of anticipated daily Stop Events stated in the permit application by the per stop fee set forth below. The Director is authorized, in his or her discretion, to impose pro-rated Designated Stop use fees where a Shuttle Service Provider applies for a permit or permit modification following date of commencement of the pilot program.

(2) The Designated Stop use and permit fees shall be \$1 per Stop Event.

(3) Permittees shall be billed for the Designated Stop use and permit fee upon issuance or renewal of the Permit. The Designated Stop use and permit fee shall be due and payable within 30 days from the date of invoice. Fees remaining unpaid 30 days after the date of invoice shall be subject to a 10 percent penalty plus interest at the rate of one percent per month on the outstanding balance, which shall be added to the fee amount from the date that payment is due.

(4) SFMTA shall reconcile the number of Stop Events for each Shuttle Service Provider against the actual stop data provided to the SFMTA on a semi-annual basis, but reserves the right to conduct such reconciliation on a more frequent basis if necessary. Where the SFMTA determines that a Shuttle Service Provider has used Designated Stops more frequently than authorized under the Provider's Permit, the Provider shall pay the additional Designated Stop use fee due. Where SFMTA determines that the Permittee's use of Designated Stops exceeds the authorized number of daily Stop Events by 10 percent or more, the Provider shall pay the additional Designated Stop use fee due, plus a 10 percent penalty. All such fees shall be due within 30 days from the date of invoice. Fees remaining unpaid after that date shall be subject to interest at the rate of one percent per month on the outstanding balance, which shall be added to the fee amount from the date that payment is due.

**(i) Grounds for suspension or revocation:**

(1) The Director may suspend or revoke a permit issued under this Section 914 upon written notice of revocation and opportunity for hearing. The Director is authorized to promulgate hearing and review procedures for permit suspension and revocation proceedings. Upon revocation or suspension, the Shuttle Service Provider shall surrender such Permit and the Shuttle Placards authorized under the Permit in accordance with the instructions in the notice of suspension or revocation.

(2) Where the Director determines that public safety is at risk, or where the Permittee's continued operation as a Shuttle Service Provider would be in violation of the California Public

Utilities Code or the California Vehicle Code, the Director is authorized to suspend a permit issued under this Section 914 immediately upon written notice of suspension to the Permittee, provided that the Director shall provide the Permittee with the opportunity for a hearing on the suspension within five business days of the date of notice of suspension.

(3) A permit issued under this Section 914 may be suspended or revoked under this paragraph following the Director's determination after an opportunity for hearing that:

(A) the Permittee has failed to abide by any permit condition;

(B) the Permittee knowingly or intentionally provided false or inaccurate information on a permit application;

(C) one or more of Permittee's Shuttle Buses have, in the course of providing Shuttle Service, repeatedly and egregiously violated parking or traffic laws;

(D) the Permittee's continued operation as a Shuttle Service Provider would constitute a public safety risk; or

(E) the Permittee's continued operation as a Shuttle Service Provider would be in violation of the California Public Utilities Code or the California Vehicle Code.

(j) **Administrative Penalties.**

(1) This Section shall govern the imposition, assessment and collection of administrative penalties imposed for violations of permit conditions set forth under Subsection 914(f).

(2) The SFMTA Board of Directors finds:

(A) That it is in the best interest of the City, its residents, visitors and those who travel on City streets to provide an administrative penalty mechanism for enforcement of Shuttle Bus permit conditions; and

(B) That the administrative penalty scheme established by this section is intended to compensate the public for the injury or damage caused by Shuttle Buses being operated in violation of the permit conditions set forth under Subsection 914(f). The administrative penalties authorized

under this section are intended to be reasonable and not disproportionate to the damage or injury to the City and the public caused by the prohibited conduct.

(C) The procedures set forth in this Section are adopted pursuant to Government Code Section 53069.4 which governs the imposition, enforcement, collection, and administrative review of administrative citations and fines by local agencies, and pursuant to the City's home rule power over its municipal affairs.

(3) Any Service Provider that is operating a Shuttle Bus in violation of the permit conditions set forth under Subsection 914(f) may be subject to the issuance of a citation and imposition of an administrative penalty under this Subsection 914(j).

(4) Administrative penalties may not exceed \$250 for each violation. In determining the amount of the penalty, the officer or employee who issued the citation may take any or all of the following factors into consideration:

(A) The duration of the violation;

(B) The frequency, recurrence and number of violations by the same violator;

(C) The seriousness of the violation;

(D) The good faith efforts of the violator to correct the violation;

(E) The economic impact of the fine on the violator;

(F) The injury or damage, if any, suffered by any member of the public;

(G) The impact of the violation on the community;

(H) The amount of City staff time expended investigating or addressing the violation;

(I) The amount of fines imposed by the charging official in similar situations;

(J) Such other factors as justice may require.

(5) The Director of Transportation is authorized to designate officers or employees of the Municipal Transportation Agency to issue citations imposing administrative penalties for violations

of the permit conditions set forth in Subsection 914(f), hereafter referred to as the “Charging Official.”

(6) Administrative Citation. A Charging Official who determines that there has been a violation of the permit conditions set forth in Subsection 914(f), may issue an administrative citation to the Shuttle Service Provider permitted under this Section 914. The Charging Official shall either serve the citation personally on the Shuttle Service Provider or serve it by certified U.S. mail sent to the address indicated on the Shuttle Service Provider’s permit application.

(7) The citation shall contain the following information: the name of the person or entity cited; the date, time, address or location and nature of the violation; the date the citation is issued; the name and signature of the Charging Official; the amount of the administrative penalty, acceptable forms of payment of the penalty; and that the penalty is due and payable to the SFMTA within 15 business days from (A) the date of issuance of the citation if served personally, or (B) the date of receipt of the citation if served by certified U.S. Mail. The citation shall also state that the person or entity cited that it has the right to appeal the citation, as provided in Subsection 914(j).

(8) Request for Hearing; Hearing.

(A) A person or entity may appeal the issuance of a citation by filing a written request with the SFMTA Hearing Division within 15 business days from (i) the date of the issuance of a citation that is served personally or (ii) the date of receipt if the citation is served by certified U.S. Mail. The failure of the person or entity cited to appeal the citation shall constitute a failure to exhaust administrative remedies and shall preclude the person or entity cited from obtaining judicial review of the validity of the citation.

(B) At the time that the appeal is filed, the appellant must deposit with the SFMTA Hearing Division the full amount of the penalty required under the citation.

(C) The SFMTA Hearing Division shall take the following actions within 10 days of receiving an appeal: appoint a hearing officer, set a date for the hearing, which date shall be no less

than 10 and no more than 60 days from the date that the appeal was filed, and send written notice of the hearing date to the appellant and the Charging Official.

(D) Upon receiving notice that the SFMTA Hearing Division has scheduled a hearing on an appeal, the Charging Official shall, within three City business days, serve the hearing officer with records, materials, photographs, and other evidence supporting the citation. The hearing officer may grant a request to allow later service and may find good cause to continue the hearing because of the delay.

(E) The hearing officer shall conduct all appeal hearings under this Chapter and shall be responsible for deciding all matters relating to the hearing procedures not otherwise specified in this Section. The Charging Official shall have the burden of proof in the hearing. The hearing officer may continue the hearing at his or her own initiative or at the request of either party, and may request additional information from either party to the proceeding. The hearing need not be conducted according to technical rules of evidence and witnesses. Any relevant evidence is admissible if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs.

(F) The following provisions shall also apply to the appeal procedure:

(i) A citation that complies with the requirements of Section 914(j)(7) and any additional evidence submitted by the Charging Official shall be prima facie evidence of the facts contained therein;

(ii) The appellant shall be given the opportunity to present evidence concerning the citation; and

(iii) The hearing officer may accept testimony by declaration under penalty of perjury relating to the citation from any party if he or she determines it appropriate to do so.

(iv) After considering all of the testimony and evidence submitted by the parties, the hearing officer shall issue a written decision upholding, modifying or vacating the citation and shall set forth the reasons for the determination. This shall be a final administrative determination.

(v) If the hearing officer upholds the citation, the hearing officer shall inform the appellant of its right to seek judicial review pursuant to California Government Code Section 53069.4. If the citation is upheld the City shall retain the amount of the fine that the appellant deposited with the City.

(vi) If the hearing officer vacates the citation, the City shall promptly refund the deposit. If the hearing officer partially vacates the citation, the City shall promptly refund that amount of the deposit that corresponds to the hearing officer's determination. The refund shall include interest at the average rate earned on the City's portfolio for the period of time that the City held the deposit as determined by the Controller.

(G) Any person aggrieved by the action of the hearing officer taken pursuant to this Chapter may obtain review of the administrative decision by filing a petition for review in accordance with the timelines and provisions set forth in California Government Code Section 53069.4.

(H) If a final order of a court of competent jurisdiction determines that the SFMTA has not properly imposed a fine pursuant to the provisions of this Section, and if the fine has been deposited with the SFMTA as required by Section 914(j)(8)(B), the SFMTA shall promptly refund the amount of the deposited fine, consistent with the court's determination, together with interest at the average rate earned on the City's portfolio.

(9) Administrative penalties shall be deposited in the Municipal Transportation Fund and may be expended only by the SFMTA.

Section 2. Effective Date. This ordinance shall become effective 31 days after enactment. Enactment occurs when the San Francisco Municipal Transportation Agency Board of Directors approves this ordinance

Section 3. Scope of Ordinance. In enacting this ordinance, the San Francisco Municipal Transportation Agency Board of Directors intends to amend only those words, phrases, paragraphs, subsections, sections, articles, numbers, letters, punctuation marks, charts, diagrams, or any other constituent parts of the Transportation Code that are explicitly shown in this ordinance as additions or deletions in accordance with the "Note" that appears under the official title of the ordinance.

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

By: \_\_\_\_\_  
DAVID A. GREENBURG  
Deputy City Attorney

I certify that the foregoing resolution was adopted by the San Francisco Municipal Transportation Agency Board of Directors at its meeting of January 21, 2014.

*R. Bowmer*

\_\_\_\_\_  
Secretary to the Board of Directors  
San Francisco Municipal Transportation Agency





# SAN FRANCISCO PLANNING DEPARTMENT

## ENVIRONMENTAL EVALUATION APPLICATION COVER MEMO - PUBLIC PROJECTS ONLY

In accordance with Chapter 31 of the San Francisco Administrative Code, an appeal of an exemption determination can only be filed within 30 days of the project receiving the first approval action.

Please attach this memo along with all necessary materials to the Environmental Evaluation Application.

Project Address and/or Title:	Employer Shuttle Pilot Project
Funding Source (MTA only):	
Project Approval Action:	SFMTA Board
Will the approval action be taken at a noticed public hearing?	<input checked="" type="checkbox"/> YES* <input type="checkbox"/> NO
* If YES is checked, please see below.	

### IF APPROVAL ACTION IS TAKEN AT A NOTICED PUBLIC HEARING, INCLUDE THE FOLLOWING CALENDAR LANGUAGE:

**End of Calendar:** CEQA Appeal Rights under Chapter 31 of the San Francisco Administrative Code If the Commission approves an action identified by an exemption or negative declaration as the Approval Action (as defined in S.F. Administrative Code Chapter 31, as amended, Board of Supervisors Ordinance Number 161-13), then the CEQA decision prepared in support of that Approval Action is thereafter subject to appeal within the time frame specified in S.F. Administrative Code Section 31.16. Typically, an appeal must be filed within 30 calendar days of the Approval Action. For information on filing an appeal under Chapter 31, contact the Clerk of the Board of Supervisors at City Hall, 1 Dr. Carlton B. Goodlett Place, Room 244, San Francisco, CA 94102, or call (415) 554-5184. If the Department's Environmental Review Officer has deemed a project to be exempt from further environmental review, an exemption determination has been prepared and can be obtained on-line at <http://sf-planning.org/index.aspx?page=3447>. Under CEQA, in a later court challenge, a litigant may be limited to raising only those issues previously raised at a hearing on the project or in written correspondence delivered to the Board of Supervisors, Planning Commission, Planning Department or other City board, commission or department at, or prior to, such hearing, or as part of the appeal hearing process on the CEQA decision.

**Individual calendar items:** This proposed action is the Approval Action as defined by S.F. Administrative Code Chapter 31.

### THE FOLLOWING MATERIALS ARE INCLUDED:

- 2 sets of plans (11x17)
- Project description
- Photos of proposed work areas/project site
- Necessary background reports (specified in EEA)
- MTA only: Synchro data for lane reductions and traffic calming projects



**SFMTA**  
Municipal  
Transportation  
Agency

San Francisco Municipal Transportation Agency  
150 Golden Gate Avenue, Suite 100  
San Francisco, CA 94102  
415.701.4500  
www.sfmta.com

January 7, 2014

Jeanie Poling  
San Francisco Planning Department  
1650 Mission Street, Suite 400  
San Francisco, CA 94103

RE: The San Francisco Commuter Shuttle Pilot Program Establishment, CEQA Determination

Dear Ms. Poling:

The SFMTA is proposing to establish an 18-month Commuter Shuttle Pilot Program that would allow private commuter shuttles to use selected existing Muni bus stops for passenger pick-up and drop-off. The proposal would apply to shuttle services that serve commuters to, from, and within San Francisco. This proposal would not include recreational buses, airport shuttles, long-distance interurban buses, or vanpool vehicles. Participation would require a permit from the SFMTA.

The Commuter Shuttle Pilot Program is intended to increase safety for the users of all modes of transportation, including pedestrians, bicyclists, public transit riders, and private vehicle drivers as shuttles would operate according to agreed-upon guidelines. This program would reduce conflict with Muni operations as the shuttles would only use designated Muni stops deemed appropriate and designated by SFMTA staff. The program would reduce conflicts between shuttles and bicycles and vehicular traffic, and would support commuter use of sustainable non-single occupancy vehicles. The program would benefit the shuttle service sponsors by formalizing and facilitating the current practice of the use of Muni stops by shuttles.

There are approximately 200 locations throughout the City that the shuttle providers use, many of which are Muni bus stops. The SFMTA would solicit applications from shuttle sponsors for the purpose of determining which stops should become shared Muni-shuttle stops. The SFMTA would evaluate these proposed stops based on operational and engineering considerations to select approximately 200 shared Muni stops, distributed throughout the City, and would designate them for shared Muni and shuttle use.

As of August 2013, there were 48 known shuttle providers (19 regional and 29 intra-city) including the employers/institutions that offer the services as well as vendors who operate the services. There are about 350 shuttle vehicles operating in San Francisco on an average weekday. Together, the shuttle sector provides approximately 35,000 boardings on an average weekday, most of these during the peak morning and peak evening hours. Together, the commuter shuttles reduce at least 45 million vehicle miles travelled and 671,000 metric tons of carbon annually.

The vehicle size of the shuttles varies given the service needs and the number of riders utilizing the service. Most of the intra-city shuttles range in size from approximately 26 feet in length to approximately 32 feet in length and carry between 10 and 28 passengers. Most of the regional shuttle providers use motor coaches that are 40 to 45 feet in length and can carry 40 to 80 passengers.

The maximum shuttle boarding time is not expected to exceed one minute at the shared bus stops. The operating guidelines to be followed by the shuttle providers would minimize conflicts with Muni operations. Shuttle providers would be required to give priority to all Muni buses, would stop only at designated Muni stops, would prohibit loading and unloading in a traffic or bicycle lane, and would require the shuttles to pull all the way to the front of the bus stop to leave room for Muni or other shuttles in the bus zone. The SFMTA would use a sticker or other signage at the Muni bus stops to designate approved use by participating shuttle partners.

The SFMTA will evaluate the pilot program to assess how well it addresses conflicts between Muni and private commuter shuttles, and how well it encourages and facilitates shuttle operation, as well as environmental benefits.

The SFMTA will collect information from shuttle providers such as vehicle and fuel type, ridership, and shuttle miles traveled from shuttle providers for the environmental benefits assessment.

The SFMTA will conduct before and after field data observations on sample stops to compare shuttle operations and impacts on other users. The SFMTA will track the following data through auditing GPS feeds, enforcement reports, 311 complaints and requests, field observations, citations, and other communications to the SFMTA:

- Complaints about shuttle activities, including from Muni operators
- Incidents of shuttle-Muni, shuttle-shuttle, and shuttle-other user conflicts
- Violations of operating guidelines by shuttle operators
- Citations issued

The SFMTA will also evaluate the program's structure, administration, enforcement, and actual costs.

Because the Pilot Project will not result in a serious or major disturbance to an environmental resource and is reversible, we feel this pilot project is categorically exempt from CEQA under Class 6, Information Collection. Please let us know if you concur with this determination.

Sincerely,

Jerry Robbins  
Transportation Planning Manager



# SAN FRANCISCO PLANNING DEPARTMENT

## CEQA Categorical Exemption Determination

### PROPERTY INFORMATION/PROJECT DESCRIPTION

Project Address		Block/Lot(s)	
SFMTA Commuter Shuttle Pilot Program			
Case No.	Permit No.	Plans Dated	
2013.1591E			
<input type="checkbox"/> Addition/ Alteration	<input type="checkbox"/> Demolition (requires HRER if over 50 years old)	<input type="checkbox"/> New Construction	<input type="checkbox"/> Project Modification (GO TO STEP 7)
Project description for Planning Department approval. Eighteen-month pilot project to allow private commute shuttles to use selected Muni bus stops for passenger pick-up and drop-off.			

### STEP 1: EXEMPTION CLASS

TO BE COMPLETED BY PROJECT PLANNER

<b>Note: If neither class applies, an <i>Environmental Evaluation Application</i> is required.</b>	
<input type="checkbox"/>	<b>Class 1 – Existing Facilities.</b> Interior and exterior alterations; additions under 10,000 sq. ft.; change of use if principally permitted or with a CU.
<input type="checkbox"/>	<b>Class 3 – New Construction.</b> Up to three (3) new single-family residences or six (6) dwelling units in one building; commercial/office structures; utility extensions.
<input checked="" type="checkbox"/>	<b>Class – 6 - Information Collection</b>

### STEP 2: CEQA IMPACTS

TO BE COMPLETED BY PROJECT PLANNER

<b>If any box is checked below, an <i>Environmental Evaluation Application</i> is required.</b>	
<input type="checkbox"/>	<b>Transportation:</b> Does the project create six (6) or more net new parking spaces or residential units? Does the project have the potential to adversely affect transit, pedestrian and/or bicycle safety (hazards) or the adequacy of nearby transit, pedestrian and/or bicycle facilities?
<input type="checkbox"/>	<b>Air Quality:</b> Would the project add new sensitive receptors (specifically, schools, day care facilities, hospitals, residential dwellings, and senior-care facilities) within an air pollution hot spot? (refer to EP_ArcMap > CEQA Catex Determination Layers > Air Pollution Hot Spots)
<input type="checkbox"/>	<b>Hazardous Materials:</b> Any project site that is located on the Maher map or is suspected of containing hazardous materials (based on a previous use such as gas station, auto repair, dry cleaners, or heavy manufacturing, or a site with underground storage tanks): Would the project involve soil disturbance of any amount or a change of use from industrial to commercial/residential? If yes, should the applicant present documentation of a completed Maher Application that has been submitted to the San Francisco Department of Public Health (DPH), this box does not need to be checked, but such documentation must be appended to this form. In all other circumstances, this box must be checked and the project applicant must submit an Environmental Application with a Phase I Environmental Site Assessment and/or file a Maher Application with DPH. (refer to EP_ArcMap > Maher layer.)

<input type="checkbox"/>	<b>Soil Disturbance/Modification:</b> Would the project result in soil disturbance/modification greater than two (2) feet below grade in an archeological sensitive area or eight (8) feet in a non-archeological sensitive area? (refer to EP_ArcMap > CEQA Catex Determination Layers > Archeological Sensitive Area)
<input type="checkbox"/>	<b>Noise:</b> Does the project include new noise-sensitive receptors (schools, day care facilities, hospitals, residential dwellings, and senior-care facilities) fronting roadways located in the noise mitigation area? (refer to EP_ArcMap > CEQA Catex Determination Layers > Noise Mitigation Area)
<input type="checkbox"/>	<b>Subdivision/Lot Line Adjustment:</b> Does the project site involve a subdivision or on a lot with a slope average of 20% or more? (refer to EP_ArcMap > CEQA Catex Determination Layers > Topography)
<input type="checkbox"/>	<b>Slope = or &gt; 20%:</b> Does the project involve excavation of 50 cubic yards of soil or more, square footage expansion greater than 1,000 sq. ft., shoring, underpinning, retaining wall work, or grading on a lot with a slope average of 20% or more? <i>Exceptions: do not check box for work performed on a previously developed portion of site, stairs, patio, deck, or fence work.</i> (refer to EP_ArcMap > CEQA Catex Determination Layers > Topography) <b>If box is checked, a geotechnical report is required and a Certificate or higher level CEQA document required</b>
<input type="checkbox"/>	<b>Seismic: Landslide Zone:</b> Does the project involve excavation of 50 cubic yards of soil or more, square footage expansion greater than 1,000 sq. ft., shoring, underpinning, retaining wall work, grading –including excavation and fill on a landslide zone – as identified in the San Francisco General Plan? <i>Exceptions: do not check box for work performed on a previously developed portion of the site, stairs, patio, deck, or fence work.</i> (refer to EP_ArcMap > CEQA Catex Determination Layers > Seismic Hazard Zones) <b>If box is checked, a geotechnical report is required and a Certificate or higher level CEQA document required</b>
<input type="checkbox"/>	<b>Seismic: Liquefaction Zone:</b> Does the project involve excavation of 50 cubic yards of soil or more, square footage expansion greater than 1000 sq ft, shoring, underpinning, retaining wall work, or grading on a lot in a liquefaction zone? <i>Exceptions: do not check box for work performed on a previously developed portion of the site, stairs, patio, deck, or fence work.</i> (refer to EP_ArcMap > CEQA Catex Determination Layers > Seismic Hazard Zones) <b>If box is checked, a geotechnical report will likely be required</b>
<input type="checkbox"/>	<b>Serpentine Rock:</b> Does the project involve any excavation on a property containing serpentine rock? <i>Exceptions: do not check box for stairs, patio, deck, retaining walls, or fence work.</i> (refer to EP_ArcMap > CEQA Catex Determination Layers > Serpentine)
<b>If no boxes are checked above, GO TO STEP 3. <u>If one or more boxes are checked above, an Environmental Evaluation Application is required.</u></b>	
<input type="checkbox"/>	<b>Project can proceed with categorical exemption review. The project does not trigger any of the CEQA impacts listed above.</b>
<b>Comments and Planner Signature (optional):</b>	

**STEP 3: PROPERTY STATUS – HISTORIC RESOURCE  
TO BE COMPLETED BY PROJECT PLANNER**

<b>PROPERTY IS ONE OF THE FOLLOWING:</b> (refer to Parcel Information Map)	
<input type="checkbox"/>	<b>Category A:</b> Known Historical Resource. <b>GO TO STEP 5.</b>
<input type="checkbox"/>	<b>Category B:</b> Potential Historical Resource (over 50 years of age). <b>GO TO STEP 4.</b>
<input checked="" type="checkbox"/>	<b>Category C:</b> Not a Historical Resource or Not Age Eligible (under 50 years of age). <b>GO TO STEP 6.</b>

**STEP 4: PROPOSED WORK CHECKLIST**  
**TO BE COMPLETED BY PROJECT PLANNER**

<b>Check all that apply to the project.</b>	
<input type="checkbox"/>	1. <b>Change of use and new construction.</b> Tenant improvements not included.
<input type="checkbox"/>	3. <b>Regular maintenance or repair</b> to correct or repair deterioration, decay, or damage to building.
<input type="checkbox"/>	4. <b>Window replacement</b> that meets the Department's <i>Window Replacement Standards</i> . Does not include storefront window alterations.
<input type="checkbox"/>	5. <b>Garage work.</b> A new opening that meets the <i>Guidelines for Adding Garages and Curb Cuts</i> , and/or replacement of a garage door in an existing opening that meets the Residential Design Guidelines.
<input type="checkbox"/>	6. <b>Deck, terrace construction, or fences</b> not visible from any immediately adjacent public right-of-way.
<input type="checkbox"/>	7. <b>Mechanical equipment installation</b> that is not visible from any immediately adjacent public right-of-way.
<input type="checkbox"/>	8. <b>Dormer installation</b> that meets the requirements for exemption from public notification under <i>Zoning Administrator Bulletin No. 3: Dormer Windows</i> .
<input type="checkbox"/>	9. <b>Addition(s)</b> that are not visible from any immediately adjacent public right-of-way for 150 feet in each direction; does not extend vertically beyond the floor level of the top story of the structure or is only a single story in height; does not have a footprint that is more than 50% larger than that of the original building; and does not cause the removal of architectural significant roofing features.
<b>Note: Project Planner must check box below before proceeding.</b>	
<input type="checkbox"/>	Project is not listed. <b>GO TO STEP 5.</b>
<input type="checkbox"/>	Project <b>does not conform</b> to the scopes of work. <b>GO TO STEP 5.</b>
<input type="checkbox"/>	Project involves <b>four or more</b> work descriptions. <b>GO TO STEP 5.</b>
<input type="checkbox"/>	Project involves <b>less than four</b> work descriptions. <b>GO TO STEP 6.</b>

**STEP 5: CEQA IMPACTS – ADVANCED HISTORICAL REVIEW**  
**TO BE COMPLETED BY PRESERVATION PLANNER**

<b>Check all that apply to the project.</b>	
<input type="checkbox"/>	1. Project involves a <b>known historical resource (CEQA Category A)</b> as determined by Step 3 and conforms entirely to proposed work checklist in Step 4.
<input type="checkbox"/>	2. <b>Interior alterations to publicly accessible spaces.</b>
<input type="checkbox"/>	3. <b>Window replacement</b> of original/historic windows that are not "in-kind" but are consistent with existing historic character.
<input type="checkbox"/>	4. <b>Façade/storefront alterations</b> that do not remove, alter, or obscure character-defining features.
<input type="checkbox"/>	5. <b>Raising the building</b> in a manner that does not remove, alter, or obscure character-defining features.
<input type="checkbox"/>	6. <b>Restoration</b> based upon documented evidence of a building's historic condition, such as historic photographs, plans, physical evidence, or similar buildings.
<input type="checkbox"/>	7. <b>Addition(s)</b> , including mechanical equipment that are minimally visible from a public right-of-way and meet the <i>Secretary of the Interior's Standards for Rehabilitation</i> .

<input type="checkbox"/>	8. <b>Other work consistent</b> with the <i>Secretary of the Interior Standards for the Treatment of Historic Properties</i> (specify or add comments):
<input type="checkbox"/>	9. <b>Reclassification of property status</b> to Category C. (Requires approval by Senior Preservation Planner/Preservation Coordinator) a. Per HRER dated: _____ (attach HRER) b. Other (specify):
<b>Note: If ANY box in STEP 5 above is checked, a Preservation Planner MUST check one box below.</b>	
<input type="checkbox"/>	<b>Further environmental review required.</b> Based on the information provided, the project requires an <i>Environmental Evaluation Application</i> to be submitted. <b>GO TO STEP 6.</b>
<input type="checkbox"/>	<b>Project can proceed with categorical exemption review.</b> The project has been reviewed by the Preservation Planner and can proceed with categorical exemption review. <b>GO TO STEP 6.</b>
Comments (optional):	
Preservation Planner Signature:	

**STEP 6: CATEGORICAL EXEMPTION DETERMINATION  
TO BE COMPLETED BY PROJECT PLANNER**

<input type="checkbox"/>	Further environmental review required. Proposed project does not meet scopes of work in either (check all that apply): <input type="checkbox"/> Step 2 – CEQA Impacts <input type="checkbox"/> Step 5 – Advanced Historical Review <b>STOP! Must file an <i>Environmental Evaluation Application</i>.</b>	
<input checked="" type="checkbox"/>	<b>No further environmental review is required. The project is categorically exempt under CEQA.</b>	
	<b>Planner Name:</b>	<b>Signature or Stamp:</b>
	<b>Project Approval Action:</b> <b>SFMTA Bd. public hearing</b> *If Discretionary Review before the Planning Commission is requested, the Discretionary Review hearing is the Approval Action for the project.	<b>Jean Poling</b> <small>Digitally signed by Jean Poling  DN: dc=org, dc=sfgov, dc=cityplanning, ou=CityPlanning, ou=ENVIRON, ou=Major Environmental Analysis, cn=Jean Poling, email=jeanie.poling@sfgov.org  Date: 2014.01.10 11:41:32 -08'00'</small>
Once signed or stamped and dated, this document constitutes a categorical exemption pursuant to CEQA Guidelines and Chapter 31 of the Administrative Code. In accordance with Chapter 31 of the San Francisco Administrative Code, an appeal of an exemption determination can only be filed within 30 days of the project receiving the first approval action.		

# EXHIBIT 2





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***Via Electronic Mail and Overnight Mail***

President David Chiu  
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Board of Supervisors of the City and County of San Francisco  
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City Hall, Room 244  
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**Re: Appeal of SFMTA Resolution No. 14-023, CEQA Categorical Exemption Determinations for Commuter Shuttle Policy and Pilot Program and amending Transportation Code, Division II, and Approval of Motion to Suspend Article 4, Section 10 of the SFMTA Board of Directors Rules of Order Regarding Published Notice (January 21, 2014)**

Dear President Chiu and Honorable Members of the Board of Supervisors:

I am writing on behalf of Sara Shortt, the Harvey Milk Lesbian, Gay, Bisexual, Transgender Democratic Club ("Milk Club"), Service Employees International Union Local Union 1021 ("SEIU Local 1021"), and the San Francisco League of Pissed Off Voters (collectively, "Appellants"), concerning the San Francisco Municipal Transportation Authority ("SFMTA") Commuter Shuttle Policy and Pilot Program and proposed amendments to Transportation Code, Division II, to authorize establishing a pilot permit program to authorize certain shuttle buses to stop in designated Muni stops for the purpose of loading or unloading passengers and establishing a fee for such permits and penalties for permit violations (collectively, "Project" or "Shuttle Project").

We urge the Board to require review of the Project under the California Environmental Quality Act ("CEQA"). CEQA review would allow the City to analyze the Project's impacts on displacement, air quality, traffic, pedestrian safety, noise, cancer, and other impacts, and to consider feasible mitigation measures and alternatives. Feasible mitigation measures and alternatives could include funding for anti-displacement efforts, pollution controls for buses,

consideration of alternative stop locations that would reduce interference with MUNI, traffic, and pedestrians, enhanced signalization, and other measures. Because SFMTA decided to exempt the Project entirely from all CEQA review, none of this analysis has occurred.

Also, as discussed below, the Shuttle Project as proposed violates the State Vehicle Code, which prohibits public buses from stopping on “red zones.” As such, the Project as proposed is preempted entirely by State law.

Finally, as discussed below, the Shuttle Project violates Government Code section 11135 because it has discriminatory impacts. The Project results in the displacement of low-income communities of color by wealthy, largely white tech workers. This is essentially the opposite of affirmative action school busing. Rather than low-income children of color being bused to wealthier neighborhoods with high quality schools, the Shuttle Project buses wealthy white adults into low-income communities of color where they displace local residents. This discriminatory impact violates Section 11135.

For all of these reasons we ask the Board of Supervisors to reject the Shuttle Program, at least until full CEQA review is conducted with an opportunity for public review and comment.

## **I. PARTIES**

Sara Shortt is a San Francisco resident who is directly affected by the Shuttle Project. The Milk Club is San Francisco’s largest Democratic Club. The Club works within the Democratic Party and elsewhere to bring the issue of Lesbian / Gay / Bisexual / Transgender rights to the forefront of political campaigns; to lobby for legislation which upholds the rights of Lesbians, Gays, Bisexuals, Transgendered and other peoples; and encourages and supports the election and appointment of Lesbians, Gays, Bisexuals, and Transgendered people to public office. SEIU Local 1021 is a non-profit public and private service employees’ union with over 6000 members living in the City and County of San Francisco. The San Francisco League of Pissed Off Voters is a volunteer-based organization with members that live, work, and commute in and around San Francisco. Ms. Shortt, along with members of the Milk Club, SEIU Local 1021, and San Francisco League of Pissed Off Voters live within the areas of displacement, traffic, and air quality impacts of the Shuttle Project, and regularly use public thoroughfares and public transportation in areas that will be impacted by the Project.

## II. SUMMARY

### **A. THE CEQA EXEMPTION IS IMPROPER. AN EIR IS REQUIRED TO ANALYZE THE IMPACTS OF THE SHUTTLE BUS PROJECT AND TO ANALYZE MITIGATION MEASURES AND ALTERNATIVES.**

#### **1. INFORMATION COLLECTION CATEGORICAL EXEMPTION DOES NOT APPLY AS A MATTER OF LAW.**

SFMTA found that the Commuter Shuttle Project is exempt entirely from all CEQA review pursuant to the “Class 6” “Information Collection” CEQA exemption, which is set forth at 14 Cal.Code Regs. §15306. The exemption states that no CEQA review is required for:

“basic data collection, research, experimental management and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.”

The Class 6 exemption is plainly intended to exempt scientific research projects. Common examples include scientific research projects involving test wells, water quality surveys, and similar limited research.

The City has expanded the exemption far beyond any reasonable interpretation by applying it to a full-scale commuter shuttle program involving over 200 hundred stops throughout the City and moving over 35,000 people each day. This goes far beyond “basic data collection” or “research.”

Furthermore, the Class 6 exemption does not apply if the activity will “result in a serious or major disturbance to an environmental resource.” Expert analysis shows that the Commuter Shuttle Project has significant impacts on air quality, pedestrian safety, and displacement (see below). As such, the Class 6 exemption does not apply by its own terms.

#### **2. THE SHUTTLE BUS PROJECT MAY NOT BE EXEMPTED FROM CEQA REVIEW BECAUSE THE PROJECT WILL HAVE SIGNIFICANT IMPACTS.**

The Commuter Shuttle Project cannot be exempted from CEQA review because, “an activity that may have a significant effect on the environment cannot be categorically exempt.” *Salmon Protectors v. County of Marin* (2004)

125 Cal.App.4th 1098, 1107. Expert evidence will show that the Project has significant adverse impacts in the following areas:

- a. **Air Quality:** Diesel engine exhaust causes increased cancer risk at residences near certain shuttle stops well above the 10 per million CEQA significance threshold adopted by the Bay Area Air Quality Management District (BAAQMD) CEQA significance threshold of 10 per million. (See, Exhibit A).
- b. **Displacement:** Several studies have shown that the Commuter Shuttle Project results in displacement of low and moderate-income residents by higher-income shuttle riders. Studies show that rents near shuttle stops rise much faster than in other areas. (See, Exhibit B). CEQA provides that displacement is a significant impact that must be analyzed in an EIR. (CEQA Guidelines Appendix G, Section XII: “Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.”)).
- c. **Pedestrian/Bicycle Safety:** The large commuter shuttles often block MUNI stops, bike lanes and cross-walks, forcing pedestrians boarding buses and crossing streets into traffic lanes. This has resulted in increased pedestrian and bicycle safety impacts. (See, Exhibit C).
- d. **Noise:** Expert analysis from Human Impact Partners concludes that the Shuttle Project will have noise impacts well above applicable significance thresholds. (See, Exhibit D).

Since the Project will have significant adverse impacts, those impacts must be analyzed and mitigated in a CEQA document and the CEQA exemption is improper.

## **B. THE STATE VEHICLE CODE PREEMPTS THE CITY PROGRAM.**

The California Vehicle Code preempts San Francisco’s Commuter Shuttle Project. Vehicle code §22500 states:

“No person shall stop, park, or leave standing any vehicle whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic control device, in any of the following places...(i) Except as provided under Section 22500.5<sup>1</sup>, alongside curb space authorized for the loading and unloading of passengers of a bus engaged as a common

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<sup>1</sup> Section 22500.5 provides a single exception for school buses.

carrier in local transportation when indicated by a sign or red paint on the curb erected or painted by local authorities pursuant to an ordinance.”

Section 42001.5 imposes a minimum \$250 fine on a person "convicted" of violating 22500. 42001.5(b) provides that the fine cannot be suspended, except that the court can waive anything above \$100. In other words the minimum fine allowed under state law is \$100.

The City’s Commuter Shuttle Project allows private shuttle operators to use public bus stops if they make a payment of \$1. The City has effectively made it lawful for certain operators to use the public bus stops if they pay \$1 – in violation of state law.

The California Supreme Court has held that cities (including charter cities) may not enact ordinances that violate the State Vehicle code. *O’Connell v. City of Stockton* (2007) 41 Cal. 4th 1061, 1074. The Supreme Court noted that Vehicle Code section 21 states: “Except as otherwise expressly provided, the provisions of this code are applicable and uniform throughout the State and in all counties and municipalities therein, and no local authority shall enact or enforce any ordinance on the matters covered by this code unless expressly authorized herein.”

Since the Commuter Shuttle Project expressly allows private buses to stop in public bus stops, and since this action is expressly prohibited by State law, the City policy is preempted by state law and is unlawful.

### **C. PROGRAM HAS DISCRIMINATORY IMPACTS THAT VIOLATE GOV. CODE 11135.**

California Government code section 11135 prohibits discrimination in public and private sector “programs and activities” that receive state financial assistance. Section 11135 prohibits activities that have a discrimination impact, even if there is no discriminatory intent:

“No person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state. Notwithstanding Section 11000, this section applies to the California State University.”

The statute by its terms prohibits (1) discrimination based on any of ten factors; (2) in programs or activities that (a) are conducted, operated or administered by the state; (b) funded directly by the state; or (c) receive any financial assistance from the state. (See, Cal. Code Regs., tit. 22, § 98100, 98101, 98010.)

SFMTA receives funding from the State, and Government Code 11135 therefore applies to SFMTA. The Commuter Shuttle Project has a discriminatory impact by displacing lower income communities of color and replacing them with tech workers who are overwhelmingly white and wealthy. This is in effect the opposite of affirmative action school busing. Rather than busing low-income children of color to wealthy white neighborhoods with good schools, this program buses wealthy white adults into communities of color where they displace the low-income residents of color. As such, the program violates Government Code §11135.

### **III. CEQA ANALYSIS**

Pursuant to San Francisco Administrative Code (“Admin. Code”) Section 31.16, Appellants appeal the January 21, 2014 decision of SFMTA approving Resolution No. 14-023, including but not limited to (1) SFMTA’s approval of the Project; (2) approval of the January 8, 2014 SFMTA determination that the Project is exempt from environmental review pursuant to Title 14 of the California Code of Regulations (“CEQA Guidelines”) Section 15306 as a Class 6 (Information Collection) categorical exemption (“SFMTA CEQA Determination”); (3) approval of the January 9, 2014 City Planning Department concurrence with SFMTA’s CEQA Determination (“CEQA Concurrence”); and (4) the approval of a motion to suspend Article 4, Section 10 of the SFMTA Board of Directors Rules of Order regarding published notice for implementing the Project (collectively, “Approval Action”). Pursuant to Admin. Code Section 31.16(b)(1), true and correct copies of Resolution No. 14-023 and the related SFMTA CEQA Determination and CEQA Concurrence are attached hereto as Exhibit B. Pursuant to Admin Code Section 31.16(b)(1), a copy of this Appeal Letter is simultaneously being submitted to the Environmental Review Officer.

#### **A. CEQA Review is Required to Analyze the Environmental Impacts of the Shuttle Project and to Propose Mitigation Measures and Alternatives.**

##### **1. Legal Standard.**

CEQA mandates that “the long-term protection of the environment...shall be the guiding criterion in public decisions” throughout California. PRC § 21001(d). A “project” is “the whole of an action” directly undertaken, supported,

or authorized by a public agency “which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.” PRC § 21065; CEQA Guidelines, 14 CCR § 15378(a). For this reason, CEQA is concerned with an action’s ultimate “impact on the environment.” *Bozung v. LAFCO* (1975) 13 Cal.3d 263, 283. CEQA requires environmental factors to be considered at the “earliest possible stage . . . before [the project] gains irreversible momentum,” *Id.* 13 Cal.3d at 277, “at a point in the planning process where genuine flexibility remains.” *Sundstrom v. Mendocino County* (1988) 202 Cal.App.3d 296, 307.

To achieve its objectives of environmental protection, CEQA has a three-tiered structure. 14 CCR § 15002(k); *Committee to Save the Hollywoodland Specific Plan v. City of Los Angeles* (2008) 161 Cal.App.4th 1168, 1185-86 (“*Hollywoodland*”). First, if a project falls into an exempt category, or it can be seen with certainty that the activity in question will not have a significant effect on the environment, no further agency evaluation is required. *Id.* Second, if there is a possibility the project will have a significant effect on the environment, the agency must perform an initial threshold study. *Id.*; 14 CCR § 15063(a). If the study indicates that there is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment the agency may issue a negative declaration. *Id.*, 14 CCR §§ 15063(b)(2), 15070. Finally, if the project will have a significant effect on the environment, an environmental impact report (“EIR”) is required. *Id.* Here, since the City exempted the Shuttle Project from CEQA entirely, we are at the first step of the CEQA process.

#### **a. CEQA Exemptions.**

CEQA identifies certain classes of projects which are exempt from the provisions of CEQA. These are called categorical exemptions. 14 CCR §§ 15300, 15354. “Exemptions to CEQA are narrowly construed and “[e]xemption categories are not to be expanded beyond the reasonable scope of their statutory language.” (*Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 125.) In this case, the City is relying on the Class 6 CEQA Exemption for “Information Collection.” (14 Cal. Code Regs. §15306).

The determination as to the appropriate scope of a categorical exemption is a question of law subject to independent, or de novo, review. (*San Lorenzo Valley Community Advocates for Responsible Education v. San Lorenzo Valley Unified School Dist.*, (2006) 139 Cal. App. 4th 1356, 1375 (“[Q]uestions of interpretation or application of the requirements of CEQA are matters of law. (Citations.) Thus, for example, interpreting the scope of a CEQA exemption presents ‘a question of law, subject to de novo review by this court.’ (Citations).”)

There are several exceptions to the categorical exemptions. 14 CCR § 15300.2. At least three exceptions are relevant here:

- (1) Significant Effects. A project may never be exempted from CEQA if there is a “fair argument” that the project may have significant environmental impacts due to “unusual circumstances.” 14 CCR §15300.2(c). The Supreme Court has held that since the agency may only exempt activities that do not have a significant effect on the environment, a fair argument that a project will have significant effects precludes an exemption. *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 204.
- (2) Serious or Major Disturbance to an Environmental Resource: Class 6 itself is qualified in that the exemption states that it does not apply to any activities that “result in a serious or major disturbance to an environmental resource.”
- (3) Cumulative Impacts. A project may not be exempted from CEQA review “when the cumulative impact of successive projects of the same type in the same place, over time is significant.”

## **2. The Class 6 Exemption Does not Apply as a Matter of Law.**

SFMTA found that the Commuter Shuttle Project is exempt entirely from all CEQA review pursuant to the “Class 6” “Information Collection” CEQA exemption, which is set forth at 14 Cal.Code Regs. §15306. The exemption states that no CEQA review is required for:

“basic data collection, research, experimental management and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded.”

The Class 6 exemption is plainly intended to exempt scientific research projects. Common examples include scientific research projects involving test wells, water quality surveys, and similar limited research. (See examples of Class 6 exemptions at Exhibit E).

The City has expanded the exemption far beyond any reasonable interpretation of “Information Collection.” The Shuttle Project goes far beyond “basic data collection, research, experimental management and resource evaluation.” The City has ignored CEQA’s mandate that “[e]xemptions to CEQA



are narrowly construed and “[e]xemption categories are not to be expanded beyond the reasonable scope of their statutory language.” (*Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 125.)

The Shuttle Project is not mere “data collection” or “scientific research.” The City is allowing private shuttles to operate in violation of State law, at over 200 stops throughout the City, ferrying over 35,000 people per day. There is no reasonable interpretation of this as mere “information collection.” Perhaps if the City were to allow one or two shuttle routes to operate in order to measure the air pollution, traffic and other impacts, such a limited program might be deemed “basic data gathering.” But allowing a full shuttle program to operate on a scale that is larger than many transit programs for small cities cannot reasonably be called a “scientific research” project.

Furthermore, by its terms, the Class 6 exemption does not apply when the project will “result in a serious or major disturbance to an environmental resource.” As discussed below, the Shuttle Project will have significant impacts on air quality, cancer risk, displacement, traffic, pedestrian and bicycle safety, as well as other impacts. As such, the exemption does not apply on its own terms.

### **3. The Project will have Significant Environmental Impacts, Precluding Reliance on the Categorical Exemption.**

CEQA and its regulations provide that certain projects may be exempt. However, “[a]n activity that may have a significant effect on the environment cannot be categorically exempt.” *Salmon Protectors v. County of Marin* (2004) 125 Cal.App.4th 1098, 1107; *Azusa Land Reclamation v. Main San Gabriel Basin* (1997) 52 Cal.App.4th 1165, 1191, 1202. CEQA’s unique “fair argument” standard applies when reviewing a CEQA exemption. Under the “fair argument” standard, an agency is precluded from relying on a categorical exemption when there is a fair argument that a project will have a significant effect on the environment. *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (“*Bankers Hill*”) (2006) 139 Cal. App. 4th 249, 266. In other words, “where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper.” *Id.*; *Dunn-Edwards Corp.*, 9 Cal.App.4th at 654-655.

Under these principles, there is no CEQA exemption that can reasonably apply to the Commuter Shuttle Project, because there is a fair argument that the Project will result in significant environmental impacts, including air pollution, pedestrian safety, noise, cancer risk, and the displacement of low income communities and communities of color that live and work in the areas proposed for Commuter Shuttle activities.

**a. The Shuttle Project has Significant Impacts Related to Displacement of Low and Moderate Income Communities.**

CEQA requires the lead agency to determine whether the “environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly,” (PRC § 21083(b)(3), (d)), and to “take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.” See PRC §21000 et seq.

CEQA Guidelines Appendix G, Section XII provides that a project will have significant impacts where it will:

- Induce substantial population growth or concentration of population in an area, either directly (for example, by proposing new housing or businesses), or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. See CEQA Guidelines Appendix G, Section XII.

Here, the Commuter Shuttle Project is likely to displace numerous residents and commuters who currently live, work, commute, and recreate in the areas proposed for the Commuter Shuttle stops, and replace them with workers from the private technical companies sponsoring the shuttles, who are wealthier and less likely to come from communities of color. See Kalama D. Harris, Attorney General, “Environmental Justice at the Local and Regional Level,” May 8, 2012, available at [http://oag.ca.gov/sites/all/files/pdfs/environment/ej\\_fact\\_sheet\\_final\\_050712.pdf](http://oag.ca.gov/sites/all/files/pdfs/environment/ej_fact_sheet_final_050712.pdf).

It is an “unusual circumstance” that the Shuttle Project results in displacement of communities. The circumstance is “unusual” within the meaning of CEQA since most “information collection” projects do not displace communities.

This impact is well documented by scientific research. Alexandra Goldman of University of California Berkeley has conducted extensive research concluding that “Google Shuttles are driving up rental prices within a walking distance (half mile) of five of the shuttle stops.” (Exhibit F) Goldman concludes that rental prices have risen much more steeply around Google shuttle stops

than in other areas. In fact, a survey of advertisements shows that rental advertisements highlight proximity to Google Shuttle stops as a selling point. Id.

Researcher Chris Walker concluded in January 2014 that the private commuter shuttles have created "Clusters of Affluence" around the shuttle stops. ([http://www.datawovn.com/#!/San\\_Francisco\\_Private\\_Shuttles](http://www.datawovn.com/#!/San_Francisco_Private_Shuttles); Exhibit G). The San Francisco Chronicle quotes Mr. Walker:

As Walker sees it, technology companies stationed their bus stops in fun, hip neighborhoods where their young workers were increasingly moving. Those new residents, with plenty of disposable income, prompted more new restaurants, cafes and bars to open - drawing more tech workers, raising housing prices and luring more new businesses.

"It becomes this vicious circle where you see the neighborhoods just keep getting more affluent, and that's where you see an uptick in evictions and people getting forced out," Walker said. "That's where a lot of unrest and anger is coming from."

While many neighborhoods around San Francisco contain Walker's "clusters of affluence" - from the Castro to South of Market to North Beach and more - the Mission is ground zero.

Companies like Google, Apple, Yahoo and Facebook hire private shuttles to pick up their workers in the Mission, and it's there that protesters in recent months have blocked some buses, arguing that tech companies are responsible for the neighborhood's skyrocketing housing prices and rampant evictions.

A recent UC-Berkeley study found the average tech shuttle rider is a single male about 30 years old who pulls down \$100,000 or more a year.

San Francisco Chronicle, Heather Knight, *Where tech buses roam, affluence* (February 12, 2014; Exhibit H).

Some shuttle supporters contend that the shuttles have little or no displacement impact since they argue that without the shuttles, riders would simply continue to live in San Francisco, but would drive single-passenger cars. However, research by Dai and Weinzimmer shows that less than one-half of shuttle riders (48%) would drive cars if not for the shuttles. The largest share of the non-driving shuttle riders would instead live closer to their work near San Jose. (Exhibit I, p. 12).

SFMTA itself concluded that about 49% of shuttle riders would drive single passenger cars in the absence of the shuttles, and that 31% of shuttle riders would move closer to their work in the south bay. (SFMTA Private Commuter Shuttles Policy Draft Proposal, p.6 (2013) (Exhibit J)). The San Francisco County Transportation Authority Strategic Analysis Report on The Role of Shuttle Services in San Francisco's Transportation System (June 28, 2011) made similar conclusions. (Exhibit K).

In a report commissioned by the James Irvine Foundation, the Stamen Group of researchers found that the Shuttle Project has facilitated a reversal of the flow of workers. Whereas historically, workers have flowed from homes in the suburbs to jobs in the City, the shuttles allow workers to live in the City and commute to jobs in the suburbs. (Exhibit L).

Thus, without the shuttles, far fewer highly paid technology workers would be displacing low-income San Francisco residents.

There is certainly substantial evidence to support a "fair argument" that the Shuttle Project has a significant impact in that it will "displace substantial numbers of people." As such, the CEQA exemption is improper. CEQA review is required to analyze the displacement impacts of the Shuttle Project and to propose feasible mitigation measures and alternatives.

**b. The Shuttle Project has Significant Impacts Related to Pedestrian and Bicycle Safety.**

Impacts to human health are significant under CEQA. CEQA §21083(b)(3) provides that a project has significant impacts if it "will cause substantial adverse effects on human beings, either directly or indirectly." (emphasis added) (See also PRC §21000(b)-(d) (CEQA's intent is to provide "critical thresholds for the health and safety of the people of the state," and "to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man".) An EIR must analyze, "the health consequences that necessarily result from the identified adverse air quality impacts.... On remand, the health impacts resulting from the adverse air quality impacts must be identified and analyzed in the new EIR's." (*Bakersfield Citizens for Local Control v. Bakersfield*, 124 Cal.App.4th at 1219-20; see also *Keep Berkeley Jets v. Port of Oakland*, 91 Cal.App.4th at 1369 (EIR must include a "human health risk assessment").)

Human Impact Partners have prepared a detailed analysis of the Shuttle Project and have concluded that it will have significant adverse impacts on human health related to pedestrian and bicycle safety. (Exhibit C). This is an

“unusual circumstances” since most “information collection” projects do not cause adverse impacts to pedestrians or bicycles.

HIP states:

“Overall, it is our opinion that private shuttle bus operations contribute cumulatively to pedestrian and bicyclist safety risks in San Francisco. The proposed SFMTA plan would concentrate shuttle bus stops and thus increase pedestrian and bicycle safety risks on traffic corridors with existing high levels of pedestrian and bicycle injuries. We recommend that the City evaluate these impacts and implement pedestrian and bicycle safety countermeasures at locations planned for employer shuttle stops.” (Exhibit C, p.1)

The HIP report concludes that “the observed frequency of pedestrian injuries was almost 3 fold greater with the presence of one or two bus stops nearby and almost 5 fold greater with 3 or more bus stops nearby.” (Id. p. 3) Therefore, increasing the number of transit stops will almost certainly increase the incidence of pedestrian injuries.

This also indicates that by locating shuttle stops in areas without a high presence of existing transit bus traffic, it may be possible to mitigate impacts to pedestrian safety. The HIP Report concludes, “Given that more bus stops and greater bus vehicle volume means more pedestrian accidents in San Francisco, it is likely that shuttle buses are contributing cumulatively to increased injury risk for pedestrians and bicyclists along their routes. Because the proposed SFMTA program allows shuttles to utilize up to 200 of MUNI stops for an estimated 4000 stops per weekday, the SFMTA proposal is likely to concentrate these additional safety risks at intersections on existing high-injury corridors.” (Id. p.6)

HIP’s conclusions are consistent with those of the San Francisco County Transportation Authority SAR, which states:

Safety: As noted above, many shuttles were observed to stop or layover at red curb zones, particularly in the south of Market area and even along upper Market Street. To the extent that red zones are kept clear for visibility purposes, this could present a safety hazard for other road users, especially pedestrians. In fact, many outreach comments related to perceived safety impacts of large shuttles blocking sightlines; for example if they were to block motorists from seeing pedestrians. Outreach comments included the following: “This is only a residential street and these buses are enormous” thus reflecting the disproportionate size of the vehicles compared to the neighborhood facilities. In addition, another

respondent stated “People expect traffic and buses [on major arterials]; but not on the side roads where people walk their dogs and kids.” Such concerns, raised repeatedly, further emphasize the issues associated with the large size of the vehicles. (SFCTA, SAR, Exhibit K, p. 9).

Since the Shuttle Project will have significant pedestrian and bicycle safety impacts, CEQA review is required to analyze these impacts and to propose mitigation measures and alternatives. (See also, Exhibit M).

**c. The Shuttle Project has Significant Impacts Related to Cancer Risk from Diesel Engine Exhaust.**

Atmospheric scientists from Soil, Water, Air Protection Enterprise (SWAPE) conducted a detailed analysis of diesel engine exhaust generated by the Shuttle Project. SWAPE analyzed six different exposure scenarios involving various bus idle times and distances from the buses to nearby residential properties. SWAPE adjusted its analysis to take account of the fact that many of the shuttle buses operate on B20 biodiesel.

SWAPE concluded that residents living near shuttle stops would experience an increased cancer risk of approximately 12 per million as a direct result of the Shuttle Project. (Exhibit A). This exceeds that Bay Area Air Quality Management District (BAAQMD) CEQA significance threshold for airborne cancer risks of 10 per million. (Exhibit N). This is an unusual circumstance since most information collection projects do not cause cancer.

Since the Shuttle Project will create a cancer risk that exceeds the formally adopted BAAQMD CEQA significance threshold, this impact must be analyzed under CEQA, so that mitigation measures can be developed. Potential mitigation measures may include requiring the shuttle buses to run on natural gas (as is common in Los Angeles and San Jose), requiring hybrid electric buses (as with the San Francisco MUNI fleet), or relocating bus stops away from residential properties.

**d. The Shuttle Project has Significant Noise Impacts.**

Human Impact Partners has conducted a detailed analysis of noise impacts of the Shuttle Project. (Exhibit D). HIP concludes:

Overall, it is our opinion that private employer shuttle bus operations contribute cumulatively to noise exposure and adverse health impacts among San Francisco residents living near bus stops and along major transit routes. Importantly, the proposed SFMTA plan will

concentrate these noise impacts in proximity to a limited number of MUNI stops, including within traffic corridors with existing health adverse exposures to traffic noise. We recommend that the City evaluate these impacts and consider several additional noise-protective criteria and mitigations if the City proposal is implemented.

(Exhibit D, p.1) HIP notes that "noise from a typical diesel bus will be 80-85 dB." (Id. p. 3). By contrast, noise levels that exceed 60 dB are significant and trigger the need under the State Building Code for noise protective design treatments.

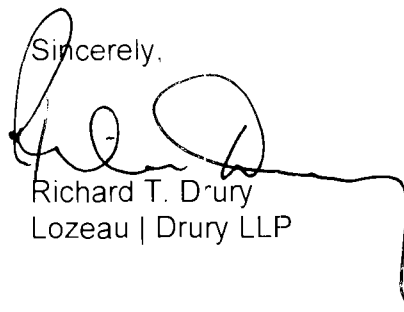
Since expert evidence establishes that the Shuttle Project will have significant adverse noise impacts, the CEQA exemption is improper. CEQA review is required to analyze the Project's noise impacts and to propose mitigation measures. *Los Angeles Unified School Dist. v. City of Los Angeles*, 58 Cal. App. 4th 1019 (1997).

#### **B. Additional Appeal Procedures.**

Appellants expressly reserve the right to submit additional written and oral comments, and additional evidence in support of this Appeal, to the City and County of San Francisco and its departments ("City") and to the Board of Supervisors up to and including the final hearing on this Appeal and any and all subsequent permitting proceedings or approvals undertaken by the City or any other permitting agency for the Project. PRC § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield* ("Bakersfield") (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121; Admin Code § 31.16(b)(4), (5), (6).

Thank you for consideration of this Appeal. We ask that this Appeal Letter be placed in the Administrative Record for the Commuter Shuttle Project.

Sincerely,



Richard T. Drury  
Lozeau | Drury LLP

Enclosures

- cc. Environmental Review Officer  
(pursuant to SF Administrative Code § 31.16(b)(1))  
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# EXHIBIT A



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March 21, 2014

Richard Drury  
Lozeau | Drury LLP  
410 12th Street, Suite 250  
Oakland, CA 94607

**Subject:** Air Quality Impacts from Private Commuter Shuttles in San Francisco

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Dear Mr. Drury:

Privately operated shuttles that transport tech employees from the city of San Francisco to and from jobs in Silicon Valley have expanded their operations considerably over the past several years. These shuttles commonly occupy publicly-operated San Francisco Municipal Transportation Agency (SFMTA or Muni) bus stops in the city of San Francisco for passenger loading and unloading. We have reviewed numerous press articles and survey reports generated as a result of the issues surrounding the exclusive shuttle lines and have prepared the following considerations from an air quality impacts perspective. Dr. Rosenfeld provided technical analysis in support of our air dispersion modeling selection and methodology. Our evaluation demonstrates that significant air quality impacts may be consequential of the shuttle network in certain parts of the City of San Francisco.

***Impacts Identified by City and County Agency Surveys***

The private shuttle network has generated sufficient public concern to warrant involvement from transportation authorities. Both Muni and the San Francisco County Transportation Authority (SFCTA) have allocated resources toward evaluating complaints received from the public associated with the shuttle routes and stop locations. Muni and the SFCTA cited the following concerns that have been expressed by residents regarding the presence of the large shuttle buses on city streets and loading/unloading passengers at Muni bus stops<sup>1,2</sup>.

- conflicts with Muni buses creating scheduling issues and bus stop congestion;
- clogging of streets increasing hazards for bikers and pedestrians; and
- increased noise and pollution from idling curbside at stop locations.

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<sup>1</sup> SFCTA, 2011. Strategic Analysis Report: The Role of Shuttle Services in San Francisco's Transportation System. Final SAR 08/09-2. San Francisco County Transportation Authority. June 28, 2011.

<sup>2</sup> SFMTA, 2013. Private Commuter Shuttles Policy Draft Proposal Presentation. San Francisco Municipal Transportation Agency. July 19, 2013.

Problems were observed most prominently at Muni stops that are located on the near side of intersections where parked vehicles immediately precede the stop and are shorter than 80 feet<sup>3</sup>.

Furthermore, the following table is an excerpt from the 2011 Strategic Action Report (SAR) compiled by the SFCTA using observations taken in 2008-2009 that outline difficulties encountered along the shuttle routes. These obstacles, organized by category and marked under public and/or private relevancy, are likely more pronounced now than when the data was collected due to significantly increased volume of shuttle traffic in the city.

Impacts	CATEGORY	MEASURE	PUBLIC	PRIVATE
(More detailed Operations-level, localized)	Congestion	Displacement of other vehicles (cars, bikes) when parked or idling	X	X
		Displacement of Muni vehicles when parked or idling	X	
	Environmental	Emissions Produced (due to larger vehicle size, or when idling)	X	
	Quality of Life	Noise/Vibrations	X	X
	Safety	Unsafe sightlines if double parked or in Muni zone	X	
		Unsafe sightlines at certain locations if moving (e.g., turning corners)	X	X
		Collisions	X	X
	Pavement Condition	Wear and tear on pavement	X	
		Wear and tear on curb bulbs (e.g., turning corners)	X	

The large tech shuttle buses have engines that run on biodiesel fuel<sup>4</sup>, and idling at Muni bus stops generates emissions of diesel particulate matter ("DPM"), among other air pollutants. Diesel particulate emissions from idling at Muni bus stops, identified under the "Environmental" category in the aforementioned table, are the focus of the preliminary air quality analysis we conducted for this comment report.

#### **Data Obtained from Observational Studies**

The SFCTA collected preliminary data on "dwell times" (defined as the amount of time a shuttle is stopped on the side of the street while loading/unloading passengers) on the privately operated shuttles and number of stop events at various Muni stop locations throughout the city in 2009; and the SFMTA conducted similar work in 2012-2013. Both surveys were performed as efforts to gain perspective on the growing transit issue. Observations collected during the surveys include:

- As of 2012, there were approximately 200 stop locations and approximately 4,121 stop events per day, averaging about 20 stop events daily per location (SFMTA, 2014);
- Stop events are more heavily concentrated during peak traffic hours in the morning and evening, coinciding with rush hour traffic which consequently magnifies issues;
- SFCTA recorded an average of 7.4 morning stop events at 46 locations in 2009 between shuttles operated by Genentech, Apple, Yahoo!, and Google (SFCTA, 2011);
- Number of morning stops observed by SFMTA ranged from fewer than 15 to more than 35, depending on the location, demonstrating growth since SFCTA had monitored stop events three years prior (SFMTA, 2013);

<sup>3</sup> SFMTA, 2014. Commuter Shuttle Policy and Pilot Program. San Francisco Municipal Transportation Agency. January 2014.

<sup>4</sup> SFCTA, 2011.

- Idling/dwell times averaged approximately 1 minute, but for some stop locations average idle time was observed to be up to 5 minutes (SFCTA, 2011; SFMTA, 2013);
- Almost all vehicles have engines that run on bio-diesel (B20) fuel (SFCTA, 2011).

Both the SFCTA and Muni surveys documented variability in the number of "stop events" and duration of "dwell times" throughout the City. Dwell times will be longer in more populated neighborhoods of the city where greater numbers of passengers are loading and unloading. The following table displays the average dwell time and number of morning passengers loaded onto shuttles at sixteen stops selected by Muni for their surveys between 2012-2013.

*Observed Stop Event Dwell Durations and Passenger Loading at Muni Stops*

Stop/Intersection	Avg. Dwell Time (mins)	Passengers Obs.
Market & Steuart	4.3	102
Glen Park BART	2.7	415
8th & Market	1.2	225
Haight & Divisadero	1	52
Lumbar & Fillmore	1	105
Columbus & Union	0.9	40
Hayes & Steiner	0.9	73
Van Ness & Greenwich	0.9	47
19th & Judah	0.7	60
Castro & 18th	0.7	65
Castro & 24th	0.7	60
Market (4th-5th)	0.7	340
Van Ness & Market	0.7	75
Van Ness & Union	0.7	85
Balboa Park BART	0.4	20
4th & Townsend	0.3	195
<b>Average</b>	<b>1.11 (1:07 minutes)</b>	<b>122</b>

(Data obtained from page 5 of SFMTA, 2013 presentation for Private Commuter Shuttles Policy - Draft Proposal)

The data represent only a limited perspective on the dwell times of the private shuttles across the city, but the values demonstrate that each stop can take between 20 seconds to 5 minutes. The average documented dwell time was just over one minute, at approximately one minute and seven seconds. To characterize both the average stop numbers and dwell durations and those encountered at higher rates in certain areas, we considered several scenarios for modeling DPM emissions from shuttle idling at Muni stops in our screening model.

### ***Preliminary Screening Model Setup***

We have utilized empirical observations collected during the Muni and SFCTA surveys along with appropriate regulatory models to produce screening-level estimates of air quality impacts generated by the tech shuttles' use of Muni stops in the City of San Francisco. The California Air Resources Board (CARB) has developed the EMFAC2011 model for estimating emissions from vehicle travel and idling in

California. The vehicles utilized by the tech companies are large motorcoaches that are either single- or double-decker. The corresponding vehicle category in the EMFAC2011 model utilized for preliminary screening of idling emissions was T7-OBUS, referring to large diesel buses that are not assigned to a specific industrial use. The per-vehicle, per-hour emission rates of exhaust DPM for the T7-OBUS category for the years 2010 to 2035 are displayed in the table below.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
PM10 (g/hr-veh)	1.654	1.533	1.211	0.924	0.705	0.268	0.215	0.126	0.123	0.122	0.115	0.109	0.106
Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
PM10 (g/hr-veh)	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106

According to the SFCTA survey, almost all of the shuttles have engines that are fueled by B20 biodiesel; a mixture of 20% biodiesel and 80% conventional diesel fuels<sup>5</sup>. The United States Environmental Protection Agency ("USEPA" or "EPA") examined the effects of using biodiesel mixtures on emission rates and found that B20 fuel reduces DPM emissions by approximately 10%<sup>6</sup>. To account for this reduction, we scaled the emission rates provided in EMFAC2011 by 0.9 (90%) before deriving the emission rate for the screening model.

The emission rates provided by EMFAC2011 decrease into the future as the CARB assumes that diesel engines will continue to become more efficient over time. To establish an average emission rate for the 70 years between 2010 and 2079, the 2035 emission rate was extrapolated out to 2079. Then the average emission rate over the course of 70 years was calculated based on the number of stop events and the dwell times assumed for each scenario. The total emission over the course of a day for each scenario considered were assumed to occur over twelve hours, such as from 7:00 AM until 7:00 PM. Therefore, the emission rate was derived by the following equation:

$$Emission\ Rate\ (\frac{g}{s}) = \frac{Avg.\ Emission\ Rate\ (\frac{g}{hr - veh}) * Dwell\ Time\ (hr) * Daily\ Stops\ (veh)}{12\ hours * 3600\ \frac{s}{hr}}$$

The emission rate was calculated for six (6) different scenarios, as will be discussed in the following section of this report. The emission rate was input to the screening model AERSCREEN to assess maximum air quality impacts to nearby residents consequential of the shuttle idling at Muni stops. As of 2011, the USEPA promulgated the air dispersion model AERSCREEN as the appropriate screening model for simulating near-field dispersion<sup>7</sup>. The recommendation was based on criteria stated in the *Guideline on Air Quality Models* for air dispersion model selection. We measured the lengths of some Muni bus stops in Google Earth and found that 80 feet was a common curb length of the stops. As an approximation, we considered the prototypical bus stop at which shuttles were loading and unloading

<sup>5</sup> SFCTA, 2011.

<sup>6</sup> USEPA, 2002. A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions - Draft Technical Report. EPA420-P-02-001. United States Environmental Protection Agency. October 2002.

<sup>7</sup> USEPA, 2011. AERSCREEN Released as the EPA Recommended Screening Model. Memorandum. United States Environmental Protection Agency. April 11, 2011.

passengers as a rectangular area source of length 80 feet and width 10 feet. All of the shuttles do not stop at the exact same position on the curb over the course of a day, so we chose to be conservative in defining the size of the source area by using the entire designated Muni stop distance.

**Exposure Scenarios for Residents Living Adjacent to Muni Stops Used by Shuttles**

We considered six (6) different scenarios for residential exposure to DPM generated by shuttle idling at Muni stops based on observational data obtained from the SFCTA and Muni surveys. The AERSCREEN model outputs the maximum one-hour downwind concentration of pollutants, in this case DPM.

Consistent with EPA guidelines<sup>8</sup>, the one-hour downwind concentration was multiplied by a factor of 0.1 to estimate maximum annualized concentration for chronic inhalation exposure assessment. Exposure calculations are presented for each of the following scenarios evaluated.

The table below presents the average dwell time and daily shuttle stop events included in each modeling scenario. We utilized data from the Muni and SFCTA surveys to parameterize realistic situations for shuttles loading and unloading passengers at the Muni stops. The final column of the table presents the distance within which a lifetime exposure (70 years<sup>9</sup>) to the ambient concentration would exceed the CEQA threshold of 10 excess cancers in 1 million given the defined model parameters and utilizing the 10%-reduced emission rates from the EMFAC2011 model. The exposure scenarios conservatively assumed a fifteen year childhood exposure and a 55 year adult exposure, as OEHHA has identified that children are more susceptible to health effects from air pollution<sup>10</sup>. We placed discrete receptors into the modeling file and calculated (to the nearest 5 feet) the minimum distance away from the area source that a sensitive receptor could be located and not exceed the 10 in 1 million cancer risk based on a lifetime exposure.

Exposure Scenario	Average Dwell Time (min)	Daily Stop Events	Buffer Distance (ft)*
1	1	20	N/A
2	1	60	45
3	3	20	45
4	3	60	80
5	5	20	60
6	5	60	110

\*Buffer Distance is approximate distance outside of which residents would not be exposed to cancer risk greater than 10 in 1 million during 70-year lifetime per BAAQMD methodology.

<sup>8</sup> EPA, 1992. Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised. EPA-454/R-92-019. United States Environmental Protection Agency. October 1992.

<sup>9</sup> BAAQMD, 2011. California Environmental Quality Act Air Quality Guidelines. Bay Area Air Quality Management District. May 2011.

<sup>10</sup> OEHHA, 2003. Air Toxics Hot Spots Program Risk Assessment Guidelines. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August 2003.

In the following discussions we have provided the lifetime excess cancer risk from living near the Muni stops based on model-generated ground-level concentrations, consistent with BAAQMD methodology<sup>11</sup>.

Exposure Scenario 1 (ES-1): Living Near a Muni Stop with 20 Daily 1-Minute Shuttle Stop Events

The least amount of shuttle activity considered in our exposure model was residences situated near Muni stops at which only ten morning and ten evening shuttles make 1-minute stops. This scenario was based on the average number of daily stops at each location as presented in the Commuter Shuttle Policy and Pilot Program.

Parameter	Description	Units	Adult Exposure	Child Exposure
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1
Cair	Concentration	ug/m3	0.0113	0.0113
DBR	Daily breathing rate	L/kg-day	302	581
EF	Exposure Frequency	days/year	350	350
ED	Exposure Duration	years	55	15
AT	Averaging Time	days	25550	25550
	Inhaled Dose		2.6E-06	1.3E-06
	Cancer Risk	<b>4.3E-06</b>	2.83E-06	1.48E-06

Given the emission rate derived from 20 daily 1-minute stops, there was no cumulative lifetime exposure at the maximum output concentration that would exceed the 10 in 1 million cancer threshold for this scenario. Therefore, limiting daily stops to 20 and idling time during each stop to 1 minute may serve as an effective mitigation strategy for air quality issues associated with tech shuttle pickups and drop-offs. However, we do not believe this to be realistic given the volume of passengers and density of traffic in certain corridors of San Francisco. Therefore, we have considered additional scenarios in our modeling analyses, as presented below.

Exposure Scenario 2 (ES-2): Living Near a Muni Stop with 60 Daily 1-Minute Shuttle Stop Events

The 2013 SFMTA survey documented that upwards of 35 morning tech shuttle stop events were observed at some Muni stop locations<sup>12</sup>. To represent the locations with approximately 30 events in the morning and evening, the upper end of our analysis considered 60 daily stop events. The model output generated a maximum one-hour concentration of 0.31728 µg/m<sup>3</sup> at 45 feet away from the stop area. This distance represented the minimum distance away that a sensitive receptor could be located and not exceed the cancer risk threshold over the course of a lifetime exposure. Consistent with EPA screening guidance<sup>13</sup>, the maximum annualized concentration was calculated as 10% of the maximum one-hour concentration: 0.031728 µg/m<sup>3</sup>. The excess cancer risk calculated for this exposure scenario was approximately 12 in one million, constituting a significant air quality impact by exceeding the CEQA threshold.

<sup>11</sup> BAAQMD, 2011.

<sup>12</sup> SFMTA, 2013.

<sup>13</sup> EPA, 1992.

Parameter	Description	Units	Adult Exposure	Child Exposure
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1
Cair	Concentration	ug/m3	0.031728	0.031728
DBR	Daily breathing rate	L/kg-day	302	581
EF	Exposure Frequency	days/year	350	350
ED	Exposure Duration	years	55	15
AT	Averaging Time	days	25550	25550
	Inhaled Dose		7.2E-06	3.8E-06
	Cancer Risk	<b>1.2E-05</b>	7.94E-06	4.17E-06

Exposure Scenario 3 (ES-3): Living Near a Muni Stop with 20 Daily 3-Minute Shuttle Stop Events

Given the volume of shuttle passengers loading and unloading at some of the Muni stops surveyed, it is unrealistic to believe that all shuttle stop idle times are limited to one minute. The City of San Francisco restricts Muni idling to three minutes per stop, and observations from the SFCTA and SFMTA demonstrate that idling times can even exceed this duration. We conducted two modeling scenarios using the maximum permitted Muni idling time to represent longer stop events at some of the busier locations in the city. Results of the first 3-minute idle time screening model are presented in the table below, assuming the average number of 20 stop events per day. Results from this modeling exercise are consistent with those presented above, as 60 one-minute stops will have the same total emissions as 20 three-minute stops. The buffer zone for cancer risk exceeding 10 in 1 million over a lifetime is 45 feet for this exposure scenario. The excess cancer risk for this modeling scenario at 45 feet away was 12 in one million over a lifetime exposure.

Parameter	Description	Units	Adult Exposure	Child Exposure
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1
Cair	Concentration	ug/m3	0.031728	0.031728
DBR	Daily breathing rate	L/kg-day	302	581
EF	Exposure Frequency	days/year	350	350
ED	Exposure Duration	years	55	15
AT	Averaging Time	days	25550	25550
	Inhaled Dose		7.2E-06	3.8E-06
	Cancer Risk	<b>1.2E-05</b>	7.94E-06	4.17E-06

Exposure Scenario 4 (ES-4): Living Near a Muni Stop with 60 Daily 3-Minute Shuttle Stop Events

The fourth scenario we evaluated (ES-4) characterized a busy Muni stop with 60 daily shuttle stop events and the tech shuttles adhering to the maximum permitted Muni bus idling time of three minutes. Based on observations of dwell times and shuttle stop event frequency, we believe that these parameters represent the higher end of tech shuttle activity that would occur at Muni stops. The model-generated maximum one-hour concentration using previously described assumptions was



approximately 0.268  $\mu\text{g}/\text{m}^3$ , which we converted to a maximum annualized concentration of 0.0268  $\mu\text{g}/\text{m}^3$ . Calculating lifetime residential exposure under these assumptions, we determined that within 80 feet of the Muni stop the chronic excess cancer risk would exceed the CEQA threshold of ten in one million.

Parameter	Description	Units	Adult Exposure	Child Exposure
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1
Cair	Concentration	$\mu\text{g}/\text{m}^3$	0.026815	0.026815
DBR	Daily breathing rate	L/kg-day	302	581
EF	Exposure Frequency	days/year	350	350
ED	Exposure Duration	years	55	15
AT	Averaging Time	days	25550	25550
	Inhaled Dose		6.1E-06	3.2E-06
	Cancer Risk	<b>1.0E-05</b>	6.71E-06	3.52E-06

Exposure Scenario 5 (ES-5): Living Near a Muni Stop with 20 Daily 5-Minute Shuttle Stop Events

The fifth scenario (ES-5) included 20 daily stop events at the maximum permitted dwell time of five minutes per stop event. While we acknowledge that the extended dwell time is likely not characteristic of average conditions, dwell times at some stop events have been observed to be up to five minutes. Therefore, we conservatively assumed that this extended stop event duration could be the case at some of the busiest Muni stops in the City. Emission rates were calculated using the same methodologies described in the above sections, and the model-generated maximum one-hour concentration was 0.26819  $\mu\text{g}/\text{m}^3$  at approximately 60 feet away. At this distance, chronic excess lifetime cancer risk using a maximum annualized concentration of 0.026819  $\mu\text{g}/\text{m}^3$  was calculated to be ten in one million.

Parameter	Description	Units	Adult Exposure	Child Exposure
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1
Cair	Concentration	$\mu\text{g}/\text{m}^3$	0.026819	0.026819
DBR	Daily breathing rate	L/kg-day	302	581
EF	Exposure Frequency	days/year	350	350
ED	Exposure Duration	years	55	15
AT	Averaging Time	days	25550	25550
	Inhaled Dose		6.1E-06	3.2E-06
	Cancer Risk	<b>1.0E-05</b>	6.71E-06	3.52E-06

Exposure Scenario 6 (ES-6): Living Near a Muni Stop with 60 Daily 5-Minute Shuttle Stop Events

The final scenario (ES-6) that was included in our analysis assumed the most conservative parameters for tech shuttle dwell time and frequency at the Muni stops. In this exercise, 60 daily shuttles were assumed to dwell for five minutes each at the stop locations. These assumptions are based on the

maximum observed dwell time and tech shuttle stop frequencies documented by the SFCTA and Muni organizations. We believe this represents the maximum possible DPM emissions that could be consequential of the tech shuttles' use of Muni bus stops near residential receptors. Using the same methodologies described for previous exposure scenarios, we determined that the CEQA threshold of ten excess cancers in one million would be exceeded for residential receptors within 110 feet of the Muni stop locations.

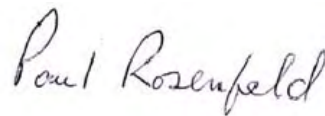
Parameter	Description	Units	Adult Exposure	Child Exposure
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1
Cair	Concentration	ug/m3	0.027091	0.027091
DBR	Daily breathing rate	L/kg-day	302	581
EF	Exposure Frequency	days/year	350	350
ED	Exposure Duration	years	55	15
AT	Averaging Time	days	25550	25550
	Inhaled Dose		6.2E-06	3.2E-06
	Cancer Risk	<b>1.0E-05</b>	6.78E-06	3.56E-06

The following pages provide visual overlays of our exposure scenario (ES) buffer zones of impact with residential parcel maps (designated by yellow shading) obtained from the SF Planning Department and aerial imagery obtained from Google Earth™. These demonstrative graphics show that there are residential receptors within the buffer distances described above at several of the Muni stops included in the SFCTA and SFMTA surveys. Furthermore, we believe that there are numerous other stop locations situated within the calculated zones of impact that warrant further investigation. Our assessment has concluded that significant air quality impacts can be attributed to tech shuttle activities at Muni bus stops given the range of dwell times and shuttle frequency observed by the SFCTA and SFMTA organizations. Further CEQA review is required to assess the magnitude of realized impacts utilizing empirical data generated by a more comprehensive monitoring program.

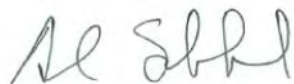
Sincerely,



Matt Hagemann, P.G., C.Hg.



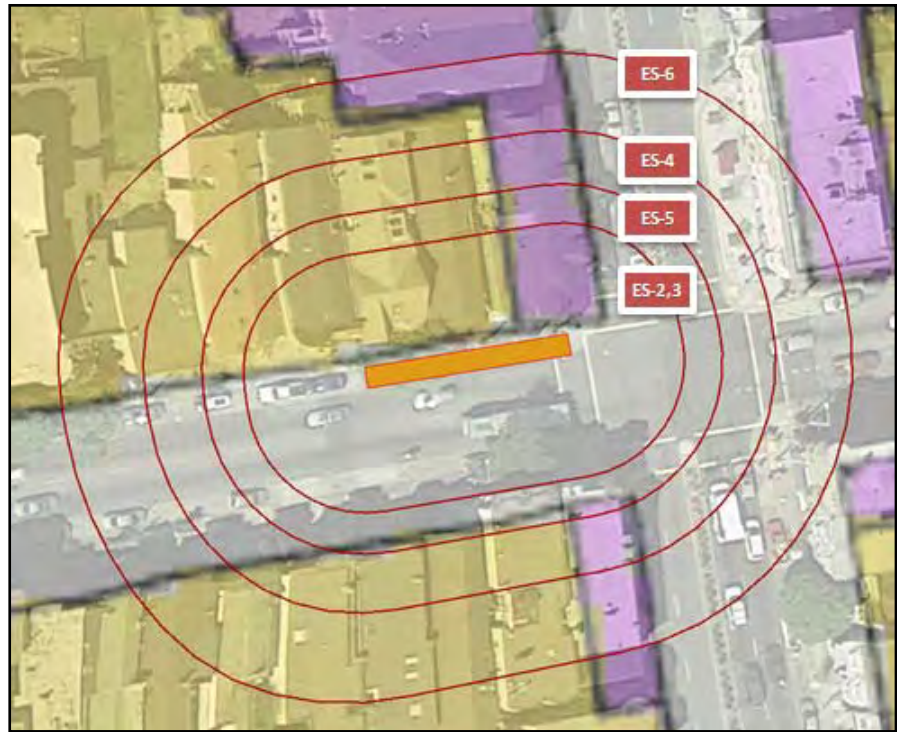
Paul Rosenfeld, Ph.D.



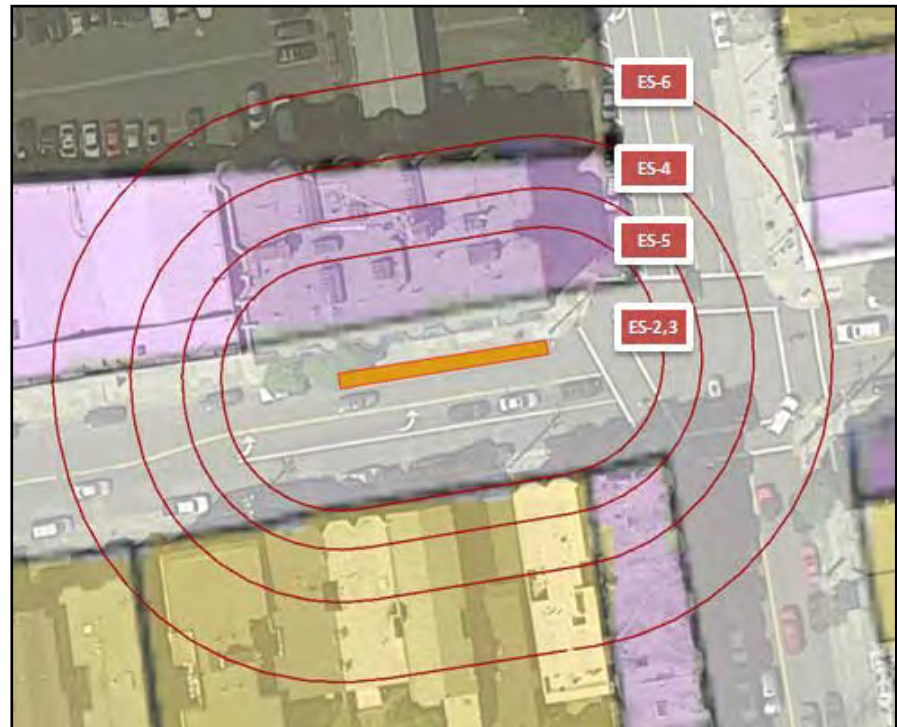
Anders Sutherland

**Visual Graphics of Buffer Zones of Impact Imposed on Muni Stops**

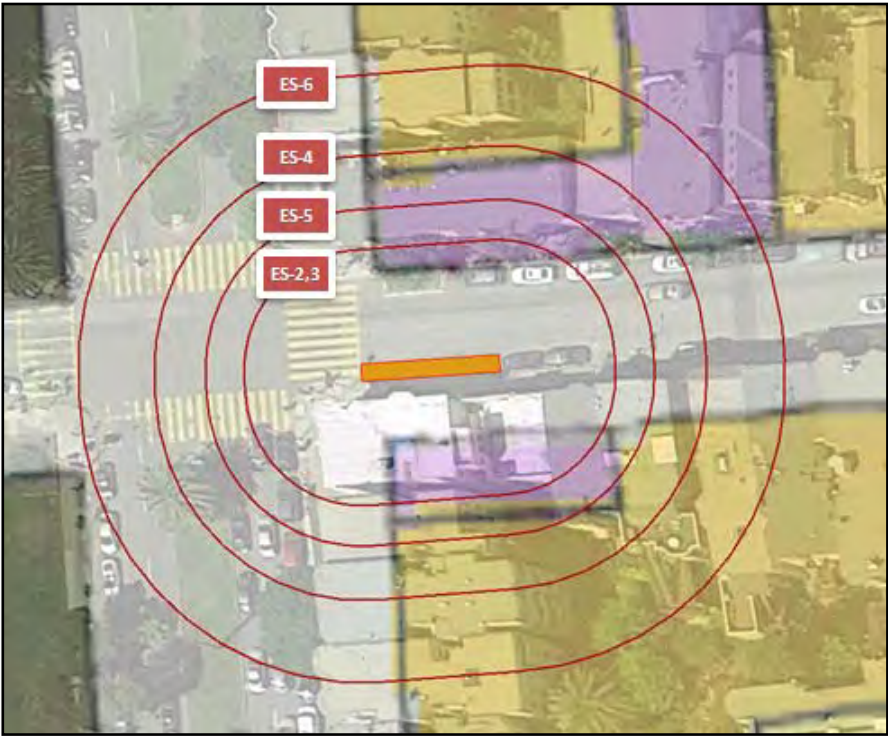
Haight & Divisadero



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## ***Paul Rosenfeld, Ph.D.***

**Chemical Fate and Transport & Air Dispersion Modeling**

*Principal Environmental Chemist*

**Risk Assessment & Remediation Specialist**

### **Education**

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on VOC filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

### **Professional Experience**

Dr. Rosenfeld is the Co-Founder and Principal Environmental Chemist at Soil Water Air Protection Enterprise (SWAPE). His focus is the fate and transport of environmental contaminants, risk assessment, and ecological restoration. His project experience ranges from monitoring and modeling of pollution sources as they relate to human and ecological health. Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing, petroleum, MtBE and fuel oxygenates, chlorinated solvents, pesticides, radioactive waste, PCBs, PAHs, dioxins, furans, volatile organics, semi-volatile organics, perchlorate, heavy metals, asbestos, PFOA, unusual polymers, and odor. Significant projects performed by Dr. Rosenfeld include the following:

### **Litigation Support**

**Client: Missouri Department of Natural Resources (Jefferson City, Missouri)**

Serving as an expert in evaluating air pollution and odor emissions from a Republic Landfill in St. Louis, Missouri. Conducted. Project manager overseeing daily, weekly and comprehensive sampling of odor and chemicals.

**Client: Louisiana Department of Transportation and Development (Baton Rouge, Louisiana)**

Serving as an expert witness, conducting groundwater modeling of an ethylene dichloride DNAPL and soluble plume resulting from spill caused by Conoco Phillips.

**Client: Missouri Department of Natural Resources (St. Louis, Missouri)**

Serving as a consulting expert and potential testifying expert regarding a landfill fire directly adjacent to another landfill containing radioactive waste. Implemented an air monitoring program testing for over 100 different compounds using approximately 12 different analytical methods.

**Client: Baron & Budd, P.C. (Dallas, Texas) and Weitz & Luxeinberg (New York, New York)**

Served as a consulting expert in MTBE Federal Multi District Litigation (MDL) in New York. Consolidated ground water data, created maps for test cases, constructed damage model, evaluated taste and odor threshold levels. Resulted in a settlement of over \$440 million.

**Client: The Buzbee Law Firm (Houston, Texas)**

Served as an expert in ongoing litigation involving over 50,000+ plaintiffs who are seeking compensation for chemical exposure and reduction in property value resulting from chemicals released from the BP facility.

**Client: Environmental Litigation Group (Birmingham, Alabama)**

Serving as an expert on property damage, medical monitoring and toxic tort claims that have been filed on behalf of over 13,000 plaintiffs who were exposed to PCBs and dioxins/furans resulting from emissions from Monsanto and Cerro Copper's operations in Sauget, Illinois. Developed AERMOD models to demonstrate plaintiff's exposure.

**Client: Baron & Budd P.C. (Dallas Texas) and Korein Tillery (St. Louis, Missouri)**

Served as a consulting expert for a Class Action defective product claim filed in Madison County, Illinois against Syngenta and five other manufacturers for atrazine. Evaluated health issues associated with atrazine and determined treatment cost for filtration of public drinking water supplies. Resulted in \$105 million dollar settlement.

**Client: The Buzbee Law Firm (Houston, Texas)**

Served as a consulting expert in catalyst release and refinery emissions cases against the BP Refinery in Texas City. A jury verdict for 10 employees exposed to catalyst via BP's irresponsible behavior.

**Client: Baron & Budd, P.C. (Dallas, Texas)**

Served as a consulting expert to calculate the Maximum Allowable Dose Level (MADL) and No Significant Risk Level (NSRL), based on Cal EPA and OEHHA guidelines, for Polychlorinated Biphenyls (PCBs) in fish oil dietary supplements.

**Client: Girardi Keese (Los Angeles, California)**

Served as an expert testifying on hydrocarbon exposure of a woman who worked on a fuel barge operated by Chevron. Demonstrated that the plaintiff was exposed to excessive amounts of benzene.

**Client: Mason & Cawood (Annapolis, Maryland) and Girardi & Keese (Los Angeles, California)**

Serving as an expert consultant on the Battlefield Golf Club fly ash disposal site in Chesapeake, VA, where arsenic, other metals and radionuclides are leaching into groundwater, and ash is blowing off-site onto the surrounding communities.

**Client: California Earth Mineral Corporation (Culver City, California)**

Evaluating the montmorillonite clay deposit located near El Centro, California. Working as a Defense Expert representing an individual who owns a 2,500 acre parcel that will potentially be seized by the United States Navy via eminent domain.

**Client: Matthews & Associates (Houston, Texas)**

Serving as an expert witness, preparing air model demonstrating residential exposure via emissions from fracking in natural gas wells in Duncan, Texas.

**Client: Baron & Budd P.C. (Dallas, Texas) and Korein Tillery (St. Louis, Missouri)**

Served as a consulting expert for analysis of private wells relating to litigation regarding compensation of private well owners for MTBE testing. Coordinated data acquisition and GIS analysis evaluating private well proximity to leaking underground storage tanks.

**Client: Lurie & Park LLP (Los Angeles, California)**

Served as an expert witness evaluating a vapor intrusion toxic tort case that resulted in a settlement. The Superfund site is a 4 ½ mile groundwater plume of chlorinated solvents in Whittier, California.

**Client: Mason & Cawood (Annapolis, Maryland)**

Evaluated data from the Hess Gasoline Station in northern Baltimore, Maryland that had a release resulting in flooding of plaintiff's homes with gasoline-contaminated water, foul odor, and biofilm growth.

**Client: The Buzbee Law Firm (Houston, Texas)**

Evaluated air quality resulting from grain processing emissions in Muscatine, Iowa.

**Client: Anderson Kill & Olick, P.C. (Ventura, California)**

Evaluated historical exposure and lateral and vertical extent of contamination resulting from a ~150 million gallon Exxon Mobil tank farm located near Watts, California.

**Client: Packard Law Firm (Petaluma, California)**

Served as an expert witness, evaluated lead in Proposition 65 Case where various products were found to have elevated lead levels.

**Client: The Buzbee Law Firm (Houston, Texas)**

Evaluated data resulting from an oil spill in Port Arthur, Texas.

**Client: Nexsen Pruet, LLC (Charleston, South Carolina)**

Serving as expert in chlorine exposure in a railroad tank car accident where approximately 120,000 pounds of chlorine were released.

**Client: Girardi & Keese (Los Angeles, California)**

Serving as an expert investigating hydrocarbon exposure and property damage for ~600 individuals and ~280 properties in Carson, California where homes were constructed above a large tank farm formerly owned by Shell.

**Client: Brent Coon Law Firm (Cleveland, Ohio)**

Served as an expert, calculating an environmental exposure to benzene, PAHs, and VOCs from a Chevron Refinery in Hooven, Ohio. Conducted AERMOD modeling to determine cumulative dose.

**Client: Lundy Davis (Lake Charles, Louisiana)**

Served as consulting expert on an oil field case representing the lease holder of a contaminated oil field. Conducted field work evaluating oil field contamination in Sulphur, Louisiana. Property is owned by Conoco Phillips, but leased by Yellow Rock, a small oil firm.

**Client: Cox Cox Filo (Lake Charles, Louisiana)**

Served as testifying expert on a multimillion gallon oil spill in Lake Charles which occurred on June 19, 2006, resulting in hydrocarbon vapor exposure to hundreds of workers and residents. Prepared air model and calculated exposure concentration. Demonstrated that petroleum odor alone can result in significant health harms.

**Client: Cotchett Pitre & McCarthy (San Francisco, California)**

Served as testifying expert representing homeowners who unknowingly purchased homes built on an old oil field in Santa Maria, California. Properties have high concentrations of petroleum hydrocarbons in subsurface soils resulting in diminished property value.

**Client: Law Offices Of Anthony Liberatore P.C. (Los Angeles, California)**

Served as testifying expert representing individuals who rented homes on the Inglewood Oil Field in California. Plaintiffs were exposed to hydrocarbon contaminated water and air, and experienced health harms associated with the petroleum exposure.

**Client: Orange County District Attorney (Orange County, California)**

Coordinated a review of 143 ARCO gas stations in Orange County to assist the District Attorney's prosecution of CCR Title 23 and California Health and Safety Code violators.

**Client: Environmental Litigation Group (Birmingham, Alabama)**

Served as a testifying expert in a health effects case against ABC Coke/Drummond Company for polluting a community with PAHs, benzene, particulate matter, heavy metals, and coke oven emissions. Created air dispersion models and conducted attic dust sampling, exposure modeling, and risk assessment for plaintiffs.

**Client: Masry & Vitatoe (Westlake Village, California), Engstrom Lipscomb Lack (Los Angeles, California) and Baron & Budd P.C. (Dallas, Texas)**

Served as a consulting expert in Proposition 65 lawsuit filed against major oil companies for benzene and toluene releases from gas stations and refineries resulting in contaminated groundwater. Settlement included over \$110 million dollars in injunctive relief.

**Client: Tommy Franks Law Firm (Austin, Texas)**

Served as expert evaluating groundwater contamination which resulted from the hazardous waste injection program and negligent actions of Morton Thiokol and Rohm Hass. Evaluated drinking water contamination and community exposure.

**Client: Baron & Budd P.C. (Dallas, Texas) and Sher Leff (San Francisco, California)**

Served as consulting expert for several California cities that filed defective product cases against Dow Chemical and Shell for 1,2,3-trichloropropane groundwater contamination. Generated maps showing capture zones of impacted wells for various municipalities.

**Client: Weitz & Luxenberg (New York, New York)**

Served as expert on Property Damage and Nuisance claims resulting from emissions from the Countywide Landfill in Ohio. The landfill had an exothermic reaction or fire resulting from aluminum dross dumping, and the EPA fined the landfill \$10,000,000 dollars.

**Client: Baron & Budd P.C. (Dallas, Texas)**

Served as a consulting expert for a groundwater contamination case in Pensacola, Florida where fluorinated compounds contaminated wells operated by Escambia County.

**Client: Environmental Litigation Group (Birmingham, Alabama)**

Served as an expert on groundwater case where Exxon Mobil and Helena Chemical released ethylene dichloride into groundwater resulting in a large plume. Prepared report on the appropriate treatment technology and cost, and flaws with the proposed on-site remediation.

**Client: Environmental Litigation Group (Birmingham, Alabama)**

Served as an expert on air emissions released when a Bartlo Packaging Incorporated facility in West Helena, Arkansas exploded resulting in community exposure to pesticides and smoke from combustion of pesticides.

**Client: Omara & Padilla (San Diego, California)**

Served as a testifying expert on nuisance case against Nutro Dogfood Company that constructed a large dog food processing facility in the middle of a residential community in Victorville, California with no odor control devices. The facility has undergone significant modifications, including installation of a regenerative thermal oxidizer.

**Client: Environmental Litigation Group (Birmingham, Alabama)**

Serving as an expert on property damage and medical monitoring claims that have been filed against International Paper resulting from chemical emissions from facilities located in Bastrop, Louisiana; Prattville, Alabama; and Georgetown, South Carolina.

**Client: Estep and Shafer L.C. (Kingwood, West Virginia)**

Served as expert calculating acid emissions doses to residents resulting from coal-fired power plant emissions in West Virginia using various air models.

**Client: Watts Law Firm (Austin, Texas), Woodfill & Pressler (Houston, Texas) and Woska & Associates (Oklahoma City, Oklahoma)**

Served as testifying expert on community and worker exposure to CCA, creosote, PAHs, and dioxins/furans from a BNSF and Koppers Facility in Somerville, Texas. Conducted field sampling, risk assessment, dose assessment and air modeling to quantify exposure to workers and community members.

**Client: Environmental Litigation Group (Birmingham, Alabama)**

Served as expert regarding community exposure to CCA, creosote, PAHs, and dioxins/furans from a Louisiana Pacific wood treatment facility in Florala, Alabama. Conducted blood sampling and environmental sampling to determine environmental exposure to dioxins/furans and PAHs.

**Client: Sanders Law Firm (Colorado Springs, Colorado) and Vamvoras & Schwartzberg (Lake Charles, Louisiana)**

Served as an expert calculating chemical exposure to over 500 workers from large ethylene dichloride spill in Lake Charles, Louisiana at the Conoco Phillips Refinery.

**Client: Baron & Budd P.C. (Dallas, Texas)**

Served as consulting expert in a defective product lawsuit against Dow Agrosience focusing on Clopyralid, a recalcitrant herbicide that damaged numerous compost facilities across the United States.

**Client: Sullivan Papain Block McGrath & Cannavo (New York, New York) and The Cochran Firm (Dothan, Mississippi)**



Served as an expert regarding community exposure to metals, PAHs PCBs, and dioxins/furans from the burning of Ford paint sludge and municipal solid waste in Ringwood, New Jersey.

**Client: Rose, Klein & Marias LLP (Los Angeles, California)**

Served as an expert in 55 Proposition 65 cases against individual facilities in the Port of Los Angeles and Port of Long Beach. Prepared air dispersion and risk models to demonstrate that each facility emits diesel particulate matter that results in risks exceeding 1/100,000, hence violating the Proposition 65 Statute.

**Client: Rose, Klein & Marias LLP (Los Angeles, California) and Environmental Law Foundation (San Francisco, California)**

Served as an expert in a Proposition 65 case against potato chip manufacturers. Conducted an analysis of several brands of potato chips for acrylamide concentrations and found that all samples exceeded Proposition 65 No Significant Risk Levels.

**Client: Gonzales & Robinson (Westlake Village, California)**

Served as a testifying expert in a toxic tort case against Chevron (Ortho) for allowing a community to be contaminated with lead arsenate pesticide. Created air dispersion and soil vadose zone transport models, and evaluated bioaccumulation of lead arsenate in food.

**Client: Environment Now (Santa Monica, California)**

Served as expert for Environment Now to convince the State of California to file a nuisance claim against automobile manufactures to recover MediCal damages from expenditures on asthma-related health care costs.

**Client: Trutanich Michell (Long Beach, California)**

Served as expert representing San Pedro Boat Works in the Port of Los Angeles. Prepared air dispersion, particulate air dispersion, and storm water discharge models to demonstrate that Kaiser Bulk Loading is responsible for copper concentrate accumulating in the bay sediment.

**Client: Azurix of North America (Fort Myers, Florida)**

Provided expert opinions, reports and research pertaining to a proposed County Ordinance requiring biosolids applicators to measure VOC and odor concentrations at application sites' boundaries.

**Client: MCP Polyurethane (Pittsburg, Kansas)**

Provided expert opinions and reports regarding metal-laden landfill runoff that damaged a running track by causing the reversion of the polyurethane due to its catalytic properties.

## **Risk Assessment And Air Modeling**

**Client: Hager, Dewick & Zuengler, S.C. (Green Bay, Wisconsin)**

Conducted odor audit of rendering facility in Green Bay, Wisconsin.

**Client: ABT-Haskell (San Bernardino, California)**

Prepared air dispersion model for a proposed state-of-the-art enclosed compost facility. Prepared a traffic analysis and developed odor detection limits to predict 1, 8, and 24-hour off-site concentrations of sulfur, ammonia, and amine.

**Client: Jefferson PRP Group (Los Angeles, California)**

Evaluated exposure pathways for chlorinated solvents and hexavalent chromium for human health risk assessment of Los Angeles Academy (formerly Jefferson New Middle School) operated by Los Angeles Unified School District.

**Client: Covanta (Susanville, California)**

Prepared human health risk assessment for Covanta Energy focusing on agricultural worker exposure to caustic fertilizer.

**Client: CIWMB (Sacramento, California)**

Used dispersion models to estimate traveling distance and VOC concentrations downwind from a composting facility for the California Integrated Waste Management Board.

**Client: Carboquimeca (Bogotá, Columbia)**

Evaluated exposure pathways for human health risk assessment for a confidential client focusing on significant concentrations of arsenic and chlorinated solvents present in groundwater used for drinking water.

**Client: Navy Base Realignment and Closure Team (Treasure Island, California)**

Used Johnson-Ettinger model to estimate indoor air PCB concentrations and compared estimated values with empirical data collected in homes.

**Client: San Diego State University (San Diego, California)**

Measured CO<sub>2</sub> flux from soils amended with different quantities of biosolids compost at Camp Pendleton to determine CO<sub>2</sub> credit values for coastal sage under fertilized and non-fertilized conditions.

**Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)**

Evaluated cumulative risk of a multiple pathway scenario for a child resident and a construction worker. Evaluated exposure to air and soil via particulate and vapor inhalation, incidental soil ingestion, and dermal contact with soil.

**Client: MCAS Miramar (San Diego, California)**

Evaluated exposure pathways of metals in soil by comparing site data to background data. Risk assessment incorporated multiple pathway scenarios assuming child resident and construction worker particulate and vapor inhalation, soil ingestion, and dermal soil contact.

**Client: Naval Weapons Station (Seal Beach, California)**

Used a multiple pathway model to generate dust emission factors from automobiles driving on dirt roads. Calculated bioaccumulation of metals, PCBs, dioxin congeners and pesticides to estimate human and ecological risk.

**Client: King County, Douglas County (Washington State)**

Measured PM<sub>10</sub> and PM<sub>2.5</sub> emissions from windblown soil treated with biosolids and a polyacrylamide polymer in Douglas County, Washington. Used Pilat Mark V impactor for measurement and compared data to EPA particulate regulations.

**Client: King County (Seattle, Washington)**

Created emission inventory for several compost and wastewater facilities comparing VOC, particulate, and fungi concentrations to NIOSH values estimating risk to workers and individuals at neighboring facilities.

## **Air Pollution Investigation and Remediation**

**Client: Republic Landfill (Santa Clarita, California)**

Managed a field investigation of odor around a landfill during 30+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources and character and intensity.

**Client: California Biomass (Victorville, California)**

Managed a field investigation of odor around landfill during 9+ events. Used hedonic tone, butanol scale, dilution-to-threshold values, and odor character to evaluate odor sources, character and intensity.

**Client: ABT-Haskell (Redlands, California)**

Assisted in permitting a compost facility that will be completely enclosed with a complex scrubbing system using acid scrubbers, base scrubbers, biofilters, heat exchangers and chlorine to reduce VOC emissions by 99 percent.

**Client: Synagro (Corona, California)**

Designed and monitored 30-foot by 20-foot by 6-foot biofilter for VOC control at an industrial composting facility in Corona, California to reduce VOC emissions by 99 percent.

**Client: Jeff Gage (Tacoma, Washington)**

Conducted emission inventory at industrial compost facility using GC/MS analyses for VOCs. Evaluated effectiveness of VOC and odor control systems and estimated human health risk.

**Client: Daishowa America (Port Angeles Mill, Washington)**

Analyzed industrial paper sludge and ash for VOCs, heavy metals and nutrients to develop a land application program. Metals were compared to federal guidelines to determine maximum allowable land application rates.

**Client: Jeff Gage (Puyallup, Washington)**

Measured effectiveness of biofilters at composting facility and conducted EPA dispersion models to estimate traveling distance of odor and human health risk from exposure to volatile organics.

## **Surface Water, Groundwater, and Wastewater Investigation/Remediation**

**Client: Confidential (Downey, California)**

Managed groundwater investigation to determine horizontal extent of 1,000 foot TCE plume associated with a metal finishing shop.

**Client: Confidential (West Hollywood, California)**

Designing soil vapor extraction system that is currently being installed for confidential client. Managing groundwater investigation to determine horizontal extent of TCE plume associated with dry cleaning.

**Client: Synagro Technologies (Sacramento, California)**

Managed groundwater investigation to determine if biosolids application impacted salinity and nutrient concentrations in groundwater.

**Client: Navy Base Realignment and Closure Team (Treasure Island, California)**

Assisted in the design and remediation of PCB, chlorinated solvent, hydrocarbon and lead contaminated groundwater and soil on Treasure Island. Negotiated screening levels with DTSC and Water Board. Assisted in the preparation of FSP/QAPP, RI/FS, and RAP documents and assisted in CEQA document preparation.

**Client: Navy Base Realignment and Closure Team (MCAS Tustin, California)**

Assisted in the design of groundwater monitoring systems for chlorinated solvents at Tustin MCAS. Contributed to the preparation of FS for groundwater treatment.

**Client: Mission Cleaning Facility (Salinas, California)**

Prepared a RAP and cost estimate for using an oxygen releasing compound (ORC) and molasses to oxidize diesel fuel in soil and groundwater at Mission Cleaning in Salinas.

**Client: King County (Washington)**

Established and monitored experimental plots at a US EPA Superfund Site in wetland and upland mine tailings contaminated with zinc and lead in Smeltonville, Idaho. Used organic matter and pH adjustment for wetland remediation and erosion control.

**Client: City of Redmond (Richmond, Washington)**

Collected storm water from compost-amended and fertilized turf to measure nutrients in urban runoff. Evaluated effectiveness of organic matter-lined detention ponds on reduction of peak flow during storm events. Drafted compost amended landscape installation guidelines to promote storm water detention and nutrient runoff reduction.

**Client: City of Seattle (Seattle, Washington)**

Measured VOC emissions from Renton wastewater treatment plant in Washington. Ran GC/MS, dispersion models, and sensory panels to characterize, quantify, control and estimate risk from VOCs.

**Client: Plumas County (Quincy, California)**

Installed wetland to treat contaminated water containing 1% copper in an EPA Superfund site. Revegetated 10 acres of acidic and metal laden sand dunes resulting from hydraulic mining. Installed and monitored piezometers in wetland estimating metal loading.

**Client: Adams Egg Farm (St. Kitts, West Indies)**

Designed, constructed, and maintained 3 anaerobic digesters at Springfield Egg Farm, St. Kitts. Digesters treated chicken excrement before effluent discharged into sea. Chicken waste was converted into methane cooking gas.

**Client: BLM (Kremmling, Colorado)**

Collected water samples for monitoring program along upper stretch of the Colorado River. Rafted along river and protected water quality by digging and repairing latrines.

## **Soil Science and Restoration Projects**

**Client: Hefner, Stark & Marois, LLP (Sacramento, California)**

Facilitated in assisting Hefner, Stark & Marois, LLP in working with the Regional Water Quality board to determine how to utilize Calcium Particulate as a by-product of processing sugar beets.

**Client: Kinder Morgan (San Diego County, California)**

Designed and monitored the restoration of a 110-acre project on Camp Pendleton along a 26-mile pipeline. Managed crew of 20, planting coastal sage, riparian, wetland, native grassland, and marsh ecosystems. Negotiated with the CDFW concerning species planting list and success standards.

**Client: NAVY BRAC (Orote Landfill, Guam)**

Designed and monitored pilot landfill cap mimicking limestone forest. Measured different species' root-penetration into landfill cap. Plants were used to evapotranspire water, reducing water leaching through soil profile.

**Client: LA Sanitation District Puente Hills Landfill (Whittier, California)**

Monitored success of upland and wetland mitigation at Puente Hills Landfill operated by Sanitation Districts of Los Angeles. Negotiated with the Army Corps of Engineers and CDFG to obtain an early sign-off.

**Client: City of Escondido (Escondido, California)**

Designed, managed, installed, and monitored a 20-acre coastal sage scrub restoration project at Kit Carson Park, Escondido, California.

**Client: Home Depot (Encinitas, California)**

Designed, managed, installed and monitored a 15-acre coastal sage scrub and wetland restoration project at Home Depot in Encinitas, California.

**Client: Alvarado Water Filtration Plant (San Diego, California)**

Planned, installed and monitored 2-acre riparian and coastal sage scrub mitigation in San Diego California.

**Client: Monsanto and James River Corporation (Clatskanie, Oregon)**

Served as a soil scientist on a 50,000-acre hybrid poplar farm. Worked on genetically engineering study of Poplar trees to see if glyphosate resistant poplar clones were economically viable.

**Client: World Wildlife Fund (St. Kitts, West Indies)**

Managed 2-year biodiversity study, quantifying and qualifying the various flora and fauna in St. Kitts' expanding volcanic rainforest. Collaborated with skilled botanists, ornithologists and herpetologists.

## **Publications**

Chen, J. A., Zapata, A R., Sutherland, A. J., Molmen, D. R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.**, Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermol and Empirical Data. American Journal of Environmental Science, 2012, 8 (6), 622-632

**Rosenfeld, P.E.** & Feng, L. (2011). *The Risks of Hazardous Waste*, Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2011). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences* 4(2011):113-125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.**, (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health* 73(6):34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries*, Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*, Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P.** (2009). 'Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States', in Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modelling, Monitoring and Management of Air Pollution*, Tallinn, Estonia. 20-22 July, 2009, Southampton, Boston. WIT Press.

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- P. Rosenfeld.** 1992. The Mount Liamuiga Crater Trail. Heritage Magazine of St. Kitts, Vol. 3 No. 2.
- P. Rosenfeld.** 1993. High School Biogas Project to Prevent Deforestation On St. Kitts. Biomass Users Network, Vol. 7, No. 1, 1993.
- P. Rosenfeld.** 1992. British West Indies, St. Kitts. Surf Report, April issue.

**P. Rosenfeld.** 1998. Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

**P. Rosenfeld.** 1994. Potential Utilization of Small Diameter Trees On Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

**P. Rosenfeld.** 1991. How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

England Environmental Agency, 2002. Landfill Gas Control Technologies. Publishing Organization Environment Agency, Rio House, Waterside Drive, Aztec West, Almondsbury BRISTOL, BS32 4UD.

## **Presentations**

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** "Atrazine: A Persistent Pesticide in Urban Drinking Water." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** "Bringing Environmental Justice to East St. Louis, Illinois." Urban Environmental Pollution, Boston, MA, June 20-23, 2010.

**Rosenfeld, P.E.** (2009) "Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States" Presentation at the 2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting, April 19-23, 2009. Tuscon, AZ.

**Rosenfeld, P.E.** (2009) "Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States" Presentation at the 2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting, April 19-23, 2009. Tuscon, AZ.

**Rosenfeld, P. E.** (2007) "Moss Point Community Exposure To Contaminants From A Releasing Facility" Platform Presentation at the 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (2007) "The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant" Platform Presentation at the 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (2007) "Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions" Poster Presentation at the 23<sup>rd</sup> Annual International Conferences on Soils Sediment and Water, October 15-18, 2007. University of Massachusetts, Amherst MA.

**Rosenfeld P. E.** "Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP)" – Platform Presentation at the Association for Environmental Health and Sciences (AEHS) Annual Meeting, San Diego, CA, 3/2007.

**Rosenfeld P. E.** "Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama" – Platform Presentation at the AEHS Annual Meeting, San Diego, CA, 3/2007.

Hensley A.R., Scott, A., **Rosenfeld P.E.**, Clark, J.J.J. (2006) "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." APHA 134 Annual Meeting & Exposition, Boston Massachusetts. November 4 to 8<sup>th</sup>, 2006.

**Paul Rosenfeld Ph.D.** “Fate, Transport and Persistence of PFOA and Related Chemicals.” Mealey’s C8/PFOA Science, Risk & Litigation Conference” October 24, 25. The Rittenhouse Hotel, Philadelphia.

**Paul Rosenfeld Ph.D.** “Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation PEMA Emerging Contaminant Conference. September 19. Hilton Hotel, Irvine California.

**Paul Rosenfeld Ph.D.** “Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP.” PEMA Emerging Contaminant Conference. September 19. Hilton Hotel in Irvine, California.

**Paul Rosenfeld Ph.D.** “Fate, Transport and Persistence of PDBEs.” Mealey’s Groundwater Conference. September 26, 27. Ritz Carlton Hotel, Marina Del Ray, California.

**Paul Rosenfeld Ph.D.** “Fate, Transport and Persistence of PFOA and Related Chemicals.” International Society of Environmental Forensics: Focus On Emerging Contaminants. June 7,8. Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

**Paul Rosenfeld Ph.D.** “Rate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals”. 2005 National Groundwater Association Ground Water And Environmental Law Conference. July 21-22, 2005. Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld Ph.D.** “Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation.” 2005 National Groundwater Association Ground Water And Environmental Law Conference. July 21-22, 2005. Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. and Rob Hesse R.G. Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. National Groundwater Association. Environmental Law Conference. May 5-6, 2004. Congress Plaza Hotel, Chicago Illinois.

**Paul Rosenfeld, Ph.D.,** 2004. Perchlorate Toxicology. Presentation to a meeting of the American Groundwater Trust. March 7<sup>th</sup>, 2004. Pheonix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse, 2004. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal representatives, Parker, AZ.

**Paul Rosenfeld, Ph.D.** A National Damage Assessment Model For PCE and Dry Cleaners. Drycleaner Symposium. California Ground Water Association. Radison Hotel, Sacramento, California. April 7, 2004.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants. February 20-21, 2003. Hyatt Regency Phoenix Arizona.

**Paul Rosenfeld, Ph.D.** Underground Storage Tank Litigation and Remediation. California CUPA Forum. Marriott Hotel. Anaheim California. February 6-7, 2003.

**Paul Rosenfeld, Ph.D.** Underground Storage Tank Litigation and Remediation. EPA Underground Storage Tank Roundtable. Sacramento California. October 23, 2002.

**Rosenfeld, P.E.** and Suffet, M. 2002. Understanding Odor from Compost, Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Barcelona Spain. October 7- 10.

**Rosenfeld, P.E.** and Suffet, M. 2002. Using High Carbon Wood Ash to Control Compost Odor. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association. Barcelona Spain. October 7- 10.



**Rosenfeld, P.E.** and Grey, M. A. 2002. Biocycle Composting For Coastal Sage Restoration. Northwest Biosolids Management Association. Vancouver Washington. September 22-24.

**Rosenfeld, P.E.** and Grey, M. A. 2002. Soil Science Society Annual Conference. Indianapolis, Maryland. November 11-14.

**Rosenfeld, P.E.** 2000. Two stage biofilter for biosolids composting odor control. Water Environment Federation. Anaheim California. September 16, 2000.

**Rosenfeld, P. E.** 2000. Wood ash and biofilter control of compost odor. Biofest. October 16, 2000. Ocean Shores, California.

**Rosenfeld, P. E.** 2000. Bioremediation Using Organic Soil Amendments. California Resource Recovery Association. Sacramento California.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. 1998. Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Bellevue Washington.

**Rosenfeld, P.E.,** and C.L. Henry. 1999. An evaluation of ash incorporation with biosolids for odor reduction. Soil Science Society of America. Salt Lake City Utah.

**Rosenfeld, P.E.,** C.L. Henry, R. Harrison. 1998. Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. Brown and Caldwell, Seattle Washington.

**Rosenfeld, P.E.,** C.L. Henry. 1998. Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. Biofest Lake Chelan, Washington.

**Rosenfeld, P.E.,** C.L. Henry, R. B. Harrison, and R. Dills. 1997. Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. Soil Science Society of America, Anaheim California.

## **Professional History**

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Founding And Managing Partner  
UCLA School of Public Health; 2007 to 2010; Lecturer (Asst Res)  
UCLA School of Public Health; 2003 to 2006; Adjunct Professor  
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator  
UCLA Institute of the Environment, 2001-2002; Research Associate  
Komex H<sub>2</sub>O Science, 2001 to 2003; Senior Remediation Scientist  
National Groundwater Association, 2002-2004; Lecturer  
San Diego State University, 1999-2001; Adjunct Professor  
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager  
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager  
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor  
King County, Seattle, 1996 – 1999; Scientist  
James River Corp., Washington, 1995-96; Scientist  
Big Creek Lumber, Davenport, California, 1995; Scientist  
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist  
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist  
Bureau of Land Management, Kremmling Colorado 1990; Scientist

## **Teaching Experience**

**UCLA Department of Environmental Health (Summer 2003 through 2010)** Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focuses on the health effects of environmental contaminants.

**National Ground Water Association, Successful Remediation Technologies.** Custom Course In Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

**National Ground Water Association; Successful Remediation Technologies** Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

**California Integrated Waste Management Board,** April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

**UCLA Department of Environmental Engineering,** February 5 2002 Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

**University Of Washington, Soil Science Program,** Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

**U.C. Berkeley, Environmental Science Program** Teaching Assistant for Environmental Science 10.

## **Academic Grants Awarded**

**California Integrated Waste Management Board.** \$41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

**Synagro Technologies, Corona California:** \$10,000 grant awarded to San Diego State University. Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

**King County, Department of Research and Technology, Washington State.** \$100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

**Northwest Biosolids Management Association, Washington State.** \$20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

**James River Corporation, Oregon:** \$10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

**United State Forest Service, Tahoe National Forest:** \$15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

**Kellogg Foundation, Washington D.C.** \$500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993.

## **Cases that Dr. Rosenfeld Provided Deposition or Trial Testimony**

In the Court of Common Pleas of Tuscarawas County Ohio

John Michael Abicht, et al., *Plaintiffs*, vs. Republic Services, Inc., et al., *Defendants*

Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)

In the Court of Common Pleas for the Second Judicial Circuit, State of South Carolina, County of Aiken

David Anderson, et al., *Plaintiffs*, vs. Norfolk Southern Corporation, et al., *Defendants*.

Case Number: 2007-CP-02-1584

In the Circuit Court of Jefferson County Alabama

Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*

Civil action No. CV 2008-2076

In the Ninth Judicial District Court, Parish of Rapides, State of Louisiana

Roger Price, et al., *Plaintiffs*, vs. Roy O. Martin, L.P., et al., *Defendants*.

Civil Suit Number 224,041 Division G

In the United States District Court, Western District Lafayette Division

Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.

Case Number 2:07CV1052

In the United States District Court for the Southern District of Ohio

Carolyn Baker, et al., *Plaintiffs*, vs. Chevron Oil Company, et al., *Defendants*.

Case Number 1:05 CV 227

In the Fourth Judicial District Court, Parish of Calcasieu, State of Louisiana

Craig Steven Arabie, et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.

Case Number 07-2738 G

In the Fourteenth Judicial District Court, Parish of Calcasieu, State of Louisiana

Leon B. Brydels, *Plaintiffs*, vs. Conoco, Inc., et al., *Defendants*.

Case Number 2004-6941 Division A

In the District Court of Tarrant County, Texas, 153<sup>rd</sup> Judicial District

Linda Faust, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, Witco Chemical Corporation A/K/A Witco Corporation, Solvents and Chemicals, Inc. and Koppers Industries, Inc., *Defendants*.

Case Number 153-212928-05

In the Superior Court of the State of California in and for the County of San Bernardino

Leroy Allen, et al., *Plaintiffs*, vs. Nutro Products, Inc., a California Corporation and DOES 1 to 100, inclusive, *Defendants*.

John Loney, Plaintiff, vs. James H. Didion, Sr.; Nutro Products, Inc.; DOES 1 through 20, inclusive, *Defendants*.

Case Number VCVVS044671

In the United States District Court for the Middle District of Alabama, Northern Division

James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.

Civil Action Number 2:09-cv-232-WHA-TFM

In the Superior Court of the State of California in and for the County of Los Angeles

Leslie Hensley and Rick Hensley, *Plaintiffs*, vs. Peter T. Hoss, as trustee on behalf of the Cone Fee Trust; Plains Exploration & Production Company, a Delaware corporation; Rayne Water Conditioning, Inc., a California corporation; and DOES 1 through 100, *Defendants*.

Case Number SC094173

In the Superior Court of the State of California in and for the County of Santa Barbara, Santa Maria Branch Clifford and Shirley Adelhelm, et al., all individually, *Plaintiffs*, vs. Unocal Corporation, a Delaware Corporation; Union Oil Company of California, a California corporation; Chevron Corporation, a California corporation; ConocoPhillips, a Texas corporation; Kerr-McGee Corporation, an Oklahoma corporation; and DOES 1 through 100, *Defendants*.  
Case Number 1229251 (Consolidated with case number 1231299)

In the United States District Court for Eastern District of Arkansas, Eastern District of Arkansas Harry Stephens Farms, Inc, and Harry Stephens, individual and as managing partner of Stephens Partnership, *Plaintiffs*, vs. Helena Chemical Company, and Exxon Mobil Corp., successor to Mobil Chemical Co., *Defendants*.  
Case Number 2:06-CV-00166 JMM (Consolidated with case number 4:07CV00278 JMM)

In the United States District Court for the Western District of Arkansas, Texarkana Division Rhonda Brasel, et al., *Plaintiffs*, vs. Weyerhaeuser Company and DOES 1 through 100, *Defendants*.  
Civil Action Number 07-4037

In The Superior Court of the State of California County of Santa Cruz  
Constance Acevedo, et al. *Plaintiffs* Vs. California Spray Company, et al. *Defendants*  
Case No CV 146344

In the District Court of Texas 21<sup>st</sup> Judicial District of Burleson County  
Dennis Davis, *Plaintiff*, vs. Burlington Northern Santa Fe Rail Way Company, *Defendant*.  
Case Number 25,151

In the United States District Court of Southern District of Texas Galveston Division  
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs*, vs. BP Products North America, Inc., *Defendant*.  
Case 3:10-cv-00622

# EXHIBIT B

Summary from:

*The “Google Shuttle Effect:” Gentrification and San Francisco’s Dot Com Boom 2.0*  
May, 2013

Alexandra Goldman, MCP

As housing prices in San Francisco skyrocket, eviction rates rise, and the city continues to experience other negative impacts of gentrification, concerned residents and activists struggle to pinpoint the causes of these rapid changes. One frequent culprit is the “Google Shuttles:” large, unmarked buses which transport thousands of tech workers every day from their homes in San Francisco to their jobs in Silicon Valley. While many companies use private shuttles, Google has the largest fleet with over 30 stops in San Francisco, and a ridership of over 4,500 daily.

The hypothesis is that the Google shuttles – as a transportation investment that allows wealthier tech workers to live in San Francisco and commute for free-is contributing to the phenomenon of rising rents in the city, particularly around the bus stops.

This report seeks to test this hypothesis through analyzing housing price data around five of the Google Shuttle stops between 2010-2012. The results show a strong suggestion that rents within a “walkable” distance of the shuttle stops are rising more rapidly than rents in the neighborhood as a whole.

The selected shuttle stops, illustrated in Figure 1 are:

- **Lombard:** Fillmore Street and Lombard Street
- **Geary:** Geary Boulevard and Presidio Avenue
- **Haight:** Divisadero Street and Haight Street
- **Valencia:** 24<sup>th</sup> Street and Valencia Street
- **Dolores:** 30<sup>th</sup> Street and Dolores Street

The stops were selected for being in neighborhoods with a high percentage of renters. I used rental data from Padmapper, a website which collects rental listings from Craigslist, Apartments.com and Rents.com among other websites.

I looked at data within two specific geographies: the first consists of rents within a “walkable” radius of half a mile from the selected shuttle stops. A half-mile distance is often considered “walkable” in transit-oriented development, and so I used this standard here. The second geography consists of rents “outside” the walkable radius: from an area between half a mile and a full mile from the shuttle stops.

As you can see from Figures 2 and 3, in most cases rental prices within a walkable distance of the shuttle stops are increasing at a faster rate than rental prices outside the walkable distance. There are seven instances of rents increasing faster

within the walkable radius, one that I have considered neutral (as the difference between the two rates is less than five percent) and two where rents outside the walkable radius are actually increasing faster. Figures 4 and 5 show the rates changes mapped to the shuttle stops.

Craigslist ads also provide evidence that the shuttles may be impacting the rental market. Craigslist is a very popular website for listing apartment rentals, and provides a snapshot of what amenities sellers think would 'draw' potential tenants to their units, and/or allow them to charge higher rents. Between November 2012 and April 2013, I picked three random, separate days to review the Craigslist ads for apartments in San Francisco. On each of these days, I found several listings that advertised proximity to the Google Bus stops as a perk. Figure 6 provides a sampling of those listings.

The descriptive analysis presented here suggests that the Google shuttles *are* having an impact on rental prices in San Francisco. Rents appear to be rising more rapidly within a walkable distance of the shuttle stops, and proximity to the shuttle stops is touted widely as a desirable amenity. As the city continues to negotiate efficiency and equity tradeoffs in this housing market, special attention should be paid to the housing conditions around the shuttle stops.

For a copy of the full report, or additional information on this research, please contact Alexandra Goldman at [rose.goldman@gmail.com](mailto:rose.goldman@gmail.com).

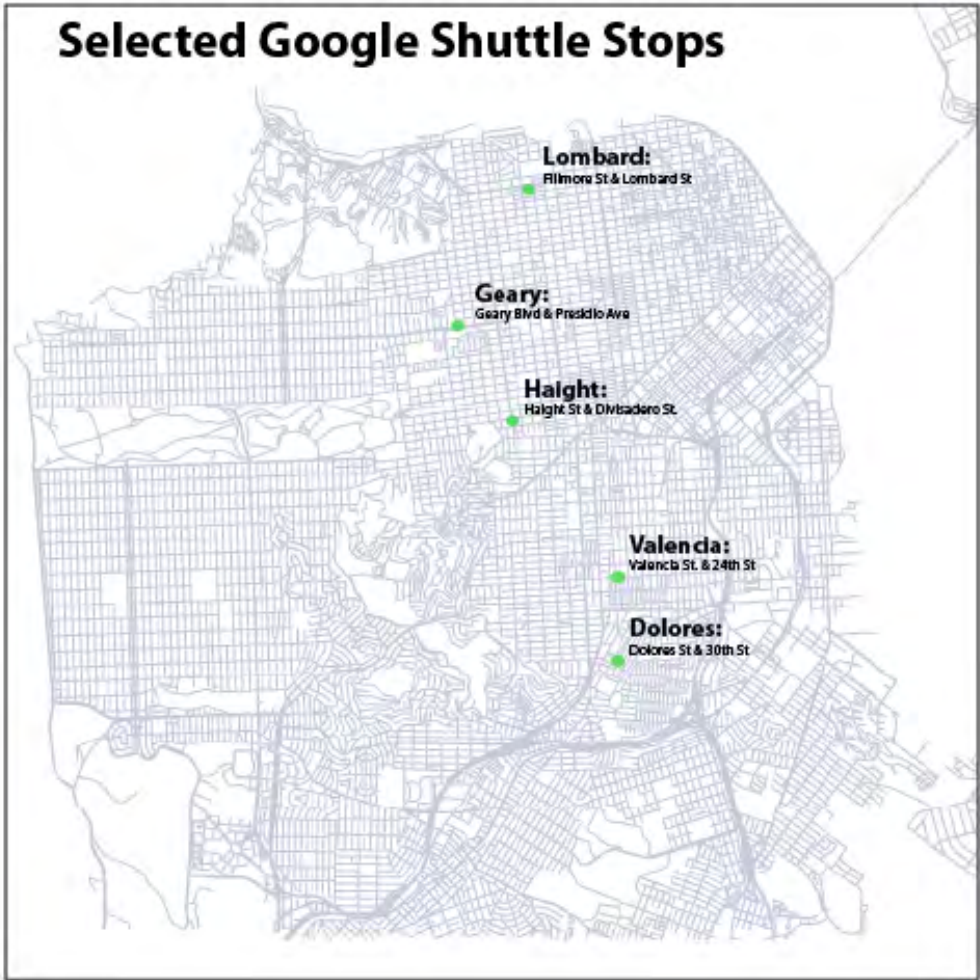


Figure 1- Selected Shuttle stops



Rate of Rental Price Change 2010-2012

		walkable	outside
<b>Lombard</b>	1br	30%	17%
	2br	11%	25%
<b>Geary</b>	1br	10%	22%
	2br	23%	12%
<b>Haight</b>	1br	28%	23%
	2br	37%	27%
<b>Valencia</b>	1br	23%	23%
	2br	27%	20%
<b>Dolores</b>	1br	43%	23%
	2br	28%	23%

Figure 2- source: Padmapper

Geography with larger change (≥5%)

<b>Lombard</b>	1br	walkable
	2br	outside
<b>Geary</b>	1br	outside
	2br	walkable
<b>Haight</b>	1br	walkable
	2br	walkable
<b>Valencia</b>	1br	neutral
	2br	walkable
<b>Dolores</b>	1br	walkable
	2br	walkable

Figure 3- source: Padmapper

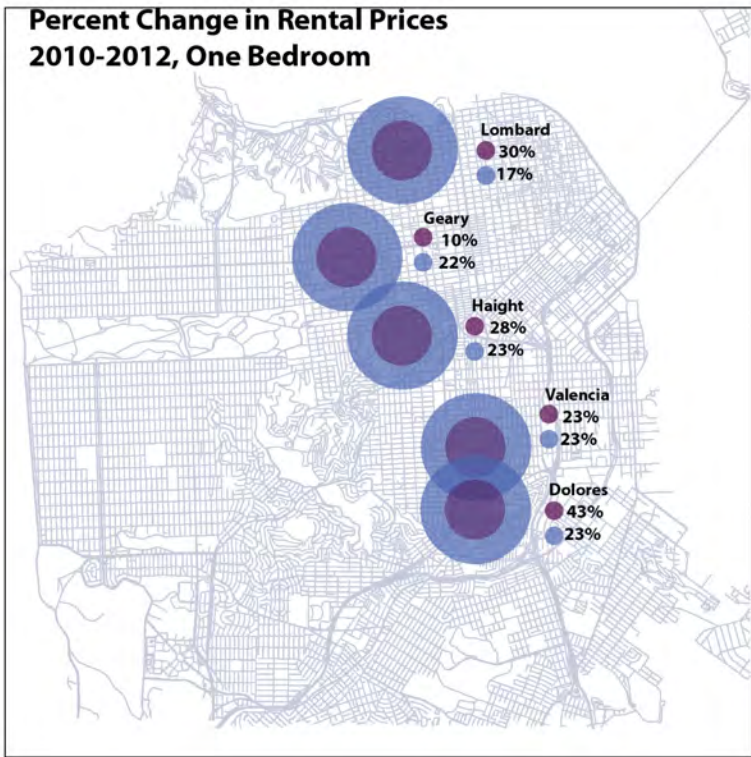


Figure 4

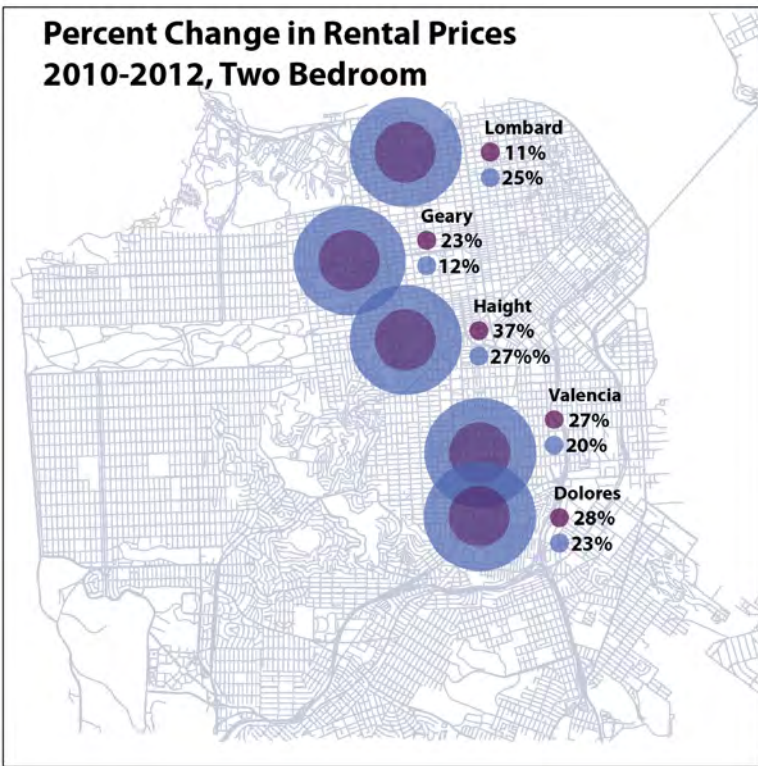


Figure 5

**\$4000 / 2br - Hayes Valley Furnished Rental: April 1 (hayes valley)**

Updated Kitchen & Bath, Refinished Hardwood Wood Floors, Cable and WiFi, inc. Two Bedroom w/ Queen Beds.  
Parking available for \$300/mth extra. Month to month - OK. (Small-med sized car only).  
Strictly No Pets and No Smoking!

Excellent restaurants, cafes and shopping close by.  
#21 Bus; 10 mins walk to BART (Civic Center); Google bus stop 1 block away.

**\$3000 / 2br - Best Noe Location, Very Sunny, grg parkg incl., Open Sat 2/23 10:30-2 (noe valley)**

Easy walk down 24th street to all of the shops and great restaurants. 1 1/2 blocks from the Whole Foods, 1-4 blocks to numerous bus stops and Church street Muni and Google bus stops around the corner. Great little park 1 1/2 blocks up the street.

**\$2850 / 1br - Charming 1 Br/1Bath Unit w/ Walk-in Closets & Parking! (marina / cow hollow)**

Charming one bedroom, one bathroom unit located in a great neighborhood just blocks from Union, Chestnut and Polk Streets and near plenty of transportation options on VanNess Avenue. NEAR GOOGLE BUS STOP!

**\$3500 / 2br - 1400ft<sup>2</sup> - 2 bdrm, 2 bath + office + great location (noe valley)**

1.5 blocks from google bus, 1 block from J car, 2.5 blocks from bart  
conveniently located near restrants, bar, and shopping  
owner pays garbage, water and gardener

**\$3500 / 2br - 800ft<sup>2</sup> - 2BR/2BA Pet Friendly Building (alamo square / nopa)**

coming soon), small shops, dry cleaners, banks, cool club scene. Great area for Foodies. Near Alamo Square, GGP Panhandle. Short walk to lower/upper Haight. Great public transportation. 2 blocks to Google Shuttle. Bike lanes (new bike corridor coming soon). Weekly farmers market. \$3500.00 mo rent. One year lease. \$7000.00

**- \$4100 / 2br - 2bd/2ba with parking Pacific Heights (pacific heights)**

Email with your phone number to set up viewing appointment.  
Close to Union Street shops and Google bus stops...

**• \$1800 Top Floor Studio with Hardwood Floor (lower nob hill)**

- close to Trader Joe's, coffee houses and restaurants
- near Google bus stop
- close to bus lines 2, 3, 27 and Cable Car lines

Figure 6

# EXHIBIT C

**MEMORANDUM**

**To:** Richard Drury, Lozeau Drury LLP  
**From:** Human Impact Partners  
**Re:** Private shuttle bus impacts on safety  
**Date:** March 19, 2014

---

Thank you for requesting an analysis on the potential impacts of the SFMTA proposal to permit private shuttle buses to use Muni bus stops on pedestrian and bicyclist safety. This memo describes existing data on the spatial patterns of pedestrian and bicycle injuries in San Francisco, summarizes evidence linking the location of transit service and pedestrian and bicycle safety, and discusses the potential impacts of private shuttle buses on injury rates. We also provide a series of context-specific mitigations that could be implemented to reduce injuries and fatalities at transit stops.

***Overall, it is our opinion that private shuttle bus operations contribute cumulatively to pedestrian and bicyclist safety risks in San Francisco.*** The proposed SFMTA plan would concentrate shuttle bus stops and thus increase pedestrian and bicycle safety risks on traffic corridors with existing high levels of pedestrian and bicycle injuries. We recommend that the City evaluate these impacts and implement pedestrian and bicycle safety countermeasures at locations planned for employer shuttle stops.

**I. Pedestrian and bicycle injuries are concentrated on high-injury corridors in San Francisco**

About 800 pedestrian-vehicle collisions occur annually in San Francisco, a rate among the highest of U.S. cities. Motor-vehicle collisions kill an average of 20 pedestrians per year, which represents half of all traffic fatalities in San Francisco. Most vehicle-pedestrian collisions occur at intersections, most commonly, when drivers fail to yield to pedestrians in the crosswalk. In developing the San Francisco Mayor’s [Pedestrian Strategy](#), city agencies identified and prioritized a set of [San Francisco high injury corridors](#) for targeted safety efforts.<sup>1</sup> Agencies selected these corridors for targeted enforcement and countermeasures because they encompass 6% of streets but account for over 60% of serious and fatal injuries. According to the Pedestrian Strategy, the highest rates of collisions causing serious injury or death to pedestrians occur on fast arterial streets, such as Geary, Van Ness, and sections of 4<sup>th</sup> and 6<sup>th</sup> Streets approaching the freeway.

The map below indicates high injury corridors where the majority of vehicle-pedestrian injuries occurred in 2007-2011.

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<sup>1</sup> San Francisco Department of Public Health and San Francisco Municipal Transportation Agency. Identifying High Pedestrian Injury Corridors for Targeted Safety Improvements. December 2013.

## High Injury Corridors: San Francisco, California Vehicle-Pedestrian Injuries (2007-2011)

High Injury Corridors represent 6% (69 miles) of San Francisco's street miles, where 60% of severe and fatal vehicle-pedestrian injuries occurred in 2007-2011.



The observed injury densities (2007-2011) on selected transit corridors used by shuttle buses are listed in the table below. *Notably, injury densities on these streets are substantially higher than the citywide average.*

Corridor	10 year rate of severe or fatal pedestrian injuries per mile	10 year rate of total pedestrian injuries per mile
Market (4 <sup>th</sup> to 10 <sup>th</sup> )	26	211
Mission (8 <sup>th</sup> to 20 <sup>th</sup> )	15	129
Geary (Market to Laguna)	10	109
Van Ness (Union to Post)	29	108
Lombard (Buchanan to Richardson)	20	90
Geary (9 <sup>th</sup> to 22 <sup>nd</sup> )	9.9	82
Guerrero (15 <sup>th</sup> to 20 <sup>th</sup> )	11	64
19 <sup>th</sup> Street (Ortega to Vincente)	4.4	64
South Van Ness (16 <sup>th</sup> to Cesar Chavez)	5.1	60
Geary (Laguna to Divisadero)	7.0	58
Divisadero (Clay to Turk)	5.5	55
Valencia (16 <sup>th</sup> to 24 <sup>th</sup> )	4.5	34
<b>Citywide Street Average</b>	<b>0.8</b>	<b>7.1</b>

Bike injuries have increased substantially in San Francisco over recent years. Since 2006, there has been a steady increase in reported bicycle collisions with 368 injuries reported in 2006 and 655 injuries reported in 2011. Bicycle injuries also tend to concentrate on high-injury corridors. The SFMTA has identified corridors with the Highest Number of Bicycle Injury Collisions (2005-2009).<sup>2</sup> Notably, most high-injury bicycle corridors are in the city’s bicycle network and are served by some kind of marked bicycle facility. Private shuttle buses operate routes on many of these high injury bicycle corridors (e.g., Valencia).

<b>Corridor</b>	<b>Within Bicycle Network</b>	<b>Bicycle Facilities Present</b>	<b>Collisions from 2005-2009</b>
Market	Yes	Yes	194
Mission	No	No	87
Polk	Yes	Yes	70
Valencia	Yes	Yes	69
16th Street	Yes	Yes	46
Folsom	Yes	Yes	43
Van Ness	No	No	35
Haight	No	No	30
The Embarcadero	Yes	Yes	29
Mason	No	Yes	28
Harrison	Yes	Yes	24
Golden Gate	Yes	Yes	24
Ocean	Yes	Yes	24

## **II. Transit service is an established spatial risk factor for pedestrian and bicycle injuries**

Corridors experiencing the highest frequency of pedestrian and bicycle injuries tend to be corridors well served by transit. The presence and intensity of transit service is an established spatial risk factor for pedestrian injuries. Harwood et al. (2008) found a significant effect of the presence of bus stops on injury rates in a study of pedestrian injuries in Charlotte, which controlled for traffic and pedestrian volume and other land use and demographic characteristics. In Charlotte, the observed frequency of pedestrian injuries was almost 3 fold greater with the presence of one or two bus stops nearby and almost 5 fold greater with 3 or more bus stops nearby. Ukkusuri et al. (2011) studied factors influencing the frequency of serious and fatal pedestrian crashes in New York City.<sup>3</sup> Both the presence of bus and subway stops predicted increased injury frequency with a stronger effect for subway stops. In Toronto, Shalah et al. (2009) found that transit service increased aggregate traffic collision frequencies by 32% with buses increasing risk relative to streetcars.<sup>4</sup>

<sup>2</sup> SFMTA. Bicycle Collision Report. 2012.

<sup>3</sup> Ukkusuri S, Hasan S, Abdul Aziz HM. A Random-parameter Model to Explain the Effects of Built Environment Characteristics on Pedestrian crash frequency. [Transportation Research Record: Journal of the Transportation Research Board](#). 2012; 2237: 98-106.

<sup>4</sup> Shalah F, Shalaby A, Persaud BN, Hadayeghi A. Analysis of Transit Safety at Signalized Intersections in Toronto. TRB 88th Annual Meeting Compendium of Papers CD-ROM. Washington, D.C., (2009).

There are several reasons for the observed relationship between transit service and pedestrian injuries. First, bus stops are places with greater frequency of conflicts between pedestrians and other road users. Stops are locations where transit users congregate near traffic. Before and after boarding buses, bus passengers are pedestrians, crossing busy roads in proximity to the stop. Second, transit service can be itself associated with risky pedestrian behaviors. Pedestrians may run across a street to catch a bus either without waiting for a signal or in a mid-block location. Pedestrians may also cross the road in front of a stopped bus, a risk more common with bus stops located on the near-side of an intersection. Third, buses impede traffic and visibility. Fourth, motorists often attempt unsafe maneuvers, such as lane changes and speeding, to avoid being behind a stopped bus. Motorists frequently attempt unsafe right turns around a bus stopped at an intersection.

Bus stops are also more likely to be places where bicyclist injuries happen. Miranda-Moreno developed a cyclist injury frequency model based on a sample of signalized intersections on the island of Montreal.<sup>5</sup> While cyclist flows were the most important determinant of injury frequency, the number of bus stops in a 50-meter proximity of intersections increased cyclist injury occurrence. Relative to no bus stops, the proximity of four bus stops increased injury frequency by 50%. Decreased visibility and unsafe motorist behaviors may be explanations for heightened bicyclist injuries risk. In addition, bicycle lane and bus stop design requires buses to often cross or stop within bicycle lanes in order to board passengers.

In 2013, the San Francisco Department of Public Health conducted a detailed study of pedestrian injuries at signalized intersections in San Francisco.<sup>6</sup> Controlling for traffic volumes and other factors, SFPDH found that the presence of a bus stop within 100 feet of an intersection had a significant impact pedestrian injury frequency at the intersection. Injuries increased in proportion to the number of bus stops (see Figure 1 below). Intersections with one stop had a frequency of pedestrian injuries 11% greater than those without stops, and intersections with four stops had a frequency of pedestrian injuries 50% greater than those without stops.

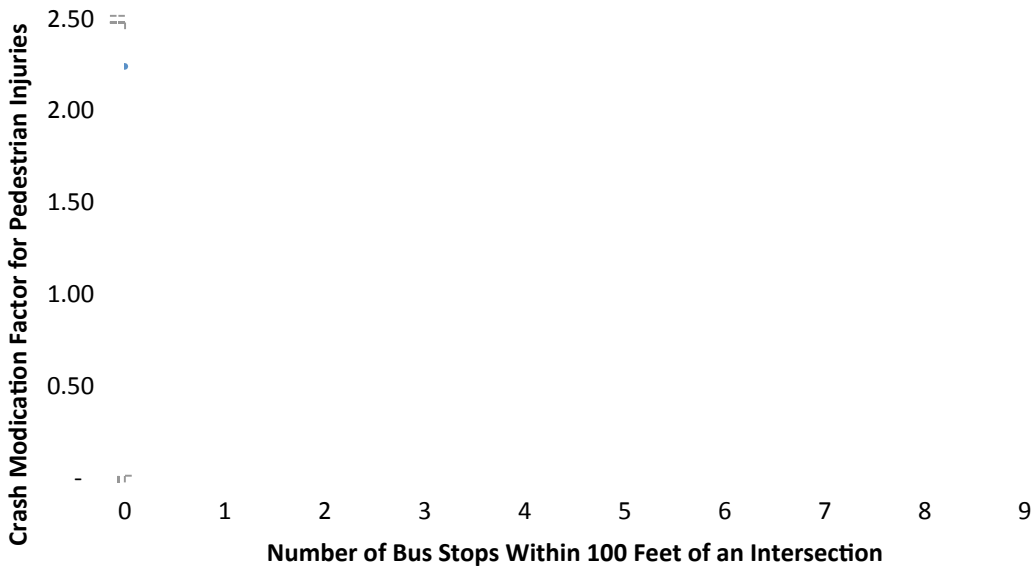
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<sup>5</sup> Miranda-Moreno L, Strauss J, Morency P. Exposure Measures and Injury Frequency Models for Analysis of Cyclist Safety at Signalized Intersections. Presented at the 90th Meeting of the Transportation Research Board, Washington, D.C., (2011).

<sup>6</sup> San Francisco Department of Public Health. Modeling Vehicle-Pedestrian Injury Collisions at Signalized Intersections: A Health Forecasting Approach to Informing Pro-active Pedestrian Safety Improvements. Fall 2013.



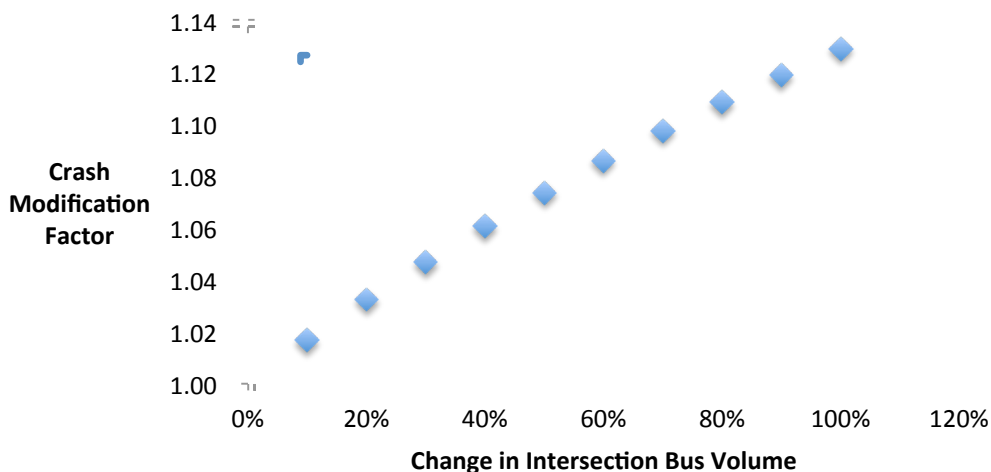
**Figure 1. Crash Modification Factor for the Number of Bus Stops within 100 feet of a Signalized Intersection in San Francisco (Source: SF Department of Public Health. November 2013)**



The Department of Public Health’s Pedestrian Injury Model also evaluated the impact of bus volume on intersection level pedestrian injury. The study estimated that an increase in bus volumes of approximately 50% resulted in an increased injury frequency of about 7% (see Figure 2). Importantly, the effect of bus volumes was independent of traffic volume and the proximity of bus stops. *This effect would apply at every intersection along a shuttle bus route.*

□

**Figure 2. Pedestrian Injury Collision Frequency as a Function of Bus Volumes at Signalized Intersections in San Francisco (Source: SF Department of Public Health, 2013)**



According to the City, as of August 2013, there are at least 48 existing intra-city and intra-regional shuttle bus providers operating 350 shuttle vehicles and 35,000 person-trips on a typical weekday. The estimated shuttle passenger volume is equivalent to approximately 5 percent of total Muni boarding. Published and crowd-sourced data [analyzed and mapped by Stamen Design](#) indicated that shuttles are operating on major public transit routes, including north-south arterials such as Van Ness Avenue, Divisadero, Mission, Valencia, Guerrero. ***These are all streets identified as high-injury corridors for serious and fatal pedestrian injuries. Several of these streets have relatively high rates of bicycle injuries as well.***

The operating characteristics and effects on vehicle traffic and pedestrian behavior of employer shuttle buses are likely to be comparable to other public transit vehicles. The Strategic Analysis Report on Shuttle Service conducted by the SF County Transportation Authority in 2011 identified interference with Muni buses service and safety concerns for cyclists and pedestrians as local concerns and negative impacts of the shuttles.<sup>7</sup> Field observations conducted for the SAR identified that many shuttles stopped at red curb zones, which could impede visibility and which could present a safety hazard for other road users, especially pedestrians. Comments heard through outreach raised similar issues – for example, shuttles blocking sightlines, which could result in motorists failing to see pedestrians.

***Given that more bus stops and greater bus vehicle volume means more pedestrian accidents in San Francisco, it is likely that shuttle buses are contributing cumulatively to increased injury risk for pedestrians and bicyclists along their routes.*** Because the proposed SFMTA program allows shuttles to utilize up to 200 of MUNI stops for an estimated 4000 stops per weekday, the SFMTA proposal is likely to concentrate these additional safety risks at intersections on existing high-injury corridors.

### **III. The City should implement context-specific engineering and enforcement measures to reduce injuries and fatalities at transit stops**

High quality transit service and pedestrian and bicyclist safety should be complementary transportation objectives. However, both cities and transit agencies have an obligation to address the safety of passengers accessing transit systems.<sup>8</sup> This requires understanding the effects of the surrounding environment on pedestrians when planning service and stops, and implementing countermeasures to protect pedestrians.

Given their location on high injury corridors and the contributing role of bus service to injury frequency, bus stops should be priority locations for pedestrian and bicycle safety countermeasures. City programs to enable private employers shuttles the use of public bus stops should include specific engineering and enforcement measures to protect and enhance their safety.

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<sup>7</sup> Strategic Analysis Report. The Role of Shuttle Services in San Francisco's Transportation System. San Francisco County Transportation Authority. June 28, 2011.

<sup>8</sup> Nabors D, Schneider R, Leven D, Lieberman K, Mitchell C. Pedestrian Safety Guide for Transit Agencies. FHWA-SA-07-017. February 2008.

In this context, we propose all of the following mitigations be implemented in efforts to limit the impact of shuttle buses on pedestrian and bicyclist injuries:

- Shuttles should utilize only far side bus stop locations to protect intersection visibility, limit conflicts with turning vehicles, and encourage pedestrian crossings behind stopped buses.
- Bus stops should be located only at signalized crosswalks, in order to ensure that pedestrians can cross safely.
- The City should not locate shuttle stops on bicycle routes to avoid bus-bicycle conflicts.
- The City should evaluate intersections selected for high-frequency shuttle stops as candidate locations for engineering countermeasures, including pedestrian phase signals and right and left turn restrictions.
- The City should augment enforcement resources to monitor speed limits and other traffic safety rules at high-frequency shuttle stops.

# EXHIBIT D

**MEMORANDUM**

**To:** Richard Drury, Lozeau Drury LLP  
**From:** Human Impact Partners  
**Re:** Private shuttle bus impacts on noise  
**Date:** March 19, 2014

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Thank you for requesting an analysis of the potential impact of the SFMTA proposal to permit private shuttle buses to use Muni bus stops on exposure to noise and related health effects. This memo discusses how traffic noise contributes to health impacts, describes how shuttle bus operations contribute to traffic noise in San Francisco, and provides several mitigations that can limit shuttle bus noise impacts.

*Overall, it is our opinion that private employer shuttle bus operations contribute cumulatively to noise exposure and adverse health impacts among San Francisco residents living near bus stops and along major transit routes.* Importantly, the proposed SFMTA plan will concentrate these noise impacts in proximity to a limited number of MUNI stops, including within traffic corridors with existing health adverse exposures to traffic noise. We recommend that the City evaluate these impacts and consider several additional noise-protective criteria and mitigations if the City proposal is implemented.

**I. Traffic noise contributes to significant health impacts in San Francisco**

Chronic exposure to road traffic has several well-established impacts on health, including noise annoyance, decreased cognitive functioning and school performance among children, sleep impairment, and excessive alertness. For example:

- Traffic noise results in “noise annoyance” which is defined as “a feeling of resentment, displeasure, discomfort, dissatisfaction, or offense when noise interferes with someone's thoughts, feelings, or actual activities.”
- Noise from road traffic impairs cognitive functioning in children, including attention, concentration, sound discrimination, memory, and reading ability.
- Children exposed to moderate levels of road traffic noise develop deficits in reading ability and suffer lower school in school performance.
- Traffic noise can make it difficult to fall asleep and abrupt noises can cause awakenings, which the sleeper may not sense or recall. Even at levels below which awakening may occur, noise produces measurable physiological reactions, such as increase in heart rate and body movements and can cause disturbances of natural sleep patterns by causing shifts from deep to lighter stages.
- An average nighttime noise level of 65 dB will result in self-reported disturbance of sleep in about 15% percent of the population. A single noise event at 80 DB will result in awakenings in about a third of the population.

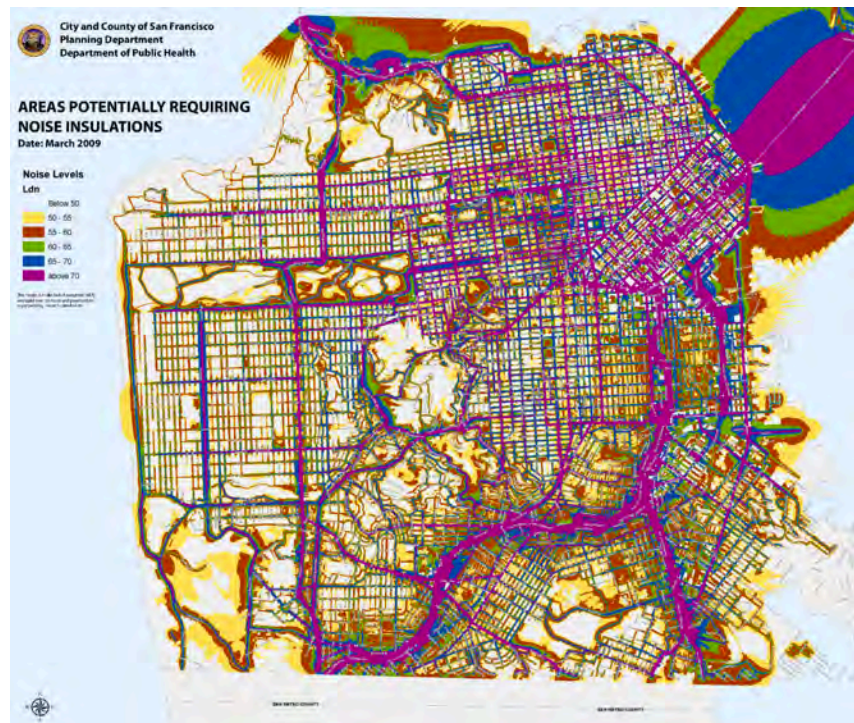
- Noise triggers autonomic chemical reactions leading to arousal and alertness. Consequentially, noise may cause or aggravate conditions, like heart disease and high blood pressure, related to chronic stress.

The US EPA and the World Health Organization (WHO) have established health-protective thresholds for noise in various contexts. Table 1 lists the relevant thresholds for residential uses. In 1998, WHO established 55 dBA outdoors as health protective daytime noise level ( $L_{day}$ ) for residential areas. WHO Europe recently established 40 dBA as a protective limit for average nighttime levels ( $L_{night}$ ). According to the US Department of Housing and Urban Development, day-night average levels ( $L_{dn}$ ) above 65 dB should be considered “normally unsatisfactory” for residential land uses. In California, ambient noise levels above 60 dB trigger building code requirements to assess ambient noise and to design building envelopes to maintain indoor noise levels less than 45 dB.

Agency	Measure	Health Protective Threshold Value
USEPA <sup>1</sup>	$L_{dn}$ , Indoors	45 dbA
WHO	$L_{eq}$ (16h), Outdoors	55 dbA
WHO	$L_{night}$ , Outdoor	40 dbA
State of California	$L_{dn}$ , Indoor	45 dbA
San Francisco	$L_{eq}$ , Indoor	45 dBA (10:00 p.m. to 7:00 a.m) 55 dBA (7:00 a.m. to 10:00p.m)

Definitions:  $L_{dn}$  = Day-night average sound level;  $L_{eq}$  = Equivalent Continuous Sound Level;  $L_{night}$  = Average nighttime noise level; dB = decibels; dbA = A-weighted decibels

Motor vehicle traffic is the dominant source of noise exposure in San Francisco. Noise exposure attributable to traffic has been modeled and [mapped by the City’s Planning and Health Departments](#). The highest noise levels in San Francisco occur on major public transit corridors. Most transit serving street have noise levels higher than 60 dBA  $L_{dn}$  which is the threshold that triggers State of California building code requirements for noise-protective design treatments. Many transit streets in San



<sup>1</sup> USEPA. Noise Levels Identified as Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. 1974

Francisco have average day-night levels that are much higher than 60 dBA. Recent measurements conducted for the SF County Transportation Authority, for example, established the day-night average noise level on Van Ness BRT to be 77.6 dBA.

## II. Shuttle bus operations will contribute cumulatively to traffic noise in San Francisco

According to the City, as of August 2013, there are at least 48 existing intra-city and intra-regional shuttle bus providers operating 350 shuttle vehicles and 35,000 person-trips on a typical weekday. The estimated shuttle passenger volume is equivalent to approximately 5 percent of total Muni boarding. Published and crowd-sourced data [analyzed and mapped by Stamen Design](#) indicate that shuttles are operating on major public transit routes, including north-south arterials such as Van Ness Avenue, Divisadero, Mission, Valencia, and Guerrero.

A Strategic Analysis Report on Shuttle Service conducted by the SF County Transportation Authority (SFCTA) and published in 2011 identified noise as a local resident concern and a negative impact of the shuttles.<sup>2</sup> Based on interviews conducted by the Authority, noise concerns related specifically to the hours of shuttle operation, diesel engines, and the size of the shuttles. The 2011 SFCTA SAR did not include any measures of shuttle bus noise or a health-risk assessment for noise.

While the operating characteristics of private shuttle buses will vary, available studies indicate that private shuttle buses will contribute to noise emissions, exposure, and health effects in San Francisco. Bus noise at typical intra-urban speeds (<30 mph) stem primarily from engine, fan, and exhaust systems. Shuttles, like other diesel buses, generate considerably more sound energy than passenger vehicles. While the noise from a passing passenger vehicle ranges from 60-65 dB, noise from a typical diesel bus will be 80-85 dB. Several published studies provide illustrative examples of measures of conventional diesel bus noise in different operating conditions. Of the available published reports, two studies in New York City and Nottingham are likely to be most closely representative of bus noise in the San Francisco context (see Tables 2 and 3).

**Table 2. Noise Measurements at 16 Bus Stops in New York City<sup>3</sup>**

Location	Vehicle	Measurement Location	Operating Conditions	Operating Frequency	L <sub>eq</sub> (12 hours)
New York City	Various	Vehicle Boarding Platforms	Daytime 7am to 7 pm	Unknown	76 dBA

**Table 3. Conventional Diesel Bus Single Event Levels in Nottingham, UK<sup>4</sup>**

Location	Vehicle	Measurement Location	Operating Condition	Single Event Level
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<sup>2</sup> Strategic Analysis Report. The Role of Shuttle Services in San Francisco’s Transportation System. San Francisco County Transportation Authority. June 28, 2011.

<sup>3</sup> Neitzel R, Gershon RRM, Zeltser M, Canton A, Akram M. Noise Levels Associated With New York City’s Mass Transit Systems. *Am J Public Health*. 2009; 99(8):1393–1399.

<sup>4</sup> Frost M, Ison S. Comparison of Noise Impacts from Urban Transport. Proceedings of the Institution of Civil Engineers. 2007; 160:165-172.

Greater Nottingham, UK	Bombardier Incentro	7.5 meters from vehicle edge	30 mph	82 dBA
			10-15 mph	82 dBA
			Accelerating from stop	87 dBA

Because private shuttle buses are operating on existing transit routes, shuttle noise emissions will contribute cumulatively to noise emissions in areas where existing noise levels are already well above levels protective of public health. Furthermore, shuttles will be operating on many streets where the bus stop is in relatively close proximity to building envelopes and along routes where residences are not protected by acoustical protections required under the California Building code standards.

Frequent short-term noise emissions from shuttle buses are likely to be health significant independent of their contributions to the average day-night level. Noise produced during acceleration when leaving a bus stop can be as much as 20 dB greater than that produced at a cruising speed. Single Event Noise levels from diesel shuttle buses are high enough to cause awakenings. In addition, operation of diesel-powered commuter shuttles may occur on routes served by much quieter electric buses.

Overall, it is our opinion that private employer shuttle bus operations contribute cumulatively to noise exposure and adverse health impacts among San Francisco residents living near bus stops and along major transit routes. Importantly, the proposed SFMTA plan will concentrate these noise impacts in proximity to a limited number of MUNI stops, including within traffic corridors with existing health adverse exposures to traffic noise.

### III. Available mitigations can limit shuttle bus noise impacts

The [San Francisco General Plan](#) establishes City policy to reduce transportation noise impacts on health. POLICY 9.2 explicitly states that it is the policy of the City to restrict traffic on city streets in order to reduce transportation noise, and POLICY 9.6 states that the City discourages changes in streets, which will result in greater traffic noise in noise-sensitive areas.

City policy, along with the above-described evidence of the expected impact of shuttle buses on noise exposure, suggest that programmatic approaches for managing shuttle buses in San Francisco must take into account expected noise emissions and mitigate these impacts to the extent feasible. In this context, we recommend that the City evaluate the following mitigations to limit the impact of shuttle buses on noise and health:

- Restrict shuttle buses utilization of MUNI stops to the day time and early evening
- Avoid stops on traffic corridors, for example, Guerrero, Van Ness, and Divisadero already highly impacted by traffic noise (e.g. corridors with day night levels >70 dBA).
- Limit the frequency of use of any single stop.
- Establish a minimum buffer from residential uses for permitted stops.
- Require shuttle operators to use low-noise emission vehicles.
- Subsidize acoustical insulation at high-frequency stops on existing transit corridors.



# EXHIBIT E

Notice of Exemption

CEQA Guidelines Appendix E

To: ■ Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

From: (Public Agency)  
San Diego Unified Port District  
Environmental & Land Use Mgmt Dept.  
3165 Pacific Highway  
San Diego, CA 92101

■ San Diego County Recorder/County Clerk  
1600 Pacific Highway, Suite 260  
San Diego, CA 92101-2480

FILED  
Ernest J. Dronenburg, Jr. Recorder County Clerk

NOV 20 2013  
BY G. Meza  
DEPUTY

Project Title: Update to the San Diego Bay Integrated Natural Resources Management Plan

Project Location – Specific: San Diego, CA

Project location – City: San Diego

Project Location – County: San Diego

Description of Nature, Purpose, and Beneficiaries of Project: The proposed project is an update to the 2000 San Diego Bay Integrated Natural Resources Management Plan (INRMP), which was adopted by the Board of Port Commissioners (Board) by Resolution No. 2002-106 on May 7, 2002. This INRMP update includes new goals and objectives for water and sediment quality, sustainability, climate change, natural resource damage assessment, and ecological indicators. Additionally, the INRMP includes updated natural resource surveys for eelgrass, avian, and fisheries populations.

The INRMP goal is to ensure the long-term health, recovery and protection of San Diego Bay's ecosystem in concert with the Bay's economic, Naval, recreational, navigational and fisheries needs. The INRMP provides the goals, objectives, and policy recommendations to guide planning, management, conservation, restoration and enhancement of the Bay's natural resources including providing support to the Navy's and Districts missions.

The INRMP is a non-regulatory guide to make better, more cost-effective decisions to manage the Bay's natural resources. The INRMP reviews, evaluates, and determines the accuracy of all existing data regarding natural resources of San Diego Bay and provides management recommendations to protect the Bay's natural resources.

Name of Public Agency Approving Project: San Diego Unified Port District (SDUPD)

Name of Person or Agency Carrying Out Project: Eileen Maher, SDUPD, 3165 Pacific Highway, San Diego, CA 92101; (619) 686-6532

- Exempt Status: (Check one):
- Ministerial (Sec. 21080(b)(1); 15268);
  - Declared Emergency (Sec. 21080(b)(3); 15269(a));
  - Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
  - Categorical Exemption: Information Collection (SG § 15306) (Class 6)**
  - Statutory Exemption. State code number:

Reason why project is exempt: The project is determined to be Categorically Exempt pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15306 (Information Collection) and Section 3.f of the District's Guidelines for Compliance with CEQA because it is an update to the INRMP, which evaluates resources within San Diego Bay and will not result in a serious or major disturbance to an environmental resource. Section 3.f of the District's CEQA Guidelines is as follows:

3.f. Information Collection (SG § 15306) (Class 6): Includes basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These may be for information gathering purposes, or as part of a study leading to an action which has not yet been approved, adopted or funded.

Lead Agency Contact Person and telephone number: Mayra Medel, (619) 686-6598

Signature: Mayra Medel Date: 11/20/13 Title: Associate Redevelopment Planner

- Signed by Lead Agency
- Signed by Applicant

Date received for filing at OPR/Clerk:

FILED IN THE OFFICE OF THE COUNTY CLERK

San Diego County 00 NOV 20 2013  
Posted NOV 20 2013 Removed \_\_\_\_\_  
Returned to agency on \_\_\_\_\_  
Deputy G. Meza

State of California—The Resources Agency  
 DEPARTMENT OF FISH AND WILDLIFE  
**2013 ENVIRONMENTAL FILING FEE CASH RECEIPT**

RECEIPT# SD2013 0973
STATE CLEARING HOUSE # (if applicable) ---

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY SAN DIEGO UNIFIED PORT DISTRICT	DATE 11/20/2013
COUNTY/STATE AGENCY OF FILING SAN DIEGO	DOCUMENT NUMBER *20130973*
PROJECT TITLE UPDATE TO THE SAN DIEGO BAY INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN	

PROJECT APPLICANT NAME EILEEN MAHER, SDUPD	PHONE NUMBER (619) 686-6532
PROJECT APPLICANT ADDRESS 3165 PACIFIC HIGHWAY	CITY SAN DIEGO
	STATE CA
	ZIP CODE 92101

PROJECT APPLICANT (Check appropriate box):

Local Public Agency   
  School District   
  Other Special District   
  State Agency   
  Private Entity

CHECK APPLICABLE FEES:

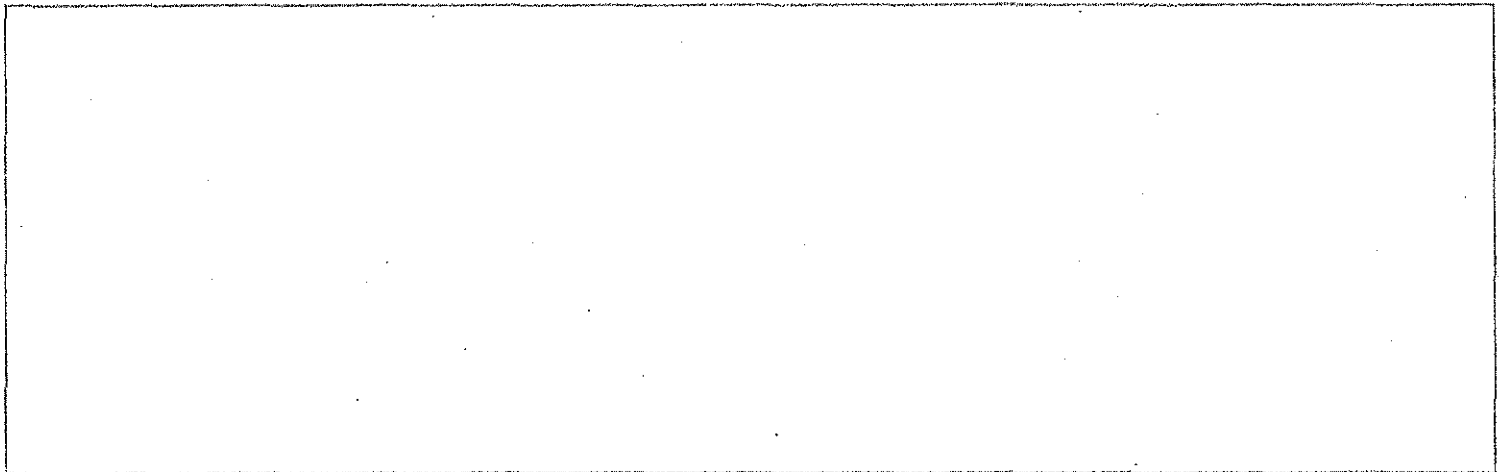
<input type="checkbox"/> Environmental Impact Report	\$2,995.25	\$ _____
<input type="checkbox"/> Negative Declaration	\$2,156.25	\$ _____
<input type="checkbox"/> Application Fee Water Diversion (State Water Resources Control Board Only)	\$850.00	\$ _____
<input type="checkbox"/> Projects Subject to Certified Regulatory Program	\$1,018.50	\$ _____
<input checked="" type="checkbox"/> County Administrative Fee	\$50.00	\$ _____ \$50.00
<input type="checkbox"/> Project that is exempt from fees		
<input checked="" type="checkbox"/> Notice of Exemption		
<input type="checkbox"/> DFG No Effect Determination (Form Attached)		
<input type="checkbox"/> Other _____		\$ _____

PAYMENT METHOD:

Cash   
  Credit   
  Check   
  Other CHK: 153413

TOTAL RECEIVED \$ \_\_\_\_\_ \$50.00

SIGNATURE <b>X</b> <b>G. Meza</b>	TITLE Deputy
--------------------------------------	-----------------





**Ernest J. Dronenburg, Jr.**  
**COUNTY OF SAN DIEGO**  
**ASSESSOR/RECORDER/COUNTY CLERK**



**ASSESSOR'S OFFICE**

1600 Pacific Highway, Suite 103

San Diego, CA 92101-2480

Tel. (619) 236-3771 \* Fax (619) 557-4056

[www.sdarcc.com](http://www.sdarcc.com)

**RECORDER/COUNTY CLERK'S OFFICE**

1600 Pacific Highway, Suite 260

P.O. Box 121750 \* San Diego, CA 92112-1750

Tel. (619)237-0502 \* Fax (619)557-4155

Transaction #: 307632320131120

Deputy: GMEZA1

Location: COUNTY ADMINISTRATION BUILDING

20-Nov-2013 11:42

**FEES:**

50.00 Qty of 1 Fee Notice of Exemption for Ref# 2013 0973

50.00 TOTAL DUE

**PAYMENTS:**

50.00 Check

50.00 TENDERED

**SERVICES AVAILABLE AT  
OFFICE LOCATIONS**

- \* Tax Bill Address Changes
- \* Records and Certified Copies:  
Birth/ Marriage/ Death/ Real Estate
- \* Fictitious Business Names (DBAs)
- \* Marriage Licenses and Ceremonies
- \* Assessor Parcel Maps
- \* Property Ownership
- \* Property Records
- \* Property Values
- \* Document Recordings

**SERVICES AVAILABLE ON-LINE AT  
[www.sdarcc.com](http://www.sdarcc.com)**

- \* Forms and Applications
- \* Frequently Asked Questions (FAQs)
- \* Grantor/ Grantee Index
- \* Fictitious Business Names Index (DBAs)
- \* Property Sales
- \* On-Line Purchases  
Assessor Parcel Maps  
Property Characteristics  
Recorded Documents

**Attachment C:**

**NOTICE OF EXEMPTION**

<b>TO:</b> Clerk of the Board County of Santa Barbara County Administration Bldg 105 E. Anapamu St, 4 <sup>th</sup> Floor Santa Barbara, CA 93101	<b>FROM:</b> The Office of Long Range Planning Planning & Development Dept County of Santa Barbara 30 E. Figueroa St. upstairs Santa Barbara, CA 93101
---	--

**Project Title:** Selecting a Provisional Planning Area for the Update of the Goleta Community Plan

**Project Location:** Unincorporated 2nd Supervisorial District and small southern portion of 3rd District, including the Isla Vista Planning Area

**Project Description:** This discretionary action by the Board of Supervisors of the County of Santa Barbara will consider a recommendation regarding the selection of a provisional planning area for the update of the 1993 Goleta Community Plan (GCP) and a procedure to restrict rezones and/or general plan amendments within a portion of the provisional Goleta Planning Area.

**Name of Public Agency Approving:** The County of Santa Barbara, Board of Supervisors

**Exempt Status: (Check one)**

- Ministerial
- Statutory
- Categorical Exemption: CEQA Section 15306: Class 6 Exemption
- Emergency Project
- Consistent with Existing General Plan

**Reasons to support exemption findings (attach additional material, if necessary):**

Pursuant to Chapter 3: Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15306, the selection of a provisional planning area for the update of the Goleta Community Plan and the proposed procedural policy restricting rezone and general plan amendment application are not subject to CEQA. As a Class 6 Exemption under CEQA, the selection of the provisional planning area and the approval of the procedural policy are procedural steps in the process to initiate the update of the Goleta Community Plan, which the County Board or Supervisors has not yet considered or adopted. Current land use and zoning would remain unchanged until such time as the updated Goleta Community Plan is adopted by the Board of Supervisors and, therefore, no environmental impacts associated with this discretionary action by the Santa Barbara County Planning Commission and Board of Supervisors to select a provisional boundary for the purposes of updating the 1993 Goleta Community Plan would occur. Environmental review would occur for the revised Goleta Community Plan prior to County Board of Supervisors adoption. Therefore, it is proposed that the Board of Supervisors accept Attachment C, a determination that CEQA Guidelines §15306 applies to this discretionary action.

**Department/Division Representative Signature**

**Acceptance Date:**

---

Note: Upon project approval, this form must be filed with the County Clerk of the Board and posted by the Clerk of the Board for a period of 30 days to begin a 35 day statute of limitations on legal challenges.

Distribution: Hearing Support Staff [for posting 6 days prior to action, and posting original after project approval]  
Project file (when P&D permit is required)

Date Filed by County Clerk

JUN 28 2012  
H. Ayuyao

BY \_\_\_\_\_ DEPUTY

EXHIBIT A

**Notice of Exemption**

To:  Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

From: **Olivenhain Municipal Water District**  
1966 Olivenhain Road  
Encinitas CA, 92024

County Clerk  
County of: San Diego  
1600 Pacific Highway, Room 260  
San Diego, CA 92112

**Project Title:** Olivenhain Municipal Water District's (OMWD) San Elijo Valley Groundwater Project - Research and Pilot Well Partnership with U.S. Geological Survey (USGS)

**Project Location - Specific:** Within the Caltrans Right of Way along the trail in the San Elijo Lagoon – east of and immediately adjacent to Highway 5. Note the well site is also within a utility easement owned by the City of Solana Beach which is operated by the San Elijo Joint Powers Authority.

**Project Location - City:** Encinitas  
**Project Location County:** San Diego

**Description of Nature, Purpose, and Beneficiaries of Project:** The proposed research project is a partnership between OWMD and the USGS, and is being conducted in coordination with the San Elijo Lagoon Conservancy, the San Elijo Joint Powers Authority, and the Cities of Solana Beach and Encinitas. OWMD and USGS have identified a site for a proposed pilot well immediately adjacent to the northbound lane of Interstate 5 (I-5) and within a utility easement in the San Elijo Lagoon. The purpose of the pilot well is to determine the quantity and quality of a deep water aquifer beneath the lagoon and obtain an understanding of the geology of the lagoon area. The District will use this information in assessing the feasibility of developing a source of groundwater in the lagoon to reduce reliance on imported raw water for treatment and distribution to the District's customers. USGS will incorporate the information into their San Diego Hydrogeology project, a regional water resources study.

**Name of Public Agency Approving Project:** Olivenhain Municipal Water District

**Name of Person or Agency Carrying Out Project:** Olivenhain Municipal Water District & the USGS

**Exempt Status:** *(check one)*

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemptions. State type and section number: PRC 21084, CEQA Article 19, Section 15303, 15304 & 15306 - Class 3, Class 4, and Class 6
- Statutory Exemptions. State code number:

**Reasons why project is exempt:** This research project and pilot test well qualifies under three different categorical exemptions. The pilot test well qualifies under Class 3 as it is the drilling of a well that is small. The entire pilot well drill site is 40' by 110' (under 1/10<sup>th</sup> of an acre) and, once the drilling is complete, there will be a small 3' by 5' cover in place on the surface. This is only a pilot well to collect data and will not be used if OMWD decides to proceed with a project in the future. The pilot test well also qualifies under Class 4 as it consists of minor public alterations in the condition of land which does not involve removal of healthy, mature, scenic trees. As noted above, the site is 40' by 110' and is within the CalTrans right of way adjacent to Highway 5 and within a utility easement owned by the City of Solana Beach in the San Elijo Lagoon. The alteration to the land will ultimately be a 3' by 5' cover over the well. No mature trees will be removed by this project and existing trails will be used for access. This project also qualifies under Class 6 as the purpose of the well is for data collection, research, and resource evaluation activities for both OMWD and USGS and does not result in a serious or major disturbance to an environmental resource. This pilot well and the data being gathered from it are for informational purposes only in order to determine the quantity and quality of a deep water aquifer beneath the San Elijo lagoon, and to obtain an understanding of the geology of the lagoon area.

Lead Agency

Contact Person: Kimberly Thorner Area Code/Telephone/Extension: (760) 753-6466 ext 113

Signature:  Date: 6/27/12 Title: General Manager

- Signed by Lead Agency
- Signed by Applicant

Date received for filing at OPR:



RESOLUTION NO. 2012-17

RESOLUTION OF THE BOARD OF DIRECTORS OF THE OLIVENHAIN  
MUNICIPAL WATER DISTRICT MAKING CEQA FINDINGS FOR THE OLIVENHAIN MUNICIPAL  
WATER DISTRICT'S (OMWD) SAN ELIJO VALLEY GROUNDWATER PROJECT - RESEARCH AND  
PILOT WELL PARTNERSHIP WITH U.S. GEOLOGICAL SURVEY (USGS) AND ORDER A NOTICE OF  
EXEMPTION BE FILED WITH THE COUNTY CLERK, COUNTY OF SAN DIEGO

WHEREAS, the Olivenhain Municipal Water District (District) encompasses approximately 48 square miles in the northwestern portion of San Diego County; and

WHEREAS, the District owns and operates potable water, recycled water and sewer pipelines and related facilities within the District which serve approximately 80,000 residents; and

WHEREAS, the District currently imports 100% of its raw water supply and desires to study and research groundwater basins within its jurisdiction; and

WHEREAS, the District proposes to partner with the US Geological Survey to determine the quantity and quality of a deep water aquifer beneath the San Elijo Lagoon within the District's service and obtain an understanding of the geology of the lagoon area; and

WHEREAS, the District will use information and data from this research and pilot well partnership in assessing the feasibility of developing a source of groundwater in the lagoon and USGS will incorporate the information into their San Diego Hydrogeology project, a regional water resources study; and

WHEREAS, under the State of California Public Resources Code Section 21084 and CEQA Guidelines Section 15303, construction and location of limited numbers of new, small facilities including utility extensions, are Categorical Exempt and is exempt from the provisions of CEQA; and

WHEREAS, under the State of California Public Resources Code Section 21084 and CEQA Guidelines Section 15304, minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees are Categorical Exempt and is exempt from the provisions of CEQA; and

WHEREAS, under the State of California Public Resources Code Section 21084 and CEQA Guidelines Section 15306, basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource are Categorical Exempt and is exempt from the provisions of CEQA.

These may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded; and

WHEREAS, pursuant to the CEQA Guidelines, the Olivenhain Municipal Water District Board of Directors has caused to be prepared a Notice of Exemption according to the State of California Public Resources Code Section 21084; and

WHEREAS, having heard, considered, and reviewed information from interested persons who expressed their views to the Board of Directors, it is in the interest of the Olivenhain Municipal Water District and the people it serves to order a Notice of Exemption filed with the County Clerk, County of San Diego.

NOW, THEREFORE, the Board of Directors of the Olivenhain Municipal Water District does hereby find, determine, resolve and order as follows:

SECTION 1: The foregoing facts are found and determined to be true and correct.

SECTION 2: In accordance with the California Environmental Quality Act (CEQA) Guidelines, the Board of Directors finds and determines that the Olivenhain Municipal Water District's San Elijo Valley Groundwater Project – Research and Pilot Well Partnership with the US Geological Survey is exempt from CEQA for the following reasons:

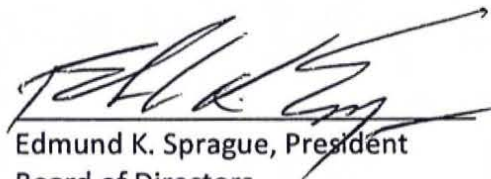
1. The Project is exempt in accordance with CEQA Guidelines Article 19, Section 15303, construction and location of limited numbers of new, small facilities including utility extensions. The project consists of the drilling of a well that is small in its footprint. The entire pilot well drill site is 40' by 110' (under 1/10th of an acre) and, once the drilling is complete, there will be a small 3' by 5' cover in place on the surface. This project is only a pilot well to collect data and will not be used if OMWD decides to proceed with a project in the future.
2. The Project is exempt in accordance with CEQA Guidelines Article 19, Section 15304, minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees. The pilot test well consists of minor public alterations in the condition of land which does not involve removal of healthy, mature, scenic trees. The entire project site is 40' by 110' and is within the CalTrans right of way adjacent to Highway 5 and within a utility easement owned by the City of Solana Beach in the San Elijo Lagoon. The alteration to the land will ultimately be a 3' by 5' cover over the well. No mature trees will be removed by this project and existing trails will be used for access.

3. The Project is exempt under CEQA Guidelines Article 19, Section 15306, basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. The purpose of this pilot well project is for data collection, research, and resource evaluation activities for both OMWD and USGS and does not result in a serious or major disturbance to an environmental resource. This pilot well and the data being gathered from it are for informational purposes only in order to determine the quantity and quality of a deep water aquifer beneath the San Elijo lagoon, and to obtain an understanding of the geology of the lagoon area.

SECTION 3: The Board of Directors of the Olivenhain Municipal Water District finds that the justifications and reasons for the proposed activity are set forth in Exhibit "A" attached hereto and incorporated herein.

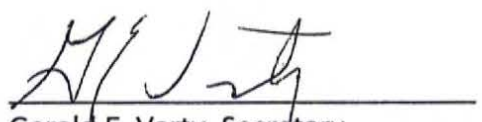
SECTION 4: The Board of Directors of the Olivenhain Municipal Water District hereby directs the District's General Manager to promptly file a Notice of Exemption with the County Clerk of the County of San Diego, stating that the project is exempt from the reporting requirements of CEQA in accordance with Public Resources Code Section 21084.

PASSED, ADOPTED AND APPROVED at a regular meeting of the Board of Directors of the Olivenhain Municipal Water District held on June 27, 2012.



Edmund K. Sprague, President  
Board of Directors  
Olivenhain Municipal Water District

ATTEST:



Gerald E. Varty, Secretary  
Board of Directors  
Olivenhain Municipal Water District



State of California—The Resources Agency  
 DEPARTMENT OF FISH AND GAME  
**2012 ENVIRONMENTAL FILING FEE CASH RECEIPT**

RECEIPT# SD2012 0561
STATE CLEARING HOUSE # (If applicable) ---

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY OLIVENHAIN MUNICIPAL WATER DISTRICT			DATE 06/28/2012
COUNTY/STATE AGENCY OF FILING SAN DIEGO			DOCUMENT NUMBER *20120561*
PROJECT TITLE OLIVENHAIN MUNICIPAL WATER DISTRICT'S (OMWD) SAN ELIJO VALLEY GROUNDWATER PROJECT - RESEARCH AND PILOT WELL PARTNERSHIP WITH U.S. GEOLOGICAL SURVEY (USGS)			
PROJECT APPLICANT NAME OLIVENHAIN MUNICIPAL WATER DISTRICT & THE USGS			PHONE NUMBER 760/753-6466 EXT 113
PROJECT APPLICANT ADDRESS 1966 OLIVENHAIN ROAD	CITY ENCINITAS	STATE CA	ZIP CODE 92024

PROJECT APPLICANT (Check appropriate box):

Local Public Agency   
  School District   
  Other Special District   
  State Agency   
  Private Entity

CHECK APPLICABLE FEES:

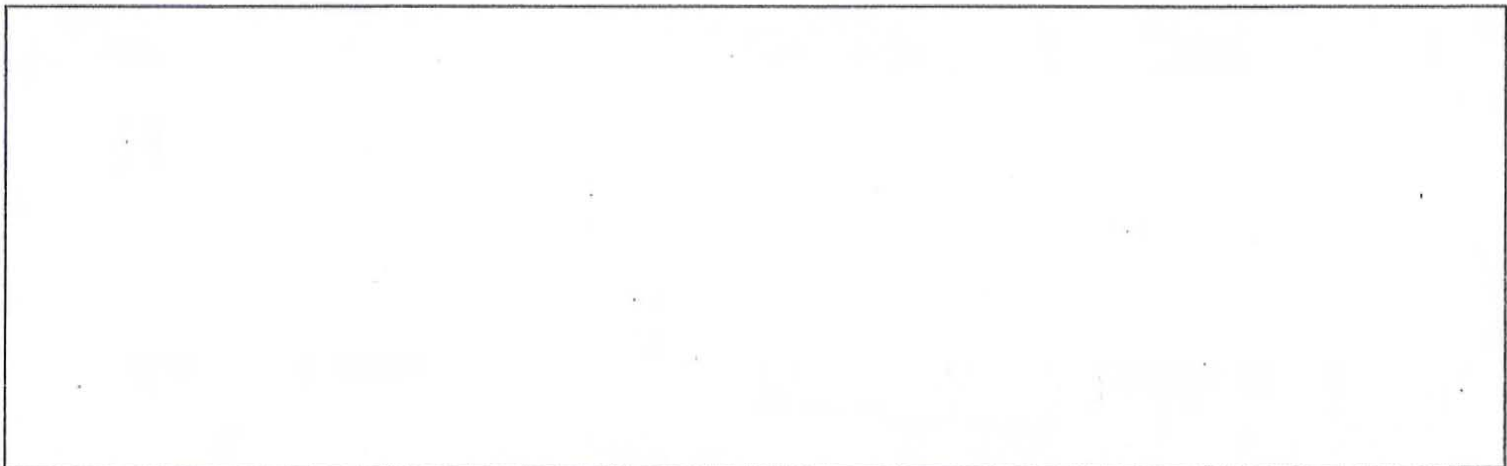
<input type="checkbox"/> Environmental Impact Report	\$2,919.00	\$ _____
<input type="checkbox"/> Negative Declaration	\$2,101.50	\$ _____
<input type="checkbox"/> Application Fee Water Diversion (State Water Resources Control Board Only)	\$850.00	\$ _____
<input type="checkbox"/> Projects Subject to Certified Regulatory Programs	\$992.50	\$ _____
<input checked="" type="checkbox"/> County Administrative Fee	\$50.00	\$ <u>50.00</u>
<input type="checkbox"/> Project that is exempt from fees		
<input checked="" type="checkbox"/> Notice of Exemption		
<input type="checkbox"/> DFG No Effect Determination (Form Attached)		
<input type="checkbox"/> Other _____		\$ _____

PAYMENT METHOD:

Cash   
  Credit   
  Check   
  Other 60835

TOTAL RECEIVED \$ 50.00

SIGNATURE <b>X</b> <u>H. Ayuyao</u>	TITLE Deputy
--	-----------------



# EXHIBIT F

THE "GOOGLE SHUTTLE EFFECT:"  
GENTRIFICATION AND SAN FRANCISCO'S DOT COM BOOM 2.0

ALEXANDRA GOLDMAN

PROFESSIONAL REPORT

Submitted in partial satisfaction of the requirements for the degree

of

MASTER OF CITY PLANNING

in the

Department of City and Regional Planning

Of the

UNIVERSITY OF CALIFORNIA, BERKELEY

APPROVED

Carolina Reid  
Karen Chapple

Date: Spring 2013

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Change is happening in San Francisco. Newspaper articles ask: “SF Gentrification 2.0 -- For Better Or Worse?” (Kurwa 2013) or proclaim “Gentrification no longer a dirty word” (Nevius 2013), while others lament the rise of the “Bacon-Wrapped Economy” (Cushing 2013). Every month brings a report of rising rents, while local residents struggle to keep track of the new restaurants and boutiques opening and the proliferation of cranes dotting the skyline. As of April 2013, San Francisco supervisors are considering a moratorium on new restaurants on Valencia Street (a main thoroughfare of the Mission District) and there are 26 cranes in a city that only covers 49 square miles.

Almost as hard-to-miss as the cranes are the “Google buses:” huge, unmarked, shuttles bringing well-paid tech workers from San Francisco to their jobs in the Silicon Valley. In many ways, the Google Buses have become a stand-in for the generalized anxiety about another dot-com boom. While the city, through the Muni Partners Program, is seeking to regulate these private shuttles, the broader issue of how these buses are affecting housing equity and gentrification has not entered this dialogue.

While these symbols of “gentrification” may be highly visible, the causes of change and the ways to mitigate gentrification are harder to discern. This paper seeks to link the invisible processes of gentrification with the visible, in the hope of keeping San Francisco a just and equitable city. Focusing on the Google buses is symbolic, as the shifting relationship between the Silicon Valley and San Francisco is creating this boom. But focusing on the buses is also practical; I contend that the buses are concretely contributing to gentrification, and that by pinpointing a specific cause (of many), we can better fight gentrification.

First, this paper has a normative project. While city planners argue for various locations in the Equity-Efficiency-Environment triangle (Campbell), I am primarily interested in a project of equity. Lower-income people should not bear the brunt of the negative externalities of economic development. I hope to contribute to city-wide efforts to combat gentrification through my research.



This report suggests that the Google Shuttles are driving up rental prices within a walking distance (half mile) of five of the shuttle stops, based on rental data from 2010 through 2012, Craigslist ads, quotations from real estate agents, and models of transit-based and neoliberal gentrification. It is my contention that gentrification in San Francisco is not the result of inevitable market forces, but the result of specific actions, or inactions, designed to contribute to the economic growth of the city. By illuminating these specific (in)actions, we can seek to find greater justice in the face of the powerful forces of gentrification.

To begin my argument, I will discuss the literature on gentrification, focusing on two relatively new strains of gentrification theory: super-gentrification, and neoliberal gentrification, and establishing a common framework for understanding these contentious terms. I will then provide some context for the current dot com boom 2.0 in San Francisco, framing it in the long history of business interests displacing poor people in San Francisco. Then, I will briefly discuss the current moment in San Francisco, discussing the “hot” housing market, the recent spate of evictions, and the very pro-Tech administration of current mayor Ed Lee.

In discussing the contribution of economic growth to displacement in San Francisco, I seek to follow in the footsteps of Chester Hartman, who, in his book *City for Sale: The Transformation of San Francisco* (2002), illustrates that San Francisco manifests “the golden rule... those who have the gold get to make the rules,” yet claims “it would be incorrect to describe the transformation of San Francisco as a large-scale secret conspiracy. Rather, it is a confluence of power public- and private-sector actors operating in their class and personal interest” (p. 393). I, like Hartman, seek to “analyze those mostly open acts in order to reveal their order and purpose” (p. 393).

In the second half of my paper, I will discuss the Google shuttles and move into my data illustrating gentrification around five of the stops. Finally, having hopefully illuminated some of the drivers of gentrification in San Francisco, I will make suggestions on how to move forward.

## **Gentrification: “the knife edge of Neoliberal Urbanism”**

During the course of my research, I have started calling gentrification “the G word,” because it can elicit extremely strong, unintended reactions. People become defensive or offensive, at turns hurt and exasperated around the use of this word. Occasionally, I have tried to avoid using it altogether. Some theorists, such as Liz Bondi, have even argued that the word should “disintegrate under the weight” of its many definitions (Bondi, 1999 p.255). However, as Loretta Lees, Tom Slater and Elvin Wyly (2008) argue, the word “gentrification” comes with some useful political baggage: that is, it invokes the issue of “class-based displacement and oppression,” which makes it valuable for arguing in favor of equity in the face of seemingly neutral terms like “revitalization” and “regeneration” (p.155).

The concept of “gentrification” has a robust, albeit variegated, grounding in planning theory, and in the section that follows I will lay out a working definition of gentrification, and unpack some of its components. Of note, in particular, is how contemporary discussions of gentrification lead to discussions of “neoliberalism,” another loaded term. This section will seek to link these two concepts as a crucial framework for understanding what is currently happening in San Francisco.

### *Consumption-side and Supply-side Gentrification*

In extremely simplified terms, Lees, Slater, and Wyly (2008) define gentrification as “the transformation of a working-class or vacant area of the central city into middle-class residential and/or commercial use” (p.xv). While contemporary debates on gentrification problematize almost every component of this definition (can areas other than vacant or “working-class” neighborhoods be gentrified? Can places other than the central city be gentrified?), it provides a useful starting point for our brief discussion here.

Traditional gentrification literature has been dominated by two points of view: consumption-side and supply-side. Consumption-side theorists like David Ley (1994)

and Jon Caulfield (1989) are interested in the demographic and social shifts that create a “new middle class” with the desire to move (or return) to central cities. As Lees (2000) explains, “gentrification is deemed to be a spatial manifestation of... new cultural values” (p. 396). These theorists therefore focus on the role of aesthetics of the city, the emergence of new social norms (like increasing numbers of women in the workforce, and delaying child-birth), and the possibility of urban space as “emancipatory” in enticing more moneyed demographics to an area (Lees). Consumption-side theories posit gentrification as a somewhat inevitable outcome of shifting consumer preferences.

Supply-side theorists focus more on the policies and economics of urban space, looking at broader issues of uneven development under capitalism. Neil Smith’s (1979) rent gap hypothesis is one of the most pivotal theories of supply-side discussions. Smith argues that gentrification is a result of capital moving into under-invested areas to close the gap between the land’s current rent and its potential rent. As urban areas become increasingly profitable, developers and governments seek to maximize their return on the space, and this process of investment causes gentrification. Supply-side theories link gentrification to the movement of global capital and neoliberalism in a way that will be discussed in greater detail below.

The supply/consumption-side debate is representative of earlier stages, and perhaps less sophisticated understandings, of gentrification. Today, most theorists incorporate both elements into their discussions of gentrification. For my analysis, I consider both the impact of a wealthy population moving into a desirable area, and the larger economic and political forces that encourage them to do so.

### *Super-Gentrification*

Loretta Lees (2000) saw the need to extend a theory of gentrification to already-gentrified areas; she labels this not theoretically complex but still significant process “super-gentrification.” Lees writes, “many first-stage (sweat equity) gentrifiers have sold their property to new (very well-off gentrifiers), who are regentrifying property in the neighborhood” (p. 398). This addendum to the gentrification theory is significant

because it extends the class-based, politicized analysis of gentrification to areas that are *not* considered under-invested or “vacant.” It also contests the notion that there is an end-stage to gentrification, or that it gentrification is a process that can be divided into neat stages. In the case of San Francisco, as we will see below, many of the areas currently being “gentrified” have already faced previous waves of gentrification. Lees’ theory allows us to acknowledge the past history of gentrification, yet leaves room for its intensification.

### *Neoliberalism*

Jason Hackworth (2007) defines gentrification as “the knife-edge” of neoliberal urbanism (p. 149), continuing in the vein of Smith’s (1979) linkage of gentrification to uneven capital development mentioned above. If “gentrification” is a word that threatens to collapse under its own multitude of meanings, “neoliberalism” is surely even closer to self-destruction. However, a series of incisive theories, put forth by David Harvey (1989), Jamie Peck (2010), Jason Hackworth (2007) and Neil Smith (1996) among others, render the nebulous term useful for “actually existing” cities.

Most of these scholars agree that neoliberalism is “polycentric,” “multiscalar,” and dialectic, existing in a state of flux that allows it to “fail forward” and embrace its multitudes of contradictions (Brenner and Theodore 2002, Peck 2010, Hackworth 2007). However, Peck warns that neoliberalism is not “a metaphor for the ideological air we all must breathe” but instead “an open-ended and contradictory process of politically assisted market rule” (p. 2) characterized by both “roll back” policies, such as privatization or dismantling of public services, as well as “roll out” policies, such as escalating surveillance and police presence. These policies pave the way for increased capital accumulation.

Neoliberalism is particularly involved in dismantling the vestiges of Keynesian market liberalism, which, as Hackworth explains, makes neoliberalism particularly virulent in cities (Hackworth 2007 p.149). Cities represent some of the most obvious and physical manifestations of Keynesian government as seen in the form of public

housing, high concentrations of welfare recipients, and public space, and thus are especially targeted for neoliberal policies. The reclamation of the Keynesian urban spaces in the service of capital can also be seen as a mode of gentrification. Smith (1996) has described this neoliberal gentrification as a “revanchist” or revengeful process of class-based repossession of land from poor people.

David Harvey (1989) also discusses the role of neoliberalism in the gentrification of the urban landscape. In the post-industrial era, capital is no longer “fixed” in the form of factories and machinery, at least not in the United States. Thus, cities must find ways to secure their share of this footloose capital in an era of insecurity and change, by integrating “traditional local boosterism... with the use of local government powers to try and attract external sources of funding, new direct investments, or new employment sources.” (Harvey 1989, p.7). Cities must, in effect, become entrepreneurs. Smith describes this process as *the city becoming the agent of the market*, instead of vice versa.

Harvey Molotch (1976) also captures much of this dynamic by framing the “city as a growth machine.” Molotch asserts “the political and economic essence of virtually any given locality, in the present American context, is growth” (p.310); and that as businesses and governments seek growth they shape the “conditions of community life” with uneven socio-economic impacts (p. 309).

As we explore the current situation in San Francisco in greater detail below, we will see how San Francisco’s government has become, in many ways, an agent of private capital, and how this may contribute to gentrification.

### *Operationalizing Gentrification*

While the academic underpinnings of gentrification are valuable to an examination of the Google buses in San Francisco, it is also useful to look at some of the more practical ways that gentrification has been studied.

To start, how does one operationalize gentrification? From the literature reviewed above, a few measurable characteristics stand out. First, the movement of

people of higher income into areas of lower-income can be measured through longitudinal studies of neighborhood income (such as from census data). Since income is often correlated with educational status and race, some researchers will also use changes in these indicators as a measure of gentrification. Individuals with higher-incomes are able to pay more for housing, and thus landlords will be incentivized to raise rents and homes will sell for more on the market. Hence, rises in rent and housing prices can also be signifiers of gentrification.

As rents rise, low-income people may be forced to move from their houses, especially those who are already paying a larger proportion of their income on housing (Chapple 2009, p.1), in a process of *displacement*. Kathe Newman and Elvin Wyly (2006) write, “residents may be displaced as a result of housing demolition, ownership conversion of rental units, increased housing costs (rent, taxes), landlord harassment and evictions” (p. 27).

Displacement is an important, and troubling, component of gentrification for those concerned with equity in the city, though it is notoriously hard to measure. Newman and Wyly explain, “by definition displaced residents have disappeared from the very places where researchers and census-takers go to look for them.” While some (Freeman and Barconi 2004, Ellen and O’Regan 2011) have argued that low-income residents actually are more likely to stay in a neighborhood as rents increase, many, like Newman and Wyly (2006), Peter Marcuse (1986) and others, argue that rent increases drive lower-income people from neighborhoods.

Finally, I would like to acknowledge the role of transportation investment in gentrification. Transit-oriented development (TOD), policies that concentrate housing and commercial space around transit nodes, has been shown to increase rents (though not necessarily cause displacement) within a half-mile radius of the transit nodes (ABAG 2010). According to a study by the Center for Transit Oriented Development (CTOD) (2008), the housing premium can be from one-to 45 percent higher in these areas. As a report by the Association of Bay Area Governments (ABAG) explains, transit-investment does not gentrify directly (i.e., the gentrification is not caused by people being literally

removed from their homes urban-renewal-style), but indirectly. Instead, ABAG finds: “This suggests that indirect displacement does not happen immediately after the opening of a transit station, but is rather tied to a surge in wealthy residents that choose the area because they find transit an amenity, along with attractive housing options and walkable neighborhoods” (p. 11).

Additionally, housing market economics demonstrate that as individuals’ economic transportation burdens decrease, their ability to pay for housing increases. Thus, if individuals are provided with free or reduced-cost transportation, they will be able to demand a higher-bundle of housing services, and may force prices upward.

In the rest of this paper, I will illustrate that the gentrification occurring in San Francisco is not the inevitable by-product of market processes, but instead the result of specific and deliberate moments- moments planned both to help attract capital and to upgrade transportation options.

### **“Too valuable to permit poor people to park on it:” A brief history of gentrification in San Francisco**

San Francisco has a long history of displacing poor people. Since the 1950s, San Francisco has held appeal as the “New York City” of the West, that is, as “the darling of Pacific Rim trading” (Harvey 1989, p.13). Often, San Francisco politicians have eagerly obliged private capital’s desired incursions on the urban fabric, making the city a perfect manifestation of Molotch’s “growth machine” theory. As Richard DeLeon discusses in “The Urban Anti-Regime” (1992), coalitions of business and city hall have worked tirelessly to remove “unwanted people and structures from the Embarcadero, Western Addition, and South of Market areas to make room for a convention center, hotels, office space, boulevards and luxury housing” (p.558). Some of the most well-documented moments of displacement include redevelopment of the Western Addition in the 1960s, tearing down of the International Hotel in the early 1980s, and the dot

com boom of the late 1990s. Justin Herman, the former director of the San Francisco Redevelopment Agency explained in 1970, “This land is too valuable to permit poor people to park on it” (Hartmann 2002, p.71).

The dot com bubble in the late 1990s is of particular note for this paper. Dick Walker (2006) writes, “the city was picked up, shaken until it rattled, and then dropped into a new configuration” (p. 121). Silicon Valley, located directly south of San Francisco and extending until San Jose along the West side of the Bay, has been a conglomeration of high-tech firms since the middle of the twentieth century. While Silicon Valley had long been a center “of technical talent, business acumen, and openness to new ideas” (Walker 2006, p.122), the rise of the internet, coupled with the concentration of risk-taking venture capital in Silicon Valley in the mid-1990s, led to an economic boom of unprecedented size. The impact of the boom was not only felt in the Bay Area, Walker writes, but “was the Great White Hope for the restoration of American global primacy and for revival of the entrepreneurial myth in America” (p.124). The visibility and promise of the dot com boom contributed to the amount of speculative capital that poured into the Bay Area during this period.

During this era, the Bay Area rapidly became home to more young, extremely wealthy people than New York City and Los Angeles (Walker 2006, p.124). These tech workers became the most obvious symbol of the dot com boom in San Francisco. They were portrayed as “yuppies” “colonizing” the city (Solnit and Schwartzberg 2000). Through the magnetic force of their capital and their consumer preferences, they shifted the market towards providing them with the high-level of retail and housing amenities that they could afford, and the government made limited attempts to intervene.

Rents climbed over 225 percent from 1996 to 2000 (Walker 2006, p.130), service and manufacturing working-class jobs were replaced with lucrative lofts and warehouses, long-time non-profits, arts and community centers made way for offices and high-end restaurants (Solnit and Schwartzberg 2000). A combination of loss of jobs and rising cost of living contributed to gentrification in San Francisco, although



Walker and Solnit both acknowledge that the extent of displacement was not as catastrophic as some had anticipated during the peak of the boom.<sup>1</sup>

As a result of the fierce opposition to these “pro-growth” regimes, San Francisco currently has a very robust suite of tenants’ rights protections. This includes “just cause evictions,” which outline 15 specific reasons landlords can evict tenants and offers tenants legal recourse to eviction. San Francisco also has vacancy-decontrolled rent control on units built before 1979, meaning that within a tenant’s tenure rent can only rise by a small specified amount annually. Though there are some restrictions as to which units are rent controlled, the vast number of rental units in San Francisco qualify. San Francisco also has a very pro-tenant Rent Board, a government body designed to protect tenants’ rights. The Rent Board also tracks data on evictions, rent increases, and other landlord-tenant issues, yet, as Chester Hartman (2002) laments, the Rent Board can do relatively little to stop illegal evictions.

The boundaries between pro-tenant and pro-landlord rights are hotly and frequently contested to this day, as landlords and real estate lobbyists seek to diminish the number of units that qualify for rent control, and tenants seek to criminalize abusive behavior. This contestation will be seen below, in the discussion of Ellis Act evictions.

## **The Dot Com Boom 2.0**

Many have claimed that San Francisco is currently experiencing another dot com boom- 2.0. This time around, large tech companies are locating in San Francisco rather than in the more spacious, more business-friendly, but less urban and less exciting Silicon Valley. These companies include Twitter, valued \$9 billion as of January 2013, Zynga valued at \$2.68 billion<sup>2</sup> as of April 2013, and Yelp valued at \$1.69 billion as of April 2013 (Google Finance). According to a report by SPUR (San Francisco Planning and Urban Research association), the number of tech jobs in San Francisco has grown by

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<sup>1</sup> A warning against catastrophizing today, perhaps.

<sup>2</sup> Though in early 2012, Zynga was valued at \$20 billion, which perhaps contributed to speculative investments (Streitfeld).

13,000 between 2010 and 2012, reaching a total of 41,000, a higher total than the previous dot com boom (Metcalf and Warburg 2012).

However, it is not just the success of tech companies located within San Francisco but also outside the city, in Silicon Valley, that creates an impact. According to an annual report, Silicon Valley is creating new jobs at a similar rate (3.6 percent) to the previous dot com boom (Silicon Valley Index 2013). The private shuttles provided by Google, as well as many other firms, have the capacity to transport 14,000 people per day to the Silicon Valley, which makes living in San Francisco easier than ever for many of these workers. Therefore, gentrification in San Francisco is intimately linked with production in the Silicon Valley, and an extremely regional economy is in full swing.

Many of the tech jobs being created and supported in this second dot com boom pay extremely well. The average salary for a tech worker in the Silicon Valley is \$101,278, much higher than the national tech average of \$85,619 (Netburn 2013). Additionally, many Bay Area workers have seen their salaries supplemented by stock options: companies in both San Francisco and the Silicon Valley have had their Initial Public Offering (IPO)<sup>3</sup> within the past year and a half, making workers extremely wealthy literally overnight. To put things in perspective, San Francisco's Area Median Income for one person is \$70,850,<sup>4</sup> which, while still extremely high on a national scale, is still 30 percent lower than the average tech salary.

San Francisco's government has taken concrete steps to ensure that Tech will come and stay in the city, exemplified by the election and policies of current mayor Ed Lee. Former mayor Gavin Newsom appointed Ed Lee as interim mayor when Newsom left the post to become Lieutenant Governor of California in early 2011. Newsom appointed Ed Lee as a non-controversial placeholder: Lee promised not to run for re-election in November of the same year. However, in the ten interceding months, Lee changed his mind, ran for re-election and won.

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<sup>3</sup> An IPO is when a privately-owned company opens up their stock for sale to the public. Employees with stock options then can sell their stock, often for extremely high prices. IPOs are generally seen as a way of raising money, though they can be risky.

<sup>4</sup> Which is still much higher than the National median *household* income of \$52,762 according to US Census data from 2007-2011.

Notably, during those intervening months, Ed Lee championed a tax break that was very beneficial to tech companies. Twitter, the extremely popular “microblogging” company, was threatening to leave San Francisco, citing the high cost of doing business in the city. In order to entice Twitter to stay, Ed Lee promised to rescind their payroll tax if they located in the Mid-Market area. The New York Times estimates this tax exemption to be approximately 22 million dollars (Story 2012). This tax break, extended to other companies that agreed to locate in the same area, sponsored a flurry of investment in the Mid-Market area by tech companies, adding legs to the already active dot com boom 2.0. It also conveyed to prominent people in the tech Industry that Ed Lee was interested in a partnership.

In particular, Ed Lee attracted the attention of Ron Conway, a high profile and influential “angel investor”<sup>5</sup> in the Silicon Valley who has invested extensively in Twitter. Conway saw “potential” in Ed Lee, and so used his substantial resources to form a committee to encourage Ed Lee to run for mayor of San Francisco. Conway explained, “We believe that Ed Lee is very tech friendly and that’s why the tech community is embracing him; he kept Twitter in San Francisco and he abolished the tax on private company stock options” (Tsotsis 2013). Shortly after Lee’s re-election, Conway decided to continue his role in San Francisco politics, and started sf.citi (the San Francisco Citizen’s Initiative for Technology and Innovation): “leveraging the collective power of the tech sector as a force for civic action in San Francisco” (sf.citi 2013).

Sf.citi has already seen political success: running and winning a campaign to repeal San Francisco’s payroll tax (the same tax involved in Twitter’s exemption) and replacing it with a “gross receipts tax.” This shift in the tax structure of San Francisco benefits tech companies while creating more of a tax burden on more traditional businesses such as real estate firms.

The relationship between mayor Ed Lee and the tech sector illustrates the blurring relationship between the state and the market. It exemplifies David Harvey’s assessment of the “entrepreneurial city,” portraying “the use of local government

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<sup>5</sup> Angel Investors are wealthy people who manage and invest their own money in companies. Other kinds of investors often do not manage their own money.

powers to try and attract external sources of funding, new direct investments, or new employment sources” (Harvey 1989, p.7). As Harvey and others mentioned above have shown, these processes contribute directly to the gentrification of urban space.

### *Housing Market*

Not surprisingly, then, the influx of tech jobs and tech money has led to increased housing prices in San Francisco (Metcalf and Warburg). Median rents rose 10.6 percent from February 2012 to February 2013, placing the median rent for the city at \$3,200, the most expensive in the country (Zillow 0213). Other sources show that from 2011 to 2012, rents increased by as much as 135 percent in some neighborhoods like the Bayview, with increases of 53 percent in the Western Addition, 29 percent in the Mission and 61 percent in Noe Valley.

According to data from the American Community Survey, the vacancy rate for rental units in San Francisco was 3.7% in 2011 compared to 5.3% in 2010 (by comparison, nationwide the rental unit vacancy rates were 7.4% in 2011 and 8.1% 2010). Apartments are notoriously challenging to find, and reports, like the following from the Wall Street Journal in March 2012, abound:

*Soaring rental prices—up more than 10% in the Mission and Noe Valley in the past six months alone—are also making buying more competitive, said Vanguard Properties broker Craig Waddle. He's seen bidding competitions for rentals and rental offers coming in higher than the asking prices. At an open house for a one-bedroom offered for \$1,400 a month, 40 people were filling out applications on the spot. One person walked up to the owner, offered \$1,700 and got the place.*  
(Keates and Fowler 2012)

The increased demand for housing can also be illustrated by a construction boom- San Francisco approved 4,220 housing starts in 2012, while approving only 269 the previous year (Metcalf and Warburg 2012). However, since new housing

construction is a time intensive process, San Francisco is still experiencing a current demand for housing which far outstrips its supply.

San Francisco policymakers, advocates, and citizens have responded to these market imbalances in a variety of ways. In November 2012, the San Francisco Board of Supervisors agreed to temporarily approve a suspension of the zoning code to allow “micro-apartments: “220 square foot residential units, which previously were considered too small to meet code requirements. These apartments are set to rent for \$1,300- \$1,500/month (compared to other studios which rent for about \$2,075/month). Supervisor Scott Weiner, who sponsored the legislation explained, “To confront San Francisco's rising housing affordability crisis, we must be creative and flexible. Allowing the construction of these units is one tool to alleviate the pressure that is making vacancies scarce and driving rental prices out of the reach of many who wish to live here" (Riley 2012). The approval of micro-apartments is another sign of the significant housing crunch that San Francisco is currently experiencing.

#### *Displacement and Ellis Act Evictions*

Housing advocates, such as the San Francisco Tenants’ Union and the Housing Rights Committee, have argued that this housing crunch is causing displacement. One local long-time advocate described it as an “epidemic of evictions” (Redmond 2012). As discussed above, displacement is notoriously difficult to quantify, but the qualitative evidence is present. Since San Francisco has reasonably strong tenants’ rights protections, landlords seeking to evict tenants must use roundabout tactics. One such tactic involves taking advantage of and intimidating tenants who do not know their rights. If a tenant is intimidated or uninformed, they may leave their building when merely threatened with eviction. These “evictions” are almost impossible to track, as landlords are operating outside the legal system and do not need to file paperwork.

Additionally, since the first dot-com boom, landlords have been taking advantage of one kind of “just cause” eviction, the Ellis Act, to displace large numbers of tenants. As illustrated in Figure 1, Ellis Act Evictions have risen dramatically in the past year,

	Ellis Act Evictions	Annual increase	Total Evictions
2010	43		1269
2011	61	42%	1370
2012	64	5%	1395
2013	116	81%	1,757

Figure 1- Eviction Data from San Francisco Rent Board

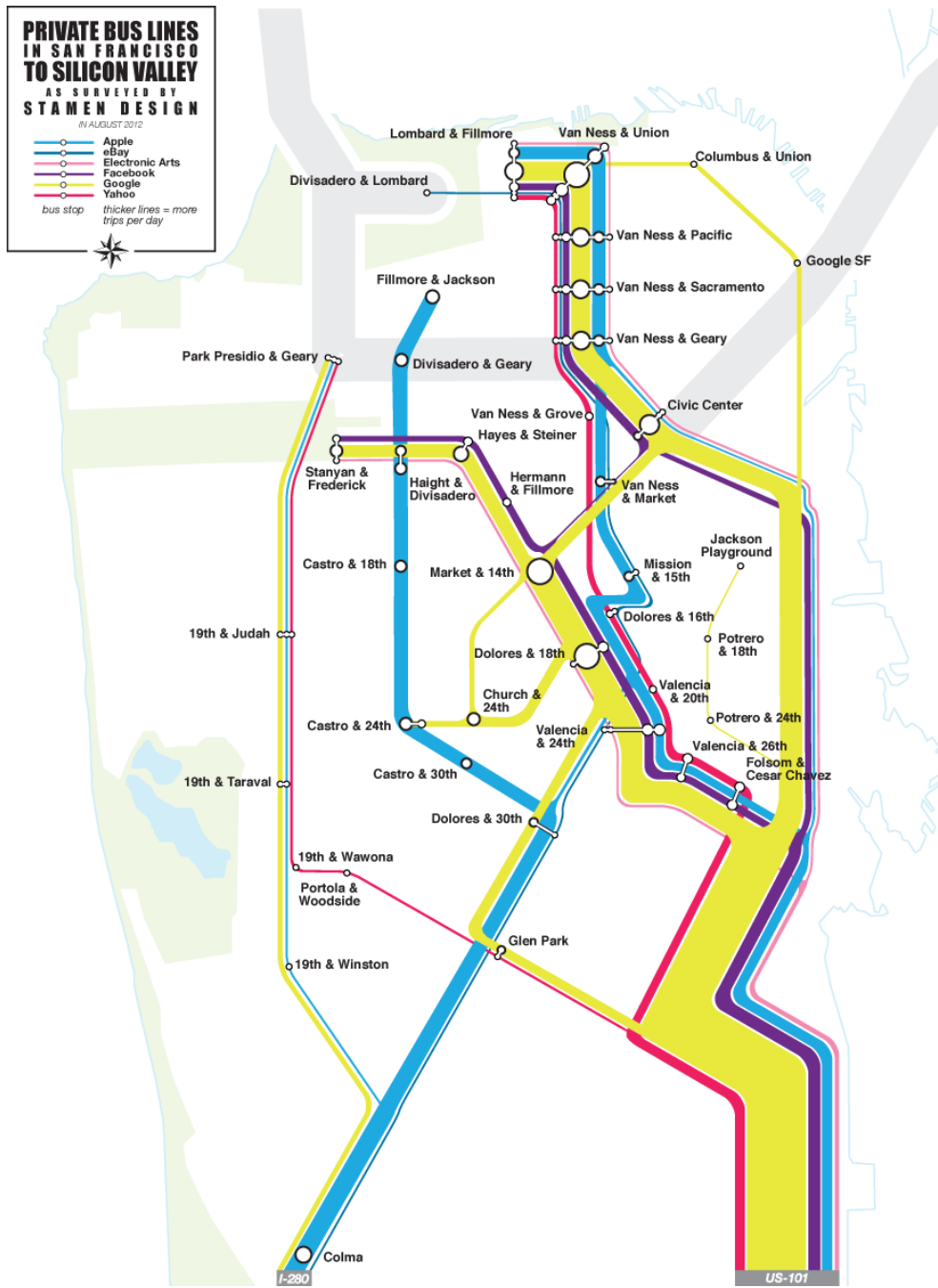


Figure 2- "The City from the Valley" (Stamen)

though the Rent Board does not record *all* Ellis Act-related evictions. In addition to the absolute increase in reported Ellis act evictions, these evictions as a portion of total evictions were 3.4 percent in 2010 and rose to 6.6 percent in 2013. The San Francisco Tenants' Union and the Housing Rights Committee both claim the number of their clients facing Ellis Act Evictions has tripled in the past year. The San Francisco Tenants' Union explains that often landlords need only threaten Ellis Act evictions, and couple the threat with a buy-out offer, to induce a tenant to "voluntarily" leave a property (Gullicksen 2013). While buy-outs may be as high as thousands of dollars (and legally higher if the Tenant is elderly or disabled), tenant advocates insist that a buy-out is almost never enough to compensate for the difficulties or financial cost of finding a new apartment, especially in the current market.

Ellis Act evictions are enabled on a state level. They allow landlords to "go out of business" by removing all tenants from their property. Although the intention of the Ellis Act is reasonable, in practice Ellis Act evictions manifest Smith's Rent Gap gentrification theory: as the value of land goes up, more landlords reap the benefits of selling to developers, and developers use buy-outs to remove tenants and convert buildings to condos or market-rate units (Bowe and Tokar 2013). Recent attempts to reform the Ellis Act and discourage this kind of "flipping" have included provisions requiring that a landlord own a building for over six months before invoking the Ellis Act. This reform did not pass.

In conclusion, an influx of tech businesses and highly paid tech workers is shaping San Francisco's housing market. The city government is encouraging tech companies to locate in the city. As a result, rental prices are rising, and landlords, seeking to capitalize on the boom, are evicting larger numbers of their lower-income tenants.

The focus of the remainder of this paper is on another factor influencing housing prices: the increasing ability of tech workers employed in Silicon Valley to live in San Francisco and commute, for free, to work.

## The Google Buses

### *Corporate Shuttles in San Francisco*

The Google buses are private shuttles that transport 4,500 Google workers daily from San Francisco to Mountain View, 35 miles away. Google is only one of many companies offering this service; other large companies such as Apple, EA, and Genentech also provide buses. In this section I will first broadly discuss the shuttles, and then I will provide some additional information on Google's shuttles in particular.

Stamen, a design firm in San Francisco, researched and mapped the private shuttle routes as a way of exploring the "fundamental shifts... underway in the relationship between San Francisco and Silicon Valley" (see Figure 2). They write, "Historically, workers have lived in residential suburbs while commuting to work in the city. For Silicon Valley, however, the situation is reversed: many of the largest technology companies are based in suburbs, but look to recruit younger knowledge workers who are more likely to dwell in the city." Stamen's methodology deserves note: Stamen dispatched researchers to various intersections to sit and manually count the shuttles that passed as the shuttles do not and will not provide public maps of their stops. This lack of collaboration between the private shuttles and the public is paradigmatic, though the Muni Partners Program is seeking to close this gap.

In many ways, the existence of the shuttles is indicative of a land use problem in Silicon Valley. According to a report on private shuttles: "Conventional fixed route transit service is unable to meet all the transportation needs of a modern urban area where decentralized residential and employment patterns lead to indirect, dispersed and long-distance travel patterns" (Margulici and Singa 2013, p.5). In other words, corporate campuses such as Google are located in areas of low-density that cannot support traditional public transportation systems. Instead, the location of these corporate campuses encourages automobile use.

The shuttles contribute to the laudable goal of decreasing green house gas emissions through decreasing single-occupancy car trips. According to a Strategic



Analysis Report (SAR) by the San Francisco County Transportation Authority (2011), the private shuttles reduce vehicle-miles traveled by 20 million, and reduce CO<sub>2</sub> emissions by at least 8,000 tons.

While providing significant positive environmental effects, the shuttles also create some negative externalities. The proceeding section will discuss the possible impacts of the Google shuttles on rental prices in San Francisco, however a few other negative impacts warrant attention. The buses can be extremely loud and travel on roads not serviced by San Francisco's Muni buses. The noise and inconvenience of these buses on narrow residential streets have caused citizens to appeal to the city government for regulation.

Additionally, according to the SAR (2011), 90 percent of the private shuttles load in Muni bus stops; that is, the private shuttles do not have their own curb space but instead monopolize curb space set aside for public transportation. According to research by the San Francisco Metropolitan Transit Authority (SFMTA), conflicts between Muni buses and private shuttles occur relative to the size of the curb space and the frequency of service (Paine 2013). It is illegal for vehicles other than Muni vehicles to stop in Muni bus stops; however, this policy is not enforced enough to disincentivize the private buses.

To better manage and understand the benefits and drawbacks of the private shuttles, the SFMTA has created a "Muni Partners Programs" with grant money from the regional Metropolitan Transit Commission. The goal of this program is to facilitate collaboration between the existing systems of transportation in San Francisco, and the rapidly growing private shuttle sector (Paine 2013). While the program has yet to produce its comprehensive policy framework, thus far it has collaborated with the private shuttles to create designated private-shuttle curb space in two of the highest traffic areas.

### *Google Shuttles*

As Figure 2 illustrates, Google has the largest private shuttle fleet, with

approximately 30 stops throughout San Francisco. Google estimates that one-third of its employees ride the shuttle, or about 4,500/day (Google Green 2013). While “Google Buses” has become shorthand for the entire system of private regional shuttles discussed above, I am making a conscious decision to focus only on Google in this report, as it is the largest fleet and therefore a trendsetter in the industry.

The Google shuttles began in 2004 as a project of Google Employee, Cari Spivak, and initially had 155 riders/day (O. Thomas 2012). Spivak recently said, "I'm proud of the industry for seeing the potential for improving their employees' quality of life and for recognizing their responsibility in minimizing their environmental footprint. It's amazing to know that one person's small initiative at a single company can have such a ripple effect on so many people, the environment and an entire industry" (O. Thomas 2012). Google does not provide data publically on the shuttle routes, but many of the current stops have been in place since 2007 (Helft 2007), though ridership has more than tripled since that time (N. Thomas 2012).

The shuttles are part of a larger effort by Google to encourage their employees to commute more sustainably, which includes philanthropic incentives for employees who choose “self-powered commuting.” The buses use five percent biodiesel, and also “exceed the EPA’s 2010 bus emission standards,” according to Google’s website (Google Green 2013).

The shuttles are also part of the impressive amenity package that Google gives its employees, which includes gourmet meals, gym-access, and a variety of health care services. The shuttles themselves are also very amenity-focused: they are large (double-decker), spacious, comfortable, and equipped with Wi-Fi. Like the in-house amenities Google provides at its campus, the buses serve the dual function of increasing worker satisfaction *as well as* worker productivity: Google employees can begin billing for hours as soon as they get on the bus: “even highly-paid professionals who are otherwise able to drive alone to work and afford rising gas prices are choosing the bus for more productive use of their commute” (Margulici and Singa 2010, p.6).

## Do Google shuttles have an impact on housing prices in San Francisco?

The narrative in the preceding sections sets the stage for my research question: are the Google shuttles contributing to gentrification in San Francisco? San Francisco is in the middle of a second dot com boom which is manifested in very high rents and rising rates of eviction. Additionally, I have shown that tech companies relocating to San Francisco, as well as Silicon Valley tech companies offering free transportation can be linked to this boom. The free transportation has enabled thousands of workers to live in San Francisco and commute, without accompanying costs, to their jobs in Silicon Valley. Furthermore, the gentrification literature reveals that both wealthy people, like tech workers with median salaries above \$100,000, and transit-related investments can also contribute to gentrification. My hypothesis is that the Google shuttles – as a transportation investment that allows wealthier tech workers to live in San Francisco-is contributing to the phenomenon of rising rents in the city, particularly around the bus stops.

### *Data*

For this study, I looked at rental price data from 2010-2012 near five Google shuttle stops, selected by the San Francisco Tenants' Union, with whom I partially collaborated on this project, as areas specific to concerns with their work.

The selected shuttle stops, illustrated in figure 3 are:

- **Lombard:** Fillmore Street and Lombard Street
- **Geary:** Geary Boulevard and Presidio Avenue
- **Haight:** Divisadero Street and Haight Street
- **Valencia:** 24<sup>th</sup> Street and Valencia Street
- **Dolores:** 30<sup>th</sup> Street and Dolores Street

The data represents the rental market (instead of the market for home sales). I am looking at rental data primarily because lower-income people often rent, instead of own, and thus this is the market segment where concerns of displacement are most salient.

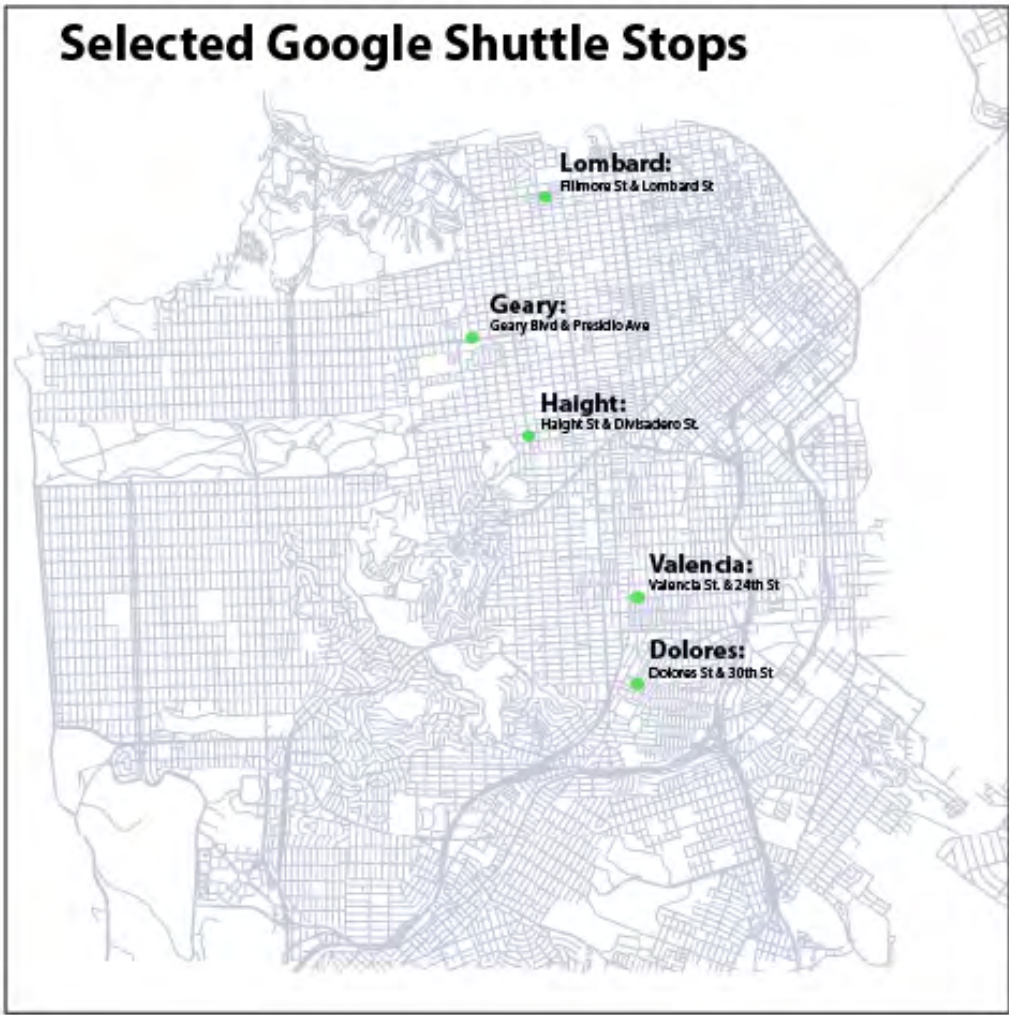


Figure 3- Selected Google Shuttle Stops

Looking at rental prices is also relevant for the gentrifying, and not just the gentrified, population. Tech workers moving to San Francisco are largely considered to be “millennials,” a generation whose homeownership rates have been steadily declining according to census data. A tight credit market caused by the housing crisis of 2008 has reduced homeownership levels nationwide, so young millennials have come of age in an era with low rates of first-time homeownership. Additionally, demographers explain that millennials’ values have shifted away from conspicuous consumption and away from the immobility of homeownership (Thompson and Weissman 2012). This indicates that while the dot com boom is impacting San Francisco’s housing prices, it is also significantly impacting the rental market.

The website Padmapper is my primary source of data on rental prices. Padmapper collects rental listings from Craigslist, Apartments.com and Rents.com, among other websites, and maps this data using the Google Maps platform as a tool for those searching for rental housing. While Padmapper does not have all their cached rental data publically available, I was able to access the data through a contact at Padmapper. The dataset consists of just fewer than 63,900 rental listings including price, number of bedrooms, number of bathrooms, geographic coordinates, date and time for each listing.

While many studies rely on Census data or data from the American Community Survey (ACS) to measure rises in housing/rental prices over time, neither of these data sources is sufficiently granular for this project. Census data is collected once every decade, while the Google bus stops have only been implemented over the past five years. ACS data, while collected more frequently, is not more granular than census tracts, which is a geography too large to accurately measure the impact of the stops on surrounding areas.

### *Assumptions*

The stops selected were chosen both because they are areas of concern to the San Francisco Tenants’ Union and their work around renter’s rights, and also because

most are in census tracts with a high percentage of renters (as shown below).

Neighborhoods with high percentages of renter-occupied units are good places to get a large sample size of rental listings.

- **Lombard:** 70% renter-occupied
- **Geary:** 67% renter-occupied
- **Haight:** 71% renter-occupied
- **Valencia:** 87% renter-occupied
- **Dolores:** 40% renter-occupied  
(Census 2010)

Given that my concern is equity for lower-income people, I looked at one- and two-bedroom listings, which are likely to be units appealing to lower-income individuals and families. Additionally, one and two-bedroom units are prevalent in San Francisco's housing stock, so there was a sufficiently large sample size.

In order to arrive a dataset that best represents market-rate rental listings, and not sublets, I had to take measures to remove false sublet postings that were grouped into the one- and two-bedroom data sets. According to common sense, I knew that there were no two-bedroom apartments for rent at \$500 in San Francisco in 2010, although according to the initial dataset there were several hundred. I was able to bring more rigor to my assumption by manually examining a histogram distribution of the rental prices. Upon examination, I found that the distribution was bi-modal with one center on the true rental prices, and the other, far below reasonable market-rate and most likely sublets, falsely grouped into the one- and two-bedroom category. I eliminated the specious data around the low mode, solely on a per unit size basis. There were also a few outliers on the high rent end (above \$20,000/month) that I eliminated.

I looked at data within two specific geographies: the first consists of rents within a "walkable" radius of half a mile from the selected shuttle stops. A half-mile distance is often considered "walkable" in transit-oriented development, and so I used this standard here. The second geography consists of rents "outside" the walkable radius: from an area between half a mile and a full mile from the shuttle stops.

### *Methodology*

I used ArcGIS to associate each rental listing with a Google shuttle stop, and to classify each as inside or outside a walkable radius. I found the average rent for the area around each bus stop, by geography (walkable/outside) and by unit-size (one-bedroom and two-bedroom). I then computed the percentage change in average rental prices around each bus stop, both inside and outside the walkable radius, from 2010 to 2012. I used percent changes, rather than raw changes, to have a normalized measure across different areas that may represent different points across the range of rents. See Figure X for the percentages.

In order to display the data for ease of discussion, I compared the percent change within each shuttle stop and unit-size across the walkable/outside geographies and noted differences of five raw percentage points or greater. Given that the very large sample size, five percent is a conservative cut-off. See figure X for these comparisons.

### *Discussion*

As you can see from Figures 4 and 5, in many cases rental prices within a walkable distance of the shuttle stops appear to be increasing at a faster rate than rental prices outside the walkable distance. There are seven instances of rents increasing faster within the walkable radius, one that I have considered neutral (as the difference between the two rates is less than five percent) and two where rents outside the walkable radius are actually increasing faster. Figures 6 and 7 show the rates changes mapped to the shuttle stops.

Rate of Rental Price Change 2010-2012

		walkable	outside
<b>Lombard</b>	1br	30%	17%
	2br	11%	25%
<b>Geary</b>	1br	10%	22%
	2br	23%	12%
<b>Haight</b>	1br	28%	23%
	2br	37%	27%
<b>Valencia</b>	1br	23%	23%
	2br	27%	20%
<b>Dolores</b>	1br	43%	23%
	2br	28%	23%

Figure 4- source: Padmapper

Geography with larger change (≥5%)

<b>Lombard</b>	1br	walkable
	2br	outside
<b>Geary</b>	1br	outside
	2br	walkable
<b>Haight</b>	1br	walkable
	2br	walkable
<b>Valencia</b>	1br	neutral
	2br	walkable
<b>Dolores</b>	1br	walkable
	2br	walkable

Figure 5- source: Padmapper



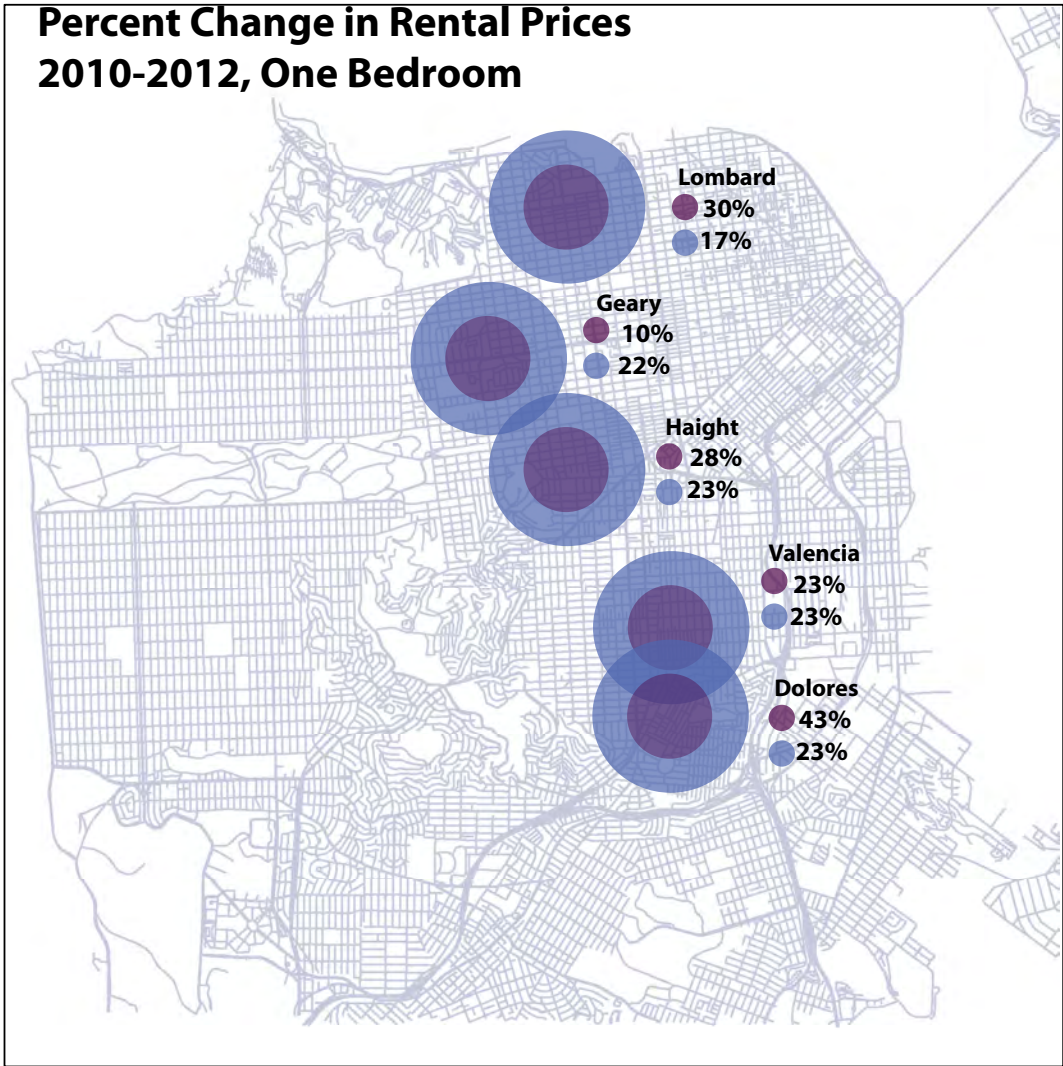


Figure 6- source: Padmapper

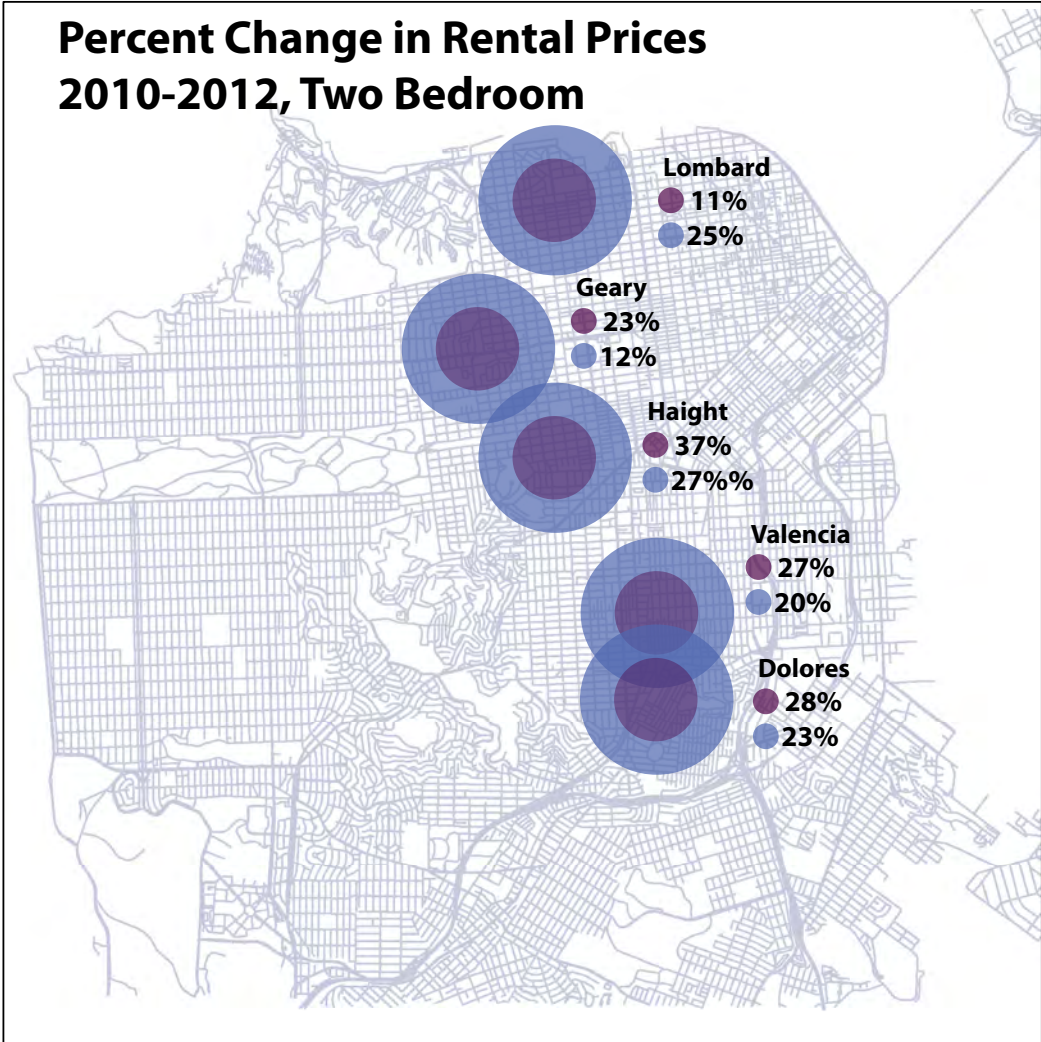


Figure 7- source: Padmapper

### *Limitations*

In this study, I use rental prices as my only statistical indication that gentrification is occurring near the bus stops. This is clearly a limitation of the data, however, it is a necessary one, as other indicators of gentrification, such as educational status or racial make-up, are not available for the necessary geography and timeframe of the study.

Additionally, though I have provided some context for displacement in San Francisco as a whole, it is not possible to measure displacement in these specific areas without a more thorough qualitative or survey-based study, which is beyond the scope of my research here.

This dataset was a selection of rental listings across certain time periods. We were unable to compare the same property across time periods. This prevented the application of significance testing without more advanced models which were outside the scope of this work.

Future research should attempt to control for confounding variables, such as negative externalities caused by bus noise, and variations in neighborhoods and units (perhaps controlling for number of bathrooms or other amenities if possible). In addition, a study that tracks rental prices for the same unit around a new shuttle stop from a year or two prior, to several years after the implementation of the stop might be better able to deduce causation. However, while this study does not prove that the shuttle stops are having an impact, it does provide compelling descriptive evidence that the San Francisco Tenants Union, and other anti-gentrification activists, can use to help draw political attention to the problem.

### *Craigslist Ads and Real Estate Agents*

In addition to the data analysis, my project entailed looking at qualitative measures to understand the potential impact of the shuttle stops. One indicator that

the Google shuttles may be impacting the rental market comes from Craigslist. Craigslist is a very popular website for listing apartment rentals, and provides a snapshot of what amenities sellers think would 'draw' potential tenants to their units, and/or allow them to charge higher rents. Between November 2012 and April 2013, I picked three random, separate days to review the Craigslist ads for apartments in San Francisco. On each of these days, I found several listings that advertised proximity to the Google Bus stops as a perk. Figure 8 provides a sampling of those listings.

Additionally, many real estate agents claim that proximity to the shuttle stops commands a rent premium. A San Francisco real estate agent quoted in the Wall Street Journal explains, "When a listing gets deluged with people- that tells me it's close to a stop" and calls the phenomenon the "shuttle effect." According to this agent, homes near the shuttle stops can command up to a 20 percent premium (Keates and Fowler 2012). The website of McGuire Real Estate company similarly explains,

*Relocation agents have told me that new Google employees overwhelmingly state that being within a 10 minute walk to a shuttle is their primary housing objective....Each time a new shuttle stop is established, it has a positive impact on income property revenue within a 4-6 block walking radius.*

(Blakely 2010).

Finally, another real estate blog humorously wrote,

*Dear Googlers,  
Please buy real estate. ASAP. The fact that you are renting is evil. What happened to do no evil? Why don't you want to support the rest of the state? Please be less selfish – you're hurting everyone. Please buy a house. Or two. Or three. Thank you.*

(burbed 2008)

The descriptive analysis presented here suggests that the Google shuttles are having an impact on rental prices in San Francisco. Rents appear to be rising more rapidly within a walkable distance of the shuttle stops, and proximity to the shuttle stops is touted widely as a desirable amenity. As the city continues to negotiate efficiency and equity tradeoffs in this housing market, special attention should be paid to the housing conditions around the shuttle stops.

**\$4000 / 2br - Hayes Valley Furnished Rental: April 1 (hayes valley)**

Updated Kitchen & Bath, Refinished Hardwood Wood Floors, Cable and WiFi, inc. Two Bedroom w/ Queen Beds.  
Parking available for \$300/mth extra. Month to month - OK. (Small-med sized car only).  
Strictly No Pets and No Smoking!

Excellent restaurants, cafes and shopping close by.  
#21 Bus; 10 mins walk to BART (Civic Center) Google bus stop 1 block away.

**\$3000 / 2br - Best Noe Location, Very Sunny, grg parkg incl., Open Sat 2/23 10:30-2 (noe valley)**

Easy walk down 24th street to all of the shops and great restaurants. 1 1/2 blocks from the Whole Foods, 1-4 blocks to numerous bus stops and Church street Muni and Google bus stops around the corner. Great little park 1 1/2 blocks up the street.

**\$2850 / 1br - Charming 1 Br/1Bath Unit w/ Walk-in Closets & Parking! (marina / cow hollow)**

Charming one bedroom, one bathroom unit located in a great neighborhood just blocks from Union, Chestnut and Polk Streets and near plenty of transportation options on VanNess Avenue NEAR GOOGLE BUS STOP!

**\$3500 / 2br - 1400ft<sup>2</sup> - 2 bdrm, 2 bath + office + great location (noe valley)**

1.5 blocks from google bus, 1 block from J car, 2.5 blocks from bart  
conveniently located near restraunts, bar, and shopping  
owner pays garbage, water and gardener

**\$3500 / 2br - 800ft<sup>2</sup> - 2BR/2BA Pet Friendly Building (alamo square / nopa)**

coming soon), small shops, dry cleaners, banks, cool club scene. Great area for Foodies. Near Alamo Square, GGP Panhandle. Short walk to lower/upper Haight. Great public transportation 2 blocks to Google Shuttle. Bike lanes (new bike corridor coming soon). Weekly farmers market. \$3500.00 mo rent. One year lease. \$7000.00

**- \$4100 / 2br - 2bd/2ba with parking Pacific Heights (pacific heights)**

Email with your phone number to set up viewing appointment.  
Close to Union Street shops and Google bus stops...

**• \$1800 Top Floor Studio with Hardwood Floor (lower nob hill)**

- close to Trader Joe's, coffee houses and restaurants
- near Google bus stop
- close to bus lines 2, 3, 27 and Cable Car lines

Figure 8- Craigslist Ads from November 2012, February 2013, and April 2013

## Next Steps

While San Francisco welcomes tech workers to the city, housing prices continue to balloon. The Google shuttles are one of many factors contributing to rising housing prices, but they provide an opportunity to consider anti-gentrification interventions. I propose two possible interventions: a Community Benefits Agreement and a “Displacement Impact Review.” Both interventions provide an opportunity to challenge the unchecked logic of the “entrepreneurial city” by interjecting concerns about equity into conversations around development.

Both of these interventions would be strengthened by San Francisco enforcing the laws that make it illegal for private shuttles to stop in the designated Muni curb zones. As the Strategic Analysis Report (2011) explains, the “best opportunity to manage shuttle operations lies with the SFMTA’s jurisdiction over curb zones” (p. 10). There are several options for designated curb zones, and the Muni Partners Program appears to be moving towards a solution of collaboration between public and private buses. However, I wish to underline the importance of moving forward with this particular component.

The process of designating and permitting these curb zones is crucial for introducing equity issues into the conversation on the private shuttles. This process provides both leverage, the SFMTA can withhold permits for the curb zones contingent on certain mitigations, and public scrutiny, by allowing the public to weigh in on concerns around gentrification. In order to successfully address gentrification concerns, San Francisco must continue to make progress in collaborating with the buses on designated curb space.

### *Community Benefits Agreements*

One potential model for mitigating gentrification is a Community Benefits Agreement. Community Benefits Agreements (CBAs) are a “private agreement between a community coalition and the developer on multiple issues that may or may not be included in the regular planning process” (Baxamusa 2008, p.263). These agreements

are legally enforceable contracts negotiated between self-appointed, self-circumscribed, self-maintained community coalitions and a developer, or other entity. The goals of the CBA are to foster changes to the urban landscape that allow the “community” to gain a share of the benefits coming into the area, and to mitigate the potential negative impacts of development.

CBA advocates argue that if a development project is going to receive public subsidies and use public infrastructure, the project needs to benefit taxpayers and not just a narrow spectrum of moneyed interests (The Public Law Center 2011, p.2). As Harvey (1989), Molotch (1976), Hartman (2002) and others have discussed, too often private developments do not benefit, and often may hurt, lower-income segments of cities.

CBAs can include benefits such as local-hire policies, affordable housing set-asides, funding for parks, and job training programs. Governments can facilitate the process of negotiating a CBA, and even mandate a CBA through a Development Agreement or permitting process.

In many ways, Community Benefits Agreements are a direct response to the processes that have sparked gentrification over the past several decades. As advocates of CBAs have explained, they “are critical because of the current ‘back to the city’ movement,” where capital is flowing into previously underinvested areas causing displacement and disjuncture (Gross 2002, p.i). CBAs counter the city-as-entrepreneur model, which attempts to attract capital often at the expense of equity (Harvey xxxx). As Navid Sheikh (2009) explains, “CBAs are the latest reaction to the decades long marriage between urban America and the private sector” (p. 227). CBAs seek to distribute the benefits of economic development more equally when conventional and governmental processes are not sufficient.

Community groups have an obvious incentive to engage in CBAs, but the developer’s motives may be less clear. Why would a developer agree to give concessions to a community group? Often the only reason is to expedite a permitting process by avoiding community resistance. Herein lies one of the limitations of CBAs:

the developer in question must have sufficient incentive to negotiate with the community coalition.

Other concerns with CBAs are related to the extra-governmental process of the negotiations. For some, like Sheikh, the question of who speaks for the “community” in these negotiations is troubling. While the community coalition might be a representative group, there is no oversight to guarantee appropriate representation. Sheikh contrasts the process of choosing a community coalition to negotiate a CBA with the process of electing local officials-- the former has no formal accountability mechanism, while the latter is predictably organized around elections.

I believe that despite the fact that Google not a real estate developer, CBAs are still a valuable model for mitigating the negative impacts of the shuttles on housing prices. As discussed above, CBAs seek to add a community voice to the development process in order to distribute the benefits more equitably. In the context of urban “growth machines” and neoliberal governments, this non-governmental “community” voice can often be the only one calling for greater equity. City government appears to be more committed to enticing tech profits to San Francisco than worrying about gentrification, as demonstrated through its emphasis on tax breaks and sf.citi. Therefore, the insertion of a community voice is necessary to assert the need for more equitable development processes.

However, in proposing a CBA with Google, advocates will have to re-think the typical formulation of “developer” and “development” since Google is not building in San Francisco. The shuttles are, however, in the process of applying for their own curb space, as discussed above. Legislative action and a public hearing are necessary to designate curb space, and thus there is a point of leverage for community groups and the government to intervene and insert questions of equity into the process. I would strongly suggest that as these terms are being negotiated, the government should seek to engage tenant advocacy groups on the issue of housing equity. If the government will not lead the way, then community groups should make themselves aware of the permitting process, and attend at the hearings to provide pressure.



Effectively negotiating the terms of the CBA could result in significant benefits for the community including: increased funding for tenant education to avoid displacement by illegal intimidation; donations to the city's new Affordable Housing Trust Fund, to ensure funding for affordable housing into the future; and support for tenants rights organizing.

### *Displacement Impact Report*

A second idea, which has less precedence in planning, is establishing a Displacement Impact Review process. I am borrowing the concept of a "Displacement Impact Report" (DIR) from an editorial in the San Francisco Bay Guardian (SFBG) from December 2012. A DIR would be a publically available report on the projected impacts of a development on the displacement of "existing San Francisco residents." The execution of this report would be an integral part of receiving the permitting approval to move forward with a planned development.

A Displacement Impact Review would be organized very similarly to a familiar Californian city planning tool- the Environmental Impact Report (EIR). EIRs are reports prepared in advance of approval for a development project in the state of California, if that project might have a significant environmental impact. The developer shoulders the cost of preparing an EIR, but a team of experts organized through the local government prepares the report. EIRs do not have legislative power, however they generate information about the impacts of a project that can be used by various interest groups to oppose or support a project. While there are significant concerns, particularly on the part of developers, about the cost of preparing an EIR, Californians have continued to support EIRs as they provide an important point of leverage in protecting a valuable resource- the environment- against undue incursions by developers.

I feel that diverse and equitable cities are a similarly valuable resource that should be protected and maintained. As outlined in the SFBG editorial, the DIR would use economic modeling to predict possible displacement. For example, in the case of the Twitter tax break,

*You look at how many jobs the tax break will create, how many of those jobs will go to people who are not current SF residents, how much they'll be paid — and what the residential vacancy rate is for apartments and houses in the range they can afford. Add into the mix current plans for housing construction in that range, and plans for low-income housing for people who might be displaced. Historical data could easily create models for how many new highly paid employees it takes to create one individual or family displacement.*

(San Francisco Bay Guardian 2012)

A Development Impact Review could be helpful during the permitting process for curb space, and also more generally useful tool for mitigating displacement in San Francisco moving forward. San Francisco has long struggled with high housing demand and displacement of poor people, if the city were to integrate a review process around gentrification into its standard development procedures, future concerns around equity could be mitigated.

## **Conclusion**

This report has suggested that the Google Shuttles are contributing to gentrification by making it easier for well-paid Google employees to live in San Francisco and by reducing these employees' commute transportation costs, allowing them to afford more expensive rental units. My data suggests that one- and two-bedroom apartments within a walkable distance of five of the Google Shuttle stops are becoming more expensive at a faster rate than similar units in the same neighborhood. This data is corroborated by real estate agents, who claim that proximity to the shuttle stops commands a premium, and by real estate listings that highlight the bus stops as an important amenity.

In this paper I have also briefly illustrated the (in)actions of government and private companies which have lead to gentrification in San Francisco. San Francisco has come to embody the “entrepreneurial city,” a city striving to attract more capital at the great cost of equity. In order to fight for a city where low- and moderate-income

people can live alongside six-figure salaried tech workers, we need to think creatively about combatting displacement. It is my hope that through illuminating some of the processes of gentrification, I can contribute to the struggle for greater equity in San Francisco.

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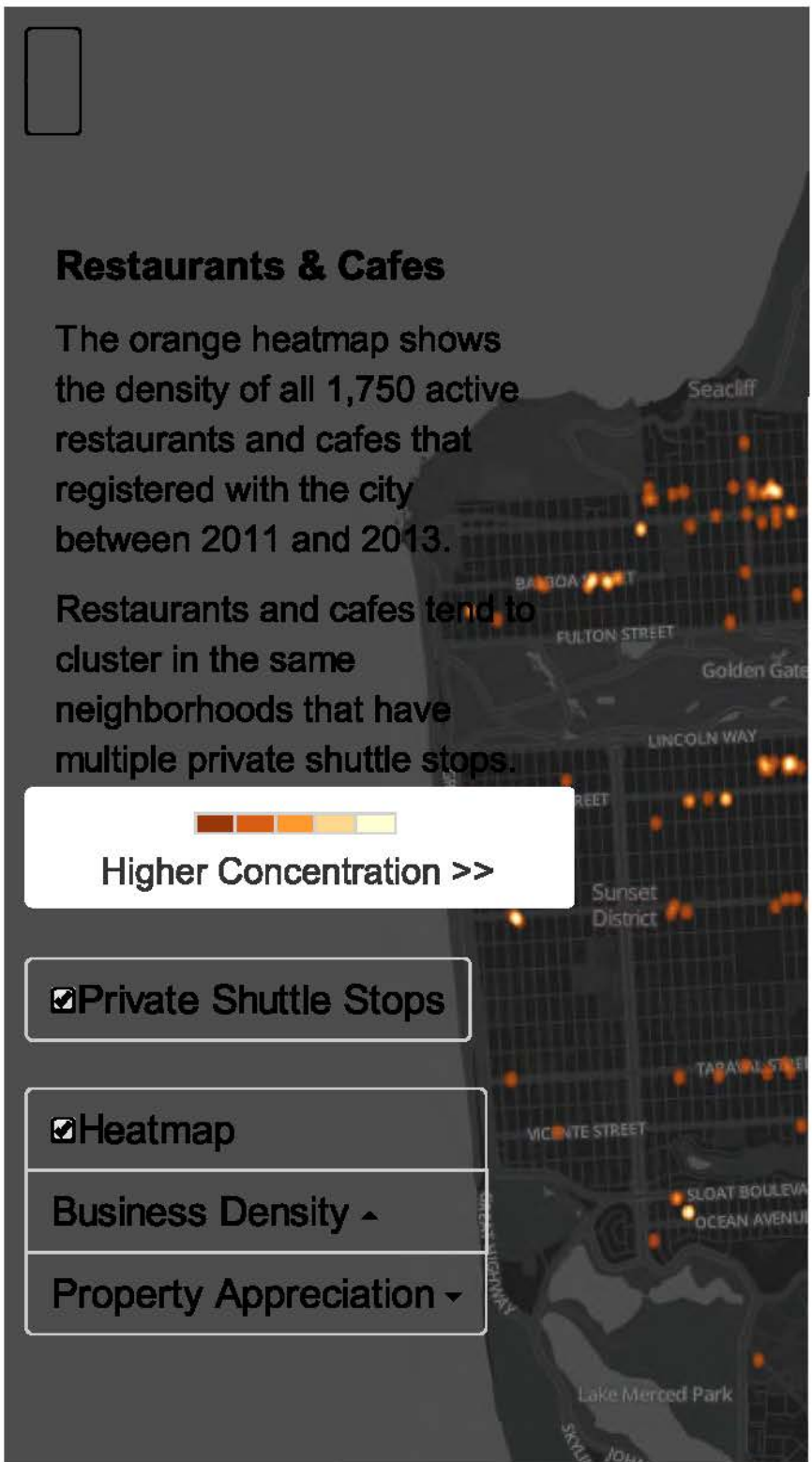
Clusters of  
Affluence in San  
Francisco

# Clusters of Affluence in San Francisco

Chris Walker \* January 27, 2014

*The map below explores the relationship between private shuttle stop locations and indicators of neighborhood affluence. Private commuter shuttle are used by many large tech companies based in the South Bay. To explore the map:*

- **Click or tap** a grey marker to show shuttle details.
- **Click or tap** the checkboxes to toggle map layers.
- **Select** from the dropdown menus to change the heatmap.



I'm a Bay Area native and called San Francisco home between 2007 and 2011. Even in those years of financial crisis and recession, before the tech sector got its current image (<http://www.theguardian.com/technology/2013/may/valley-elite-san-francisco>) of young one-percenters living in pampered bubbles, the city was changing. Gentrification was already happening in neighborhoods like SoMa, the Mission, the Castro, and even parts of the Tenderloin. And neighborhoods like Pacific Heights, Nob Hill, and the Marina were affluent long before the internet era. Therefore it might seem difficult to argue that the tech sector is responsible for the poor affordability and inequality in the city.

On the other hand, the arrival of fleets of private commuter shuttles used by large tech companies like Google, Apple, and Yahoo enable thousands of well-compensated tech sector workers to live in San Francisco and commute to their jobs in the South Bay. It would be disingenuous to argue that those workers have no effect on local rents or the character of the neighborhoods in which they live.

Urban neighborhoods are complex systems, and it's often impossible to say what is cause and what is effect. In San Francisco, young well-paid tech workers will tend to move to neighborhoods

that already have good housing, nice parks, and plenty of restaurants, cafes, bars, and other amenities. But there's a feedback loop, of course, in which the neighborhoods themselves change as a result of the influx of all those affluent residents.

The tech sector did not create the problem of inequality in San Francisco. The city has long been among the most expensive to live in America. But by gravitating towards certain neighborhoods, tech sector workers amplify and accelerate the gentrification process that was already happening there. They feed into the clusters of affluence in much of the northeast corner of the city, which has led to a recent uptick (<http://antievictionmappingproject.wordpress.com/timelines-cronologia-de-desalojos/timeline-of-displacement/>) in evictions and several protests (<http://blogs.kqed.org/newsfix/2014/01/21/yet-another-protest-against-tech-buses/>) over affordability.

The map above visualizes these clusters of affluence in San Francisco, showing their geographical boundaries and concentration. Importantly the map also illustrates the feedback loops between tech shuttles and neighborhood gentrification. They tend to reinforce one-another. Tech shuttles concentrate where tech workers want to live, while indicators of affluence like

property value appreciation and the distribution of new restaurants concentrate around the tech shuttles.

Some related observations on the heatmaps above:

- **Restaurants & Cafes:** Food establishments that registered with San Francisco between 2011 and 2013 tend to cluster around shuttle stop locations, with the most prominent clusters in the Mission, Richmond, Castro, Lower Nob Hill, Marina, SoMa, and North Beach neighborhoods.
- **Beauty Salons:** Largely concentrated in the northeast corner of the city, with the largest clusters in the Marina/Cow Hollow neighborhood and around Union Square.
- **Bars & Liquor Stores:** Also concentrated in the northeast corner of the city close to shuttle stops.
- **Jewelry Stores:** These do not cluster as much around shuttle stops, with the largest concentration in Union Square. I was surprised by the grouping in the area around 24th Street and Mission.
- **Childcare Services:** Interestingly these businesses do not cluster around shuttle

stops, reinforcing the impression of tech workers as young and single.

- **Property Appreciation:** This heatmap shows every property in San Francisco that appreciated at least 70% from 2011 – 2013. Brighter regions indicate higher concentrations of these properties. The brightest regions—i.e., those with the most properties that appreciated at least 70%—occur in neighborhoods with multiple shuttle stops. Bright neighborhoods on average have faster-rising property values than darker neighborhoods. In order to justify higher property values, rents must subsequently increase.

## Data Sources

Private shuttle stop locations were mapped by the Stamen design firm in mid-2012, and their data is available here

(<http://dotspotting.org/u/939/sheets/2227/#c=12.00>)

Stamen recruited several people to stand at street corners all over San Francisco and record private shuttle stop locations using their mobile phones and the Foursquare app. Here is how Stamen describes their methodology

(<http://stamen.com/zero1/>):

We enlisted people to go to stops, measure traffic and count people getting off and on and we hired bike messengers to see where the buses went. The cyclists used Field Papers to transcribe the various routes and what they found out, which we recompiled back into a database of trips, stops, companies and frequency. At a rough estimate, these shuttles transport about 35% of the amount of passengers Caltrain moves each day. Google alone runs about 150 trips daily, all over the city.

My goal was to compare the locations of these shuttle stops to data that can speak to the relative affluence of neighborhoods and answer questions like: how do the neighborhoods with many shuttle stops compare to neighborhoods where shuttles don't stop? And how quickly are neighborhoods with shuttle stops changing? The city of San Francisco maintains an online portal at [data.sfgov.org](https://data.sfgov.org/) (<https://data.sfgov.org/>) that provides access to several interesting datasets. To address my questions about neighborhood changes I chose three datasets available at San Francisco's open data portal:

1. Active Businesses Registered in San Francisco (<https://data.sfgov.org/Business->



and-Economic-Development/Businesses-Registered-in-San-Francisco-Active/funx-qxxn)

2. Property Assessment Roll 2011  
(<https://data.sfgov.org/Property/San-Francisco-Property-Assessment-Roll-2011/vzze-vx7k>)
3. Property Assessment Roll 2013  
(<https://data.sfgov.org/Property/San-Francisco-Property-Assessment-Roll-2013/4sgn-36v2>)

The first dataset is a list of all 143,967 businesses registered to operate in San Francisco. This dataset includes information on business category, exact location, and the date of registration, so you could for instance figure out when a specific restaurant in the Mission registered its location and its exact address. One important caveat with this dataset is that it only contains information for currently active businesses, so businesses that registered but subsequently failed won't appear. Because my heatmaps use data for businesses that registered very recently, from 2011 to 2013, I don't expect survivorship bias to have a large effect on the results. I filtered the dataset to focus on specific business categories that I expected would shed light on the relative affluence and degree of

gentrification of neighborhoods: restaurants, cafes, bars, liquor stores, jewelry stores, beauty salons, and childcare providers.

The second and third datasets provide the assessed values of properties across San Francisco. These property values are computed by the San Francisco Office of the Assessor-Recorder in order to determine property taxes each year. There were 196,782 properties in 2011 that existed in 2013. I used the data to analyze property appreciation on those properties between 2011 and 2013, focusing on the properties with appreciation of at least 70%.

Finally, I used MapQuest (<http://www.mapquestapi.com/geocoding/>) to geolocate any addresses that didn't already have exact longitude and latitude values.

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## Where tech buses roam, affluence follows

Heather Knight

Updated 9:14 am, Wednesday, February 12, 2014

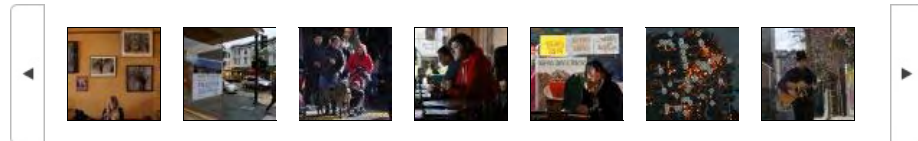
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Patrons stare into their laptop screens at Cafe La Boheme near 24th and Mission streets, a once-bedraggled, increasingly upscale locale that's a techie favorite. Photo: Carlos Avila Gonzalez, The Chronicle



Which came first, the Google bus stop, the two-bedroom apartment for \$10,500 a month, or the new place that sells organic fruit juice and nut milk for \$12 per serving?

All of the above exist on Valencia Street within blocks of each other, and a freelance journalist living half a world away has shown that they have interesting connections.

[Chris Walker](#), 29, lives in Mumbai, India, with his girlfriend, who works in international

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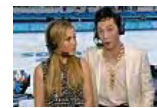
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development. He recently used San Francisco city government's open data programs to map the bus stops of those controversial private shuttles that carry tech workers to their offices on the Peninsula and in Silicon Valley.

He also mapped the restaurants, cafes and bars that took out business licenses from 2011 to 2013. And he compared the city's property assessment rolls from 2011 and 2013 and mapped where properties appreciated the most in that period. Surprise, surprise - they're all grouped together in what Walker has dubbed "clusters of affluence."

"San Francisco has always been a really expensive place to live, but I wanted to see if these neighborhoods had become even more gentrified and affluent with the arrival of all these tech workers who commute to the South Bay," said Walker. "Broadly, I think the data does show that."

Walker, a Union City native, worked in data visualization for a large tech company before deciding to shift those skills to data journalism to tell, as he described it, "important news stories that I care about." Like the gentrification of some of San Francisco's most beloved neighborhoods.

#### Feeding upon itself

As Walker sees it, technology companies stationed their bus stops in fun, hip neighborhoods where their young workers were increasingly moving. Those new residents, with plenty of disposable income, prompted more new restaurants, cafes and bars to open - drawing more tech workers, raising housing prices and luring more new businesses.

"It becomes this vicious circle where you see the neighborhoods just keep getting more affluent, and that's where you see an uptick in evictions and people getting forced out," Walker said. "That's where a lot of unrest and anger is coming from."

While many neighborhoods around San Francisco contain Walker's "clusters of affluence" - from the Castro to South of Market to North Beach and more - the Mission is ground zero.

Companies like Google, Apple, Yahoo and Facebook hire private shuttles to pick up their workers in the Mission, and it's there that protesters in recent months have blocked some buses, arguing that tech companies are responsible for the neighborhood's skyrocketing housing prices and rampant evictions.

A recent UC-Berkeley study found the average tech shuttle rider is a single male about 30 years old who pulls down \$100,000 or more a year.

#### Drinking establishment

That's good news for [Carla Gutierrez](#), 34, who opened Silver Stone Coffee at 24th and Mission streets two years ago. She said she gets a lot of foot traffic from tech workers grabbing coffee and bagels on their way to catch their shuttles in the morning. They also scoop up the \$4 juice drinks called the [Green Machine](#) (think spinach, celery and cucumber) and Jugo Vampiro (carrots, pineapple, beets.)

Her father has owned the property, formerly a bar called the [Carlos Club](#), for 30 years - and Gutierrez likes the new Mission.

"I think any change in this neighborhood is good," she said.

Some managers of older businesses appreciate the new clientele as well. [David Rantisi](#) is



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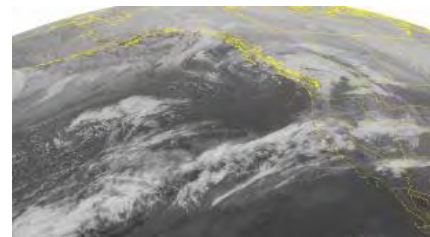


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the 58-year-old manager of the **Tropicana** convenience store on Mission near 22nd Street. He said he could barely pay his bills during the recession, but now gets a lot of customers who are young and educated and sport laptop bags slung over their shoulders.

### Not everyone happy

The loud clangs of construction equipment just outside his door are music to his ears because they signify more buildings and more potential customers.

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# EXHIBIT I



# **Riding First Class: Impacts of Silicon Valley Shuttles on Commute & Residential Location Choice**

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## **ABSTRACT**

Employer-provided private shuttles have become a prominent part of the transportation network between San Francisco and Silicon Valley. As the Bay Area plans for transportation investments to meet sustainability goals and accommodate future population and employment growth, an understanding of the role of regional commuter shuttles becomes increasingly important. This study investigates the impacts of private shuttles on commute mode and residential location choice by conducting a travel time comparison and surveying shuttle riders. The authors find that the provision of shuttles and knowledge of shuttle stops influences both commute mode and residential location choice. Shuttles are an attractive option due to their time and cost savings compared to other modes. However, shuttles exacerbate the jobs-housing imbalance by enabling individuals to live farther from work. The extent to which location of shuttle stops influences residential location choice varies from person to person, though the vast majority of shuttle riders live within a short walk from the nearest shuttle stop. Policies should strike a balance between improved sustainability with existing land use patterns and better long-term regional transportation and land use planning.

## INTRODUCTION

Employer-provided private shuttles have become a prominent part of the San Francisco Bay Area's transportation network, ferrying workers between San Francisco and other parts of the region and Silicon Valley. These services have grown rapidly in the last ten years. Shuttles provide substantial environmental and congestion reduction benefits compared to solo driving, and they enable employers to compete for high tech workers across a much larger labor shed than conventional transit. However, in San Francisco, shuttles have also engendered community concerns about local traffic impacts and escalation of housing costs.

In the coming decades, the San Francisco Bay Area is projected to see significant growth in population and employment, as city and state policies promote and support added infill development to meet increasing housing demands and address sustainability goals. A better understanding of the role of employer-provided shuttles and their impacts on residential location and commute choice thus becomes increasingly important.

This study investigates employer-provided shuttles and their impacts on commute mode and residential location choice for Silicon Valley tech employees, focusing on the San Francisco to Silicon Valley services. We ask, does the provision of shuttles reduce vehicle miles traveled? Does the availability of shuttle service influence residential location choice near shuttle stops?

## BACKGROUND

### **San Francisco Bay Area transportation network: Issues, trends & policies**

The San Francisco Bay Area is a dynamic region with a population of 7.2 million, a land area of approximately 18,000 sq km (7,000 sq mi), and a gross regional product of \$535 billion. Across this region, twenty-eight transit agencies collectively carry some 1.6 million passengers a day (Metropolitan Transportation Commission). Nevertheless, solo driving is the dominant commute mode in the Bay Area, and this auto dependence imposes major costs to society including congestion, lost productivity, noise, pollution, and other negative externalities (Terwilliger Center for Workforce Housing 2009). In 2012, the San Francisco-Oakland area ranked second in the country for yearly hours of delay per auto commuter due to congestion, while San Jose ranked 28th (Lomax et al. 2012).

The population is projected to increase to 9.3 million by 2040, and employment to increase 33% (Association of Bay Area Governments et al. n.d.). The existing transport network is strained, as are its funding sources. While congestion is getting worse, the automobile transportation network is not expected to expand commensurately with vehicle miles traveled (VMT) (Cervero 2002; Association of Bay Area Governments et al. n.d.). Likewise, few major transit expansions are anticipated. To accommodate population and employment growth, and mitigate travel externalities, the region is emphasizing "sustainable" transportation strategies such as demand management and optimization of existing highway and transit operations. These strategies are relatively inexpensive and have low environmental costs, while providing increased accessibility.

Affordable, environmentally benign strategies are also needed to meet the greenhouse gas reduction targets set forth in state laws, notably Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, and California Senate Bill 375 (SB 375), the California Sustainable Communities and Climate Protection Act of 2008 (Association of Bay Area Governments et al.

n.d.). SB 375 requires metropolitan areas to develop a Sustainable Communities Strategy (SCS) that coordinates transportation, land use, and housing in the long-range transportation planning process to meet these goals.

A comprehensive approach must be taken under SB 375. Locating housing and services close to employment centers and transit is crucial. In addition, a suite of Transportation Demand Management (TDM) strategies is needed, including fast, reliable transit and safe and convenient walking and biking environments. Parking management, carpooling, carsharing, programs that shift travel to off-peak periods, and even road pricing initiatives are often part of TDM strategies (Victoria Transport Policy Institute 2013).

In this context, the rise of employer shuttles offers new opportunities for reducing VMT and emissions. The shuttles expand transit services at little cost to the public (assuming local traffic impacts are manageable) and attract many commuters who might otherwise drive. Nonetheless, the shuttles also raise questions about the impact on public transit services and the land use implications raised by long-distance commutes.

### **Employer-provided shuttles in Silicon Valley**

“Shuttles” can refer to a variety of public or private transportation services; serve entities like academic institutions and private employers; operate within specific geographic areas, including to/from transit stops; operate on a schedule or on demand; and use vehicles ranging from mini-vans to full-sized coach buses (SFCTA 2011). This study focuses on employer-provided commuter shuttles that ferry employees from San Francisco to Silicon Valley. These privately operated shuttles are often full-size coach buses with regular, fixed schedules.

Private commuter shuttles are not a new phenomenon. Private commuter buses operated in California as early as the 1950s, and grew during the 1980s (Singa & Margulici 2010). Employer-provided bus services existed by the 1980s, when Hughes Aircraft, a Southern California aerospace company, contracted with a private operator to run ten bus routes at a subsidized cost to employees (Cervero 2012). At the same time, private companies were running intercounty routes to large work sites in Southern California and the Bay Area (Cervero 2012).

The employer-provided shuttles serving Silicon Valley are distinct from previous shuttles that focused primarily on the “last mile” problem between suburban workplaces and the closest rail station. These shuttles are express buses provided primarily as an employee benefit for recruitment, retention, and productivity purposes; as such, they are free for employees and need not operate profitably (SPUR 2013; Harrington 2013; Cosgrove n.d.; Singa & Margulici 2010). These shuttles offer amenities such as spacious seats, working tables, and wireless internet (Singa & Margulici 2010). Employers value the shuttles as an effective TDM strategy to improve their environmental footprint and reduce parking requirements (Apple, Inc. 2012; Genentech, Inc. 2013; Google, Inc. 2011; Google, Inc. n.d.; SPUR 2013). The shuttles are usually one of several transportation options provided, including guaranteed rides home, onsite carsharing or bikesharing, intra-campus shuttles, transit subsidies, and carpool programs (SPUR 2013; Harrington 2013).

Google was the first tech company to provide this type of shuttle at its Mountain View headquarters (Harrington 2013). In 2004, Google upgraded its vanpool program to a shuttle route that made two stops in San Francisco and carried 155 passengers a day (Thomas 2012). Ridership doubled within a year. Google currently operates about 100 buses at 80 shuttle stops across the Bay Area with 380 daily departures and approximately 10,000 daily one-way trips (Harrington 2013). In comparison, the San Francisco transportation network accommodates approximately 1.9 million auto trips and 600,000 transit trips per day (Cambridge Systematics 2012). Google's shuttle ridership and fleet are similar in scale to the fixed-route suburban bus service of Central Contra Costa Transit Authority (Metropolitan Transportation Commission 2012b). While Google's shuttles cover a large portion of the Bay Area, two thirds of their shuttles and ridership are between San Francisco and Mountain View (Harrington 2013).

Other Silicon Valley technology companies have followed suit, with competitors such as Yahoo! launching service in 2005, Genentech in 2006, Apple and eBay in 2007, and Facebook in 2009 (Helft 2007; Anon 2007; Kincaid 2009; Roche n.d.). By 2012, at least 9 employers were offering shuttles between San Francisco and Silicon Valley, with at least 7,000 people riding the shuttles daily (SFCTA Plans and Programs Committee 2012). Other companies that provide shuttle services include Netflix, Electronic Arts, and LinkedIn (SFCTA 2011).

The need for these shuttles is in part a reflection of the region's fragmented transit services. The Bay Area Rapid Transit District (BART) operates in four counties but does not currently serve Silicon Valley (San Francisco Bay Area Rapid Transit District 2009). From San Francisco, Caltrain offers rail service to 32 stations between San Francisco and southern Santa Clara County, but many users require a lengthy access trip to reach Caltrain (Caltrain n.d.). The San Francisco Municipal Transportation Agency (SFMTA), which operates Muni, the public transit system for San Francisco, does not offer services outside of the city. SamTrans offers an express bus between Palo Alto and San Francisco, but the route serves only the Financial District in San Francisco and runs hourly (San Mateo County Transit District 2012). The region's inability to better integrate its transit services has created gaps that the corporate shuttles are now filling.

### **Responses to the shuttles & the Commuter Shuttles Policy and Pilot Program**

The shuttles have been met with mixed reception by San Franciscans. Most shuttle stops are located at Muni bus stops, and the shuttles occasionally impede Muni access or block bicycles and auto traffic (Riley 2012). Residents have also raised complaints about noise and vibrations from shuttles, particularly on residential streets (SFCTA 2011). Moreover, there is anecdotal evidence that some tech employees choose to live close to shuttle stops, causing real estate prices to rise further and gentrify portions of San Francisco (Helft 2007; Roose 2012; Carroll 2013; Lloyd 2008; Pisillo 2012).

The San Francisco County Transportation Authority (SFCTA), which administers the half-cent local transportation sales tax program and acts as the congestion management agency for the city, reports that the shuttles have reduced VMT and solo driving trips, leading to decreases in greenhouse gas emissions and air pollution (SFCTA 2011). Shuttle riders themselves are extremely positive about the shuttle's impact on their quality of life, often citing it as their most important employee benefit (SPUR 2013; Helft 2007).

In response to the growth of privately operated shuttles, the SFCTA undertook an extensive study focusing on the regional employer shuttles. The resulting Strategic Analysis Report documented benefits and impacts of the shuttles, and recommended the creation of the Muni Partners Program at the SFMTA coordinate, manage, and support the growth of the private shuttle sector (SFCTA 2011). Established in 2011, the Commuter Shuttles Policy and Pilot Program (formerly known as the Muni Partners Program) is one component of the city's overall TDM strategy.

The primary goals of the Commuter Shuttles Policy and Pilot Program are to better understand the private shuttle sector, establish clear and coherent curb use policies, develop identification and communication processes to increase accountability of shuttles, and collaborate with shuttle providers for mutually beneficial outcomes (SPUR 2013; SFCTA Plans and Programs Committee 2012). To this end, the program has inventoried shuttle providers, studied their fleets' fuel and activity profiles, surveyed shuttle riders, and collected data on operational conflicts. The Commuter Shuttles Policy and Pilot Program has not focused on the shuttles' impacts on residential location choice. In July 2013, SFMTA announced plans for an 18-month test of a new set of shuttle regulations (Cabanatuan 2013). Shuttles would be limited to a network of 100 designated Muni stops, and would be required to purchase permits and display visible identification placards. Shuttle operators would also be required to give priority to Muni buses at stops, and share data on ridership and routes with SFMTA.

### **Transportation and land use connection**

Strategies to address California's sustainability goals and ensure the economic vitality of the region must take into consideration the connections between transportation, land use, and housing. Transportation and land use influence each other, so strategies that do not address both factors are apt to be ineffective (Cervero & Landis 1995).

The San Francisco Bay Area faces major transportation, land use, and housing challenges. Housing costs are high, with the Bay Area ranking number one in median home value and median gross rent. Bay Area households spend nearly 60% of their income on housing and transportation (Terwilliger Center for Workforce Housing 2009). The state mandates that cities plan for housing by affordability level in their general plans, and regional agencies assign housing allocations to the cities and counties (Association of Bay Area Governments et al. n.d.). In the Bay Area, Priority Development Areas (PDAs), infill development opportunity areas with easy access to transit, jobs, and services, have been the focus for most recent regional housing allocations (Association of Bay Area Governments et al. n.d.). These efforts focus on meeting housing needs in transit-oriented environments to facilitate regional connectivity, and assign much of the responsibility for housing to the largest cities. While the Bay Area has made progress in aligning land use, housing and transportation policies, most cities have not been able to meet their housing allocations except for the most affluent residents. According to the 2013 Silicon Valley Leadership Group CEO survey, the high cost of housing is the top challenge to attracting and retaining employees (Hirahara 2013).

A major challenge is the jobs-housing imbalance. Employment is concentrated in job-rich communities that do not house a commensurate portion of the workforce. For instance, the region as a whole has about 0.46 jobs per capita (Association of Bay Area Governments et al.

n.d.; California Employment Development Department 2010); Palo Alto has 2.5, while San Jose has 0.83 (Arieff 2012). This imbalance increases driving, raises greenhouse gas emissions, expands the commute shed for workers, and raises equity and job access concerns (SPUR 2012). Improving this balance means less commuting, more personal time, and better quality of life (Hirahara 2013). However, a simple numeric balance is not the whole story, since housing choice depends on factors such as housing type, price, and local amenities.

The Bay Area is home to the nation's most competitive knowledge services sector, which represents the fastest-growing portion of the regional economy (SPUR 2012). Many of these tech jobs are located in low-density office parks and corporate campuses in Santa Clara County, locations that are less conducive to transit use, and encourage solo driving (Cervero 2012; Singa & Margulici 2010). However, congestion is chronic on the freeway corridors that serve Silicon Valley (Rosenberg 2012). To ensure the economic vitality of this sector in light of the jobs-housing imbalance, TDM strategies like shuttle service become increasingly important.

## **METHODOLOGY**

### **Scope**

The study investigates whether provision of employer-provided shuttles and knowledge of their location influences employees' commute mode and residential location choices. There are several types of shuttle service, and this study focuses on employer-provided commuter shuttles that ferry employees from San Francisco to Silicon Valley. These privately operated shuttles are most often full-size coach buses with regular, fixed schedules.

While regional shuttle services operate throughout the Bay Area, the largest concentration originates in San Francisco. The study focuses on individuals who board shuttles in San Francisco and work full-time in San Mateo and Santa Clara Counties at technology-related companies.

### **Data & Approach**

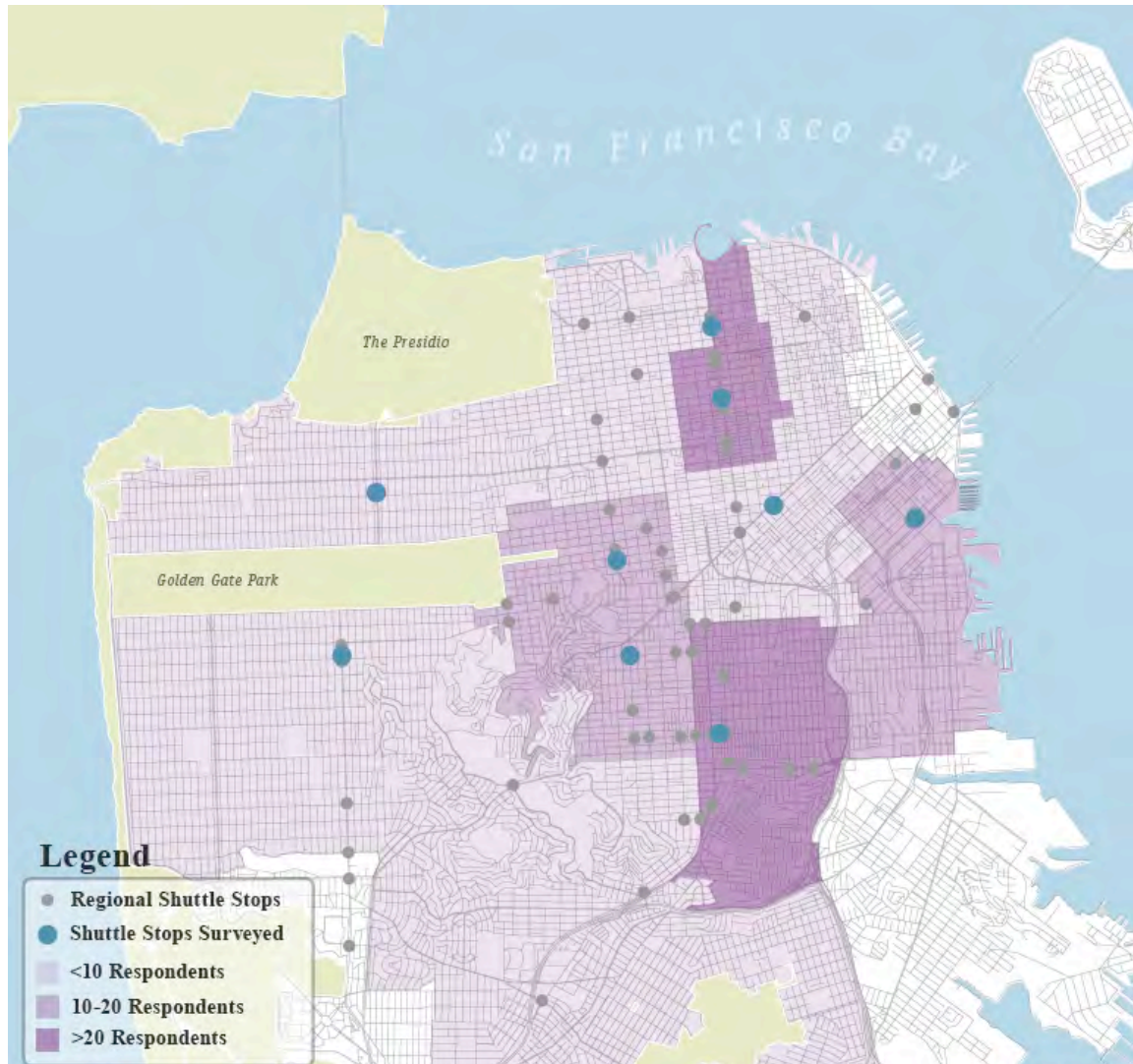
To better understand the role that shuttles are playing in commuting along the Peninsula, we compared travel times by shuttles and transit between nine of the roughly 200 shuttle stops in San Francisco and four major employers offering shuttles. We also developed and implemented a survey to investigate how the provision of shuttles and knowledge of stops influence Silicon Valley employees' residential location choice and commute mode. We supplemented our findings with interviews with the SFCTA, SFMTA, and Google, and by attending a San Francisco Planning and Urban Research-hosted panel on the Silicon Valley commuter shuttles.

Nine of the roughly 200 shuttle stops in San Francisco were selected for study, with time and resource constraints being the limiting factor on the number of locations surveyed. Shuttle stops were chosen with attention to geographic coverage and ridership volumes. The authors relied on maps of shuttle stops compiled by the SFCTA, Stamen Design, and Google (SFCTA 2011; Stamen Design 2012; Anon 2013). Shuttles with particularly high ridership were identified in the field data collection through the Muni Partners Program (Nelson\Nygaard Consulting Associates, Inc. 2012). Clusters of stops were also given special consideration due to the possibility of reaching a broader base of shuttle riders. All shuttle locations surveyed were served by more than one tech company.

### *Travel Time Comparison*

Using Google Maps, travel times for the shuttles and transit were calculated between each of the nine sampled shuttle stops and four of the largest shuttle providers: Apple, Facebook, Genentech, and Google. Shuttle times were approximated as seven minutes of walking access time (based on survey responses from shuttle riders), plus the non-congested driving time between the shuttle stops and employers escalated by 40 percent, plus five minutes for loading and unloading. The escalation factor corresponds to the ratio between congested and non-congested travel times from San Francisco to San Jose during the weekday morning peak, based on Caltrans data for June 2013 (California Department of Transportation n.d.). The average walking access time was calculated using the responses of shuttle riders to the survey presented in the next section of this paper. Only access times for those who live within a 15-minute walk of a shuttle stop were considered, since it is assumed that commuters living more than 15 minutes away from shuttle stops would be likely to use a faster access mode. This assumption is borne out by the survey data as well: 76 percent of shuttle riders lived within 15 minutes of their shuttle stop, and a commensurate 80 percent of shuttle riders reported walking to their shuttle stop.

Transit travel times assume that a last-mile shuttle would be provided, and are calculated as seven minutes of walking access to transit, plus the travel time for arrival at the destination Caltrain station (or, if faster, BART station for Genentech) by 9:00am, plus three minutes for a transfer to a last-mile shuttle, plus the non-congested driving time between the rail station and the corporate campus. The seven-minute access time for transit may be a slight overestimate since there could be a bus stop closer to a commuter's home than the shuttle stop, but the maximum magnitude of this bias is very small. The travel time comparison evaluates the walk-to-transit and walk-to-shuttle accessibility to Silicon Valley of the areas around the nine sampled shuttle locations.

**FIGURE 1 Map of Regional Shuttle Stops & Locations Surveyed**

### *Employee surveys*

Surveys were administered online using Qualtrics survey software. Flyers displaying a QR code and the URL for the survey were distributed to employees waiting at nine shuttle stops in spring 2013. Unlike the travel time comparison, which was limited to four major companies, the survey was distributed to all employees waiting at the shuttle stops. A \$50 cash prize was used as an incentive for participation. In total, 1,169 individuals were approached with a flyer, and 924 total flyers were distributed. The survey link was opened 291 times; however, responses were excluded from the analysis if the respondent stopped before finishing the survey (44 respondents), or if the respondent did not work at a technology-related company in San Mateo or Santa Clara counties, or left critical questions blank such as commute mode choice (77 respondents). Of the 170 valid responses, 130 were from commuters taking employer-provided shuttles between San Francisco and Silicon Valley.



The online survey took approximately 10 minutes to complete. Respondents were asked about their workplace location, whether their employer offers shuttles, their primary commute mode, and other ways of commuting in the past three months. Subsequent questions asked about their reasons for using the shuttle and how they would commute without it, and their residential choices, including the factors that went into choosing their home. Additionally, basic demographic information was collected. Finally, respondents were given the opportunity to elaborate on previous answers in a free response.

An online survey could rule out users lacking internet access, but we believe it is not a limitation since the target demographic are technology-savvy individuals. The survey was opened by 31.5% of those who received flyers, and valid responses were received from 58.4% of those who opened the survey. Overall, valid responses were returned from 18.4% of those who received flyers. The non-completion rate among those who opened the survey is likely due to the personal nature of questions about work and home location and reluctance by some employees to share information about their employers. The results of this research could be strengthened by a larger sample, but a sample of 130 shuttle riders still provides useful insights into the factors influencing commute mode and residential location choices.

## **RESULTS AND ANALYSIS**

### **Travel Time Comparison**

The travel time comparison examines the added accessibility created by employer-provided shuttles. Shuttles will only impact commute mode and residential location choice if they offer a service more desirable than transit or driving alone. Cost and travel time are two of the most important factors in mode choice. Employer-provided shuttles, as a free employee benefit, are superior on user costs. They also offer dramatic time savings over transit in the San Francisco to Silicon Valley corridor, and over solo driving where shuttles are able to use carpool lanes. For Google, shuttle trips are usually limited to three pick-up stops per route, and up to five drop-off points on campus; other buses run express, with just one pick-up and drop-off, which contributes to time savings (Harrington 2013).

**TABLE 1 Travel Time Comparison between Transit and Shuttles**

Shuttle Stop	Apple (Cupertino)			Facebook (Menlo Park)		
	Transit Time	Shuttle Time	Ratio	Transit Time	Shuttle Time	Ratio
Park Presidio Blvd & Geary Blvd	126	82	1.5	107	72	1.5
19th Ave & Judah St	127	76	1.7	100	65	1.5
Castro St & 18th St	115	79	1.5	92	67	1.4
Divisadero St & Haight St	116	79	1.5	93	64	1.5
Guerrero St & 24th St	102	74	1.4	82	60	1.4
Van Ness Ave & Union St	119	86	1.4	98	71	1.4
Van Ness Ave & Pine St	113	83	1.4	93	68	1.4
8th St & Market St	103	78	1.3	80	61	1.3
4th St & Townsend St	81	74	1.1	61	57	1.1
<b>Average (minutes)</b>	<b>104.3</b>	<b>79.0</b>	<b>1.3</b>	<b>82.6</b>	<b>64.9</b>	<b>1.3</b>

Shuttle Stop	Genentech (South San Francisco)			Google (Mountain View)		
	Transit Time	Shuttle Time	Ratio	Transit Time	Shuttle Time	Ratio
Park Presidio Blvd & Geary Blvd	68	50	1.4	114	76	1.5
19th Ave & Judah St	60	46	1.3	114	69	1.6
Castro St & 18th St	57	40	1.4	103	71	1.5
Divisadero St & Haight St	61	39	1.6	104	68	1.5
Guerrero St & 24th St	43	34	1.3	90	64	1.4
Van Ness Ave & Union St	73	46	1.6	107	75	1.4
Van Ness Ave & Pine St	66	41	1.6	101	72	1.4
8th St & Market St	44	36	1.2	91	65	1.4
4th St & Townsend St	33	32	1.0	69	61	1.1
<b>Average (minutes)</b>	<b>49.1</b>	<b>40.3</b>	<b>1.2</b>	<b>92.2</b>	<b>69.1</b>	<b>1.3</b>

**Notes:**

- [1] All travel times are in minutes.
- [2] Transit travel times are calculated as seven minutes of walking access time plus the transit travel time for arrival at the destination Caltrain or BART station by 9:00am on Monday morning, followed by a 3-minute transfer, plus the drive time for a last-mile shuttle from Caltrain or BART to the corporate campus.
- [3] Shuttle travel times are calculated as the non-congested driving time escalated by 40%, plus seven minutes of walking access time to the shuttle stop (based on survey data) and five minutes for loading/unloading. The 40% escalation factor corresponds to the ratio between congested and non-congested driving times for the weekday morning peak from San Francisco to San Jose, based on Caltrans data for June 2013.

The employer-provided shuttles significantly increase alternative-mode accessibility between San Francisco and Silicon Valley. For all four employers, transit plus a last-mile shuttle takes about 1.3 times as long as shuttles on average (and up to 1.7 times as long). The 4th St & Townsend St shuttle location was the most accessible to Silicon Valley, primarily because this cluster of shuttle stops is directly adjacent to the San Francisco Caltrain station. However, even in this case, transit plus a last-mile shuttle would still take 10 percent longer than a shuttle for three of the four companies.

There are other reasons a commuter may choose transit over driving alone, such as increased productivity during the commute, reduced stress from not driving, and cost savings on gas, parking, and reduced vehicle ownership. However, because employer-provided shuttles are running from many locations rather than just a few Caltrain stations, they clearly represent an accessibility increase around the locations in San Francisco at which they are provided, and combine many of the most attractive features of transit with the travel time of driving.

### Survey results for shuttle riders

Of the valid survey responses, 130 indicated that an employer-provided shuttle was their primary commute mode between San Francisco and Silicon Valley. The shuttle riders reported employers from 13 cities in Silicon Valley.

#### *Commute choice*

Riders were asked to select up to three reasons for choosing to ride the shuttles. The most commonly cited reason was that it is free (57% of respondents). The next most commonly cited factors were increased work productivity (44%), avoiding traffic congestion (35%), and the amenities and comfort of the shuttle (33%).

**TABLE 2 Shuttle Riders' Commute Choice: Reasons for Choosing the Shuttle**

<b>Factors</b>	<b>N</b>	<b>% of Total Riders</b>
Shuttle is free	74	57%
Work productivity	57	44%
Avoid traffic congestion	45	35%
Shuttle amenities/comfort	43	33%
Reduce carbon footprint/environmental benefits	38	29%
Convenience of a shuttle stop	36	28%
Don't own a vehicle	35	27%
Other options are too slow	29	22%
Other	9	7%
Lack of parking	7	5%

Note: Riders were asked to select up to three factors for riding the shuttles.

To understand the commute mode impacts of the shuttles, respondents were also asked how they would get to work if shuttle service were discontinued. Among shuttle riders, 48% reported they would drive alone. This is similar to results from the SFCTA and SFMTA's Commuter Shuttles Policy and Pilot Program, which found that 49.5% of a larger sample of shuttle riders would drive alone if not for the shuttles (SFCTA Plans and Programs Committee 2012). Of the shuttle riders who have also commuted by driving alone in the past three months, nearly 70% said they would drive if there were no shuttle. Roughly a third of commuters would take alternative modes such as Caltrain (18%), other transit (2%), or carpooling (15%) if the shuttles were discontinued. These findings support the positive impacts of shuttles on environmental and congestion reduction goals, since they are reducing solo driving in a congested freeway corridor. However, they also suggest that the shuttles are reducing use of public transit. If the survey results can be generalized to the estimated 7,000 daily San Francisco-Silicon Valley shuttle riders, 20%, or about 1,400 daily riders, are lost to transit because of the shuttles.

**TABLE 3 Shuttle Riders' Response if Shuttle Were Not Provided**

<b>Response</b>	<b>N</b>	<b>% of Total Riders</b>
Drive alone	63	48%
Caltrain	23	18%
Carpool	19	15%
Resign or quit working there	13	10%
Other public transit	3	2%
Bike	2	2%
Other	2	2%
No response	5	4%
<b>Total</b>	<b>130</b>	<b>100%</b>

It is also notable that shuttle riders do not completely abandon other commute modes. Nearly half (48%) of all shuttle riders have also commuted by driving alone in the past three months. Shuttle riders have also carpooled (19%) or used Caltrain or other public transit (12% for both).

#### *Residential location choice & household characteristics*

As indicated in Table 3, if shuttle service were discontinued, ten percent of shuttle riders said they would leave their job. This underscores the value of the shuttles as a recruitment and retention strategy for companies, since a substantial minority of employees would be unwilling to undertake a long commute without shuttles.

Commuters could also respond to a discontinuation of shuttle service by changing their residential location. When asked if they would move if the shuttles were discontinued, 40% said they would move somewhere closer to their job. This finding suggests that the provision of shuttles does indeed enable a substantial portion of the sample to live in neighborhoods of San Francisco that are farther from their workplaces.

Shuttle riders were also asked about their current residential location choice. Approximately half (45%) of shuttle riders did not move homes since accepting their current job. However, 22% of shuttle riders had moved within the Bay Area to somewhere farther from their workplace since accepting their job while only 10% had moved closer, which suggests that shuttles enable individuals to live farther from work and closer to their personal preferences. All individuals who moved from outside the region to accept their job in Silicon Valley were aware of the shuttle benefit when choosing their home.

Shuttle riders are very likely to live close to their nearest stop. More than half (57%) of respondents live less than a 10-minute walk from their shuttle stop, and 76% are within a 15-minute walk. The majority (80%) walk to their stop.

Respondents were asked to rate the importance of a number of factors when choosing their current home, using a 1 to 5 scale, from “not at all important” to “extremely important.” The

most important factor was “ease of walking in neighborhood,” which received an average rating of 4.31. Shuttle riders also placed a high value on proximity to entertainment, culture, and amenities, proximity to transit, and living in an urban neighborhood. Proximity to a shuttle stop was the fifth-most influential characteristic, with an average rating of 3.90. Not surprisingly for a group whose residences were 30-80 km (19-50 mi) from work, proximity to work was relatively unimportant.

**TABLE 4 Importance of Various Factors in Residential Location Choice**

<b>Factor</b>	<b>Mean</b>	<b>Std. Dev.</b>
Ease of walking in neighborhood	4.31	0.72
Proximity to entertainment, culture, and amenities	4.16	0.77
Proximity to transit	4.06	0.80
Living in an urban neighborhood	4.05	0.97
Proximity to employer-provided commuter shuttle	3.90	1.27
Affordability	3.84	0.86
Ample living space	3.57	0.92
Proximity to friends	3.51	1.05
Proximity to work	2.71	1.13
Proximity to family	1.91	1.26
Quality of school district	1.45	0.89

The demographics of San Francisco shuttle riders are worth noting. Most are male (69%). Only 24% lived with a spouse, and only 3% had children. The average age of the shuttle riders was 31.6 years old and the median age was about 30. About 60% had at most a bachelor’s degree, 24% a master’s or professional degree, and 6% a doctorate. Only 2% earned less than \$50,000 and only 13% earned less than \$75,000, while 67% reported an income of \$100,000 or more. The majority (85%) rent their home. Shuttle riders placed the least importance on quality of school district, which is consistent with the shuttles’ young, single, childless demographic.

## **DISCUSSION**

Does the provision of shuttles and knowledge of shuttle stop locations influence commute mode and residential location choice? In short – yes.

The travel time comparison and survey results highlight the value of shuttles to employees. Commuting to Silicon Valley from San Francisco on public transit takes about 30 percent longer than shuttles, which combine many of the most attractive features of transit with a travel time close to that of driving. Aside from savings in time and cost, commuters also place high value on amenities and increased productivity afforded by the shuttles. One shuttle rider comments:

“It gives me a calm, clean, quiet place to work with WiFi... 75% of the time I work on the shuttle, but I often use that time to work to organize my day – personal and professional... Caltrain is a faster, more efficient option for me, but

does not afford me the same environment to get things done. People respect the shuttle and co-commuters on the shuttle. When I do carpool every few months, the number of single drivers on the road astounds me and I really believe we are helping to minimize pollution and congestion by lowering our carbon footprint.”

The data shows that nearly half of current shuttle riders would drive alone if the shuttles were not provided, supporting the positive impacts of the shuttles on environmental and congestion reduction goals. On the other hand, since 20% say they would use public transit were the shuttles not available, the shuttles do have an impact on public transit ridership and finances.

With regards to residential choices, the data indicate that many are choosing to live farther away from their workplace than they otherwise would. Additionally, 22% of shuttle riders have already moved farther from their jobs since accepting their offer, suggesting that shuttles enable some commuters to live in San Francisco who would otherwise live closer to work.

The survey comments reflected these different experiences. One commuter writes, “I chose to live in San Francisco because of my employer-provided commute shuttles. I would otherwise have lived in [the South Bay], because I don't have a car and who the hell wants to drive that much anyway.” Another shuttle rider who is looking to move says, “the convenience of the employee shuttles makes the commute tolerable enough that I don't feel the need to move closer... within San Francisco I am restricting my apartment search to locations that are within walking distance of a shuttle stop.”

Shuttles enable individuals to live farther from work, and closer to their preferred neighborhoods. The importance of cultural amenities was evident in several comments. One commuter reflected that, “I would love to work in San Francisco, but I am personally (and financially) invested enough in my employer that I would not consider leaving... I lived in Sunnyvale my first year at my current job and hated it so much. I don't think I would ever live in the South Bay again. I felt very isolated there as a single, gay man.”

The relationship between shuttle stop locations and specific neighborhood choice within San Francisco is more complicated. Three quarters of respondents live within 15 minutes of a shuttle stop, with many explicitly using shuttle proximity as a criterion. Respondents wrote, “I relocated to San Francisco ... from Europe and picked my apartment and neighborhood for its proximity to the corporate shuttle stop,” and, “I moved specifically to be in a neighborhood that would allow me better access to a regular shuttle service.” However, other factors such as urban amenities were more influential overall than shuttle stop proximity. Moreover, employers plan shuttle routes to serve neighborhoods where employees live. Shuttle routes thus may follow tech employees to neighborhoods that people, tech employees or not, find desirable.

Additionally, nearly half of respondents would either move closer to their job or quit if shuttle service were discontinued. One shuttle rider writes, “If my employer didn't offer the shuttle, I would probably quit. I don't want to own a car and the train system sucks, so I would find a job in the city instead.”

## CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

This research supports the importance of shuttles as one part of a suite of TDM strategies that helps San Francisco reach sustainability and environmental goals. The SFMTA's Commuter Shuttles Policy and Pilot Program is a crucial step in ensuring that the shuttles can fit coherently into San Francisco's transportation system by minimizing conflicts with Muni buses and other road users, and ensuring a safe transportation system. The program also provides a model to other cities and regions seeking a rational regulatory framework for private transportation providers.

However, it is also important to recognize that the shuttles may exacerbate jobs-housing imbalances by enabling people to live farther away from where they work and allowing Silicon Valley cities to avoid dealing with the consequences of their underproduction of high amenity urban neighborhoods. The following policy recommendations address both improved sustainability within existing land use patterns and better long-term regional transportation and land use planning.

### *Broader consideration of shuttle impacts*

- The SFMTA's Commuter Shuttles Policy and Pilot Program currently focuses on operational conflicts between shuttles and Muni. The City can broaden this scope by measuring other impacts of shuttles, especially the effects on real estate markets.
- The potential of shuttles as a TDM strategy and their regional scope suggest the region should also study their impacts on transit operations and housing markets regionally. Their impacts are likely different in San Francisco and suburban communities.

### *Transportation improvements*

- Muni and Caltrain operations should be improved to increase job accessibility throughout the city and region, and draw more commuters away from solo driving when shuttles are not available. Slow travel times on transit, particularly in San Francisco, have a severe impact on its attractiveness for Silicon Valley commuters.
- For corporate campuses and job centers located away from Caltrain stations, there are two possible ways of increasing alternative mode accessibility. A policy of strengthening last-mile connections from Caltrain, whether through private shuttles or through SamTrans and other Silicon Valley transit agencies, may be more supportive of regional transit. Alternatively, encouraging long-distance regional shuttles may be more compelling to commuters and thus more effective at reducing solo driving.

### *Land use and housing policies*

- The city and region face daunting challenges in providing affordable housing, both at and below market rate. In pursuing affordable housing strategies, the city should be cognizant of shuttle locations and recognize that there are particular pressures on the real estate market there.
- Silicon Valley communities have an undersupply of housing and walkable neighborhoods demanded by many of the people who work there, placing a great burden on San Francisco's housing market. More and denser housing, at and below market rate, should be provided in transit-accessible locations in job-rich communities in Silicon Valley.

*Further research*

This research focused on the effects of shuttles on mode choice and residential location choice for Silicon Valley employees who commute from San Francisco. Further research should also be pursued more broadly on this topic. For example, the impact of regional shuttles on residential location choice in suburban settings or elsewhere in the Bay Area is not well understood. Additionally, this research has not examined employees who are offered shuttles but choose to drive alone, nor has it compared responses between people who commute to Silicon Valley by shuttle or by other alternative modes such as Caltrain. Lastly, new business models are emerging such as RidePal, which provides shared shuttles for commuters whose companies do not offer shuttles. There has not been substantial research into whether the impacts of these types of shuttles are different.



## ACKNOWLEDGMENTS

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# EXHIBIT J



**SFMTA**  
Municipal Transportation Agency

# Private Commuter Shuttles Policy Draft Proposal

07 | 19 | 2013

SAN FRANCISCO, CALIFORNIA





- 200+ locations where shuttles stopping
  - Most in Muni zones
- <35k trips/day
- AM and PM peak concentration
- Average dwell time: up to 1 min (Muni ~ 20 sec)





# AM Shuttle Activity

## San Francisco Morning Shuttle Activity

### LEGEND

Downtown Study Region

Number of AM Stops

● ≤ 15

● 16 to 35

● > 35

● Unknown

Number of AM Runs

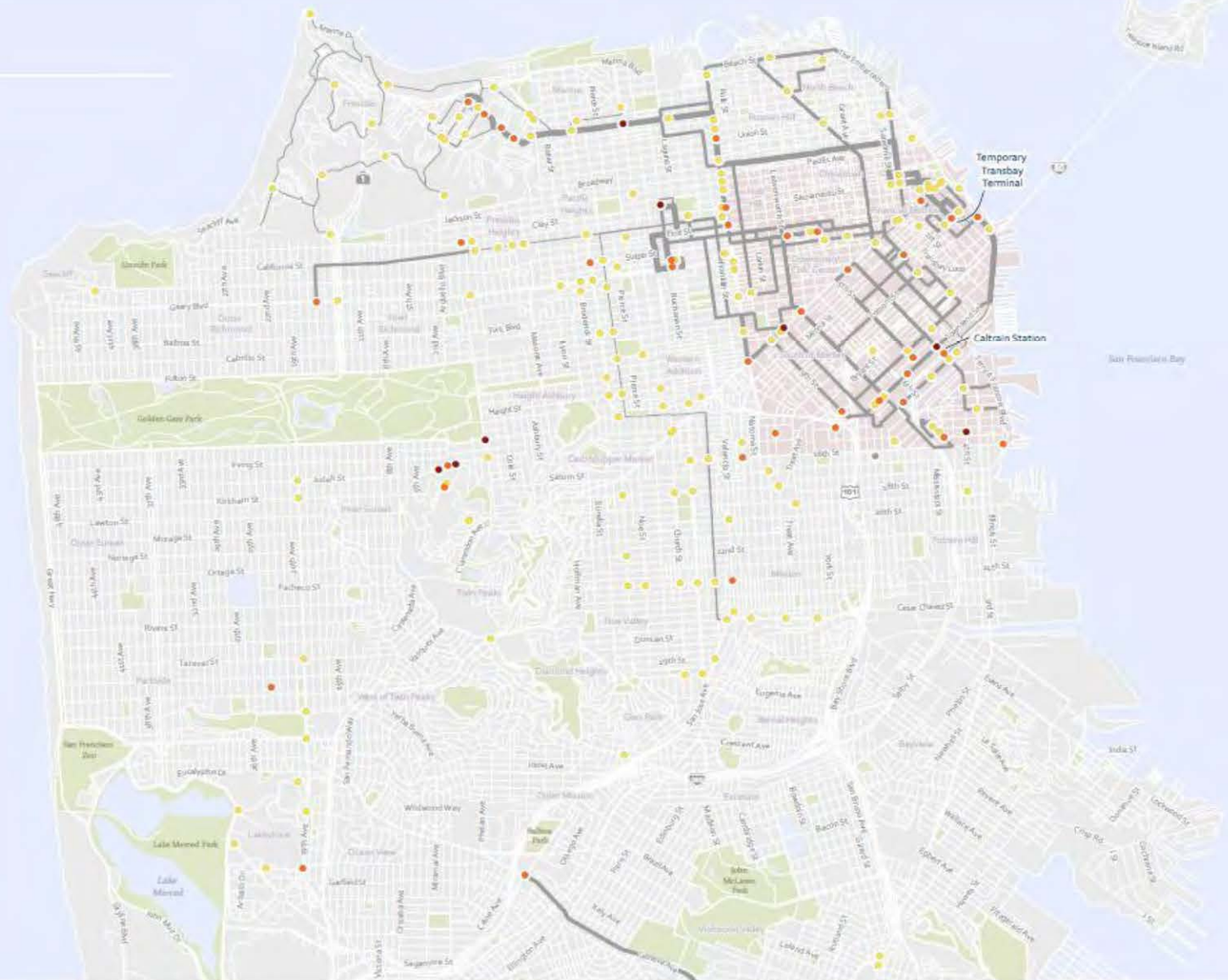
— < 5

— 6 to 15

— > 15



Not to Scale







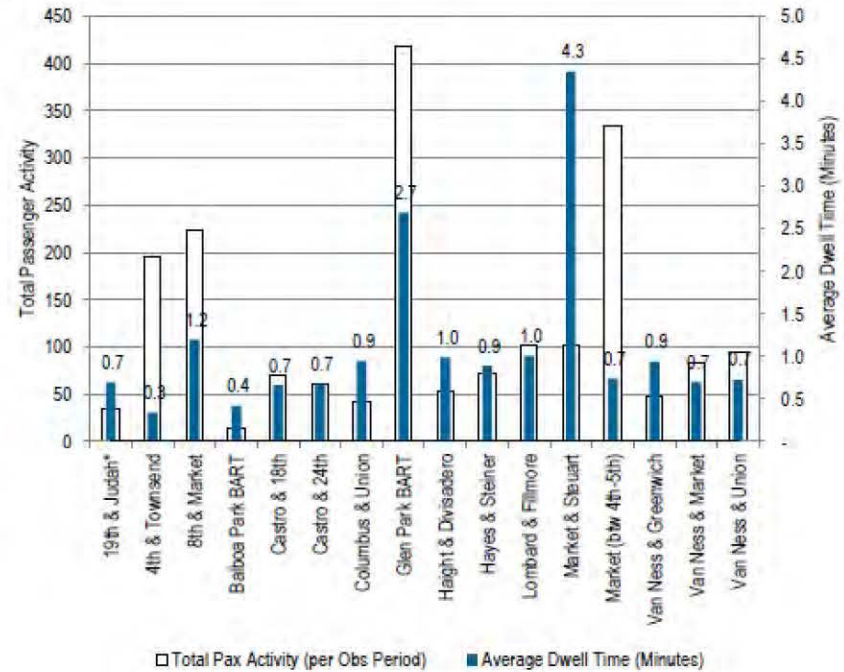
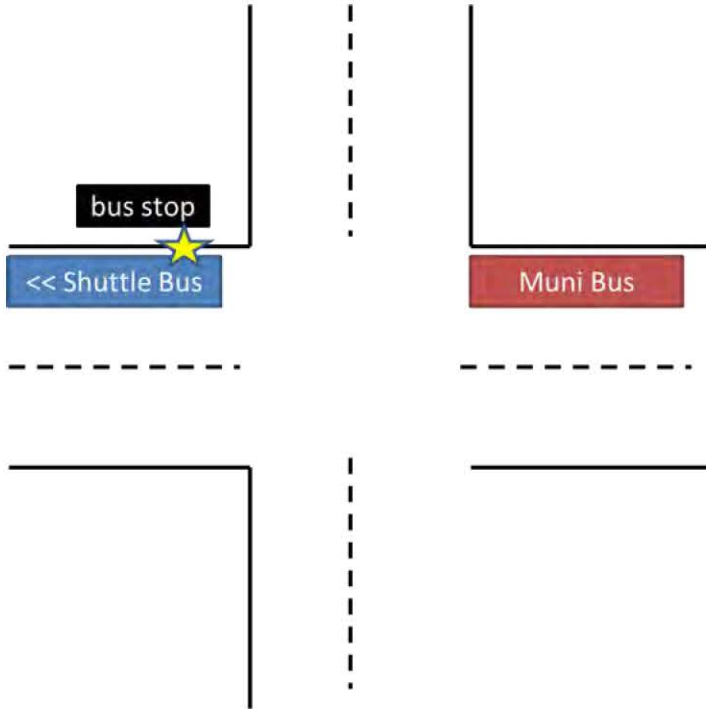
# Data Collection

## Private Commuter Shuttles Field Data Collection Locations 2012-2013





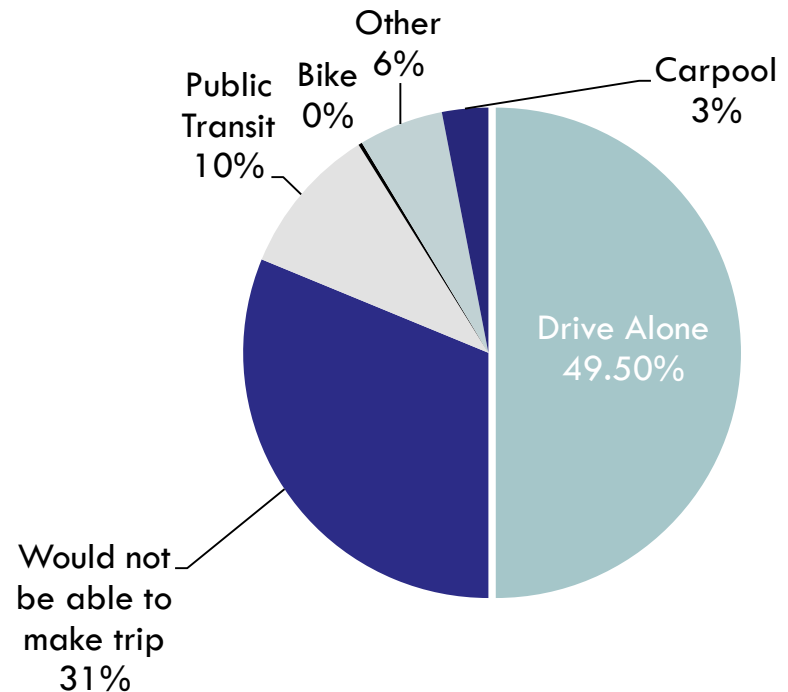
# Conflicts





- **Surveys of riders showed:**
  - Using transit/walking/biking for non-commute trips
  - Shedding personal cars
  - Accessing shuttles by transit/walk/bike
  - If no shuttles, high percent would drive alone
- **Environmental benefits that support City/SFMTA goals**

**Trip Choice if Shuttle Was Not Available**





# Proposal

- **Pilot 18-month program**
- **SFMTA would approve ~100 Muni zones to be shared with shuttles of participating companies**
  - Peak combined headways greater than threshold (tbd)
  - Stop length more than 80'
  - No Muni terminals, layovers, rapid stops





- **Shuttle operators comply with guidelines**
  - Muni priority
  - No idling, staging, layovers
  - Stay within network
  - Pull to front of stop
  - Active loading only
  - Training
  - On-board placard
- **Sponsors share data with SFMTA**





- Enforcement to ensure only participating companies using shared zones
- Illegal to use all other Muni zones, enforcement of these
- On-board placard allows enforcement to identify if a participant, allows easier operator, public complaint
- Creation of new citation to enable tracking



- **Cost-recovery basis including:**
  - Program development and administration
  - Review/analysis of proposed stops
  - Materials
  - Stop maintenance
  - Enforcement
  - Data collection/analysis
  - Auditing/spot checks
  - Lost parking meter revenue
  - Share of stop maintenance
- **Pay based on number of stop-events**
- **Amount being developed**



- Develop staffing/implementation plan & fee (Summer 2013)
- MTAB approval (Sept. 2013)
- BOS approval (Sept. 2013)
- Request proposals for stops (Oct. 2013)
- Launch pilot program--network of stops, membership, etc. (Dec-Jan 2013-14)



# EXHIBIT K

## SAN FRANCISCO COUNTY TRANSPORTATION AUTHORITY

1455 Market Street, 22nd Floor, San Francisco, CA 94103  
 TEL 415.522.4800 FAX 415.522.4829  
 EMAIL info@sfcta.org WEB www.sfcta.org



## FINAL SAR 08/09-2

## STRATEGIC ANALYSIS REPORT

## The Role of Shuttle Services in San Francisco's Transportation System

Initiated by Commissioner Dufty

APPROVED BY THE AUTHORITY BOARD JUNE 28, 2011

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## ABOUT SARS: PURPOSE OF DOCUMENT

Strategic Analysis Reports (SARs) are carried out at the request of the Authority Board, to frame current issues of concern and to inform policy development regarding specific transportation issues which may not be adequately addressed by existing regulations or policy. This SAR, initiated at the request of Commissioner Dufty, analyzes the topic of shuttle services in San Francisco, and seeks to determine how best to integrate the growth of shuttles into the overall transportation system, and to manage their operations, in a way that continues to realize their benefits while addressing their impacts. Data for this SAR was gathered through literature review, field observations, and extensive outreach to various stakeholders involved in the shuttle landscape including providers, operators, users, public agencies, and the general public. The study finds that, while shuttles play a valuable role in the overall San Francisco transportation system, policy guidance and improved management are needed and warranted in order to improve operations and minimize impacts. Recommendations for establishment of a Muni Partners Program are provided.



## INTRODUCTION

The public transportation system in San Francisco has been increasingly complemented by the proliferation of various types of shuttle services. Shuttle services are provided for a range of reasons, including as a means to address growing traffic congestion and the inadequacy of local and regional transit services in effectively meeting demands for certain types of trips. The term “shuttle” can refer to a broad range of transportation services that are both publicly and privately provided; which serve entities including community organizations, private employers, and academic or cultural institutions; which operate within specific geographical areas or to/from transit hubs within particular times; and which utilize vehicles ranging from mini-vans to full-sized motor coaches. Shuttle services can be regularly scheduled, or on-

**In recent years, there has been significant growth of shuttle operations in San Francisco, especially private employer-provided regional shuttles.**

demand.<sup>1</sup> Unlike taxis, tour buses, and jitneys, they are not commercial operations (e.g. airport “super shuttle”). Throughout this report, we will be considering more regularly scheduled shuttle service with fixed routes and stops.

In recent years, there has been significant growth of shuttle operations in San Francisco, especially private employer-provided regional shuttles which provide direct service to employment sites from either residential neighborhood stops, or from major transit hubs (e.g. BART, Muni, or Caltrain station). Major employers providing such services include Google, Yahoo!, Apple, Genentech, LinkedIn, Facebook, eBay, and others from the Peninsula and South Bay (Silicon Valley), and local employers such as Adobe, Advent, Levi’s Plaza, Gap, and others concentrated within the greater downtown area.

<sup>1</sup> Throughout this report, we will be considering more regularly scheduled shuttle service with regular planning, relatively fixed routes and stops (whether or not they are officially designated stops). On-demand services such as airport shuttles, and varying services such as tour buses, are not examined in detail in this report as they were not mentioned as frequently in stakeholder outreach surveys, and because their services vary in both schedule and ridership. Findings of this report may be relevant to regulation and management of these other shuttles, however.

Employers provide shuttle services for a range of reasons, including:

- to address rising commute times due to increased traffic congestion by promoting transit use as a more productive and “green” mode of transportation;
- to fill service gaps and other inadequacies in the local and regional transit systems;
- to recruit and retain a highly skilled workforce who may value living in an urban center and thus be attracted by an easy commute to a distant employment site away from the urban core;
- to discourage driving due to a shortage of on-site parking spaces; and
- in some cases as a response to mandatory planning stipulations as a condition of original site development.<sup>2</sup>

The rise in shuttles in the Bay Area has been seen for some time as having widespread benefit, including desirable environmental effects.<sup>3</sup> At the same time, the growth of shuttle operations within San Francisco has been accompanied by certain local impacts. In particular, public input regarding these impacts has focused on:

- the use of motorcoach vehicles, which are often anonymized and perceived to be more of a nuisance than typical buses;
- conflicts with Muni buses, general traffic, pedestrians, and cyclists, especially at passenger loading areas (shuttle stops); and
- double parking and idling.

Some operators, themselves, also identify the issue of overlapping and redundant shuttle services (either with other shuttles or with Muni services) and suggest the consideration of consolidation of services as a matter of operating efficiency.

In consideration of the above, the primary issues explored in this SAR include the following:

- What are the types of benefits and impacts of regional and local shuttles?
- To what extent should shuttles be more actively managed to optimize their value to the overall transportation system in San Francisco?
- What models exist for shuttle management locally and nationwide?

Research and analysis methods for this report included: literature search; field work; stakeholder outreach, and interviews; public meetings; surveys; and agency consultations.

## I. BACKGROUND

**SHUTTLE GROWTH TRENDS AND INVENTORY.** The growth of shuttles in San Francisco mirrors that of the region, as well as

<sup>2</sup> Phone interviews with regional shuttle providers, conducted in January-February 2009.

<sup>3</sup> A 2004 Bay Area Air Quality Management District study documented the proliferation of shuttles in the region, and MTC’s Regional Transportation Plans have long listed shuttles as transportation control measure (TCMs).

trends elsewhere. Two relatively recent shuttle inventories served as a starting point for understanding the current shuttle landscape in San Francisco. The 2004 Bay Area Clean Air Partnership (BayCAP) Shuttle Network Inventory<sup>4</sup> documented six categories of shuttle operations, based on their sponsors (e.g., employers, City, institutions, or a mix), functions, and funding sources. A 2008 Existing Shuttle Service Inventory for San Francisco compiled by the San Francisco Municipal Transportation Agency (SFMTA)<sup>5</sup> further detailed shuttle operations within San Francisco using similar categories of service (employer, institutional, private, public) within the city (see Appendix A). It found 30 shuttles in operation within the city limits. Both inventories generally reflect four main categories of shuttles:

- local employer shuttles offering a circulator type of service between transit hubs and employer destinations;
- regional private shuttles, which typically travel longer distances and focus on the daily commute with larger vehicles;
- institutional shuttles offered by universities, hospitals, parks, and retail associations to and from transit hubs and/or within a network of campuses; and
- community-based organization (CBO) shuttles, which may reach further into local neighborhoods and offer specialized services to bring users directly to their destinations from as close to home as possible.

Employer and CBO shuttles are privately operated, and as such, offer restricted access only (e.g., with identification required to prove affiliation with the shuttle provider). Institutional shuttles vary in their funding and accessibility by the public.

**EXISTING REGULATORY FRAMEWORK.** Shuttle providers are licensed and regulated by the California Public Utilities Commission (CPUC). As a city, San Francisco currently has a limited capability to manage shuttle operations. Both aspects of the regulatory framework for shuttles in San Francisco are discussed below.

The CPUC grants shuttle operators the authority to operate within the State of California on the specific routes that the applicant proposes. Every private for-hire carrier of passengers which operates motor vehicles within California is required to register with the CPUC.<sup>6</sup> Shuttles may fall under one of two passenger carrier license categories, depending on whether the service is provided to the general public or not: a “passenger stage corporation” (PSC) provides generally fixed route, individual-fare service which may be scheduled or on-call (for example, airport shuttles), and a “transportation charter party” (TCP) carrier is generally pre-arranged for an exclusive group (for example, employers). For the issues studied in this report, the shuttle sponsors would apply for TCP permits. Applicants need to indicate the type of transportation service, areas (or routes) between which services will be provided, the proposed fares (if any), schedules, vehicle types, rules, and regulations.

<sup>4</sup> Riordan, Bruce. Bay Area Clean Air Partnership (BayCAP) Shuttle Network Inventory, Bay Area Air Quality Management District, 2004.

<sup>5</sup> Compiled by SFMTA planner S. Fielding, focuses on four main categories of shuttle services (employer, institutional, private, public) within mostly the downtown area.

<sup>6</sup> Exceptions exist including taxicabs (regulated locally) and medical transportation vehicles. See also <http://www.cpuc.ca.gov/PUC/transportation/FAQs/psgfaqs.htm>

The CPUC takes various measures to monitor and investigate carrier compliance with safety and licensing requirements. For example, one requirement for obtaining a permit is to participate in the Employer Pull-Notice (EPN) system administered by the California Department of Motor Vehicles. The EPN allows the CPUC to receive regular updates on driver safety records. Furthermore, the public may also lodge complaints through the CPUC’s Complaint Intake Unit. The CPUC may investigate complaints in cooperation with police agencies, and recent enforcement actions have included fines or vehicle impoundment.<sup>7,8</sup>

The San Francisco Police Department has responsibility to enforce the traffic code and SFMTA has jurisdiction over parking with the city. The main ways that San Francisco agencies currently regulate shuttles are as follows:

1. Police:

» *Weight restrictions:* In accordance with the San Francisco Transportation Code,<sup>9</sup> some residential and arterial streets are weight restricted for less than 3 tons or 9 tons. Enforcement is limited and necessarily based on manual enforcement (primarily on field observations by police officer on duty, or via public complaints). The criteria for establishment of a weight restriction has to date been case-by-case depending on conditions and traffic patterns specific to that location. The current fine for a weight restriction violation is \$103.

» *Idling:* In accordance with the California Vehicle Code and the City Transportation Code, privately-owned motor coaches in City right-of-way are allowed to idle for a maximum of five minutes only, unless actively loading or unloading passengers. Enforcement has been limited. SFMTA guidelines stipulate a three-minute idling maximum for Muni vehicles, reflecting the agency’s desire to balance emissions impacts with operational needs.<sup>10</sup> The current fine for idling is \$103.

2. SFMTA—*Curb Priority:* In accordance with the California Vehicle Code and the City Transportation Code, no vehicles other than Muni vehicles may stop in bus zones for passenger loading and unloading, unless express permission has been granted by SFMTA through an ordinance. Enforcement by either police or SFMTA Parking Control Officers has been limited. The current fine for illegal usage of a bus zone is \$253.

3. San Francisco Planning Department—*Impact Mitigation:* The Planning Department may include the provision of shuttle services as a condition of approval for development rights.<sup>11</sup> Depending on their particular approval agreement, properties who are subject to this condition may be required to provide shuttle service during specified times as a supplement

<sup>7</sup> <http://www.cpuc.ca.gov/PUC/transportation/Passengers/CarrierInvestigations/>

<sup>8</sup> Conversations with W. Lewis, California Public Utilities Commission, 10/09

<sup>9</sup> [http://ftp.resource.org/codes.gov/ca.local/ca\\_sf\\_transportation.pdf](http://ftp.resource.org/codes.gov/ca.local/ca_sf_transportation.pdf)

<sup>10</sup> Conversation with T. Papandreou, SFMTA, 11/09

<sup>11</sup> Conversations with S. Puccioni, 350 Rhode Island Development, 3/25/10, and G. Phillips, China Basin Landing, 11/9/09

to transit service, as well as to assist in periodic monitoring of the service. Developers would typically offer these shuttle services through a third party shuttle provider either directly or through a Transportation Management Association (TMA). For example, in the case of Mission Bay, the City requires both residents and business to pay monthly fees toward the Mission Bay TMA, a separate private entity which plans and operates several successful shuttle routes through the neighborhood connecting with rail transit stations.<sup>12</sup>

4. San Francisco Department of the Environment—For employers with more than 20 employees in San Francisco, one of the possible transportation alternatives as mandated by the San Francisco Commuter Benefits Ordinance (effective January 2009) is a shuttle service.

Shuttles operating on a regional level, but serving or passing through San Francisco, may be required to operate by jurisdictions outside of San Francisco, as part of a mandated travel demand management (TDM) strategy. For example, as cited in the recent report by the California Center for Innovative Transportation, employer shuttle providers may be required by the city in which they are located to achieve a minimum percentage of alternative mode use rate by their employees.<sup>13</sup>

## II. EXISTING CONDITIONS AND NEEDS ANALYSIS

### STAKEHOLDER OUTREACH AND FIELD OBSERVATIONS

To assess current shuttle issues and conditions, Authority staff conducted initial data collection and extensive stakeholder outreach in representative locations. These activities centered on the two types of service that are the primary focus of the study:

**The large motorcoaches utilized by some providers can take longer to board than Muni buses of the same size due to their single doors, high floors, and large size.**

- Regional Employer Shuttles: Based on direction from the Authority Board, representative neighborhoods selected were the Marina, Glen Park, and Noe Valley.

- Local Employer/Downtown Circulator Shuttles: Representative transit hub locations included the Embarcadero Station area and the Caltrain Station at

4th and King streets..

**STAKEHOLDER MEETINGS.** Outreach for the study included interviews and meetings with shuttle providers including a consortium of large regional employers (Genentech, Apple, Yahoo!, and Google); local employers in the downtown area represented through the Embarcadero Task Force and Neighborhood Business

Watch; shuttle operators Bauer and Compass; institutional providers (UCSF, Academy of Art University); local neighborhood associations including the Marina Community Association (MCA), Upper Noe Neighbors, and the Glen Park Association; and various SFMTA staff.

**PROVIDERS AND OPERATORS.** Regional employers provided extensive data about their San Francisco operations, including routes, stops, trips, and ridership. Data was provided by the four major regional employers (Genentech, Apple, Yahoo!, and Google) on an aggregate basis (to protect proprietary and privacy concerns). Routes operate during AM and PM peak periods from Monday to Friday. (An aggregate representation of routes, stops, and trips is included in Appendix B.) In addition, the regional employers provided aggregate responses to questions regarding their service and operations planning; reasons for service; funding; coordination; and other questions. This data indicated that, at the time of data collection, these four large employers were collectively transporting 2,000 employees per day from San Francisco to their respective campuses. Activity is particularly concentrated in Glen Park, Noe Valley, and along the Van Ness Avenue corridor; the employers have approximately 50 stops within the city. Vehicle types are split between large motorcoaches (with capacity for approximately 50 passengers) and van-type/smaller bus shuttles (with approximately 25-passenger capacity). Almost all vehicles operate bio-diesel (B20) engines.

Local employer operations in the downtown area in general were similar to those documented in the 2008 SFMTA survey. Their routes provide service from BART or Caltrain to respective employer locations, operating during AM and PM peak periods from Monday to Friday. The vehicles in use are all van-type/smaller bus shuttles (25-passenger capacity). A sample of detailed ridership figures was provided by Adobe, one of the larger employers in the group at the time of this report (1,000 employees in the San Francisco office on Townsend), to show the highest-point load factors for their Caltrain and BART shuttles. At the most congested times and points, loads peak at 54% for AM and 100% full for PM (for runs near 5:00 PM). However, peak period loads average between 18%–42% indicating that there is currently still additional capacity.

In addition to employers, there are a number of institutional shuttles operating in the downtown area and citywide. The largest of these include shuttles provided by: UCSF, the Academy of Art University (AAU), and various hospitals/medical institutions. The study team met with staff from the Academy of Art University (AAU), in response to a letter from the San Francisco Planning Commission expressing concern regarding duplicative service with Muni, low load factors, the number and location of curbside bus zones, vehicle idling, and vehicle storage.<sup>14</sup> AAU officials acknowledged having lower-than-desired load factors and the need to improve the emissions profile of their fleet. They are undertaking transportation planning studies as part of their overall master planning effort and are keen to work with the City to address these needs.

**FIELD OBSERVATIONS.** The study team made peak hour ob-

<sup>12</sup> <http://www.sfxaminer.com/local/Shuttle-plugs-holes-in-Mission-Bay-transit-93164654.html>

<sup>13</sup> CCIT, Privately-Provided Commuter Bus Service, March 2010. The example provided was Genentech which was required by the City of South San Francisco to achieve a 30 percent alternative mode use rate (which incorporates future projected growth). In conjunction with other TDM strategies and marketing, Genentech achieved a 35 percent alternative mode use rate.

<sup>14</sup> Planning Commission letter, November 2009.

servations of general shuttle activities in February and March 2009 at high use locations. Staff noted fairly smooth and orderly boarding activity and relatively few conflicts with Muni bus operations. Idling took up to 5 minutes at some locations. It was observed that the large motorcoaches could take longer to load and unload than Muni buses of the same size, due to their single doors, high floors and large size.

In March 2010, the study team conducted further fieldwork to investigate the extent of regional shuttle conflicts with transit services. Two locations were chosen, for both high shuttle activity and frequent Muni service: Van Ness Avenue at Pine Street, and 24th Street at Castro Street. Golden Gate Transit (GGT) also operates buses on Van Ness Avenue.<sup>15</sup> The study documented some additional impacts to transit and traffic including:

- two observed conflicts (where Muni buses were delayed) out of 30 observations at Van Ness and Pine;
- one conflict with a Muni bus out of 42 observations at 24th and Castro;
- four instances of shuttles blocking the outside mixed traffic lane due to the shuttle not pulling in entirely to the curb.

Field work also captured conflicts at Market near 8th Street and several instances of shuttles parking in red color curb zones along Market Street and in the South of Market area. These limited observations were not sufficient to reveal extensive conflicts at Muni bus zones. However, as discussed below, the frequency of public comment and complaints regarding bus zone conflicts

<sup>15</sup> GGT operates public transit service with approximately 20 routes between San Francisco and Marin and Sonoma Counties. Overall throughout San Francisco, GGT shares approximately 80 bus stops with MTA.

(particularly along the 24th Street and 30th Street corridors) and traffic impacts associated with shuttle stop activity may indicate a more problematic situation than these limited data imply. A subsequent phase of study and evaluation, including more extensive data collection and analysis in partnership with shuttle providers, is necessary to inform the need for, and nature of, management strategies and physical improvements that should be initiated at specific locations or on a system-wide basis.

**NEIGHBORHOOD ASSOCIATION MEETINGS AND SURVEYS.**

The study team attended community meetings in Upper Noe Valley (March and June 2009) and Glen Park (April 2009) to gather feedback from local residents. Community members, including from the Marina District, also submitted more detailed written comments in response to a request for input that was circulated in coordination with the neighborhood associations.

Opinions vary widely regarding shuttle operations, benefits, and impacts. Many residents (including non-shuttle riders) expressed support for shuttles, citing reduced auto usage by shuttle patrons and improved neighborhood parking availability; increased attractiveness of the city as a residential location (by facilitating a long commute); shuttle riders’ patronage of local retail shops; and increased perceptions of safety associated with increased foot traffic. Many residents strongly raised concerns regarding the local impacts of shuttle operations, citing conflicts with Muni buses at stops, which may delay transit service and/or cause Muni passengers to alight away from the curb; the relative size of shuttles compared to the scale of local streets and sidewalks, leading to pavement wear and safety concerns for cyclists and pedestrians; and issues of noise, idling, and pollution. Marina residents were particularly concerned about parking spillover problems that ex-

**TABLE 1 – HIGH-LEVEL SHUTTLE BENEFITS AND IMPACTS**

	CATEGORY	MEASURE	PUBLIC	PRIVATE
<b>Benefits</b>				
(Broad in scope, highly regionalized)	Congestion	Vehicle Trips Avoided	X	
		Vehicle Miles Traveled (VMT) Avoided	X	
		Load Factor	X	
	Environmental	Emissions Reduced (CO <sub>2</sub> )	X	
		Emissions Reduced (Non-CO <sub>2</sub> Emissions—ROG, NOx, PM)	X	
	Economic	Local Spending Induced	X	
		Employee Retention and Recruitment		X
		Productive Time Gained		X
		Accessibility		X
	Quality of Life	Car Ownership Reduced	X	X
Leisure or Personal Time Gained			X	
<b>Impacts</b>				
(More detailed Operations-level, localized)	Congestion	Displacement of other vehicles (cars, bikes) when parked or idling	X	X
		Displacement of Muni vehicles when parked or idling	X	
	Environmental	Emissions Produced (due to larger vehicle size, or when idling)	X	
	Quality of Life	Noise/Vibrations	X	X
	Safety	Unsafe sightlines if double parked or in Muni zone	X	
		Unsafe sightlines at certain locations if moving (e.g., turning corners)	X	X
		Collisions	X	X
	Pavement Condition	Wear and tear on pavement	X	
		Wear and tear on curb bulbs (e.g., turning corners)	X	

**TABLE 2. TYPICAL SHUTTLE CHARACTERISTICS**

	LENGTH	WIDTH	HEIGHT	WEIGHT	PASSENGER CAPACITY
Typical large motorcoach shuttle	40'+	8-8.5'	10'+	18-20 tons	45-50 passengers
Typical medium-size van shuttle	20-22'	6.5-8'	8'	7-8 tons	20-25 passengers

SOURCE: Industry interviews

acerbate already constrained parking conditions. Many residents suggested limiting shuttle operations to particular times of day or particular locations. Appendix D illustrates a summary of input regarding shuttle impacts that the study team received via community meetings and written/email comments.

**COMMUNITY AND SHUTTLE PASSENGER SURVEYS.** In addition to direct outreach at community meetings, Authority staff administered three email/mail surveys in coordination with the Marina Community Association, Upper Noe Neighbors, and the Glen Park Association in February and March 2009, in order to further our understanding of the range of shuttle benefits and concerns. These short surveys inquired about resident usage of shuttles (if any) and their perceptions of shuttles, including specific areas of concerns and/or benefit. A general online survey was also conducted to seek citywide input from the public. Over 600 responses were received from this round of outreach; feedback was generally more positive than the range of input provided during neighborhood outreach meetings. The majority (approximately 70%) of neighborhood survey respondents had positive views of shuttles, with the balance expressing mixed or negative views. (Input at neighborhood meetings was more evenly split.) Areas of concern varied somewhat by neighborhood. Noe residents expressed concerns most frequently regarding transit conflicts and noise, while Glen Park residents' top issues related to traffic impacts and the size of shuttle vehicles.

Many online shuttle survey respondents who were shuttle users said that the provision of shuttle services by their employer was key to their employment and residential location choice. Many respondents also felt that the shuttles have alleviated congestion and traffic in their neighborhoods. After the introduction of shuttle services, some residents noticed that parking on the street became easier and during the commute there were fewer cars on the road. They attributed this to the likelihood that some of the people riding the shuttle buses

**Rider survey results indicate that 63% of regional shuttle passengers would otherwise have driven alone and thus avoid 327,000 vehicle round trips per year.**

may have given up their cars or used vehicles much less frequently. Many respondents felt strongly about environmental protection issues and felt that shuttle service is environmentally beneficial.

Further, some residents commented that pedestrian activity and community cohesion in their neighborhood had increased due to the presence of shuttle stops. Some respondents reported that small local businesses, such as coffee shops and clothing stores, also benefit from shuttle riders' foot traffic. Residents also suggested that shuttles could be limited to routes on main streets, which may also be used by transit vehicles, in order to minimize their impacts.

Top shuttle concerns expressed by respondents in the representative study areas and at neighborhood meetings included the following:

- Vehicle size. Concern that shuttles are visually obtrusive and have difficulty making turns due to their large size.
- Vehicle anonymity. Frustration that unlabeled buses make it difficult to report complaints.
- Congestion. Respondents felt that shuttles caused additional traffic (e.g. via park-and-ride or kiss-and-ride activity) and/or slowed existing traffic due to conflicts (e.g. double parking).
- Noise. Residents, especially those who live in highly residential areas, felt that shuttles are noisy.
- Pollution. Respondents were concerned about the pollutants that shuttles might emit while idling or traversing the neighborhood.
- Transit delays. Residents reported that they have seen shuttles double-park and load/unload in Muni stops.

Following the neighborhood outreach, a more detailed and targeted online survey was developed and administered in May 2009 with the help of the major regional employers to regional shuttle passengers to obtain rider information. The 15-question survey yielded over 1,000 responses from regional shuttle passengers divided among two large shuttle operators and among the four regional employer providers.<sup>16</sup> The survey questions inquired about reasons for shuttle usage, shuttle alternatives, car ownership, stop access modes and times, and economic impacts (through induced spending). Responses to the survey supported the analysis of shuttle benefits and impacts (see below section).

It should be noted that as this SAR was in process, shuttle usage grew rapidly. Google reports doubling its ridership in this period, and the Mission Bay Transportation Management Association's shuttle services grew from 4000 monthly riders at launch in May 2010 to four times this ridership a year later. During this same period there was not a significant increase in recorded public complaints.

**BENEFITS AND IMPACTS**

Authority staff assessed a range of benefits and impacts associated with the regional employer-sponsored shuttles in order to investigate the role and value of shuttles in the overall transportation system. The range of high-level benefits and impacts generated through public outreach is summarized in Table 1. These benefits and impacts may be considered as public or private benefit. The classification of benefits as public or private is for discussion.

<sup>16</sup> The survey responses were found to be representative of the larger population of regional shuttle riders, based on a comparison of the geographic distribution of known boarding figures (reported by the regional employers) to the geographic distribution of survey responses by self-reported boarding locations.

sion/illustrative purposes only; these factors may be considered differently from the point of view of various stakeholders (shuttle passengers, neighborhood residents, employers, shuttle operators, and transit agencies). Certain areas of benefit or impact may be quantifiable in an objective fashion, while others may be only perceived or reported (i.e. dependent on stakeholder input).

**ANALYSIS APPROACH.** The study team assessed multiple areas of benefits and impact using data and information collected from passenger surveys, employer and stakeholder consultations, and qualitative input from public feedback. Emissions estimates were calculated using Bay Area Air Quality Management District (BAAQMD) guidelines. Where detailed vehicle data was not available or provided, Authority staff based estimates on assumptions as described below.

For the analysis below, it is useful to review some basic physical characteristics of typical shuttles currently in use in San Francisco as shown in Table 2.<sup>17</sup>

**BENEFITS ANALYSIS.** Benefits identified include the congestion, environmental, economic, and quality of life measures described below.

- *Efficiency (Load Factor):* Load factors (percentage of vehicle seats that are occupied during a typical trip) are an indication of operating efficiency. As a form of high-occupancy vehicles, shuttles compare positively against automobiles. However, having vehicle load factors which are consistently low may point to an opportunity to eliminate or consolidate that trip or route, or to perhaps use smaller vehicles.
  - » Load factors for regional shuttles were self-reported to range greatly from 20% to 70%. Lower ridership was generally reported in outlying routes or newer routes which have recently been established. Shuttle providers reported a general flexibility to their service, which allows adjustments to be made over time as demand shifts. Field observations at major transit hubs verified that vehicles are close to capacity at hub locations during peak periods. Stakeholder comments during outreach cited instances where vehicles are not at or near capacity.
  - » Load factors for local circulator shuttles were calculated from the detailed ridership figures of Adobe Systems for illustrative purposes. Load factors climb as high as 100% during some weekday peaks, but average between 18%–42% depending on seasonal factors. This indicates an opportunity exists to increase operating efficiency.

Given time and resource constraints, more detailed benefit/impact analysis across areas other than load factor was conducted for regional shuttle operations only. The following findings relate to regional shuttle operations and not downtown circulator shuttles:

- *Vehicle Trips Avoided:* A shuttle passenger commuting to work may otherwise have chosen (or been limited to) driving alone to commute to work, if the shuttle were not available. The

passenger survey found that 63% of regional shuttle passengers would otherwise have driven alone. The shuttle services provided by the group of major employers thus avoids 327,000 solo vehicle round trips per year. For comparison, the San Francisco Climate Action Plan calls for reducing 1.6 million intraregional solo vehicle round trips per year through employer-based programs: the shuttles surveyed represent 20% of the target for intraregional trip reduction from this category of strategies.<sup>18</sup> The “employer-based programs” category comprises approximately 3% of the overall targeted emissions reductions from transportation; other transportation action categories (such as improved transit, increased bicycling and walking, etc.) account for the remainder.

**The regional shuttle programs surveyed reduce CO<sub>2</sub> emissions by approximately 8,000 to 9,500 tons per year compared to the scenario where some passengers would have driven instead.**

- *Vehicle Miles Traveled (VMT) Avoided:* Congestion is also eased by the magnitude of trips that shuttle riders are avoiding, as generally long auto commute distances result in more pollution, more vehicles taking space on roadways, and more wear and tear on pavement. Multiplying the number of passengers by commute distances to their respective workplaces, the shuttle programs surveyed yield congestion benefits of 20 million VMT avoided per year.
- *CO<sub>2</sub> Emissions Reduced:* An important indicator of environmental benefit is the reduction in carbon dioxide (CO<sub>2</sub>) emissions, as CO<sub>2</sub> is known to be one of the primary greenhouse gases responsible for climate change. Applying the BAAQMD methodology to survey data and fleet characteristics from the shuttle providers, and assuming the following: a range of years the vehicles were manufactured (from 1994 onward); a range of in-vehicle emissions control systems (categorized based on the percentage of particulate matter they filter, from 25% to 85% corresponding to various emissions levels verified by the California Air Resources Board); and the presence of a nitrous oxide filter following conversations with the shuttle operators regarding their green fleets<sup>19</sup> the analysis indicates that the shuttle programs surveyed reduce CO<sub>2</sub> emissions by approximately 8,000 to 9,500 tons per year over the scenario where some passengers would have driven instead.
- *Non-CO<sub>2</sub> Emissions Reduced:* Other important components of vehicle exhaust emissions include nitrogen oxides (NO<sub>x</sub>), reactive organic gases (ROG), and particulate matter (PM). The analysis indicates that shuttle usage yields a reduction in non-CO<sub>2</sub> emissions ranging from 1 to 17 tons per year (compared to the case where passengers would have driven alone instead).
- *Local Spending Induced:* The presence of commuter shuttles

<sup>17</sup> Sources: Information drawn from the specifications of typical shuttle vehicles for example, by Ford Motor company. See: [https://www.fleet.ford.com/sharingroom/specialty\\_vehicles/Qualified\\_Vehicle\\_Mod\\_Shuttle.asp](https://www.fleet.ford.com/sharingroom/specialty_vehicles/Qualified_Vehicle_Mod_Shuttle.asp)

<sup>18</sup> SF DOE and SF PUC, *Climate Action Plan for San Francisco*, September 2004.

<sup>19</sup> Conversation with L. Baylor, Bauer, 9/28/09



in local neighborhoods may contribute to increased economic activity, due to passenger patronage of retail locations between their residence and shuttle stop, which they may not otherwise have patronized. Of the survey respondents, 63% report that they patronize shops, restaurants, or other business due to their route to/from the shuttle stop. This estimated total spending (as directed locally near shuttle stop locations) is valued at over \$1.8 million per year.

- **Employee Recruitment and Retention:** Offering commuter shuttle service as a benefit was cited by the shuttle providing employers in interviews as a key component of their benefits package offered to existing employees and potential hires. Survey results indicate that 14% of employees would leave their current employment if the shuttle service were unavailable.
- **Productivity or Productive Time Gained:** Riding a shuttle may free time for doing work-related activities, if the shuttle is equipped with work-related amenities such as wireless connectivity. 92% of respondents indicated that they gain productive work time by riding the shuttle, which they reported totals at least 322,000 person-hours per year.
- **Accessibility:** 62% of survey respondents indicated that their decision to live at their current residence in San Francisco was influenced by the availability of the employee shuttle service. One respondent pointed out that proximity to shuttle service is used in real estate listings (which was confirmed by another respondent, a real estate broker himself). During outreach, a landlord stated that the proximity of his/her property to a shuttle stop was a deciding location factor for the past two tenants. Several other members of the public contend that shuttles are a nuisance and detract from house values.
- **Car Ownership Reduced:** 28% of survey respondents do not own personal vehicles; thus, the availability of the commuter shuttle may enable or at least further help employees to live without a car. Many employers maintain corporate partnerships with carsharing organizations such as Zipcar or Enterprise WeCar (through either on-site company vehicles, or supporting costs for personal memberships) to compliment the shuttle service and provide further mobility for those without cars. At least one employer also provides bicycles on site to provide mobility.
- **Leisure or Personal Time Gained:** Riding the shuttle may free time for personal activities (such as sleeping, personal emails)



or may reduce travel time compared to one's travel time driving alone, due to the High-Occupancy Vehicle (HOV) lanes available along the route. 86% of respondents said they gain personal time, which they reported totals at least 246,000 person-hours per year.

**IMPACTS ANALYSIS.** While benefits are widespread, impacts are localized. These impacts may be categorized as environmental impacts, safety impacts, pavement condition impacts, or quality of life impacts.

- **Emissions produced:** A large motorcoach would emit additional pollutants when operating, when compared to one automobile. However, as shown under the "Benefits" section using BAAQMD factors, the primary pollutants emitted by one motorcoach are overall less than those which may be emitted by the autos which that shuttle is now keeping off the roadway. Of the data collected, large motorcoaches were found to emit approximately 1,800 to 2,200 tons per year of CO<sub>2</sub>, or 20% of the approximately 10,800 tons per year of CO<sub>2</sub> which would have been produced by the reduction in auto trips. A large motorcoach also emits pollutants while idling. Although idling was only infrequently observed by the study team during a limited number of field observations, cases of vehicle idling were frequently cited by members of the public and SFMTA service planning staff during outreach.
- **Noise/vibrations:** Input from outreach participants and survey respondents regarding noise and vibrations caused by large shuttles when operating or idling near their residences included comments such as: "The shuttles can be noisy, especially late at night when there isn't much other traffic or when they are the kind with diesel engines" and "Large coach shuttles

**TABLE 3: VEHICLE GUIDELINES FOR SPECIFIC STREET CATEGORIES**

CATEGORY	STREET TYPES	DESIGN VEHICLES	ACCOMMODATION VEHICLE
Local	Alley, neighborhood residential, local lanes of boulevard	Passenger car	SU-30
Pedestrian Activity	Neighborhood commercial, downtown commercial, downtown residential	SU-30	WB-40
Throughway	Commercial throughway, residential throughway, urban mixed use, parkway, through lanes of boulevard	SU-30	WB-40
Industrial	Industrial	WB-40	WB-50
Varies	Park edge, ceremonial	Varies	Varies

Source: SFMTA and SF Planning, Better Streets Plan (2010)

are noisy on small neighborhood streets.” Other comments pointed out similar noise patterns caused by non-shuttle vehicles (such as Muni vehicles).

- *Conflicts with cars and bicycles when parked or idling:* In field work, the study team observed some traffic impacts by parked or idling shuttles on traffic operation. Traffic impacts also occur when shuttles double park or do not pull in entirely to the curb during loading. Members of the public frequently expressed concern about shuttles blocking cars (for example on 30th Street between Noe Street and Sanchez Street<sup>20</sup>) and causing bicyclists to have to weave into traffic to avoid parked shuttles (for example on Market Street). SFMTA staff reported that problems at Glen Park eased following discussions with each employer/operator and follow-up actions.
- *Conflicts with Muni vehicles when loading or idling:* The large majority (approximately 90%) of shuttle stops occur at Muni bus zones; some stops and layovers also occur at non-Muni stop red-curb zones. SFMTA planning staff report this has been a general problem at several locations. This concern was echoed by both SFMTA field supervision staff and in resident outreach surveys and meetings. SFMTA staff noted that shuttle dwell times can be lengthy, even compared with Muni dwell times, due to the large size of motor coaches, their high floor configuration, and use of a single door for boarding and alighting. Dwell times were observed by the study team tended to be in the range of three to six minutes during peak times. SFMTA field staff also cited stress reported by Muni drivers if Muni boarding occurs outside of the Muni zone or at some distance from the curb due to the presence of a shuttle in the bus zone. Muni drivers are instructed not to pick up passengers outside the bus zone for safety reasons, yet passengers often insist on boarding or alighting in these areas. In limited field observations and studies, Authority staff witnessed only a few instances of shuttles blocking Muni vehicles in Muni zones. Some instances at Glen Park and on Van Ness Avenue, however, were significantly troublesome.<sup>21</sup> During the preparation of this SAR, SFMTA staff expanded a Muni bus zone at 8th and Market in response to over-crowded conditions and impacts to Muni service at that location. Staff also have heard continuing concerns about tour bus operations in the Chinatown/North Beach/Fisherman’s Wharf area. As noted above, public comments and complaints frequently cited instances of shuttle/Muni bus conflicts at stop. This SAR recommends that SFMTA conduct a more comprehensive study to further quantify the extent of this impact and to inform development of operat-

<sup>20</sup> The location in question was observed on 3/23/10 by the study team. The short segment on 30th Street between Noe Street and Harper Street (west of Sanchez Street) is very narrow and is impassable for cars when large vehicles (buses and trucks along with regional shuttles) travel on it; the SFMTA should consider a weight restriction at this location.

<sup>21</sup> A shuttle in the process of boarding passengers at Glen Park on Bosworth Street in a Muni zone blocked an incoming Muni bus, thus causing a conflict and a secondary queuing along Diamond Street where another Muni bus waited for both vehicles to move forward before proceeding onto Bosworth Street. On Van Ness Avenue, shuttles were observed to be partially pulled in to the Muni zone and partially stopped in the mixed traffic lane, causing traffic conflict.

ing guidance for shuttle providers.

- *Safety:* As noted above, many shuttles were observed to stop or layover at red curb zones, particularly in the south of Market area and even along upper Market Street. To the extent that red zones are kept clear for visibility purposes, this could present a safety hazard for other road users, especially pedestrians. In fact, many outreach comments related to perceived safety impacts of large shuttles blocking sightlines; for example if they were to block motorists from seeing pedestrians. Outreach comments included the following: “This is only a residential street and these buses are enormous” thus reflecting the disproportionate size of the vehicles compared to the neighborhood facilities. In addition, another respondent stated “People expect traffic and buses [on major arterials]; but not on the side roads where people walk their dogs and kids.” Such concerns, raised repeatedly, further emphasize the issues associated with the large size of the vehicles. In the SAR’s development, the shuttle providers self-reported their collisions to be zero. The study team examined publicly available collision data from the Federal Motor Carrier Safety Administration database (SafeStat) for the shuttle operators for the three year period of 2006–2008. No records were found in the carriers’ safety records which could be attributed to shuttle-related collisions.<sup>22</sup>
- *Weight Restriction Violations:* The San Francisco Transportation Code restricts vehicles above certain weights from driving on pre-specified routes. A comparison of the current shuttle routes provided by selected private corporate shuttles, and the existing San Francisco weight restrictions (for 3-ton vehicles (Code 501b, 2008) and 9-ton vehicles (Code 501a)), identified six roadway segments where large shuttle motorcoaches weighing over 14 tons may be traversing these weight-restricted streets.
- *Wear and tear on curb bulbs:* Outreach comments included the mention of large shuttles on residential streets being too large and disproportionate to the streets particularly when trying to negotiate the narrow turns. The City currently designs corner sidewalk bulbs using standard guidelines and turn templates which incorporate the size of “design” vehicles (which should be able to comfortably make turns within the lanes provided) and “accommodation” vehicles (which may be able to make turns by straddling lanes or using adjacent lanes)<sup>23</sup> as shown in Table 3. These are also referenced in the San Francisco Better Streets Plan. A typical motorcoach would correspond to classification WB-40 (the number referencing the vehicle length of 40’). The suggested maximum size of

<sup>22</sup> <http://ai.fmcsa.dot.gov/safestat/disclaimer.asp?RedirectedURL=/safestat/safestatmain.asp>. Although records were found for three crashes reported between April 2007 and November 2008, it cannot be determined without more formal investigation whether these crashes involved commuter shuttle trips such as the ones under consideration in this report, or whether they occurred during the provision of other types of commercial transportation services.

<sup>23</sup> Conversation with J. Fleck, SFMTA, 10/28/09. New designs are always context specific, depending on the likelihood of large-vehicle traffic; however, older designs would not have accommodated the unforeseen size of large motorcoach-type shuttles.

**BOX 1. UNION SQUARE TOUR BUS ZONE.** In 2009, six tour companies led by Gray Line contributed funds for the Union Square zone which required the payment of standard SFMTA charges for a white zone longer than 66 feet (\$1,460 at the time of application).<sup>1</sup> The establishment of the zone was subject to a review process consisting of a public hearing and then approval by the SFMTA Board. Ongoing SFMTA observations of this zone during the trial include: issues with tour bus volume spilling over outside the zone; bus parking over the designated 10 minutes and the difficulty of enforcement; large size of the buses; solicitation on the sidewalk; and, more tour companies entering the market during the trial period. This trial led to modifications to the design and allowed use of the westernmost portion of the zone in January 2010 to enhance safety. Some issues related to Central Subway construction activities still remain indicating a need for continued monitoring and management.<sup>2</sup> It should also be noted that the tour bus function is different from the shuttles function as tour buses may dwell for an extended period to attract more customers.

<sup>1</sup> <http://www.sfmta.com/cms/pcurb/curbfces.htm#business>

<sup>2</sup> Conversations and emails with J. Robbins, SFMTA

a vehicle on local residential streets is classification SU-30, which is smaller than a typical motorcoach. The suggested accommodation vehicle for a neighborhood commercial street or a local arterial (“residential throughway”) is WB-40, corresponding to a typical 40' long motorcoach.

The benefit/im act analysis demonstrates that shuttles are providing a useful and beneficia service to many San Francisco residents and local and regional employers and institutions. Yet, significant concerns regarding shuttle-related impacts, particularly perceived local neighborhood impacts, warrant further analysis, data collections, and policy development (e.g. operating guidelines) as discussed below. Key findings from the regional shuttles benefit/impact assessment sh w that:

- Benefits are significant and widespread, p ticularly regional congestion and air quality benefit .

- Impacts are localized, with the major issues appearing to be related to visibility, use of Muni stops and red color curbs for loading/unloading and idling,

**More active and responsive management options should address curb usage issues and provide for improved communications and collaboration.**

- There is evidence that motor coach vehicle size and weighting are not ideal for some streets.

- The public would benefit from a dedicated point of contact for inquiries and feedback.

- The extent of issues and growth of shuttles indicates

long-term need for shuttle planning, coordination, and management.

Conclusion: Shuttles play a valuable role in the overall San Francisco transportation system. More active and responsive management is needed and warranted in order to: address local impacts and neighborhood concerns; improve shuttle operations

within the broader multimodal system; support transparency and certainty for both the public and providers; and encourage and support provision of shuttles to help meet transportation needs and support related policy goals.

### III. POLICY ANALYSIS

This section investigates possible directions for planning and management approaches to retain, leverage, and grow shuttle benefits while fairly and more consistently mitigating or minimizing the impacts of shuttle operations.

#### REGIONAL EMPLOYER SHUTTLES

As described in Section II, while benefits of regional shuttles are significant, and progress has been made to improve their operations, some impacts remain. These impacts are generally highly localized, and typically relate to the size of the vehicle and the interaction of the vehicle with the rest of the transportation system, including Muni, motorists, cyclists, and pedestrians. More active and responsive management options should address curb usage issues (and coordination with parking policies/strategies) and provide for improved communications and collaboration:

**CURB USAGE AND OTHER PARKING SOLUTIONS.** The City’s best opportunity to manage shuttle operations lies with the SFMTA’s jurisdiction over curb zones (e.g. parking and bus stops). Research indicates that other cities are working through similar shuttle concerns and the allocation of scarce curb space (see Appendix C). A few possible approaches are discussed below:

- *Shared Stops.* The San Francisco Transportation Code states that the SFMTA must provide explicit permission for other vehicles to use Muni bus stops. Regional shuttles have been using Muni zones informally without such permission. In response to complaints by the public and enforcement action by SFMTA, shuttle providers initiated a pilot policy in May 2009 to reduce shuttle-Muni conflict . Dubbed the “Muni First” approach, these safety-related and operational guidelines were developed by regional operators in good faith, but without the input of SFMTA planners and operators. While these guidelines appear to have been somewhat effective, and subsequent communications between SFMTA Parking Control Officers (PCOs) and shuttle providers have yielded good results, problems still remain. A more collaborative and comprehensive approach to development of the “Muni First” approach is warranted. Jointly-developed guidelines should cover all aspects of operations in San Francisco, to address questions such as, but not limited to: where and when to stop; minimum space requirements (including for multiple vehicles, as necessary); and locations/guidelines for vehicle layovers. SFMTA planners should determine the feasibility and desirability of stops shared with transit, with safe Muni operations taking top priority, using transparent technical criteria such as safety, number of routes served at a stop, route frequencies, and transit performance and reliability considerations. We note that any policy should be equitable and scalable to adapt and respond to the potential future entry of new providers to

**Box 2. MUNI EMISSIONS NOISE AND IDLING.** Currently, Muni strives to prioritize low-emission vehicles (such as electric trolley-coach and diesel hybrid) continuing towards the SFMTA goal of zero emissions by 2020. Muni’s hybrid and trolley buses are up to 10 times quieter than conventional buses: hybrid vehicles operate at about 70–75 decibels (dBA).<sup>1</sup> Muni also does not allow its own vehicles to idle for longer than three minutes, which is less than the maximum of five minutes prescribed by the City’s Transportation Code for privately owned motor coaches.<sup>2</sup>

<sup>1</sup> Conversation with T. Papandreou, SFMTA, 11/09/09

<sup>2</sup> San Francisco Transportation Code, SEC. 10.2.21.

the regional shuttle market. Development of these stop-level rules should be developed as part of a broader set of operating guidelines as discusses below in the Service Planning Criteria subsection.

- *Dedicated shuttle zones.* SFMTA currently operates its color curb program under which an entity may establish a curb zone following payment of applicable fees and a public approval process. The color curb program one-time application fees are based on the length of curb requested (about \$28/linear foot). To make room for shuttle zones, passenger parking spaces could be converted on a part- or full-time basis, and foregone revenue could be replaced by shuttle sponsors or operators. To the extent that regional shuttles are more impactful than Muni vehicles due to weight, size or engine type, additional impact fees may also be warranted. Dif-

ferential permitting or pricing for the purposes of demand management may also be warranted. These policies should be coordinated with the work currently in progress to more rationally and equitably manage scarce curb space. Chief among these efforts is the SFpark program, which is piloting demand-based variable pricing at meters to support parking availability in high demand areas. In addition, the City’s parklet program is a public-private partnership model under which local business may establish an extended sidewalk area (e.g. for cafe seating provided by the business but open to the public) in the parking lane. The SFMTA has established an interim parklet fee of \$1,220 primarily to recoup costs of planning, design, and parking meter removal. Future revisions to this policy may consider recovery of foregone parking meter revenue. Finally, establishment of new shuttle zones should be informed by the recent example of a six-month trial tour bus zone at Union Square which has not gone as smoothly as originally anticipated (see inset Box 1). A subsequent extension of the Muni zone on 8th Street (in the South of Market) appears to be working well; although SFMTA Staff report that shuttle operators using the new zone have balked at the suggestion that they should help pay for the \$1,500 improvement.

- *Shared parking.* As is being considered by New York, shared parking may be a strategy to improve shuttle operations, particularly for layovers. This may be a solution involving private arrangements between shuttle operators and private

**TABLE 4: BAY AREA SHUTTLE COORDINATION MODELS**

TYPE OF MODEL	EXISTING SHUTTLE SERVICE PARTNERSHIP	DESCRIPTION	SERVICE PLANNING/OPERATION/FUNDING
Public-Private Partnership (Public Lead)	DASH (VTA’s San Jose Downtown Area Shuttle)	Free circulator shuttle One-way loop to/from Caltrain’s San Jose Diridon Station Ridership approx. 1000/day	<b>PLANNING:</b> VTA <b>FUNDING:</b> San Jose Downtown Association (from city or directly from employers) plus TFCA grant plus VTA
	Golden Gate Transit Club Bus	Commuter Shuttle from Marin and Sonoma counties to SF Approx. 30 pax to establish a “club” Each pax pays a monthly fee (comparable to current GGT fares)	<b>PLANNING:</b> Clubs <b>FUNDING:</b> GGT handles procurement, pays 30% of costs, and Contractor bills commuter club directly for remaining 70% • GGT provides service support (e.g. late service or breakdowns)—“middle person” • GGT leases old vehicles to contractor
Business Improvement District (Non-Profit Lead)	Emery Go Round	Free circulator shuttle 7 routes—various services to/from MacArthur BART, Amtrak Ridership approx. 3000/day Peak Frequency 10–12 min	<b>PLANNING:</b> Emeryville TMA <b>FUNDING:</b> Originally Caltrans grant plus employers, then became fully privately funded based on property square footage
Public-Private Partnership (Non-Profit Lead)	Peninsula Traffic Congestion Relief Alliance	Various pass/free shuttles (24 vehicles, 7 cities)	<b>PLANNING:</b> Alliance <b>FUNDING:</b> (various models) • 50% congestion relief funding plus 50% local match (from city or directly from employers) • 75% Samtrans/Caltrain plus 25% local match from employers

owners of parking or potentially a public-private solution. For example, where capacity exists, SFMTA could share its own terminal facilities or yards with regional shuttles during daytime hours when Muni buses are operating their routes. Bus loop facilities at the Glen Park BART Station present an interesting opportunity for allowing cooperating shuttles to use excess capacity, easing competition for space between Muni buses, shuttles, and kiss-and-ride trips on Diamond and Bosworth streets.

**REGULAR COMMUNICATIONS AND COLLABORATION.** Aside from curb space management, shuttle operations can be managed through enforcement by the SFPD traffic detail or through weight restrictions on various streets. Neither approach is ideal, however, due to the reliance on manual enforcement. A preferred method of engagement is the collaboration model as practiced in Seattle by the Seattle Department of Transportation (DOT) and Microsoft. From the inception of its shuttle program in 2007, Microsoft collaborated closely with various transportation agencies (including Seattle DOT and Metro Transit) to plan routes and stops for their regional service, including the designation of shuttle zones.

This collaboration model is ideal for San Francisco, as a means to build upon and streamline the already improved communications between SFMTA and the regional shuttle sponsors. In taking the lead on setting operating standards and guidelines, SFMTA should focus on two areas in particular.

*Service Planning Criteria.* Based on a study of operations at Muni bus zones and extent of shuttle/bus conflict, SFMTA should set service planning criteria or guidelines, working collaboratively with shuttle sponsors to re-draft the Muni First Shuttle Policy, which was first developed by shuttle sponsors themselves without consultation with SFMTA planners. The guidelines should address use of stops (who may use, when, for how long, and under what terms—e.g. display of unique identifier number), street restrictions (through weight restriction policies), and other operating rules (e.g. layovers). Development of these guidelines should be led by SFMTA professional planners and transportation engineers and be consistent with, and deferential to, regular Muni service planning policies. In some cases, it may be possible for shuttles to share bus zones with Muni (due to less frequent Muni service), while in other cases, it may be necessary to change the routing, to develop a new stop, or to extend an existing stop to create a shuttle zone, or find alternative (potentially shared) parking or lay-over areas. Operations in accordance with these criteria could be supported on an ongoing basis through a Muni Partners capacity at the SFMTA as discussed below, with inappropriate operations being reportable and enforceable via ticketing by the Police Department and/or Parking Control Officer.

*Vehicle and Emissions Thresholds.* Working with the shuttle sponsors and operators, SFMTA should set vehicle operating size and emissions guidelines, which would become standards over time. Shuttles should be operated safely at all times, be of a size that is able to comply with traffic standards (i.e. turning radii), and be generally no more impactful than Muni vehicles in terms of noise, vibration, and idling (see inset Box 2). The California Center for Innovative Transportation (CCIT) released a report in

March 2010 entitled “Privately-Provided Commuter Bus Services”, which, assisted by inputs from this SAR process, examines the role of regional shuttles within the San Francisco Bay Area transportation network. The CCIT recommendations are in line with the potential management options listed above, to provide guidelines for transit agencies, and local, regional, and federal agencies and to help facilitate communication and coordination between the public and private sectors as the regional private shuttle sector continues to grow. (The CCIT report examined categories of regional shuttle transportation, including employer-based—similar to the regional shuttles discussed in this SAR—fee-based, and partnership-based.<sup>24</sup>

### LOCAL EMPLOYER SHUTTLE/ CIRCULATOR CONSOLIDATION

Several employers and institutions in the downtown area have been meeting informally through various groups (two examples include Neighborhood Business Watch and the Embarcadero Task Force led by SFMTA) to discuss transportation issues and possible collaboration opportunities.

The concept of consolidation of South of Market (SoMa) shuttles was originally supported by the results of SFMTA’s 2008 shuttle inventory, which found that, at the time, there were more than 11 private business shuttle systems operating in the area, in many cases providing redundant service. Based on the study team’s conversations with SoMa employers, these redundancies still exist. Employers provided additional details regarding their shuttle consolidation request in July 2009, citing the “need to consolidate the many employer provided shuttles in the Townsend/Business area...to consolidate resources and provide more service to companies and small businesses in the area” and explaining that the employers cannot move forward with shuttle consolidation on their own, as “there is risk associated with being the lead employer” especially pertaining to service and insurance requirements. Member companies are willing to pay for the service. Current average operating costs for a 25-passenger shuttle bus range from approximately \$100,000 to \$170,000 per year.<sup>25</sup> Low load factors also show that there are opportunities to increase operating efficiency. Two employers, Adobe and Advent, have already begun to share operations, but there are barriers to further consolidating shuttles due to the complexity of negotiating service parameters, cost-sharing, new entrants, and governance among several firms. For this reason, in other areas, companies tend to create new enti-

ties.

<sup>24</sup> CCIT, *Privately-Provided Commuter Bus Service*, March 2010. An example of a fee-based shuttle in the Bay Area is Bauer’s Wi-Drive, a higher-end luxury coach with current fares from \$5.00 to \$10.00. An example of a partnership-based shuttle in the Bay Area is Golden Gate Transit’s Club Bus, described further under the Bay Area Models section of this SAR.

<sup>25</sup> Approximate operating costs as provided by NBW, 4/8/09, and as cited in MTA inventory from 4/29/08.

ties to handle the transition from individual service contracts to a shared contract among many employers.

The study team hosted a meeting with downtown shuttle providers, to discuss shuttle operations and the potential for consolidation of service.<sup>26</sup> Attendees conveyed the need for last-mile service between transit hubs and workplaces due to: inadequate public transit service levels, over-crowded public transit lines (e.g., F-line), and a negative perception of security. The shuttle providers expressed interest in identifying and establishing partnerships to help fill service gaps and reiterated the need for continuous interface with the appropriate City agencies for guidance on stops and routes. This was especially true for those shuttle sponsors who are mandated to provide service; these stakeholders complained that the City requires shuttle services but does not provide adequate coordination and support for providers regarding operations.

Regarding consolidation, the group expressed interest in this idea, but was interested in taking a measured approach. Private consolidation is not necessarily straightforward financially, due to liability issues (sharing insurance which covers all combinations of passengers from different employers) and due to possible upfront costs in procuring vehicles. The prospect of public participation could also change the service into an open one, negating some perceived benefits of having a “closed” system (e.g. security). In addition, public access could potentially overwhelm the service and otherwise affect employee demand.

## BAY AREA MODELS: COORDINATION OF OPERATIONS AND FUNDING MECHANISMS

There currently exist several models in the Bay Area where multiple shuttle providers coordinated resources to provide a circular shuttle service. These are summarized in Table 4.

In many respects, the desire on the part of downtown employers to consolidate employee shuttles is similar to that of businesses which form a Business Improvement District (BID) to pay for mutually beneficial shared services, such as lighting and maintenance. The potential benefits of consolidation are clear: improved efficiency (higher load factors); lower administrative burden; and lower cost. However, the possible trade-offs for firms and passengers cannot be overlooked.

As noted above, firms must agree on cost-sharing, service planning, governance, and how to integrate newcomers to the group contract. Employee passengers, accustomed to direct hub-to-door service, may experience longer trip times due to the need for more circuitous routes and/or longer walk times. As has been noted by SFMTA service planning staff, because of the premium characteristics of the current service, the further risk is that any degradation of service would result in an impact to this “fragile market” of non-automobile travelers. Service planning therefore must be done carefully, in order to minimize impacts to existing riders, while yielding efficiency benefits overall.

Technical assistance, in the form of professional service planning, may be obtained from transit planning consultants but is best

provided and/or coordinated by SFMTA staff. Whether SFMTA serves as the primary service planner or whether its role is to coordinate with a transit planning consultant, SFMTA’s participation should be compensated in order to ensure the assignment of dedicated staff capacity to this effort. Under this scenario, because operations funding is provided solely by the current employers, the service remains closed to employees of the sponsoring firms.

## MIGRATION OF SERVICES FROM PRIVATE TO PUBLIC FUNDING AND ACCESS

If there is a desire to move beyond the provision of a “closed” service to one that is “open” to the public, and assuming the availability of funding as well as market demand, several public/private partnership models exist:

1. SFMTA could directly produce the new service, or
2. SFMTA (or another agency such as the Authority or a new non-profit or organization) could procure the service by contracting with a third-party operator, similar to SFMTA’s paratransit service, which is produced by unionized labor.

Key considerations for this choice are the cost and cost-effectiveness of each option, and the availability of funding for the service. Given SFMTA’s current operating deficit, it is not likely that the agency will be able to expand its services in the near future without external funding. Thus, the SFMTA would need private and/or private and public grant funds to provide the desired, newly consolidated transit service.

Even if the cost savings from consolidation were fully needed to pay for SFMTA’s role, the arrangement may still be beneficial to the present employers from an administrative burden perspective. In this “public/private” scenario, it may be advisable or necessary to establish a non-profit corporation with membership that includes SFMTA, the employers, and any other funding partner (see PTCRA and LINKS examples in Table 4).

Another example of public/private partnership may be illustrated by the model followed by the Golden Gate Transit (GGT) “Club Bus” service, a subscription based commuter van service, underwritten by GGT. In addition to regularly scheduled bus service, GGT also operates this shuttle service (the Club Bus), which is a subscription-based commuter club. A minimum of 30 passengers would be required to establish a “club”, with each passenger paying a monthly fee comparable to current GGT fares. GGT handles procurement of services to a third party contractor, and pays 30% of the costs. The contractor bills the commuter clubs directly for the remaining 70% of costs. In this arrangement GGT provides service support (for example, in the case of breakdowns). GGT also leases old GGT vehicles to the contractor.<sup>27</sup> Club Bus operates approximately four trips each direction per day, using full-size (40’) buses, including three trips serving UCSF and one trip serving the Financial District/downtown area, with a total daily Club Bus ridership of approximately 200 passengers.<sup>28</sup>

The prospect of migration of private shuttle services to public management or public/private provision is both intriguing

<sup>26</sup> Stakeholder meeting on 4/14/10 hosted by SFCTA, including 11 different providers and operators, Mayor’s Office of Economic and Workforce Development (OEWD) and SFMTA.

<sup>27</sup> Comment Letter from Golden Gate Transit dated 3/23/10, and conversation with D. Davenport, 2/25/10

<sup>28</sup> Ibid.

and complex. The case for public investment would need to be made through more market research about existing shuttle riders' preferences, as well as potential future new demand. Funding and governance roles would also need to be defined through a new regulatory and "mobility management" role that could arbitrate between direct public production of transit services and provision of publicly and privately produced services. If ultimately deemed desirable, a public/private partnership model would signal a potential new approach to augmenting traditional transit in special markets which could eventually include other parts of the city where service gaps exist.

#### IV. RECOMMENDATIONS AND NEXT STEPS

In order to better manage shuttle operations and integrate them into the city's transportation system, we recommend the following:

**ESTABLISH A "MUNI PARTNERS" PROGRAM AT SFMTA.** As a foundation for cooperation and coordination between shuttle providers and City agencies, and to provide a central point of contact for the public regarding shuttle operations, SFMTA should create a "Muni Partners" Program. The program would encourage shuttle operators to register and obtain certification from SFMTA as member participants in the program. The program would formalize and streamline coordination between the shuttle industry and SFMTA and would also provide a mechanism for improved transparency, and more regular monitoring.

In administering the Muni Partners Program, the SFMTA would undertake the following activities to better coordinate, manage, and grow the shuttle sector:

- set clear policy objectives and requirements to ensure safe shuttle operations, complementary shuttle interactions with transit and other road users, and policy integration with other agency and citywide initiatives;
- provide clear operating guidance to existing shuttle operators to improve certainty in operations and minimize citation risk
- work with potential new entrants to the shuttle market to foster development of the shuttle sector in support of broader transportation sector goals (e.g. congestion management);
- create needed facilities to accommodate existing shuttles (and consider shared use of existing or future facilities) and provide for managed growth of the sector;
- improve the system of enforcement, including how to identify and report non-compliant activity;
- maintain a staff capacity to respond to public inquiries and complaints;
- conduct monitoring to evaluate program effectiveness and support sector planning (including working with Planning Department staff on the opportunity to relieve development projects of operating currently mandated services where resources could be better deployed to supporting Muni operations and/or shared or consolidated shuttle services);
- coordinate within SFMTA and with the San Francisco Police

Department and Planning Department on shuttle TDM policy, operations issues (e.g. coordination with transit service planning staff), and enforcement procedures and activities

- assess program sustainability needs and issues, including staffing and funding requirements; and
- address similar issues that exist with other state-licensed passenger vehicles, such as tour buses.

The above program components would enable SFMTA to respond to service coordination needs and public concerns benefiting all parties. For example, SFMTA planners and shuttle operators should collaborate on a Muni-first policy that reflects service guidelines that SFMTA would develop, taking into account Muni operational needs and public input. Cooperating shuttle service providers could display a Muni Partners logo on their vehicle or in their window, which would indicate that they have actively coordinated directly with the City in planning their operations. A unique vehicle identify and contact information for the Muni Partners Program would be clearly visible. This would allow a formalized point of coordination and contact for both providers/operators and members of the public.

The program should be supported, at least in part, by a fee structure for member organizations. At a minimum this would provide for cost recovery of the program in a manner consistent with other SFMTA curb management and facility fees. It is anticipated that fees would be charged to shuttle operators, and that these transportation service providers would, in turn, have the option to pass on the charge to their customers (employers, other organizations that contract for shuttle services). Non-participating shuttle operators could be subject to additional enforcement actions at Muni/shuttle stops and red zones and would not be eligible for program benefits such as shared stops, planning support and coordination, etc.

In order to help launch the Muni Partners Program, the Authority and SFMTA, in cooperation with other City agencies, applied in 2010 for a grant from the Metropolitan Transportation Commission's Bay Area Climate Initiative (BACI) to undertake the Integrated TDM Partnership Project. The Authority was awarded the grant in late 2010. Development of the Muni Partners Program in the initial stages through a grant-funded approach will allow the City to demonstrate program need and effectiveness. This program's pilot period will include more detailed analysis and data collection regarding shuttle operations than was possible within the scope of this SAR. This work will inform the development of clear operating guidelines and requirements for the shuttles sector. Importantly, during the pilot period there will be an assessment of how to cover the costs of the program following the approximately 18-month grant period, including whether and how to charge a fee to members and what fee level is appropriate..

**DESIGNATED SHUTTLES COORDINATOR.** The SFMTA point of contact (TDM Project Manager) will lead the activities described above, and additionally work to integrate the Muni Partners Program with related TDM policy initiatives at the SFMTA and citywide. One of the key roles of this staff position, to be initially funded, in part, through the BACI grant, will be to conduct

ongoing outreach and analysis to develop and then periodically update the structure for program membership fees (and fine, if necessary), in order to ensure fairness, a nexus with benefits to program members, alignment with policy objectives, and sustainability of the program.

It is anticipated that the majority of effort will be needed up front to research shuttle and transit/traffic operations conflicts and establish shuttle facility needs, as well as to work collaboratively with industry stakeholders, other agencies, and the public to develop program features, benefit, and fee structures. Thereafter, a maintenance level of effort will likely be needed to continue tracking and monitoring sector activities and respond to public inquiries, as well as to undertake planning efforts to grow the program appropriately in concert with larger agency and citywide TDM initiatives.

### SHUTTLE CONSOLIDATION

As described above, the present proliferation of downtown circulator shuttles plays a beneficial role to the transportation system, but these services could be consolidated to achieve better operating efficiency. With the establishment of the Muni Partners program, the SFMTA, other City agencies, and the Authority will have the opportunity to work closely with downtown shuttle sponsors and operators to investigate the feasibility of establishing a “virtual” Transportation Management Association (TMA) among interested shuttle sponsors, which could facilitate shared or consolidated shuttle operations among existing private providers. The TMA could also partner with other TMAs and/or the City via a public-private non-profit organization that fosters shuttles and other TDM strategies. The TDM Partnership Project includes grant funds to help major employers and institutions explore the governance, business, and legal parameters for these options and additionally provides resources for City agencies to develop efficient and effective ways to partner with a network of TMAs. One key policy issue for the public sector that will require careful consideration is any proposal for Muni to take over privately operated shuttles. Such a transition from a privately-funded, closed system to one that involves public funding for operations (and is open to the public) would represent a major public policy initiative requiring careful and complete vetting. Many jurisdictions look to public-private models as options to expand provision of shared ride services during periods of funding contraction, to serve markets that are otherwise difficult to serve, and/or as a means of piloting reforms. The Authority’s subsequent Strategic Analysis Report on Alternative Transit Service Delivery Options is exploring these larger sector regulation and mobility management topics.

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- Better Streets Plan* (City of San Francisco), 2010
- Existing Shuttle Service Inventory for San Francisco* (SFMTA), 2008
- Idling Vehicle Emissions* (US EPA)
- Lower Manhattan Street Management Bus Layover/Storage Options Study* (NYC Economic Development Corporation, NYC Department of Transportation), 2009
- Privately-Provided Commuter Bus Services* (California Center for Innovative Transportation), 2010
- San Francisco Climate Action Plan* (SFDOE and SFPUC), 2004



## ACKNOWLEDGEMENTS

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JOSÉ LUIS MOSCOVICH, EXECUTIVE DIRECTOR

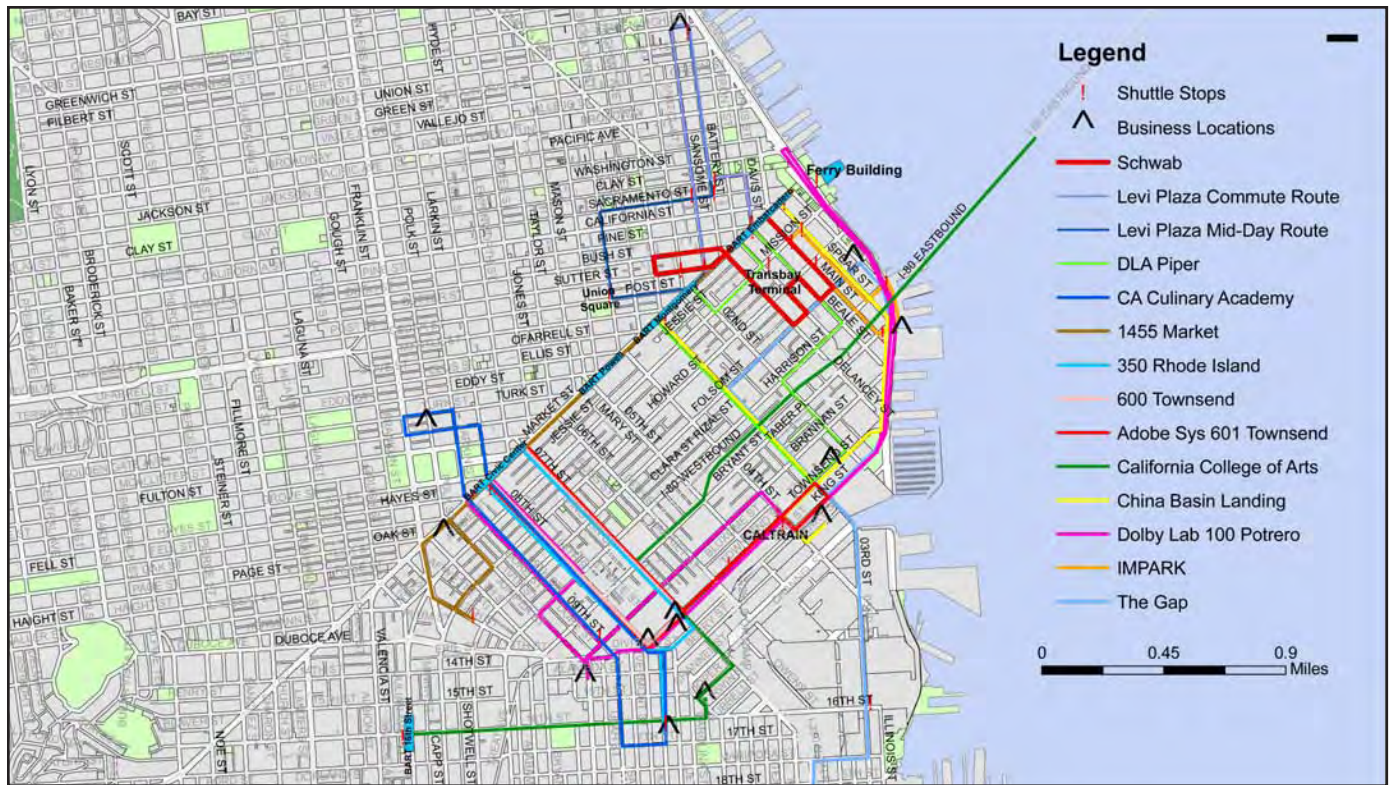
## CITY DEPARTMENT STAFF CONSULTED

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 Danielle Bricker (Yahoo!)  
 Michael McLean (Neighborhood Business Watch)  
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 Maggie Lukic (Advent)  
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 Vicki Rosen (Upper Noe Neighbors)  
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 John Millar (Marina Community Association)  
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 San Francisco Planning and Urban Research Association (SPUR)

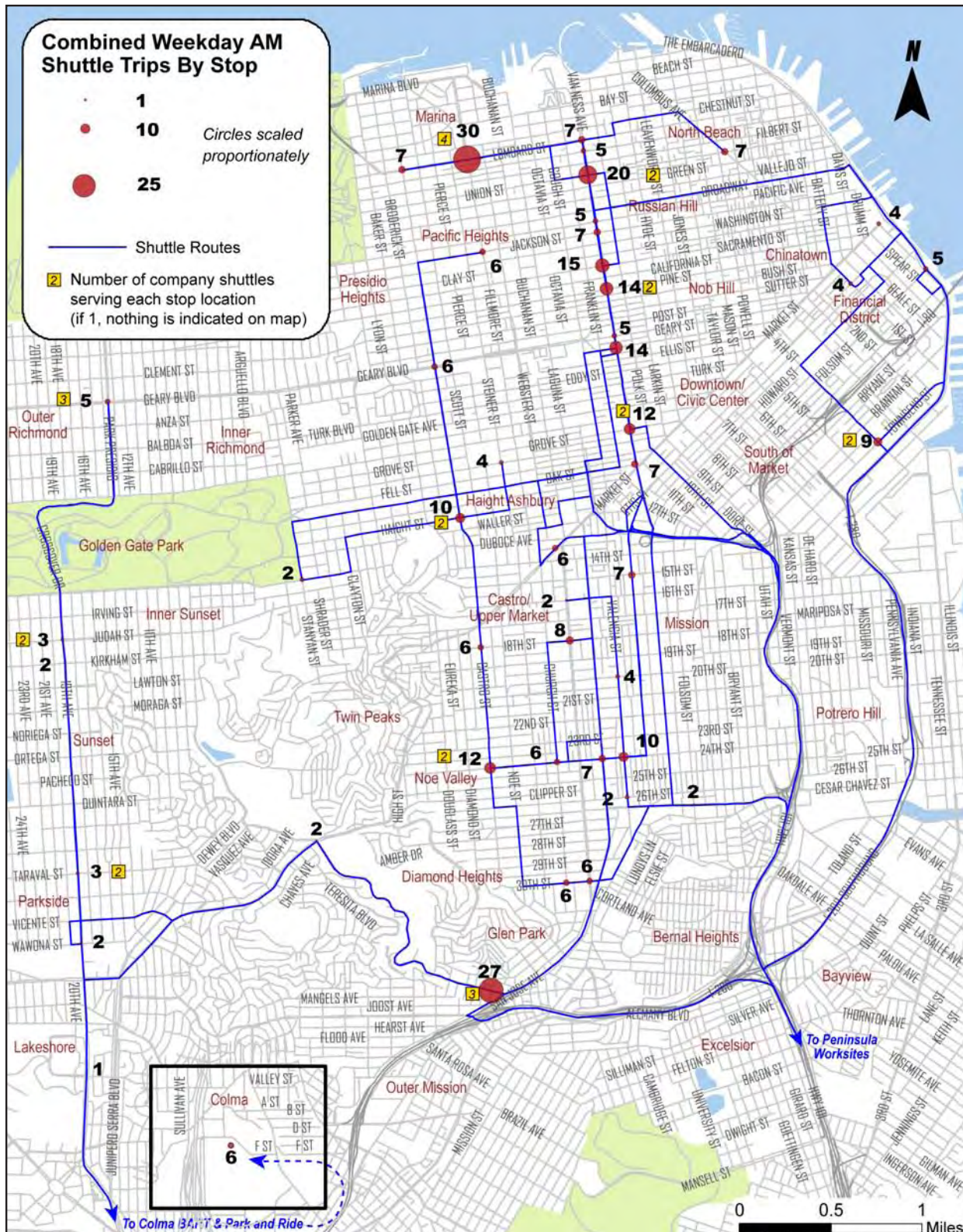
### APPENDIX A. SOUTH OF MARKET AND FINANCIAL DISTRICT SHUTTLE PROGRAMS (MTA INVENTORY)



**SFMTA** | Municipal Transportation Agency  
SOURCE: SFMTA (2008)

The City and County of San Francisco does not guarantee the accuracy or completeness of any information in this map.

## APPENDIX B. PENINSULA EMPLOYEE SHUTTLES | SAN FRANCISCO TRIPS (DATA FROM GENENTECH, APPLE, YAHOO!, AND GOOGLE, WINTER 2009)



SOURCE: Nelson/Nygaard Associates and Regional Employers (2009); GIS Data Source: SFGIS  
NOTE: Shuttle routes may not be exact

## APPENDIX C. U.S. SHUTTLE COORDINATION MODELS

The City of Seattle currently operates separate shuttle zones throughout the city for which shuttle operators pay a permit-per-vehicle fee. The shuttle landscape in Seattle is similar to that of San Francisco in various ways. There are regional shuttles which serve residential neighborhoods, transporting passengers outside the city. These shuttles belong primarily to the region's largest employer, Microsoft Corporation, and shuttle services transport over 3,000 passengers each day to the Redmond campus (about 20 miles outside Seattle). The fleet consists of both large motor coaches (45'–50' in length, with a capacity of 50+ passengers) and smaller vans (25'–30' in length, with a capacity of 25+ passengers).<sup>1</sup> Curb space is specifically allocated for shuttle use in consultation with the employers providing the shuttle services. The cost of the program is a flat rate of \$300 per year per vehicle. Currently approximately 50 shuttle vehicles per year are issued these one-year permits. The violation fee for non-shuttle vehicles stopping in the shuttle zone is \$40. Program revenue only covers the cost of administration.<sup>2</sup> Non-permitted shuttles continue to use other curb space throughout the city.<sup>3</sup> Thus far the program is considered effective.

Both Washington, DC and New York have also been investigat-

<sup>1</sup> Conversations with: B. Bryant, SDOT, 6/3/09, L. Frosch of Microsoft, 6/5/09

<sup>2</sup> Conversation with B. Lindsey of SDOT, 11/4/09, <http://www.seattle.gov/transportation/parking/shuttlepermits.htm>

<sup>3</sup> <http://www.seattle.gov/transportation/parking/parkingcurb.htm>

ing better ways to address shuttle use of curb space. In Washington DC, regional commuter shuttles have tended to linger after dropping off passengers, taking up valuable curb and parking space. Although fines can be issued to those in violation of parking regulations, DDOT is investigating more formalized regulatory treatment of shuttle issues through a permitting or pricing scheme.

DDOT is also working to identify appropriate parking locations for shuttles and intercity buses and to consolidate stops. At the moment, a heavily used stop is Union Station, which is a quasi-public entity. DDOT is working with Union Station to facilitate the leasing of its property to shuttles for parking use.<sup>4</sup> SFMTA has similarly suggested identification and pre-approval of suitable layover locations for shuttles in San Francisco.<sup>5</sup>

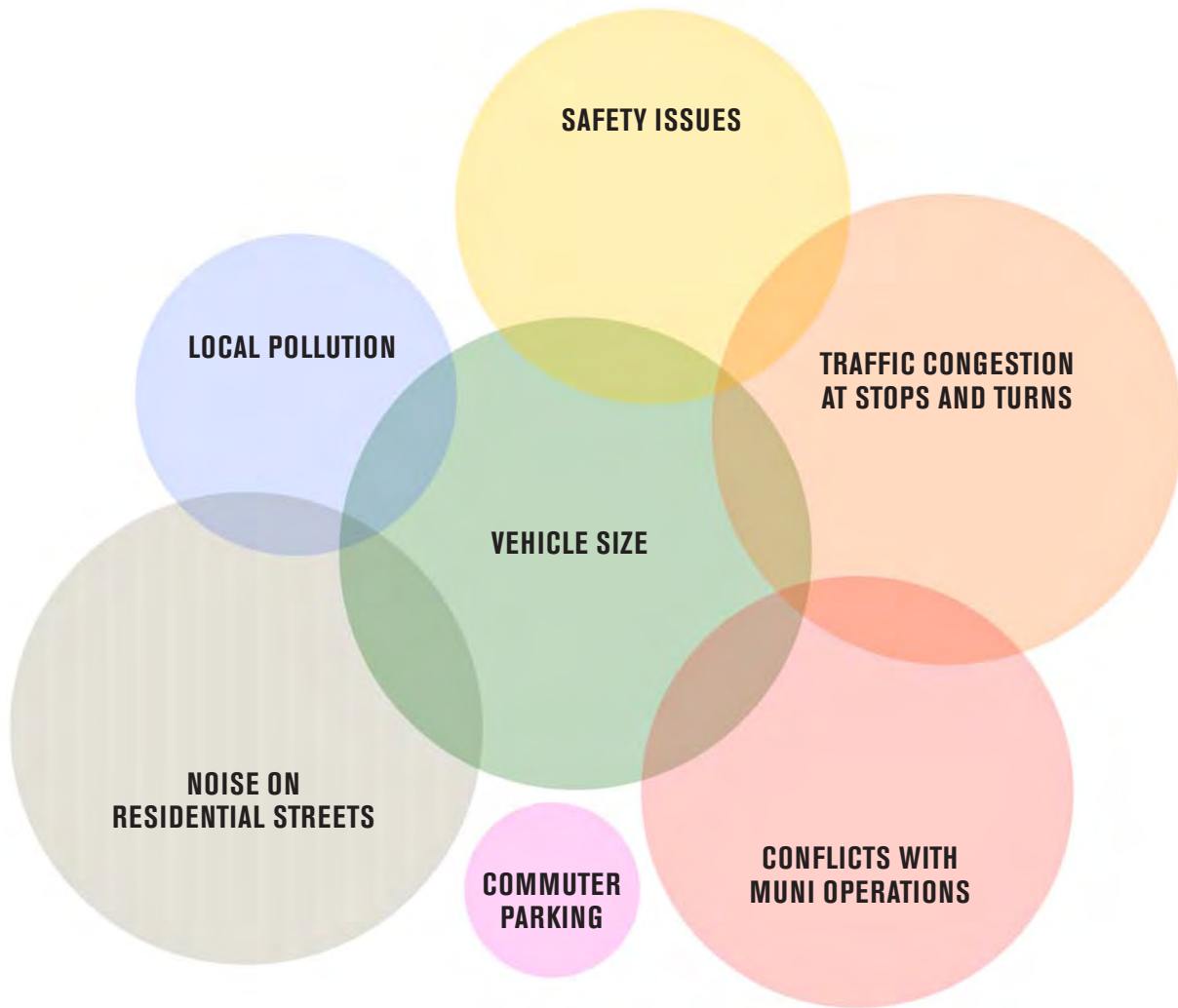
New York City DOT also started studying issues related to shuttles due to the loss of shuttle layover locations. While they are also looking into curb management and transportation demand management through pricing strategies, they are also investigating parking sharing, to encourage businesses such as FedEx and UPS to share their lots with shuttles and buses during commute hours.<sup>6</sup> San Francisco might similarly have opportunity to seek shared parking opportunities for both stops and layovers in neighborhoods.

<sup>4</sup> Conversation with E. Cleckley, DDOT, 10/01/09

<sup>5</sup> Conversation with J. Kirschbaum, SFMTA, 11/06/09

<sup>6</sup> Conversation with S. Sanagavarapu, NYCDOT, 10/06/09

### APPENDIX D. SHUTTLE CONCERNS IN SAN FRANCISCO NEIGHBORHOODS



Source: 2009 survey of residents in the Marina, Noe Valley, and Glen Park, and comments received from the public

# EXHIBIT L

## ***The City from the Valley (2012)***

Commissioned by ZERO1 and presented with the support of the James Irvine Foundation.

Fundamental shifts are underway in the relationship between San Francisco and Silicon Valley.

Historically, workers have lived in residential suburbs while commuting to work in the city. For Silicon Valley, however, the situation is reversed: many of the largest technology companies are based in suburbs, but look to recruit younger knowledge workers who are more likely to dwell in the city.

An **alternate transportation network** of private buses—fully equipped with wifi—thus threads daily through San Francisco, picking up workers at **unmarked bus stops** (though many coexist in digital space), carrying them southward via the commuter lanes of the 101 and 280 freeways, and eventually delivers them to their campuses.

What does this flow tell us about Silicon Valley, and the City it feeds?



A core component of Stamen Design's practice is focused on harnessing data to visualize flows—flows of taxicabs carrying passengers throughout the city of San Francisco in [Cabspotting](#) (2006), flows of crime reports in Oakland in [Crimespotting](#) (2007), and in the case of *The City from the Valley* (2012), the flows of tech

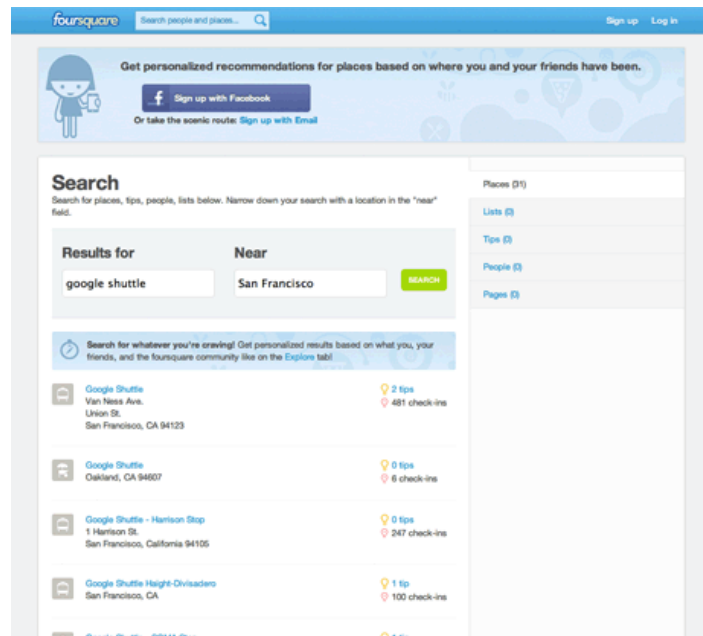
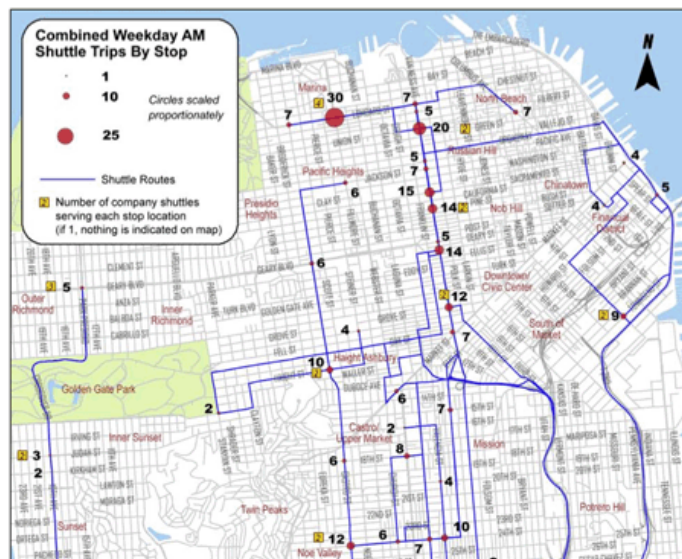
Several Stamen staff live on Google shuttle routes, so we see those shuttles every day. They're ubiquitous in San Francisco, but the scale and shape of the network is invisible.

We decided to try some dedicated observation. We sat

workers to, from, and within a region known for flux and dynamism.

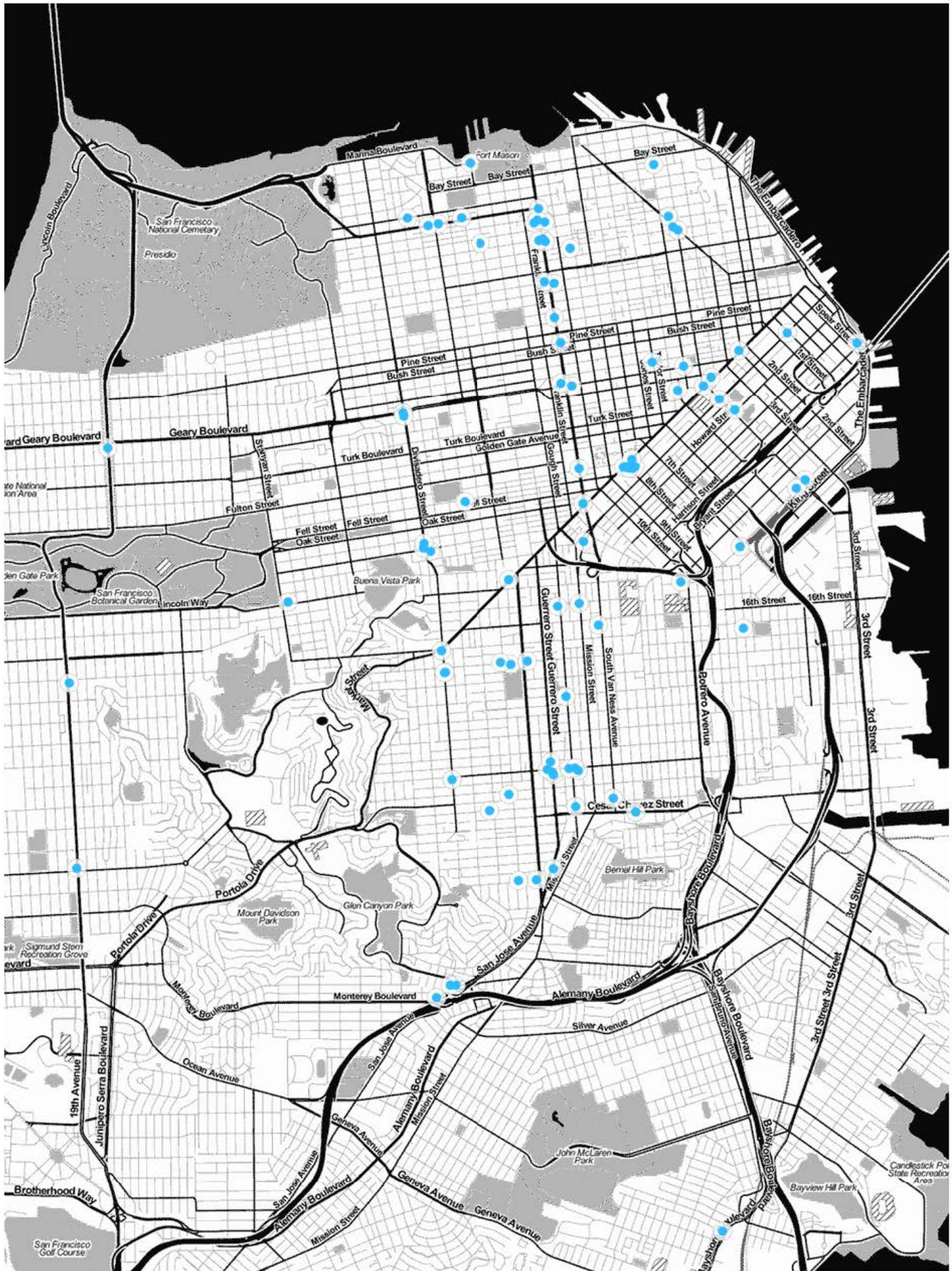
at 18th & Dolores one morning, and counted shuttles. We counted a new shuttle every five minutes or so; several different companies, high frequency. We also researched online sources like Foursquare to look for shuttle movements, and a 2011 San Francisco city report helped fill in gaps and establish basic routes.

**APPENDIX B. PENINSULA EMPLOYEE SHUTTLES | SAN FRANCISCO TRIPS**  
 (DATA FROM GENENTECH, APPLE, YAHOO!, AND GOOGLE, WINTER 2009)



We were able to create a map of the various shuttle stops around the city using our [Dotspotting](#) site.





That's when we realized how big this was, and that we'd need outside help. We enlisted people to go to stops, measure traffic and count people getting off and on and we hired bike messengers to see where the buses went. The cyclists used [Field Papers](#) to transcribe the various routes and what they found out, which we

recompiled back into a database of trips, stops, companies and frequency. At a rough estimate, these shuttles transport about 35% of the amount of passengers [Caltrain](#) moves each day. **Google alone runs about 150 trips daily, all over the city.**

*Field Papers*

**MAKE**  
an atlas to print

**UPLOAD**  
pages you've marked

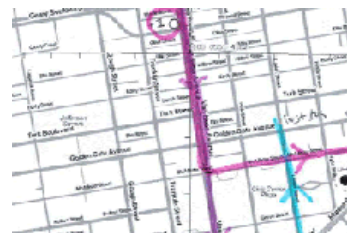
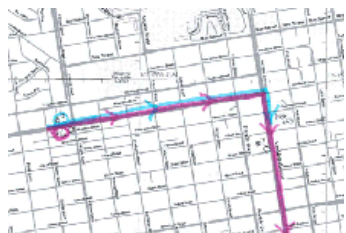
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**LOG IN**  
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SF template 8-up

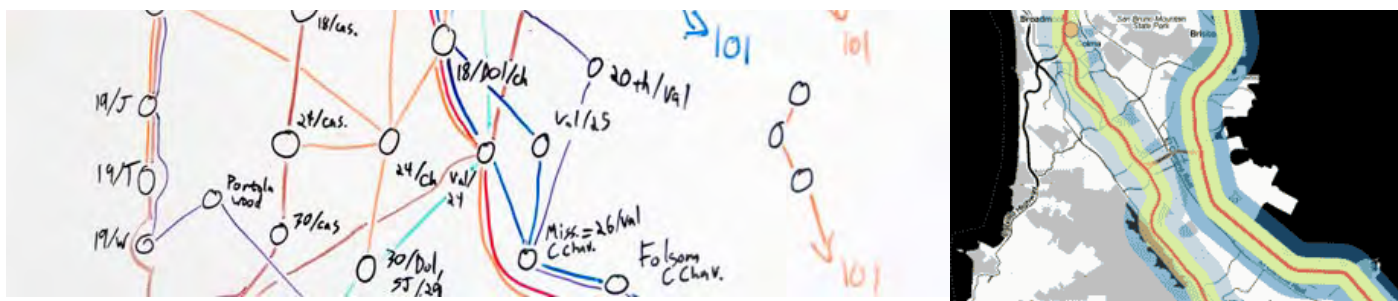
9 pages





We wanted to simplify that, to start thinking about it as a system rather than a bunch of buses, so we began paring down the number of stops by grouping clusters where the stops were close to each other.



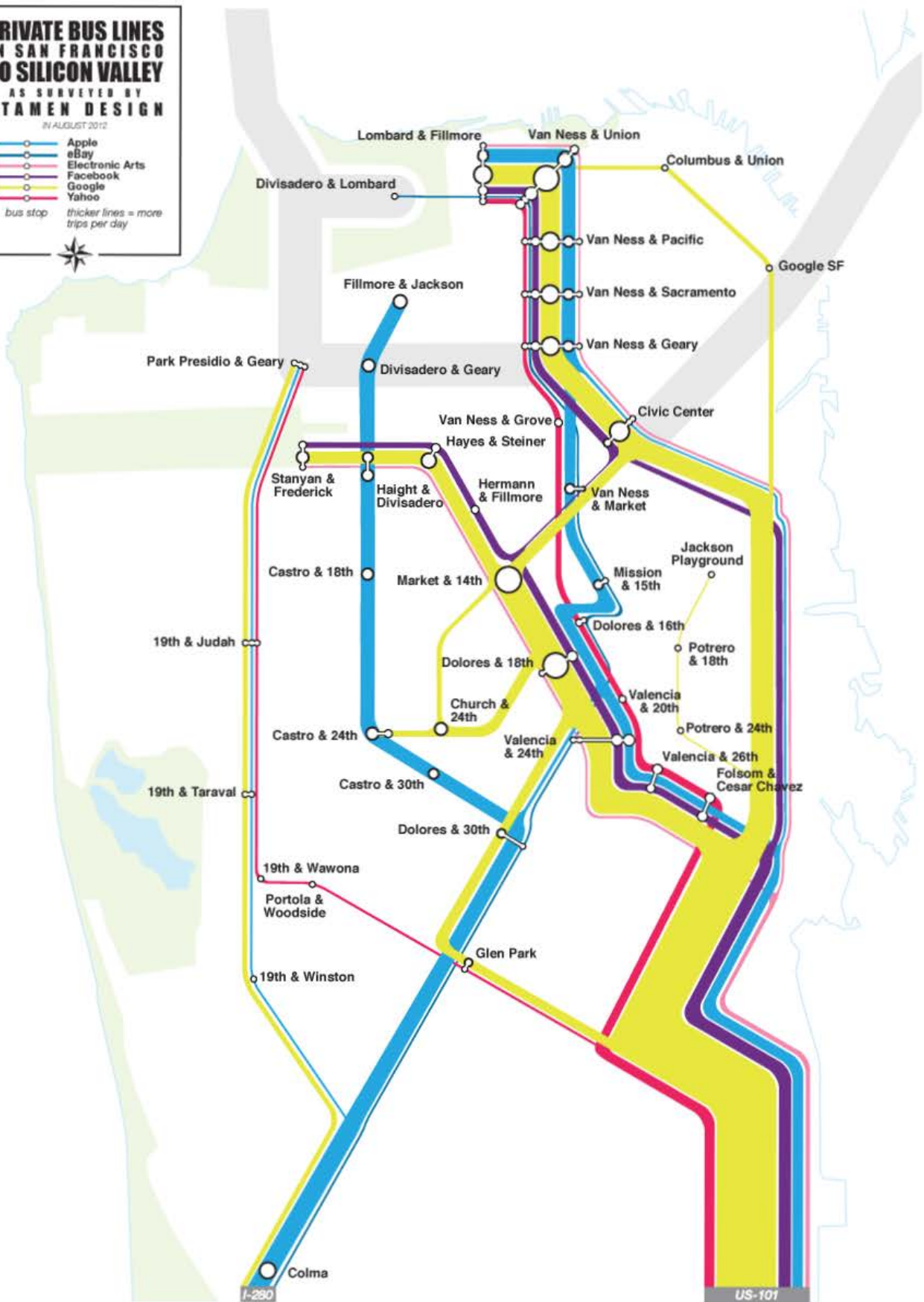


The subway map is the end result of that simplification; it's not a literal representation, but it's much more readable than the actual routes. We also wanted to show the relative volumes, so the map segments are scaled by how many trips pass through them; you get a sense for just how much traffic the highways get, and how the routes branch out from there to cover the city. We only mapped San Francisco shuttles, many of these companies operate additional routes in East Bay, the Peninsula, and around San Jose, including direct routes from Caltrain stations to corporate campuses.

**PRIVATE BUS LINES  
IN SAN FRANCISCO  
TO SILICON VALLEY**  
AS SURVEYED BY  
**STAMEN DESIGN**  
IN AUGUST 2012

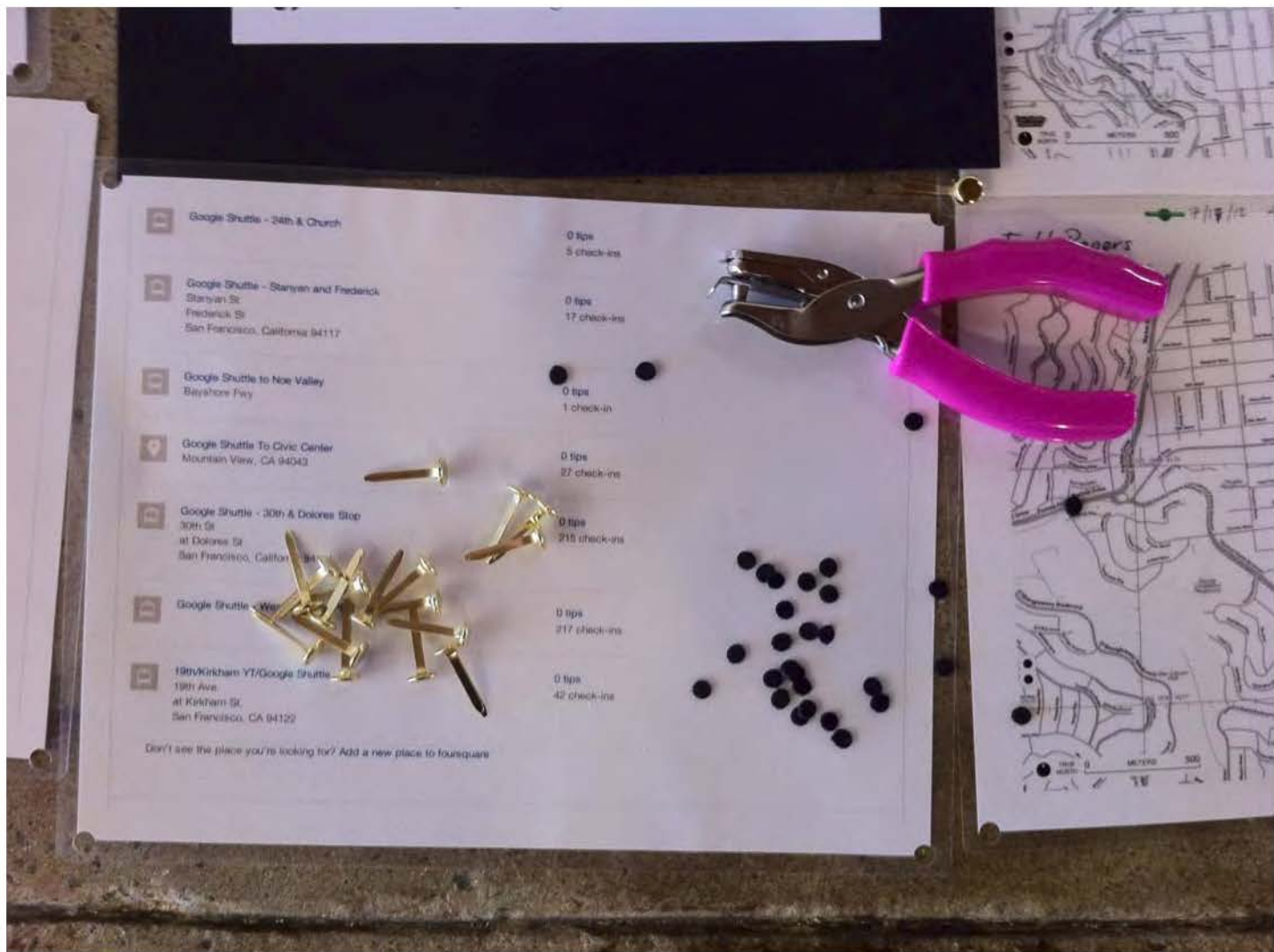
- Apple
- eBay
- Electronic Arts
- Facebook
- Google
- Yahoo

bus stop    thicker lines = more trips per day



The final map is installed with our initial sketches and [Field Papers](#).

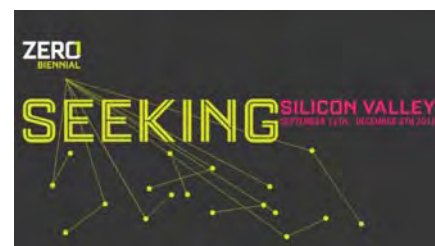








*The City from the Valley* (2012) is a piece in [ZERO1's Biennial exhibition, Seeking Silicon Valley](#), on display at the ZERO1 Garage in San Jose, California from September 12 - December 8, 2012.



### Press

- [Map Reveals Corporate Bus Routes Tech Workers Take](#)  
Wall Street Journal, October 10, 2012
- [Find a Private Shuttle Ride from SF to Silicon Valley on this Map](#)  
KQED, September 27, 2012
- [Where to catch the Google bus](#)  
Per Square Mile, September 26, 2012
- [Silicon Valley's high-tech bus commuter lines visualized](#)  
Boing Boing, September 25, 2012
- [Shuttle buses taking over Silicon Valley, awesome visualization shows](#)  
VentureBeat, September 24, 2012
- [Mapping Silicon Valley's Own Private "iWay"](#)  
All Things D, September 22, 2012
- [Tech, art intersect at Zero1 Biennial](#)

SF Gate, September 19, 2012

- [Visualising the hidden networks of Silicon Valley](#)  
New Scientist CultureLab, September 17, 2012
- [With Seeking Silicon Valley, Zero1 Biennial Explores Tech-Fueled Art](#)  
Wired, August 28, 2012

[Stamen](#) is a design and technology studio based in San Francisco's Mission District. We design and build technically sophisticated and visually arresting projects for commercial clients, non-profits, open-source bodies and museums. [Yes, you should hire us!](#) Or, browse [other exhibitions we've been a part of](#).

# EXHIBIT M

# Letters: Shuttle riders clog streets

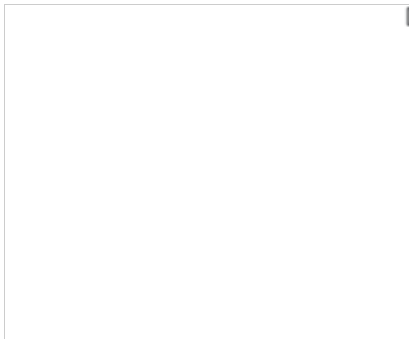
By Examiner Readers

> "S.F.'s discussion over tech buses is not finished," Editorial, Opinion, Jan. 26

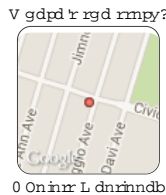
## Shuttle riders clog streets

I live on 26th Street between Castro and Diamond streets and was wondering why it was getting hard to park on my block during the day. I've lived here for 20 years and parking was never a problem until around mid-2013.

Sitting on my porch recently, I saw people parking on my block and taking the tech buses that pick them up at James Lick Middle School or at 24th and Castro streets.



I think the buses are a great option, but they should run where their clients actually live so the riders don't have to come and park here.



This problem has to be addressed soon. The companies should poll the riders to find out where they actually live and where they want to be picked up. Stops and routes should be modified like school buses to fit the current ridership.

They are doing riders and neighborhood people, such as myself, a disservice by running on predetermined routes.

*Cyrus Esteban*

*San Francisco*

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# S.F. shuttles tread on Muni's turf as pilot program aims to cut overlap

By Jessica Kwong @JessicaGKwong



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CHRIS ROBERTS / 2013 S.F. EXAMINER FILE PHOTO

A San Francisco Examiner analysis indicates that several private shuttles shadow routes already served by Muni.

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By Jessica Kwong

Protesters block tech buses in SF ahead of vote about fees for shuttles

By Jessica Kwong

Mario Guerrero remembers a time during the first dot-com boom, before commuter shuttles became a fixture on San Francisco streets, when workers would drive to their jobs.

"They'd refuse to ride public transportation. Shuttles were a step up," said Guerrero, a manager for the private charter service San Francisco Minibus.

In the past decade, commuter shuttles -- those serving businesses and universities within The City and companies on the Peninsula and in Silicon Valley -- have grown in popularity. While some view the out-of-town bus trips as a symbol of economic disparity, they make up only 20 percent of all commuter shuttle activity in San Francisco, according to project manager Carli Paine of the San Francisco Municipal Transportation Agency. The remainder consists of shuttles serving businesses and medical and academic institutions within The City.

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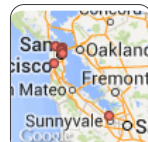
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An analysis by The San Francisco Examiner determined that several intracity shuttles currently run routes that overlap with Muni lines, raising the question of whether the shuttles are necessary to reduce traffic and greenhouse-gas emissions or are merely a perk of the job.

W f cpc's rfc sampw?



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Regardless, transit officials say a new pilot program charging commuter shuttles to use Muni stops is expected to prevent such

duplication.

Under the 18-month pilot program approved by the SFMTA board of directors last month, only permitted commuter shuttles will be allowed to use a select network of 200 Muni stops for \$1 per stop per day. The program is intended to address safety concerns and reduce delays and impacts on Muni.

"In order to get a permit, a provider would have to demonstrate that they aren't replicating a route," Paine said. "So once the pilot is started, we should not have shuttles replicating Muni routes that are part of the pilot."

### **A TENDENCY TO OVERLAP**

The SFMTA has studied commuter shuttle patterns since 2011, when the San Francisco County Transportation Authority released a report detailing their impact on The City's traffic infrastructure, but the agency does not have a clear picture of which intracity shuttles take routes already served by Muni.

However, The Examiner's analysis found several instances where intracity shuttle routes overlap with Muni lines.

**One South of Market** tech company, for example, provides shuttles from its offices at Townsend and Seventh streets and Townsend and Fifth streets to the King Street Caltrain station -- which the 10-Townsend Muni bus serves. The company's shuttle from both office buildings to the Civic Center BART station stops at nearly the same places as Muni.

San Francisco Minibus has served companies by using routes that some existing Muni buses already take, said Guerrero, whose company has operated since 1978. The practice has been quite common over the years, he said.

"Some companies that used to provide parking passes now give passes for BART and the shuttles are free, so it encourages them," Guerrero said of the rise in shuttle usage.

San Francisco Minibus has been growing since the 1980s, Guerrero said, but it has experienced a "big jump" in riders in the past couple of years.

"It's crazy right now," he said. "We were the first ones to start the shuttle system and everyone started jumping on the bandwagon only recently."

The company often acts as the "last mile" between a BART station and workers' destinations, Guerrero added.

### **SERVING MEDICAL, EDUCATION SITES**

Shuttles for medical institutions vary in similarity to Muni routes as well.

**San Francisco General Hospital** operates a shuttle between its campus at **Potrero Avenue and 23rd Street** to the 24th Street BART station that covers a nearly identical route as the Muni 48-Quintara-24th Street line, which picks up riders and Utah and 23rd streets a block away.

Considering 6,000 people visit the campus daily, spokeswoman Rachael Kagan said, "The shuttle service is part of a broader program to reduce the number of employees that commute alone to the campus and reduce traffic congestion."

The hospital also uses a shuttle network run by UC San Francisco that traverses 16 routes, covers 1 million miles and carries 2.4 million passengers annually. Although the shuttles travel on some of the same corridors as Muni, none of the routes are identical, UCSF spokeswoman Elizabeth Fernandez said.

Kaiser Permanente's bus shares one stop with **Muni at Market** and Ninth streets, but rather than following public-transit routes, it makes adjustments according to traffic conditions, Kaiser spokesman Joe Fragola said.

For the California Pacific Medical Center, the commuting situation is similar to UCSF and Kaiser Permanente.

"Our staff can catch Muni probably within walking distance, but in my experience, the shuttles really do cut my travel time," CPMC spokesman Dean Fryer said.

The **Academy of Art University** provides shuttles of varying sizes for students and faculty going between campuses, studios and dormitories within the downtown area.

"They zigzag back and forth between facilities in a way that is very uncommon for public routes that stay on one avenue, so I would be very surprised if there was duplicity," said Adrian Covert, a policy manager for the Bay Area Council, of which the university is a member.

## SHUTTLING FORWARD

The intracity shuttle system that appears to be the most underserved by Muni -- and already has in place a deal to share Muni stops -- is the service run by the **Presidio Trust**. While the 43-Masonic and 29-Sunset only go a short distance into the Presidio, the PresidiGo travels throughout the rest of the 1,500-acre area and connects to downtown.

The PresidiGo started in 2007 because Muni had just eliminated the only direct downtown bus connection to the **Presidio**, the 82X-Levi Plaza Express line, and was not interested in funding a replacement service, said Dana Polk, a spokeswoman for the Presidio Trust, which manages the national park.

"This makes it feasible for residents to live and work in the **Presidio** and access the rest of The City without taking multiple hours and transportation options," Polk said.

Although commuter shuttles, including those serving points outside The City, have been a key option for employees traveling to work, some activists argue that they provide the wealthy a privilege while the public gets stuck with a problem-plagued public-transit system.

The fee program will not prevent the shuttles from using the streets, transit officials say, but it could reduce conflicts with Muni while providing a transportation option tailored to workers' needs.

[More Transportation »](#)

**Tags:** Transportation, commuter shuttles, Silicon Valley, San Francisco Municipal Transportation Agency, Muni, San Francisco Minibus, Carli Paine, PresidiGo



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**Bio:**

Jessica Kwong covers transportation, housing, and ethnic communities, among other topics, for the San Francisco Examiner. She covered City Hall as a fellow for the San Francisco Chronicle, night cops and courts for the San Antonio Express-News, general news for Spanish-language newspapers La Opinión and El Mensajero,... [more](#)

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# EXHIBIT N



## Adopted Air Quality CEQA Thresholds of Significance\* - June 2, 2010

Pollutant	Construction-Related	Operational-Related	
<b>Project-Level</b>			
Criteria Air Pollutants and Precursors (Regional)	Average Daily Emissions (lb/day)	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub>	82 (exhaust only)	82	15
PM <sub>2.5</sub>	54 (exhaust only)	54	10
PM <sub>10</sub> /PM <sub>2.5</sub> (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
<b>GHGs Projects other than Stationary Sources</b>	None	Compliance with Qualified Greenhouse Gas Reduction Strategy OR 1,100 MT of CO <sub>2</sub> e/yr OR 4.6 MT CO <sub>2</sub> e/SP/yr (residents + employees)	
<b>GHGs Stationary Sources</b>	None	10,000 MT/yr	
<b>Risk and Hazards – New Source (Individual Project)</b>	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM <sub>2.5</sub> increase: > 0.3 µg/m <sup>3</sup> annual average <u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor	
<b>Risk and Hazards – New Receptor (Individual Project)</b>  <i>Note: Threshold Effective Date May 1, 2011</i>	Same as Operational Thresholds**	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM <sub>2.5</sub> increase: > 0.3 µg/m <sup>3</sup> annual average <u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor	

\* It is the Air District's policy that the adopted thresholds apply to projects for which a Notice of Preparation is published, or environmental analysis begins, on or after the applicable effective date. The adopted CEQA thresholds – *except for the risk and hazards thresholds for new receptors* – are effective June 2, 2010. The risk and hazards thresholds for new receptors are effective May 1, 2011. [Updated December 30, 2010]

\*\* The Air District recommends that for construction projects that are less than one year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

## Adopted Air Quality CEQA Thresholds of Significance\* - June 2, 2010

Pollutant	Construction-Related	Operational-Related
<b>Risk and Hazards – New Source</b> (Cumulative Thresholds)	Same as Operational Thresholds**	<p>Compliance with Qualified Community Risk Reduction Plan OR</p> <p>Cancer: &gt; 100 in a million (from all local sources)                      Non-cancer: &gt; 10.0 Hazard Index (from all local sources) (Chronic)                      PM<sub>2.5</sub>: &gt; 0.8 µg/m<sup>3</sup> annual average (from all local sources)</p> <p><u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor</p>
<b>Risk and Hazards – New Receptor</b> (Cumulative Thresholds)  <i>Note: Threshold Effective Date May 1, 2011</i>	Same as Operational Thresholds**	<p>Compliance with Qualified Community Risk Reduction Plan OR</p> <p>Cancer: &gt; 100 in a million (from all local sources)                      Non-cancer: &gt; 10.0 Hazard Index (from all local sources) (Chronic)                      PM<sub>2.5</sub>: &gt; 0.8 µg/m<sup>3</sup> annual average (from all local sources)</p> <p><u>Zone of Influence:</u> 1,000-foot radius from fence line of source or receptor</p>
<b>Accidental Release of Acutely Hazardous Air Pollutants</b>	None	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant
<b>Odors</b>	None	Complaint History—5 confirmed complaints per year averaged over three years
<b>Plan-Level</b>		
<b>Criteria Air Pollutants and Precursors</b>	None	<ol style="list-style-type: none"> <li>Consistency with Current Air Quality Plan control measures</li> <li>Projected VMT or vehicle trip increase is less than or equal to projected population increase</li> </ol>
<b>GHGs</b>	None	Compliance with Qualified Greenhouse Gas Reduction Strategy (or similar criteria included in a General Plan) OR 6.6 MT CO <sub>2</sub> e/ SP/yr (residents + employees)
<b>Risks and Hazards</b>	None	<ol style="list-style-type: none"> <li>Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas)</li> <li>Overlay zones of at least 500 feet (or Air District-approved modeled distance) from all freeways and high volume roadways</li> </ol>
<b>Odors</b>	None	Identify locations of odor sources in general plan
<b>Accidental Release of Acutely Hazardous Air Pollutants</b>	None	None
<b>Regional Plans (Transportation and Air Quality Plans)</b>		
<b>GHGs, Criteria Air Pollutants and Precursors, and Toxic Air Contaminants</b>	None	No net increase in emissions

CO = carbon monoxide; CO<sub>2</sub>e = carbon dioxide equivalent; GHGs = greenhouse gases; lb/day = pounds per day; MT = metric tons; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; ROG = reactive organic gases; SP = service population; tpy = tons per year; yr = year.

# EXHIBIT 3



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***Via Electronic Mail and Hand Delivery***

April 1, 2014

President David Chiu  
c/o Ms. Angela Calvillo, Clerk of the Board  
Board of Supervisors of the City and County of San Francisco  
1 Dr. Carlton B. Goodlett Place  
City Hall, Room 244  
San Francisco, CA 94102-4689  
Email: [Board.of.Supervisors@sfgov.org](mailto:Board.of.Supervisors@sfgov.org)

**Re: Appeal of SFMTA Resolution No. 14-023, CEQA Categorical Exemption Determinations for Commuter Shuttle Policy and Pilot Program and amending Transportation Code, Division II, and Approval of Motion to Suspend Article 4, Section 10 of the SFMTA Board of Directors Rules of Order Regarding Published Notice (January 21, 2014) – SUPPLEMENTAL COMMENTS**

Dear President Chiu and Honorable Members of the Board of Supervisors:

I am writing on behalf of Sara Shortt, the Harvey Milk Lesbian, Gay, Bisexual, Transgender Democratic Club ("Milk Club"), Service Employees International Union Local Union 1021 ("SEIU Local 1021"), and the San Francisco League of Pissed Off Voters (collectively, "Appellants"), concerning the San Francisco Municipal Transportation Authority ("SFMTA") Commuter Shuttle Policy and Pilot Program and proposed amendments to Transportation Code, Division II, to authorize establishing a pilot permit program to authorize certain shuttle buses to stop in designated Muni stops for the purpose of loading or unloading passengers and establishing a fee for such permits and penalties for permit violations (collectively, "Project" or "Shuttle Project").

These comments supplement our earlier comments on this matter, and respond to a new report issued by the San Francisco Budget and Legislative

Analyst on March 31, 2014 (Exhibit A), and a supplemental response letter issued by the Planning Department on March 31, 2014.

**A. The San Francisco Budget and Legislative Analyst Concludes that the Shuttle Program will Have Adverse Impacts on Displacement of Low-Income Communities, City Roadways, Noise, Pedestrian Safety, Bicycle Safety, and Other Impacts. CEQA Review is Required to Analyze and Mitigate these Impacts.**

On March 31, 2014, the San Francisco Budget and Legislative Analyst (“BLA”) released a detailed report identifying highly significant adverse impacts of the Commuter Shuttle Project. (Exhibit A) The BLA report confirms almost all of the points made in our letter of March 21, 2014. In particular, the BLA Report concludes:

No comprehensive assessment has been completed by San Francisco Municipal Transportation Agency (SFMTA) or other City agencies on the full impacts of the regional shuttles on City infrastructure costs, traffic and traffic delays, pedestrian and bicyclist safety or housing costs along the shuttles’ routes. The Budget and Legislative Analyst has reviewed a number of surveys and estimates prepared by SFMTA and academics and worked with the Department of Public Works to collect and prepare some initial estimates of impacts, including the following:

- The Department of Public Works and a Metropolitan Transportation Commission study both show that the large regional shuttle vehicles have significantly more impact on street repair costs than regular passenger vehicles, smaller shuttles such as vans and semi-trailer trucks (“big rigs”).<sup>1</sup>
- Observations by a San Francisco County Transportation Authority consultant at 15 bus zones used by shuttles and Muni vehicles found an average of .48 conflicts occurred every hour in which either a Muni vehicle or a shuttle couldn’t access the bus zone because they were blocked by the other. This average rate of conflict was spread over six hours of observations so the conflicts may be occurring more frequently during peak periods such as between 7:45 a.m. and 8 a.m. and less frequently than the average at the tail ends of the commute hours.

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<sup>1</sup> The report concludes that the large shuttles used for inter-city transportation weigh over 60,000 pounds, and cause over one dollar of damage for each mile of city street used, compared to \$0.00023 for an SUV.

- The consultant also observed shuttles blocking traffic by loading and unloading passengers from traffic lanes, or blocking traffic lanes by not pulling fully in to a bus zone. The greatest number of observations of a shuttle not pulling fully in to a bus zone was six times per hour at Lombard and Fillmore Streets; the greatest number of observations of a shuttle loading or unloading passengers in a traffic lane was three and one-half times per hour at Glen Park BART.
- Safety impacts on pedestrians, bicyclists and disabled passengers have not been comprehensively assessed by any City agency but members of the public have submitted observations to SFMTA including: shuttles blocking Muni buses and causing passengers to board in the traffic lane; shuttles not yielding to passengers; shuttles turning in to multiple lanes of traffic to make a turn; shuttles speeding; shuttles making noise in quiet neighborhoods; shuttles blocking bicycle lanes, and others.
- The SFCTA study cited above reported that 23 percent of observed shuttle stops at 4th and Townsend Streets blocked the bike lane at that location; no bike lane blockings were observed during shuttle stops at 8th and Market Streets.
- Correlations between higher rents and higher property appreciation rates in areas adjacent to regional shuttle stops have been found in two recent studies. Neither study proved that shuttle stops were the cause of these cost differentials as the studies did not control for other amenities that may make the neighborhoods more desirable. However, assuming that shuttle operators select bus zones to be as close to their passenger as possible, and since the shuttles have been able to establish their stops anywhere they like, the study results suggest that at least some shuttle passengers have chosen to live in neighborhoods that now have more costly rents and real estate prices.

Since the City's own BLA concludes that the Shuttle Project will have significant adverse environmental impacts on displacement, pedestrian and bicycle safety, noise, and roadway damage, the City may not exempt the Project from CEQA review. "An activity that may have a significant effect on the environment cannot be categorically exempt." *Salmon Protectors v. County of Marin* (2004) 125 Cal.App.4th 1098, 1107.

CEQA review is necessary to analyze the impacts of the Shuttle Project and to propose mitigation measures and alternatives to reduce the impacts.

Feasible mitigation measures may include relocating stops to locations that interfere less with MUNI buses, relocating stops to areas that will interfere less with pedestrians and bicycles, requiring funding for low and moderate income housing, requiring funding to repair damage to roadways, requiring clean fuel vehicles and lighter vehicles, etc. CEQA review would analyze these and other feasible mitigation measures.

**B. The Budget and Legislative Analyst and the City Attorney  
Conclude that the Shuttle Project Violates State Law.**

The BLA Report states that under the State Vehicle Code, “stopping and loading or unloading passengers in a bus zone is illegal for any buses other than those operated by Muni or other transit systems so authorized by SFMTA, according to Deputy City Attorney Mr. David Greenburg.” “As stated above, Mr. Greenburg of the City Attorney’s Office advises that prior to adoption of SFMTA’s Commuter Shuttle Policy and Pilot Program in January 2014, there was no explicit legislative authorization for shuttles to use City bus zones. In other words, all use of City bus zones by private shuttles to date has been in violation of the California Vehicle Code.” The BLA Report states,

The prohibition against private shuttles and vehicles stopping in bus zones is codified in Division 11, Chapter 9, Section 22500(i) of the California Vehicle Code:

“No person shall stop, park, or leave standing any vehicle whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic control device, in any of the following places:  
(i) Except as provided under Section 22500.5,12 alongside curb space authorized for the loading and unloading of passengers of a bus engaged as a common carrier in local transportation when indicated by a sign or red paint on the curb erected or painted by local authorities pursuant to an ordinance.

“Common carriers in local transportation”, as cited in the Vehicle Code section above, are not defined in the Vehicle Code. However, the Public Utilities Code defines “common carriers” as entities that provide transportation to the public or any portion thereof for compensation.<sup>13</sup> This definition appears to exclude shuttles as they are not available to the public for compensation but are restricted to private groups such as a company’s employees in the case of regional commuter shuttles.

Since the Shuttle Project is illegal under State law, the City is without power to authorize the program. Any such action would be null and void *ab initio*

and would therefore be *ultra vires*. The California Supreme Court has held that cities (including charter cities) may not enact ordinances that violate the State Vehicle code. *O'Connell v. City of Stockton* (2007) 41 Cal. 4th 1061, 1074. The Supreme Court noted that Vehicle Code section 21 states: "Except as otherwise expressly provided, the provisions of this code are applicable and uniform throughout the State and in all counties and municipalities therein, and no local authority shall enact or enforce any ordinance on the matters covered by this code unless expressly authorized herein." Thus, by amending the City's Transportation Ordinance, the City cannot make legal activities that are illegal under State law.

**C. Since the Shuttle Project is Illegal, the Illegal Operation Cannot Constitute the CEQA Baseline.**

**1. Planning Department Report of March 31, 2014 is Self-Contradictory.**

The Planning Department staff report issued on March 31, 2014 argues that since the shuttles are already operating, the CEQA "baseline" is the level of current operations. This argument is fatally flawed, however, since the existing shuttle operations are illegal and therefore cannot constitute the CEQA baseline.

The March 31, 2014 Planning Staff Report is self-contradictory. On the one hand, it argues that there will be no change in shuttle operations from the "baseline" since the shuttles are already operating (albeit illegally). On the other hand, the Planning Staff Report argues that to the extent experts have proven that the Shuttles have a significant impacts above CEQA significance thresholds for cancer from diesel emissions, noise, pedestrian safety, and bicycle safety, the Report contends that these conclusions are "speculative" because SFMTA will be changing the locations of the shuttle stops. In other words, the Planning Staff admits that the Shuttle Project will change the status quo by changing stop locations. The City cannot have it both ways.

**2. CEQA Baseline Legal Standard.**

Every CEQA document must start from a "baseline" assumption. The CEQA "baseline" is the set of environmental conditions against which to compare a project's anticipated impacts. *Communities for a Better Environment v. So Coast Air Qual. Mgmt. Dist.* (2010) 48 Cal. 4th 310, 321. Section 15125(a) of the CEQA Guidelines (14 C.C.R., § 15125(a)) states in pertinent part that a lead agency's environmental review under CEQA:

"...must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time [environmental analysis]



is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant.”

(See, *Save Our Peninsula Committee v. County of Monterey* (2001) 87 Cal.App.4th 99, 124-125 (“*Save Our Peninsula*.”) Using a skewed baseline “mislead(s) the public” and “draws a red herring across the path of public input.” (*San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 656; *Woodward Park Homeowners v. City of Fresno* (2007) 150 Cal.App.4th 683, 708-711.)

**3. Since the Existing Shuttle Operations Involves Illegal “Pirate Shuttles” Which are Violating State Law, Existing Illegal Operations Cannot form the CEQA Baseline.**

An illegal condition cannot form the CEQA baseline. *League to Save Lake Tahoe v. Tahoe Reg’/ Planning Agency* (E.D. Cal. 2010) 739 F. Supp. 2d 1260. An agency may not fail to enforce the law, and then use that lack of enforcement to form the CEQA baseline. *Id.*

The San Francisco Superior Court has held that illegal operations resulting from a failure to enforce the law cannot form the CEQA baseline. The court found that:

“When a lead agency issues an EIR, it cannot include activities allowed by the agency’s complete non-enforcement into the baseline . . . .

“Neither the Guidelines nor case law allows an EIR to set an illusory no-enforcement baseline that absorbs all ongoing illegal actions and ignores the stricter limitations imposed by a new statutory landscape. Although generally the baseline must include the effects of prior illegal activity, the situation is different when an agency has a concurrent, present responsibility to remedy that prior illegality.”

*Klamath Riverkeeper v. Cal. Dept. of Fish & Game*, San Francisco Superior Court No. CPF-09-509915 (Apr. 20, 2011, Goldsmith, J.) (Exhibit B).

Therefore, the existing illegal operation of “pirate shuttles” cannot form the baseline for CEQA review.

#### **4. The Shuttle Project Changes the Baseline Condition Even Compared to the Illegal Pirate Shuttle Operation.**

The Planning Staff Report is wrong as a matter of law because the Shuttle Project will change the environment even compared to the illegal pirate shuttle operations on the ground. First, the City admits in its March 31, 2014 Planning Staff Report that it intends to move the locations of shuttle stops. This in itself is a significant change from the illegal baseline. The City clearly is not simply continuing the status quo without change.

Second, the City will be changing the legal status of the pirate shuttles. The City is amending the Transportation Code to authorize the private buses to use public bus stops. As the City Attorney explains in the Budget and Legislative Analyst Report, it is illegal under the California Vehicle Code section 22500 for private buses to stop in public bus stops. By amending the City Transportation Code to render this illegal activity authorized under local ordinance, the City is taking action to change the status quo.

For these reasons, the Class 6 Information Collection Exemption does not apply as a matter of law. "Court must narrowly construe CEQA exemptions so they are not 'unreasonably expanded beyond the reasonable scope of their statutory language.'" (Mountain Lion Found. v. Fish and Game Comm. (1997) 16 Cal.4th 105, 124.) *Castaic Lake v. Santa Clarita* 41 Cal.App.4th 1257.

The Information Collection exemption is limited to information collection only. Since the Shuttle Project involves governmental actions beyond information collection, including changing the location of shuttle stops and authorizing activities that are currently illegal under state law, the Class 6 Exemption does not apply at all. For example in the *Castaic Lake* case, the city attempted to invoke the CEQA exemption for earthquake reconstruction. However, since the city added additional elements beyond just earthquake reconstruction, and did not propose the rebuild the city exactly as it existed before the earthquake, the court held that the exemption did not apply. The Shuttle Project is no different. Since it goes beyond the narrow definition of the limited Class 6 Information Collection exemption, the exemption does not apply at all.

Certified traffic engineer Tom Brohard, PE, has concluded that by authorizing currently illegal activity, the Shuttle Project will increase the number of shuttles operating in the City, thereby resulting in significant impacts. (Exhibit C). He concludes that even though some companies are currently operating illegal "pirate shuttles," there are many companies that are unwilling to violate the law or risk substantial penalties. The Shuttle Project will authorize activity that

was previously illegal. It is almost certain that additional companies will enter the shuttle market once it is legal. Mr. Brohard states:

SFMTA claims that the Commuter Shuttle Policy and Pilot Program will not increase impacts since the shuttles are already operating illegally. However, the program makes legal what has been illegal. It also allows any shuttle operator to apply for a permit to participate. At least some shuttle companies would not want to operate a pirate shuttle program at risk of significant penalties. Since SFMTA's Commuter Shuttle Policy and Pilot Program makes it legal for private shuttles to use public bus stops, more companies with even more private shuttles are likely to participate. This will create significant traffic impacts by increasing congestion at Muni bus stops, an extremely likely consequence that has not be envisioned, evaluated or analyzed by SFMTA.

Traffic Engineer Brohard also concludes that the Shuttle Project is likely to increase idle times. Currently, shuttle operators often attempt to clear MUNI red zones quickly to avoid substantial tickets. Since the Shuttle Project will make it legal for private shuttles to block public bus stops, the shuttles are likely to stop and idle at the bus stops for longer periods of time. Mr. Brohard states:

Program May Increase Idle Times At Muni Stops - When shuttle stops at Muni bus stops were illegal, private shuttles often tried to get in and out of the public bus stops as quickly as possible to avoid being cited. According to SFMTA, the average dwell time for a private shuttle is up to 60 seconds whereas the average dwell time for a Muni bus is about 20 seconds. Now that the Program is legal, private shuttles may idle even longer to pick up passengers, particularly without risking being cited. While the Program suggests that private shuttles move forward to the front of the Muni bus stop, this will not occur when shuttles are already actively loading or unloading.

If more shuttles are already loading or unloading passengers when the Muni bus arrives, then the already identified conflicts with Muni busses, general traffic, pedestrians, and cyclists will be compounded by additional double parking and idling. Additional shuttles could also easily exceed the capacity of the Muni bus stop locations, creating additional impacts. Each of these occurrences would increase diesel emissions at the Muni bus stop locations and would also create pedestrian impacts related to blocking public bus access to the stops as well as additional safety issues.

Thus, the Shuttle Project will have a cumulative impact<sup>2</sup> of exacerbating already significant adverse impacts of the illegal “pirate shuttles” currently operating in the City. This will increase impacts on pedestrian and bicycle safety, interference with MUNI buses, traffic obstruction, air pollution from shuttle buses and other impacts of the shuttles.

By authorizing activity that is currently illegal, the Shuttle Project will increase adverse impacts above the level of current illegal pirate shuttle operations. This situation is very similar to the case of *Lighthouse Field Beach Rescue v. City of Santa Cruz*, 131 Cal. App. 4th 1170, 1197 (2005). In that case the City of Santa Cruz proposed to legalize off-leash dog use at a local beach. The City argued that although off-leash dog use was currently illegal, such use was common. Therefore the City argued that the legalization of off-leash dog use would have no significant impact compared to the baseline of illegal dog use. The Court of Appeal rejected this argument. The Court of Appeal held that by legalizing off-leash dog use, the City’s action was likely to increase the “intensity or rate of use” of the beaches by off-leash dog walkers. The City’s Shuttle Project is no different. By legalizing what was previously illegal, the City’s Project is likely to increase the “intensity or rate of use” of commuter shuttles in the City. CEQA review is necessary to analyze this impact and to propose feasible mitigation measures.

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<sup>2</sup> CEQA requires the lead agency to analyze cumulative impacts of a Project together with past, present and reasonably foreseeable future projects. Recognizing that several projects may together have a considerable impact, CEQA requires an agency to consider the “cumulative impacts” of a project along with other projects in the area. (Pub. Resources Code §21083(b); CEQA Guidelines §15355(b). If a project may have cumulative impacts, the agency must prepare an EIR, since “a project may have a significant effect on the environment if “[t]he possible effects of a project are individually limited but cumulatively considerable.” “One of the most important environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources.” (*Communities for a Better Environment v. Cal. Res. Agency*, 103 Cal.App.4th at 98, 114; *Kings County Farm Bur. v. City of Hanford* (1990) 221 Cal.App.3d 692, 721). It is vital that an agency assess “the environmental damage [that] often occurs incrementally from a variety of small sources . . .” (*Bakersfield Citizens For Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214; *Friends of Oroville, et al. v. City of Oroville* (2013) 218 Cal. App. 4th 1352). The Shuttle Project will have significant cumulative impacts when combined with impacts of the illegal pirate shuttles.

#### **D. The Shuttle Project Causes Displacement of Low and Moderate Income Communities, Requiring CEQA Review.**

As discussed in our letter of March 21, 2014, a project has significant impacts requiring CEQA review if it will “displace substantial numbers of people.” (CEQA Guidelines Appendix G, Section XII). In addition to the substantial evidence already presented, attached hereto as Exhibit D, are housing displacement maps. The maps were prepared by the Anti-Eviction Mapping Project using data from the San Francisco Rent Board and data.sfgov.org.

The attached maps show that from 2011 through 2013, **69% of no-fault evictions in San Francisco occurred within 4 blocks of a known shuttle stop**. The maps provide additional substantial evidence showing that the Shuttle Project is having substantial adverse impacts on the displacement of low and moderate income communities. This impact must be analyzed in a CEQA document and mitigation measures must be imposed to reduce the severity of this impact.

At the very least, it is clear that the Shuttle Project has generated significant public controversy related to the environmental impacts of the Project. This alone is sufficient to trigger the need for CEQA review. California Code of Regulations, title 14, section 15064, subdivision (h) directs:

"In marginal cases where it is not clear whether there is substantial evidence that a project may have a significant effect on the environment [it] . . . shall be guided by the following factors:

"(1) If there is a serious public controversy over the environmental effects of a project [it] . . . shall consider the effect or effects subject to the controversy to be significant and shall provide an EIR. . . .

*Security Environmental Systems, Inc. v. South Coast Air Quality Management Dist.*, 229 Cal. App. 3d 110, 130 (1991) .

There can be no question that there is “serious public controversy” concerning the environmental impacts of the Shuttle Project. Therefore, CEQA review is required.

Thank you for consideration of this Appeal. We ask that this Appeal Letter be placed in the Administrative Record for the Commuter Shuttle Project.

Sincerely,



Richard T. Drury  
Lozeau | Drury LLP

Enclosures

- cc. Environmental Review Officer  
(pursuant to SF Administrative Code § 31.16(b)(1))  
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# EXHIBIT A

**CITY AND COUNTY OF SAN FRANCISCO  
BOARD OF SUPERVISORS**

BUDGET AND LEGISLATIVE ANALYST

1390 Market Street, Suite 1150, San Francisco, CA 94102  
(415) 552-9292 FAX (415) 252-0461

**POLICY ANALYSIS REPORT**

**To:** Supervisor Mar  
**From:** Budget and Legislative Analyst  
**Date:** March 31, 2014  
**Re:** Impact of Private Shuttles



**SUMMARY OF REQUESTED ACTION**

Pursuant to your request, the Budget and Legislative Analyst has analyzed the impact of private shuttles on the City and County of San Francisco's infrastructure costs, traffic and traffic delays in San Francisco, pedestrian safety, and housing costs along the shuttles' routes.

**EXECUTIVE SUMMARY**

- Private shuttle buses have been operating in San Francisco for approximately 30 years providing intra-city transportation services for hospitals, academic institutions, service organizations and private employers. These type shuttles tend to be smaller vans.
- Starting in 2004, private employers began offering regional commuter shuttle services to their employees who live in San Francisco and work in locations outside San Francisco, particularly in Silicon Valley. In 2004, one employer transported 155 passengers on shuttle buses; as of August 2012, a Metropolitan Transportation Commission study identified at least seven employers sponsoring 131 regional shuttle buses and transporting an estimated 4,015 passengers to job sites outside the City each work day. These regional shuttles tend to be larger 45-foot long buses.
- No comprehensive assessment has been completed by San Francisco Municipal Transportation Agency (SFMTA) or other City or other public agencies on the full impacts of private shuttles on City infrastructure costs, traffic and traffic delays, pedestrian and bicyclist safety or housing costs along the shuttles' routes. The Budget and Legislative Analyst has reviewed a number of surveys, studies and estimates prepared by or for SFMTA, the San Francisco County Transportation Authority, the Metropolitan Transportation Commission and graduate students and worked with the Department of Public Works to collect and prepare some initial estimates of impacts, including the following:
  - The Department of Public Works and a Metropolitan Transportation Commission study both show that the large regional shuttle vehicles have significantly more impact on street repair costs than regular passenger vehicles, smaller shuttles such as vans and semi-trailer trucks ("big rigs").
  - Observations by a Metropolitan Transportation Commission (MTC) consultant at 15 bus zones used by shuttles and Muni vehicles found an average of .48



conflicts that occurred every hour in which either a Muni vehicle or a shuttle couldn't access a bus zone because they were blocked by the other. This average rate of conflict was spread over six hours of observed commute hours so the conflicts may be occurring more frequently during peak periods such as between 7:45 a.m. and 8 a.m. and less frequently than the average at the tail ends of the commute hours.

- The consultant also observed shuttles blocking traffic by loading and unloading passengers from traffic lanes, or blocking traffic lanes by not pulling fully into a bus zone. The greatest number of observations of a shuttle not pulling fully into a bus zone was six times per hour at Lombard and Fillmore Streets; the greatest number of observations of a shuttle loading or unloading passengers in a traffic lane was three and one-half times per hour at Glen Park BART.
- Safety impacts on pedestrians, bicyclists and disabled passengers have not been comprehensively assessed by any City agency but members of the public have submitted observations to SFMTA including: shuttles blocking Muni buses and causing passengers to board in the traffic lane; shuttles not yielding to pedestrians; shuttles turning into multiple lanes of traffic to make a turn; shuttles speeding; shuttles making noise in quiet neighborhoods; shuttles blocking bicycle lanes, and others.
- The MTC study cited above reported that 23 percent of observed shuttle stops at 4<sup>th</sup> and Townsend Streets blocked the bike lane at that location; no bike lane blockings were observed during observations of shuttle stops at 8<sup>th</sup> and Market Streets. Correlations between higher rents and higher property appreciation rates in areas adjacent to regional shuttle stops have been found in two recent studies.

Neither study proved that shuttle stops were the sole cause of these cost differentials as the studies did not control for other amenities that may make the neighborhoods more desirable. Despite the studies' limitations, it appears that neighborhoods and areas with shuttle stops are in demand, are commanding higher rents than adjacent areas, and that at least some shuttle passengers are living in those areas. In fact, 57 percent of respondents to a survey of shuttle riders reported living less than a 10-minute walk from their shuttle stop.

- The City and County of San Francisco ("the City") has limited legal authority over shuttles. Shuttles are regulated and licensed by the California Public Utilities Commission (CPUC). Neither the CPUC nor any City agencies require shuttle providers to report the number of buses they operate, the number of stops they make or the number of passengers they transport.
- To pick up and drop off their passengers, intra-city and regional shuttles typically use a combination of white-curbed passenger loading zones and red-curbed bus zones operated by the San Francisco Municipal Transportation Agency primarily for Muni buses and trolleys.

<b>Statistics for Shuttle Operations:</b>	
# Years Intra-City Shuttles Operating in SF	30 years
# Years <i>Regional Commuter</i> Shuttles Operating in SF	10 years
# Companies Sponsoring Regional Shuttles	17+
# Regional Shuttle Vehicles Operating in SF	131+
Estimated # Weekday Passengers Using Regional Shuttles	4,015+
<b>Street Maintenance Impacts: Pavement Stress Index per Trip Caused by...</b>	
Sport Utility Vehicle	1
Delivery Truck	442
Bus or Regional Shuttle	7,774
<b>Shuttle Operations Observed by Consultant at 15 bus zones:</b>	
Average # Conflicts between Muni & Shuttles Accessing Bus Zones	.48/hour
Highest Observed Rate of Shuttles not Fully Pulling in to Bus Zone	6/hour
% Shuttles Observed Blocking Bike Lanes @ 4 <sup>th</sup> & Townsend	23%
% Shuttles Observed Blocking Bike Lanes @ 8 <sup>th</sup> & Market	0%
<b>Housing Impacts</b>	
Frequency of higher rents within ½ mile of shuttle stops	70% areas surveyed
% surveyed shuttle riders who would move closer to workplace if no regional shuttles	40%
<b>Regional Shuttle Benefits:</b>	
Reduction: Vehicle Miles Travelled	43 million/year
Reduction: Greenhouse Gas Emissions	8,500 metric tons/year

Sources: San Francisco Municipal Transportation Agency, San Francisco County Transportation Authority, Metropolitan Transportation Commission, UC Berkeley City and Regional Planning Department Graduate Students, Budget and Legislative Analyst.

- Use of white-curbed zones for passenger loading and unloading by private shuttles is legal; use of red-curbed bus zones for that purpose is not. The practice has been allowed for many years with only a small number of citations issued by SFMTA and the Police Department for these infractions. SFMTA policy has been to monitor bus zones as resources allow and issue citations if a shuttle is causing particular problems such as blocking a Muni bus.
- To address coordination of Muni vehicles and shuttles using City bus zones, SFMTA is initiating a Commuter Shuttle Policy and Pilot Program in 2014. The program will allow shuttle providers that provide certain services such as transport from home to work to share 200 bus zones under specific conditions. The Program will be in effect for 18-months during which time shuttle providers will need to receive a permit from SFMTA

and agree to certain conditions to use the stops including reporting the number of shuttle vehicles they will be using and number of stops anticipated. Results will be monitored by SFMTA to determine if all shuttle providers are complying with the terms of the permits and if the program is having negative effects on Muni operations and traffic flow.

#### **POLICY OPTIONS**

- The Budget and Legislative Analyst has prepared a number of policy options for consideration by the Board of Supervisors regarding shuttle operations and the Pilot Program. Detailed at the end of this report, they include the following potential actions for the Board of Supervisors:
  - Provide input on additions or deletions to SFMTA's proposed performance metrics for the Pilot Program to address issues such as: impact on Muni bus operations and traffic flow; shuttle impact on bike lanes; shuttle impacts on disabled passengers and pedestrians; and collisions involving shuttles.
  - Prior to commencement of the Pilot Program, provide input to SFMTA on acceptable threshold amounts for each Pilot Program performance metric such as what rate of shuttle-Muni bus conflict is acceptable.
  - Request that SFMTA consider alternative approaches to shuttle operations if the Pilot Program does not result in successful coordination with Muni operations including:
    - Prohibiting shuttles from using City bus zones by allowing them to only use white-curbed loading zones.
    - Requiring or encouraging shuttle providers to only use a limited number of centralized locations in the City for passenger loading and unloading, with passengers getting to those locations by means other than shuttles.
- 4. Request that SFMTA incorporate size, weight, safety feature and vehicle design requirements into the Pilot Program, either before the Program commences or after it commences and performance metric data is collected and reported that documents the need for such restrictions.
- 5. Request that SFMTA limit Pilot Program shared bus zones only to those on streets without bike lanes.
- 6. Request that SFMTA require that all shuttle providers that participate in the Pilot Program receive specific training on bicyclist and pedestrian safety issues.
- 7. Request that SFMTA require shuttle providers to enter into Community Benefits Agreements with the City to mitigate adverse impacts of the shuttles if there is evidence of such demonstrated during the Pilot Program.
- 8. Consider submitting to the voters a ballot measure to impose a special tax on some or all shuttle providers to raise funds to improve local public transportation, street repair, affordable housing or other impacts of the shuttles.

*For further information about this report, contact Fred Brousseau at the Budget and Legislative Analyst's Office.*

## BACKGROUND

Private shuttles have been operating in the City and County of San Francisco (“the City”) for at least 30 years. One of the oldest running private shuttle fleets is operated by the University of California, San Francisco which transports students and faculty to, from and between its multiple campuses.

There are four major types of privately provided shuttles that operate in the City:<sup>1</sup>

1. Local employer shuttles that provide circulation services between transit hubs and employer locations in San Francisco;
2. Institutional shuttles provided by hospitals, academic institutions, parks, and retail associations that provide transportation to and from transit hubs or within their own campuses;
3. Community based organization shuttles, which offer services that pick up their clients at or close to their homes and take them directly to a service location; and
4. Employer-provided regional shuttles which travel longer distances between San Francisco and locations outside the City, mostly for daily commutes.

The private shuttles referred to in this report are shuttles that are privately operated, hired by an employer or institution, and offer restricted access; they do not offer service to the public. The first three shuttle types are intra-city shuttles, meaning they transport people within the borders of the City while the fourth type of shuttle listed, the regional shuttle, transports people between San Francisco and various other cities, mostly in Silicon Valley. The size of private shuttles vary depending on the service being provided and range from smaller mini-vans to 45-foot, double-decker motor coaches. The shuttles used for regional commuting are typically larger motor-coaches that seat 52 to 81 passengers.

Employers and other organizations provide shuttles for a variety of reasons which include: discouraging driving due to a lack of on-site parking capacity, providing an additional benefit to their employees, filling service gaps in local or regional transportation systems, reducing employee commute times, helping recruit and retain skilled workers who live in cities that are relatively far from their job sites, complying with the City’s Commuter Benefits Ordinance, or complying with mandatory planning stipulations as a condition of their original site development approval as required by the city in which the company is located.<sup>2</sup>

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<sup>1</sup> The San Francisco County Transportation Authority’s (SFCTA), *Strategic Analysis Report: The Role of Shuttle Services in San Francisco’s Transportation System*, Final SAR 08/09-2, Approved June 28, 2011.

<sup>2</sup> Ibid.

Currently, centralized regulation or reporting requirements for shuttles are not in place in the City so San Francisco Municipal Transportation Agency (SFMTA) staff does not have a precise count of the number of shuttles in operation, number of employers offering shuttles, number of stops used, number of runs per shuttle, or number of daily passenger boardings onto shuttles. However, SFMTA staff report that they know of 17 employers or institutions that sponsor regional shuttle service and 20 employers or institutions that sponsor intra-city shuttle service. However, there are likely more as shuttle service providers are not required to register or report their activities with SFMTA. Some shuttle providers have confidentiality agreements with certain clients that prohibit them from sharing their clients' identity.

In most cases, employers or institutions sponsoring transportation services contract with a transportation company that owns and operates the bus or other vehicle used for the service. However, at least one employer, Google, owns their own shuttle buses.

Combined information from a 2012 survey conducted by ICF International for the Metropolitan Transportation Commission (MTC) and information collected from certain employers by the Budget and Legislative Analyst in March 2014 found that seven of the companies that provide regional shuttles for their employees, shown in Exhibit 1 below, are responsible for approximately 131 regional shuttles in the City each weekday. These shuttles make at least 273 runs and account for approximately 8,030 passenger boardings each weekday, or an estimated 4,105 individuals, assuming each boarding is for a round trip commute.<sup>3</sup> The actual number of shuttles and boardings is probably higher since not all shuttle providers have been willing to provide this information to public agencies.

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<sup>3</sup> ICF International is the Metropolitan Transportation Commission's (MTC) consultant that developed, conducted and analyzed a shuttle rider survey in 2012 and collected information from shuttle service providers.

**Exhibit 1: Number of Vehicles, Boardings and Runs on Select Regional Shuttles per Weekday in San Francisco**

<b>Company Name</b>	<b>Number of Shuttle Vehicles</b>	<b>Total Number of Boardings<sup>1</sup></b>	<b>Shuttle Runs<sup>4</sup></b>
Google	57	4,400	180
Apple	15	1,568 <sup>5</sup>	57
Genentech	40	1,332	n/a
Facebook	9	400	12
Yahoo!	5	200	14
Netflix	3	130	6
Electronic Arts	2	n/a	4
<b>Total</b>	<b>131</b>	<b>8,030</b>	<b>273</b>

Source: ICF International Survey on Commuter Shuttle Services in San Francisco, 2012, and data collected by the Budget & Legislative Analyst's Office in March of 2014 from Netflix and Electronic Arts.

<sup>1</sup> Boardings are one-way trips that either begin or end in San Francisco. If each boarding is by commuters making a daily round trip from San Francisco to their place of employment, the 8,030 boardings would represent approximately 4,015 individuals.

Current SFMTA data about all known shuttle service, including both regional and intra-city shuttles, shows that there are about 35,000 passenger boardings on shuttles on an average weekday.

Private shuttle service in San Francisco has grown quickly in recent years according to SFMTA. In 2004, Google was the first company to provide a regional, private shuttle service to its employees that made two stops in San Francisco and transported 155 passengers each day to work sites outside the City.<sup>6</sup> Today, Google operates approximately 57 buses, makes 180 runs and stops in multiple locations in the City each day.<sup>7</sup> <sup>8</sup> Shortly thereafter, Yahoo! began shuttle service in 2005, Genentech in 2006, Apple in 2007, Facebook in 2009, and Netflix in 2012. Electronic Arts, eBay and LinkedIn began sponsoring shuttle service from the City to their Silicon Valley locations in the last decade as well. Several of these employers also sponsor shuttles to provide services to Peninsula and South Bay locations for employees from the East Bay, Santa Clara County, the Peninsula and from Caltrain stations.

Though precise shuttle routes, timing and stops are not recorded or known by SFMTA, Stamen, a San Francisco based technology and design firm, developed the map in Exhibit 2 which graphically shows routes and trip volumes for a sample of runs made by

<sup>4</sup> This includes both morning and evening shuttle runs.

<sup>5</sup> ICF International estimated this amount based on the number of seats per shuttle as Apple would not provide boarding information, stating it was confidential.

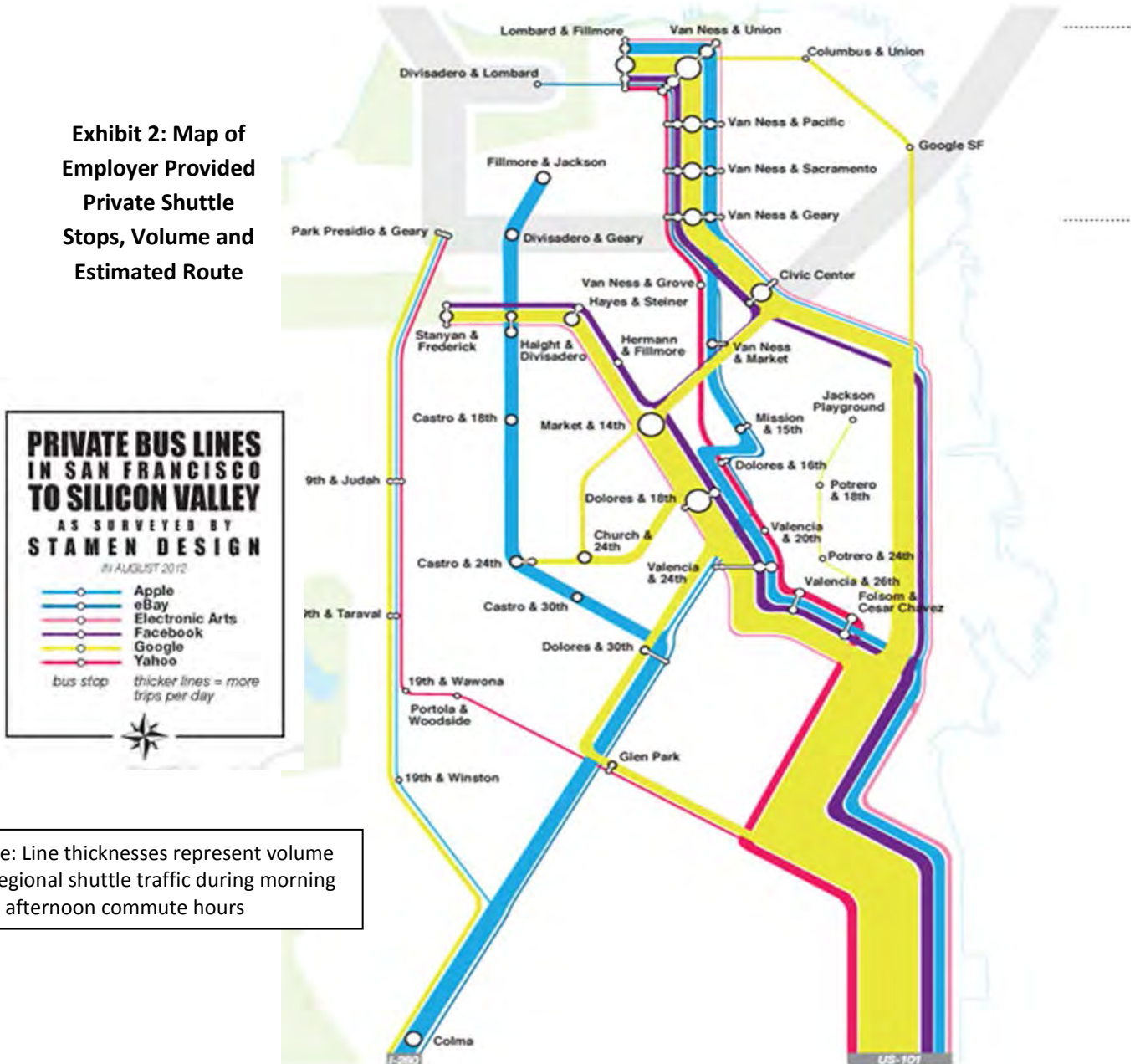
<sup>6</sup> Danielle Dai and David Weinzimmer. Riding First Class: Impacts of Silicon Valley Shuttles on Commute & Residential Location Choice. University of California, Berkeley- Department of City and Regional Planning. Working Paper UCB-IT-WP-2014-01, Last updated February 2014.

<sup>7</sup> A run is the completion of one trip, with a beginning and end point along a pre-defined route.

<sup>8</sup> ICF International Survey on Commute Shuttle Service in San Francisco, 2012.

shuttles transporting employees of Apple, eBay, Electronic Arts, Facebook, Google, and Yahoo!'s. Stamen staff collected information about private regional shuttle operations at various stops and followed shuttles on bicycles to determine specific shuttle routes to create the map.

Exhibit 2: Map of Employer Provided Private Shuttle Stops, Volume and Estimated Route



Note: Line thicknesses represent volume of regional shuttle traffic during morning and afternoon commute hours

Source: Stamen, *The City from the Valley*, 2012

Stamen staff cautions that the map in Exhibit 2 is not a literal representation. Though, Stamen observed 91 stop events made by the private regional shuttles at various stop locations throughout the City, which can be seen in Exhibit 3 below, the map in Exhibit 2 only shows a portion of the stops to make the map more visually understandable. Stamen staff noted that some of the locations where they observed private shuttles stop to load or unload passengers were in bus zones and some were not.

**Exhibit 3: 91 Stop Events Observed by Stamen, 2012**



Source: Stamen, *The City from the Valley*, 2012.



Two graduate students from the University of California, Berkeley, collected data on shuttle volume along the Van Ness Avenue corridor as part of their graduate research at the Department of City and Regional Planning.<sup>9</sup> The graduate students report that there are approximately 26 shuttles per weekday morning (defined as the period between 7:00 a.m. and 9:00 a.m.) making stops along Van Ness Avenue between Union and Market Streets (shown in Exhibit 2 as separately captured by Stamen based on their observations). The graduate students noted that the distribution of arrival times tends to have a strong peak between 7:45 a.m. and 8:00 a.m., with a shuttle arriving about once every one to two minutes during that time period.

## **PRIVATE SHUTTLE SECTOR REGULATION**

### **The California Public Utilities Commission (CPUC) Regulations**

The City has limited authority over private shuttle operations as charter-party carriers are regulated and licensed to operate by the California Public Utilities Commission (CPUC).<sup>10</sup> The CPUC grants shuttle providers the authority to operate within the State of California and requires that shuttle providers comply with certain safety, training and vehicle inspection regulations. All of the private shuttle companies discussed in this report should be licensed by the CPUC. The CPUC does not require, and the City does not have the authority to require, that shuttle providers report to them how many buses they operate in San Francisco, their number of passengers, how many stops they are making or the locations of those stops. As a result, comprehensive data about all shuttle operations in San Francisco is not collected or available from either the CPUC or SFMTA.

### **SFMTA Regulation**

Although the CPUC rather than the City has regulatory authority over private shuttle operations, the City Attorney reports that the SFMTA has authority to regulate the use City bus zones and what buses can stop in them. The authority for permitted shuttle buses to utilize City bus zones was exercised through amendments to the City's Transportation Code in January 2014 establishing the Commuter Shuttle Pilot Program, discussed further below. Prior to that, private shuttles were prohibited by State law from using City bus zones. The City also has authority to regulate the types of vehicles allowed on individual City streets.

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<sup>9</sup> Dan Howard and Mark Dreger.

<sup>10</sup> A charter-party carrier (TCP) charters a vehicle, on a prearranged basis, for the exclusive use of an individual or group. Charges are based on mileage or time of use, or a combination of both. Also falling under the TCP category are round-trip sightseeing services, and certain specialized services not offered to the general public, such as transportation incidental to another business and transportation under contract to a governmental agency, an industrial or business firm, or a private school.

On January 21, 2014, the SFMTA Board of Directors approved the Commuter Shuttle Policy and Pilot Program (Pilot Program) which authorizes permitted private shuttles to share bus zones with Muni buses and provides operating guidelines to minimize impacts on Muni and other transportation modes. Prior to this Pilot Program, the use of bus zones by private shuttles was unregulated by the City. SFMTA staff report that issues with commuter shuttles to date have been addressed on an ad-hoc basis instead of according to a City-wide policy. Despite the lack of City regulations specific to private shuttles, there are several policies currently in place that apply to private shuttles. These policies, as well as the City's enforcement practices, are discussed below.

### **The California Vehicle Code**

Private intra-city and regional shuttles typically load or unload passengers at white curbed zones or red curbed bus zones. Section 7.2.27 of the San Francisco Transportation Code authorizes all types of vehicles to stop in white zones to load or unload passengers for a period not to exceed five-minutes. Until Pilot Program permits are issued to shuttle providers, stopping and loading or unloading passengers in a bus zone is illegal for any buses other than those operated by Muni or other transit systems so authorized by SFMTA, according to Deputy City Attorney Mr. David Greenburg. The Pilot Program will authorize permitted shuttles to use certain City bus zones.

The prohibition against private shuttles and vehicles stopping in bus zones is codified in Division 11, Chapter 9, Section 22500(i) of the California Vehicle Code:

“No person shall stop, park, or leave standing any vehicle whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic control device, in any of the following places:

- (i) *Except as provided under Section 22500.5,<sup>11</sup> alongside curb space authorized for the loading and unloading of passengers of a bus engaged as a common carrier in local transportation when indicated by a sign or red paint on the curb erected or painted by local authorities pursuant to an ordinance.*

“Common carriers in local transportation”, as cited in the California Vehicle Code section above, are not defined in the California Vehicle Code. However, the Public Utilities Code defines “common carriers” as entities that provide transportation to the public or any

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<sup>11</sup> 22500.5. Upon agreement between a transit system operating buses engaged as common carriers in local transportation and a public school district or private school, local authorities may, by ordinance, permit school buses owned by, or operated under contract for, that public school district or private school to stop for the loading or unloading of passengers alongside any or all curb spaces designated for the loading or unloading of passengers of the transit system buses.

portion thereof for compensation”.<sup>12</sup> This definition appears to exclude private shuttles as they are not available to the public for compensation but are restricted to private groups such as a company’s employees in the case of regional and intra-city commuter shuttles.

Mr. Greenburg noted that SFMTA currently allows other carriers such as SamTrans, Golden Gate Transit and AC Transit to use certain bus zones. The Budget and Legislative Analyst concludes that this is consistent with the California Vehicle Code as these other transit agencies appear to meet the definition of “common carriers in local transportation”.

As stated above, Mr. Greenburg of the City Attorney’s Office advises that prior to adoption of SFMTA’s Commuter Shuttle Policy and Pilot Program in January 2014, there was no explicit legislative authorization for shuttles to use City bus zones. In other words, all use of City bus zones by private shuttles to date has been in violation of the California Vehicle Code.

The penalty for violating the California Vehicle Code section cited above is an infraction and a \$271 fine according to Section 303 of the San Francisco Transportation Code. Citations can be issued by San Francisco Police Department (SFPD) police officers, SFMTA Parking Control Officers, Transit Supervisors and Taxi Inspectors, California Highway Patrol officers, City College, University of California and Recreation and Park Department enforcement agents.<sup>13</sup>

Despite the fact that shuttles have not been given authorization by ordinance to stop in bus zones, SFMTA staff report that regional and intra-city private shuttles make an estimated 4,121 stops in over 200 bus zones each weekday. If Section 22500(i) of the California Vehicle Code was enforced for every single private shuttle stop that occurs each day, it would amount to \$1,116,791 in fine revenue each day (4,121 stops x \$271). This assumes that there would be enough authorized agents to issue all of these citations and that the behavior of shuttle bus drivers would not change after receiving their first citation.

Based on data provided by SFMTA staff, from January 1, 2011 to February 25, 2014 there were 13,385 citations issued for illegally stopping in a bus zone. An estimated 45, or 0.3 percent, were issued to shuttle bus providers or companies that owned their own shuttle fleet and provide either intra-city or regional transportation service. Two of the 45 citations were issued by the SFPD, 38 were issued by SFMTA enforcement agents and five by video enforcement.

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<sup>12</sup> California Public Utilities Code Sect. 211.

<sup>13</sup> City College, University of California and Recreation and Park Department enforcement agents can only issue citations in City parks, University of California and City College campuses.

SFMTA staff report that Agency management has never directed its Parking Control Officer staff not to cite shuttles that illegally stop in bus zones. However, according to SFMTA's Enforcement Manager, it is the Enforcement division's practice to *not* cite shuttles stopped in bus zones if they are actively loading or unloading passengers. The Enforcement Manager noted that if a shuttle is stopped in a bus zone and is not actively loading or unloading passengers and is interfering with a Muni bus attempting to use the zone, impeding the flow of traffic and creating a safety hazard for other vehicles, pedestrians and bicyclists, they risk receiving a citation. The Enforcement Manager advises that due to limited enforcement resources to monitor every bus zone and other responsibilities such as on-street parking enforcement, SFMTA Parking Control Officers use their discretion to determine whether to cite for bus zone violations, based on the criteria outlined above.

SFPD representatives also state that there has been no specific direction from management to officers regarding citing shuttles that stop in bus zones. An officer has the discretion to cite for any violation which is personally witnessed taking into consideration the totality of the situation. As such, if an officer on duty views a shuttle bus, limousine, or private vehicle stopped in a bus zone in violation of the Section 22500(i) of the California Vehicle Code, officers have the discretion to cite or admonish the violation. That said, the SFPD representatives noted that bus zone violations have to be placed in priority order. SFPD has a Traffic Unit with officers that focus more on traffic enforcement; however, these officers also respond to other types of calls for service.

#### **The San Francisco Transportation Code**

Another way that the City has authority over private shuttle operations is through Section 501 of the San Francisco Transportation Code, which can be amended to restrict certain types of vehicles on City streets. Currently, the Transportation Code restricts vehicles that weigh over 6,000 pounds (three tons) and vehicles that weigh over 18,000 pounds (nine tons) from driving on certain streets in the City with the exception of emergency vehicles and some other vehicles. Section 503 of the San Francisco Transportation Code restricts commercial passenger vehicles that seat more than nine persons (including the driver) used for the transportation of people for profit upon certain streets as well. Regional shuttles currently in operation typically weigh anywhere from 54,000 pounds (27 tons) to 62,000 pounds (31 tons) when fully loaded with passengers and have 52 to 81 seats so they are currently precluded from use of certain streets identified in the City's Transportation Code.

According to SFMTA staff, the purpose of the three ton restriction is to prohibit trucks and buses from driving on quiet, low-volume streets while the nine on restriction allows smaller trucks and buses to use certain streets, but not large trucks. The nine person commercial vehicle restriction allows trucks on certain streets but does not allow tourist

oriented buses and vans. Typically, these types of restrictions are imposed after a request is made to SFMTA by local residents. SFMTA staff will review the request and recommend amendments to the Transportation Code to impose such restrictions when they find that certain vehicle types are creating disturbances such as noise on certain streets.

Seven City residents voluntarily submitted complaints to SFMTA between FY 2011-12 and March 2014 reporting that private shuttles were driving on restricted streets. The San Francisco County Transportation Authority (SFCTA) reported in a 2011 study that there were six weight-restricted streets that large shuttles may have been traversing.<sup>14</sup> Though this information suggests that some private shuttle buses have been unlawfully driving on restricted streets, there is no comprehensive data available from City agencies on the frequency of such occurrences Citywide. SFMTA staff report that incidents of using restricted streets has decreased since FY 2010-11 as staff has been working with private shuttle providers to make them aware of the street restrictions and with SFPD's Commercial Vehicle Unit to enforce compliance with restricted streets.

#### **The San Francisco Planning Department and the Department of the Environment**

Another form of City regulation over private shuttles is through the San Francisco Planning Department, which may require developers to provide shuttle service as a condition of approval for a development project. Depending on the development, the developer may be required to provide shuttle service during specific times to supplement existing transit services.<sup>15</sup> Other cities' planning departments, such as those in the cities in which companies who provide private shuttle service are located, may also have these type of requirements. However, the requirements of other cities for companies in their jurisdictions to reduce the number of trips generated by their employees may not consider any negative impacts of their requirements on other jurisdictions such as the City and County of San Francisco.

The San Francisco Department of the Environment enforces the Commuter Benefits Ordinance which requires employers with more than 20 employees in San Francisco to offer their employees commuter benefits which could include providing transportation to employees such as a company-funded bus or van service.

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<sup>14</sup> The San Francisco County Transportation Authority's (SFCTA), *Strategic Analysis Report: The Role of Shuttle Services in San Francisco's Transportation System*, Final SAR 08/09-2, Approved June 28, 2011.

<sup>15</sup> Ibid.

## IMPACTS OF PRIVATE SHUTTLES

Although there may be multiple positive and negative impacts caused by private shuttles operating in the City, this analysis focuses on the private shuttles' impacts on the following: (1) City infrastructure, (2) traffic congestion, (3) pedestrian and bicyclist safety, (4) neighborhood quality of life conditions, and (5) housing costs.

### City Infrastructure

#### *Street Damage*

According to a report conducted by the Metropolitan Transportation Commission (MTC) on the condition of streets and roads in the Bay Area, heavier vehicles such as buses and trucks put significantly more stress on pavement than regular vehicles.<sup>16</sup> The larger 45-foot shuttles that are typically used for regional commuting weigh anywhere from 54,000 pounds (27 tons) to 62,000 pounds (31 tons) when fully loaded with passengers,<sup>17</sup> while smaller shuttles typically used for intra-city trips weigh about 14,000 (7 tons) to 20,000 pounds (10 tons) when fully loaded with passengers. According to SFMTA, fully loaded Muni buses and trolleys range from 40,000 pounds (20 tons) to 63,000 pounds (31.5 tons).

The MTC compared the relative stress caused by different sized vehicles on streets using a sport utility vehicle (SUV) as the baseline. The MTC found that a semi-trailer truck (big rig) exerts 4,526 times more stress on pavement than an SUV, while a bus such as a Muni bus or large shuttle bus exerts 7,774 times more stress on pavement than a SUV, as shown in Exhibit 4 below.<sup>18</sup>

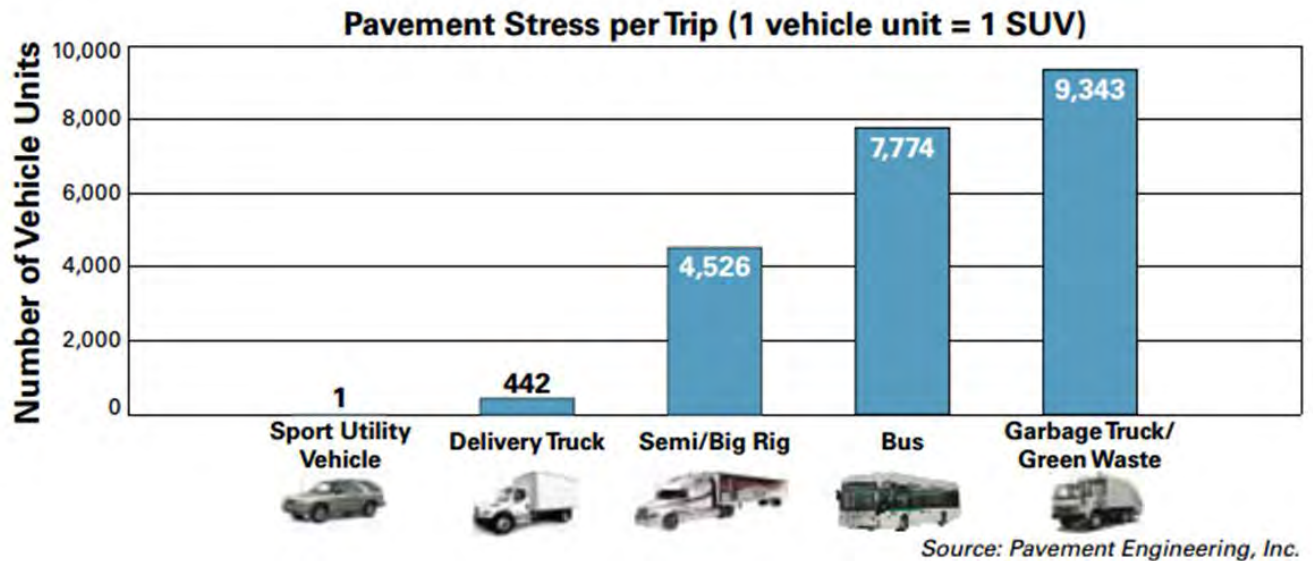
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<sup>16</sup> Metropolitan Transportation Commission. The Pothole Report: Can the Bay Area Have Better Roads? June 2011.

<sup>17</sup> Apple charters 45 foot MCI-E series shuttles that weigh 54,000 pounds fully loaded. Facebook currently charters at least one double-decker bus. The VanHool TD925 double decker bus weighs 62,000 pounds fully loaded.

<sup>18</sup> Metropolitan Transportation Commission. The Pothole Report: Can the Bay Area Have Better Roads? June 2011.

**Exhibit 4: Relative Impact of Vehicle Types on Pavement Conditions**



Source: Metropolitan Transportation Commission. The Pothole Report: Can the Bay Area Have Better Roads? June 2011, prepared by Pavement Engineering, Inc.

The Department of Public Works (DPW) staff concur that heavier vehicles contribute to faster roadway deterioration and explain that the lifetime of a roadway is influenced by several factors which include:

- The size and weight of the vehicle;
- The repetition of the vehicle using the roadway;
- The structure of the roadway; and
- The soil condition under the roadway.

According to a theoretical analysis conducted by DPW's Infrastructure Design & Construction Division, the cost impact that one, large shuttle bus has on the lifetime of a one-mile long, 11 foot-wide segment of pavement is \$1.08 per lane mile in FY 2013-14 dollars (analysis can be found in Appendix A). This assumes that it costs \$1,045,000 to reconstruct a one-mile long, 11 foot-wide lane.<sup>19</sup> In other words, every time a large shuttle bus drives over this hypothetical lane mile, the impact on the pavement accounts for \$1.08 out of the \$1,045,000 it will ultimately cost to reconstruct the lane. In comparison, the cost impact that a typical passenger vehicle has on the lifetime of pavement is \$0.00023 every time it drives on the same hypothetical one-mile long lane mile. This means that the damage caused by one, large shuttle bus driving over the hypothetical one-mile long lane is equivalent to 4,700 passenger vehicles driving over

<sup>19</sup> Reconstructing means to demolish the 8 inch concrete base of the road and the 2 inches of asphalt topping and replace it with new concrete base and new asphalt as opposed to repaving which is grinding off the asphalt concrete and replacing it with new asphalt concrete.

the same lane. Of course, adding more vehicles to the streets in lieu of shuttle buses would have negative impacts on traffic flow and emissions.

The implication of the DPW analysis are that streets on which the larger private shuttle buses repeatedly drive on, such as the regional shuttles, will deteriorate faster than similar streets with the same traffic mix and volume that are not used by regional shuttles. The frequencies with which streets need to be reconstructed are also affected by the City's standards for street condition and the use by other buses and trucks.

It should be noted that full reconstruction of a street is not a frequent occurrence as it is very costly and time consuming. Instead, less costly preventive maintenance resurfacing such as pothole repairs and crack sealing occur more regularly to defer the need for full reconstruction. As with reconstruction, more frequent resurfacing will be needed on streets used by regional shuttles compared to the same streets without regional shuttle use.

Although large, private shuttles impose significantly more damage to the roads than passenger vehicles, SFMTA is precluded from charging a fee for the proportional cost of such damage pursuant to Section 9400.8 of the California Vehicle Code, which restricts the ability of a local jurisdiction to impose a tax, permit or fee for use of City streets.

### ***Bus Zones***

SFMTA staff report that in FY 2013-14, the cost to paint a bus box and red zone is \$300 which must be completed about every two years. When asked if large shuttles increase SFMTA's maintenance costs due to more frequent use, SFMTA staff advised that the amount of wear on a bus zone is based more on its location (commercial, sunlight, sidewalk soiling) than on the number or weight of vehicles that pull into it. SFMTA staff could not quantify the additional damage caused to bus zones by shuttles but suggest that it is minimal, if any.

### **Conflicts with Muni and Localized Traffic Congestion**

SFMTA reports that about half of the known stops for all types of private shuttles take place in bus zones; the other half take place at white zones or in off-street parking lots. SFMTA advises that there are approximately 200 Muni bus zones that are used for private shuttle loading and unloading.<sup>20</sup> This practice can lead to conflicts between shuttles and Muni buses including: Muni delay caused by a Muni bus not being able to pull into a bus zone because a shuttle is stopping there.

In 2012, the San Francisco County Transportation Authority (SFCTA) contracted with Nelson/Nygaard Consulting Associates Inc., a transportation planning consulting firm, to

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<sup>20</sup>SFMTA, Private Commuter Shuttles Policy Draft Proposal, Presentation to SFMTA Board of Directors, January 21, 2014.



conduct a field investigation assessing the impacts of private shuttle operations in a variety of locations where shuttles were known to be stopping at bus zones.

The assessment study found that at 15 bus zones observed, there was an average of 0.48 conflicts per hour of instances when either a Muni bus could not access the bus zone or when a shuttle could not access the zone, as shown in Exhibit 5. The bus zone at 4<sup>th</sup> and Townsend Streets had the most conflicts with an average of one conflict per hour.

Since the study reports averages spread over six hours (three hours for the morning commute and three hours for the evening), it is possible that more conflicts are occurring during certain periods of the commute hours. For example, the University of California, Berkeley graduate students observing shuttle buses on Van Ness Avenue during the morning commute, and cited above, reported that shuttles arrived every one to two minutes between 7:45 and 8:00 a.m. Likewise, it would stand to reason that fewer conflicts may be occurring during the commute hours when fewer shuttles are arriving.

**Exhibit 5: Muni Bus and Shuttle Conflict Rates, 2012 Study**

	<b>Average Hourly Muni Frequency</b>	<b>Average Hourly Shuttle Frequency</b>	<b>Average Hourly Instances of "Muni Can't Access Stop"</b>	<b>Average Hourly Instances of "Shuttle Can't Access Stop"</b>	<b>Total Conflicts Per Hour</b>
<b>All Site Locations</b>	10.6 vehicles per hour	4.7 vehicles per hour	0.31 conflicts per hour	0.17 conflicts per hour	0.48 conflicts per hour
<b>Sites with Most Conflicts- 4th &amp; Townsend</b>	13.6 vehicles per hour	12.3 vehicles per hour	1.0 conflict per hour	0.67 conflicts per hour	1.67 conflicts per hour

Source: Nelson/Nygaard Consulting Associates Inc., Muni Partner-Shuttle Field Data Collection. July 2012.

There is a greater chance of conflict if a shuttle dwells in a bus zone for an extended period of time. SFCTA reports that the amount of time that shuttles dwell at bus zones can be longer compared to Muni dwell times because it takes longer for passengers to board and alight a shuttle bus due to the size of the motor coach, their high floor configuration and the use of a single door.<sup>21</sup> The Nelson/Nygaard study found that at the 15 observed bus zones, the average dwell time was 1.1 minutes for the shuttles.

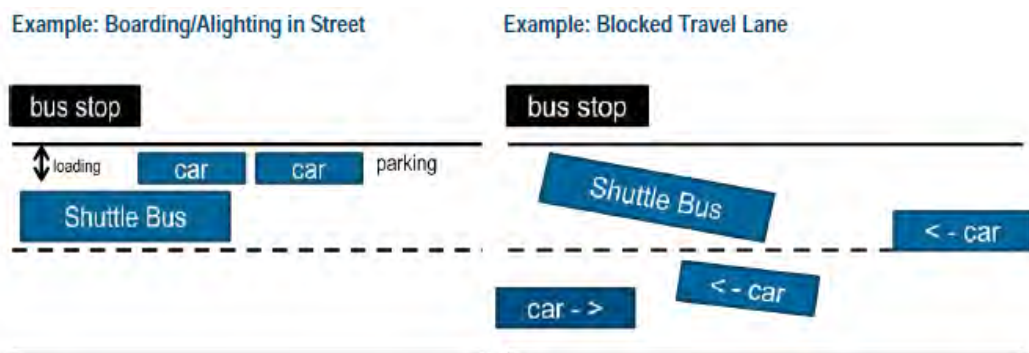
The Nelson/Nygaard study observed two types of shuttle activities that caused localized congestion: 1) shuttles blocking traffic by boarding and alighting in a travel lane; and 2)

<sup>21</sup> The San Francisco County Transportation Authority's (SFCTA), *Strategic Analysis Report: The Role of Shuttle Services in San Francisco's Transportation System*, Final SAR 08/09-2, Approved June 28, 2011.

not pulling all the way into a bus zone, which also blocks a travel lane. Both scenarios are shown in Exhibit 6.

The greatest number of observations of a shuttle not pulling all the way into a bus zone was six times per hour at Lombard and Fillmore Streets and the greatest number of observations for a shuttle either boarding or alighting passengers in the street was 3.5 times per hour at Glen Park BART, according to the study. The study also found that Muni buses pick up and drop off passengers in the travel lane at about the same rate as shuttles with the exception of at Glen Park BART and 4<sup>th</sup> and Townsend Streets, where shuttles picked up and dropped off passengers in the travel lane seven times more often and a little more than five times more often than Muni buses, respectively. The study did not record data on whether Muni buses partially pulled into bus zones.

### Exhibit 6: Shuttle Activities that Cause Localized Traffic Congestion



Source: Nelson/Nygaard Consulting Associates Inc., Muni Partner- Shuttle Field Data Collection. July 2012.

Though existing data shows that shuttle buses are causing some delays in Muni operations, as of the writing of this report, there is no data that demonstrates what proportion of Muni delays overall can be attributed to shuttles using bus zones. However, two graduate students from the University of California, Berkeley are currently collecting data at multiple shuttle stops in the City and using statistical methods to estimate the delay caused to Muni buses by shuttle operations. This research is anticipated to be completed in May of 2014.

### Pedestrian and Bicycle Safety and Neighborhood Disruption

Practices such as partially pulling into a bus zone or loading and unloading passengers in a travel lane not only contributes to localized traffic congestion but also creates dangerous conditions for pedestrians, bicyclists and passengers with disabilities. In the last four years, one pedestrian has been hit and killed by a private shuttle.<sup>22</sup> Moreover, SFMTA received over 40 unsolicited comments from community members who

<sup>22</sup> Danielle Magee. The Private Bus Problem, *San Francisco Bay Guardian Online*, Available at: <http://www.sfbg.com/2012/04/18/private-bus-problem?page=0,1>. [Accessed March 3, 2014]

witnessed various unsafe pedestrian and bicycling conditions caused by shuttle buses. These actions include:

- Blocking Muni buses causing Muni bus passengers to board in the traffic lane;
- Shuttles parking in a bike lane;
- Rounding tight corners on narrow streets, crossing into multiple lanes of traffic to make a turn;
- Not yielding to pedestrians;
- Speeding;
- Blocking street views for residents backing out of driveways; and
- Blocking traffic lanes for ambulance vehicles.

No comprehensive formal study has been performed on the impact of shuttles on pedestrian and bicyclist safety or Muni or shuttle passengers with disabilities. However, the Nelson/Nygaard study did observe two bus zones with bicycle lanes in the bus zone path, one at 4<sup>th</sup> and Townsend Streets and the other at 8<sup>th</sup> and Market Streets, to determine whether there were conflicts between shuttles and bicyclists. The report found that 23 percent of all the shuttle observations at 4<sup>th</sup> and Townsend Streets had instances of a shuttle blocking the bicycle lane leading up to the intersection. There were no reported instances of shuttles blocking the bicycle lane at 8<sup>th</sup> and Market Streets.

Representatives from the San Francisco Bicycle Coalition and Walk San Francisco provided a number of suggestions that SFMTA could incorporate into the shuttle Pilot Program to improve safety for bicyclists and pedestrians, including:<sup>23</sup>

- Discourage shuttles from using bicycle network streets;
- Require shuttles to have enhanced vehicle safety features similar to new Muni buses, such as tire guards and larger, more optimally placed mirrors for better views alongside the side of the bus;<sup>24</sup>
- Require clear, printed contact information on each vehicle for members of the public to submit shuttle complaints that are easily accessible through City or company channels and consider incentives for or penalties to companies to reduce complaints;
- Increase the amount of protected bikeways, especially on streets that are known to have bicycle-shuttle conflicts (this would be a recommendation for SFMTA in general, and not specific to the Pilot Program); and

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<sup>23</sup> San Francisco's non-profit pedestrian advocacy group.

<sup>24</sup> A tire guard is a flexible plastic shield placed at the rear duals to deflect a person away from the path of the right rear dual to reduce the severity of injuries resulting from accidents involving a pedestrian coming in contact with the rear right wheels of transit buses.

- Impose a mandatory, uniform and transparent shuttle driver-training program that focuses on pedestrian and cyclist safety.

The California Public Utilities Code requires shuttle providers to have a safety education and training program for their employees and must provide training at least twice a year (California Public Utilities Code Section 5374 (e)). If shuttle providers develop their own training program, they must cover all the topics set forth in the Department of Motor Vehicle's California Commercial Driver Handbook which includes some materials on bicycle and pedestrian awareness.

Bauer's IT, a regional shuttle provider, reported to the Budget and Legislative Analyst that their training program requires a minimum of 80 hours of classroom exercises, 20 hours of behind-the-wheel education and 6 hours of refresher courses each quarter.<sup>25</sup> Classroom exercises include a 22 hour course on *Basic Driver Education* which incorporates materials on accident prevention, current laws and regulations, and mirrors and blind spots among 26 other topics in the course. This curriculum is not publically available nor is it the same across all shuttle companies.

SFMTA staff note that they have initiated a "Large Vehicle and Safe Streets Working Group" as part of the City's Vision Zero goal of eliminating traffic fatalities within 10 years. The working group includes stakeholders representing large vehicle drivers, trainers, and fleet operators, including private shuttles. They will be meeting in April 2014 to agree on short- and long-term recommendations for increasing safety for people who walk and bicycle around large vehicles. There is broad support within this working group for developing and implementing driver safety curriculum for large vehicle drivers according to SFMTA staff. Once the curriculum is completed, SFMTA staff advises it will become part of the required training for all commuter shuttles operating with permits.

The SFMTA will be requiring that shuttle providers display an identification placard in visible locations in the front and rear window of their vehicle as part of the Commuter Shuttle Policy and Pilot Program.

With regard to neighborhood disruptions and impacts, from FY 2011-12 to March 2014 SFMTA staff recorded 30 unsolicited complaints received from residents who were concerned with the size and noise of the large shuttles. Based on the comments, it appears that at least some residents have concerns when large shuttles drive down and turn onto narrow, neighborhood streets due to their large size and/or are disrupted by the noise that the shuttles make when driving late at night or when idling. These complaints received are similar to those that in the past have triggered imposition of

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<sup>25</sup> Training materials provided to Budget and Legislative Analyst by Mike Watson, Vice Presidents of Sales and Marketing, Bauer's Intelligent Transportation.

restrictions of certain types of vehicles on certain streets, as codified in the City's Transportation Code.

### **Housing Impacts**

San Francisco's population has grown significantly in recent years largely due to the high job growth rate in the City and the Bay Area region as a whole.<sup>26</sup> From just 2010 to 2012, San Francisco's population increased by approximately 20,600 residents, which is 72.3 percent of the total population growth for the ten years between 2000 and 2010 (28,500 new residents from 2000 to 2010).<sup>27</sup> In turn, the demand for housing has increased. The City has only produced approximately 1,500 housing units a year over this same time period (2000-2010).<sup>28</sup> As a result of this imbalance, housing costs have been significantly increasing.

Twenty percent of all private shuttle service in San Francisco serves to connect San Francisco residents with jobs that are outside of the City, mostly on the Peninsula or in Santa Clara County. Free, private, regional shuttles enable some individuals who work in Silicon Valley to live in San Francisco by making it more convenient and affordable to commute and thus contributing to the demand on housing. Private shuttles also provide access to jobs that otherwise might be unreachable or reachable only by car for some San Franciscans.

60 percent of surveyed regional shuttle riders stated that the absence of shuttles would not change their residential decision to live in San Francisco and commute to Silicon Valley, according to a survey of 130 shuttle riders conducted in the Spring of 2013 conducted by graduate students from the University of California, Berkeley.<sup>29</sup> <sup>30</sup> However, 40 percent of surveyed shuttle riders reported that they would move somewhere closer to their job if shuttle service were discontinued. This suggests that the shuttles have some implications on the decision to live in San Francisco and on the demand for San Francisco's housing stock. The survey did not ask if "move closer to their job" included closer to regional transit within San Francisco, and/or to another city closer to where the job is located. The Budget and Legislative Analyst assumes that both scenarios are covered by the responses and that at least a portion of the respondents would choose to leave San Francisco if the shuttles were not available.

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<sup>26</sup> Gabe Metcalf. Housing for All: A Pragmatist's Manifesto, *SPUR's The Urbanist*, Issue 530. February 2014.

<sup>27</sup> United States Census Bureau, 2000 and 2010 San Francisco County Total Population; State & County QuickFacts 2012 estimate.

<sup>28</sup> Gabe Metcalf, Sarah Karlinsky, and Jennifer Warburg. How to Make San Francisco Affordable Again. *SPUR's The Urbanist*, Issue 530. February 2014.

<sup>29</sup> Danielle Dai and David Weinzimmer. Riding First Class: Impacts of Silicon Valley Shuttles on Commute & Residential Location Choice. University of California, Berkeley- Department of City and Regional Planning. Working Paper UCB-IT-WP-2014-01, Last updated February 2014.

<sup>30</sup> The survey question was whether shuttle users would change their residential location if service was discontinued.

ICF International also conducted a survey of shuttle riders in 2012 that asked how a shuttle rider would typically travel to work if there were no shuttle. This survey conducted by ICF International found that 31 percent (123 responses) of the 396 shuttle riders surveyed would either not be able to or would choose not to have their job in Silicon Valley if there were no shuttle, suggesting that these passengers would remain in the City and find alternate jobs. Four percent of shuttle riders surveyed choose “Other” and wrote in that they would move out of San Francisco if the shuttle was not provided (15 responses). Although 4 percent wrote in that they would relocate out of San Francisco or closer to their job, the ICF International survey did not provide “relocate closer to work” as an answer option nor did this survey specifically ask about residential choice like the University of California, Berkeley survey cited above.

A graduate student from the University of California, Berkeley’s City and Regional Planning Department collected and analyzed rental values near Google shuttle stops to see if there was an association between Google shuttle stops and increasing rental rates.<sup>31</sup> The researcher focused the analysis on five Google shuttle stops located in neighborhoods with high percentages of renter-occupied units. The study identified the average rent between 2010 to 2012 for one-bedroom and two-bedroom units within a half-mile radius of the shuttle stops, a distance deemed walkable, and the average rent for the same size units between a half-mile and one-mile radius of the shuttle stops.<sup>32</sup>

As shown in Exhibit 7, in most instances (7 out of 10), rental prices within a half-mile radius of Google shuttle stops, represented by the purple circle (the darker circle), increased at a faster rate than rental prices outside of a half-mile radius but within a one-mile radius, represented by the blue ring (the lighter circle), suggesting that Google shuttles are having an effect on rental prices nearby the shuttle stops. The study notes, however, that housing values increased similarly in neighborhoods well-served by transit, or in other areas with “transit oriented development,” regardless of the presence of the shuttles.

This study had several limitations; one was that different properties listed for rent within a half-mile radius of the shuttle stops were compared in the two years reviewed. Differences in the amenities of these properties were not accounted for in the study. The study also did not control for confounding variables such as variations in neighborhoods.<sup>33</sup> Finally, the study did not assess changes in rental prices in other popular neighborhoods that are not served by shuttles to consider whether the increasing rents were specific to shuttle-served neighborhoods or comparable to all popular neighborhoods within the City.

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<sup>31</sup> Ms. Alexandra Goldman

<sup>32</sup> Alexandra Goldman, MCP. The “Google Shuttle Effect:” Gentrification and San Francisco’s Dot Com Boom 2.0, *Professional Report*, University of California, Berkeley Department of City & Regional Planning, Spring 2013.

<sup>33</sup> Alexandra Goldman, MCP. The “Google Shuttle Effect:” Gentrification and San Francisco’s Dot Com Boom 2.0, *Professional Report*, University of California, Berkeley Department of City & Regional Planning, Spring 2013.

**Memo to Supervisor Mar  
March 31, 2014**

While the study identified correlation, it did not establish causation that increasing rental rates are unique to neighborhoods with shuttle service. Even with these limitations, assuming that the shuttles are selecting stops for proximity to their passengers, it appears that neighborhoods and areas with shuttle stops are in demand, are now commanding higher rents than adjacent areas, and that some shuttle passengers are living in those areas. In fact, 57 percent of respondents to the survey of 130 shuttle riders cited above reported that they live less than a 10-minute walk from their shuttle stop and 76 percent of shuttle riders said they live within a 15-minute walk.<sup>34</sup>

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<sup>34</sup> Danielle Dai and David Weinzimmer. Riding First Class: Impacts of Silicon Valley Shuttles on Commute & Residential Location Choice. University of California, Berkeley- Department of City and Regional Planning. Working Paper UCB-IT-WP-2014-01, Last updated February 2014.

Exhibit 7: Maps of Percent Change in Rental Prices for One and Two Bedroom Units,  
Calendar Years 2010-2012

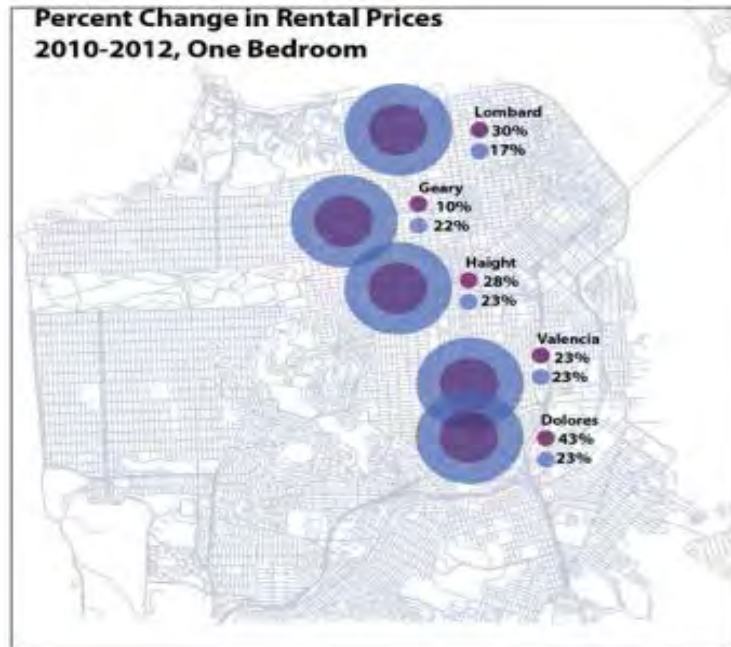


Figure 4

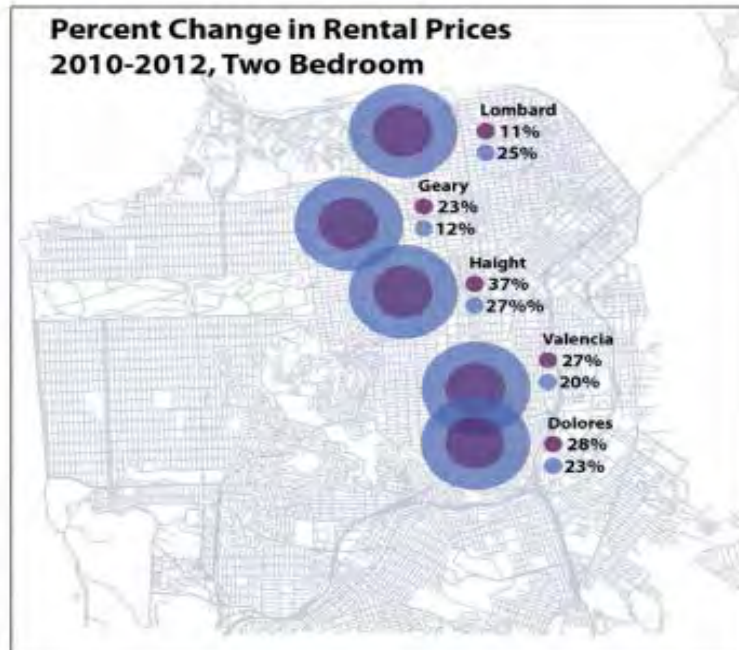


Figure 5

Source: Alexandra Goldman, MCP. The "Google Shuttle Effect:" Gentrification and San Francisco's Dot Com Boom 2.0. Spring 2013.



Another study analyzing how properties near shuttle stops have appreciated relative to other properties in the City was conducted by a data journalist who obtained the assessed values of residential properties for 2011 and 2013 in San Francisco from the San Francisco Office of the Assessor-Recorder. The journalist determined which properties appreciated by at least 70 percent from 2011 to 2013 and mapped them along with known regional shuttle locations. The map showed that there is a higher concentration of properties that appreciated by at least 70 percent in neighborhoods with multiple regional shuttle stops.<sup>35</sup>

Similar to the University of California Berkeley study cited above, while the data in the data journalist's study shows a correlation between private regional shuttle stop locations and a higher concentration of properties that experienced significant appreciation over the last two years, it does not show causation. Many of the regional shuttle stops are located in neighborhoods that are desirable places to live regardless of the location of private shuttle stops. These neighborhoods may have parks, restaurants, Muni transit stops or other amenities that increase demand for housing in that area; and as previously noted, there is a strong demand for housing overall in San Francisco.

Shuttle riders that were surveyed reported that when determining where to live in the City, their decision is influenced more by factors such as the ease of walking in their neighborhood, proximity to entertainment, culture, amenities, transit and living in an urban neighborhood than on living near a shuttle stop.<sup>36</sup>

### **SFMTA'S COMMUTER SHUTTLE POLICY AND PILOT PROGRAM**

SFMTA's Commuter Shuttle Policy and Pilot Program (Pilot Program) was developed in response to the growth of unregulated private shuttles. Initial research by the San Francisco County Transportation Authority on shuttles began in 2009 and the final Pilot Program was approved approximately five-years later by the SFMTA Board of Directors on January 21, 2014. The Pilot Program will last 18-months and will authorize permitted shuttle providers, both intra-City and regional, to share approximately 200 bus zones with Muni buses under specific conditions. SFMTA staff estimate that private shuttles are currently stopping at approximately 200 bus zones based on voluntary information provided by private shuttle providers.

Eligible Pilot Program participants include privately operated transportation services arranged by an employer, building or institution that provides transportation for commuters to, from and within San Francisco, specifically from home to work, work to

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<sup>35</sup> Chris Walker, Clusters of Affluence in San Francisco, January 27, 2014. Available at: [http://www.dataovn.com/#!San\\_Francisco\\_Private\\_Shuttles](http://www.dataovn.com/#!San_Francisco_Private_Shuttles). [Accessed on January 30, 2014]

<sup>36</sup> Danielle Dai and David Weinzimmer. Riding First Class: Impacts of Silicon Valley Shuttles on Commute & Residential Location Choice. University of California, Berkeley- Department of City and Regional Planning. Working Paper UCB-IT-WP-2014-01, Last updated February 2014.

home, last-mile to work<sup>37</sup> or work site to work site are eligible to participate in the Pilot Program. The Pilot Program excludes tour buses, party buses, limousines, airport shuttles, transportation network companies, vanpools, and services that duplicate Muni service.<sup>38</sup>

SFMTA is currently in the process of determining which 200 bus zones will be used for the program.<sup>39</sup> SFMTA notes that as part of this process, lengthening existing bus zones may be considered as well as creating an adjacent shuttle zone or separate white zones in areas where sharing is not practical, which would likely remove some on-street parking. The network of shared zones will be approved at an SFMTA public hearing. SFMTA expects the bus zone selection process to be completed by May 2014.

After the network is approved, private shuttle service providers may apply for a permit to use the shared bus zones and will be required to pay a permit and use fee. The permit and use fee will recover SFMTA's estimated \$1.7 million of program costs. The fee will be assessed based on the number of stop events<sup>40</sup> shuttle service providers report that they make during the term of the permit. Each permittee will pay \$1 per stop event multiplied by the number of stop events they are making during the course of the permit term.

SFMTA reports that pursuant to California Proposition 218, the cost of the permit fee may not be higher than the cost to provide the permit program service.<sup>41</sup> SFMTA estimates that the cost of the Pilot Program will be approximately \$1,725,688 which includes six-months of preparation work to develop the permits, business processes, data management, and establish the shared bus zone network in advance of the 18-month Pilot Program. The breakdown of costs is shown in Exhibit 8.

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<sup>37</sup> Last mile refers to getting people from a transport hub to their final destination.

<sup>38</sup> SFMTA. Commuter Shuttle Policy and Pilot Program. January 2014.

<sup>39</sup> This process has entailed requesting input from shuttle providers, residents and Muni operations staff on preferred zones and then evaluating the proposed zones based on preferences and actual traffic conditions.

<sup>40</sup> A stop event is defined as an individual instance of stopping at a shared Muni bus zone.

<sup>41</sup> Cal. Const. art. XIII C, § 1, cl. 1

**Exhibit 8: Estimated SFMTA Costs of 18-Month Commuter Shuttle Policy Pilot Program**

Unit	FY 2014-15	FY 2015-16	Total
Labor*	\$ 496,550	\$265,895	\$762,445
Overhead	244,799	131,086	375,885
City Attorney	4,910	2,455	7,365
Placard & Shuttle Signs (500 pieces at \$630 per vendor)	840	420	1,260
Muni Zone Signs & Materials	53,333	26,666	79,999
Professional Services ( IT and Communications consultant)	59,333	29,666	88,999
Data Collection Devices & Transmission	270,000	135,000	405,000
Zone & Sign Maintenance	3,134	1,600	4,734
<b>Total</b>	<b>\$ 1,132,899</b>	<b>\$592,789</b>	<b>\$1,725,688</b>

Source: SFMTA Controller

\*This includes enforcement, planning, evaluation, administration, and signage installation.

Ms. Carli Paine, SFMTA’s Pilot Program’s Project Manager, stated that the SFMTA used estimates of existing stop events to derive the per-stop event cost. Existing estimates are that regional and intra-city shuttles make 4,121 stop events at Muni bus zones daily. This assumption was built into SFMTA’s fee calculation and revenue projections shown in Exhibit 9 below. According to Ms. Tess Navarro, SFMTA’s Controller, the approximately \$1 permit fee amount, which was approved by the SFMTA Board of Directors in January 2014, was a placeholder amount until more information about the cost of the Pilot Program was collected. Based on current cost estimates, the permit fee for FY 2014-15 will be \$1.06 and will increase to \$1.10 in FY 2015-16. These fees will be approved by the Board of Directors during the annual budget process.

**Exhibit 9: Revenue Projections for 18-month Commuter Shuttle Policy and Pilot Program**

Projected Revenue	Fee	Stops per day	Weekdays per year	Total Stop Events per Year	Revenue
FY 2014-15	\$1.06	4,121	260	1,071,460	\$ 1,135,748
FY 2015- 2016 (6-months)	\$1.10	4,121	130	535,730	\$ 589,303
<b>Total</b>					<b>1,725,051</b>

Source: SFMTA Controller

The cost of the program is \$637 less than projected revenues. According to Ms. Navarro and as previously noted, the Pilot Program is a cost recovery program; therefore, SFMTA must be careful to not collect more revenue than what it costs to administer and enforce the Pilot Program. The current fee structure will under-recover program costs to be conservative; however, Ms. Paine notes that fees may be increased with approval by the SFMTA Board of Directors, as long as they comply with State cost recovery restrictions.

As part of the Pilot Program permit application, shuttle providers must provide SFMTA with their company information, the number of the stops and shuttles anticipated, their CPUC registration status and they must agree to comply with all the terms to get a permit.<sup>42</sup> If any of these terms are violated during the Pilot Program, an administrative penalty may be issued or the permit may be revoked. SFMTA staff noted that once the Pilot Program begins, there will be a heightened level of enforcement to ensure that only shuttles with permits use the shared bus zones in the defined network. The cost of this enforcement is included in the program costs that will be recovered through the fee.

#### **Pilot Program Evaluation**

To measure the effectiveness of the Pilot Program, SFMTA will: (1) observe shared bus zones *before and during* the 18-month Pilot Program to determine whether the controlled sharing of designated bus zones with private shuttles reduces conflicts for Muni buses and other users; (2) audit GPS data of shuttle operations to evaluate compliance with the terms of the permit by assessing to what extent permittees are only stopping in bus zones that are within the designated network and are making the number of stops they received permit approval to make; (3) conduct a survey of shuttle and Muni bus drivers to gain feedback on the Pilot Program and determine what level of enforcement is needed to regulate shuttles; and (4) develop a cost report to track actual Pilot Program costs and identify what capital improvements may be needed to accommodate the shuttle buses.<sup>43</sup>

SFMTA's proposed performance metrics for the Pilot Program include observations of the following: (1) double parking to load and unload passengers; (2) Muni buses having delayed access to the curb because of shuttle use; (3) shuttle loading and unloading that blocks crosswalks; (4) shuttle loading that blocks bike lanes; and (5) Muni buses not

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<sup>42</sup> The terms of the agreement which includes are as follows: 1) Indemnify the SFMTA for use of stops. 2) Display the Pilot Program placard on the front and rear of the vehicle which authorizes the use of the shared stop and has a unique identification number so SFMTA can contact the provider. 3) Comply with all operating guidelines which include giving Muni priority, staying within the network of approved stops, actively loading and unloading passengers, pulling forward into bus stops, complying with state and local traffic laws, complying with street and lane restrictions and staying on arterial streets, ensuring that driver training includes these guidelines and following instructions from officials and traffic control devices. 4) Provide data fees per SFMTA's specifications. 5) Pay permit fee and traffic citations. 6) Comply with CPUC regulatory requirements.

<sup>43</sup> SFMTA's Memorandum to the Board of Supervisors Re: Appeal of CEQA Determination- SFMTA Commuter Shuttle Pilot. March 21, 2014.

having access to the curb because of shuttles, thus preventing people in wheelchairs or with strollers from boarding or alighting Muni vehicles. SFMTA will also track data on collisions involving shuttle buses and compliance with the permit terms.<sup>44</sup>

SFMTA staff report that other alternatives to the Pilot Program were considered such as prohibiting shuttles from all bus zones and requiring them to apply for new white zones or using only existing white zones. SFMTA staff noted that a formal policy analysis was not conducted on this alternative but there were internal conversations where SFMTA staff discussed that creating a network of white zones would require removal or restriction of on-street parking. SFMTA staff further noted that, at the time, SFMTA's data indicated that sharing bus zones could work, if limited to certain kinds of bus zones, and determined to pursue testing the sharing of bus zones as a first step, knowing that if it does not work, a network of white zones could be created through on-street parking removal or restrictions.

***Appeal of the California Environmental Quality Act (CEQA) Pilot Program Exemption***

The SFMTA determined that the Pilot Program was categorically exempt from CEQA's environmental review requirements because it consists of information collection, research, experimental management and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource.<sup>45</sup> The City Planning Department concurred with this determination.

At the time of writing this report, an appeal of the categorical exemption was filed on the grounds that the Pilot Program is not exempt from the requirements of CEQA because there is a reasonable possibility that the Pilot Program will have significant environmental impacts.<sup>46</sup>

The Board of Supervisors will vote on whether to uphold the appeal. If upheld, the Pilot Program will not be implemented until additional environmental review is conducted.

**POLICY DISCUSSION**

This analysis discussed some of the ways in which private shuttles are affecting the City's infrastructure, Muni operations, traffic, the safety of pedestrians and cyclists, neighborhood quality of life conditions, and the potential effects that shuttles may have on housing prices. As part of the assessment of the City's policy towards private shuttles, the benefits associated with intra-city and regional shuttles should also be considered.

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<sup>44</sup> Ibid.

<sup>45</sup> SFMTA. Commuter Shuttle Policy and Pilot Program. January 2014.

<sup>46</sup> Richard Drury. Letter to President David Chiu and the San Francisco Board of Supervisors, Re: Appeal to SFMTA Resolution No.14-023. February 19, 2014.

Shuttle programs have proven to be an effective way to reduce vehicle miles traveled and vehicle ownership and use which, in turn, reduces greenhouse gas emissions, overall congestion and demand for scarce parking spots.<sup>47</sup> Survey results found that when shuttle riders were asked how they would commute to work if the shuttle were not provided, 48 percent of respondents reported that they would drive alone.<sup>48</sup> Based on survey results, ICF International reports that shuttles are responsible for a reduction of over 43 million vehicle miles traveled and 8,500 metric tons of greenhouse gas emissions per year.<sup>49</sup>

Caltrain staff report that their system cannot meet existing ridership demand, which has steadily increased over the last five years. The system is currently operating over capacity during peak commute hours and if the regional private shuttles did not exist, it is unlikely that Caltrain would be able to absorb the additional ridership demand, given its current resources and level of service provided. Caltrain staff note that they are the only transit system in the region without a dedicated funding source and were operating in a deficit for the past several years. They do, however; have enough funding to purchase several used railcars which they will be adding to the system in a little over a year.<sup>50</sup>

## **POLICY OPTIONS**

As a result of this analysis, the Budget and Legislative Analyst has developed policy options for the Board of Supervisors to consider to address some of the potential negative impacts of the shuttles, as discussed above. With the exception of Policy Options 2 and 3, implementation of these options could occur in concert with SFMTA's Pilot Program.

To have a better understanding of the results and effectiveness of the Pilot Program, the Board of Supervisors should consider the following options:

**1) a. Prior to commencement of the Pilot Program, provide SFMTA staff with input on possible additions or deletions to the performance metrics that will be used for SFMTA's shuttle observations.**

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<sup>47</sup> SFMTA. Commuter Shuttle Policy and Pilot Program. January 2014.

<sup>48</sup> Danielle Dai and David Weinzimmer. Riding First Class: Impacts of Silicon Valley Shuttles on Commute & Residential Location Choice. University of California, Berkeley-Department of City and Regional Planning. Working Paper UCB-IT-WP-2014-01, Last updated February 2014.

<sup>49</sup> Figures based on ICF International's Draft Assessment of GHG Emissions Impacts for the Commuter Shuttle Pilot Program provided to the Budget & Legislative Analyst's Office.

<sup>50</sup> Additionally, Caltrain is implementing the Caltrain Modernization Program, which will electrify and upgrade the performance, operating efficiency, capacity, safety and reliability of Caltrain's commuter rail service.

**b. Following SFMTA's reporting back on baseline data and initial observations of shuttle operations prior to commencement of the Pilot Program, the Board of Supervisors should provide input on acceptable threshold amounts for each performance metric that would be used to determine the success of the Pilot Program, whether certain conditions should be imposed on the shuttles or whether another program or policy should be implemented. Include thresholds for the shuttles' use of restricted streets as GPS data to assess restricted road use will not be collected until after the Pilot Program commences.**

**c. Request that SFMTA regularly report back to the Board of Supervisors on the performance metrics throughout the 18-month program as well as compliance with permit terms, enforcement results and comments collected from community members.**

The Board of Supervisors should consider recommending the following options to SFMTA if the Pilot Program is not deemed successful based on the performance metrics used and reported to the Board of Supervisors throughout the program to measure results:

- 2) Prohibit the use of Muni bus zones, providing instead existing and/or newly created white curb zones specifically for intra-city and regional shuttles.**

*SFMTA has already suggested that if Muni buses and private shuttles are not compatible at any shared bus zones, then they would consider this option. This option will likely require removing parking spaces during certain peak commute periods.*

- 3) Prohibit or limit the use of bus zones and encourage shuttle providers to utilize a limited number of centralized locations in the City where passengers would board and alight from their shuttles.**

*This may entail one or more shuttle providers' sponsoring companies leasing or purchasing several parking lots in the City that could be used for loading and unloading passengers. Transportation experts advise that adding trips to an individual's commute could discourage use of the shuttles by some.*

To address the potential negative impacts of the private shuttles on the City's streets, bicyclist pedestrian safety, disabled passengers, and neighborhood impacts, the Board of Supervisors should consider requesting that SFMTA incorporate the following into the Pilot Program either prior to its commencement or during the Pilot Program based on reported results:

- 4) Establish shuttle vehicle size, weight, safety features and other design criteria based on bus zones, streets and/or neighborhoods affected by the Pilot Program and/or establish a cap on the number of shuttles that can access bus zones.**

*SFMTA could establish weight limits that could reduce the impact on some or all City streets; or height and length limits to help ensure that shuttles can safely turn corners on all streets being used and reduce visual and other neighborhood impacts; or require two doors on all shuttles to reduce idling time at the bus zones. Requiring that shuttle providers load passengers using two doors may pose security concerns as well as increased costs to shuttle providers that may not have shuttle vehicles with doors in their fleets.*

*Currently, shuttles' rear views mirrors must meet certain specifications as required by the Federal Motor Vehicle Safety Standards (FMVSS). The FMVSS does not require tire guards. SFMTA System Safety staff cannot comment as of the writing of this report on what safety enhancements should be required on shuttles because they do not know what safety features on various shuttle models already exist or the types of pedestrian or bicycle accidents they may have been involved in.*

*SFMTA could determine whether there should be a cap on the number of stop events that occur at each bus zone to prevent conflicts with Muni buses and traffic flow while allowing new shuttle providers to participate in the program.*

- 5) Authorize shared bus zones only on streets without bike lanes.**
- 6) Require that shuttle providers provide specific training to all drivers on bicyclist, pedestrian and disabled passenger safety as a condition of being permitted to use City bus zones.**

*SFMTA staff reports that as part of the Pilot Program, shuttle providers must incorporate certain slides into their training program that explain the permit terms. A driver training program that focuses on bicycle and pedestrian safety is being developed out of the SFMTA's Large Vehicles and Safer Streets Working Group. SFMTA Staff report that shuttle service providers that are granted permits will be required to have their operators trained using this curriculum.*

As a means of enhancing City services in consideration of private shuttles' use of City bus zones, the Board of Supervisors should consider the following:

- 7) As the Pilot Program rolls outs and performance metric data is gathered, if there is clear evidence of negative impacts, the Board of Supervisors should work with SFMTA and the City Attorney's Office to explore a requirement that shuttle providers who participate in the Pilot Program and utilize City bus zones enter into a Community Benefits Agreement (CBA) with the City.**



*Community Benefit Agreements (CBAs) are project-specific agreements generally between a developer or private enterprise and the City in which the developer makes certain contributions to the community in exchange for support for their development project.<sup>51</sup> Six companies in San Francisco entered into CBAs in 2013 with the City including Twitter, Yammer and One Kings Lanes in order to be eligible for the Central Market Street and Tenderloin Area Payroll Expense Tax Exclusion. Terms of the agreements include seeking to establish a local non-profit grants program, to improve education outcomes for youth, to provide pro-bono legal assistance, to preserve affordable housing and tackle homelessness, to commit to local purchasing, and to support physical neighborhood improvements.*

*Although, the Pilot Program is not a development project, the CBA framework could potentially be applied to companies who hire or own shuttles for their employees and use City bus zones under authorization by SFMTA. Terms of the agreement could include providing monetary assistance to improve existing local and regional public transportation services, for road repavement, to fund Free Muni-for Youth after Fiscal Year 2015-16,<sup>52</sup> or to fund affordable housing development.*

- 8) Submit to the voters a ballot measure to impose a special tax that could be levied on shuttle bus providers to raise funds to improve existing local and regional public transportation services, for road repavement, to fund Free Muni-for-Youth after Fiscal Year 2015-16, or to fund affordable housing development.**

*A special tax would require approval by a two-thirds majority of voters and would require additional research on would be taxed and how.*

Exhibit 10 shows which policy option would satisfy various policy goal(s). Policy Option 1 (a) (b) and (c) are not included as those options would assist with measuring the overall effectiveness of the Pilot Program as opposed to a specific policy goal.

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<sup>51</sup> <http://www.forworkingfamilies.org/resources/policy-tools-community-benefits-agreements-and-policies>

<sup>52</sup> Google has donated \$6.8 million to fund Free Muni-For-Youth for the next two-years.

**Exhibit 10: Policy Options and Policy Goals**

Policy Options	Objective				
	Reduce Impact on Muni	Reduce Impact on the Pavement	Reduce Impact on Bicyclists & Pedestrians	Reduce Neighborhood Impacts	Enhance City Services
2. Prohibit use of bus zone, white zone program	◆				
3. Prohibit use of bus zone, utilize several locations	◆		◆	◆	
4. Establish Shuttle Design Criteria & Shuttle Caps	◆	◆	◆	◆	
5. Authorize Shared Bus Zones on Streets Without Bike Lanes			◆		
6. Require Safety Training			◆		
7. Enter into CBA's					◆
8. Special Tax					◆

## Appendix A

### Cost and wear impacts of large shuttle buses on San Francisco roadway pavement

The theoretical life of roadway pavement depends on pavement structure; soil condition; size and weight of vehicle; and vehicle repetition.

San Francisco's current roadway infrastructure is primarily comprised of composite pavements consisting of Asphalt Concrete (AC) overlaying Portland Cement Concrete (PCC). Our general guideline for pavement design is 2 inches of AC over 8 inches of 3,000 psi PCC, but may vary dependent on site-specific conditions.

Contributing factors to the pavement life are the traffic characteristics; the vehicle types and weights using the street; and the number of vehicle repetitions the street experiences. The traffic loading on the pavement by a vehicle is measured by the American Association of State Highway and Transportation Officials' *Guide for Design of Pavement Structures* in Equivalent Single Axle Loads (ESALs). An ESAL is defined as the equivalent of a single 18,000-pound axle.

Residential streets experience traffic comprised primarily of passenger vehicles with an ESAL of 0.0004 each, with minimal vehicle repetition. Major arterial streets experience traffic comprised of a variety of vehicles (i.e. passenger vehicles, busses, delivery trucks) and a high number of vehicle repetitions. For a given pavement section, residential streets have a longer pavement life than a major arterial street.

The pavement life of streets can be measured by the number of ESALs that travel over the pavement. Assuming the City's standard roadway pavement structure, and median soil condition, the ESAL pavement life of a street would be 1,800,000 ESALs. A large shuttle bus has an ESAL of 1.86, compared to a passenger vehicle with an ESAL of 0.0004. A large shuttle bus contributes 1.86/1,800,000 to the deterioration of the pavement structure.

The cost impact a large shuttle bus has on the pavement life can be calculated based on the cost to reconstruct the roadway pavement structure. Assuming an 11-foot-wide lane one mile long, the reconstruction cost would be \$1,045,000. The cost impact per ESAL lane-mile that a large shuttle bus would have on the pavement life would be:

$$(1.86 \text{ ESAL}/1,800,000 \text{ ESAL}) \times (\$1,045,000/\text{lane mile}) = \$1.08/\text{lane mile}$$

In December 2003, the United States Department of Transportation Federal Transit Administration published a report titled, "*Study & Report to Congress: Applicability of Maximum Axle Weight Limitation to Over-the-Road and Public Transit Buses*"

(<http://caltransit.org/cta/assets/File/FTA%20Study%20on%20Axle%20Weights.pdf>) to "...study the applicability of federal maximum weight limitations to over-the-road buses and public transit vehicles." Our analysis uses the same methodology to estimate pavement damage. Reference the executive summary section titled Pavement Damage, page ES-2.

Prepared by: Department of Public Works, Infrastructure Design & Construction, March 13, 2014

# EXHIBIT B

APR 20 2011

CLERK OF THE COURT  
BY: LINDA FONG  
Deputy Clerk

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SAN FRANCISCO

11 KLAMATH RIVERKEEPER, QUARTZ VALLEY )  
12 INDIAN RESERVATION, PACIFIC COAST )  
13 FEDERATION OF FISHERMEN'S )  
14 ASSOCIATIONS, ENVIRONMENTAL )  
15 PROTECTION INFORMATION CENTER, )  
16 SIERRA CLUB, NORTHCOAST )  
17 ENVIRONMENTAL CENTER, and INSTITUTE )  
18 FOR FISHERIES RESOURCES, )

17 Petitioners, )

18 vs. )

19 CALIFORNIA DEPARTMENT OF FISH )  
20 AND GAME, )

21 Respondent, )

22 and )

23 SHASTA VALLEY RESOURCE )  
24 CONSERVATION DISTRICT and SISKIYOU )  
25 RESOURCE CONSERVATION DISTRICT, )

26 Real Parties in Interest. )

Case No. CPF-09-509915

**STATEMENT OF  
DECISION GRANTING WRIT  
OF MANDATE**

Hon. Ernest H. Goldsmith  
Department 613

1 On December 1, 2010, this Petition for Writ of Mandate came on regularly for hearing in  
2 Department 613 of the Superior Court of the City and County of San Francisco, the Honorable  
3 Ernest H. Goldsmith presiding. Anita E. Ruud of the Office of the Attorney General, appeared on  
4 behalf of Respondent California Department of Fish and Game (DFG). Daniel J. O'Hanlon of  
5 Kronick, Moskovitz, Tiedemann & Girard appeared on behalf of Real Party in Interest Siskiyou  
6 Resource Conservation District. Wendy S. Park and Gregory C. Loarie of Earthjustice appeared  
7 on behalf of Petitioner Klamath Riverkeeper. Remaining Petitioners include the Quartz Valley  
8 Indian Reservation, the Pacific Coast Federation of Fishermen's Associations, the Environmental  
9 Protection Information Center, the Sierra Club, the Northcoast Environmental Center, and the  
10 Institute for Fisheries Resources. The Court issued a Tentative Statement of Decision Granting  
11 Writ of Mandate on February 25, 2011, to which Respondent had submitted objections.

12 Having considered all of the pleadings, supporting evidence, argument by counsel,  
13 objections, and good cause appearing therefore, the Court hereby GRANTS the Petition for Writ  
14 of Mandate.

### 15 **BACKGROUND**

#### 16 **A. The Scott and Shasta River Watershed-wide Permitting Programs**

17 In 2002, the Klamath Basin coho salmon (Coho) was recommended to be listed as  
18 threatened under the California Endangered Species Act (CESA). In 2004, the California Fish and  
19 Game Commission directed DFG to develop a Recovery Strategy for California Coho Salmon by  
20 working with various affected environmental, agricultural, federal, and Native American parties  
21 (i.e. stakeholders) in the Scott and Shasta Valley Watershed (the Watershed). On March 30, 2005,  
22 the Coho was officially listed as threatened under CESA, thereby prohibiting any take (i.e. killing)  
23 of Coho without an Incidental Take Permit (ITP). The Recovery Program then sought to  
24 implement a pilot program in the Shasta and Scott River Valleys to facilitate salmon recovery tasks  
25 and to assist in bringing agricultural operators in compliance with Fish and Game Code section  
26 1602 (Section 1602) and CESA. This pilot program became the Shasta Valley and Scott River  
27 Watershed-Wide Permitting Programs (the Programs), which are the subjects of this litigation.

1 As with many environmental conflicts in the Western United States, the use of water  
2 resources is central to Coho recovery. Coho spawning habitat requires a sufficient volume of low  
3 temperature water coursing downstream over an undisturbed streambed. Diversion of this water  
4 by agricultural users throughout the Watershed has reduced water volume, thereby reducing the  
5 depth and volume of flow, raising water temperature, and disturbing the streambed in many places.  
6 This has resulted in insufficient stream flow for Coho to make the upstream migration to spawn.  
7 Coho are genetically programmed to swim upstream to their place of origin against a downstream  
8 flow of sufficient velocity, volume, and low temperature. Accordingly, diversion of water gives  
9 rise to permitting to regulate this diversion of water and the "take" or fish kill that may occur  
10 incidental to that diversion.

11 The Programs are directed primarily at water diversions by agricultural water users who  
12 have "water rights", i.e., riparian or appropriative rights, to the rivers and streams coursing  
13 through or adjacent to their land. The water is accessed by diversion ditches or channels running  
14 to their land. All substantial water diversions are subject to Section 1602, which prohibits  
15 diverting, obstructing, or substantially changing water flow unless certain procedures are followed,  
16 including a DFG determination that the activity "will not substantially adversely affect an existing  
17 fish or wildlife resource" or if it does, ensure that "reasonable measures necessary to protect the  
18 resource" are taken. Prior to the listing of Coho as threatened under CESA and the attendant ITP  
19 requirements, the main limitation on water diversions was Section 1602, which enforcement alone  
20 was insufficient to prevent the decline in Coho population. The Programs ultimately seek to effect  
21 Coho recovery by facilitating compliance with Section 1602 through their Streambed Alteration  
22 Agreement (SAA) component, and with the strict requirements of CESA through their ITP and  
23 monitoring components.

24 Besides adequate stream flow, Coho spawning also requires streambed spawning gravels  
25 with low sediment levels and instream shelters and pools. Agricultural activities such as water  
26 diversions and livestock crossings may alter the streambed. Since the regulation of streambed  
27 alteration is essential to Coho survival, an important part of the Programs is the SAA system.

1 Also, the freshwater stage of the Coho life cycle from fertilization to emergence into the ocean  
2 saltwater requires a delicate and precise hydrological environment.

3 Resource Conservation Districts (RCDs) are non-profit public agencies assisting  
4 agricultural water users and other members of the public in the Watershed to conserve and restore  
5 natural resources. The Programs designate the RCDs to perform overarching mitigation measures  
6 for all participants and assist agricultural operators in applying for ITPs and SAAs. Moreover, the  
7 RCDs themselves are Program participants who must obtain ITPs and SAAs under which DFG  
8 will grant sub-permits.

9 Pursuant to the California Environmental Quality Act (CEQA) (Pub. Res. Code § 21000 *et*  
10 *seq*), DFG prepared watershed-wide Environmental Impact Reports (EIRs) for the Programs,  
11 which contained three components: 1) the SAA permit approval process; 2) the ITP permit  
12 approval process; and 3) overall monitoring and mitigation measures. The EIRs analyzed the  
13 effects of the watershed-wide ITP and SAA, under which sub-permits would be issued to  
14 individual agricultural and regulatory stakeholders in the region. On October 10, 2008, DFG  
15 circulated for public comment the draft EIRs for the Programs, including drafts of the proposed  
16 watershed-wide ITP, the SAA Master List of Terms and Conditions, and the Monitoring Program.  
17 On September 22, 2009, DFG issued a Notice of Determination certifying the EIRs.

18 **B. Procedural History**

19 On October 22, 2009, Petitioners filed their original petition challenging the Programs  
20 under CEQA with nine causes of action and naming DFG as respondent. Petitioners include: two  
21 fishing interest organizations, the Pacific Coast Federation of Fishermen's Associations and the  
22 Institute for Fisheries Resources; a Native American tribal group from the subject watershed area,  
23 the Quartz Valley Indian Reservation; and four environmental organizations, Klamath Riverkeeper,  
24 the Environmental Protection Information Center, the Sierra Club, and the Northcoast  
25 Environmental Center. On May 26, 2010, Petitioners filed their first amended petition (Petition)  
26 adding one CEQA and two CESA causes of action, and adding the Shasta Valley RCD and  
27 Siskiyou RCD as real parties in interest. On September 15, 2010, the Court approved the parties'



1 stipulation that the Shasta Valley RCD will not be required to participate in the litigation due to its  
2 financial constraints. On December 1, 2010, the Court denied Respondent's motion to dismiss.  
3 On February 25, 2011, the Court issued a Tentative Statement of Decision to which Respondent  
4 had submitted objections on March 17, 2011 (Objections).

5 Of the twelve causes of action contained in the Petition, Petitioners have declined to  
6 address the First (project description), Fourth (CEQA mitigation), Fifth<sup>1</sup> (reasonable alternatives),  
7 Sixth (cumulative impacts), Seventh (basis of conclusions), and Ninth (substantial changes in  
8 condition) causes of action. Accordingly, these six causes of action are waived. Of the five  
9 remaining substantive causes of action (not counting the Twelfth (declaratory relief)), the Court  
10 finds that the main issues revolve around three causes of action, on which the other two depend:

- 11 ■ Second (environmental setting / baseline), which will determine the Third (significant  
12 environmental effects);
- 13 ■ Tenth (CESA mitigation); and
- 14 ■ Eighth (failure to respond to comments / circulate jeopardy analysis for comment), which  
15 will determine the Eleventh ('no jeopardy' determination).

## 16 DISCUSSION

### 17 A. Standard of Review

18 Challenges to an agency's actions under CEQA are reviewed for a prejudicial abuse of  
19 discretion, which requires the court to review the record under a two-prong inquiry: 1) whether  
20 substantial evidence supports the agency's decision; and 2) whether the agency failed to proceed in  
21 a manner required by law. (Pub. Res. Code §§ 21168, 21168.5.)

22 An agency's factual determinations are reviewed under the first prong, i.e., whether  
23 substantial evidence supports the factual findings. (*Western States Petroleum Assn. v. Superior*  
24 *Court* (1995) 9 Cal.4th 559, 571.) Substantial evidence means "enough relevant information and  
25 reasonable inferences from this information that a fair argument can be made to support a  
26

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27 <sup>1</sup> The Amended Petition erroneously contains two "Fourth" causes of action. The Court will refer to the causes of  
28 action sequentially, regardless of the mislabeling starting with the second "Fourth" cause of action.

1 conclusion, even though other conclusions might also be reached” but does not include, for  
2 example, mere “[a]rgument, speculation, unsubstantiated opinion or narrative[.]” (Guidelines, §  
3 15384, subd. (a).)<sup>2</sup> During this inquiry, the court must give substantial deference to the agency’s  
4 determinations by not reweighing the evidence, but rather resolving all reasonable doubts in the  
5 agency’s favor. (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988)  
6 47 Cal.3d 376, 393.) Accordingly, challengers bear the burden of proving that the agency’s factual  
7 determinations are legally inadequate and “must lay out evidence favorable to the other side and  
8 show why it is lacking. [citation].” (*Defend the Bay v. City of Irvine* (2004) Cal. App. 4th 1261,  
9 1266.) Ultimately, the reviewing court must consider the evidence *as a whole*” even if the  
10 evidence is “imperfect in various particulars.” (*Laurel Heights*, 47 Cal.3d at 408 (emphasis in  
11 original).)

12 In contrast, an agency’s compliance with CEQA’s legal requirements is reviewed under the  
13 second prong of the abuse of discretion analysis, i.e., whether the agency proceeded in a manner  
14 required by law. (*Save Our Peninsula Com. v. Bd. of Supervisors* (2001) 87 Cal. App. 4th 99,  
15 118 (citations omitted).) With respect to an EIR, an agency must strictly comply with CEQA’s  
16 informational requirements in order to proceed in a manner required by law. (*Ibid.*) Nevertheless,  
17 an agency’s certification of an EIR is presumed correct and challengers bear the burden of proving  
18 otherwise. (*Sierra Club v. County of Orange* (2008) 163 Cal. App. 4th 523, 530 (citations  
19 omitted).) Moreover, even if portions of the record contain procedural failings, the court must  
20 look to the whole record to determine whether the agency substantially complied with CEQA’s  
21 legal requirements. (See, e.g., *Ebbetts Pass Forest Watch v. California Dept. of Forestry and*  
22 *Fire Protection* (2008) 43 Cal.4th 936, 945-50 (agency’s overall analysis of cumulative impacts  
23 was proper despite a procedural failure.)

24 As applied to an EIR, the overall result of this two-prong inquiry should be to test the  
25 EIR’s “sufficiency as an informative document.” (*Laurel Heights*, 47 Cal.3d at 392 (citation  
26

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27  
28 <sup>2</sup> All references to the “Guidelines” are to the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.)  
KLAMATH RIVERKEEPER, ET AL. v. CALIFORNIA DEPARTMENT OF FISH AND GAME – CPF-09-509915 – STATEMENT OF  
DECISION GRANTING WRIT OF MANDATE

1 omitted.) The EIR is “the primary means” of achieving CEQA’s substantive environmental  
2 protection goals by ensuring informed decisionmaking and informed public participation. (*Id.* at  
3 392, 404.)

4 Challenges to certified regulatory programs (Pub. Res. Code § 21080.5) are subject to the  
5 same standard of review as CEQA’s. (See, e.g., *Ebbetts Pass*, 43 Cal.4th at 944.) Accordingly,  
6 this Court will apply the same two-prong inquiry to Petitioners’ CESA challenges.

7 **B. Environmental Setting / Baseline**

8 In an EIR, “the physical environmental conditions in the vicinity of the project, as they exist  
9 at the time the notice of preparation is published . . . will normally constitute the baseline physical  
10 conditions by which a lead agency determines whether an impact is significant.” (Guidelines, §  
11 15125(a).) The baseline is not the same as, but is often described synonymously with a “no  
12 action” alternative, since the EIR should “compare what will happen if the project is built with  
13 what will happen if the site is left alone.” (*Woodward Park Homeowners Assn. v. City of Fresno*  
14 (2007) 150 Cal. App. 4th 683, 707.)

15 Petitioners argue that the EIRs’ baseline improperly included future take authorized by the  
16 ITPs, thereby precluding analysis of that take. Petitioners highlight the fact that the Coho were  
17 listed as threatened under CESA on March 30, 2005 and that the ITPs would authorize take that  
18 otherwise should be prohibited. Thus, they argue, the EIRs fail to consider how this future take  
19 will diminish Coho populations beyond the current, already-depleted baseline. Respondent  
20 counters by focusing on take by agricultural operators, which were properly included in the  
21 baseline. Respondent argues that agricultural operations in the Scott and Shasta Valleys are  
22 generally legal and historic activities that have occurred and will continue to occur regardless of  
23 the Programs. Thus, Respondent argues, the baseline properly included the effects of agricultural  
24 operations, including future take, since there is no indication such operations would suddenly cease  
25 apart from the Programs. Against this backdrop of ongoing agricultural operations, Respondent  
26 argues, the Programs’ sole effects are to streamline the SAA and ITP permitting processes for the  
27 RCDs and agricultural operators.

1 Both parties agree the baseline should reflect the physical conditions as they existed when  
2 the EIRs' environmental analysis commenced. (See Guidelines, § 15125(a).) Here, the EIRs  
3 established a baseline date of April 28, 2005, when the RCDs' ITP applications were complete,  
4 during which time agricultural operations and their attendant take, whether legal or illegal, were  
5 ongoing. (AR D76.)<sup>3</sup> While normally these conditions would constitute the baseline and that  
6 would be the end of the matter, the situation is different when the occurrence of these activities  
7 depends on an agency's responsibility to enforce the law. As discussed below, when a lead agency  
8 issues an EIR, it cannot include activities allowed by the agency's complete non-enforcement into  
9 the baseline. In the instant case, take of a species listed under CESA is illegal unless allowed by a  
10 valid ITP. (Fish & G. Code § 2081.) DFG has a responsibility to enforce CESA regardless of the  
11 Programs. Thus, while the baseline may include legal take caused by historic agricultural  
12 activities, it should not include illegal take (e.g. take by agricultural operators without an ITP) by  
13 assuming DFG's complete non-enforcement.

14 With respect to prior illegality, regardless of an agency's enforcement duties, the law is  
15 unequivocally clear that the baseline include the present effects of this illegality. In *Fat v. County*  
16 *of Sacramento* (2002) 97 Cal. App. 4th 1270, cited by Petitioners and Respondent, an airport had  
17 illegally operated without a permit for decades. (*Fat*, 97 Cal. App. 4th at 1274.) When the airport  
18 eventually applied for a permit, the County adopted the present condition of the airport, which had  
19 since expanded without a permit, as the baseline and declined to prepare an EIR. (*Id.* at 1275.)  
20 The Court of Appeal upheld this baseline as complying with the Guidelines, which require that the  
21 baseline only consider existing physical conditions at the time of analysis, regardless of their  
22 source. (*Id.* at 1277-78.)

23 However, neither the Guidelines nor case law allows an EIR to set an illusory no-  
24 enforcement baseline that absorbs all ongoing illegal actions and ignores the stricter limitations  
25 imposed by a new statutory landscape. Although generally the baseline must include the effects of  
26

---

27 <sup>3</sup> For ease of reference, citations to the EIR portions of the Administrative Record (AR) will refer only to the Scott  
28 River EIR, which is substantially similar to the Shasta River EIR.

1 prior illegal activity, the situation is different when an agency has a concurrent, present  
2 responsibility to remedy that prior illegality. The Court finds the rationale in *League to Save Lake*  
3 *Tahoe v. Tahoe Reg'l Planning Agency* (E.D. Cal. 2010) 739 F. Supp. 2d 1260 (*LSLT*), cited by  
4 Petitioners, to be applicable to the instant case by illustrating how an agency may not evade  
5 enforcement responsibilities by absorbing the effects of its failure to enforce into the baseline.

6 In *LSLT*, the agency sought to regulate, *inter alia*, the number of authorized buoys on  
7 Lake Tahoe in order to improve water quality. (*LSLT*, 739 F. Supp. 2d at 1266.) The EIR's  
8 baseline incorporated all existing buoys, including unpermitted ones, which were to either be  
9 granted permits or replaced with permitted buoys. (*Id.* at 1273.) However, under its governing  
10 statute, the agency was explicitly required to improve environmental quality, which included  
11 removing unauthorized buoys. (*Id.* at 1276.) Distinguishing *Fat*, the District Court held the  
12 agency's failure to remove the unauthorized buoys was "an action, rather than a perpetuation of  
13 the status quo. Put differently, an agency may not escape its duty by ignoring that duty and then  
14 presenting the result as a *fait accompli* incorporated into an environmental baseline." (*Ibid.*,  
15 citations omitted.)

16 Although *LSLT* involved an Environmental Impact Statement (EIS) under the National  
17 Environmental Policy Act (42 U.S.C. § 4321 *et seq.*), its rationale with respect to determining a  
18 project's baseline is persuasive when discussing analogous provisions in CEQA. (See *Del Mar*  
19 *Terrace Conservancy, Inc. v. City Council* (1992) 10 Cal. App. 4th 712, 732, disapproved on  
20 other grounds in *Western States Petroleum Assn. v. Superior Court* (1995) 9 Cal.4th 559, 576,  
21 fn.6; see also *LSLT*, 739 F. Supp. 2d at 1273-77 (relying in part on CEQA cases).) Despite  
22 *LSLT*'s extensive discussion of CEQA cases and their rationale, Respondent argues *LSLT*  
23 "expressly rejected any analysis predicated on CEQA's baseline definition, because [*LSLT*] was  
24 about the Regional Compact, not CEQA." (Objections, 8:3-4.) However, the District Court in  
25 *LSLT* expressly considered CEQA cases because both the Compact (in its EIS requirements) and  
26 CEQA (in its EIR requirements) required a baseline analysis, thereby allowing analogous  
27 interpretation and application. (*LSLT*, 739 F. Supp. 2d at 1274.)

1 Respondent cites to cases upholding baselines as long as they reflect actual, present  
2 circumstances. However, none of these cases discuss whether a baseline may assume non-  
3 enforcement of a newly established regulatory scheme, such as the heightened protection afforded  
4 the Coho after it was listed under CESA in 2005. To the extent these cases and Respondent  
5 reaffirm that the baseline should reflect present circumstances by simply resting on the text of  
6 Section 15125(a) of the Guidelines, which is already indisputably clear, they are unhelpful in  
7 determining the more complex question of whether a baseline may assume future non-enforcement.  
8 (See, e.g., *id.* at 1275 (“[i]nsofar as *Fat* simply rested on the text of the [CEQA] guideline, *Fat*  
9 carries little weight here.”).) Thus, the cases cited by Respondent below can be distinguished  
10 because the agency’s enforcement duties were moot or not at issue.

11 For example, the Court of Appeal in *Fat* allowed the baseline to include past illegality  
12 because the violations not only had a minimal effect on the sparsely populated surroundings, but  
13 also because there had been enforcement actions in the past, although parties had disagreed  
14 whether such enforcement was proper. (*Fat*, 97 Cal. App. 4th at 1281.) Furthermore, in  
15 *Riverwatch v. County of San Diego* (1999) 76 Cal. App. 4th 1428, the Court of Appeal allowed  
16 the baseline to include effects of past illegal land disturbances and declined to judge their legality  
17 so as not to interfere with enforcement actions currently undertaken by another agency.  
18 (*Riverwatch*, 76 Cal. App. 4th at 1452-53.) The rationale of *Riverwatch* does not apply to  
19 allegedly illegal take in the Shasta and Scott Valley watersheds, which are not enforced by another  
20 agency besides DFG. Another case cited by Respondent, *Eureka Citizens for Responsible Govt. v.*  
21 *City of Eureka* (2007) 147 Cal. App. 4th 357, is also inapposite. In *Eureka Citizens*,  
22 neighborhood residents challenged an EIR for a nearby playground for including allegedly “illegal”  
23 municipal code and zoning violations into its baseline while the city disagreed and argued  
24 construction was not illegal. (*Eureka Citizens*, 147 Cal. App. 4th at 370.) The Court of Appeal  
25 declined to use the EIR as a forum to adjudicate whether the prior construction was indeed illegal,  
26 which was a decision to be made by the enforcing agency. (*Id.* at 370-71.) (See also,  
27 *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48

1 Cal.4th 310, 321-22 (parties only disputing whether baseline should reflect actual or potential  
2 operation of boilers, but no discussion of illegality or enforcement issues); *Lighthouse Field Beach*  
3 *Rescue v. City of Santa Cruz* (2005) 131 Cal. App. 4th 1170, 1194 (parties only disputing whether  
4 the baseline should include a description of past harm).)

5 In the instant case, it appears to the Court that the baseline impermissibly includes take that  
6 was illegal after the Coho's listing as a threatened species under CESA on March 30, 2005.<sup>4</sup> The  
7 baseline includes this take because they are an effect of the ongoing diversions that are "expected  
8 to continue regardless of the Program[s]; that is, they will not be caused by the Program[s]." (AR  
9 D1452.) However, this illegal take would be due to presuming DFG's non-enforcement, which  
10 constitutes agency "action" that should not be included in the baseline. (See *LSLT*, 739 F. Supp.  
11 2d at 1275 ("What *Fat* did not discuss was the fact that *sub silentio* approval of existing  
12 unauthorized activity is in an important sense an agency action.").)

13 Nevertheless, inclusion of illegal activity into a baseline due to a lack of enforcement is not  
14 improper *per se*, as long as other considerations illustrate the agency did not abuse its discretion.  
15 (See *Heckler v. Chaney* (1985) 470 U.S. 821, 831 ("an agency's decision not to prosecute or  
16 enforce . . . is a decision generally committed to an agency's absolute discretion." (citations  
17 omitted).) For example, in *Fat*, the court noted that the agency's "objective, good faith effort to  
18 comply with CEQA" and the fact that granting the permit could be "an opportunity to bring the  
19 Airport development under some level of County supervision for the first time" after years of  
20 dispute militated in favor of moving the permit process forward by allowing a baseline that  
21 included prior illegal activity (*Fat*, 97 Cal. App. 4th at 1280-81.) Moreover, the *LSLT* court  
22 suggested that "a baseline may reflect damage that has already occurred as a result of illegal  
23 activity as well as the agency's present ability and responsibility to limit perpetuation of that harm  
24 through enforcement." (*LSLT*, 739 F. Supp. 2d at 1276.)

25  
26  
27 <sup>4</sup> This illegal take includes those that occurred both *before* the baseline (i.e. the one month period between March  
28 30, 2005, the Coho's listing date, and April 28, 2005, the baseline date) and *after* the baseline. However, this  
technical distinction does not substantively affect the Court's analysis.

1 With respect to DFG's enforcement discretion, the Court agrees with Respondent, who  
2 emphasizes that DFG is not required to automatically pursue enforcement for all illegalities that  
3 occur in its jurisdiction, but has discretion in how it will ultimately fulfill its responsibility to uphold  
4 the Fish and Game Code. (See Fish & G. Code § 2055, 2081 subd. (d).) Respondent points out  
5 DFG is neither required to nor able to prosecute all illegal take, and has the discretion to pursue  
6 both coercive and cooperative enforcement of the Fish and Game Code, which was also  
7 recommended by the Coho Recovery Strategy. (Objections, 5:5-7:15.)

8 The Court recognizes DFG's substantial enforcement discretion and passes no judgment on  
9 how DFG must seek to fulfill its statutory responsibilities in the Watershed. However, the Court  
10 can and must determine whether the Programs' baseline complies with CEQA and relevant case  
11 law. As with most important issues, context is everything. Here, the circumstances that led to the  
12 development of the Programs suggest DFG abused its discretion in setting the baseline.

13 The Court does not dispute the fact that DFG has absolute discretion as to how it will  
14 enforce the Fish and Game Code, with or without the Programs. However, the strict informational  
15 requirements of CEQA require an accurate baseline from which to conduct a meaningful analysis  
16 of significant impacts. Here, the Coho's listing under CESA in 2005 imposed stricter take  
17 requirements on stakeholders in the Watershed, and consequently, required DFG to alter its  
18 enforcement efforts to meet this stricter standard. For example, in *Fat*, each time the land use plan  
19 was amended, the relevant agency acted to bring the airport in compliance. (*Fat*, 97 Cal. App. 4th  
20 at 1273-75.) Similarly, in the instant case, a change in the regulatory backdrop (i.e. listing of Coho  
21 as threatened) triggered an agency's response (i.e. development of the Programs,) which  
22 Respondent argues is DFG's means for bringing agricultural operators and the RCDs into  
23 compliance with CEQA and CESA. Unlike the measures to *ensure* legal compliance in *Fat*,  
24 however, the Programs essentially *exempt* legal compliance with new prohibitions of illegal take  
25 under CESA by setting a baseline that assumes all take that was already illegal prior to CESA's  
26 strict prohibitions will continue in its entirety, unaffected by any change in enforcement efforts.  
27 While DFG may reserve discretion when and how to enforce CESA, it may not issue EIRs that



1 adopt baselines assuming DFG will not enforce CESA whatsoever. The fact that the Programs  
2 themselves constitute DFG's efforts to bring stakeholders into compliance with CESA does not  
3 cure the baselines' assumption that CESA will not be enforced against ongoing illegal diversions  
4 outside of the Programs. In reality, the record reflects DFG *will* enforce CESA to some extent by  
5 being more likely to bring enforcement actions against agricultural operators who fail to participate  
6 in the ostensibly "voluntary" Programs. (AR H1063-67.) Nevertheless, for the purposes of  
7 determining adequacy under CEQA, the baselines improperly assume DFG's non-enforcement  
8 towards historic, illegal diversions despite the stricter statutory scheme triggered by the Coho's  
9 listing in 2005.

10 As a result, Program participants start with an inadequately scrutinized clean slate that is  
11 purged of past illegal take and is more permissive towards future take of a population already  
12 depleted by illegal take. Respondent informed the Court that outside of the Programs, DFG would  
13 have to regulate agricultural operators under CESA on an "enforcement basis," which would be  
14 difficult, if not practically impossible, to substantiate with evidence of an illegal take.  
15 Nevertheless, it appears to the Court that Respondent may not only be ignoring its enforcement  
16 responsibilities by setting a baseline that accepts illegal take as an inevitable reality, but also set a  
17 misleadingly low baseline against which any of the Programs' mitigation efforts would appear  
18 favorable.

19 Accordingly, the Court finds DFG abused its discretion by not analyzing why it included  
20 illegal take of Coho since its listing on March 30, 2005 into the EIRs' baseline in contravention of  
21 the Guidelines and relevant case law.

22 **C. Significant Environmental Effects**

23 An EIR must identify and study significant environmental effects of a proposed project,  
24 including a project's potential to "substantially reduce the number or restrict the range of an  
25 endangered, rare or threatened species." (See generally, Pub. Res. Code §§ 21060.5, 21100,  
26 21002.1; Guidelines, §§ 15065(a), (c), 15126.2.) In the instant case, while both parties agree a  
27 straightforward take of Coho or destruction of their habitat would constitute a significant

1 environmental effect, they disagree as to whether the Programs themselves would adversely affect  
2 the Coho. Petitioners contend the Programs authorize past and ongoing illegal take and ignore  
3 how future take will further jeopardize the Coho's existence. Respondent argues the Programs  
4 will bring agricultural operators into compliance with CESA and Section 1602 while implementing  
5 recovery tasks that will clearly benefit the Coho, in contrast to the illegal take that has occurred  
6 and will continue to occur regardless of the Programs.

7         The resolution of this cause of action depends on the resolution of the environmental  
8 setting issue discussed above. If the baseline improperly includes illegal take, as Petitioners claim,  
9 the Programs appear to authorize more take than should normally be allowed by DFG and thus  
10 must study in depth whether incidental reduction of Coho would be "substantial" under Section  
11 15065(a), (c) of the Guidelines. However, if the baseline properly includes allegedly illegal take  
12 that has been historic, ongoing activities apart from the Programs, as Respondent claims, the  
13 Programs would not have any significant effects besides streamlining the SAA and ITP permit  
14 approval processes for the RCDs and agricultural operators.

15         Significant effects would include "take" of Coho, which means to "hunt, pursue, catch,  
16 capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code § 86.) In the  
17 instant case, there must be a causal connection between water diversions, which may or may not  
18 kill Coho, and take, which involves the killing or attempted killing of Coho. However, this  
19 causation need only be proximate, not actual, under the CEQA Guidelines, which clarify that  
20 "significant effects" not only include direct physical changes, but also "reasonably foreseeable  
21 indirect physical changes in the environment which may be caused by the project." (Guidelines, §  
22 15064(d); see also Guidelines, § 15378(a) (defining "project" to include actions that lead to a  
23 "reasonably foreseeable indirect physical change.")) As discussed above, the Programs adopt a  
24 baseline that includes historic water diversions by agricultural operators, some of which are illegal.  
25 While water diversions themselves do not constitute "take" of a species, in the case of Coho that  
26 need adequate flow volume to survive, the EIRs recognize the causal link between water  
27

1 diversions and take. For example, the EIRs highlight the impact of agricultural water diversions,  
2 which

3 [H]ave led to decreased surface flows in the spring and summer months, thereby  
4 reducing the amount of instream habitat and locally increasing ambient surface  
5 water temperatures. . . . Over time, the persistence of low baseflow volumes can  
6 exert an effect over an increasingly larger area, such as adversely affecting the  
condition of the riparian corridor[.] . . . These effects can be further exacerbated by  
an increase in the rate of water diversion or extraction. (AR D144.)

7 As a result, the EIRs acknowledge that “[a]gricultural activities have had effects (direct and  
8 indirect) on the geomorphology and water quality of the stream system and contributed to the  
9 decrease in the productivity of the Scott River’s anadromous fisheries.” (AR D126.) Thus, the  
10 EIRs show that take of Coho are a foreseeable consequence of water diversions, which is why  
11 diversions trigger the need for a permit to cover incidental take (i.e. an ITP) in the first place.  
12 However, the EIRs do not analyze the potential for increased take because they set a baseline that  
13 includes ongoing legal and illegal agricultural water diversions. As discussed above, DFG abused  
14 its discretion in adopting this baseline and precluding meaningful analysis of increased take, which  
15 was a foreseeable result of increased water diversions. Accordingly, the Court finds DFG abused  
16 its discretion by failing to adequately consider the Programs’ significant environmental effects, as  
17 required by CEQA.

18 **D. Mitigation Under CESA**

19 Mitigation measures must be feasible and adequately funded. (Fish & G. Code § 2081,  
20 subd. (b)(4).) Most importantly, an ITP may not issue unless DFG makes two complementary  
21 demonstrations that: 1) “[t]he *impacts* of the authorized take shall be minimized and *fully*  
22 *mitigated*”, and 2) “[t]he *measures* required to meet this obligation shall be *roughly proportional*  
23 in extent to the impact of the authorized taking on the species.” (Fish & G. Code § 2081, subd.  
24 (b)(2) (emphases added); see also CESA Guidelines<sup>5</sup>, § 783.4, subd. (a).)

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28 <sup>5</sup> All references to the “CESA Guidelines” are to the CESA Guidelines (Cal. Code Regs., tit. 14, § 783.0-787.9.)  
KLAMATH RIVERKEEPER, ET AL. v. CALIFORNIA DEPARTMENT OF FISH AND GAME – CPF-09-509915 – STATEMENT OF  
DECISION GRANTING WRIT OF MANDATE

1           Petitioners' main challenge to the EIRs' mitigation measures centers on the ITPs' failure to  
2 adequately study the level of take caused by the Programs. Without estimating the level of take,  
3 they argue, there is no way to determine whether the proposed mitigation measures will be roughly  
4 proportional to or fully mitigate this unspecified take. Respondent points to *Environmental*  
5 *Council of Sacramento v. City of Sacramento* (2006) 142 Cal. App. 4th 1018 (*ECOS*), in which  
6 the Court of Appeal concluded a general mitigation ratio between developed and reserved land  
7 was proper under CESA because it was difficult to forecast precisely how many animals would be  
8 killed by future development. (*ECOS*, 142 Cal. App. 4th at 1040-41.) Similarly, in the instant  
9 case, Respondent argues that precise estimations of take are not required, especially when it  
10 depends on future participation in a voluntary program and unspecified take of migratory Coho,  
11 and that DFG satisfied CESA by determining that the ITPs' mitigation measures would offset any  
12 potential take. DFG argues these mitigation measures are qualitatively beneficial, as established by  
13 sources such as the Coho Recovery Strategy. (AR H32337-32930.)<sup>6</sup>

14           The Court finds that the record does not show that the ITPs' mitigation measures are  
15 "roughly proportional" to potential take. The Court does not dismiss the qualitative merits of the  
16 proposed mitigation measures, but rather questions the sufficiency of these measures relative to  
17 take. For example, many of the mitigation measures derive from the Coho Recovery Strategy,  
18 which has been found to benefit Coho over time. (See, e.g., AR H36205-36562.) However, while  
19 these measures may be qualitatively beneficial, the ITP must ensure they are *sufficiently* beneficial  
20 under CESA by being roughly proportional to potential take.

21           Respondent's reliance on *ECOS* is misplaced. While mitigation measures in *ECOS* did not  
22 correlate with a specific number of take, they involved a mitigation ratio between acres of  
23 developed land and acres of habitat reserve, which the court held was sufficiently "roughly  
24 proportional" to satisfy CESA. (*ECOS*, 142 Cal. App. 4th at 1038-41.) In other words, the  
25

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26 <sup>6</sup> For example, the Coho Recovery Strategy provides many "Range-wide Recommendations" for restoring Coho  
27 populations through such measures as acquiring or leasing water for Coho recovery purposes, eliminating fish  
28 passage barriers, restoring riparian vegetation, maintaining the quality of spawning gravel, and using off-channel  
water storage for use during dry periods. (AR H32517-32534.)

1 mitigation ratio in *ECOS* had a quantitative aspect that allowed the court to determine  
2 proportionality. Ultimately, “rough proportionality” requires that both the ‘nature’ and ‘extent’ of  
3 mitigation adequately correlate to the impacts. (*Dolan v. City of Tigard* (1994) 512 U.S. 374, 391  
4 (interpreting “roughly proportional” in Fifth Amendment Takings context); accord *Envtl.*  
5 *Protection Info. Ctr. v. Cal. Dept. of Forestry and Fire* (2008) 44 Cal.4th 459, 510-11 (applying  
6 *Dolan* to CESA mitigation); see also Guidelines, § 15126.4, subd. (a)(4)(B) (applying *Dolan* to  
7 CEQA mitigation).) Here, while the mitigation measures may be proportional in ‘nature’ (e.g.  
8 both parties agree fish screens could mitigate take) they are not proportional in ‘extent’ because  
9 they may not necessarily correlate with the level of actual take. Respondent argues the mitigation  
10 measures are clearly identified and have specific implementation dates. However, these details  
11 only describe the ‘nature’ of the mitigation effects and not whether they sufficiently mitigate take  
12 in ‘extent.’ The Court cannot identify in the record any meaningful indicia in the mitigation  
13 measures illustrating their proportionality with take, as required by CESA.

14 Despite this lack of proportionality, an agency may defer formulation of specific mitigation  
15 measures if it is impractical or impossible to do so at the time the EIR is prepared. (*Sacramento*  
16 *Old City Assn. v. City Council* (1991) 229 Cal. App. 3d 1011, 1028-29.) However, the EIR must  
17 identify performance criteria against which to evaluate specific mitigation measures in the future.  
18 (*Ibid.*; Guidelines, § 15126.4, subd.(a)(1)(B).) Petitioners cite various mitigation measures that  
19 are inadequately defined, uncertain future best management practices, and a lack of performance  
20 measures for the Monitoring and Adaptive Management Plan (MAMP). Meanwhile, Respondent  
21 argues the ITPs mitigation measures identify implementation timelines and other specific  
22 limitations, and that the MAMP will ensure the Programs adapt to uncertain future conditions,  
23 including the actual level of future take.

24 However, the Court is not persuaded that estimating future take was infeasible. Even after  
25 resolving all reasonable doubts in DFG’s favor, the Court finds there is not enough relevant  
26 information in the record to make a fair argument that quantifying take was impossible. Petitioners  
27 suggested DFG could have estimated future take through various methods. The Court notes DFG

1 could have ensured that mitigation would correlate with actual take by setting a benchmark with a  
2 quantitative aspect, such as the mitigation ratio in *ECOS*. Regardless of the methods DFG  
3 chooses to employ within its discretion, Respondent's bare assertion about the uncertainty of the  
4 level of participation in the "voluntary" Programs is unsupported. Respondent represented that  
5 nearly 90% of the agricultural operators in Shasta Valley have already signed up for the Programs  
6 and that failure to join may trigger DFG enforcement actions against some of their existing  
7 activities. (See AR H1063-67.) In other words, agricultural operators are free to opt out of the  
8 Programs to the extent they are also free to violate existing regulations and incur agency  
9 enforcement. Thus, based on Respondent's argument, it appears to the Court that these Programs  
10 would essentially establish a new norm for all agricultural operators to follow.

11 Even assuming it was impractical to determine specific mitigation measures at the time the  
12 EIRs were prepared because of unspecified take, the Programs' current measures do not articulate  
13 adequate performance criteria for future mitigation activities. The Programs rely on the RCDs'  
14 mitigation obligations in order to fully mitigate take incidental to the agricultural operator's and  
15 the RCDs' own Covered Activities. (AR D393-405.) As Respondent points out, virtually all of  
16 these mitigation activities must be implemented within specific timeframes. (See generally, AR  
17 H1579-1587, D385-393.) Notably, however, none of the "Goal and Objectives" of the RCDs'  
18 mitigation obligations include fully mitigating take caused by the Programs, but rather refer to  
19 improving various Coho habitat conditions in general without establishing any benchmarks for  
20 improvement. (See, e.g., AR D382.) The Court finds no connection among these general  
21 mitigation measures, the MAMP, and the EIRs' purported overall goal of fully mitigating take.

22 The Court finds *San Joaquin Raptor Rescue Ctr. v. County of Merced* (2007) 149 Cal.  
23 App. 4th 645, cited by Petitioners, to be analogous and applicable to the instant case. In *San*  
24 *Joaquin Raptor*, the EIR sought to mitigate impacts to special-status species in vernal pools  
25 through measures that only stated a "generalized goal of maintaining the integrity of vernal pool  
26 habitats...[while] no specific criteria or standard of performance [was] committed to." (*San*  
27 *Joaquin Raptor*, 149 Cal. App. 4th at 670.) The Court of Appeal held the EIR presumed special-

1 status species would be in or near the vernal pools, proffered mitigation measures and management  
2 plans, and yet did not define performance standards. (*Ibid.*) Similarly, in the instant case, the  
3 EIRs predict some level of take under the Programs and propose an array of mitigation measures  
4 that may be beneficial in improving Coho habitat, such as installation of fish screens and  
5 restoration of riparian vegetation that may have some value, yet fail to establish a logical link  
6 between these measures and how they will *fully* mitigate take inasmuch as water volume is a  
7 critical element of Coho preservation.

8 Accordingly, the Court finds that DFG abused its discretion in improperly deferring  
9 formulation of specific mitigation measures that would fully mitigate take, as required by CESA.

10 **E. Failure to Respond to Comments on Jeopardy Analysis**

11 As part of a certified regulatory program, CESA ITPs are exempt from traditional EIR  
12 requirements. (Pub. Res. Code §§ 21080.5; Guidelines, § 15251, subd. (o).) This “exemption”,  
13 however, does not mean ITPs are wholly separate from the CEQA universe, but rather that they  
14 comply with CEQA through alternate means. The certified regulatory program exemption  
15 assumes the public agency will undertake an environmental review process equivalent to CEQA’s,  
16 which should ultimately achieve CEQA’s broad policy goals and substantive standards. (See *City*  
17 *of Arcadia v. State Water Resources Control Bd.* (2006) 135 Cal. App. 4th 1392, 1421-22; see  
18 also CESA Guidelines, § 783.3 (indicating that the CESA regulations themselves are intended to  
19 comply with CEQA).) In essence, an agency must comply with CESA, and in so doing will  
20 comply with CEQA, as compliance with the two statutes must be in alignment.

21 Accordingly, in order to claim this EIR exemption, an agency must “demonstrate strict  
22 compliance with its certified regulatory program.” (*La Costa Beach Homeowners’ Assn. v. Cal.*  
23 *Coastal Com.* (2002) 101 Cal. App. 4th 804, 820 (citation omitted).) Moreover, an agency may  
24 not opt out of its own regulatory procedures by preparing an EIR. (*Santa Barbara County Flower*  
25 *and Nursery Growers Assn., Inc. v. County of Santa Barbara* (2004) 121 Cal. App. 4th 864, 874.)

26 As a threshold matter, the Court recognizes that the jeopardy “analysis” at issue only refers  
27 to the analysis that is part of an existing ITP application. (CESA Guidelines, § 783.2, subd. (a)(6)-

1 (7.) As Respondent points out, “the regulations do provide for circulation for comment of a  
2 jeopardy analysis as part of the ITP application submitted by the applicant, but only at that point.”  
3 (Objections, 11:15-17.) The RCDs submitted their Watershed-wide ITP applications on March  
4 29, 2005. (AR D21.) Thus, ‘at this point,’ Section 783.2(a)(7) of the CESA Guidelines requires  
5 that the application include “[a]n analysis of whether issuance of the incidental take permit would  
6 jeopardize the continued existence of a species.” While this analysis may be the applicant’s solitary  
7 endeavor, the CESA Guidelines provide for more flexible and collaborative means to gather  
8 information needed for the analysis in an ITP. For example, DFG may consult with the applicant  
9 in preparing a permit application to ensure statutory compliance and may meet CESA’s  
10 informational requirements through analyses “prepared pursuant to state or federal laws other than  
11 CESA,” such as CEQA. (CESA Guidelines, § 783.2 subd. (b)(i).)

12 In the instant case, the Programs seek to meet the ITP analysis requirements through the  
13 EIRs. (AR D55-56.) Thus, assuming the final EIRs are properly approved, the Programs provide  
14 that the “[RCDs] (through the ITP) and Agricultural Operators and DWR (through their sub-  
15 permits) *will be authorized* to take coho salmon if such take occurs incidental to conducting a  
16 Covered Activity.” (AR D53 (emphasis added).) In other words, the time to conduct the jeopardy  
17 analysis was during the EIR process, after which the Programs would definitively approve the  
18 RCDs’ ITP applications, and not at a future date. Notably, the approval process for sub-permits  
19 solely entails compliance with conditions already analyzed in the EIRs, under which the master  
20 ITPs were issued, and contains no new environmental review. (AR D457.005-009.)

21 The ITP procedures described in the Programs are found in Section 783.5 of the CESA  
22 Guidelines, which requires public review of all ITP applications. Petitioners argue DFG’s spring  
23 2009 jeopardy analyses should have been circulated for public comment while Respondent  
24 contends CEQA does not require public comment on these analyses, which were draft CESA  
25 documents prepared by an outside consultant for DFG’s internal consideration. While Respondent  
26 is correct in that jeopardy analyses are technically CESA documents not subject to EIR public  
27 comment, the alternate procedures for certified regulatory programs require DFG to solicit and



1 respond to comments on the ITPs' "application *and analysis*." (CESA Guidelines, § 783.5, subds.  
2 (d)(2), (4) (emphasis added).) These procedures are intended to determine whether "issuance of  
3 the permit would jeopardize the continued existence of the species." (Fish & G. Code § 2081,  
4 subd. (c).) In other words, any "analysis" of an ITP application should consider jeopardy to the  
5 listed species that triggered the need for an ITP in the first place. Regardless of whether DFG's  
6 spring 2009 jeopardy analysis qualifies as the "analysis" mentioned in Section 783.2(a)(7) of the  
7 CESA Guidelines, DFG failed to field comments for *any* analysis of whether the ITPs would  
8 jeopardize the continued existence of Coho. Thus, DFG failed to comply with its own procedures  
9 in Section 783.5 of the CESA Guidelines, consequently failing to comply with CEQA's substantive  
10 mandates.

11 Accordingly, the Court finds DFG abused its discretion by failing to field comments on any  
12 analysis of the jeopardy issue, as required by CESA.

13 **F. "No Jeopardy" Determination**

14 CESA articulates several requirements an agency must fulfill before issuing an ITP,  
15 including a determination that the permit will not "jeopardize the continued existence of the  
16 species." (Fish & G. Code § 2081, subd. (c).) This 'no jeopardy' determination is to be

17 [B]ased on the best scientific and other information that is reasonably available, and  
18 shall include consideration of the species' capability to survive and reproduce, and  
19 any adverse impacts of the taking on those abilities in light of (1) known population  
20 trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on  
the species from other related projects and activities. (*Ibid.*; CESA Guidelines, §  
783.4, subd. (b).)

21 In the instant case, the level of potential take and the information that could be generated from  
22 circulating a jeopardy analysis for comment are crucial in assessing the threats to and the  
23 reasonably foreseeable impacts on a listed species, which are criteria of the jeopardy determination.

24 Thus, the propriety of the 'no jeopardy' determination depends on the resolution of the Tenth  
25 (CESA mitigation) and Eighth (failure to respond to comments on jeopardy analysis) causes of  
26 action, discussed above.

1 Since DFG failed to demonstrate proportional mitigation under CESA by not estimating  
2 take and failed to circulate any analysis of the jeopardy issue for comment, the Court finds there is  
3 not substantial evidence to support a “no jeopardy” determination. Thus, DFG abused its  
4 discretion by issuing the ITPs.

## 5 CONCLUSION

### 6 A. Overview

7 The Court notes the record reflects DFG’s good faith effort to enforce environmental  
8 regulations while accounting for economic realities through the Programs. Pursuant to its  
9 manifold mandate, DFG endeavored to manage the expectations of multiple stakeholders in the  
10 Klamath Basin while grappling with the harsh truth that water is a widely shared yet severely  
11 limited resource in the West. All stakeholders involved here at some point encounter Coho, which  
12 course through this shared resource. Consequently, the Coho’s listing under CESA will impose  
13 hardship on water users, especially agricultural operators, some of whom have been diverting  
14 water independent of DFG oversight before and after Coho were listed as endangered. In effect,  
15 water users have to adjust from an irregularly enforced ITP and SAA setting to a much higher and  
16 stricter plateau set by CESA. Understandably, the Programs seek to lessen the shock of this  
17 adjustment and make compliance more economically feasible by lowering permitting costs.

18 However, while DFG may pursue streamlined permitting processes, it may not do so by  
19 attenuating the strict directives of CESA. Given that the legislative mandate is to preserve listed  
20 species, the environmental analysis should consider all factors that may jeopardize their existence,  
21 including their presently reduced population. Water management is the central element of DFG’s  
22 efforts to effect the survival of the Coho through the Programs. Water management inevitably has  
23 an economic component and water usage will increase or decrease in relation to cost. In the case  
24 of Coho survival versus agricultural use, no analysis has considered the economic value of the  
25 water and the economic value of Coho because there is a legislative mandate to preserve the Coho  
26 as a listed endangered species. However, the Programs have a significant fiscal component by  
27 offering the incentive of reduced permitting costs while threatening water users with high fees

1 under the old permitting system or the potential of even higher costs and penalties involved in the  
2 enforcement process. As most or all agricultural operators inevitably participate in the Programs,  
3 more permits will issue, and Coho are at greater risk. CEQA requires analysis of this foreseeable  
4 increase of ITPs while CESA requires full mitigation of the increased take that naturally follows an  
5 ITP.

6 Overall, the more lenient effect of the Programs relates back to DFG's enforcement  
7 responsibilities. DFG has pointed out the logistical and practical difficulties in fully enforcing  
8 illegal take under CESA. This explains DFG's emphasis in creating a more liberal permitting  
9 system even though it will result in higher take of Coho under the rationale that an imperfect  
10 regulatory program is preferable to the alternative of not fully enforcing against agricultural  
11 operators. Respondent argues as justification for increased take under the Programs, its absolute  
12 discretion in enforcing CESA, the difficulty of detecting violations over a large geographical area,  
13 and the uncertainty of follow through of prosecution. Nevertheless, the Programs must comply  
14 with the mandates of CESA and CEQA, which do not make exceptions for difficulties of  
15 enforcement, nor can the Programs wholly relieve Respondent from its statutory enforcement  
16 responsibilities.

17 In adjudicating the instant case, the Court does not and should not seek a particular result.  
18 Rather, the Court's primary goal is to protect the public and ensure all legal and legislative  
19 mandates are followed by informed public policy makers. The Court may not "substitute [its]  
20 judgment for that of the people and their local representatives. [It] can and must, however,  
21 scrupulously enforce all legislatively mandated CEQA requirements." (*Citizens of Goleta Valley*  
22 *v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564.) In enforcing these legislative mandates, the  
23 Court must bear in mind that "the Legislature intended [CEQA] to be interpreted in such manner  
24 as to afford the fullest possible protection to the environment within the reasonable scope of the  
25 statutory language." (*Laurel Heights*, *supra*, 47 Cal.3d at 390 (citation omitted).)

1 CEQA's most meaningful impact, however, is as an accountability mechanism to ensure  
2 informed decisionmaking and informed public participation. The EIR, such as the ones at issue in  
3 the instant case, is

4 [A]n environmental 'alarm bell' whose purpose it is to alert the public and its  
5 responsible officials to environmental changes before they have reached ecological  
6 points of no return. The EIR is also intended to demonstrate to an apprehensive  
7 citizenry that the agency has, in fact, analyzed and considered the ecological  
8 implications of its action. Because the EIR must be certified or rejected by public  
9 officials, it is a document of accountability. (*Laurel Heights*, 47 Cal.3d at 392  
10 (citations omitted).)

11 In the midst of conflicting opinions as to whether the Programs are proper, "[t]he ultimate decision  
12 of whether to approve a project, be that decision right or wrong, is a nullity if based upon an EIR  
13 that does not provide the decision-makers, and the public, with the information about the project  
14 that is required by CEQA." (*San Joaquin Raptor*, supra, 149 Cal. App. 4th at 721-22.)

15 Ultimately, the Court must protect the public interest by upholding CEQA, which "protects not  
16 only the environment but also informed self-government." (*Laurel Heights*, 47 Cal.3d at 392.)

17 Despite DFG's good faith efforts and potential hardship to water users, the Court must  
18 uphold the legislature's mandate to preserve listed species and conduct environmental review of all  
19 foreseeable consequences under CEQA and CESA.

## 18 **B. Findings**

19 For the foregoing reasons, the Court GRANTS the Petition for Writ of Mandate as to the  
20 Second (Failure to Describe the Environmental Setting Properly), Third (Failure to Evaluate  
21 Significant Environmental Effects), Eighth (Failure to Respond to Comments), Tenth (Failure to  
22 Fully Mitigate Take), and Eleventh (Failure to Ensure that Issuance of the ITP and Sub-permits  
23 Will Not Jeopardize the Continued Existence of Coho Salmon) causes of action.

24 Therefore, let a peremptory writ of mandate issue commanding Respondent to set aside its  
25 certification of the Programs' EIRs and any permits issued under the Programs. Respondent is  
26 enjoined from implementing the Programs until it has conducted further review, circulation, and  
27 certification of an EIR for each project consistent with its obligations under CEQA and CESA.

1           Petitioners' Twelfth cause of action (Declaratory Relief) is DENIED as duplicative of the  
2 relief granted herein. (See *State of California v. Superior Court* (1974) 12 Cal.3d 237, 248-49.)

3           Petitioner is ORDERED to prepare a Writ of Mandate consistent with the Court's ruling in  
4 this case.

5           IT IS SO ORDERED.

6  
7 DATED: April 20, 2011

**ERNEST H GOLDSMITH**

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HON. ERNEST H. GOLDSMITH  
Judge of the Superior Court

**Superior Court of California  
County of San Francisco**

KLAMATH RIVERKEEPER, et al.,

Petitioners,

vs.

CALIFORNIA DEPARTMENT OF FISH AND  
GAME,

Respondent.

and

SHASTA VALLEY RESOURCE CONSERVATION  
DISTRICT, et al.

Real Parties in Interest.

Case No.: CPF-09-509915

**CERTIFICATE OF MAILING**  
(CCP 1013a (4))

I, Linda Fong, a deputy clerk of the Superior Court of the County of San Francisco, certify that I am not a party to the within action.

On April 20, 2011, I served the attached **STATEMENT OF DECISION GRANTING WRIT OF MANDATE** by placing a copy thereof in a sealed envelope, addressed as follows:

Trent W. Orr, Esq.  
Wendy Park, Esq.  
EARTHJUSTICE  
426 17<sup>th</sup> Street, 5<sup>th</sup> Floor  
Oakland, CA 94612

Anita E. Ruud  
Deputy Attorney General  
OFFICE OF THE ATTORNEY GENERAL  
455 Golden Gate Avenue, Suite 11000  
San Francisco, CA 94102-7004

Daniel J. O'Hanlon, Esq.  
KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD  
400 Capitol Mall, 27<sup>th</sup> Floor  
Sacramento, CA 95814

William W. Abbott, Esq.  
ABBOTT & KINDERMANN, LLP  
2100 21<sup>st</sup> Street  
Sacramento, CA 95818

and, I then placed the sealed envelopes in the outgoing mail at 400 McAllister Street, San Francisco, CA. 94102 on the date indicated above for collection, attachment of required prepaid postage, and mailing on that date following standard court practices.

Dated: April 20, 2011

T. MICHAEL YUEN, Clerk

By: **LINDA FONG**  
\_\_\_\_\_  
Linda Fong, Deputy Clerk

# EXHIBIT C

# Tom Brohard and Associates

March 29, 2014

Mr. Richard Drury, Attorney at Law  
Lozeau Drury LLP  
410 12<sup>th</sup> Street, Suite 250  
Oakland, CA 94607

**SUBJECT: San Francisco Municipal Transportation Agency (SFMTA)  
Commuter Shuttle Policy and Pilot Program – Traffic Issues and Concerns**

Dear Mr. Drury:

Tom Brohard, P.E., has reviewed the San Francisco Municipal Transportation Agency (SFMTA) Board of Directors Resolution No. 14-023 which proposes an 18 month pilot, permit program allowing private shuttle busses to use up to 200 Muni bus stops to pick up and discharge over 35,000 passengers each day. I have also reviewed other background material including the San Francisco County Transportation Authority's June 28, 2011 Strategic Analysis Report entitled "The Role of Shuttle Services in San Francisco's Transportation System" and the July 19, 2013 presentation to SFMTA entitled "Private Commuter Shuttle Policy Draft Proposal".

Further study must be undertaken to properly identify the traffic impacts of the SFMTA's Commuter Shuttle Policy and Pilot Program. Until the issues and concerns raised in this letter are addressed, there is at least a "fair argument" that the Commuter Shuttle Policy and Pilot Program proposed by SFMTA in the City of San Francisco may have adverse and significant environmental impacts that have not been properly disclosed, analyzed, and mitigated.

## **Education and Experience**

Since receiving a Bachelor of Science in Engineering from Duke University in Durham, North Carolina in 1969, I have gained over 40 years of professional engineering experience. I am licensed as a Professional Civil Engineer both in California and Hawaii and as a Professional Traffic Engineer in California. I formed Tom Brohard and Associates in 2000 and now serve as the City Traffic Engineer for the City of Indio and as Consulting Transportation Engineer for the Cities of Big Bear Lake and San Fernando. I have extensive experience in traffic engineering and transportation planning. During my career in both the public and private sectors, I have reviewed many environmental documents and traffic studies, with only a few of these shown on the enclosed resume.



**Traffic Issues**

Based on my review, there is at least a “fair argument” that the SFMTA’s Commuter Shuttle Policy and Pilot Program (Program) in the City of San Francisco will have significant traffic and other environmental impacts as follows:

- 1) Program Will Likely Increase the Number of Shuttles - With the single exception of school busses identified in CVC Section 22500.5, CVC Section 22500 states that “No person shall stop, park, or leave standing any vehicle whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic control device, in any of the following places...(i) alongside curb space authorized for the loading and unloading of passengers of a bus engaged as a common carrier in local transportation when indicated by a sign or red paint on the curb erected or painted by local authorities pursuant to an ordinance.”

CVC Section 42001.5 imposes a minimum \$250 fine on a person “convicted” of violating CVC Section 22500. CVC Section 42001.5(b) provides that the fine cannot be suspended, except that the court can waive anything above \$100. In other words the minimum fine allowed under state law is \$100. This financial penalty is significant and it is likely that it currently deters other law-abiding shuttle operators from using Muni bus stops.

SFMTA claims that the Commuter Shuttle Policy and Pilot Program will not increase impacts since the shuttles are already operating illegally. However, the program makes legal what has been illegal. It also allows any shuttle operator to apply for a permit to participate. At least some shuttle companies would not want to operate a pirate shuttle program at risk of significant penalties. Since SFMTA’s Commuter Shuttle Policy and Pilot Program makes it legal for private shuttles to use public bus stops, more companies with even more private shuttles are likely to participate. This will create significant traffic impacts by increasing congestion at Muni bus stops, an extremely likely consequence that has not be envisioned, evaluated or analyzed by SFMTA.

- 2) Program May Increase Idle Times At Muni Stops - When shuttle stops at Muni bus stops were illegal, private shuttles often tried to get in and out of the public bus stops as quickly as possible to avoid being cited. According to SFMTA, the average dwell time for a private shuttle is up to 60 seconds whereas the average dwell time for a Muni bus is about 20 seconds. Now that the Program is legal, private shuttles may idle even longer to pick up passengers, particularly without risking being cited. While the Program suggests that private shuttles move forward to the front of the Muni bus stop, this will not occur when shuttles are already actively loading or unloading.

**Mr. Richard Drury**  
**SFMTA Commuter Shuttle Policy and Pilot Program – Traffic Issues**  
**March 29, 2014**

If more shuttles are already loading or unloading passengers when the Muni bus arrives, then the already identified conflicts with Muni busses, general traffic, pedestrians, and cyclists will be compounded by additional double parking and idling. Additional shuttles could also easily exceed the capacity of the Muni bus stop locations, creating additional impacts. Each of these occurrences would increase diesel emissions at the Muni bus stop locations and would also create pedestrian impacts related to blocking public bus access to the stops as well as additional safety issues.

In summary, further study must be undertaken to properly identify the traffic impacts of the SFMTA's Commuter Shuttle Policy and Pilot Program. As discussed in this letter, there is at least a "fair argument" that this will have adverse environmental impacts that have not been properly disclosed, analyzed, or mitigated. Each of these significant impacts must be addressed by proposing feasible and effective mitigation measures. If you have questions regarding these comments, please call me at your convenience.

Respectfully submitted,

**Tom Brohard and Associates**



Tom Brohard, PE  
Principal

Enclosure  
Resume



## Tom Brohard, PE

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- Licenses:** 1975 / Professional Engineer / California – Civil, No. 24577  
1977 / Professional Engineer / California – Traffic, No. 724  
2006 / Professional Engineer / Hawaii – Civil, No. 12321
- Education:** 1969 / BSE / Civil Engineering / Duke University
- Experience:** 40+ Years
- Memberships:** 1977 / Institute of Transportation Engineers – Fellow, Life  
1978 / Orange County Traffic Engineers Council - Chair 1982-1983  
1981 / American Public Works Association – Life Member

Tom is a recognized expert in the field of traffic engineering and transportation planning. His background also includes responsibility for leading and managing the delivery of various contract services to numerous cities in Southern California.

Tom has extensive experience in providing transportation planning and traffic engineering services to public agencies. Since May 2005, he has served as Consulting City Traffic Engineer for the City of Indio. He also currently provides “on call” Traffic and Transportation Engineer services to the Cities of Big Bear Lake, Mission Viejo, and San Fernando. In addition to conducting traffic engineering investigations for Los Angeles County from 1972 to 1978, he has previously served as City Traffic Engineer in the following communities:

- Bellflower..... 1997 - 1998
- Bell Gardens..... 1982 - 1995
- Huntington Beach..... 1998 - 2004
- Lawndale..... 1973 - 1978
- Los Alamitos..... 1981 - 1982
- Oceanside..... 1981 - 1982
- Paramount..... 1982 - 1988
- Rancho Palos Verdes..... 1973 - 1978
- Rolling Hills..... 1973 - 1978, 1985 - 1993
- Rolling Hills Estates..... 1973 - 1978, 1984 - 1991
- San Marcos..... 1981
- Santa Ana..... 1978 - 1981
- Westlake Village..... 1983 - 1994

During these assignments, Tom has supervised City staff and directed other consultants including traffic engineers and transportation planners, traffic signal and street lighting personnel, and signing, striping, and marking crews. He has secured over \$5 million in grant funding for various improvements. He has managed and directed many traffic and transportation studies and projects. While serving these communities, he has personally conducted investigations of hundreds of citizen requests for various traffic control devices. Tom has also successfully presented numerous engineering reports at City Council, Planning Commission, and Traffic Commission meetings in these and other municipalities.

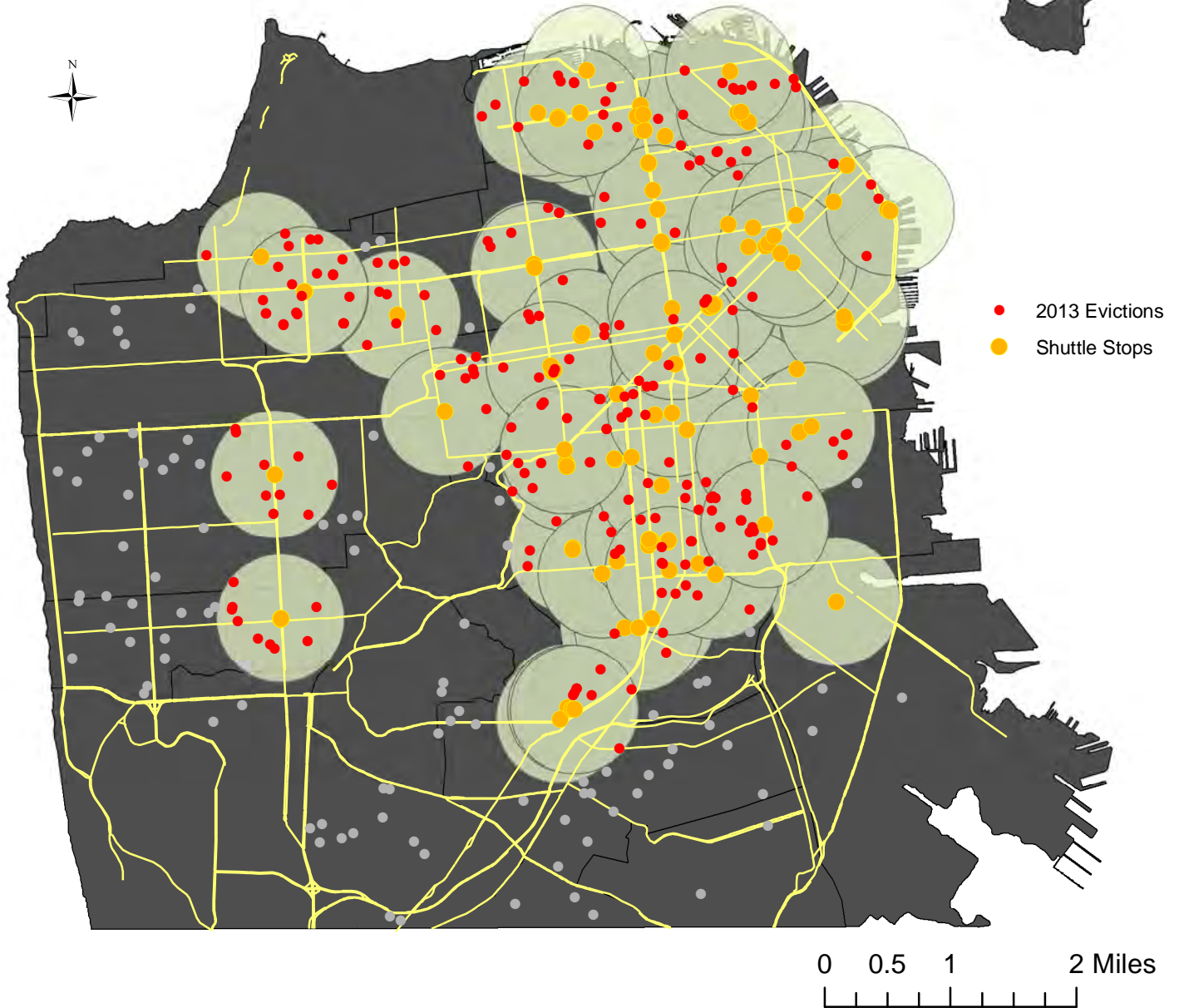
In his service to the City of Indio since May 2005, Tom has accomplished the following:

- ❖ Oversaw preparation and adoption of the Circulation Element Update of the General Plan including development of Year 2035 buildout traffic volumes, revised and simplified arterial roadway cross sections, and reduction in acceptable Level of Service criteria under certain constraints. Reviewed Riverside County's updated traffic model for consistency with the adopted City of Indio Circulation Plan.
- ❖ Oversaw preparation of fact sheets/design exceptions to reduce shoulder widths on Jackson Street over I-10 as well as justifications for protected-permissive left turn phasing at I-10 on-ramps, the first such installation in Caltrans District 8 in Riverside County; reviewed plans and provided assistance during construction of a \$1.5 million project to install traffic signals and widen three of four ramps at the I-10/Jackson Street Interchange under a Caltrans encroachment permit.
- ❖ Oversaw preparation of fact sheets/design exceptions to reduce shoulder widths on Monroe Street over I-10 as well as striping plans to install left turn lanes on Monroe Street at the I-10 Interchange under a Caltrans encroachment permit; reviewed plans to install traffic signals and widen three of four ramps at the I-10/Monroe Street Interchange.
- ❖ Reviewed traffic impact analyses for Project Study Reports evaluating different alternatives for buildout improvement of the I-10 Interchanges at Jefferson Street, Monroe Street, Jackson Street and Golf Center Parkway.
- ❖ Oversaw preparation of plans, specifications, and contract documents and provided construction assistance for over 40 traffic signal installations and modifications.
- ❖ Reviewed and approved over 600 work area traffic control plans as well as signing and striping plans for all City and developer funded roadway improvement projects.
- ❖ Oversaw preparation of a City wide traffic safety study of conditions at all schools.
- ❖ Prepared over 500 work orders directing City forces to install, modify, and/or remove traffic signs, pavement and curb markings, and roadway striping.
- ❖ Oversaw preparation of engineering and traffic surveys to establish enforceable speed limits on over 200 street segments.
- ❖ Reviewed and approved traffic impact studies for more than 25 major developments.
- ❖ Developed the Golf Cart Transportation Program and administrative procedures; implemented routes forming the initial baseline system.

Since forming Tom Brohard and Associates in 2000, Tom has reviewed many traffic impact reports and environmental documents for various development projects. He has provided expert witness services and also prepared traffic studies for public agencies and private sector clients.

# EXHIBIT D

# Evictions Near Shuttle Stops 2013



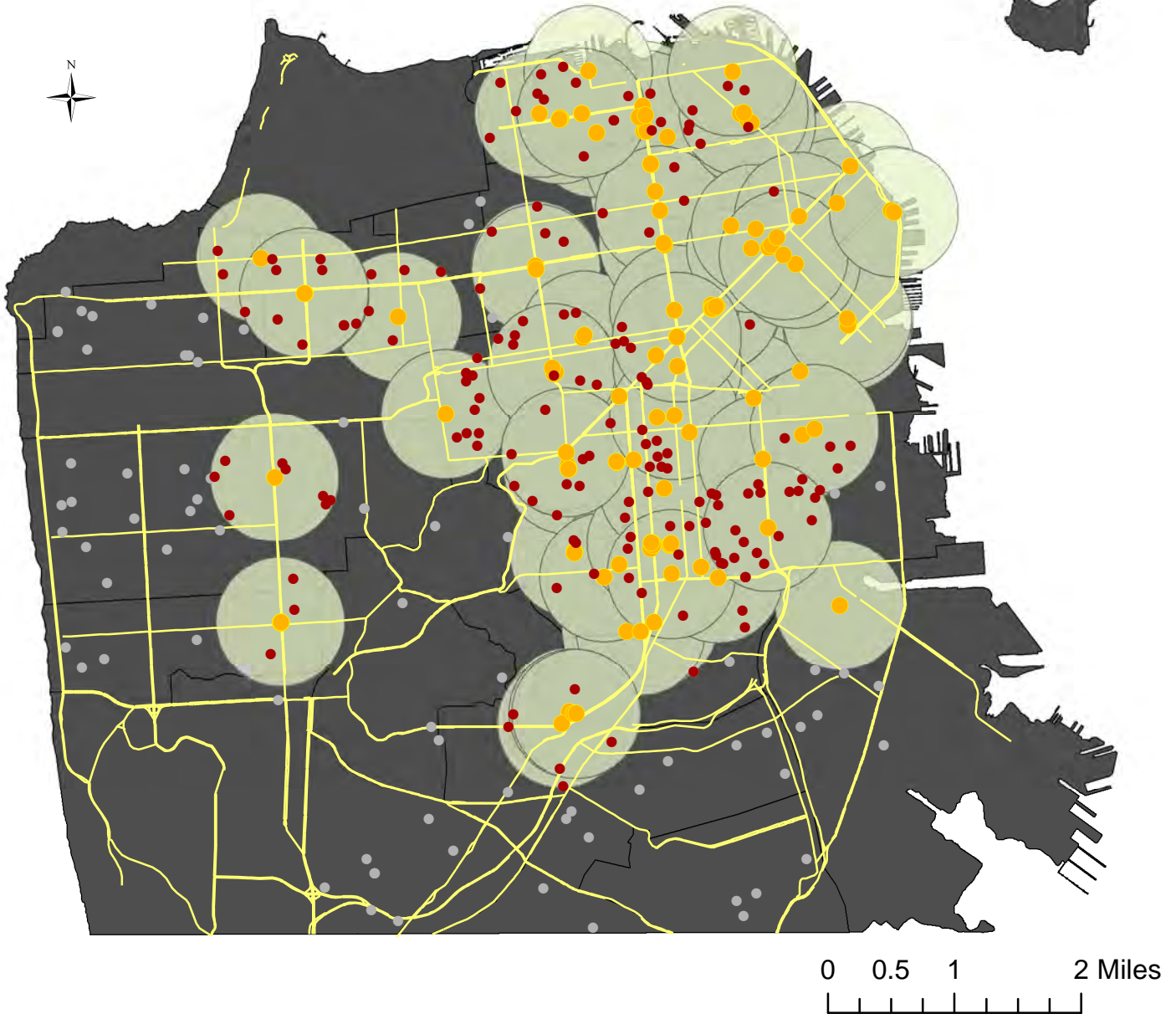
Overall:

No-Fault Evictions increased 42% between 2011 and 2012.

No-Fault Evictions increased 57% between 2012 and 2013.

**69% of No-Fault Evictions each year occurred within four blocks of known shuttle stops.**

# Evictions Near Shuttle Stops 2012



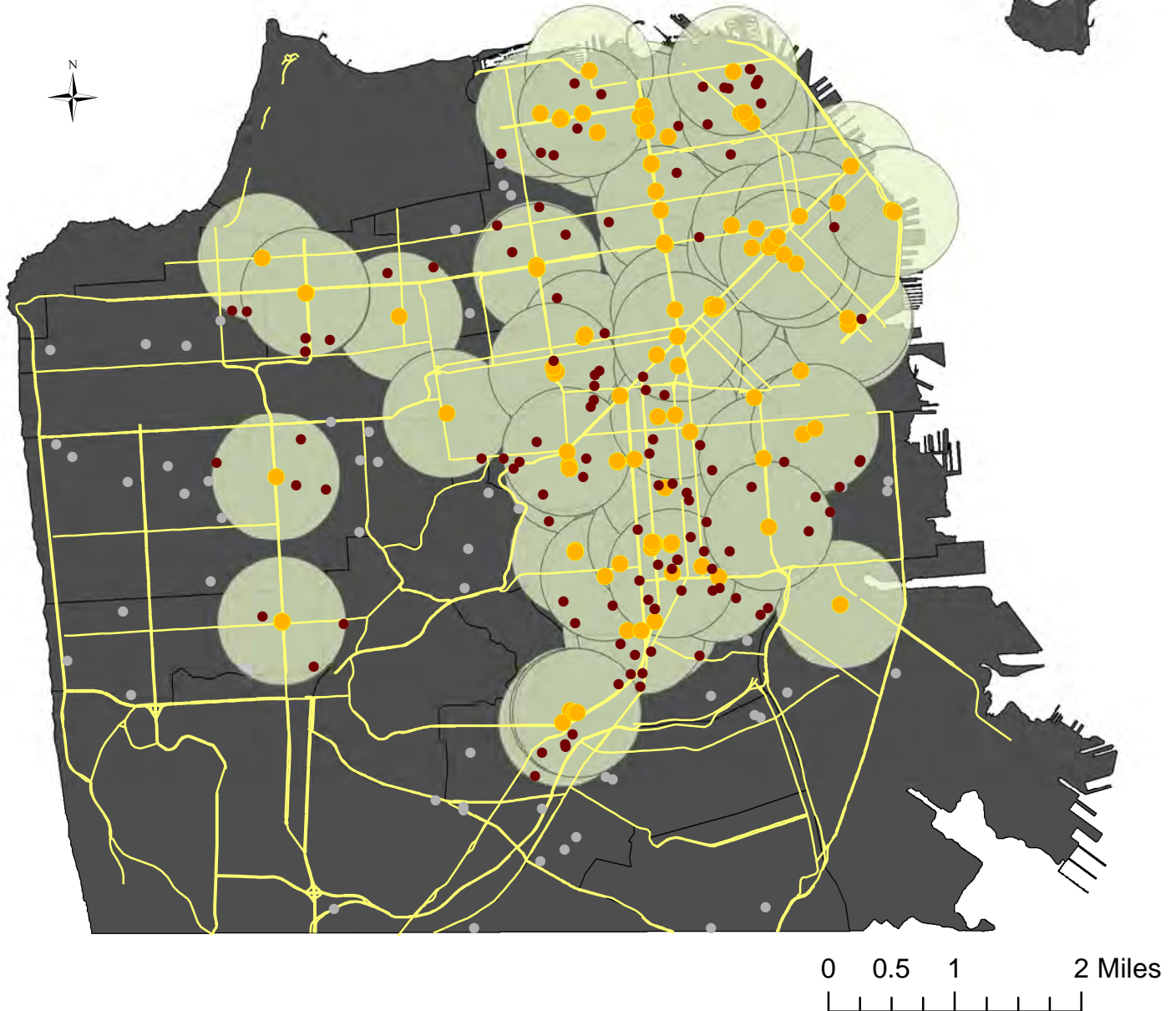
Overall:

No-Fault Evictions increased 42% between 2011 and 2012.

No-Fault Evictions increased 57% between 2012 and 2013.

**69% of No-Fault Evictions each year occurred within four blocks of known shuttle stops.**

# Evictions Near Shuttle Stops 2011



Overall:

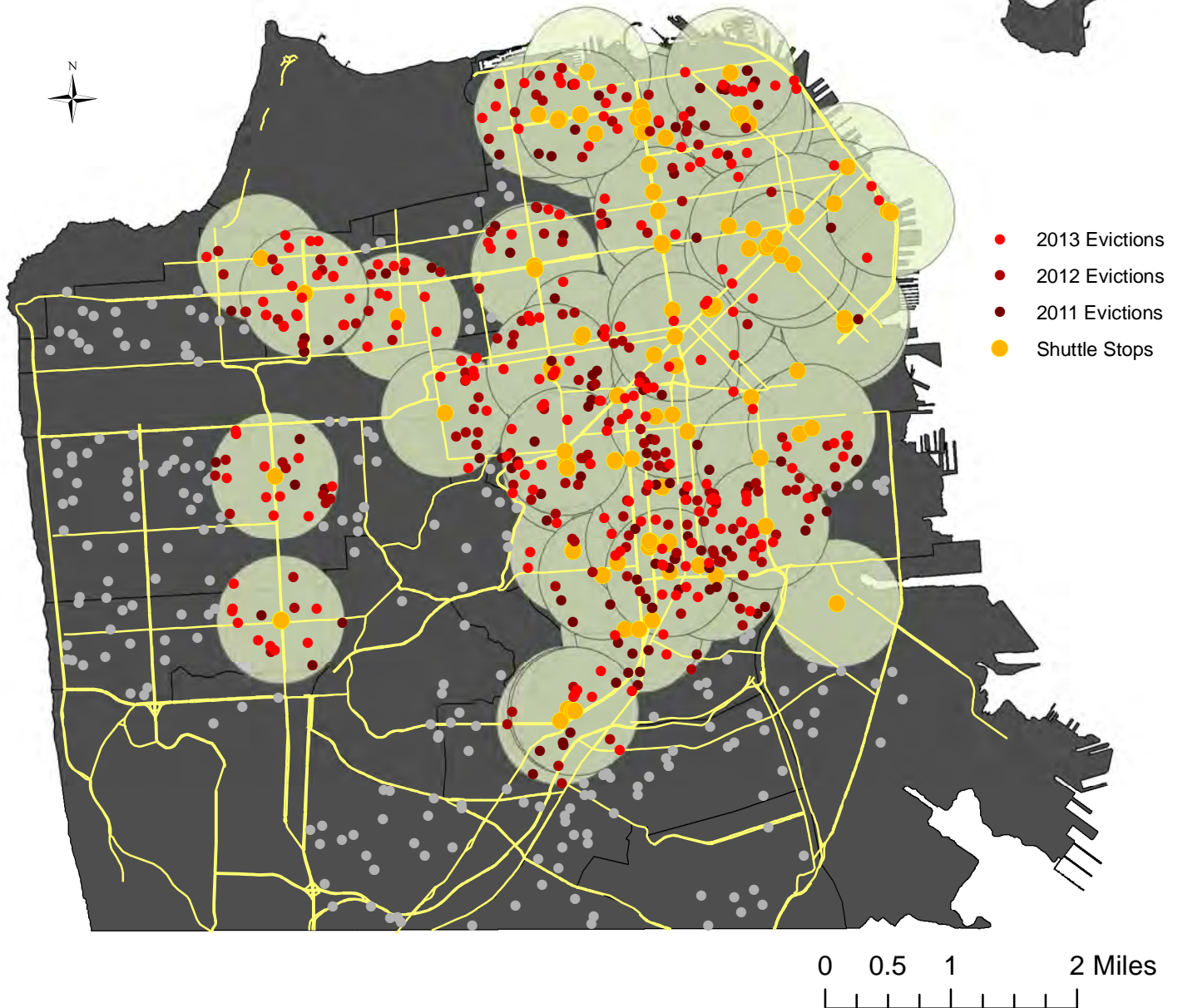
No-Fault Evictions increased 42% between 2011 and 2012.

No-Fault Evictions increased 57% between 2012 and 2013.

**69% of No-Fault Evictions each year occurred within four blocks of known shuttle stops.**



# Evictions Near Shuttle Stops 2011-2013



Overall:

No-Fault Evictions increased 42% between 2011 and 2012.

No-Fault Evictions increased 57% between 2012 and 2013.

**69% of No-Fault Evictions each year occurred within four blocks of known shuttle stops.**