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## DRAFT SAR 08/09-2

## STRATEGIC ANALYSIS REPORT

## The Role of Shuttle Services in San Francisco's Transportation System

Initiated by Commissioner Dufty

November 17, 2009

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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 and field research and extensive outreach to various stakeholders involved in the shuttle landscape including providers, operators, users, public agencies, and the general public.



## INTRODUCTION

The public transportation system in San Francisco has been increasingly complemented by the proliferation of various types of shuttle services. 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-demand<sup>1</sup>. Unlike taxis, tour buses, and jitneys, they are not for-profit commercial operations (e.g. airport “super shuttle”). Throughout this report, we will be considering more regularly scheduled shuttle service with fixed routes and stops.

The SAR process originally focused on documenting the role of shuttles citywide, with a focus on examining the operations of regional employer shuttles within San Francisco neighborhoods. As initial research was undertaken, a second category emerged as meriting more concentrated investigation based on stakeholder input: the case for consolidating local employer-based circulator shuttles in the downtown/SoMA/Embarcadero area.

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 the employment site from either residential neighborhood stops, or from a major transit hub (e.g. BART, Muni, or Caltrain station). Major employers 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 downtown area.

Shuttle services generally are provided as a means to address the increase in traffic congestion and the inadequacy of local and regional transit services to meet demands for alternative transpor-

ation. Employer interviews indicate they are also offered for a range of other 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 traditional local and regional transit;
- 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 the distant site away from the main 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 has been seen for some time as having widespread benefits, including environmental benefits. 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) At the same time, the growth of shuttle operations generated complaints of some local adverse effects including negative perceptions of:

- the use large motor coach carriers which are larger than typical buses presenting noise and safety impacts;
- conflicts with Muni buses and and passenger loading areas at shuttle stops;
- 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 need for consolidation of services as a matter of operating efficiency.

In consideration of the above, the primary issues explored in this SAR include the following:

1. What are the benefits and impacts of regional and local shuttles?
2. To what extent should shuttles be actively managed or regulated to optimize their value to the overall transportation system in San Francisco?
3. What models exist for shuttle management locally and nationwide?

Research and analysis methods for this report include: literature search, fieldwork, stakeholder outreach and interviews, public meetings, surveys, and agency consultations.

<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.

<sup>2</sup> Phone interviews with regional shuttle providers, conducted in January-February 2009.

## I. BACKGROUND

**Shuttle Growth Trends and Inventory.** The growth of shuttles in San Francisco mirrors that of the region, as well as 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>3</sup> documented six categories of shuttle operations, based on their sponsors and functions (employers, City, institutions, or a mix), and funding sources. A 2008 Existing Shuttle Service Inventory for San Francisco compiled by SFMTA<sup>4</sup> further details shuttle operations within San Francisco using similar categories of services (employer, institutional, private, public) within the City (see Appendix A). It shows 30 shuttles in operation within the city limits. Both inventories generally reflect four main categories of shuttles:

1. local employer shuttles offering a circulator type of service between transit hubs and employer destinations;
2. regional private shuttles, which typically travel longer distances and focus on the daily commute with larger vehicles;
3. institutional shuttles offered by universities, hospitals, parks and retail associations to and from transit hubs and/or within a network of campuses; and
4. community based organization (CBO) shuttles, which may reach further into local neighborhoods offer wider coverage 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 (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 California Public Utilities Commission (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 CPUC<sup>5</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 “charter party carrier (TPC)” 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, as well as the proposed fares if any, schedules, vehicle types, rules, and regulations.

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>6,7</sup>.

The SF Police Department has responsibility to enforce the traffic code and Municipal Transportation Agency (SFMTA) has jurisdiction over parking with the city. The main ways that San Francisco agencies currently regulate shuttles are:

1. Police:
  - a. *Weight restrictions:* In accordance with the SF Transportation Code<sup>8</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 SF police officer on duty, or based on public complaints). The criteria for establishment of a weight restriction has to date been case-by-case depending on traffic patterns specific to that location. The current fine for a weight restriction violation is \$103.
  - b. *Idling:* In accordance with the California Vehicle Code and the SF 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. MTA guidelines stipulate a three-minute idling maximum for Muni vehicles, reflecting the agency’s desire to balance emissions impacts with operational needs<sup>9</sup>. The current fine for idling is \$103.
3. MTA—*Curb Priority:* In accordance with the California Vehicle Code and the San Francisco Transportation Code, no vehicles other than Muni vehicles (whether autos, or those used for public transportation) may not stop in bus zones for passenger loading and unloading, unless express permission has been granted by SFMTA through an ordinance. Enforcement by either SF police or MTA Parking Control Officers has been limited. The current fine for illegal usage of a bus zone is \$253.
4. SF Planning Department—*Impact Mitigation:* The Planning Department may include the provision of shuttle services as

<sup>3</sup> Riordan, Bruce. Bay Area Clean Air Partnership (BayCAP) Shuttle Network Inventory, Bay Area Air Quality Management District, 2004.

<sup>4</sup> Compiled by S. Fielding, focuses on four main categories of shuttle services (employer, institutional, private, public) within mostly the downtown area.

<sup>5</sup> Exceptions exist including taxicabs (regulated locally) and medical transportation vehicles. See also <http://www.cpuc.ca.gov/PUC/transportation/FAQs/psgfaqs.htm>

<sup>6</sup> <http://www.cpuc.ca.gov/PUC/transportation/Passengers/CarrierInvestigations/>

<sup>7</sup> Conversations with W. Lewis, California Public Utilities Commission, 10/09

<sup>8</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>9</sup> Conversation with T. Papandreou, SFMTA, 11/09

a condition of approval for development rights. 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 to public transit service, as well as to assist in periodic monitoring of the service to confirm ongoing mitigation of project impacts. These developers would typically offer these shuttle services through a third party shuttle provider either directly or through at Transportation Management Association (TMA).

## II. EXISTING CONDITIONS AND NEEDS ANALYSIS

### DATA COLLECTION AND STAKEHOLDER OUTREACH

Authority staff conducted extensive data collection in representative locations for each of two study foci as a means to document current shuttle conditions:

- a. Regional Employer Shuttles: Representative neighborhoods selected were Marina, Glen Park, and Noe Valley.
- b. Local Employer/Circulator Shuttles: Representative transit hub locations included the Embarcadero Station area, and the Caltrain Station at 4th and King

**Field Observations.** The study team made peak hour observations in February, March and November 2009 at the representative locations. Planners noted fairly smooth and orderly boarding activity and occasional conflicts with Muni and other vehicles at stops. Idling took up to 5 minutes at some locations. On average, the large motorcoaches operated by some sponsors do take longer than Muni buses of the same size, due to the single doors, high floors and large size of the vehicle.

**Stakeholder Meetings and Existing Operations.** Given the two issues under study, focused stakeholder outreach 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; local neighborhood associations including the Marina Community Association (MCA), Upper Noe Neighbors, and the Glen Park Association; and various SFMTA staff.

Regional employers provided extensive data about their SF operations, including routes, stops and ridership, on an aggregate basis (to protect proprietary and privacy concerns). In addition they provided aggregate responses to questions regarding their service and operations planning, reasons for service, funding, coordination and other questions. This data indicated that these large employers currently transport 2,000 employees per day from San Francisco to their respective campuses (with most activity occurring in Glen Park, Noe Valley, and along the Van Ness Avenue corridor), and combined have approximately 50 stops within the City. Vehicle types are split between large motorcoaches (with capacity for 50 passengers) and van-type shuttles (with 25-passenger capacity). Routes operate during AM and PM peak periods from Monday to Friday. Aggregate data is provided in Appendix B.

Local employer operations in the downtown area in general were similar to those documented in the 2008 MTA 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 shuttles (with 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 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 available for sharing.

**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. Opinions on shuttles varied. Some residents (including non-shuttle riders) expressed support for shuttles, citing reduced auto usage by shuttle patrons and increased parking availability for those continue to drive; 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 with increased foot traffic. Some residents strongly opposed shuttle impacts, citing conflicts with Muni buses at stops, which force Muni passengers to unsafely disembark in the street; the disproportionate large size of shuttles compared to the size of local streets and sidewalks, thus leading to pavement wear but also to unsafe situations especially for cyclists and pedestrians who may be less visible to motorists; and high levels of perceived noise, idling, and pollution. Many residents supported limiting shuttle operations to particular times of day or particular locations.

In addition to direct outreach at community meetings, Authority staff administered three online surveys via the Marina Community Association, Upper Noe Neighbors, and the Glen Park Association in February and March 2009, in order to gain a qualitative understanding of shuttle benefits and concerns. These short surveys inquired about resident perceptions of shuttle benefits, impacts, and the role of shuttles in the transportation system. A list of questions is included in Appendix C. The over 600 responses received from this round of outreach were consistent with the feedback provided during neighborhood outreach meetings.

Many 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 may have given up their cars. Many respondents felt strongly about environmental protection issues and felt that shuttle service is an environmentally beneficial activity.

In addition, some residents commented that pedestrian activity and community cohesion in their neighborhood had increased due to the presence of shuttle stops. Some respondents had the

impression 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 are also used by transit vehicles, in order to minimize their impacts.

Shuttle concerns expressed by some respondents roughly rank as follows:

- Pollution. Respondents were concerned about the smog that shuttles might emit while idling.
- Noise. Residents, especially those who live in highly residential areas, felt that shuttles are noisy.
- Vehicle size. Respondents felt that shuttles are visually obtrusive and have difficulty making turns due to their large size.
- Public transport delays. Residents reported that they have seen shuttles double-park and load/unload in Muni stops.

**Targeted Shuttle Passenger Survey.** Following the initial outreach, a more detailed comprehensive and targeted online survey was developed and administered in May 2009 with the help of the 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>10</sup>. The survey questions inquired about reasons for shuttle usage, shuttle alternatives, car ownership, stop access modes and times, eco-

nomics impacts (through induced spending).

**BENEFITS AND IMPACTS ANALYSIS**

Authority staff analyzed a range of benefits and impacts associated with the Regional Employer-sponsored shuttles in order to assess the value of shuttles to 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 benefits, the classification of which is for discussion only below, as these measures may be considered from the point of view of various stakeholders (shuttle passengers, neighborhood residents, employers, shuttle operators, and transit agencies). Benefits and impacts may also be real (quantifiable in an objective fashion) or perceived (dependent on the stakeholder claiming the benefit or impact).

**Analysis methodology.** The study team assessed these benefits and impact areas using quantitative data collected from outreach, passenger and employer surveys, as well as qualitative statements 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 reported 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 on the next page in Table 2<sup>11</sup>.

<sup>10</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.

<sup>11</sup> Sources: Information drawn from the specifications of typical shuttle vehicles for example, by Ford Motor company. See: [https://www.fleet.ford.com/showroom/specialty\\_vehicles/Qualified\\_Vehicle\\_Mod\\_Shuttle.asp](https://www.fleet.ford.com/showroom/specialty_vehicles/Qualified_Vehicle_Mod_Shuttle.asp)

**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	30-40'	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

**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%. Routes include high-activity hubs and lower ridership in outer routes (or newer routes which have recently been established). Field observations at the transit hubs verified that vehicles are close to capacity at hub locations during the peaks. Stakeholder comments during outreach cited instances where vehicles may not have been at 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 efficiencies.

Given time and resource constraints, detailed benefit/impact analysis 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. Survey results indicate that 63% of these regional shuttle passengers would otherwise have driven alone and thus avoid 327,000 solo vehicle round trips off the roadway altogether per year. For comparison, the latest Climate Action Plan for San Francisco calls for keeping 1.6 million intraregional solo vehicle round trips off the roadway per year; thus the shuttles surveyed represent 2% of the target for intraregional trip reduction<sup>12</sup>.
- *Vehicle Miles Traveled (VMT) Avoided:* Congestion is also eased by the magnitude of trips that shuttle riders are avoiding, as more time spent traveling may translate into more pollution, more vehicles taking space on roadways, and more wear and tear on pavement. Multiplying the number of passengers by the commute distances which they would have commuted alone by driving to their respective workplaces, the

shuttle programs surveyed are yielding 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>13</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). 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 in local neighborhoods may contribute to increased economic activity, if passengers stop at merchants along their route between their home 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 Retention and Recruitment:* 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 hours per year.

<sup>12</sup> SF DOE and SF PUC, *Climate Action Plan for San Francisco*, September 2004.

<sup>13</sup> Conversation with L. Baylor, Bauer, 9/28/09

- *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 lanes available along the route. 86% of respondents said they gain personal time, which they reported totals at least 246,000 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 corresponding number of autos. 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 MTA 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" or "Large coach shuttles are noisy on small neighborhood streets", thus reflecting the impact of the size or type of the vehicle. Other comments also pointed out similar noise patterns caused by non-shuttle

vehicles (such as Muni vehicles).

- *Conflicts with cars and bicycles when parked or idling:* The study team did not witness displacement cars or bicycles by parked or idling shuttles at the limited locations and on the limited days of observation. However, members of the public complained of shuttles blocking cars and causing bicyclists to have to weave into traffic to avoid parked shuttles, for example on Market Street. MTA staff reported problems earlier at Glen Park eased following discussions with each employer/operator. Some issues remain elsewhere, for example on 8th Street just south of Market, where large shuttle motor coaches picking up passengers at the BART/Muni station interfere with vehicles that are required to turn south.
- *Conflicts with Muni vehicles when loading or idling:* MTA staff report this has been a general problem at several locations, a concern also echoed by both MTA field supervision staff and in resident outreach surveys. MTA field staff also cited stress reported by Muni drivers if passengers were compelled to try and board outside of the Muni zone. Muni drivers are instructed not to pick up passengers outside the bus zone for safety reasons, yet passengers often insist on boarding. Authority staff witnessed only a few instances of shuttles blocking Muni vehicles in Muni zones, though one recent instance at Glen Park was troublesome. A shuttle in the process of boarding passengers on Bosworth Street in a Muni zone blocked an incoming Muni bus, thus causing a conflict and even secondary queuing along Diamond Street where another Muni bus waited for both vehicles to move forward before proceeding onto Bosworth Street. MTA 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 only 1 door for boarding and alighting. Dwell times were observed by the study team tended to be under six minutes during peak times.
- *Safety:* Many outreach comments related to perceived safety impacts of large shuttles blocking sightlines; for example if they were to block motorists from seeing pedestrians, or simply due to their large size. Outreach comments include 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 one respondent stated "People expect traffic and buses [on major arterials]; but not on the side roads where people walk their dogs and kids" further emphasizing the danger perceived by the large size of the vehicles. 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 past three years available (2006-2008). No records were found in the carriers' safety records which could be attributed to shuttle-related collisions<sup>14</sup>.
- *Wear and tear on pavement:* Because heavy vehicles cause pavement damage, San Francisco's Transportation Code has already restricted 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 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 especially 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>15</sup> as shown in Table 3. These are also referenced in the draft 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 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/impact analysis demonstrates that, shuttles are providing a useful and beneficial service to many San Francisco residents and local and regional employers and institutions. Yet, some concerns regarding shuttle-related impacts require attention and resolution. Key findings from the regional shuttles benefit/impact assessment show that:

- Benefits are significant and widespread, particularly congestion and air quality benefits
- Impacts are localized, with the major issues appearing to be related to conflicts with Muni and idling. Safety, while a common complaint by the public, does not appear to be as extensive a problem as some residents perceive.
- There is evidence that motor coach vehicle size and weighting are not ideal for some streets

- The public needs a dedicated point of contact for inquiries and feedback.
- The extent of issues and growth of shuttles indicates long-term need for shuttle coordination.

Conclusion: Shuttles play a valuable role in the overall San Francisco transportation system. Active management is needed and warranted in order to minimize impacts.

### III. POLICY ANALYSIS

This Section investigates possible directions for regulatory or management approaches to retain shuttle benefits while fairly mitigating or minimizing impacts.

#### 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 highly localized, and have to do with the size of the vehicle and the behavior of the vehicle when interacting with the rest of the transportation system, including Muni, other motorists, cyclists and pedestrians. Potential management options include the following:

**Curb Usage and other Parking Solutions.** The City’s best opportunity to manage shuttle operations lies with SFMTA’s jurisdiction over curb zones (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.* San Francisco’s Transportation Code states that 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 MTA, shuttle providers initiated a pilot policy in May 2009 to reduce shuttle-Muni conflicts. Dubbed the “Muni First” approach, these safety-related and operational guidelines were developed by regional operators in good faith, but without the input of MTA planners and operators. While these guidelines have been effective, and subsequent commu-

<sup>14</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>15</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.

**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 (2008)

nications between SFMTA Parking Control Officers (PCOs) and shuttle providers have yielded good results, problems still remain as described previously. A more collaborative and comprehensive approach to development of the “Muni First” approach is needed. The joint guidelines should cover all aspects of operations in San Francisco, from stops, to routing, to layovers, with MTA taking the lead in setting stop and other service planning policies. MTA planners should determine the feasibility and desirability of shared stops, with safe Muni operations taking top priority, using transparent technical criteria such as safety, number of routes served at a stop, route frequencies and reliability. We note that any policy needs to be equitable and scalable—several new entrants to the regional shuttle market could make an initial shared stop scheme unworkable.

- *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 should be replaced by shuttle sponsors. 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. Permitting or pricing for the purposes of demand management may also be warranted. 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).
- *Shared parking.* As is being considered by New York, shared parking may be a solution, particularly for layovers. For example MTA could share its own yards with regional shuttles during daytime hours when Muni buses are operating their routes.

**BOX 1. UNION SQUARE TOUR BUS ZONE.** 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>16</sup>. The establishment of the zone was subject to a review process consisting of a public hearing and then approval by the SFMTA Boards. 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<sup>17</sup>. This trial is still under evaluation. 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. Field observations of this zone showed that placement of the zone was a potential safety issue, as right-turning vehicles from Geary WB to Powell NB are often blocked from seeing pedestrians due to the bus size. It is also difficult for drivers to make the turn around stopped buses<sup>18</sup>.

**Regular Communications and Collaboration.** Aside from parking regulations, shuttle operations could 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 human enforcement. A preferred method of engagement is the collaboration model as practiced in Seattle, by Seattle DOT and Microsoft. From the inception of the 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 what are now the shuttle zones described above.

This collaboration model is ideal for San Francisco, as a means to build upon the already improved communications between MTA and the regional shuttle sponsors. In taking the lead on setting standards and guidelines, MTA should focus on two areas in particular.

*Service Planning Criteria.* MTA 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 Muni planners. Routes, stops and operating rules should be led by MTA professional transit service planners 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, develop a new stop or shuttle zone, or find (shared) off/street parking/ layover areas. Because the public may be confused about where a shuttle is or is not permitted to operate, the important factor will be the display of the Muni Partners emblem to indicate that the shuttle’s activities are endorsed by MTA; inappropriate operations would still be reportable.

*Vehicle and Emissions Thresholds.* Working with the employer/sponsors, MTA should set vehicle operating size and emissions guidelines, and then these should become standards over time. Shuttles should be operated safely at all times, be of a size that is able to comply with traffic regulations on turning radii and be no more impactful than Muni vehicles in terms of noise, vibration and idling (see inset Box 2, next page).

## LOCAL EMPLOYER SHUTTLE /CIRCULATOR CONSOLIDATION

Several employers in the downtown area have been meeting informally through various groups (two examples include Neighborhood Business Watch, and the Embarcadero Task Force led by MTA) to discuss transportation issues and possible consolidation measures.

The concept of consolidation of SoMA shuttles is supported by the results of MTA’s 2008 shuttle inventory, which found that, at the time, there were more than 11 private business shuttle systems operating in the area and providing redundant service. Based on the study team’s recent conversations with SoMA employers, these redundancies still exist. MTA also still concurs with the de-

<sup>16</sup> <http://www.sfmta.com/cms/pcurb/curbfees.htm#business>

<sup>17</sup> Conversations and emails with J. Robbins, SFMTA

<sup>18</sup> Field observations June 2009.

**Box 2. MUNI EMISSIONS NOISE AND IDLING GUIDELINES.** Regarding emissions, currently, Muni also strives to prioritize low-emission vehicles (such as battery-electric, diesel with advanced exhaust after treatment, or other preferred vehicles recommended by the SF Department of Environment) continuing towards the goal of zero emissions by 2020. Regarding noise levels, Muni's hybrid and trolley buses are up to 10 times quieter than conventional buses, at approximately 83 dBA inside and out, which MTA recommends be set as the maximum noise level. Hybrid vehicles operate at about 70-75 dBA. Measurement specifications are based on SAE J366 standards<sup>19</sup>. Currently, Muni does not allow its own vehicles to idle for over three minutes, which is less than the maximum of five minutes prescribed by the City's Transportation Code for privately owned motor coaches<sup>20</sup>.

sirability of shuttle consolidation. 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>21</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 entities to handle the transition from individual service contracts to a shared contract among many employers.

## 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, likely will experience longer trip times due to the need for

more circuitous routes and/or longer walk times. As has been noted by MTA 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 passengers. 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 by SFMTA staff. Whether SFMTA serves as the primary service planner or whether its role is to coordinate with a transit planning consultant, MTA's participation should be compensated in order to ensure the assignment of dedicated staff capacity to this effort. Under this scenario, because funding is provided solely by the current employers, the service remains closed to employees of the sponsoring firms.

It is worth noting that, under the consolidation scenario described above, because 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. MTA could directly produce the new service, or
2. MTA (or another agency such as the Authority) could procure the service by contracting with a third-party operator, similar to MTA's paratransit service, which is produced by unionized labor.

Key considerations for this choice are the cost and cost-effectiveness of either option, and the availability of funding for the service. Given MTA'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, MTA 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 MTA'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 MTA, the employers and any other funding partner (see PTCRA and LINKS examples in Table 4).

The prospect of migration of private shuttle services to public management or public/private provision is both intriguing 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. However, if funding and governance could be worked out, a public/private

<sup>19</sup> Conversation with T. Papandreou, SFMTA, 11/09/09

<sup>20</sup> San Francisco Transportation Code, SEC. 10.2.21.

<sup>21</sup> Approximate operating costs as provided by NBW, 4/8/09, and as cited in MTA inventory from 4/29/08.

partnership model would signal a potential new approach to augmenting traditional transit in special markets which could eventually include other parts of town 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:

**Voluntary “Muni Partners” Sticker/Certification Program.** 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, MTA should create a “Muni Partners” Program. The program would encourage shuttle operators to register or join the program which would have service planning, operations, and monitoring components. The program would be supported, at least in part, by a fee structure for member companies.

Approved shuttle providers would display a Muni Partners sticker on their vehicle or in their window, which would indicate that they have actively coordinated directly with the City in planning their operations. A vehicle identifier and contact number for the City shuttles contact would be clearly visible. Fees would fund one full-time equivalent (FTE) coordinator position for at least three years (further described below), as well as program administrative costs. Participants would also understand and expect that their shuttle operational information would be shared with and accessible by all City agencies for planning purposes (for example, SF Planning, other transit agencies, TransBay JPB).

**Designated Shuttles Contact.** As part of the Muni Partners Certification Program, the City would need to establish a staff position to serve as the official contact for the MTA shuttles pro-

gram. As a pilot experiment, the position could operate for one to two years with one full-time project manager level position, with funding provided by program fees contributed by member Partners, as well as local and regional grant funding sources (such as the TFCA, Regional Clean Air Program). This individual would have the following responsibilities and authority, for both private and public shuttles throughout the City:

1. Administer the Muni Partners program
  - a. Set certification structure/criteria/fees
  - b. Possible tiers:
    - » Basic—just register and provide profile information along with routes, stops, and fleet information.
    - » Silver—Low fees (limited operations/coordination need – could be flat fee or customized based on level of effort)
    - » Gold—Higher/more sophisticated fees (by stop, by type/size of vehicle), for more extensive operations.
2. Lead service planning coordination with Employers and other Providers
  - Collaborate regarding route and stop planning; compile an ongoing list of pre-approved routes and stop locations
  - Establish pre-approved list of layover locations
  - Investigate parking sharing possibilities for layover or stop locations
  - Where possible, advise regarding vehicle type, with input from SFMTA engineering to advise about vehicle specifics (eg. pertaining to noise, driver area, etc.)

**TABLE 4: BAY AREA SHUTTLE COORDINATION MODELS**

TYPE OF MODEL	EXISTING SHUTTLE SERVICE	DESCRIPTION	SERVICE PLANNING/OPERATION/ FUNDING
Public/Private Partnership with Public lead	DASH (VTA’s San Jose Downtown Area Shuttle)	Free one-way loop	Planning: VTA Funding: San Jose Downtown Association (from city or directly from employers) + TFCA grant + VTA
Similar to Business Improvement District (BID) employers	Emery Go Round	Free circulator shuttle, 7 routes	Planning: Emeryville TMA Funding: Originally Caltrans grant + employers, then became fully privately funded based on and property square footage
Public/Private Partnership with non-profit coalition lead	Peninsula Traffic Congestion Relief Alliance (PTCRA)	Various free or for-fee shuttles throughout 7 cities	Planning: Alliance Funding: Various models 50% congestion relief funding + 50% local match (from city or directly from employers) 75% Samtrans/Caltrain + 25% local match from employers
Public/Private Partnership with non-profit coalition lead	LINKS (San Leandro)	Free loop	Planning: Transportation Management Organization (non-profit corporation) through a board of local volunteers from the business community and City representatives. Funding: employers through the LINKS Business Improvement District Tax + grant funding from the ACCMA and BAAQMD + San Leandro Redevelopment Agency.

3. Lead clarification of shuttle operating rules, such as the following:
  - Enforcement of weight-restricted streets. Currently, the larger shuttle buses weigh 20 tons. Weight restrictions are employed based on heavy vehicles' impact on traffic patterns, land use, and availability of alternate routes. Enforcement is only performed on an ad-hoc or by chance basis (if police officers, parking control officers, or members of the public happen to see violators).
  - Enforcement of Muni bus stops. Currently, no other vehicles are legally allowed to stop in Muni bus stop zones unless explicitly granted permission by MTA.
  - Better enforcement of idling. The current time limit for idling is five minutes (per the City Transportation Code) or three minutes per Muni policy.
4. Provide shuttle guidelines in a clear and accessible format, for those in shuttle planning and for members of the public (for example, on a dedicated shuttles planning webpage or brochure).
5. Receive, address and respond to shuttle-related concerns and complaints from the public, shuttle users, and shuttle operators/providers
6. Maintain a current shuttle inventory for the City, including routes, stops, vehicle types, and ridership. Develop suggestions for overall improvement of shuttle operations where evident from this data (for example, suggesting possible route alternatives, possible shuttle consolidation for certain shuttle types and/or during certain times, for example, night routes).
7. Monitor shuttle activity with annual tracking
  - » Fleet size/type, routes, stops
  - » Ridership/load factors
  - » Public complaints
8. Keep shuttle providers and operators apprised of City regulations or initiatives related to shuttle operations (for example, new weight restrictions, curb space regulations)
9. Keep other City agencies apprised of shuttle developments, growth, and concerns so that shuttle-related activity and policy is carried out in an integrated fashion
10. Keep up to date on the state of the practice in other cities with similar shuttle operations and concerns

11. Improved communications and professional management should help to enhance shuttle integration into the transportation system, while decreasing risks and minimizing impacts of current operations. We believe that sponsoring companies want to be good corporate citizens, desire guidance from and better coordination with City/MTA staff, and would participate in a voluntary program. However, if a firm did not participate, or if a participating company engaged in chronic violations of the agreed policy, the MTA or the City could de-certify a firm and lodge formal complaints with the California Public Utilities Commission.

## SHUTTLE CONSOLIDATION

As described above, it is generally agreed that the present proliferation of downtown circulator shuttles is playing a beneficial role, but that services should be consolidated to achieve better operating efficiencies. There are several potential models for service consolidation. We recommend a phased approach that includes, as a starting point, a strong collaboration between employers and MTA service planners through the proposed Muni Partners program. Through this program, employers would pay a fee to pay for MTA service planning staff's assistance in developing new service and operating plans. Once the shuttles are consolidated a decision can be made whether and how best to integrate the service into the Muni network of services, after due consideration of service goals, funding and public input. The transition from a privately funded, closed system to one that involves public funding and is open to the public would represent a major public policy initiative and need to be fully justified; if desired, this transition could take place in one of several ways. In all cases, MTA service planning staff should play a central role in advising on service planning. Whether alone or within a public/private partnership model, MTA could produce the consolidated service directly or by contracting with a third party service provider. Contracting for service could be a more flexible interim approach, which would lend itself to a pilot program, and would not require major investments. In either case, private funds could be used as seed funding and be leveraged to access grant funds, from foundations, regional agencies, and other sources. Authority staff should also serve as additional technical advisors and may play a role in providing or helping to obtain funding, as well as serving as a fiscal agent, as needed and appropriate.

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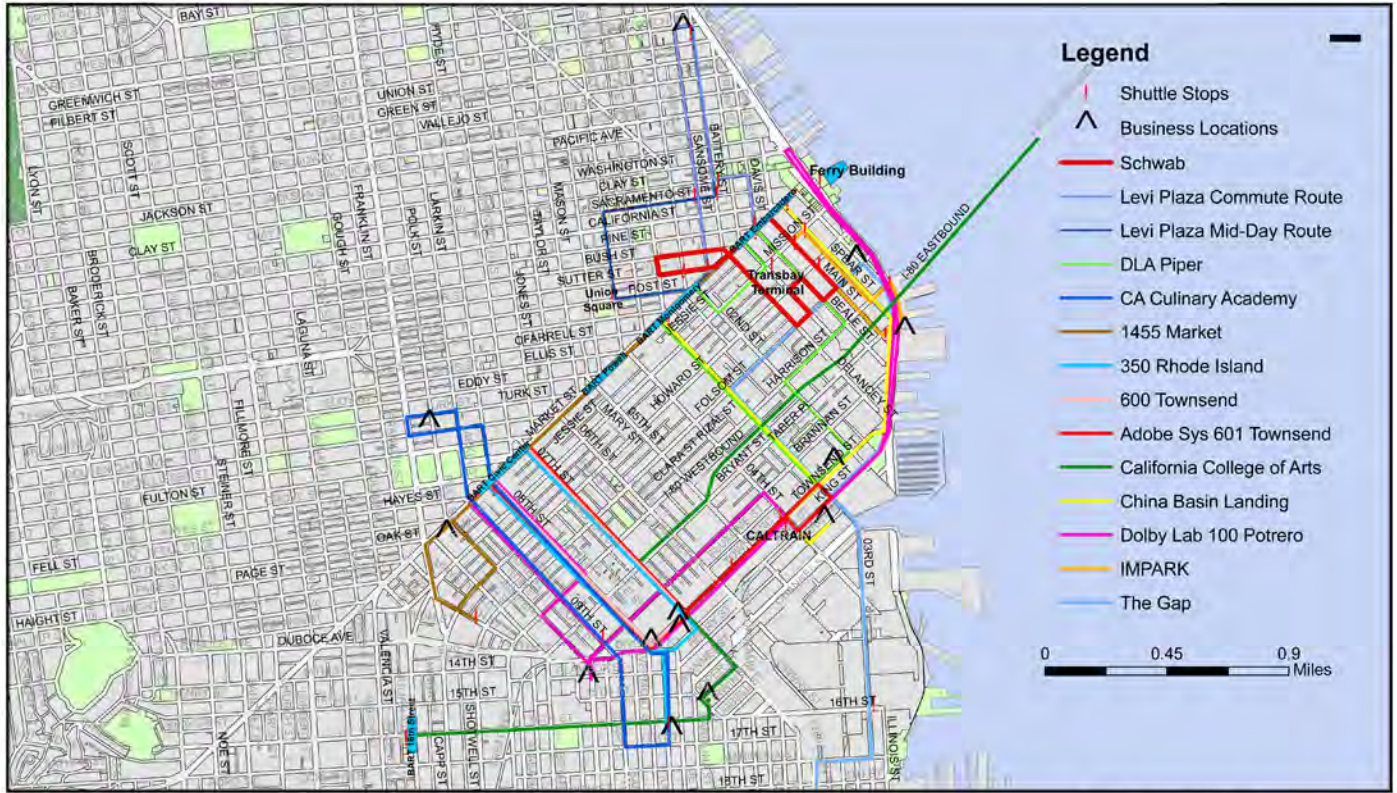
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JOSÉ LUIS MOSCOVICH, EXECUTIVE DIRECTOR

### APPENDIX A. SOUTH OF MARKET AND FINANCIAL DISTRICT SHUTTLE PROGRAMS

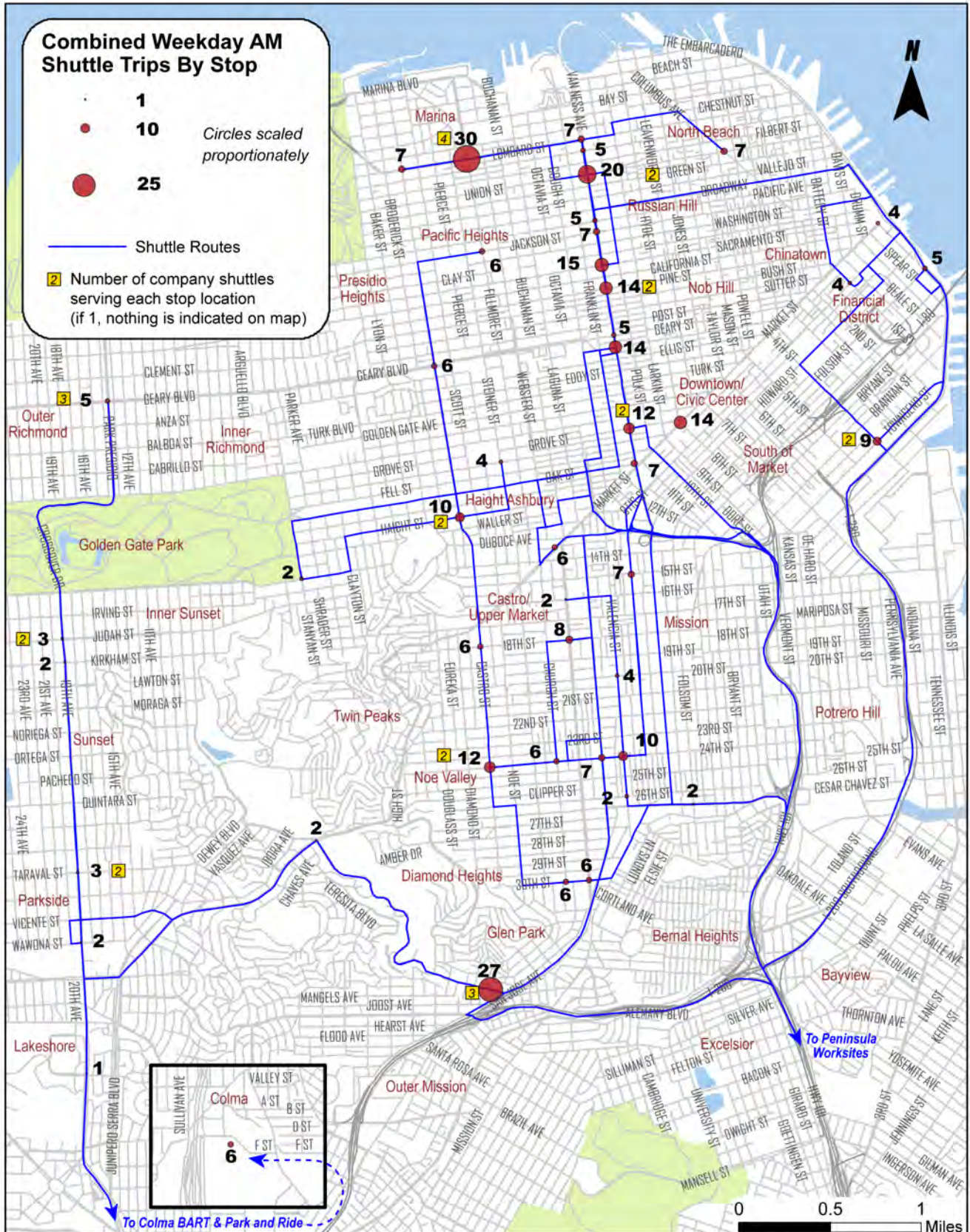


**MTA** Municipal Transportation Agency  
 SOURCE: SFMTA (2008)

By Sam Fielding,  
 MTA-Planning Division 5/30/08

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**



## APPENDIX C

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 investigating 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>. MTA has similarly suggested identification and pre-approval of suitable layover locations for shuttles in San Francisco<sup>5</sup>.

New York 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 & buses during the commute hours<sup>6</sup>. San Francisco might similarly have opportunity to seek shared parking opportunities for both stops and layovers in the neighborhoods.

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<sup>1</sup> Conversations with: B. Bryant, SDOT, 6/3/09, L. Frosch of Microsoft, 6/5/09

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<sup>5</sup> Conversation with J. Kirschbaum, SFMTA, 11/06/09.

<sup>6</sup> Conversation with S. Sanagavarapu, NYCDOT, 10/06/09