

Commuter Shuttle Program

April - September 2016 Status Report

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EXECUTIVE SUMMARY

The San Francisco Municipal Transportation Agency (SFMTA) has implemented the Commuter Shuttle Program to manage commuter shuttles with the objective of minimizing conflicts with Muni, reducing emissions, improving traffic flow, enhancing pedestrian safety, keeping larger buses off smaller non-arterial streets, and limiting unsafe boarding situations.

Background

State law allows commuter shuttles to operate in San Francisco. The City has experienced the impacts that these vehicles can have on the transportation network without the presence of regulation. Prior to August 2014, San Francisco did not regulate commuter shuttles. Shuttles loaded and unloaded passengers in a variety of places whether it was legal or not, including white loading zones, red Muni zones, and other vacant curb space. When curb space was unavailable, shuttles often would load or unload passengers in the street.

In response, the SFMTA launched a pilot program. The Pilot Program that ran from August 2014 through January 2016 provided insight and a regulatory framework. The Pilot helped shape the current Commuter Shuttle Program.

The City of San Francisco has taken a proactive approach by creating a voluntary Commuter Shuttle permit program. Participating shuttle operators agree to abide by a set of rules and regulations in exchange for access to designated commuter shuttle zones where they can load and unload passengers. Shuttle operators pay a fee of \$7.31 each time they stop at a shuttle zone. Permit fees are expected to total \$4.5 million over the course of the current year of operation. Funds generated from stop events¹ fully cover

¹ A "stop event" is defined as an individual instance of a shuttle vehicle stopping at a zone in the shuttle zone network.

the cost to administer this program, including enforcement and dedicated staff to address concerns and amend the program in response to feedback from stakeholders.

Key Findings

Data collected and analyzed from the launch of the current program in April 2016 to September 2016 show that the current program has improved shuttle vehicle behavior while minimizing the impacts of shuttle vehicles on the rest of the transportation network, despite a 15 percent increase in shuttle ridership and an increase in the number of shuttle vehicles on the road each day.

Specifically, the data show:

Reduced Potential for Conflicts with Muni

- A reduction in the percentage of stop events occurring in shared Muni zones since the end of the Pilot (72 percent to 57 percent), reducing the potential for conflicts between shuttle vehicles and Muni buses.

Fewer Shuttles on Smaller or Restricted Streets

- Since January 2016 the proportion of stop events on non-arterial streets dropped from 26 percent to 9 percent.
- Continuous real-time GPS tracking data for all vehicles registered in the program has enabled the SFMTA to identify any vehicles travelling on restricted streets (non-arterial or streets restricted per the San Francisco Transportation Code) resulting in:
 - o A 91 percent decrease in the total number of shuttle vehicles operating on restricted streets each month (3,696 shuttles in April 2016 to 334 shuttles in August 2016).
 - o A 92 percent decrease in the daily

Executive Summary

average of shuttle vehicles operating on restricted streets. In April 2016, an average of 195 shuttles operated on restricted streets per day compared to 15 shuttles per day in August 2016.

- Unauthorized travel on non-arterial streets has declined noticeably since April 2016. Four popular Pilot shuttle routes were examined to evaluate the shift of shuttle vehicles off of non-arterial streets to the arterial network.
 - o *Hayes Street:* An average of 35 shuttle vehicles per day violated non-arterial street restrictions and traveled along the Hayes corridor in April 2016. By August 2016, only nine shuttles did so over the course of the entire month.
 - o *Church Street:* Similar to Hayes Street, Church Street has seen a significant reduction in non-arterial street restriction violations, decreasing from an average of 15 unauthorized shuttles per day in April 2016 to an average of one unauthorized shuttle per day in August 2016.
 - o *30th Street:* In April 2016, one to two large vehicles, vehicles over 35 feet in length, per day traveled along 30th Street; in August 2016, no large shuttles were observed on 30th Street.
 - o *Greenwich Street:* In April 2016, an average of five large vehicles operated on Greenwich between Lyon and Polk per day. In contrast, only two large vehicles operated on Greenwich Street during the entire month of August 2016.

Cleaner Vehicles

- The percentage of registered vehicles model year 2012 or newer has increased from 59 percent at the end of the pilot to 76 percent in the current program. Over time as new vehicles, which are required to meet 2012 California emission standards, are registered in the program and older vehicles are retired,

the percentage of vehicles year 2012 or newer will continue to increase.

Reduced Potential for Service Disruption

- All permitted operators have a service disruption prevention plan in place which documents labor harmony. Since April 2016, there have been no disruptions to shuttle services resulting from labor disputes.

Dedicated Enforcement

- There is a detail of SFMTA Parking Control Officers that is specifically focused on Commuter Shuttle Program enforcement. Parking Control Officers issued 2,267 citations worth \$360,895 to permitted shuttle vehicles between August 2014, the first month of the Pilot, and August 2016. Parking citation revenue goes to the SFMTA general fund.

Conclusion

The current program is working. Data collected between April and September 2016 shows that even as shuttle ridership is up there are fewer shuttles on restricted streets or in conflict with transit. The establishment of a regulatory framework by the SFMTA has created a mechanism by which the agency has been able to take an active role in regulating vehicles that are legally allowed on San Francisco streets. This regulation is making our streets safer and helping to mitigate a myriad of conflicts while reducing the impacts of large shuttle vehicles. It also provides the tools and flexibility necessary to manage what is a rapidly evolving landscape of transportation opportunities and challenges.

INTRODUCTION

This report provides a six month status update on the Commuter Shuttle Program, adopted by the San Francisco Municipal Transportation Agency (SFMTA) Board of Directors in November 2015 and launched on April 1, 2016.

State law allows commuter shuttles to operate in San Francisco. The city's regulatory approach is focused on minimizing conflicts with Muni, reducing emissions, improving traffic flow, enhancing pedestrian safety, keeping larger buses off smaller non-arterial streets, and limiting unsafe boarding situations.

The current 12-month Commuter Shuttle Program has improved upon lessons learned from the Pilot Program, which regulated where commuter shuttles could load and unload, established a permit system that articulated operating rules, and charged shuttle companies to use a limited number of Muni bus stops and designated shuttle zones for loading and unloading passengers.

Background

Prior to August 2014, San Francisco did not regulate commuter shuttles. Shuttles operated throughout the City on both large arterial streets, such as Van Ness Avenue and Mission Street, and smaller non-arterial streets. Shuttles loaded and unloaded passengers in a variety of places whether it was legal or not, including white loading zones, red Muni zones, and other vacant curb space. When curb space was unavailable, shuttles often would load or unload passengers in the street. The lack of rules for where and when loading and unloading were permitted resulted in confusion for shuttle operators and neighbors, inconsistent enforcement, and real and perceived conflicts with other transportation modes.

The SFMTA developed a regulatory approach to address these issues which included creating a shuttle operator permit that defined terms of compliance for permit holders and the identification of a set of locations that permit-holding shuttles were allowed to use for loading and unloading passengers. In January 2014, the SFMTA Board approved an 18-month Pilot Program to test the regulations. The Pilot Program began in August 2014. It created a network of select stops shared by Muni and commuter shuttles as well as dedicated shuttle only loading zones for permitted commuter shuttles during specific times of day. Commuter shuttle operators paid to participate in the program. The original fee was \$3.55 per stop event. The fee rose to \$3.67 per stop event in July 2015.

During the Pilot, which lasted from August 2014 to January 2016, the SFMTA collected data in the field and consulted shuttle operators, riders and other San Francisco residents, and community stakeholders. The evaluation of this data found significant improvement in issues such as reducing conflicts with Muni resulting from the implementation of shared zones and increased enforcement. The evaluation also found there were other issues, such as the presence of large vehicles on smaller streets, that could be addressed in an on-going shuttle program.

Based on this data and the findings of the Pilot Evaluation Study², the SFMTA recommended a number of changes for a new Commuter Shuttle Program moving forward. Regulations that were adopted as part of the current program to address needs identified in the evaluation of the Pilot included restricting shuttles over 35

² Commuter Shuttle Pilot Program Evaluation Report, October 5, 2015. <https://www.sfmta.com/sites/default/files/projects/2015/Evaluation%20Report%20-%20Oct%205%202015.pdf>

Introduction

feet in length to Caltrans-designated arterial streets and requiring new shuttle vehicles to meet 2012 California emissions standards.

In November 2015, the SFMTA Board passed legislation creating the current Commuter Shuttle Program. The Program went into effect on April 1, 2016 and is currently authorized for a one-year period.

In February 2016, the San Francisco Board of Supervisors (BOS) stated an interest in studying a “hub” model for commuter shuttles which would concentrate commuter shuttle loading and unloading at a small number of designated locations in the City rather than providing a dispersed citywide network of loading zones. The SFMTA in collaboration with the San Francisco County Transportation Authority (SFCTA) agreed to study an alternative model. At the time of this report a study evaluating a “hub” model has been completed. In addition, the BOS discussed working with the Budget and Legislative Analyst’s Office to study the relationship between transportation programs and housing costs.

Principles of the Commuter Shuttle Program

Based on the results of the Pilot evaluation, the air quality analysis conducted as part of the San Francisco Planning Department’s environmental review of the Commuter Shuttle Program, and other input received from elected officials and the public, the following principles inform the current Commuter Shuttle Program policy:

1. Provide a safe environment for all street users in support of the SFMTA’s Vision Zero policy to eliminate all traffic deaths;
2. Ensure that commuter shuttles do not adversely affect operations of public transportation in San Francisco;
3. Apply and enforce any regulations/policies governing shuttle operations consistently and fairly;
4. Work collaboratively with shuttle sector to refine policies and resolve concerns and conflicts;
5. Integrate commuter shuttles into the existing multi-modal transportation system;
6. Establish a program structure that meets current needs and has the potential to evolve as the sector grows and evolves;
7. Ensure more focused enforcement, ease of administration and on-going oversight; and
8. Prevent service disruptions, including any related to labor relations issues.

COMMUTER SHUTTLE PROGRAM OVERVIEW

The current Commuter Shuttle Program applies to privately-operated transportation services that move commuters to, from, and within San Francisco. Participation in this program is voluntary.

Rules adopted as part of the current program include the following:

- Shuttles over 35 feet in length operating under a permit may only travel on Caltrans-designated arterial streets when in San Francisco;
- The number of shuttle stop locations is capped at 125;
- To operate in the permit program, any new shuttle vehicle must meet 2012 California emissions standards;
- Shuttle operators must provide a Service Disruption Prevention Plan describing how they deal with service disruptions, including those due to potential labor disputes; and
- Shuttle operators must provide the SFMTA with continuous real-time GPS tracking data for all vehicles registered in the program

Commuter Shuttle Network

SFMTA's Commuter Shuttle Program requires that permit-holding shuttles longer than 35 feet travel only on streets designated by the California Department of Transportation (Caltrans) as arterials. By requiring larger vehicles to use arterials, a large portion of shuttle vehicle travel is shifted off of smaller streets. Permit-holding shuttles shorter than 35 feet long are permitted to travel on non-arterial streets, as long as the streets do not have other restrictions. No commuter shuttles are permitted to travel on 3-ton weight-restricted streets or 9-passenger capacity-restricted streets (Figure 1). As the Commuter Shuttle Program's rules and regulations apply only to shuttle operators who wish to use designated

commuter shuttle zones³, shuttles that are not in the Program may operate on any street in the city except those with weight or capacity restrictions.

Figure 2 shows what portions of San Francisco are within a 10 minute, or one-half mile, walk of a commuter shuttle zone. In the northeast quadrant of the city, most neighborhoods are within a 10 minute walk of a shuttle zone with the exception of a portion of the Marina and Russian Hill, due to weight restricted streets and lack of arterial roadways. In the southeast quadrant of the city, the Mission, Noe Valley, and Castro neighborhoods are all within a ten minute walk of one or more shuttle zones, with the exception of the blocks adjacent to and just east of Dolores Park in the Mission. In that area, the SFMTA Board chose not to proceed with new shuttle stops after hearing community concerns regarding the presence of commuter shuttles on Dolores Street. In the western half of San Francisco, the ten minute walk coverage area is concentrated around 19th Avenue and the Inner Richmond neighborhood.

Commuter Shuttle Zones

There are currently 109 shuttle zones in the shuttle network of which 80 are shared Muni-commuter shuttle zones and 29 are permitted commuter shuttles-only white zones. The current program allows up to 125 zones in the City (see Figure 1 for current shuttle zones).

Recent Zone Changes

Since the new Commuter Shuttle Program began on April 1, 2016, the SFMTA has made a number of changes to the commuter shuttle stop network to improve safety and reduce conflicts with Muni, and to provide access

³ Designated curb space where shuttles are allowed to stop, including shuttle-only white loading zones and shared MUNI zones.

**Figure 1:
Commuter Shuttle Program
Shuttle Zone Locations and
Permitted Streets**



Commuter Shuttle Zones

- Muni Hours
- AM Hours
- AM & PM Hours
- PM Hours

Commuter Shuttle Street Restrictions

- 9+ Passenger Bus Prohibited
- 3+ tons Prohibited
- 3+ tons & 9+ Passenger Bus Prohibited
- 9+ tons Prohibited
- Unrestricted Arterial
- Non-Arterial Street



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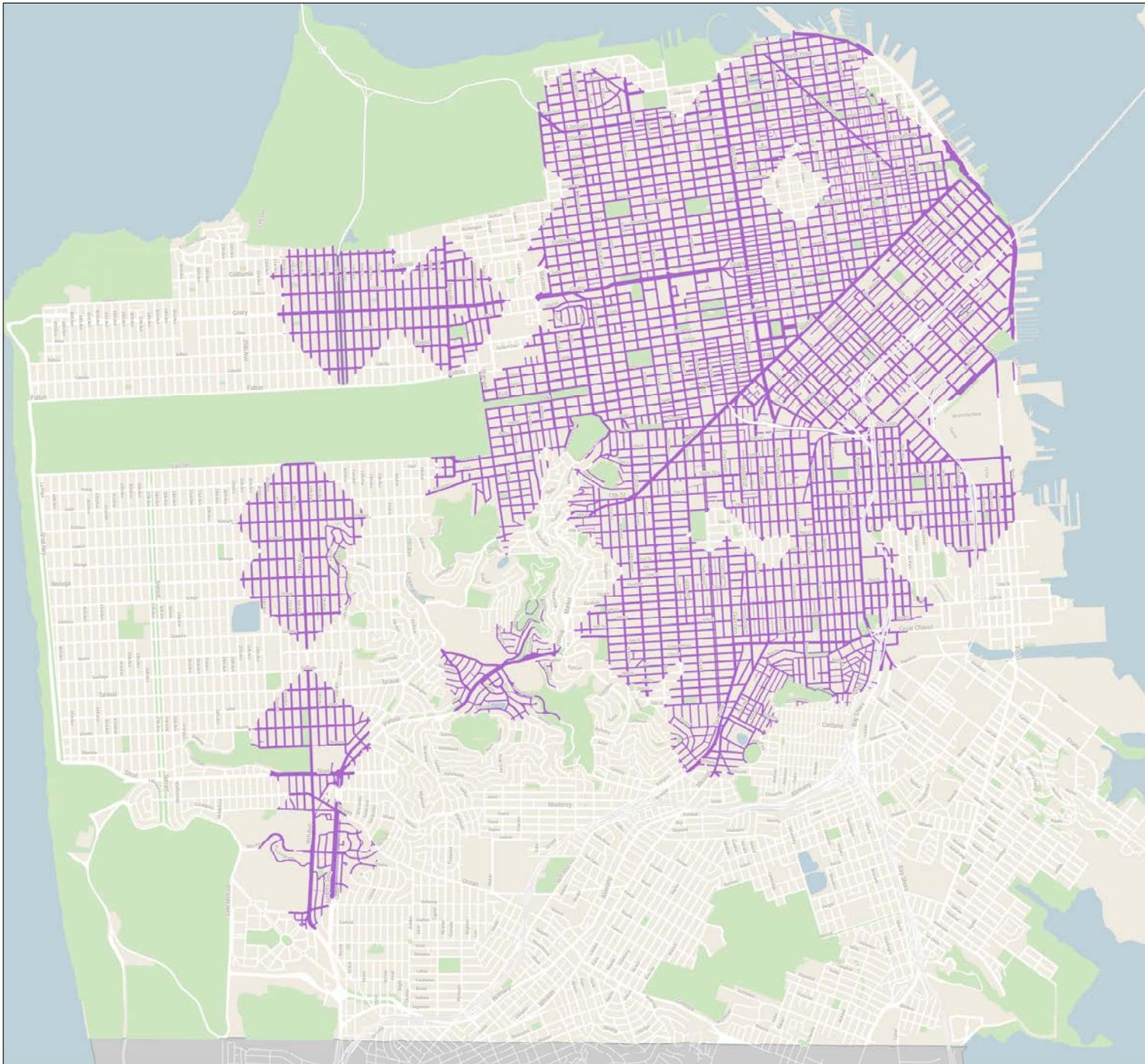
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Figure 2:
Locations within a
Ten Minute (half-mile)
Walk from a Current
Designated Shuttle Zone

Commuter Shuttle Zones

- Muni Hours
- AM Hours
- AM & PM Hours
- PM Hours
- 1/2 Mile Walk from Shuttle Stop



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Commuter Shuttle Program Overview

on arterials in compliance with the current program’s regulations (Figure 3). The SFMTA continues to pursue changes in the stop network when stop locations that better meet these goals are identified.

- **Total zones:** The total number of designated commuter shuttle zones in San Francisco decreased from 125 at the end of the Pilot to 109 in September 2016. For reference, this represents less than half of the 240 zones that shuttle operators had sought at the start of the Pilot⁴.
- **Zone type:** The Commuter Shuttle Program aims to minimize conflicts between shuttles and Muni vehicles. The number of shared Muni-commuter shuttle zones fell by 25% from 106 to 80 between the end of the Pilot and September 2016, while the

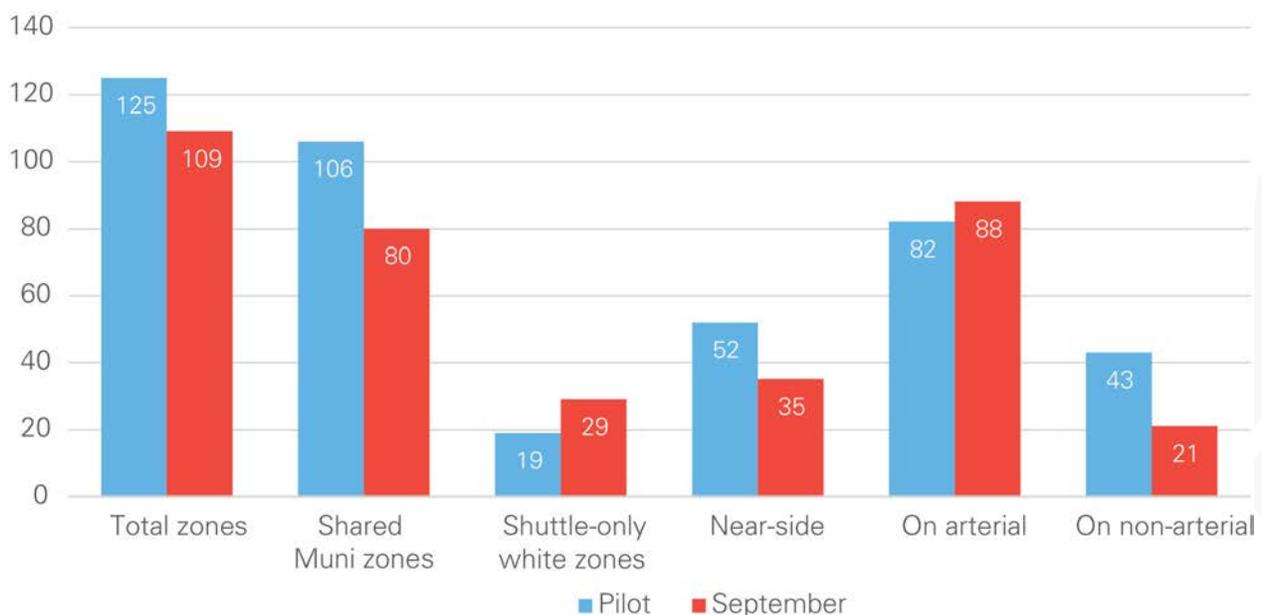
number of shuttle-only white loading zones increased from 19 to 29.

- **Zone position:** Large vehicles stopped at the “near-side” approach to an intersection can obstruct turning drivers’ view of pedestrians entering the crosswalk. The number of near-side stops decreased from 52 to 35 between the end of the Pilot and September 2016.
- **Zone location:** The number of shuttle stops on non-arterial streets decreased by more than half between the end of the Pilot and September 2016, while the number of stops on arterial streets rose slightly. A limited number of stops on non-arterial streets remain which may be used by vehicles less than 35 feet in length.

All told, 35 commuter shuttle zones were removed and 20 new zones created during the first six months of the current Commuter Shuttle Program. Most of these changes

⁴ Commuter Shuttle Pilot Program Evaluation Report, October 5, 2015. Page 10. <https://www.sfmta.com/sites/default/files/projects/2015/Evaluation%20Report%20-%20Oct%205%202015.pdf>

Figure 3 Commuter Shuttle Stop Changes, January 2016 - September 2016



Commuter Shuttle Program Overview

involved the removal of shuttle zones located on non-arterial streets and their replacement with new zones on arterial streets where appropriate. Most of the zones removed were shared Muni zones while most of the new zones are permitted commuter shuttle-only white zones. Other zone changes were made in response to construction projects or specific community concerns.

Staff takes a number of factors into consideration when proposing potential commuter shuttle zones. First and foremost are safety concerns for people walking and biking. Others include potential conflicts with Muni; parking impacts and blocked driveways; trees and curb bulbs that could prevent shuttles from pulling out of traffic; adjacent land uses; shuttle activity and volumes; and proximity to other shuttle stops.

Zone Change Outreach

Members of the public have opportunities to comment on proposed shuttle zones in person or through written communication at Engineering Public Hearings and SFMTA Board meetings. Staff posts notices on nearby light poles, contacts nearby businesses, notifies commuter shuttle operators and mails notices to all addresses within two blocks along the street and one block on either side of proposed shuttle loading zones before Engineering Public Hearings. Updates are sent to the SFMTA's email list before SFMTA Board meetings, and staff often contacts interested neighborhood organizations, merchant groups and Supervisors' offices.

The SFMTA received comments from over 100 members of the public about zone changes in the first six months of the program. Many of these comments came from neighbors on arterial streets concerned about restriction of parking, blocked driveways, noise, and traffic congestion associated with proposed

commuter shuttle zones near their homes. Others came from riders upset at the removal and relocation of zones from non-arterial streets. One business owner adjacent to a zone on a non-arterial street opposed the stop's removal citing the boost that his business had experienced from the patronage of shuttle riders. Some riders expressed support for the new zones, and residents commented in support of removing zones on non-arterial streets.

The SFMTA altered a number of stop proposals in response to community feedback when other feasible alternatives were identified. Staff continues to closely monitor conditions at shuttle zones across the city and to explore potential changes when technical issues arise.

Impacts on Automobile Parking

Permitted commuter shuttle-only white zones now restrict parking in a total of 89 parking spaces during morning peak hours and 70 parking spaces in the evening peak, an increase from 64 spaces in the morning and 36 in the evening during the Pilot. Some of the busiest shared Muni zones in the city along corridors like Van Ness Avenue, Hayes Street, and 18th Street were removed and replaced by separate shuttle-only loading zones nearby.

Permit Fee

The SFMTA charges each participating shuttle operator a permit fee based on the number of stop events each provider makes. A "stop event" is defined as an individual instance of a shuttle vehicle stopping at a zone in the shuttle zone network. The current "stop event" fee is \$731 per stop event. For example, a shuttle service provider that has 10 vehicles making 10 stop events each per day is charged for 100 stop events per day or a total of \$731 per day. The permit fee covers the costs to SFMTA to

Commuter Shuttle Program Overview

administer the program, including deployment of Parking Control Officers to monitor shuttle behavior. In total, approximately \$2.1 million in stop event fees has been generated, for the months of April to September, 2016.

Permittees

Shuttle operators must apply for a permit to participate in the Commuter Shuttle Program and permits must be renewed each year. There are currently 16 shuttle service providers with Commuter Shuttle permits:

- Bauer’s Intelligent Transportation, Inc.⁵
- Black Tie Transportation
- Compass Transportation/SFO Airporter
- Corinthian International Parking Services
- Kaiser Permanente
- LOOP Transportation
- Lux Leasing
- Lux Bus America
- MV Transportation/Mission Bay TMA
- Pure Luxury Transportation
- Royal Coach Tours
- San Francisco Minibus
- Storer Coachways
- Sunset Development/Bishop Ranch
- Transmetro
- WeDriveU

⁵ Bauer’s initial permit application was denied by the SFMTA on March 29, 2016. Bauer’s permit application was later approved on September 20, 2016.



SHUTTLE ACTIVITY

Stop Events

At the end of the Pilot program there were approximately 3,200 daily stop events (Figure 4).

The total number of daily stop events fell by around 10 percent between April 2016, when the new Commuter Shuttle Program began, and July 2016. Several factors may explain this, including changes in the stop network throughout the first few months of the program, the stop event fee increase in July, and a decrease in demand during the summer months. The number of daily stop events rose between July and September, approaching the level of stop events observed at the end of the Pilot in January.

The composition of stop events changed as well due to changes in the commuter shuttle zone network and program rules and regulations. At the end of the Pilot, 72 percent of stop events were in shared Muni zones, decreasing to 57 percent in September 2016. During the same period, the proportion of stop events on non-arterial streets dropped from 26 percent to nine percent.

Figure 5 visualizes the total number of daily shuttle stop events that occurred at all active zones within the shuttle network in September 2016. Stop event totals at shuttle zones ranged from 0 to 147 stop events per day.

Although shuttles pick up and drop off passengers at locations throughout San

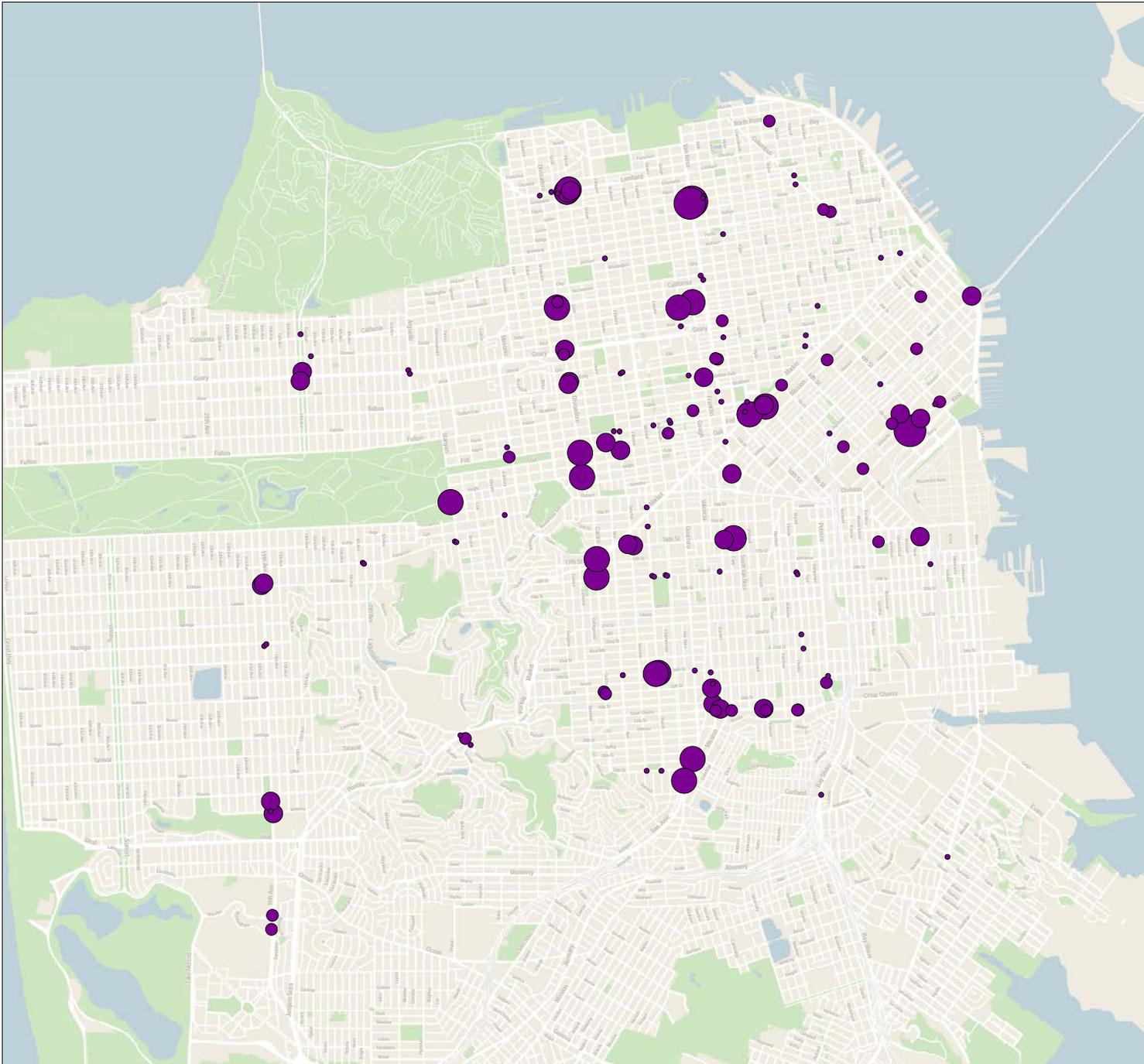
Figure 4 Average Daily Shuttle Stop Events by Month



Figure 5:
Commuter Shuttle Program
Total Stop Events by
Shuttle Zone

September 2016 Daily Stop Events

- 0 - 8
- 9 - 26
- 27 - 53
- 54 - 90
- 91 - 147



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One Mile

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Shuttle Activity

Francisco, there are specific shuttle zones that experience particularly high levels of shuttle activity. Figure 6 lists the ten shuttle zones with the highest number of daily stop events. These zones are generally located along high volume arterial corridors such as Van Ness Avenue, Lombard Street, and Valencia Street. In addition, many of the most active shuttle zones are located near major public transit connections like the Caltrain station at 4th and Townsend Streets and Civic Center BART Station at 8th and Market Streets. Several stop locations in the southern portion of Van Ness Avenue have been relocated to Gough and Franklin streets because of construction activity on Van Ness Avenue.

Shuttle Volumes

The total number of unique shuttle vehicles that operate on San Francisco streets each day ranges from approximately 360 to 390 vehicles compared to approximately 300 shuttle vehicles during the Pilot. However, a single

shuttle vehicle may make multiple trips to and from or within San Francisco throughout the course of a day.

The vast majority of shuttle activity occurs between the hours of 5 a.m. to 11 a.m. and 4 p.m. to 10 p.m. with the a.m. period seeing the highest level of shuttle volumes. Between April 2016 and July 2016, the daily average number of shuttles travelling during the morning (5 a.m. to 11 a.m.) ranged between 204 and 240 unique vehicles.

During the evening travel period (4 p.m. to 10 p.m.) the daily average shuttle volume ranged between 189 and 227 unique vehicles. Shuttle volumes during evening hours are marginally lower than shuttle volumes during the morning travel period.

Between April 2016 and July 2016 the average daily shuttle volume decreased slightly. August 2016 data (not included in this report) indicates

Figure 6 Daily Stop Events at Highest Utilized Zones, September 2016

Location	Total daily stop events
Townsend Street and 4th Street - south side, mid-block	147
Van Ness Avenue and Union Street - southeast corner	113
Van Ness Avenue and Union Street – southwest corner, a.m. only	103
8th Street and Market Street - southwest corner	94
Lombard Street and Pierce Street - northeast corner	92
San Jose Avenue and 29th Street - southeast corner	85
Divisadero Street and California Street – southwest corner	82
Franklin Street and Bush Street northeast corner	82
Valencia Street and 25th Street - northeast corner	79
Gough Street and Bush Street - southwest corner, a.m. only	77

Shuttle Activity

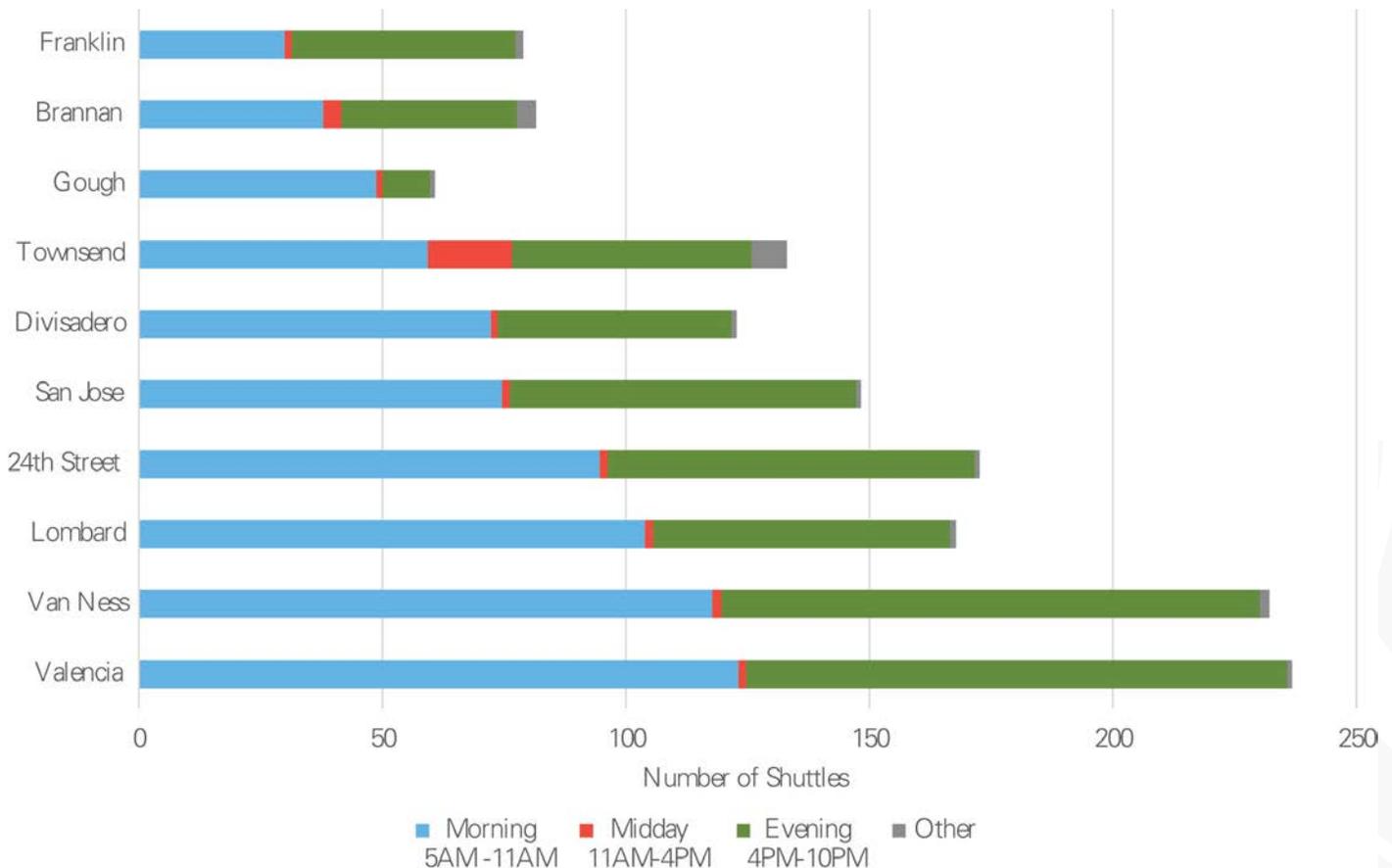
that shuttle volumes have risen since July 2016 and are approaching April 2016 shuttle volume levels.

Shuttle travel activity is distributed throughout San Francisco, but is particularly concentrated along certain corridors within the city (Figure 7). SFMTA staff identified streets and corridors with high levels of daily shuttle activity based on stop event data and then used real-time shuttle GPS data to analyze the total number of shuttles traversing the specified corridors during a designated period of time. Unique corridor traversals were calculated by counting

the number of unique vehicle license plates that appeared within 15 minute increments of a larger time period (e.g. 5 a.m. to 11 a.m.) along such corridors. As such, this methodology accounts for the total number of shuttle trips along the specified corridors for the designated periods of time.

Valencia Street and Van Ness Avenue experience the highest shuttle volumes during both the morning and evening travel periods, with over 200 shuttle trips made along these corridors on an average day. During the morning period, 123 shuttle trips were made

Figure 7 Shuttle Volumes on Ten Most Traveled Corridors



Shuttle Activity

along Valencia Street while 118 shuttle trips were made on Van Ness Avenue and there were 104 shuttle trips on Lombard Street.

Service Area

Commuter shuttles provide both intercity and intracity service. Intercity service represents trips with a start or end point within San Francisco and the other outside of San Francisco, while intracity trips begin and end entirely within San Francisco. The majority of daily shuttle trips are intercity trips. Eighty-five percent of daily shuttle trips occur on intercity routes, while only 15 percent of daily shuttle trips begin and end within San Francisco.

Ridership

An estimated 9,800 people board commuter shuttles every day. This represents an approximately 15 percent increase in ridership from the Pilot, when an estimated 8,500 people boarded commuter shuttles on a daily basis. Approximately 86% of all daily boardings are made on intercity shuttles, whereas only 14% of all daily boardings are made on intracity shuttles. During the Pilot, 76% of daily boardings were made on intercity shuttles, and 24% were made on intracity shuttles.

Air Quality Impacts

As part of the environmental review for the current Commuter Shuttle Program, prior to the Program's adoption an outside consultant conducted a technical air quality analysis which evaluated criteria air pollutants and ozone precursors, as well as local risk and hazard impacts associated with the Program. In addition, as part of the adoption of the current program the SFMTA Board stated that the agency would monitor air quality and significant increases in stop events at individual locations.

For the purposes of the air quality analysis of the Program a maximum of 200 shuttle zones and a 29 percent increase in shuttle activity relative to the Pilot was assumed. The air quality analysis considered a scenario in which the number of stop events at one intersection grew to 440 per day and found that this level of shuttle activity would not lead to localized health impacts among nearby residents. The current program has a total of 109 shuttle zones and fewer daily stops than the Pilot, 3,213 in January 2016 and 3,168 in September 2016. In addition, no individual intersection has a level of shuttle activity that approached the intensity of use examined in the report. Thus, the parameters of the current program fall within the range analyzed.

SHUTTLE VEHICLES

At the end of the Pilot there were a total of 626 vehicles registered in the program. Currently there are 789 vehicles registered in the Commuter Shuttle Program. This includes back up vehicles that do not operate on a daily basis. On an average day, between 360 and 390 vehicles operate in commuter shuttle service in San Francisco.

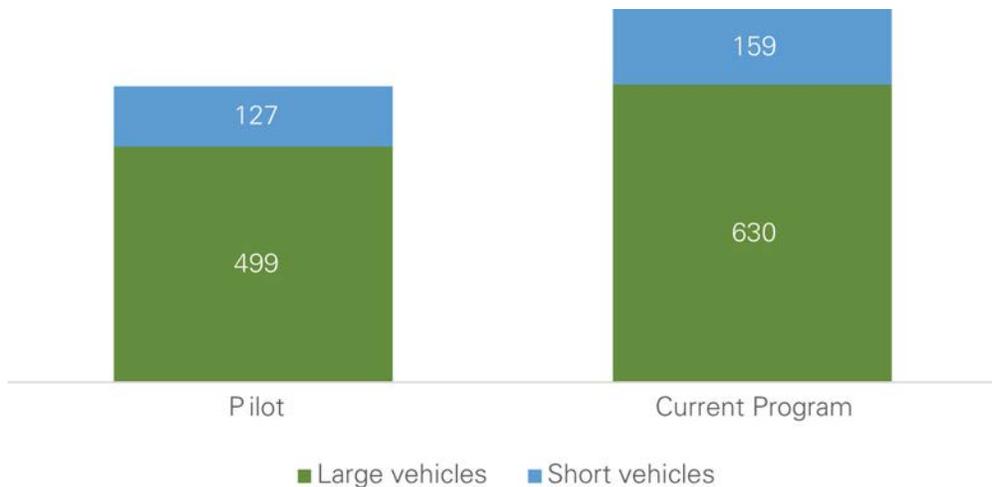
Vehicles by Size

Of the 789 vehicles registered in the Commuter Shuttle Program, 630 vehicles are “large” vehicles greater than 35 feet in length, while 159 vehicles are “short” vehicles less than 35 feet in length (Figure 8). Vehicles greater than 35 feet in length are required to travel on the Commuter Shuttle Program’s designated arterial network while vehicles under 35 feet in length may operate on any street that does not possess a weight or capacity restriction.

Despite an increase in the total number of vehicles registered in the Commuter Shuttle Program, the ratio of large vehicles to short vehicles as a percentage of total vehicles has remained constant from the pilot to the current program, with 80 percent of shuttles being greater than 35 feet in length and 20 percent of shuttles being under 35 feet in length.

In specific cases, some shuttle operators have replaced large vehicles with short vehicles in order to continue to operate on non-arterial streets. One shuttle operator increased the total number of short vehicles in their fleet from eight to 29 (with a commensurate decrease in the total number of large vehicles in their fleet).

Figure 8 Total Number of Registered Shuttle Vehicles by Type - Current Program Versus Pilot



Shuttle Vehicles

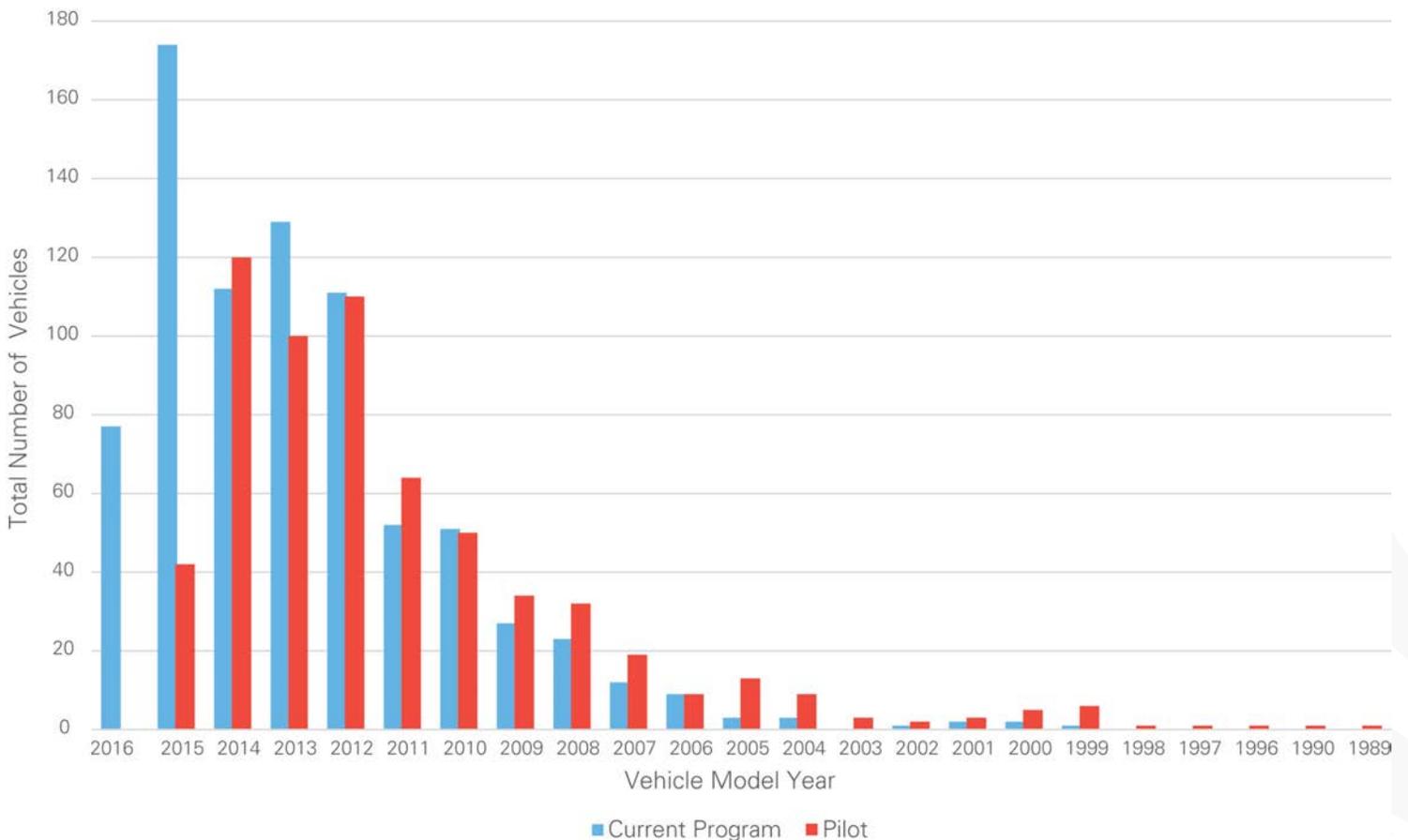
Clean Vehicles

Shuttle travel in San Francisco has become noticeably cleaner following the implementation of the current Commuter Shuttle Program due to program requirements which stipulate that any new vehicles registered with the program – that were not used in the Pilot – must be vehicle model year 2012 or newer or be equipped with a power source that complies with emissions standards applicable to model year 2012 vehicles of the same type. As of January 1, 2020 the program would require that all shuttles belonging to permitted operators must be no more than 8 years old. Newer coach

models are increasingly more fuel efficient and produce lower quantities of particle emissions than their older counterparts.

During the Pilot, 59 percent of shuttle vehicles belonging to registered operators were model year 2012 or newer. As a result of the current program’s more stringent vehicle requirements the percentage of registered shuttle vehicles newer than model year 2012 has increased to 76 percent. Figure 9 below depicts vehicle counts by model year for both the Pilot and current program.

Figure 9 Vehicle Count by Model Year - Current Program versus Pilot



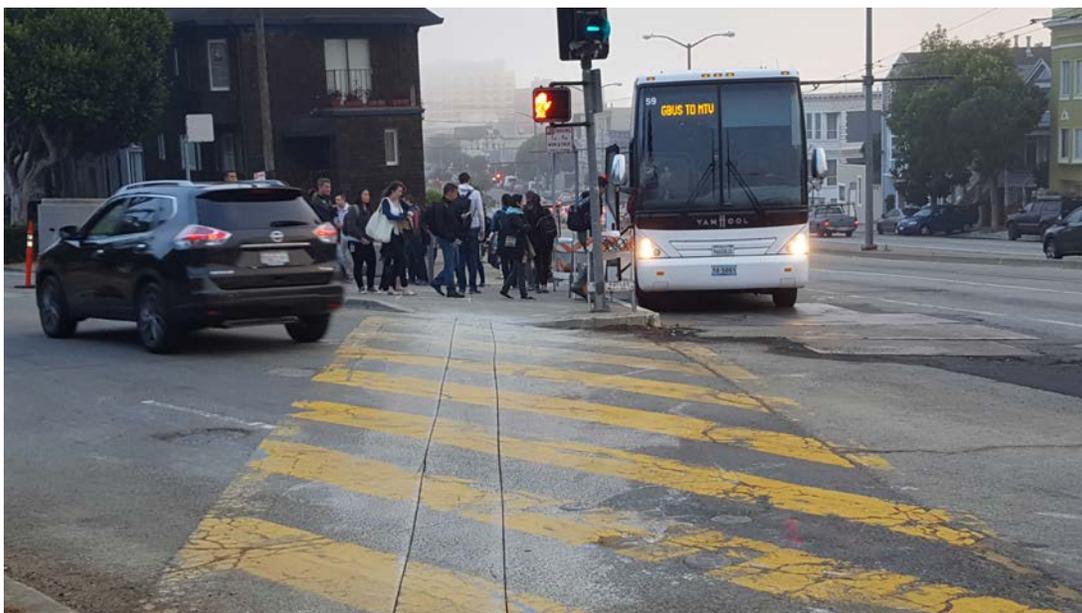
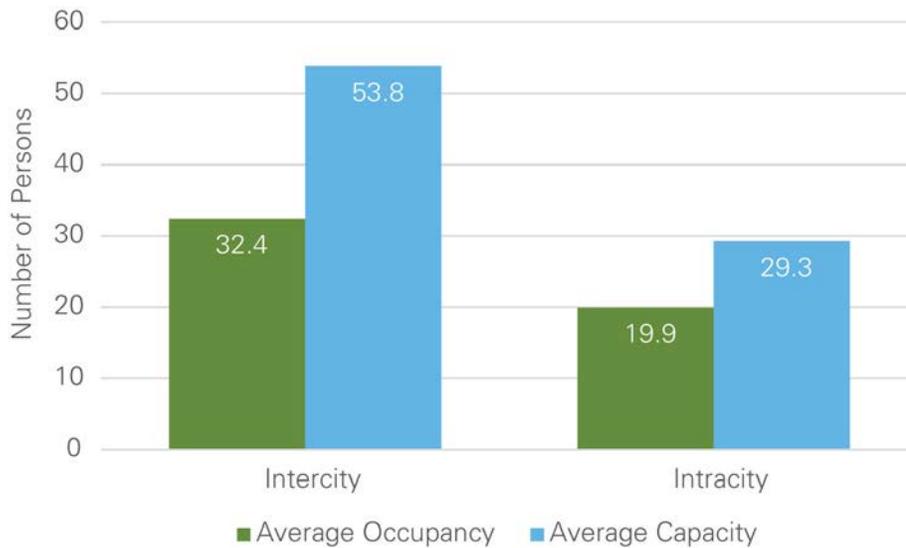
Shuttle Vehicles

Vehicle Occupancy

Shuttle operators are required to report average vehicle occupancy upon arrival at their destination in their Commuter Shuttle Program permit application. These figures vary widely across shuttle operators, particularly between intercity and intracity services.

Permittees cluster into two groups: intercity operators with an average vehicle capacity of around 54 passengers, and intracity operators with an average vehicle capacity of around 29 passengers. Intercity shuttles carry an average of around 32 passengers per trip, for an occupancy rate of just over 60%. Intracity operators carry an average of just under 20 passengers per trip, for an occupancy rate of 68%. (Figure 10)

Figure 10 Average Shuttle Vehicle Occupancy



COMPLAINTS AND ENFORCEMENT

A key element of the Commuter Shuttle Program is the agreement of permittees to comply with a set of shuttle permit terms and conditions. The SFMTA enforces these terms via real-time vehicle tracking GPS data and a dedicated team of parking control officers. Permittees who fail to comply with permit terms and conditions are subject to citations and administrative penalties. Commuter shuttle permit terms and conditions include but are not limited to the following:

- Shuttles with placards may use zones in the commuter shuttle network. Shuttles without placards may not use any zone in the designated network.
- Give priority to Muni buses at shared commuter shuttle-Muni stops.
- Shuttles may use designated stops only while actively loading and unloading.
- Shuttles are to pull as far forward as they

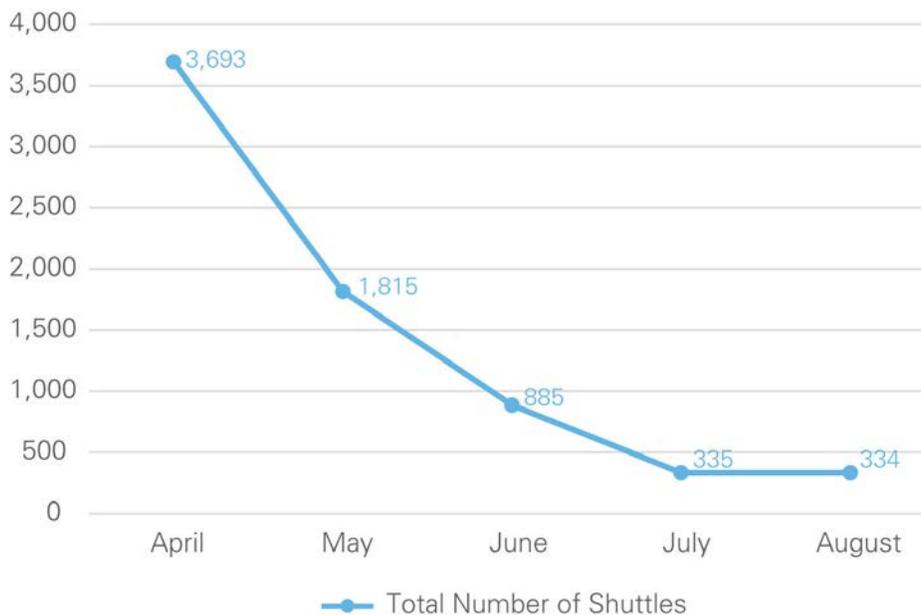
can and to the curb. They must not block crosswalks or impinge on bike lanes or other traffic lanes.

- Shuttles must follow all existing traffic laws, including street restrictions and CPUC permitting requirements.
- Shuttles over 35 feet in length must travel only on Caltrans-designated arterial streets.
- Shuttles must provide data feeds to the SFMTA on a daily basis that track stop events and operations in San Francisco, per SFMTA specifications.

Administrative Penalties

Permit holding shuttle operators are required to provide real-time GPS data regarding shuttle vehicle movements. This data enables the SFMTA to track when a given vehicle travels onto a restricted street; either a non-arterial street or a weight restricted street. Vehicles

Figure 11 Total Number of Shuttles on Restricted Streets per Month



Complaints and Enforcement

longer than 35 feet in length operating under a permit are prohibited from traveling on streets that are not a part of the Commuter Shuttle Program’s arterial network. Permit holding vehicles under 35 feet in length may travel on streets off of the arterial network but are prohibited from operating on streets with weight or passenger restrictions. Shuttles that travel on restricted streets are subject to fines or administrative penalties.

The SFMTA monitors all weekday shuttle activity and issues a fine of \$250 to any vehicle that operates on a restricted street on a given day. For example, if a vehicle travels on a restricted street every day of a five-day work week, the operator would be fined \$1,250. As of August 31, 2016, the SFMTA has issued a total of \$514,000 in administrative penalties for travel on unauthorized streets.

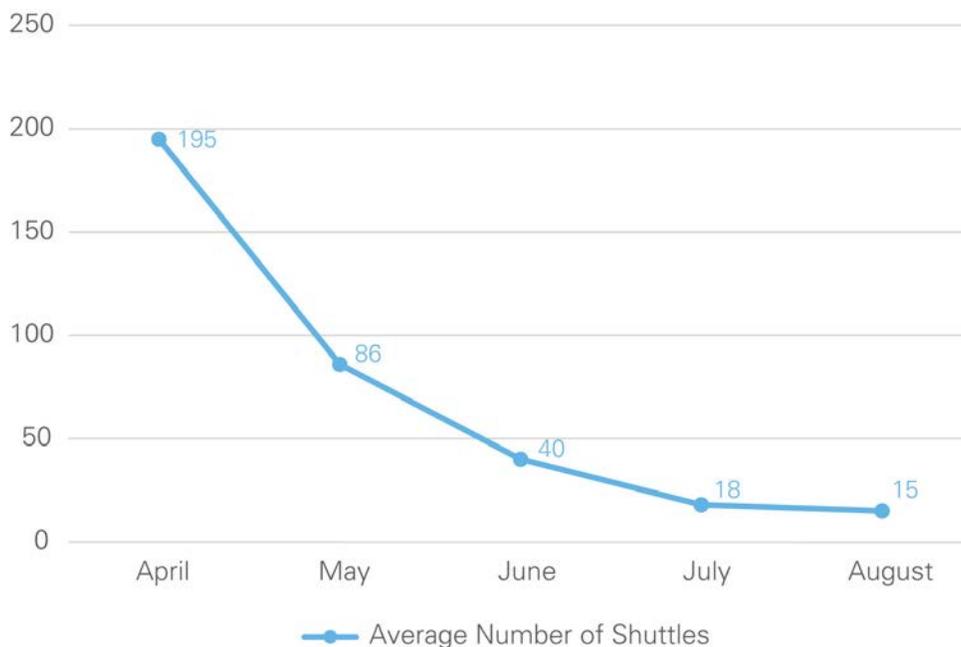
The number of shuttles operating on non-

arterial and weight/passenger-restricted streets has decreased significantly since the current Commuter Shuttle Program began on April 1, 2016. As shown in Figure 11 the total number of shuttles operating on restricted streets each month has declined from 3,696 shuttles in April 2016 to 334 shuttles in August 2016, a 91 percent decrease.⁶ This decrease is likely a result of the current program’s requirement that vehicles over 35 feet travel only on arterial streets and behavior change resulting from administrative penalties issued by the SFMTA.

Figure 12 displays the average number of shuttle vehicles operating on restricted streets per day between April and August 2016. In April 2016, an average of 195 shuttle vehicles operated on restricted streets per day. By August 2016, that number had decreased to 15 shuttle vehicles per day.

⁶ September data was not included in this analysis as complete data for the month of September was not available at the time this analysis was conducted.

Figure 12 Average Daily Number of Shuttle Vehicles on Restricted Streets



Complaints and Enforcement

As noted earlier, shuttle vehicles can receive administrative penalties for operating on either non-arterial streets (in the case of large shuttles) or streets with weight and passenger restrictions. The majority of violations for which administrative penalties have been issued are for large shuttle activity on non-arterial streets.

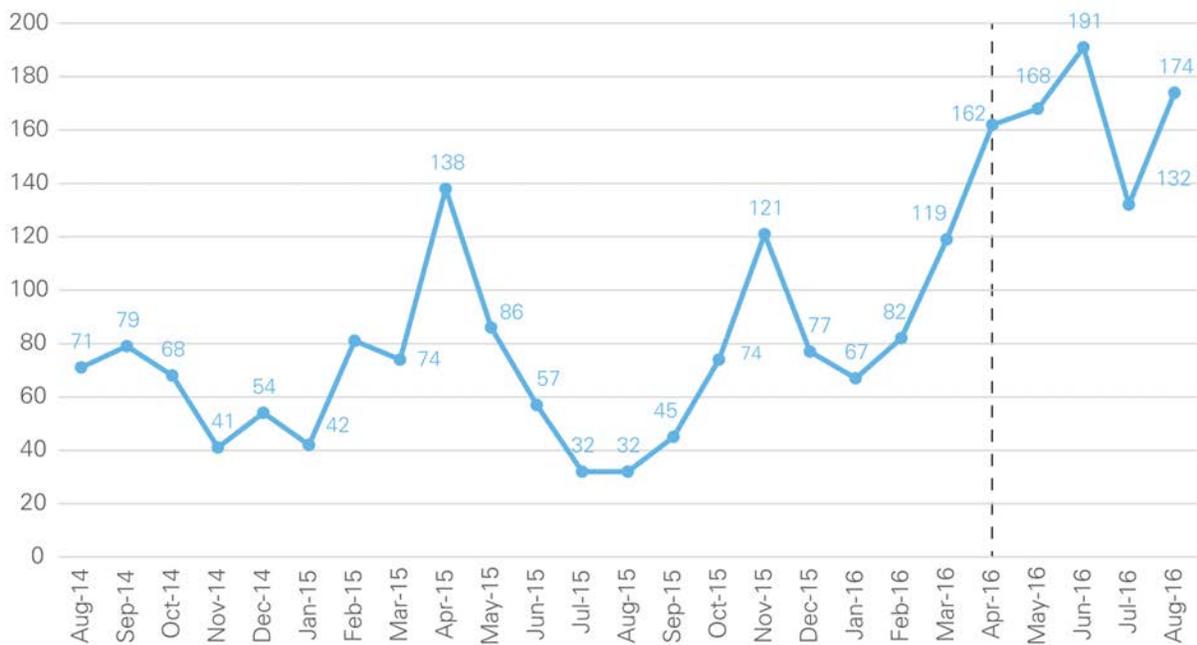
Citations

There is a detail of SFMTA Parking Control Officers that is specifically focused on Commuter Shuttle Program enforcement. Parking Control Officers issued 2,267 citations worth \$360,895 to permitted shuttle vehicles between August 2014, the first month of the Pilot, and August 2016. Parking citation revenue goes to the SFMTA general fund.

Commuter shuttle citation numbers vary widely month to month and may not indicate specific trends. Factors affecting citation numbers range from Parking Control Officer staffing and allocation to shuttle volumes and compliance. Permitted commuter shuttle vehicles received an average of 165 citations per month between April and August 2016.⁷ Citations are heavily concentrated around certain high-volume stops like Valencia and 26th Streets, Divisadero and Haight Streets, and Townsend and 4th Streets.

⁷ September data was not included in this analysis as complete data for the month of September was not available at the time this analysis was conducted.

Figure 13 Total Number of Monthly Citations Issued, Current Program versus Pilot



Complaints and Enforcement

Complaints

The SFMTA receives complaints from the public through a number of sources, including 311, the San Francisco Board of Supervisors' offices, and direct emails and phone calls from members of the public to staff. Staff log these complaints and communicate them with a request for action to the relevant shuttle operator(s). As needed, staff also follow up with the commuter shuttle enforcement detail.

The SFMTA received 267 complaints about shuttle behavior between April and August 2016.⁸ The total number of complaints spiked to 99 in April, then declined significantly to 67 complaints in May and 29 complaints in June. Eighty-six individuals submitted complaints about shuttle behavior. One particularly active community member from the Noe Valley area submitted around 41 percent of the total number of complaints received.

⁸ September data was not included in this analysis as complete data for the month of September was not available at the time this analysis was conducted.

Figure 15 Commuter Shuttle Complaints by Type, April 2016 - August 2016

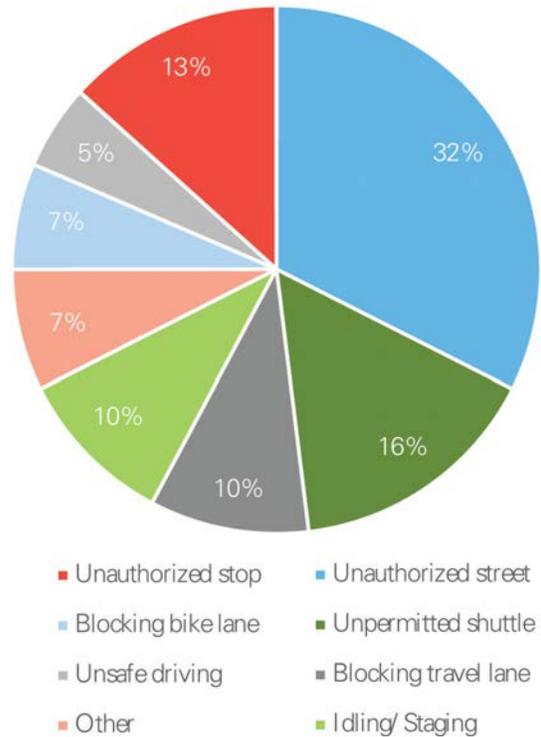
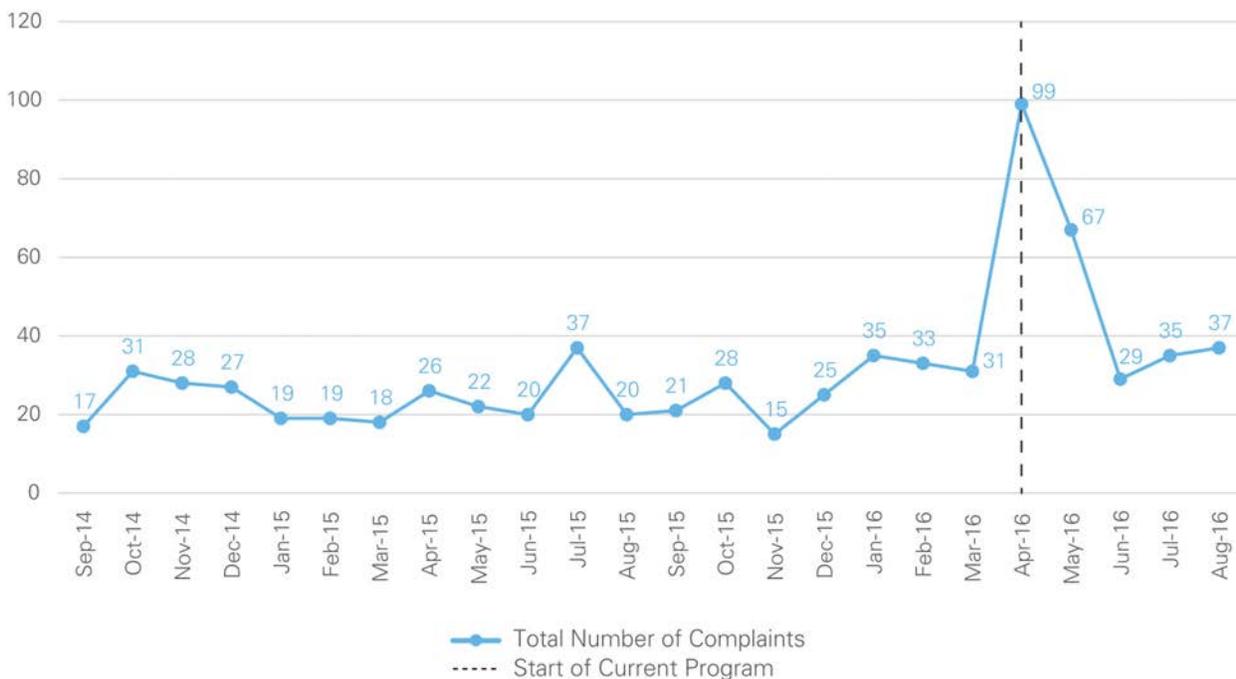


Figure 14 Total Number of Monthly Complaints



TRAVEL OUTSIDE OF THE ARTERIAL NETWORK

Unauthorized shuttle travel outside of the designated arterial network has decreased significantly since the start of the program in April 2016 due to ongoing enforcement by SFMTA staff. Many streets that were popular shuttle routes during the Pilot are non-arterial streets and thus are prohibited to larger shuttle vehicles under the current program.

During April 2016, many shuttle operators continued to run vehicles along these routes despite program restrictions. Using GPS tracking data provided to the SFMTA by shuttle operators per the terms of their Commuter Shuttle Program permit, staff are able to detect when a vehicle travels on a non-arterial or weight restricted street. Based on this data staff are able to levy administrative penalties to operators for each day that an individual vehicle travels on a restricted street.

Due to consistent communication regarding program rules and regulations combined with these rigorous enforcement efforts, unauthorized travel along these routes and other parts of the network decreased significantly in the following months.

The images below provide a snapshot of unauthorized travel along four popular corridors in April 2016 and August 2016 to illustrate the dramatic reduction in shuttle travel along restricted corridors.

Hayes Street

The Hayes Street corridor (which is bounded by Larkin Street to the east and Stanyan Street to the west) was an extremely popular

shuttle route during the Pilot. Hayes Street was characterized by poor compliance with pilot program regulations as shuttles frequently double parked, stopped in unauthorized Muni zones, and idled for excessive periods of time along the corridor. The current Commuter Shuttle Program's arterial network was developed in large part to restrict large shuttle volumes (and their associated issues) along smaller streets such as Hayes Street.

Shuttles did not immediately cease operations on Hayes Street when the current Commuter Shuttle Program began on April 1, 2016. Indeed, an average of 35 shuttle vehicles per day violated non-arterial street restrictions and traveled along the Hayes corridor in April 2016. The SFMTA issued administrative penalties to providers for violations of this permit term and saw rapid changes. By August 2016 only nine shuttles operated on Hayes Street during the entire month. The substantial decrease in shuttle activity along Hayes resulted from intensive enforcement and consistent communication by SFMTA and corresponding behavior change on behalf of the program's shuttle operators.

Figure 16 and Figure 17 present a visual snapshot of unauthorized shuttle operations for a day in April 2016 in comparison to a day in August 2016. (Red points represent GPS points flagged by the SFMTA as being in violation of program regulations).

Travel Outside of the Arterial Network

Figure 16 Shuttle Travel on Hayes Street - April 2016

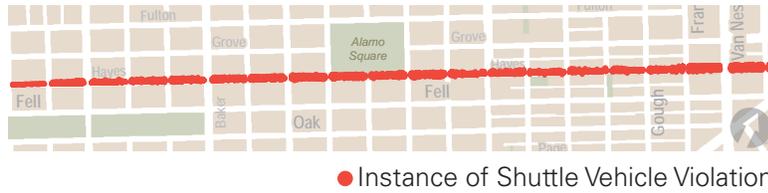


Figure 17 Shuttle Travel on Hayes Street - August 2016



Church Street

Church Street between Duboce and 30th Streets was likewise a popular shuttle route during the Pilot which was restricted for shuttles greater than 35 feet in length following the implementation of the current program. SFMTA staff regularly received reports of large shuttle vehicles continuing to operate along Church Street despite it being a non-arterial street. Similar to Hayes Street, ongoing enforcement and communication with operators has reduced the amount of unauthorized travel on Church Street from an average of 15 unauthorized shuttles per day in April 2016 to an average of 1 unauthorized shuttle per day in August 2016.

Figure 18 Shuttle Travel on Church Street April (left) and August (right), 2016



Travel Outside of the Arterial Network

30th Street

As in the case of Hayes Street and Church Street, travel along 30th Street was prohibited to permit holding shuttles greater than 35 feet in length following the implementation of the current program on April 1, 2016. Although daily shuttle volumes in April 2016 were considerably lower along 30th Street than along Hayes Street or Church Street with one or two vehicles per day, the narrow and highly residential nature of the street make it unsuitable for travel by large shuttle vehicles (Figure 19). No large shuttles were observed operating along 30th Street during August 2016. (Figure 20).

Figure 19 Shuttle Travel on 30th Street - April 2016

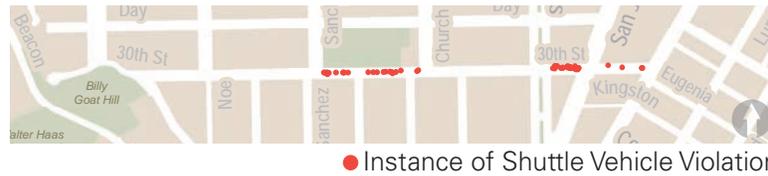


Figure 20 Shuttle Travel on 30th Street - August 2016



Greenwich Street

In addition to being prohibited for travel on by shuttle vehicles greater than 35 feet in length, certain sections of Greenwich Street also possess weight and passenger restrictions that apply to smaller shuttle vehicles. During April 2016, the SFMTA received numerous complaints about shuttles of all sizes operating and staging on Greenwich Street and using the street as a turnaround location. In April 2016, an average of five large vehicles operated on Greenwich between Lyon and Polk per day. In contrast, only 2 large vehicles operated on Greenwich Street during the entire month of August 2016.

Figure 21 Shuttle Travel on Greenwich Street - April 2016

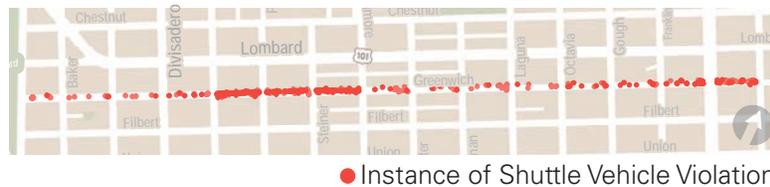


Figure 22 Shuttle Travel on Greenwich Street - August 2016



CONCLUSION

Data collected and analyzed for the six-month status report on the Commuter Shuttle Program shows ongoing progress in achieving the objectives of the program and marked improvement in compliance with the rules and regulations of the program by participating shuttle operators.

Key regulations that were adopted as part of the current program to address needs identified in the evaluation of the Pilot have made a noticeable impact on shuttle behavior and travel, helping to minimize the impacts of shuttle vehicles despite a 15 percent increase in ridership and a consistent number of daily stop events. Since the implementation of the current program:

- The total number of shuttle zones has decreased from 125 zones at the end of the Pilot to 109 shuttle zones as of September, 2016.
- The percentage of stop events occurring in shared Muni zones decreased (72 percent to 57 percent), reducing the potential for conflicts between shuttle vehicles and Muni buses.
- The proportion of stop events on non-arterial streets dropped from 26 percent to nine percent.
- Continuous real-time GPS tracking data for all vehicles registered in the program has enabled the SFMTA to identify any vehicles travelling on restricted streets resulting in:
 - o A 91 percent decrease in the total number of shuttle vehicles operating on restricted streets each month (3,696 shuttles in April 2016 to 334 shuttles in August 2016).
 - o A 92 percent decrease in the daily average of shuttle vehicles operating on restricted streets. In April 2016, an average of 195 shuttles operated on restricted streets per day compared to

15 shuttles per day in August 2016.

- The percentage of vehicles model year 2012 or newer has increased from 59 percent of registered shuttles at the end of the pilot to 76 percent in August 2016 helping to reduce environmental impacts.

Looking forward, data and experience shows that there are still areas of the current program where adjustments are needed to increase adherence to the Commuter Shuttle Program rules and regulations:

- While the number of complaints received by the SFMTA dropped by over 50 percent between April and June, the number of complaints has stayed relatively steady between June and August highlighting the need for continuing enforcement via GPS tracking data as well as by enforcement staff. Feedback from enforcement staff and the public along with GPS data can be used to shift parking control officers as needs change.
- The number of citations issued to permitted commuter shuttle vehicles remained consistent between April and August 2016. To work towards reducing citations SFMTA staff will continue to communicate with shuttle operators regarding program rules and regulations as well as work with operators to ensure new drivers and trained and existing drivers are retrained as needed.
- The coverage analysis identifies a few locations within the denser neighborhoods of San Francisco that are more than a 10-minute walk to the nearest shuttle stop. While locations such as the Marina have weight restricted streets limiting the placement of shuttle zones, coverage in the Mission neighborhood could be improved with the addition of new shuttle zones.
- The implementation of the arterial network

Conclusion

has shifted shuttle traffic off of smaller streets. However, at the same time this has resulted in increased concentration of shuttle volumes on select streets such as Valencia Street. While Valencia Street is defined by Caltrans as an arterial it also is part of the City's designated bike network. Given this, parallel street options in the Mission neighborhood could reduce the potential for conflicts between shuttles and cyclists.

- The SFMTA uses the Caltrans arterial network to define which streets shuttle vehicles larger than 35 feet must travel on. While the Caltrans arterial network generally addresses public concerns regarding keeping large vehicles off smaller streets, the current program has highlighted areas where this network does not necessarily reflect the needs of the City and the program:
 - o Early in the current program shuttle operators identified a number of small gaps in the Caltrans-designated arterial network that forced large shuttles to drive far out of their direction of travel in order to avoid receiving administrative penalties. For instance, all of Golden Gate Avenue and Turk Street between the Inner Richmond and Market Street are designated arterials with the exception of one block of Golden Gate and two blocks of Turk west of Van Ness Avenue. The SFMTA analyzed these gaps in the network based on criteria including width, grade, and predominate land use and designated 17 short one- or two-block non-arterial segments on which shuttle operators would not receive penalties for large shuttle travel.
 - o Residents on Waller Street in the Haight have complained that their street is a Caltrans-designated

arterial even though it is narrow and residential in character. Other small residential streets like 36th Avenue in the Richmond and 28th Avenue in the Sunset are designated arterials as well.

- Shuttle-only white zones are generally designated for use 6 a.m. to 10 a.m. and 4 p.m. to 8 p.m. With the increase in the number of these zones and the decrease in the number of 24-hour shared Muni zones, the SFMTA has received a number of requests from shuttle operators and riders to extend the hours to allow for more late-morning pick-ups and late-night drop-offs. Residents have reported shuttles double-parking next to shuttle-only white zones outside the designated hours, when the white zones revert to regular parking spaces.
- Monitoring shuttle GPS data and compiling it for use in administrative penalty invoices has proved more labor intensive than was anticipated prior to implementation of the current program. SFMTA staff continues to work on streamlining the data analysis process.

While this is an evolving program and there are opportunities for improvement, this evaluation shows that the Commuter Shuttle Program is working. Shuttle ridership is up, but there are fewer shuttles on restricted streets or in conflict with transit. The establishment of a regulatory framework by the SFMTA has created a mechanism by which the agency has been able to take an active role in regulating vehicles that are legally allowed on San Francisco streets. This regulation is making our streets safer and helping to mitigate a myriad of conflicts while reducing the impacts of large shuttle vehicles. It also provides the tools and flexibility necessary to manage what is a rapidly evolving landscape of transportation opportunities and challenges.