San Francisco Residential Permit Parking Evaluation and Reform Project

Value Pricing Pilot Program Project

Summer 2017

SFMTA
Municipal Transportation Agency

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Executive Summary

The SFMTA has undertaken a comprehensive, data-driven evaluation of the agency's Residential Parking Permit, or RPP, program. The purpose of this evaluation and reform project is to update the program, align it with the agency's overall strategic goals and improve customer service for permit holders.

The evaluation included data collection and analysis to reveal existing trends; a review of best practices in on-street parking management in residential areas; and robust public engagement, including a citywide survey on residential parking. A full program evaluation, including policy and process reform recommendations, will be presented to the SFMTA Board of Directors in Fall 2017.

Background

San Francisco's residential permit program was created in 1976 in response to increasing commuter traffic in residential neighborhoods. While much has changed in San Francisco since 1976, there has been little change to the RPP program over the past 40 years.

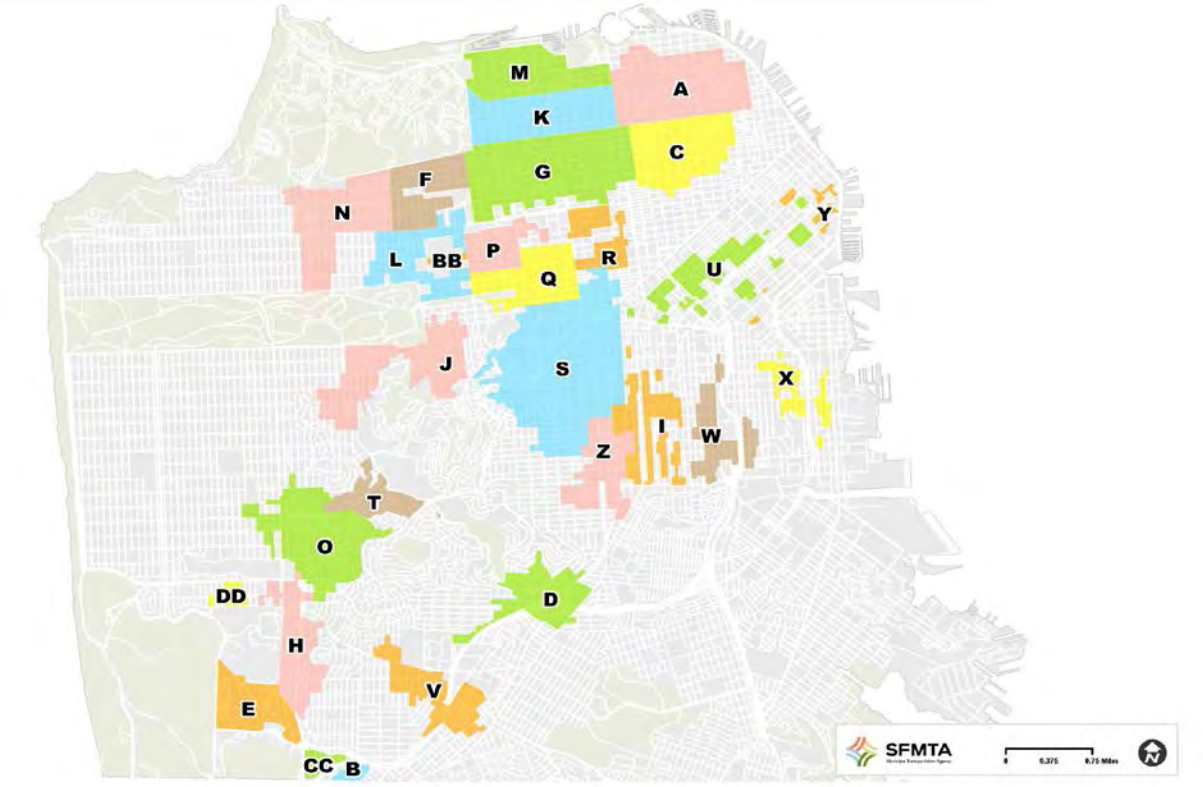
Today, there are 29 RPP areas, covering approximately one-fourth of the city's land area, which includes over 150,000 households. There are nearly 80,000 on-street parking spaces regulated with permit parking restrictions. The SFMTA sells approximately 95,000 permits annually.

The SFMTA recognizes it's time to update the program to meet the needs of an evolving city, to incorporate new technology into service delivery and to better align the policies of the program with the strategic transportation and livability goals of the city. Those include creating a safer transportation experience for everyone and improving the environment and quality of life in San Francisco.

This means implementing sustainable policies that better manage the multiple demands for limited curb space for transit, bicycles, pedestrians, shared mobility services and parking.

To support the evaluation effort, the SFMTA applied for and was awarded a Federal Highway Administration (FHWA) grant in 2013, through its Value Pricing Pilot Program, to prepare a plan for testing the feasibility of using pricing mechanisms to manage on-street parking in residential areas. This report summarizes the planning process, the research findings and input received through extensive public outreach.

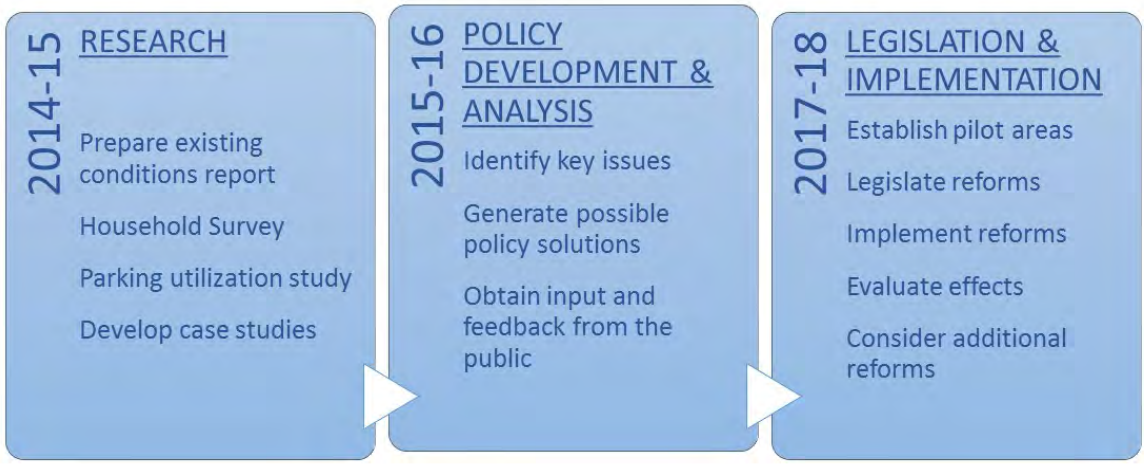
Map 1: Permit parking areas in San Francisco



Source: SFMTA – spatial data (2016)

Project Timeline

The Residential Permit Parking (RPP) Evaluation and Reform project had three phases.



The first phase, *Research*, began in late 2014 and resulted in the completion of five major products:

1. An existing conditions report that is a compendium of statistics on RPP program activities, parking supply and demand.
2. A household survey.
3. A parking utilization study.
4. Summary of best practices.
5. A public outreach and engagement strategy

The second phase, *Policy Development and Analysis*, began in late 2015 and continued through the fall of 2016. The major activity of this phase was an extensive public engagement program that involved workshops, presentations, meetings, focus groups, open houses and extensive use of SFMTA's social media and press channels, a project website and e-mail communications. Major products of this phase were:

- Identification of key program issues.
- Potential policy solutions
- Findings from Phase I together with identified key issues and possible policy solutions were presented to the public at five open houses, 11 community workshops, a dozen meetings with stakeholder groups, neighborhood and business associations, two focus groups and presentations to internal stakeholders.
- Evaluation of impacts of each of the proposed policy changes.

The final phase, *Implementation and Evaluation*, begins upon the passage of legislation to make recommended changes to the City's Transportation Code and to establish two pilot areas that will enable the project team to test selected reform policies.

Key Residential Parking Issues Addressed through the Evaluation and Reform Project

Research findings and public engagement led to the identification of the following key program issues:

- In densely developed areas, the permit program may weaken the city's ability to implement other city policies that encourage sustainable transportation options
- The permit area formation and extension process needs simplification and consistent application
- Inconsistent or potentially confusing on-street parking regulations
- Permit areas are too large
- Permit parking program not an effective parking management strategy in mixed-use areas
- Demand for parking permits exceeds the supply of parking in many permit areas

- Small educational institutions are currently excluded from eligibility for teacher permits
- Permit parking may not support vehicle-sharing, especially one-way car and scooter sharing

Pilot Areas

An important element of the Evaluation and Reform Project is having an opportunity to test and evaluate reform policies in specific areas. The project team worked extensively with two distinct neighborhoods, Dogpatch and northwest Bernal Heights. The Dogpatch is primarily an industrial area that has had an influx of high-density residential development. The pace of this development has increased dramatically in recent years and by 2020, Dogpatch's population will be double what it is today. Northwest Bernal Heights is primarily a single-family residential neighborhood comprised of modest, historical homes built in the 19th century.

Evaluation Plan

SFMTA staff will monitor essential data on the RPP program, including permits issued by household and by RPP area and parking occupancies in sample areas. For each of the two pilot areas, the department will develop achievable goals and measurable objectives in order to evaluate the effectiveness of each adopted alternative policy.

For Dogpatch, the goals are to:

1. improve residents' and employees' access to on-street parking close their home or worksite, when needed;
2. reduce commuter and special event parking;
3. increase use of off-street parking;
4. increase turnover along commercial corridors to allow more customer access; and
5. increase the share of residents and workers using commute modes other than a private vehicle.

For northwest Bernal Heights, the goals are:

1. improve residents' access to on-street parking close to their home, when needed;
2. reduce commuter parking;
3. increase use of off-street parking where available;
4. increase the share of residents and workers using commute modes other than a private vehicle

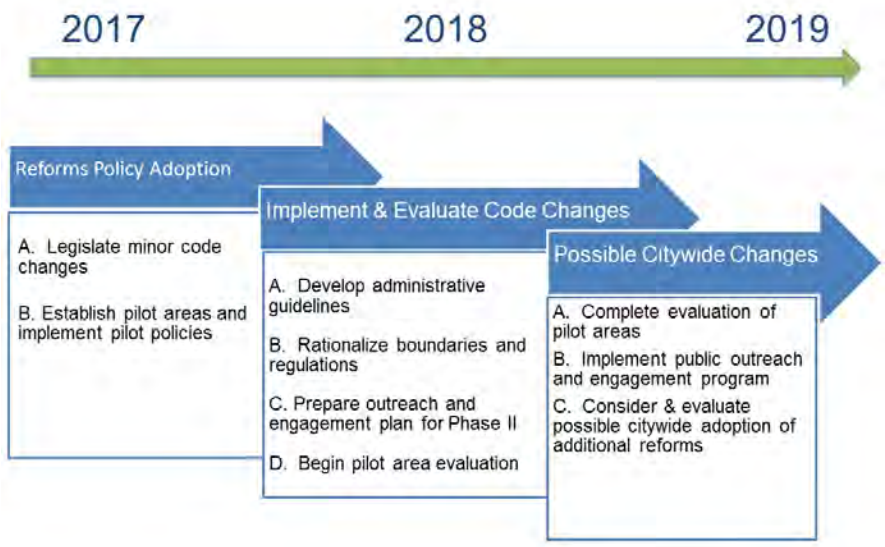
For both pilot areas, data collected during the fall of 2017 will be used as a baseline.

Moving Forward: Implementation Plan and Timeline

Reforming the RPP program would happen over a two to three year period. The first step would be to make necessary, but relatively minor, changes to the Transportation Code to improve clarity and fairness, and to establish the two pilot areas.

More significant policy changes, including limiting the number of permits issued per driver and per household and applying Paid + Permit[1] parking as a new parking management tool, would be tested in the pilot areas only. At the same time, the program team will develop regulations for administering RPP area formations and extensions and work with neighborhood groups to re-size existing RPP areas to improve the effectiveness of permit parking restrictions and to increase the internal consistency of enforcement days and hours within RPP areas. These modifications to how the program is administered would not require changes to the Transportation Code.

The next step would be to implement these policy changes in two pilot areas: Dogpatch and northwest Bernal Heights. After a full year of observation and data collection in the pilot areas, the SFMTA would evaluate the effectiveness of the policies applied in each area. Lastly, depending upon the outcome of the pilot area evaluation, the SFMTA could begin assessing the possibility of adopting reforms citywide.



1 Paid + Permit parking: a parking management tool not currently used in San Francisco that allows vehicles with valid permits to be exempt from paying for parking.

Introduction

San Francisco's Residential Permit Parking program was established in 1976 to protect residential neighborhoods from the deleterious effects of through-traffic created by large employment centers and other traffic generators such as hospitals, universities, office complexes and transit stations. Though the City has changed dramatically over the past 40 years, the RPP program is essentially the same as when it started.

The SFMTA acknowledged the program needed to be more aligned with the policies and the strategic transportation goals of the city. To support the evaluation effort, the SFMTA was awarded a Federal Highway Administration (FHWA) grant in 2013, through its Value Pricing Pilot Program. This report summarizes the planning process, the research findings and public input received through extensive community outreach.

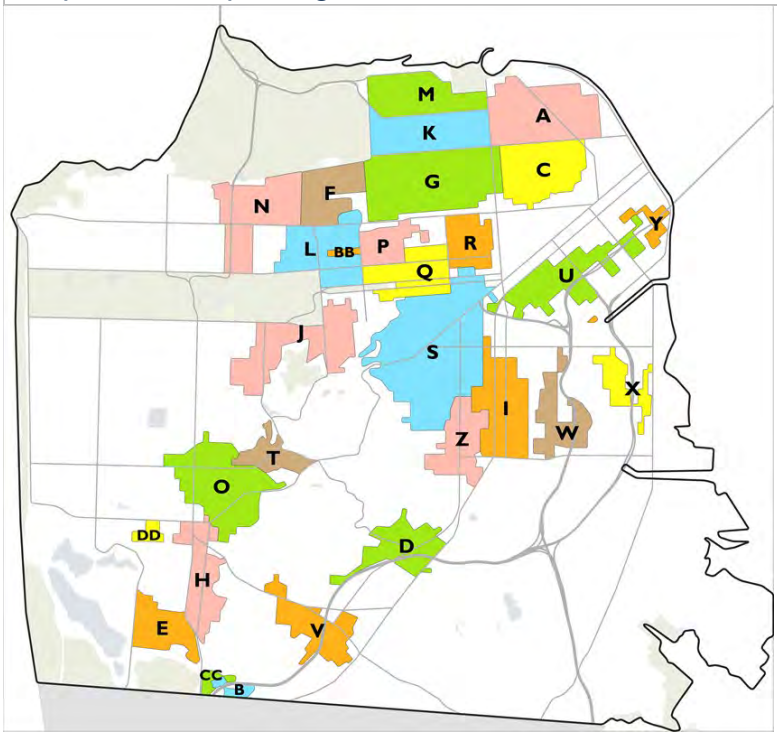
Background

San Francisco's program is a response to findings of the *Street Livability Study*[2] commissioned in the 1960s by the Planning Department. The program is one of many such preferential parking programs started in North America and Europe in the early 1970s as an answer to the perception that quality of life in residential neighborhoods was declining and that through-traffic was a primary reason. The program gives preference for on-street parking to residents of areas impacted by commuter parking who have agreed to participate in the program. Time-limited parking is established in these neighborhoods to prevent non-residents from coming into the area to look for parking. Residents' vehicles with permits are exempt from the time limits.

The program now includes 29 distinct RPP areas and covers approximately one-fourth of the city's landscape. Forty-four percent of all households in the city live within an RPP area and one-fourth of all on-street parking spaces are subject to RPP time limits. Between 90,000 and 100,000 RPP permits are issued annually. Of these, two-thirds are resident permits. The remainder are a combination of temporary, one-day, contractor, business, teacher or other permits.

[2] Appleyard, Donald, Street Livability Study, 1969; commissioned by the San Francisco Planning Department as part of the Urban Design Plan program.

Map 2: Permit parking areas in San Francisco



Source: SFMTA – spatial data (2016)

Permit Types

SFMTA offers RPP permits for different needs.

Resident: Each household within an RPP Area is eligible to purchase up to 4 annual resident permits.

Business: Businesses located within an RPP Area are eligible to purchase 1 annual permit for either the business owner or a designated employee.

Commercial vehicle: Up to three annual permits may be purchased for delivery vehicles with commercial license plates that are registered to a business located within an RPP area.

Medical caregiver: Up to three transferrable permits are available for in-home medical care providers.

Child caregiver: Transferrable permits are available for in-home child care providers.

1-day permits: Each household within an RPP Area may purchase up to 20 1-day permits each year for visitors or for rental vehicles.

Other short-term permits: Each address within an RPP area is eligible to purchase temporary permits for two, four, six or eight weeks.

Teacher permits: Qualifying schools located within an RPP area may request permits for teachers who must use a personal vehicle to commute to work. The number of allowed permits depends upon the size of the school and the amount of curb space adjacent to the school property.

Contractor permits: Contractors may purchase permits to exempt them from time limits in all RPP areas.

Other permits: There are also permits for Consulates and Fire Houses.

RPP area extensions

RPP areas may be expanded to include adjacent street blocks by petition of a majority of residents of the area to be added. Guidelines for expanding RPP areas include: the added area should be adjacent to an existing RPP area; at least 80 percent of the legal parking spaces are occupied; the off-street parking supply is not adequate; the parking supply is impacted by commuters and other non-residents parking in the area; and at least 50 percent of the residents of the area proposed to be added support RPP.

New RPP area formation

Residential neighborhoods impacted by traffic generated by transit stations, hospitals, colleges and large employment centers may petition the SFMTA to establish a new RPP area. SFMTA will hold community meetings, conduct parking studies and work with the neighborhood to determine the new area's boundaries, parking time limits and days and hours of parking enforcement.

Policy Context

The RPP program operates within the context of state and local governing laws and policies including the California Vehicle Code, the San Francisco City Charter and the General Plan.

The California Vehicle Code (CVC) authorizes local jurisdictions to limit or prohibit parking on local streets and allows cities to establish preferential parking programs for residents and merchants to exempt them from such regulations (CVC 22507).

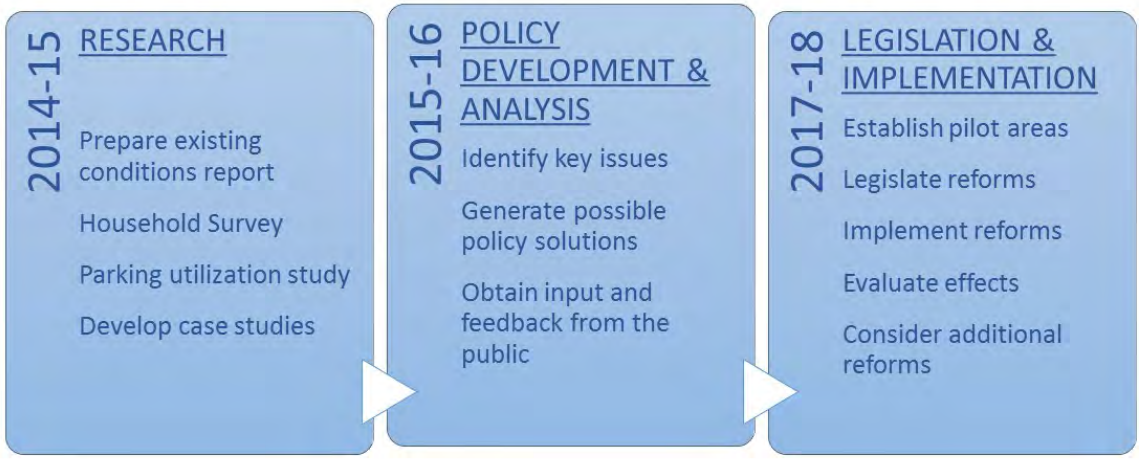
Proposition 26 passed by the voters of California in 2010 modified the state constitution to require that all local government fee-for-service programs charge only what is necessary to cover the costs of administering the program. This provision limits the City's ability to use pricing mechanisms to manage parking demand.

The San Francisco General Plan Transportation Element includes three Objectives, 33, 34 and 35, that address the importance of minimizing the traffic and parking impacts of nearby traffic generators on residential neighborhoods, encouraging low auto ownership in neighborhoods well-served by transit and providing convenient on-street parking specifically designed to meet the needs of shoppers dependent upon automobiles.

The Central Waterfront Plan also includes parking policies that affect parking management planning in the Dogpatch neighborhood, one of the project's pilot areas. Policies in this plan are intended to reduce private vehicle trips; provide adequate curbside freight loading spaces; and design streets to serve the needs and access requirements of trucks.

SF City Charter - Sec 8A.115 - Transit-First Policy directs all City agencies to support, through their plans and programs, travel by public transit, by bicycle and on foot as an attractive alternative to travel by private automobile. It also directs that pedestrians, bicyclists and public transit be given priority in the use of public right of way and that areas well served by public transit be designed to encourage travel by public transit and alternative transportation.

Project Timeline



The Residential Permit Parking (RPP) Evaluation and Reform project (the project) had three phases. The first phase, *Research*, began in late 2014 and resulted in the completion of five major products, all of which are attached to this report as appendices:

- An existing conditions report that is a compendium of statistics on RPP program activities, including permit sales, citations, parking supply, parking demand (households, jobs, car ownership) all dis-aggregated by RPP Area.
- A household survey, administered in November 2015, which captured data on parking access, availability and usage, permit purchasing, car ownership, work location and commute modes, all correlated by type and size of household, tenure and location.
- A parking utilization study that documented parking occupancy rates and origin of parked vehicles in eight areas of the City. The routes represent a diverse sample of San Francisco neighborhoods in terms of density and land use. To test the effectiveness of the Permit Parking Program's original intent – to dissuade commuters from parking on residential streets – the neighborhoods surveyed were adjacent to several different facilities that tend to generate significant parking impacts, including hospitals, transit centers, tourist attractions, neighborhood commercial corridors, and others.
- A compendium of best practices from 22 cities in California, North America and Europe. Case studies capture information on permit program administration, pricing, limits on numbers of permits issued, eligibility factors, area planning processes and enforcement practices.
- A Public Outreach and Engagement Strategy that describes the goals, timeline and methods that would be used to engage city residents and businesses in the evaluation and reform effort.

The second phase, *Policy Development and Analysis*, began in late 2015 and continued through the fall of 2016. The work of this phase was guided by a set of principles that conform to the agency's strategic plan and the city's broader transportation, community development and economic development goals.

Customer service. The SFMTA delivers excellent customer service in all facets of parking operations by providing ready access to availability and cost information, efficient payment and permit processing, and effective and fair enforcement.

Sensitivity to local uses. In predominantly residential areas or blocks, the SFMTA prioritizes access to parking for nearby residents. In mixed use areas or blocks, the SFMTA balances parking access among multiple allowable uses, whether commercial, industrial, or residential.

Equity. The SFMTA strives to provide equitable access to efficient transportation services, including on-street parking when no other reasonable alternative is available.

Achieving transportation goals. The SFMTA manages parking to achieve the agency's and the city's transportation goals, which prioritize travel by foot, public transit, bicycle, taxi, carpooling, and vehicle sharing.

Reduced congestion, improved transit, and increased safety. The SFMTA manages parking to reduce circling for parking, double- parking, and the need to drive for every trip. This decreases congestion and greenhouse gas emissions, makes the public transit system faster and more reliable, and improves safety for all users of the streets.

Neighborhood commercial vitality. The SFMTA balances the demand for on-street parking with the need to support the vitality of neighborhood commercial districts.

The major activity of this phase was a comprehensive and extensive public engagement program that involved workshops, presentations, meetings, focus groups, open houses and extensive use of social media, a project website and email communications. Major products of this phase were:

- Identification of key program issues that if left unresolved would result in increased traffic congestion, more circling for parking, greater frustration on the part of residents, visitors and businesses and less effective enforcement.
- For each key issue, the program team developed potential policy solutions, based, in large part, on the study of best practices and experience from other cities.
- Findings from Phase I together with identified key issues and possible policy solutions were presented to the public at five open houses, 11 community workshops, a dozen meetings with stakeholder groups, neighborhood and business associations and two focus groups as well as to internal stakeholders, including the Customer Service Center (responsible for permit sales), Parking Enforcement, Traffic Engineering, and members of the Board of Supervisors representing the City's 11 Districts. Feedback from public engagement activities resulted in winnowing the range of policy solutions to those that would be both practicable administratively and politically acceptable.
- Finally, the team evaluated the likely impacts of each of the proposed policy changes, including the likely effect on permit purchases and program revenue by RPP area and the impacts on Customer Service Center staffing. This analysis further reduced the possible policy options.

The final phase, *Implementation and Evaluation*, begins upon the passage of legislation to make recommended changes to the City's Transportation Code and to establish two pilot areas that will enable the project team to test selected reform policies that would limit the issuance of parking permits and allow for greater flexibility in parking regulations in pilot areas. Permit issuance, parking occupancy, parking turnover and parking citations will be monitored for 12 months to evaluate the effectiveness of reform policies. After a full analysis of effects, the project team will consider the impacts of implementing reform policies citywide.

Report Organization

This report summarizes all the work conducted as part of the project, including the research findings, the public input and the evaluation of alternative policy solutions.

An *overview* of the permit program, based mostly on the Existing Conditions Report (see Appendix) provides data on permit sales by type and by RPP area, as well as a set of performance measures, including permits by household, permit saturation, and citations.

A compendium of *best practices* from across North America and Europe provides insights and ideas on the range of possible reform measures to consider.

Defining *key issues* entailed a process of reviewing research findings, interviews with internal stakeholders and others involved in administering the program, and a review of previous reports and studies.[3]

Developing *recommendations* for program reform began with an extensive public engagement process. The project team facilitated open houses, community workshops, meetings with neighborhood and business groups and responded to a steady stream of questions from the public and from the media. Winnowing down all possible policy options to the final recommendations required a careful analysis of likely policy effectiveness as well as potential impacts on program staffing and administration.

The *evaluation plan* outlines the approach to determining the actual effectiveness of recommended policy reforms and will require on-going program monitoring, and additional field studies to track parking utilization in test areas.

An *implementation plan* outlines a proposed timeline and schedule of activities

The two *Case Study Areas*, one in Dogpatch and one in Northwest Bernal Heights, will be the initial focus of testing the feasibility of two new policies designed to limit the number of permits issued in permit areas.

[3] In 2009, SFpark commissioned a series of reports prepared by Nelson-Nygaard that analyzed alternative options for reforming the RPP program.

Summary of Existing Conditions

Findings from Phase I: Research

The Research phase of the project was devoted to collecting, tabulating and analyzing data from multiple sources to document the current state of factors that influence the Residential Parking Permit Program's effectiveness. There are five major parts to this analysis, which are documented in the Appendix, *Existing Conditions*.

Trends Analysis looks at changes in population, vehicle registration, and means of transportation to work over several decades to examine how San Francisco's transportation profile has evolved, including its impact on the demand for on-street parking.

Geographies describes various spatial data points relevant to the permit program, including number of permitted parking spaces, length of permitted curb, and surface area by permit area. *Demographics* reports various Census-derived statistics by permit area, such as population, number of households, and population density. It also includes various employment figures, including number of workers and employed residents.

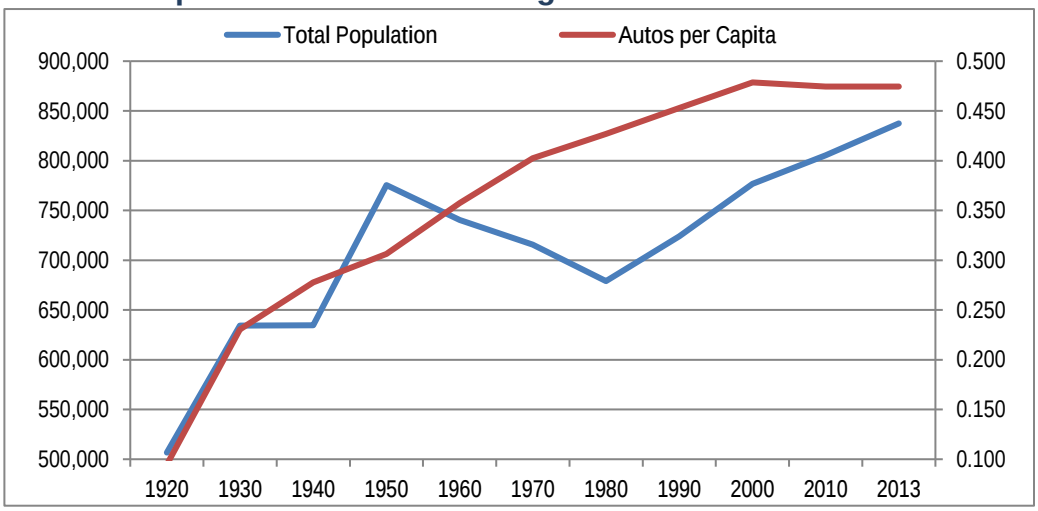
Permits & Citations tabulates parking permits and citations by type and by area and presents an analysis of permit sales relative to parking supply within each area.

Parking Utilization presents the results of a parking field study conducted between August 2015 and January 2016. The survey captured data on parking occupancy and address of vehicle registration to ascertain various parking utilization figures, including whether vehicles belonged to local residents or non-residents.

Trends

Despite sharp decreases in population between 1950 and 1980, the number of automobiles registered rose steadily. From 2000 forward, however, the number of vehicles registered per capita declined and is expected to drop further. The city's population increased by about 75,000 people between 2000 and 2015, but only 30,000 new autos were registered. It is not clear whether this is due to new residents coming without cars or existing residents choosing to reduce the number of vehicles they own.

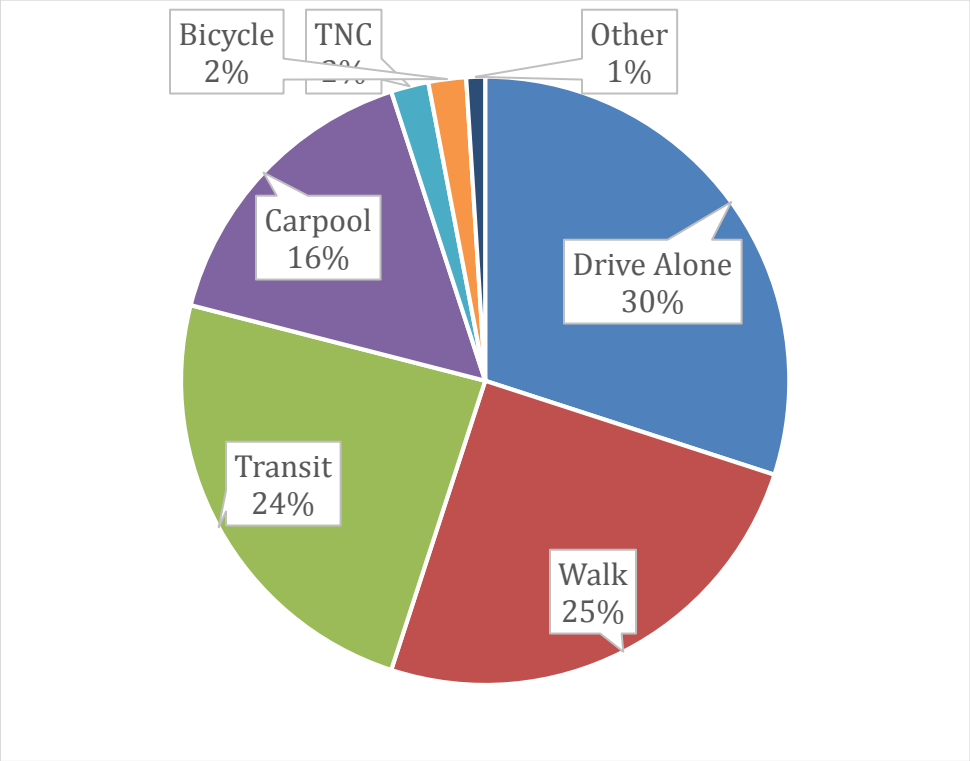
Chart 1: Population and Vehicle Registration between 1920 and 2013



Source: SFMTA; DMV registration data; MTC historical records; U.S. Census

One objective of this evaluation and reform project is to better align the parking permit program with the city's goal to reduce use of private vehicles and increase the use of transit, walking and bicycling. To measure progress in achieving these goals, SFMTA conducts a commute survey each October that provides data on travel patterns and mode split for all travelers to and within San Francisco. The October 2015 Commute Survey found that 46% of all trips are by private vehicle and 53% are by other means, including pubic transport, bicycling, and walking.

Chart 2: Estimated Mode Share in San Francisco, 2015



Parking Supply

As seen in the following table, the city's 29 permit areas vary significantly in size, density and parking supply. For instance, Areas A and C, the most densely populated of the areas, have fewer permit-regulated spaces than the largest single area, Area S, which has the same population but more parking.

Table 1: Total Number of Permitted Spaces, Curb Length, and Surface Area by Permit Area

Permit Area	Permitted Parking Spaces	Curb Length (Miles)	Surface Area (Sq. Miles)	Permit Area	Permitted Parking Spaces	Curb Length (Miles)	Surface Area (Sq. Miles)
A	5,763	27.6	0.69	**P**	1,592	9.9	0.21
B	420	2.1	0.05	**Q**	2,876	14.2	0.37
C	3,634	16.2	0.50	**R**	1,087	5.6	0.19
D	2,035	11.9	0.33	**S**	9,314	46.6	1.33
E	2,226	7.3	0.30	**T**	1,398	8.8	0.20
F	2,481	13.7	0.32	**U**	1,160	5.6	0.32
G	6,673	35.9	0.88	**V**	2,294	13.0	0.32
H	2,563	12.0	0.35	**W**	2,612	11.6	0.25
I	1,793	9.7	0.32	**X**	1,533	5.4	0.15
J	3,992	21.5	0.56	**Y**	574	1.9	0.05
K	4,685	26.6	0.50	**Z**	2,517	13.1	0.33

L	2,286	12.8	0.37	**BB**	229	1.2	0.02
M	3,223	20.6	0.44	**CC**	363	2.3	0.04
N	3,302	20.1	0.56	**DD**	460	2.0	0.04
O	4,692	22.6	0.64				

Source: SFMTA – SFpark Parking Census (2015), spatial data (2015)

Permits Issued by Area

In some areas, limited curb space does not deter residents and businesses from purchasing permits. This has led to high permit saturation rates (permits issued per permitted parking space). For instance, despite the same supply of permitted spaces in Areas A and C relative to Area S (9,300), 13,500 permits were issued in Areas A and C, but only 11,300 were issued in Area S.

Table 2: Annual Permits Sold by Permit Area and Permit Type

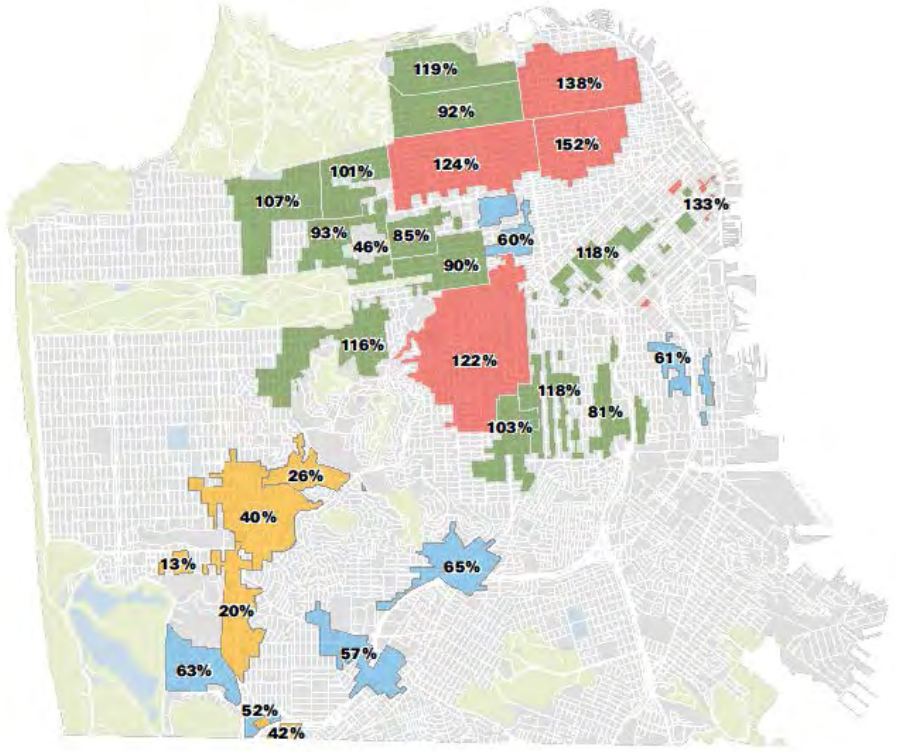
Permit Area	Resident	Business	Delivery Vehicle	Medical Care	Child Care	Student	Teacher	Total
A	7,590	259	15	23	12	23	38	**7,960**
B	170	0	0	0	0	5	0	**175**
C	5,186	233	15	7	8	32	53	**5,534**
D	1,251	30	0	2	11	4	24	**1,322**
E	1,171	0	1	0	0	221	0	**1,393**
F	2,185	226	4	15	28	14	45	**2,517**
G	7,401	587	11	31	79	44	123	**8,276**
H	479	5	0	1	0	24	0	**509**
I	1,974	68	9	0	12	2	45	**2,110**
J	4,280	73	6	6	26	184	43	**4,622**
K	3,805	408	10	9	29	7	47	**4,324**
L	1,982	62	9	1	10	51	0	**2,115**
M	3,614	134	12	11	27	9	16	**3,823**
N	3,180	240	7	4	19	25	68	**3,543**
O	1,651	167	10	1	0	9	38	**1,876**
P	1,102	6	1	0	7	8	224	**1,348**
Q	3,332	11	0	3	9	5	32	**3,392**
R	597	32	0	0	1	1	22	**653**
S	10,670	395	22	13	77	38	102	**11,317**
T	360	0	0	0	0	1	0	**361**
U	1,171	165	18	1	1	7	6	**1,369**
V	1,266	8	0	0	0	26	16	**1,316**

W	1,008	45	9	0	3	13	28	**2,106**
X	889	29	7	1	2	1	0	**929**
Y	735	12	0	3	0	3	0	**762**
Z	2,450	56	0	5	24	9	57	**2,601**
BB	100	2	0	0	0	4	0	**106**
CC	183	0	0	0	0	6	0	**189**
DD	57	1	0	0	0	0	0	**58**
TOTAL	**69,839**	**3,254**	**166**	**137**	**385**	**776**	**1,027**	**75,584**

Source: SFMTA – permit records (FY 2013-14), Area Q (FY 2015-16)

As illustrated in the map below, the red-shaded areas have high permit saturation rates, ranging from 1.5 permits per space to 1.2 permits per space. The two highest areas are Areas A (North Beach) and C (Chinatown). The reason for the differences in saturation rates may be due to greater access to off-street parking in Area S or a greater supply of metered parking in areas A and C, which are not enforced after 6 PM.

Map 3: Permit Saturation by Permit Area



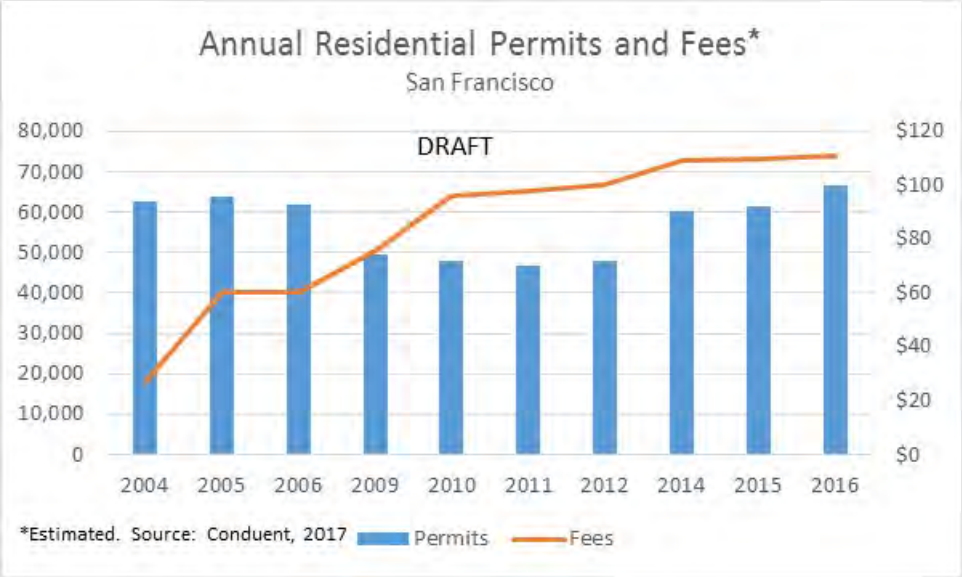
Source: SFMTA – spatial data (2016), Area Q (FY 2015-16)

Permit Sales and Pricing

The number of permits sold annually is affected by economic cycles, but is not affected by permit price. For instance, permit sales dropped significantly between 2006 and 2011, a period marked by a national recession and significant job losses. On the other hand, though the price of an annual resident permit increased from $27 in 2004 to $127 in 2016, permit sales increased from approximately 62,000 to about 66,000.

Despite SF*park's* demonstrated success with demand-responsive pricing in managing parking demand in the project pilot areas, the RPP program, because it is a fee for service program, is not able to price permits at their market value. In California, fees levied by public agencies are limited to cost recovery or the amount it actually costs to deliver that service. As a result, SFMTA must consider other measures for managing residential area parking.

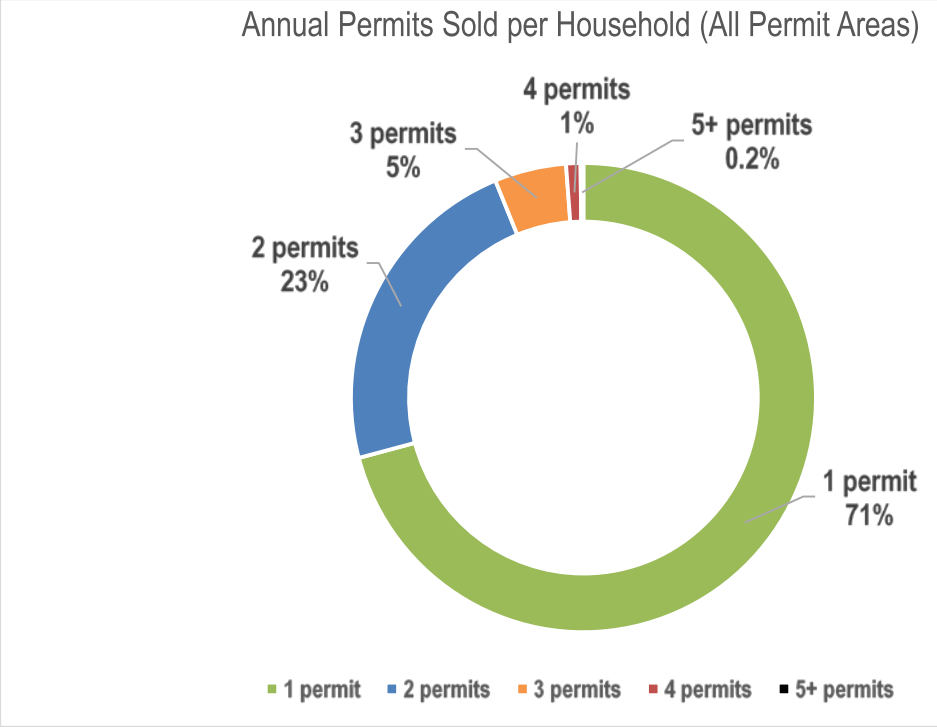
Chart 3: Permit Fees and Sales, 2004 - 2016



Permits Issued per Housing Unit

On average, 71% of households purchase only one permit and another 23% purchase two. Only six percent of households, citywide, purchase more than two permits. As described in the Appendix section, *Summary of Household Survey*, the permit purchasing behavior of households varies by household type and size, by work location, by presence of children and by access to off-street parking.

Chart 4: Number of Annual Permits Issued by Household



Source: SFMTA – permit records (FY 2013-14)

Parking Utilization

Occupancy and vehicle origin data are useful indicators of imbalance in the parking supply and demand at the neighborhood level. This data collection effort begins an on-going monitoring effort to measure the effectiveness of the Parking Permit program over time. This function is particularly important for the City's rapidly changing Eastern Neighborhoods, such as the Dogpatch, Potrero, and Mission neighborhoods.

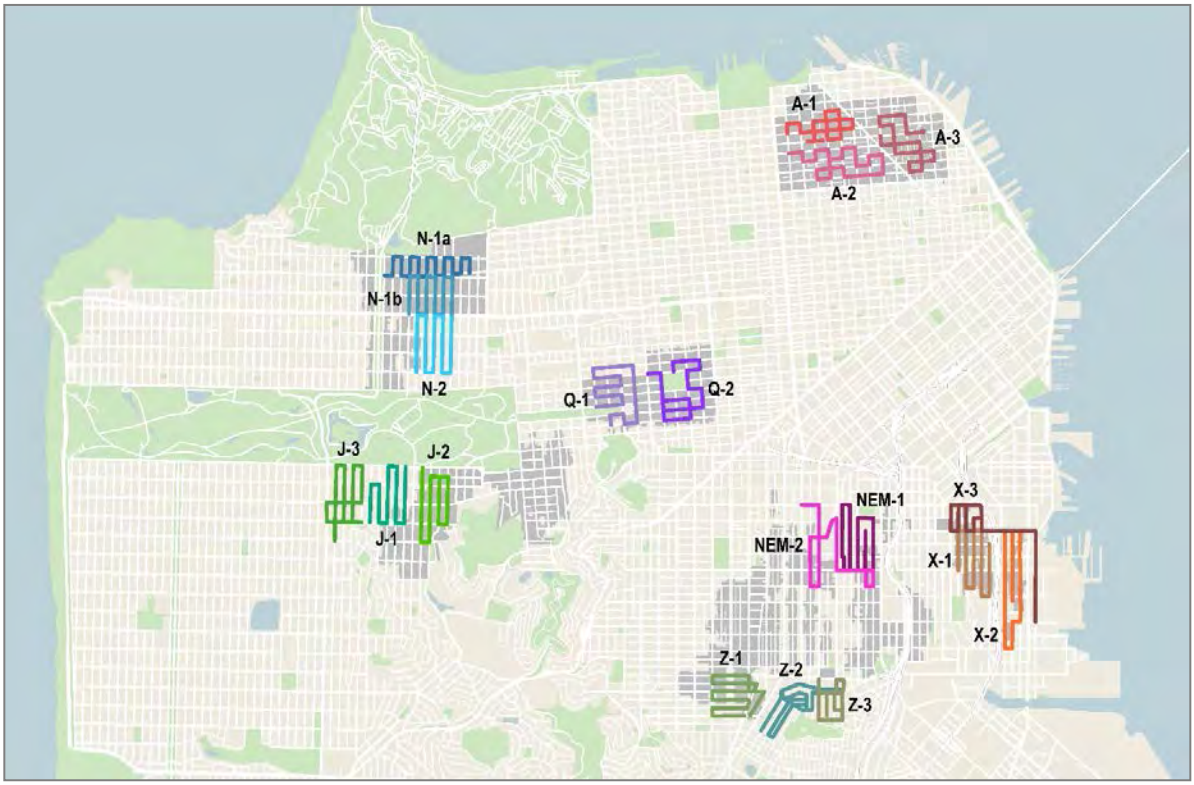
SFMTA surveyed nineteen two-mile routes in twelve neighborhoods across San Francisco. Map X provides a citywide overview of the blocks surveyed.

The following list includes each route code, neighborhoods and permit areas. It also indicates whether non-permitted blocks were included.

A-1, A-2, A-3: Russian Hill, Nob Hill, and Telegraph Hill (all Area A)
J-1, J-2, J-3: Inner Sunset and Central Irving (Area J and non-permitted blocks)
N-1a, N-1b, N-2: Inner Richmond (Area N and non-permitted blocks)
NEM-1, NEM-2: NE Mission (Areas I & W and non-permitted blocks)
Q-1, Q-2: North of Panhandle, Alamo Square (before Area Q implementation)
X-1, X-2, X-3: Potrero Hill, Dogpatch (Area X and non-permitted blocks)
Z-1: Southern Noe Valley (Area Z and non-permitted blocks)
Z-2, Z-3: Northern Bernal (all non-permitted blocks)

The routes represent a diverse sample of San Francisco neighborhoods in terms of density, land use and proximity to significant traffic generators. They range from medium to high density and from primarily residential to mixed-use neighborhoods. To test the effectiveness of the Permit Parking Program's original intent – to improve the availability of parking for residents living close to large traffic generators – the neighborhoods surveyed were adjacent to several different facilities that tend to generate significant parking impacts, including hospitals, transit centers, tourist attractions, neighborhood commercial corridors, and others. Routes also included developing neighborhoods, particularly the Dogpatch, northern Potrero, and northeast Mission areas.

Map 4: Survey Routes



Source: SFMTA – spatial data (2016); (extent of permit eligibility for areas surveyed shown in grey, behind routes.)

The results of the parking utilization study, conducted in late 2015 and early 2016, are summarized in the table below.

Table 3: Parking Occupancy Rate by Survey Route and Time Period

ROUTE	PERMIT AREA	NEIGHBORHOOD	Weekday				Weekend	
			4:30-6a	10a-12p	2-4p	7-9p	2-4p	7-9p
A-1	Area A	Russian Hill	92%	92%	88%	86%	84%	88%
A-2	Area A	Nob Hill	99%	92%	91%	98%	93%	99%

A-2	**Area A**	**Telegraph Hill**	91%	90%	90%	91%	91%	93%
J-2	**Area J**	**Inner Sunset**	86%	80%	83%	88%		
J-1	***Non-permitted***	**Inner Sunset**	84%	90%	88%	87%		
J-3	***Non-permitted***	**Central Irving (East of 19th Ave)**	91%	79%	87%	86%		
N-1a	**Area N**	**Inner Richmond (North of California St)**	96%	82%	80%	86%		
N-1b	**Area N**	**Inner Richmond (North of Geary Blvd)**	95%	91%	88%	92%		
N-2	***Non-permitted***	**Inner Richmond (South of Geary Blvd)**	96%	95%	94%	96%		
NEM-1	***Permitted & non-permitted***	**NE Mission (East of Harrison St)**		93%	93%	88%		
		Area W (5 blocks)		82%	86%	94%		
		Non-permitted (10 blocks)		95%	94%	87%		
NEM-2	***Permitted & non-permitted***	**NE Mission (West of Harrison St)**		90%	91%	88%		
		Areas I & W (8 blocks)		85%	85%	98%		
		Non-permitted (18 blocks)		92%	93%	82%		
Q-1	***Before Area Q Implemented***	**North of Panhandle**				89%		
Q-2	***Before Area Q Implemented***	**Alamo Square**				95%		
X-1	***Permitted & non-permitted***	**Potrero Hill**	64%	75%	74%	72%		
		Area X (14 blocks)	63%	67%	67%	74%		
		Non-permitted (5 blocks)	70%	99%	98%	74%		
X-2	***Permitted & non-permitted***	**Dogpatch (West of 3rd St)**	51%	94%	87%	66%		
		Area X (3 blocks)	77%	99%	95%	82%		
		Non-permitted (18 blocks)	46%	92%	86%	62%		
X-3	***Permitted & non-permitted***	**Potrero & Dogpatch (Illinois St, N of Mariposa)**	35%	90%	87%	52%		
		Area X (2 blocks)	46%	72%	75%	68%		
		Non-permitted (22 blocks)	30%	93%	90%	48%		
Z-1	***Permitted & non-permitted***	**So. Noe Valley**	90%	90%	89%	92%		
		Area Z (13 blocks)	86%	89%	88%	90%		
		Non-permitted (7 blocks)	96%	93%	92%	94%		
Z-2	***Non-permitted***	**NW Bernal**	86%	72%	75%	85%	??	??
Z-3	***Non-permitted***	**NE Bernal**	94%	85%	86%	87%		

Source: SFMTA; Arup; NDS (2016)

Summary of Best Practices

As part of the Research phase, the project team gathered information about RPP programs throughout North America and Europe. As noted earlier, most RPP programs started in the 1960s and 1970s and all have much in common. For reference purposes, all 22 case studies are summarized in table format in the Appendix. Below are highlights of programs with innovative features that could inform the city's RPP Reform efforts.

Areawide Cap on Permits. Of the 22 cities, six have caps on the number of permits issued per area. For instance, Toronto sets the cap at 110% of available spaces. When this cap is reached, residents are placed on a waitlist until others with permits give them up.

Permit Cap per Unit. Eleven cities place caps on the number of permits issued per housing unit. In Amsterdam, the cap varies by area, with 3 allowed per address in some areas, but only 1 per address allowed in crowded areas.

Other Types of Caps. Seven cities have other types of permit caps in effect. In Dublin, Ireland, the permit caps are based on the type and size of the residential building (# of units) and on the total demand for parking. In Amsterdam, the number of permits issued per household varies by availability of off-street parking. The number of off-street spaces is subtracted from the cap per address and could result in zero permits.

Business Permits. Eleven cities do not offer businesses the opportunity to purchase permits. Of the eleven that do, the number and price varies greatly. In Berkeley, businesses pay 280% the price of resident permits and Palo Alto places a cap on the number of business permits that can be sold, currently 2,000. In Portland, the number of business permits issued is based on the number of employees and varies by permit area.

Permit Area Formation. Los Angeles requires 66% of households to support RPP before an area could be formed or extended, but allow temporary district formation to address critical parking issues. In Santa Monica, the city has pre-zoned all areas of the city for RPP, but implementation does not occur until a street or block petitions the city for the regulations. In Portland, the process of area formation is very collaborative and requires the neighborhood to petition for area extension or formation

Purchasing Permits. In Amsterdam, polluting vehicles are not eligible for permits. In Westminster City, London, has no customer service representative and no way to purchase permits in person or with cash. The only way to purchase a permit is through the city's online portal, which allows all required documentation to be uploaded as

photos. Washington DC allows purchasing of permits online, including guest permits and residents could purchase a two-year permit.

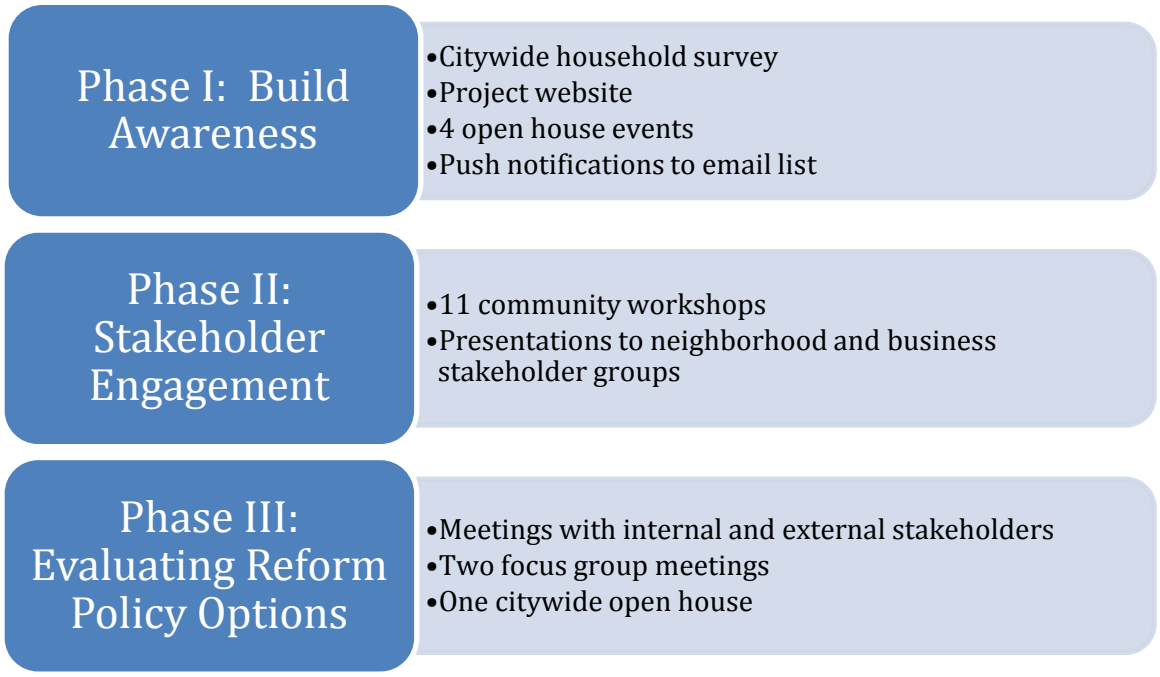
Permit Pricing. West Hollywood, California has a graduated pricing scheme where the second permit is 240% the cost of the first and the third permit is double the cost of the second (or 470% the cost of the first). Westminster City bases the cost of the permit on the size of the vehicle's engine with zero-emission vehicles paying the lowest cost. As all vehicles become zero or very low emitting, this incentive will be phased out. Toronto charges a premium for residents with access to off-street parking, (currently a 350% premium) and they also use graduated pricing charging 250% the cost of the first permit for the second. In Eugene, Oregon, pricing varies by area and ranges from $40 per year to $600 per year.

Other Regulations. In Boston, Massachusetts and Dublin, Ireland, permit parking is enforced overnight and there is no allowance for visitor parking (all must have a permit). Portland has Paid + Permit parking on residential streets that are near a commercial corridor. In Glendale and Ventura, California, residents with permits can park for free on selected metered blocks. In Amsterdam, all blocks have Paid + Permit parking and enforcement is accomplished through license plate recognition. A few cities require that residents park within a few blocks of their home, ranging from 6 blocks in Seattle to 2 blocks in Santa Monica.

Public Engagement Program Summary

The SFMTA led a comprehensive, data-driven evaluation of the agency's RPP program to update the program, align it with the agency's strategic goals and improve customer service for permit holders.

The evaluation included a robust public engagement program that was implemented in three phases:



Phase I: Building Awareness

After a full year of research and data analysis, the project team formally kicked-off the public engagement program with a presentation to the SFMTA Board of Directors on November 17, 2015. The televised presentation showcased some early findings from the research, the purpose of the evaluation and reform project, the scope of work and the timeline. A project website was launched and email notifications sent to over a thousand neighborhood and business groups and other stakeholders notifying them of the project's kickoff and linking them to the new website, www.sfmta.com/neighborhoodparking.

At the same time, a household survey was administered by Godbe Research to thousands of registered city voters who provided their email address on their voter registration. The sample was a close representation of the city's population as a whole. 2,349 residents completed the survey and staff released the findings on the SFMTA's

Moving SF blog. A summary of the survey findings can also be found on the project website and in the Appendix to this report).

Four open houses, one in each quadrant of the city, brought the project team out to the neighborhoods and earned press coverage about the project. Eighty people attended and 50 comment cards were submitted. The open house format allowed attendees to browse a series of presentation boards that summarized the findings of the SFMTA's research as well as the history of the program while having an opportunity to speak directly with SFMTA staff.

Open House Meeting Dates

Date	Location
February 23, 2016	James Lick School, Noe Valley
February 24, 2016	Chinese Cultural Center
February 27, 2016	County Fair Building
March 1, 2016	City College, Ocean Campus

Phase II: Stakeholder Involvement

During the summer of 2016, the project team organized and facilitated eleven community workshops, one in each Supervisorial district. The workshops were held at local religious and school buildings to make it easier for residents to attend.

The workshops differed from the open house events in that SFMTA staff facilitated group discussions about key program issues with attendees. Among the topics discussed were increasing efficiency through greater use of technology, making it easier to purchase short-term permits, rationalizing residential permit parking area boundaries and regulations, linking the number of permits issued to the availability of on-street parking, and possibly charging a premium for residents with garages.

Over 170 people attended (about 15 on average per workshop). Workshops were promoted through multiple channels, including email notifications, newsletters, updates to the project website, earned media and use of the SFMTA's social media accounts.

Community Workshop Dates, Location and Attendance

Date	Location and Supervisorial District (#)
May 3, 2016	San Francisco Day School, Western Addition (5)
May 4, 2016	Calvary Presbyterian, Pacific Heights (2)
May 9, 2016	Richmond Community Center (1)
May 10, 2016	Grace Evangelical, Sunset (4)
May 18, 2016	City College, Chinatown/North Beach (3)

May 19, 2016	City College, Mission District (9)
May 23, 2016	St. Stephens Church, 19th Avenue/Stonestown (7)
May 25, 2016	Minnie and Lovie Ward Center, Ingleside/Oceanview (11)
June 1, 2016	St. Anthony's, Tenderloin (6)
June 2, 2016	Southeast Community Center, Bayview-Hunters Point (10)
June 28, 2016	International School, Hayes Valley (8)

Phase III: Evaluating Reform Policy Options

After a period of developing and evaluating the impacts of alternative policy options for reforming the program, project staff hosted two focus group meetings on October 4 and October 5, as well as a final public open house on October 12.

Invitations to participate in the focus groups were sent to 70 neighborhood, community and business stakeholders who are actively engaged in their neighborhoods in a leadership capacity. Twenty people accepted the invitation and 15 attended; seven on one date and eight on the other. Each focus group lasted two hours and both groups were asked to provide their responses to questions about each of the following eight possible permit reform policies:

1. Area-wide permit cap
2. Cap of two permits per household
3. Cap of one permit per driver
4. Graduated permit pricing
5. Premium permit pricing for those with access to off-street parking
6. Omit permit eligibility for new housing in certain areas
7. Paid + Permit parking
8. Subdivide large permit areas

A summary of responses to these questions can be found in the Appendix.

How the SFMTA Will Use Public Input

The public input received has been used as a basis to develop and vet policy proposals to reform the permit program. This feedback will be combined with other data to help shape final staff policy recommendations to be presented to the SFMTA Board of Directors.

Other Meetings and Presentations

SFMTA Citizens' Advisory Council	11/5/15
SFMTA Board of Directors	11/17/15
SFMTA Citizens' Advisory Council	5/5/16

Council of San Francisco Neighborhood Associations	5/23/16
Small Business Commission	6/13/16
South Beach/Rincon/Mission Bay Neighborhood	6/13/16
Telegraph Hill Dwellers	6/14/16
Council of District Merchant Associations	6/21/16
Small Business Network	6/27/16
Office of Workforce and Economic Development	10/12/16
SFMTA Citizens' Advisory Council	11/3/16
SFMTA Board Planning & Governance Committee	11/18/16
SFMTA Board Planning & Governance Committee	3/17/17

Project Website Statistics

In November 2015, the project website went live. Since then, there have been:

- 9,592 page views
- 7,820 unique page views
- 1,552 subscribers to project updates
    - 554 added directly from project website
    - 998 individuals added to subscriber list by attending meetings, open houses or focus group

A Sampling of Press Coverage

Hoodline

- Now's Your Chance To Share Feedback On City's Residential Parking Permit Program - January 26, 2016
  http://hoodline.com/2016/01/nows-your-chance-to-share-feedback-on-residential-parking-permits

- SFMTA Wants To Know: Does SF's Parking Permit Plan Still Work? April 29, 2016
  http://hoodline.com/2016/04/sfmta-wants-to-know-does-sf-s-parking-permit-plan-still-work

STREETSBLOG

- How SF's Residential Parking Permit Prices Favor Car Owners, January 26, 2016
  http://sf.streetsblog.org/2015/01/26/how-sfs-residential-parking-permit-prices-favor-car-owners/

San Francisco Examiner

- Residents tell SF what's wrong with residential parking, July 12, 2016
  http://www.sfexaminer.com/residents-tell-sf-whats-wrong-residential-parking/

- Sowing Discord, one block at a time, July 31, 2015
  http://www.sfexaminer.com/sowing-discord-one-block-time/

- SF looks to overhaul rules around residential parking permits Monday, October, 31, 2016 http://www.sfexaminer.com/sf-looks-to-overhaul-rules-around-residential-parking-permits/

San Francisco Chronicle

- S.F. considers changing parking permit program to ease concerns http://www.sfchronicle.com/bayarea/article/S-F-considers-changing-parking-permit-program-to-6225264.php

A Summary of Public Comments

Through open houses, community workshops, meetings with business and neighborhood groups, through mail, email and the website, SFMTA received hundreds of comments about the existing RPP program as well as ideas for how it could be improved.

On Customer Service

Permits

[9] Guest/temporary permits should be easier to purchase
[11] Should be able to pay for and print 1-day permits at home / online
[1] Print-at-home permits could use a bar code to verify authenticity
[1] Transferrable guest permit (doesn't expire)
[1] 1-day permits should not expire at the end of the permit area year
[2] Guest/temporary permits take too long to process / arrive by mail
[1] Don't write the dates on 2-, 4-, 6-, and 8-week permits (more flexibility)
[1] Allow people to pay for permits as a monthly subscription
[1] Reduce waiting times at SFMTA Customer Service Center
[1] Open SFMTA Customer Service Center on weekends
[1] Staff at SFMTA Customer Service Center are slow/rude/unfriendly
[1] More seating at SFMTA Customer Service Center
[1] Should be able to purchase permits on Craigslist

Enforcement

[7] More efficient/consistent enforcement of permit parking regulations
[1] Less enforcement of permit parking regulations
[7] Enforce the 72-hour rule more effectively
[5] Insufficient enforcement of sidewalk parking
[1] Use drone enforcement

Communication

[1] Provide more information about car/vehicle sharing on SFMTA website

On Possible Reforms

Pricing

[7] Permits are too expensive / reduce cost
[2] Permits are too cheap / raise cost
[1] Homeowners should receive 1 free permit each year, renters pay for all permits
[4] Motorcycles and scooters should be assessed a lower permit fee (they use less curb)
[1] Motorcycles and scooters should be assessed the same fee as other vehicles
[1] Motorcycles and scooters should be exempted from permit parking regulations
[5] Smaller and cleaner vehicles should be assessed a lower permit fee (to encourage them)
[1] Conventional (i.e., gas-burning) vehicles should be assessed a higher permit fee
[1] Provide discounted permits for people with lower incomes
[2] Provide discounted permits for people participating in car/vehicle sharing
[1] Revise permit pricing to match demand for parking
[6] Institute graduated/tiered pricing for permits
[1] First permit should be free for residents without off-street parking
[1] Payment override – allow people to pay to park in excess of time limits
[1] Permit pricing should not be cost recovery (subsidize permits for residents)
[1] Permit pricing should not be cost recovery (charge market rates)

Permit Issuance

[4] Issue citywide permits
[1] Issue citywide permits for shared mobility
[1] Issue 1-day citywide permits
[1] Issue transferrable guest permits
[1] Institute an area-wide permit cap
[4] Reduce per household permit cap
[1] Limit permit issuance by permitted parking supply
[2] Institute a lottery system for permit issuance in capped areas
[1] Temporary/visitor permits should not be issued for longer than 4 weeks
[1] Analyze permits issues but rarely used (purchased for convenience)

Permit Eligibility

[2] Issue permits to residents living w/in 1-3 blocks of the official edge of a permit area
[2] Review policies for issuing permits to schools/teachers
[1] Residents of new developments with less than 1 space/unit should not be eligible for permits
[1] Residents of new developments with unbundled parking should not be eligible for permits
[3] Pre-zone entire city into permit areas

Planning Process (Establishment & Extensions)

[5] Keep the petition process for establishing/extending permit areas
[3] Remove petition process for establishing/extending permit areas
[1] Process (petition) requests for permit parking more expeditiously
[2] Send ballot to all block residents when permit parking is proposed
[4] Requested permit parking but SFMTA has not acted
[2] Difficult to rescind/modify permit parking
[2] Difficult to connect with an existing permit area to extend
[1] Need to make sure the voices of non-residents are heard

Unaddressed Issues

[8] Parking challenges in the evening and overnight
[1] Parking challenges on weekends
[6] Residents with too many cars disadvantage majority (internal demand)
[7] Difficulties for residents living just outside permit areas (i.e., edge effects)
[1] Buffers zones between permit areas should be more widely used and expanded further out
[1] Business parking needs should be better accommodated

Other

[4] Keep (don't eliminate) the Residential Parking Permit program (it helps)
[1] Need more permit parking
[2] Eliminate the Residential Parking Permit program
[1] Eliminate/reduce permit parking in underutilized areas
[11] Don't establish permit parking on my block / don't want to pay to park on my block
[3] The program should be tailored to the neighborhood (not "one size fits all")
[3] More public parking garages/lots (e.g., under I-280 fwy, Balboa Park BART)
[3] More car/vehicle sharing in neighborhoods
[1] On-street electric vehicle charging in neighborhoods
[1] No car/vehicle sharing spaces on residential blocks
[4] People not using their garages
[1] Don't want to pay to park across my driveway
[4] Lengthen time limits
[1] Exempt people with residential parking permits from the 72-hour rule

Public Engagement

[5] People should be able to hear each other's comments/concerns
[2] Publish comments made at open houses online
[4] Publish boards / meeting materials online
[1] Email meeting attendees with link to meeting materials
[5] Should have a presentation
[4] Should have Q&A

[3] Need more data
[4] Need to raise attendance at meetings
[3] Meetings should be posted/communicated more widely
[1] Meeting locations should be in more centralized areas
[3] No one at SFMTA listens / don't trust SFMTA
[1] Need meeting in North Beach

Miscellaneous – Parking

[2] Restrictions on parking make it difficult to live/work in S.F.
[2] Regulate/limit construction permits
[2] Provide more 90°/angled parking
[2] People park with disabled placards all day
[1] Require people with disabled placards to pay at meters
[1] Exempt people with disabled placards from the 72-hour rule
[2] Encourage higher utilization of available off-street parking
[1] Too many small sections of curb
[1] Colored curb unavailable b/c used by single business/valet
[1] Hash lines to encourage more efficient parking (use of curb)
[5] Too many red zones (i.e., daylighting)

Miscellaneous – Non-Parking

[1] SFMTA operators should take public transit to work / not park in neighborhoods
[2] More frequent and reliable public transit
[3] More (protected) bike lanes
[1] More bike share in neighborhoods
[2] Encourage use of curb for purposes other than parking
[3] More traffic calming (e.g., speed humps)

Key Issues Identified by the Evaluation

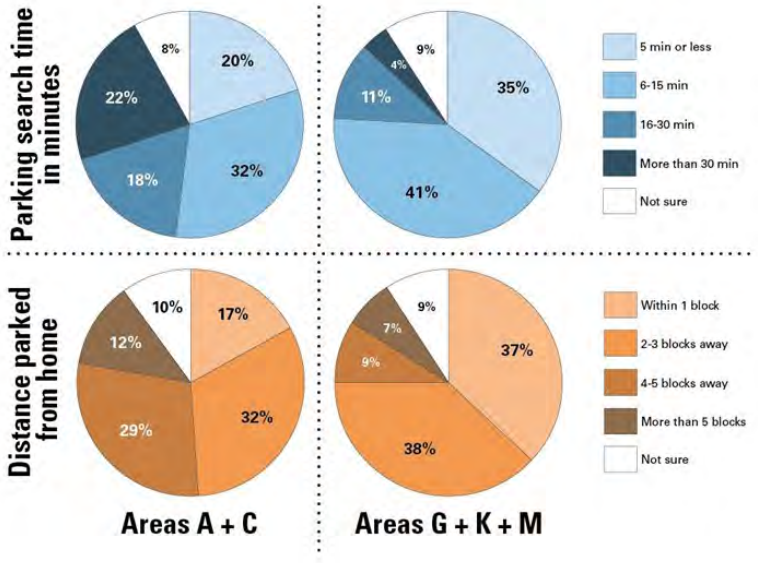
This evaluation and reform effort was initiated to address several aspects of the current Residential Parking Permit (permit) program that staff has observed over the years to be potentially ripe for improvement. Extensive research, engagement with members of the public, and observations by staff confirmed many of the issues already identified, and raised new issues to be addressed by the evaluation and reform project. These key issues are examined below.

A. Imbalance of Demand and Supply

The purpose of the permit program is to discourage out-of-area commuters from driving to and parking in residential areas of the city and to allow residents to find parking closer to their home. This is most important in parts of the city near traffic generators and where fewer homes have off-street parking. Survey research and field study conducted as part of this project indicates that in many permit areas it may take longer than 15 minutes to find parking, and that residents often must park three or more blocks away from their homes.

The chart below displays results of the household survey conducted as part of the project. Survey results for two groups of permit areas are presented, Permit Areas A and C in one group and Permit Areas G, K and M in another. The blue charts illustrate the amount of time it took to find parking while the brown charts present findings on the how far away from home they ended up finding parking. In Areas A and C, 40 percent of respondents indicated that it took them more than 15 minutes to find parking and 41 percent had to park more than three blocks from their home. In Areas G, K and M, 15 percent of respondents took 15 minutes or more to find parking and 16 percent found parking more than 3 blocks away while 75% found parking within 3 blocks of home.

Chart 5: Parking Search Time and Distance to Residence



Source: RPP Evaluation Household Survey, Nov 2015

Of the twenty-nine permit areas, many have parking occupancy rates exceeding 90% and permit saturation rates above 100%[4]. In these areas, much of the demand for on-street parking is generated by local residents, and may at times exceed the available supply of permitted parking spaces. For instance, areas A, C, G, S, and Y have saturation rates exceeding 120%, meaning for every permit-regulated space, 1.2 permits are issued. Additional daytime demand generated by visitors increases the difficulty in finding available parking. The issuance of permits is not limited to the supply of available parking, so an imbalance can be created when permits exceed spaces by a significant amount.

A recent boom in housing development in some residential areas has not only amplified the demand for parking, but also has reduced the supply of off-street parking as parcels once devoted to parking are developed into housing. Though the permit program was designed to protect residential areas from the spillover effect of proximity to major traffic generators, such as hospitals, transit stations and universities, in more and more permit areas, the excess demand for on-street parking is generated by the residents themselves.

[4] Permit saturation rate is equal to the number of permits issued in a permit area divided by the number of permit-regulated spaces in that same permit area.

B. Aligning the Permit Program with City Transportation Goals and Policies

A core value of the SFMTA (in fact, the second goal of its Strategic Plan) is, "make transit, walking, bicycling, taxi, ridesharing and car-sharing the preferred means of travel in San Francisco." Together with other City agencies, the SFMTA's mission is to further San Francisco's vision of a truly multi-modal community. Key to the achievement of this vision is the implementation of transportation and land use policies that prioritize transit and other alternatives over the personal vehicle.

San Francisco has several Neighborhood Area Plans for transit-rich neighborhoods that support these goals by limiting the supply of parking in new developments.[5] The city is targeting "transit-rich" neighborhoods, which have access to multiple transit connections, for new residential and commercial development. On-site parking for new developments in these areas can range from approximately one space for every two units (0.5:1) to one space for every four units (0.25:1).

In many cases, any available on-site parking is unbundled from the price of the units. This means that residents must pay separately for parking, usually $250 or more per month per space. When new housing is built either within or adjacent to existing permit areas, residents may petition SFMTA to add their address to the permit eligibility database. Given that the permit is so much less expensive than finding parking in the private market, many residents choose to forego paying for on-site parking and use a permit to store a personal vehicle on street. Because no new on-street parking spaces are added when a lot is redeveloped as housing, providing parking permits for new residents reduces the overall availability of parking, deteriorating an already undesirable situation. Enabling residents of new, higher-density development in transit-rich areas to have inexpensive on-street parking does not support the core values of SFMTA and the goals of the City's Transit First Policy or its General Plan.

C. Permit Parking in Mixed Use Areas

Areas with a mix of land uses pose challenges in the administration of the permit program. Over the last two decades, industrial and commercial areas have seen an influx of multi-family residential development. This affects most of the Eastern Neighborhoods, including SoMa, Potrero Hill, Dogpatch, the Mission and South Beach/Rincon Hill.

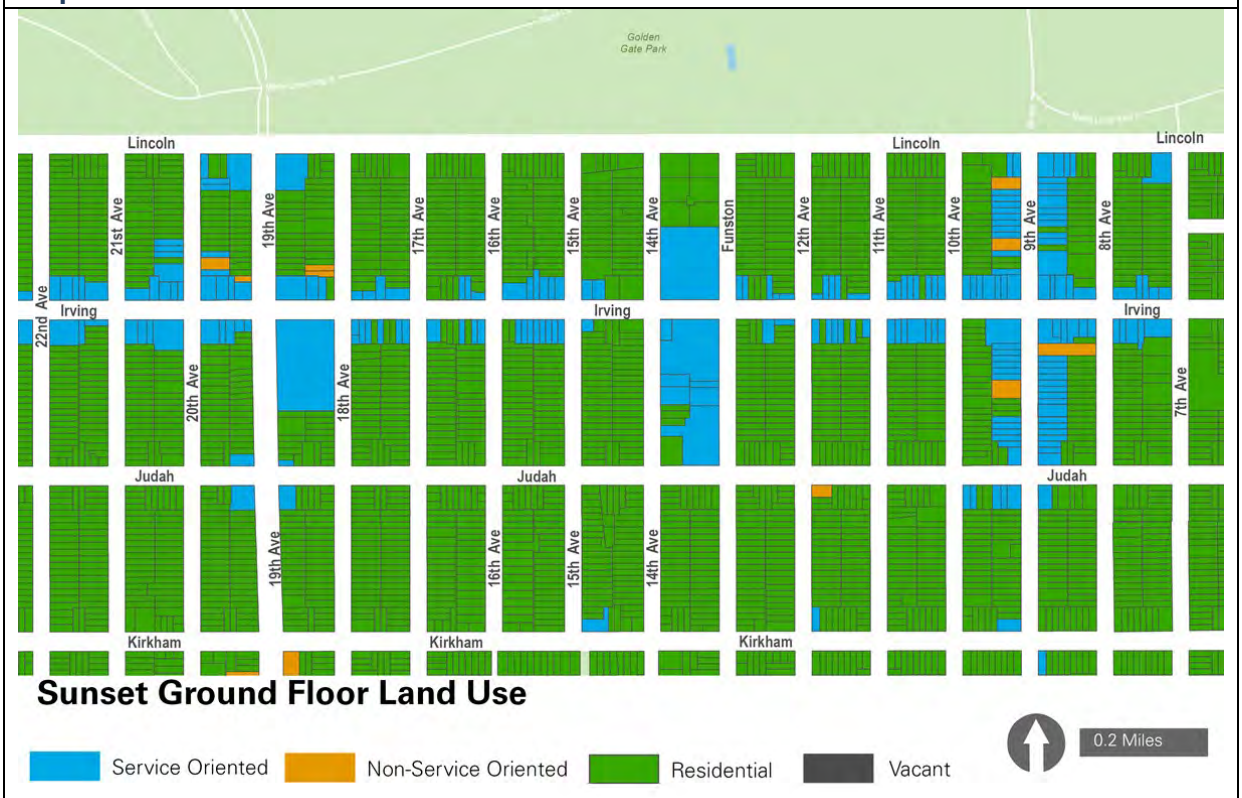
The existing permit program was designed for, and is largely effective in, residential neighborhoods characterized by a predominance of single-family and small, multi-unit

[5] Please refer to Article 1.5, Sections 150-168 of the San Francisco Planning Code, Off-Street Parking & Loading.

residences. Applying this form of parking management in an area where the dominant land use is not residential (and, in the case of the Eastern Neighborhoods, industrial) creates tension between existing businesses and new residents. Parking management in these areas needs to take into consideration the parking needs of businesses. Industrial, especially production-oriented, businesses have need for daytime parking and commercial loading. They usually send and receive large shipments from tractor-trailers and have customers and vendors that visit them regularly. In addition, businesses in industrial areas attract workers from throughout the Bay Area, but due to the nature of industrial uses and their typical location, have more limited access to transit services resulting in a higher rate of drive-alone commuting.

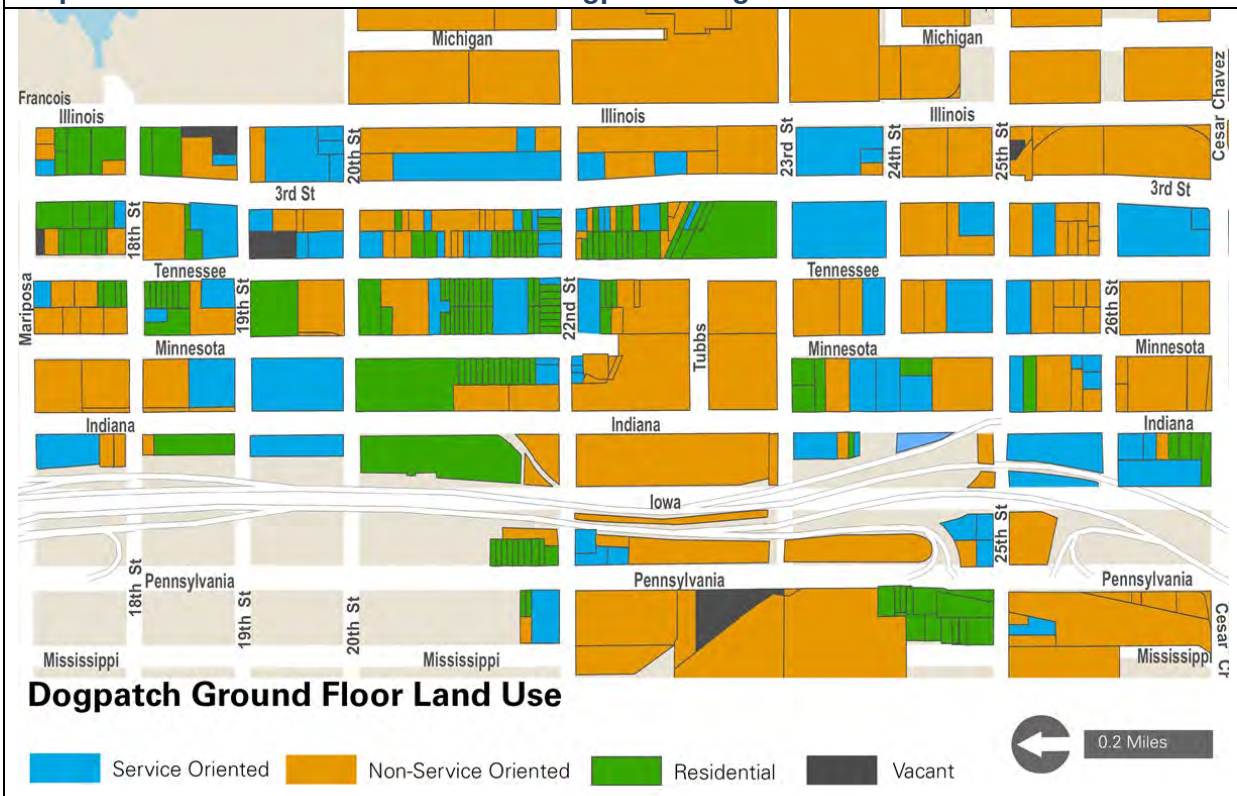
The maps below depict two different neighborhood land use patterns. The first map of the Inner Sunset shows that residential uses (colored green) comprise over 90 percent of the total land area. Commercial and industrial uses, colored blue or yellow, are limited to one or two commercial corridors. The map for the Dogpatch neighborhood paints a very different picture. In this neighborhood, the majority of land is comprised of industrial uses, colored yellow. In this type of neighborhood, the residential uses comprise a small share of the land area. Permit parking in a neighborhood such as this, if not limited to streets primarily developed as residential, may interfere with the on-going activities of local businesses.

Map 5: Land Uses in San Francisco's Inner Sunset District



Source: SFMTA Parking, 2016

Map 6: Land Uses in San Francisco's Dogpatch Neighborhood



Source: SFMTA Parking, 2016

E. New Travel Patterns and Multiple Demands for Street Curb

As indicated by the most recent travel surveys, more than half of all trips to and around San Francisco are made by transit and other alternatives to the single-occupant vehicle. Residents of San Francisco have more transportation choices than they have ever had. In addition to a comprehensive transit system, there are more bicycle lanes, better pedestrian facilities, car-share and scooter-share services, taxi services, commuter shuttles and transportation network services, such as Uber, Lyft and Chariot. As the use of these forms of travel increases, there will be an increasing need to allocate curb space for them. In some cases, curbside parking would need to be reallocated as space for loading and unloading of passengers.

F. New Permit Area Formation Process

The procedure for establishment of new permit areas could be better defined to provide clarification and guidance for the public as well as staff. The requirement of 250 signatures on a petition to initiate the process does not take into account the size of the

proposed new permit area. For instance, the newest RPP Area, Q, comprised over 7,600 households. The formation of this Area was initiated by a petition containing signatures from slightly over 330 households. The most common concern expressed by opponents to RPP was that the petition did not effectively demonstrate the required community support for the new parking restrictions.

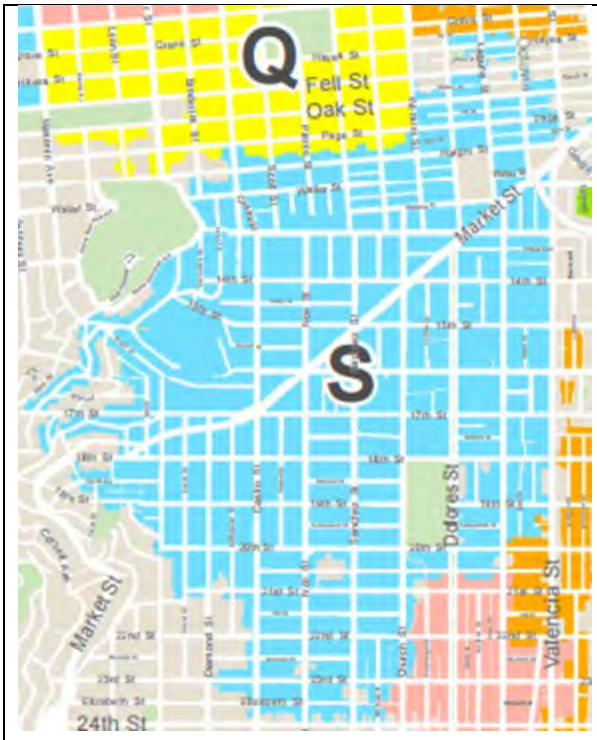
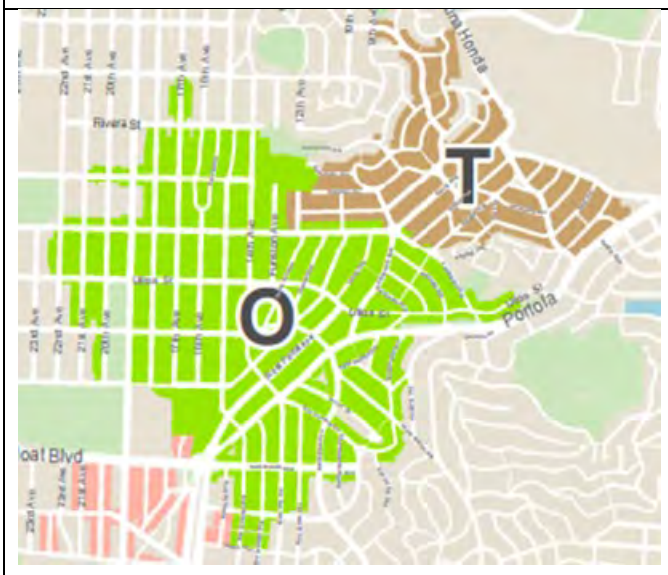
Formation of a new area is typically a voluntary, resident-initiated process. Following the guidelines established in the San Francisco Transportation Code, residents petition SFMTA to adopt permit-restricted parking for their block. SFMTA then conducts studies (including occupancy and license plate surveys) to determine the extent of the parking problem and the availability of off-street parking before starting the legislative process. Though the Transportation Code does allow SFMTA to initiate the permit planning process, this authority has not been used.

In addition to producing confusing and inconsistent permit boundaries and on-street regulations, a consequence of this approach is that permit parking could be used when a different regulation or approach could be more effective or appropriate.

G. Permit Area Sizes and Boundaries

The permit program was designed to be a citizen-initiated process whereby residents petition the City to establish or extend permit areas in order to address perceived impacts from nearby traffic generators. Most permit areas were established before 1990 and have grown in an irregular pattern depending on the specific streets or blocks that submit petitions. The resulting boundaries and size of each permit area vary greatly, ranging from over 1 square mile to less than 1/10th of a square mile. In the larger areas, residents are able to commute to work or a major transit station by car and park in the same permit area, reducing the effectiveness of the program and encouraging commuting by single occupant vehicle.

Often, there are pockets of unregulated blocks as well as specific addresses on regulated blocks that have been excluded from eligibility because they had commercial uses on them. Currently, the process of extending an existing permit area or adding a single address to an existing permit area requires a petition from residents.

	*Area S is so large that it allows residents with Area S permits to drive to work and park in an Area S regulated space.*
	*Areas T and O have sprawled beyond their intended coverage area, allowing residents with Area T or O permits to drive to a Muni Station and park in a T or O regulated space for the entire day.*

	*Area I has extended along some north-south corridors, but not others creating confusion for most residents of the Mission.*

H. Jumbled On-Street Regulations in Some Permit Areas

Permit area size, effective hours, and time limits vary greatly within and between permit areas. While more recently SFMTA has limited regulations for new permit areas and extensions of existing ones, much variability still exists, creating difficulties for drivers searching for parking, for SFMTA office staff, and for Parking Control Officers. Inconsistent regulations make effective and timely enforcement difficult.

Regulations often differ from block to block and even from one side of a street to the other. For instance, one side of a given block may have permit parking in effect from 9 AM to 6 PM, while the other side is only in effect through 4 PM. Similarly, a collection of blocks may have a 2-hour time limit for non-permit holders, while another one or two blocks have a 4 hour limit.

Where two permit areas border each other, buffer zones (where permit holders of two or more permit areas are permitted to park on the same block) help mitigate the “edge effect,” where those near the border of a permit area have a smaller area of available parking. However, current buffer zones do not cover enough blocks to be useful for the residents in this situation. Sometimes the buffer extends for one block into either permit area on both sides of each street, sometimes for two blocks, or sometimes there is no buffer at all. There are currently no established guidelines for locating buffer areas.

I. Educational Institutions

Schools vary in size from small family day care centers to large high schools. Yet, all must meet the same requirement to employ at least 15 teachers and no more than 15

permits may be issued to a single school site. As a result, teachers in smaller schools have a greater chance of obtaining a permit than teachers in larger schools. For instance, a school with the minimum number of teachers, 15, could obtain 15 permits (1 for 100% of all teachers) if the site meets the requirement for street frontage. On the other hand, fewer than 20% of teachers at a school with 80 teachers would qualify for permits (15) despite having more available parking on the streets around its campus.

The requirement for a minimum of 15 teachers makes it nearly impossible for teachers working at pre-schools to obtain permits since most preschools tend to be smaller and employ fewer teachers. Similarly, large family day care homes usually have only one or two employees, in addition to the homeowner.

J. Shared Vehicles

Shared vehicles (i.e., car-share and scooter-share) are increasingly popular. Their success depends on availability and proximity to potential users, including in residential areas. In many – especially older neighborhoods—there are few off-street parking facilities able to host car sharing vehicles. As such, provision of on-street parking for shared vehicles is necessary to provide residents with these mobility options. However, existing regulations requiring that an individual own the car for which a permit is issued prevents shared vehicles from obtaining permits to park in a permit area for longer than the posted time limit.

Vehicle sharing has been present in San Francisco for over a decade, proving to be effective at reducing car ownership and use. Acknowledging the benefits of car sharing for reducing auto use, SFMTA has piloted a program that designates on-street spaces for two-way car share, with individual spots reserved for use only by vehicles belonging to a permitted car-share company.

More recently, there has been strong interest in developing point-to-point vehicle sharing programs in San Francisco which operate entirely on-street, whereby customers may take a vehicle from one location and return it anywhere else within the service area. Unlike two-way vehicle share, users do not have to pick-up or return to a specific location, permitting greater flexibility of use. Such programs could feasibly operate today so long as all on-street regulations are followed. However, without a permit, rollout of point-to-point vehicle sharing in permit areas is not possible, as permit time limits are typically too short to store shared vehicles between uses.

K. Economic Vitality of Neighborhood Commercial Districts

Local businesses provide necessary services and are an integral component of a neighborhood. The quality of life and attractiveness of the neighborhood is directly

related to the economic vitality of a neighborhood's commercial corridor. Residents increasingly see these businesses as their neighbors. Currently, the owner of a business located in a permit area is eligible for one permit for their personal vehicle and up to three permits for commercial vehicles registered to the business.

Many permit areas abut or include commercial corridors. Involving local businesses in the process of extending existing permit Areas or forming new ones could be helpful in making sure the needs of local businesses are taken into account.

L. Customer Service

A key goal of the reform project is to improve ease of use, efficiency and effectiveness of the program. The program is, essentially, a service to residents of the City, that is wholly paid for by permit fees. As with any service provider, whether public or private, keys to success are convenience, ease of use, fast resolution of problems and delivering on the program's promise to its customers at a fair price. Based on extensive public engagement, most customer complaints relate to the difficulty of purchasing permits, especially the one-day visitor permit, the inconvenient location of the single permit sales outlet, the gaps in enforcement coverage and the limited evening and weekend enforcement and the inability to pay on a monthly or quarterly basis. Newer technological tools could speed up and simplify the process of purchasing permits and improve the effectiveness of communications, signage and enforcement.

Policy Evaluation Summary

For each of the key RPP program issues identified in the previous section, a set of policy solutions were developed and then evaluated for likely effectiveness, feasibility and potential impacts. Multiple types of impacts were addressed such as impacts on permit sales and revenue, program administration and enforcement and customer service. Below is a digest of key highlights based on a more thorough analysis of policy alternatives that can be found in the Appendix. For each of the seven issues, policy options are presented and for each option, the purpose, likely impacts and SFMTA recommendation.

ISSUE 1: *Demand for parking exceeds supply in many areas. Some RPP areas have occupancy rates above 90% and permit saturation rates above 100%.*

Policy Option 1.1 Area-wide permit cap. Cap total number of permits issued per area, based on the total available supply of permitted spaces.		
Purpose: Reduce parking demand from residents, increase chances of finding an available space in impacted areas; Improves the value of permits by making permit holders more likely to find available parking.	**Potential impact:** An overall cap would significantly reduce parking demand in areas already over the cap, and would serve to limit demand in growing areas. A cap of 120% would affect five RPP areas and 45% of accounts; the number of permits issued would decrease by 2,700 (out of approximately 78,000 current permits issued) assuming no other changes in demand. With a cap of 100%, 12 RPP areas would be affected as well as 72% of accounts and the number of permits issued would decrease by 10,000.	**Recommendation**: Consider pursuing this option upon completion of pilot area evaluation.
Policy Option 1.2: Cap permits at one per licensed driver.		
Purpose: Reduce parking demand from residents	**Potential impact:** Assuming no other changes, this would reduce demand for permits by about 1%.	**Recommendation**: Pursue this option.
Policy Option 1.3: Graduated permit pricing for multiple permits issued to one residential unit. Each successive permit issued to a residential unit costs more than the previous permit.		
Purpose: Encourage residents to obtain fewer permits.	**Potential impact:** 73% of permit accounts have only one permit per residential unit and 27% of permit accounts have two or more permits per residential unit. Charging twice as	**Recommendation**: Consider pursuing this

	much for the second permit, or three times as much for the third permit, likely would increase revenue but may decrease demand for permits beyond the first.	option upon completion of pilot area evaluation.
Policy Option 1.4: Graduated permit pricing for multiple permits issued to one licensed driver. Each successive permit issued to a licensed driver costs more than the previous permit. (This would be the alternative to one permit per driver cap)		
Purpose: Encourage residents to obtain fewer permits.		**Recommendation:** Do not pursue this option; pursue one permit per driver instead.
Policy Option 1.5: Permits cost more if customer has access to off-street parking.		
Purpose: To encourage customers to use available off-street parking.	**Potential impact**: Assuming that all applicants are truthful about their access to off-street parking, and assuming no other changes, this would affect 53% of accounts and require the base price to be reduced to $101 so twice this amount would be $202 for the 1st permit. **Risks:** May encourage permit applicants to state that they do not have access to off-street parking or to not use available off-street parking to obtain a cheaper permit rate.	**Recommendation**: Consider pursuing this option upon completion of pilot area evaluation.
Policy Option 1.6: Reduce the per-residential-unit cap from four to two; allow one additional permit per residential unit for caregivers**.**		
Purpose: Reduce the number of permits, increasing parking availability for those who need it.	**Potential impact:** 97% of residential units currently have two or fewer permits, so a two per-residential-unit cap would affect 3% of residential units. **Risk:** A lower per-residential-unit cap may disproportionately affect households with multiple drivers.	**Recommendation**: Pursue this option for pilot areas.
Policy Option 1.7: Deny permit eligibility, permit area additions, and permit area creations in high-density residential and mixed-use areas where the likely number of permits issued would greatly exceed the available supply.		
Purpose: To encourage use of transit and other forms of transportation alternatives and reduce vehicle ownership in transit-rich neighborhoods.	**Potential impact:** Reduce vehicle ownership rates as new residents trade their personal vehicles for other forms of transportation.	**Recommendation**: Pursue this option.
Policy Option 1.8: Permits to block your own driveway.		

Purpose: To place a price on the length of curb that has been privatized and lost to public use.	**Potential impact:** The administrative costs would outweigh the potential benefit.	**Recommendation:** Do not pursue
ISSUE 2: *Consistency with General Plan and Transit First Policies. Some neighborhoods have area plans and regulations for new developments that limit the number of off-street car parking spaces allowed, and require developers to meet trip reduction measures in order to encourage new residents to live without a car. However, the residential parking permit program allows residents of those developments in existing RPP areas to obtain permits in many instances, undermining planning efforts to encourage reduced car use and ownership.*		
Policy Option 2.1: Omit eligibility for new housing within transit-rich neighborhoods.		
Purpose: To align RPP program with General Plan and Transit First policies. Supports goal of increasing use of alternative transportation modes and reducing vehicle ownership in transit-rich neighborhoods.	**Potential impact:** Excluding new buildings from permit eligibility would reduce impact of increased demand for parking spaces in existing permit areas; reduced vehicle ownership rates.	**Recommendation:** Do not pursue this option at this time
Policy Option 2.2: Deny permit eligibility, permit area additions, and permit area creations in high-density residential and mixed-use areas where the likely number of permits issued would greatly exceed the available supply. (Also see Policy Option 1.7.)		
Purpose: To encourage use of transit and other forms of transportation alternatives and reduce vehicle ownership in transit-rich neighborhoods.	**Potential impact:** Reduce vehicle ownership rates as new residents trade their personal vehicles for other forms of transportation.	**Recommendation:** Pursue this options
Policy Option 2.3: For specific highly impacted transit-rich neighborhoods, consider distributing residential RPP permits using an auction system.		
Purpose: To equitably distribute residential parking permits in neighborhoods with extremely limited supply. This may require the	**Potential Impact:** not known at this time	**Recommendation:** Pursue assessing the feasibility of this option

establishment of a permit cap equal to 100% to 120% of available parking spaces and conducting an auction to distribute available permits.		
ISSUE 3: *Managing parking demand in neighborhoods that are not primarily residential. The existing permit program focuses on preferential parking for residents, but is better suited to prototypical residential neighborhoods. However, new residential development is being targeted towards areas that were once primarily commercial and industrial. Residential and commercial/industrial uses have very different transportation needs and present challenges in the administration of a residential parking permit program.*		
Policy Option 3.1: Supplement the permit petition process with a broader neighborhood-focused parking planning process that involves stakeholders from multiple interest groups. Area plan should address all appropriate regulations, including RPP, time-limited and paid parking as well as loading zones and colored curb.		
Purpose: A neighborhood planning process that involves residents, businesses and other stakeholders will better balance the demand for on-street parking by multiple types of users and allows consideration of multiple (and perhaps innovative) types of parking regulations.	**Potential impact/risks:** The requirement for neighborhood parking plans may increase required staff time and slow down the process of regulating curb, though it may save time in the long run by avoiding the need to process and evaluate permit petitions on a block-by-block basis.	**Recommendation**: Pursue this option.
Policy Option 3.2: Implement a combination of residential permit parking and paid parking (Paid + Permit) so that visitors can pay to park if they find a space. Vehicles with a valid permit are exempt from payment. Payment replaces time limits as the option for visitor parking in permit areas.		
Purpose: A paid/permit overlay provides another tool for balancing various demands for parking, especially in neighborhoods with a greater mix of land uses. If paired with no time limits	**Potential impact:** May encourage turnover while accommodating those who need to stay in excess of typical time limits. Likely would increase parking revenues. **Risks:** Meters may be opposed by some residents who are concerned about neighborhood aesthetics.	**Recommendation:** Pursue this option.

for those who pay, could address the issue of visitors who need to park in permit areas for longer than the time limits (usually one or two hours).		
Policy Option 3.3: For any permit areas within the Eastern Neighborhoods planning area, apportion permits to businesses and residents based on the ratio between households and employment within each area.		
Purpose: To balance the demand for on-street parking in mixed-use and industrial areas and takes advantage of temporal differences in that demand. Provides flexibility to businesses impacted by RPP parking restrictions.	**Potential impact:** Unknown at this time; further study required. In areas where the predominant land use is industrial and the number of jobs exceeds the number of housing units, may result in significantly higher occupancy rates and reduce availability for everyone.	**Recommendation**: Do not pursue at this time.
ISSUE 4: *Support the vitality of neighborhood businesses*		
Policy Option 4.1: Implement a combination of residential permit parking and paid parking (Paid + Permit) on residential streets abutting commercial corridors so that visitors to local businesses can pay to park if they find a space. Vehicles with a valid permit are exempt from payment. Payment replaces time limits as the option for visitor parking in permit areas.		
Purpose: A paid/permit overlay provides another tool for balancing various demands for parking, especially in neighborhoods with a greater mix of land uses. If paired with no time limits for those who pay, could address the issue of visitors who need to park in permit areas for longer than the time limits (usually one or two hours).	**Potential impact:** May encourage turnover while accommodating those who need to stay in excess of typical time limits. Likely would increase parking revenues. **Risks:** Meters may be opposed by some residents who are concerned about neighborhood aesthetics.	**Recommendation** Pursue this option.
Policy Option 4.2: Increase the allowed number of permits for non-delivery vehicles for businesses from one to two. A business taking advantage of this option would be limited to only two permits for delivery vehicles.		
Purpose: Provides flexibility to businesses impacted by RPP parking restrictions.	**Potential impact:** Unknown at this time; further study required. In areas where the predominant land use is industrial and the number of jobs exceeds the number of housing units, may result in significantly higher occupancy rates and reduce availability for everyone.	**Recommendation**: do not pursue at this time.

Policy Option 4.3: allow businesses to use one of the three delivery-vehicle permits currently permitted as a transferable general permit.		
Purpose: Provides flexibility to businesses impacted by RPP parking restrictions.	**Potential impact:** Unknown at this time; further study required. May result in doubling number of business permits issued.	**Recommendation**: do not pursue at this time.
ISSUE 5: *Rationalizing the issuance of teacher permits and encouraging more sustainable commute modes for school teachers. Schools vary greatly in size, but all must meet the same requirement of having 15 teachers and no more than 20 permits can be issued (up to 15 without review, 20 upon review and approval). In addition, the number of permits issued per school is limited by the number of generally available parking spaces along a school's street frontage.*		
Policy Option 5.1: The number of permits each school site is eligible for is based on 1) the number of teachers at that school, 2)the linear feet of curb space abutting school-site property and 3) school-site's agreement to promote commute alternatives and distribute permits based on need. No more than 30% of teachers may obtain permits—in keeping with the City's mode-split goals—or 15 permits per school, whichever is lower. The required minimum of 15 teachers would be eliminated.		
Purpose: Acknowledges that (a) schools, unlike many other commute generators, tend to be located in residential areas, and (b) growing housing costs now require an increasing percentage of teachers to live outside the core Bay Area and away from transit. Encourages the use of permits based on need rather than seniority (or some other system not aimed at encouraging sustainable commutes), and requires the school system to consider transportation demand management before seeking parking permits.	**Potential impact:** For K-12 schools, likely will not increase the overall share of permits issued, since the hard cap of 15/20 permits per school remains. Will focus schools on managing transportation demand rather than simply asking for more permits. There are a total of 148 centers within RPP areas. Of these, at least 25 child care centers (with 15+ teachers) have been issued a total of 150 or more permits. For child care centers not based in the operator's home, this change may increase the number of centers eligible for permits by 123 citywide (or, 5 per RPP area on average) resulting in approximately 211 additional teacher permits issued.	**Recommendation:** pursue this option.
Policy Option 5.2: keep existing rules for teacher permits, but add a requirement for schools requesting permits to submit a TDM plan.		

Purpose: Encourages the use of permits based on need rather than seniority (or some other system not aimed at encouraging sustainable commutes), and requires the school system to consider transportation demand management before seeking parking permits.	**Potential impact:** Encourages use of commute alternatives by those who have access to options and limits permits to those who do not have options.	**Recommendation**: pursue previous policy instead.
Policy Option 5.3: allow the operator of a large family day-care home to obtain a permit for one assistant care provide.		
Purpose: acknowledges that family day care homes are located in residential areas, and that growing housing costs now require an increasing percentage of day care workers to live outside the core Bay Area and away from transit.	**Potential impact**: Minimal impact to overall program. There are a total of 58 family day care homes within RPP areas. The operators of these day care homes are already eligible for permits for their personal vehicle. Assuming these family day care homes operate at capacity (12 or 14 children) and require assistant care providers, there would be a maximum of 59 to 109 transferrable Family Day Care permits issued for assistant providers or approximately 4 permits per RPP area.	**Recommendation**: pursue this option.

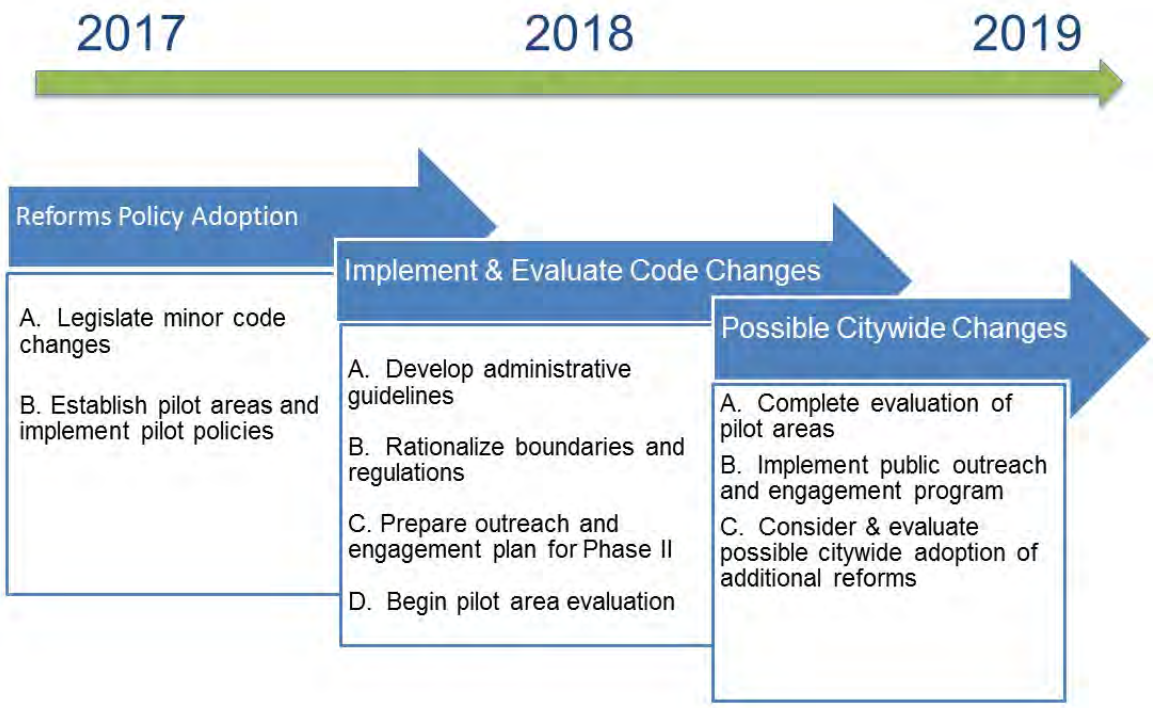
ISSUE 6: *Rationalizing permit area creations, extensions, boundaries and regulations. The formation of permit areas depends entirely on petitions from residents. The resulting boundaries and size of each permit area vary greatly, ranging from over 1 square mile to less than 1/10th of a square mile. In the larger areas, residents are able to commute to work by car and park in the same permit area, reducing the effectiveness of the program and encouraging commuting by car. Often, there are pockets of unregulated blocks as well as addresses on regulated blocks that have been excluded from eligibility because they had commercial uses on them. Currently, the process of extending an existing permit area or adding a single address to an existing permit area requires a petition from residents and a 3- to 4-month legislative process. In addition, permit regulations (hours and days of enforcement and time limits) vary greatly within and between permit areas. This creates difficulty for drivers searching for parking and PCOs. Regulations can sometimes differ from block to block and from one side of a street to the other.*

Policy Option 6.1: Define the ultimate boundaries of all existing or potential new permit areas based on factors like distance from major traffic generator and natural neighborhood borders.		
Purpose: Creates expectation of future area boundaries and keeps future permit areas to a reasonable size and aligned with natural neighborhood borders.	**Potential impact/risks**: May raise some concerns among residents who identify with their permit area, or who may prefer to be a part of one area or another. May create more border effects that would need to be addressed using buffer zones between areas.	**Recommendation**: Pursue this option.
Policy Option 6.2: Revise the borders of existing areas to make them more responsive to traffic generators and natural neighborhood borders.		
Purpose: Sub-divide large areas to improve effectiveness and enforcement. Align area boundaries with natural or man-made barriers, such as major arterials and freeways, creeks or natural areas. In permit areas with area-wide caps, this will limit effect of caps on non-impacted parts of the larger area (e.g., Area S might be over the cap, but some neighborhoods within Area S would be well below the cap).	**Potential impact:** Would reduce some intra-area car commuting and make the permit areas more reflective of local neighborhood conditions. Project would be designed not to change the number who are permit-eligible overall. Likely would impact about half of the existing areas, including (but not limited to): A, D, G, H, I, J, K, L, M, N, O, S, V, W, X, Y	**Recommendation:** Pursue this option.
Policy Option 6.3: Minimize edge effects by actively using buffer zones (where permit holders from two or more areas are permitted to park) at the borders of permit areas.		
Purpose: Currently, permit holders who reside near or on the border of two or more permit areas, without a buffer zone, have a limited park shed (e.g., they can only go west toward Area G blocks, even though they live across the street from Area C blocks to the east).	**Potential impact:** Would improve parking access for residents living near area boundaries and increase permit benefits.	**Recommendation**: Pursue this option.
Policy Option 6.4: Automatically grant permit eligibility (without on-street regulations) to any houses within two blocks of a permit area.		
Purpose: Newly established permit area boundaries reduce the park shed for residents just beyond the boundaries.	**Potential impact/risks:** This would affect a little over half of permit areas. May increase eligibility to a few thousand additional residential units, though on average only 43% of	**Recommendation**: Do not pursue this option

This policy would ease that impact on residents of adjacent blocks.	eligible residential units purchase a permit. May be opposed by residents of permit areas who object to eligibility for nearby residents.	
Policy Option 6.5: Include a threshold for the amount of off-street parking as a requirement in determining whether to create a new or extend an existing permit area.		
Purpose: Encourages residents to use their available off-street parking and brings the program in line with original intent to allow residents to park close to their homes in neighborhoods with very limited access to off-street parking.	**Potential impact**: Likely will reduce or end permit area creations and extensions in outer neighborhoods, where permits tend to be sought to restrict outsiders (or vehicles seen as undesirable or blighted) even when on-street parking remains available.	**Recommendation**: Pursue this option.
Policy Option 6.6: Define the range of possible permit regulations for permit areas, rationalize/harmonize those regulations within existing permit areas, and ensure that future permit areas contain consistent and coherent regulations.		
Purpose: Some existing permit area regulations do not match parking demand characteristics temporally and/or spatially. Moreover, existing regulations vary between and within permit areas and can be difficult for the public, PCOs, and other SFMTA staff to understand.	**Potential impact:** Could impact most areas. Will require up-front effort, but simplifying regulations should allow Enforcement officers to cover more ground and more effectively enforce the regulations that are in place.	**Recommendation**: Pursue this option.
ISSUE 7: *Simplify application process for permits for in-home child caregivers. Currently, applicants for an in-home child caregiver permit must obtain signatures from nine of their neighbors, even if their address is already permit-eligible. It is a hardship and not fair or equitable to require families with newborns to request signatures from their neighbors to obtain a caregiver permit, when other permit-eligible neighbors are free to obtain four permits without such a petition.*		
Policy Option 7.1: Eliminate requirement for a petition signed by neighbors to obtain an in-home child caregiver permit.		

IMPLEMENTATION PLAN

SFMTA will implement the recommendations of the evaluation and reform project in phases.



Phase I: Transportation Code Changes

Implementing the recommendations of the project will require some amendments to the Transportation Code, Section 905 Permits. The following recommended changes will lessen the hardship placed on new parents in acquiring a permit for their in-home care provider, allow schools with fewer than 15 teachers to be eligible for permits, clarify the process of forming new areas and establish case study areas.

Q2 2017

Legislate minor revisions to the Transportation Code, Section 905 Permits:

> Sec. 905(g)(5): Child care—eliminate requirement for petition
> Sec. 905(g)(3)(A): Educational institution: delete requirement for minimum of 15 teachers

Sec. 905(g)3)(B); Educational institution: the number of permits a school site is eligible for is limited to no more than 30% of the total number of teachers employed at the school.
Sec. 905(g)(3)(C): Educational institution: delete allowance of 5 permits no matter the street frontage
Sec. 905 (e) Procedure for Designating Residential Parking Permit Areas, including subsections (1), (2) and (3) and Sec. 905 (f) (1 – 4) add: Requiring a count of off-street parking for all area extensions and creations
Sec 905 (i) – New Section: Allowing for the formation of RPP areas with modified policies that may include limits on number of permits issued.

Phase II –Rationalizing Area Boundaries and Regulations and Preparing Administrative Guidelines

Changes to area boundaries and regulations would be implemented area by area, working in collaboration with neighborhood associations and prioritizing the largest areas, such as A, G & S first. These would include sub-dividing an area, when necessary, rationalizing regulations and defining ultimate boundaries (for the areas that still have room to grow). An alternative order of priority would be to start with smaller areas, such as Area X and I and then, based on lessons learned, move on to the others.

Preparing a set of administrative guidelines will provide the agency a reference document for addressing the many peculiar context-specific situations that arise. The Transportation Code is purposely written to allow for flexibility in program administration. In the process of administering the RPP program, many situations arise for which there are no ready solutions and which require a broad interpretation of the Code. How the Code has been interpreted has varied since the program was established 40 years ago. This is partly a result of several transfers of responsibility for program administration from one agency or department to another.

Q2 2017 - Q1 2018

Preparation of recommendations for rationalizing and subdividing large RPP areas would begin with a process of applying a set of criteria to each area to determine most appropriate boundaries or sub-areas and then engaging with neighborhood groups to refine them. This process would also involve establishing more buffer areas, improving the consistency of parking regulations and identifying appropriate locations for Paid + Permit parking. The following criteria will be used in preparing the recommendations:

Significant and recognizable borders, whether natural or man-made
Size of resulting area

Recognized neighborhood boundaries
Parking Enforcement department support

Public outreach will be a necessary component of this activity and will require the completion of an overall public outreach and engagement plan. The plan would have the following components:

Target audience and stakeholder groups, including neighborhood and business associations (all areas)
Key messages
Methods of public outreach and engagement, such as project website, email notices, community meetings and public hearings
Timeline of activity (may vary by area)

Implementation of the public outreach and engagement plan would necessarily be tailored for each area and could be staggered depending upon available staff resources.

Phase III—Establish and Evaluate Case Study Areas

The primary activities involved in establishing and evaluating the two case study areas will occur at two points of time. (The case study area evaluation plan is described more fully in the Project Evaluation section of this report.) These areas will be established in late 2017 upon SFMTA Board approval. The pilot period will last for one year and the evaluation of the effects of the new policies will be started in late 2018 with data collection. Data analysis, including results of the license plate survey and household and employer surveys, could take several months. Planning and programming of these research activities, however, would need to start in early 2018.

Phase IV—Citywide Program Reforms

The outcome of the evaluation of the two case study area will inform discussions and analysis related to possible citywide reforms. These reforms could include: limiting the number of permits issued to one per driver and one or two per household; instituting area-specific caps on issuance of permits; instituting graduated pricing; charging a premium to permit holders with off-street parking at their place of residence; requiring school site TDM plans as a prerequisite for teachers obtaining permits and rationalizing RPP area sizes and regulations. Input from the public during the implementation of Phase II, will inform the process of implementing program reforms citywide. For instance, some areas may prefer more or less restrictive policies, depending on the particular challenges in those areas.

Q3 2017 – Q1 2018

Preparation for possible citywide reforms would involve an analysis of demand and revenue impacts of two of the possible pricing policies—graduated pricing and charging premiums for residents with access to off-street parking. This could be done during the current 2-year budget development process for implementation in FY 18-19 or FY 19-20.

Currently, the SFUSD does not have a model school-based TDM plan and SFMTA may need to work with the school district to prepare a plan that could be used as a template for individual school sites.

Implementing reform measures citywide would require the development and implementation of a public outreach and engagement plan. The plan could be developed as part of an overall implementation strategy for all phases of implementation that would also include public outreach strategies for Phase II, rationalizing area boundaries and regulations.

Q2 2018

Implementing these citywide reforms would require amendments to the following sections of the Transportation Code:

> Section 905(c) Number of permits--- for limiting permits to one per driver and one or two per household.
> Section 905(g)(3) Educational Institutions regarding requirement for TDM program
> Section 902(d) Permit Fee Schedule for graduated pricing

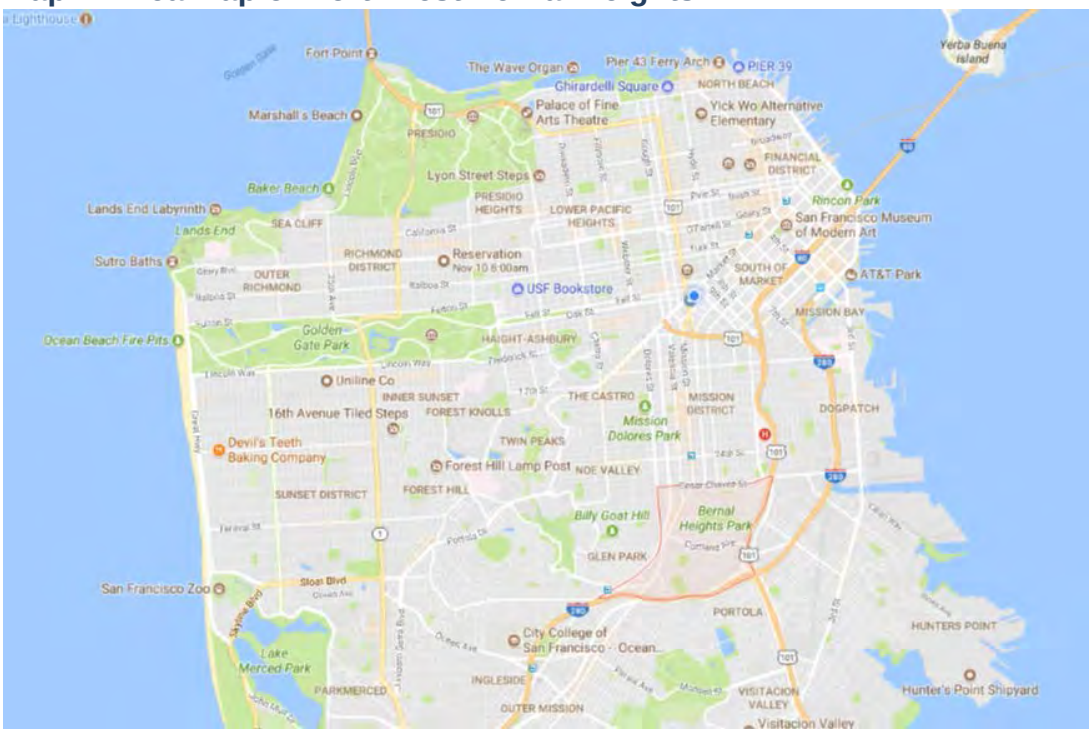
CASE STUDY AREAS

Case Study areas allow policy reform measures to be tested in limited areas before being implemented citywide. The project team is proposing two pilot project areas: 1) northwest Bernal Heights, which will become the city's newest RPP Area, and 2) the Dogpatch neighborhood, part of which is within RPP Area X. The two areas differ in many ways and provide an opportunity to see how reform measures impact different neighborhoods.

Northwest Bernal Heights Project Area

Bernal Heights is a residential area characterized by modest historic homes and narrow, hilly streets. Most of the homes date back to the late 19th century. The northwest Bernal Heights planning area is north of Bernal Heights peak and encompasses only a portion of the full Bernal Heights neighborhood. The northwest Bernal Heights area is centrally located, south of downtown and the Mission neighborhood and west of the industrial areas on the city's eastern shore and is bordered by Virgina Avenue to the south, Mission Street to the west, Cesar Chavez to the north and Alabama Street to the east.

Map 7: Area Map of Northwest Bernal Heights



Planning area. Based on data from the Census Bureau's American Community Survey, there are a total of approximately 2,100 households with a population of approximately 5,500 in the northwest Bernal Heights planning area. Within the entire planning area there are approximately 1,400 on-street parking spaces for a ratio of approximately 1.5 housing units per on-street space. The number of units is not expected to increase as no significant development is planned for the area. Twenty-six percent of households have no personal vehicle, 34% have one vehicle and 40% have two or more vehicles.

Based on the online survey results, however, 4 percent of households have 0 cars, 42% have 1 car and 54% have 2 or more cars, indicating residents responding to the survey were more likely to be vehicle owners. Based on that same survey, 47% of households have no access to off-street parking.

Petition area. There are about 640 housing units on the 11 blocks proposed for RPP. Within this area, there are approximately 430 on-street parking spaces, for a ratio of 1.5 housing units per space.

Issues

The lack of parking regulations and limited or no street cleaning has led to Bernal Heights being a popular area for people from other neighborhoods to store their vehicles.

As with other areas of the city, the northwest Bernal Heights area, though primarily single family development, is densely populated, with most lots not larger than 25 feet wide. Despite their modest size, many homes have been converted to duplexes. Since nearly half the homes do not have garages or driveways, the internally-driven demand for on-street parking is high. This, combined with many curb cuts and narrow streets, limits the supply of on-street parking leading to difficulty in finding parking, close to one's home.

Staff and visitors to St Luke's Hospital, located just west of the neighborhood, also drives much of the demand for on-street parking. The existing 1970s-era hospital building will soon be replaced by a newer facility with fewer beds, but more out-patient services as well as a new medical office building that will be constructed where the current hospital stands. The hospital has limited on-site parking, much of which requires payment, so staff and visitors tend to park on neighborhood streets.

The neighborhood is bordered by Mission Street, a major commercial corridor with restaurants, shops and higher density residential uses that attract customers and visitors who tend to park in the neighborhood as well.

Muni's 14 Rapid (14R), which runs the entire length of Mission Street from Daly City to the Ferry Building, has three stops near the neighborhood, at St. Luke's Hospital, at Powers Street and at Cesar Chavez. Commuters not wishing to pay for parking downtown may park in the neighborhood and take the 14R the rest of the way into work.

Public Engagement

In early 2015, residents of the northwest Bernal Heights neighborhood met with SFMTA to discuss their parking concerns and how best to improve on-street parking in the area.

The residents organized two community meetings that summer and invited SFMTA to make presentations to inform residents about the pros and cons of residential permit parking, the process of forming a new area, the typical regulations and enforcement process and the cost and eligibility requirements for permits. Between 50 and 75 residents attended each meeting.

Project website, survey and petition. SFMTA developed a project website, www.sfmta.com/northbernalrpp, and posted an online version of the RPP petition on the site. In addition to providing residents the opportunity to "vote" for or against RPP, the petition included questions regarding address, household size, access to off-street parking and number of vehicles owned. Postcards were mailed to all households in the area inviting residents to complete the petition. After several months, the results of the petition were computed and announced on the project website. In all, 573 households responded to the survey. Of these, 62% favored RPP and 38% did not. Those in favor of RPP primarily resided west of Folsom Street, while those who did not want RPP lived east of Folsom Street.

By December 2016, more than 600 residents had responded to the survey and submitted the petition. SFMTA hosted a third community meeting to provide an introduction to RPP and the Evaluation and Reform project to a wider group of residents and to present findings from the survey and petition gathering. A map indicating the likely boundaries of the initial RPP area, which consisted only of those blocks where 50% or more of the households supported RPP, was also presented. This meeting drew over 90 residents, many of whom had not attended the previous meetings.

A fourth community meeting was held in April 2017 to present the draft proposal, which included the blocks that would be included in the initial area, the ultimate boundaries of the new area (beyond which the new area would not extend), and possible days and hours of enforcement. This meeting drew over 100 residents, motivated, in part, by extensive local media coverage. The petition was re-opened so that, based on new

information about a proposal to limit on the number of permits issued to each household, residents could change their vote or vote for the first time.

A public hearing was held on July 7, 2017. Members of the public were notified of the public hearing through postcards sent to all addresses affected and through emails and project website updates. Neighborhood social media outlets, such as Bernalwood, Nextdoor and Hoodline also carried stories about the proposal in advance of the public hearing. Twenty-four members of the public attended the public hearing and provided comments. Eight spoke in favor of the new RPP area; 11 spoke in opposition (many of whom lived outside of the proposed RPP Area AA, on blocks that had voted against joining the RPP area), and three were undecided. Twenty people commented about the proposal through emails. Of these, three supported the proposal and 17 were against—of which 16 lived on streets outside the proposed RPP area but believed they would be adversely impacted. A few commented that they should not have to pay to park on the street.

After the public hearing, a majority of residents of the unit block of Prospect Street decided to support RPP while residents of Esmeralda decided to drop out of the proposed area. A second public hearing was held on November 17, 2017 to allow residents to comment on the modified proposal.

Map 8: Northwest Bernal RPP Proposal

Policy Options Proposed for the Northwest Bernal Heights Pilot Area

A key recommendation for RPP reform is to limit the number of permits issued per household. This recommendation is based on the research findings of the evaluation project, which indicate that in many RPP areas, it is still very difficult to find parking close to one's home. This is partly due to the increasing household density in most neighborhoods and the tendency for residents to own multiple vehicles. Survey research findings indicated that many residents of RPP areas needed to park more than four blocks from their home.

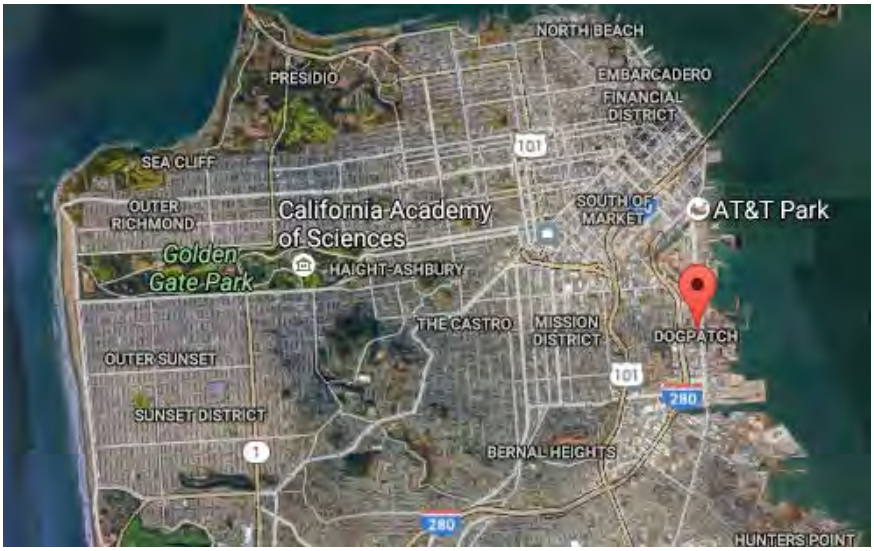
Policy option: Cap permits at one per licensed driver. Each licensed driver in a permit area would be allowed only one permit, so owners of more than one vehicle would not be allowed to obtain multiple permits.

Policy option: Reduce the per-residential-unit cap from four to two; allow one additional permit per residential unit for caregivers.

Dogpatch Neighborhood Parking Management Plan

Introduction

The Dogpatch Neighborhood is located on the City's eastern side, an area once devoted to heavy industrial uses, including steel manufacturing and boat building. Many of the neighborhood's modest historic homes and remaining industrial buildings date from the late 19th century when the area was bustling with activity. Starting in the late 1980s, the area began attracting a significant amount of live/work units. This was followed by new high-density residential development.



Key Drivers of Current and Future Parking Demand

The Dogpatch study area is bounded by Mariposa Street to the north, the San Francisco Bay to the east, Cesar Chavez Street to the south and Pennsylvania Ave. /Highway 280 to the west. Currently, there are approximately 1,520 housing units in the Dogpatch neighborhood.

To the north of the Dogpatch study area is Mission Bay, of which the southern section is home to a master-planned biotechnology-focused research park, anchored by the

University of California San Francisco (UCSF). The northern section of Mission Bay has significant new and planned residential development. Planned for the southeastern corner of Mission Bay is the Warriors' new 18,500 -seat multi-purpose event center scheduled to open in 2019.

To the south of the Dogpatch neighborhood is the San Francisco Produce Market, the largest complex of organic and conventional produce distributors and wholesalers in northern California.

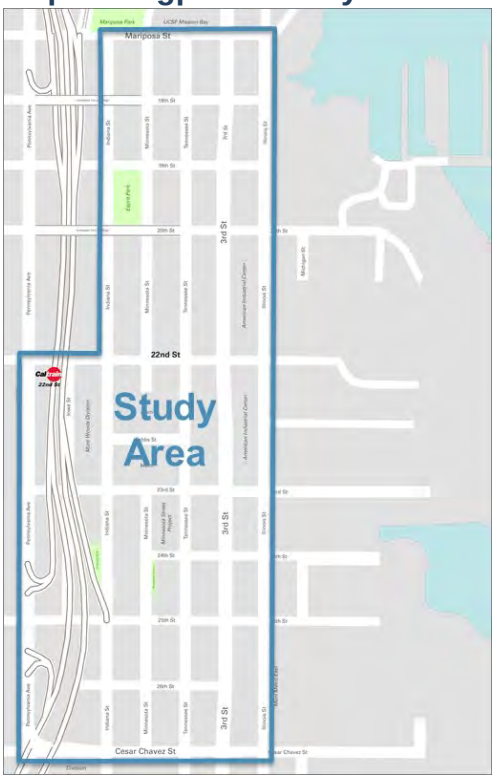
The Port of San Francisco is actively engaged in planning for the future development of its property. Forthcoming development of Pier 70, located at the eastern edge of Dogpatch, could triple the population of the area within two decades.

There are approximately 400 business establishments in the Dogpatch with 7,150 (5,250 private and 1,900 public) workers. A large portion of these workers drive to work.

Within Dogpatch, the SFMTA has four facilities devoted to housing, dispatching, and maintaining large fleets of bus and rail vehicles: the Woods Division; the Islais Creek Division; the Muni Metro East facility and the 700 Pennsylvania facility. In all, these four facilities employ approximately 1,900 city workers, mostly bus and rail operators and mechanics.

The American Industrial Center (AIC) on 3rd Street between 20th and 23rd Streets, a re-purposed canning factory that houses over 300 small and medium-sized businesses, including tech start-ups and artisanal manufacturers of everything from furniture to messenger bags and chocolates, employ about 2,500 workers.

Map 9: Dogpatch Study Area



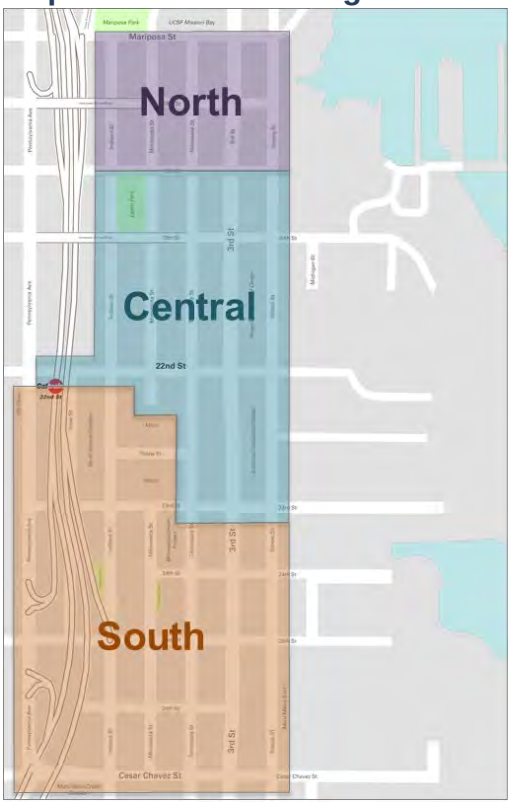
The City Planning Department's Pipeline Report (2016 Q1) estimates that over 1,500 new residential units will be built in Dogpatch in the next few years, doubling the total population by 2020. City policies place a cap on the number of on-site parking spaces that can be provided per unit and allow developers to provide no parking if they choose. Existing plans call for a total of around 1,000 off-street parking spaces associated with these new residential units, a ratio of 0.72 spaces for each unit. New development will be concentrated in the north and central sections of Dogpatch, primarily north of 22nd Street, as seen in Figure __ below:

Map 10: Planned Residential Development with Number of Proposed Units

Though the Dogpatch is a relatively small area, it does have distinct micro areas that are impacted by nearby traffic generators. The central area—the heart of the historic Dogpatch district—includes the neighborhood's two main commercial corridors, 22nd Street and 3rd Street, which have popular cafes, pubs, and other businesses that attract customers from outside the neighborhood. Currently, major parking and traffic generators in this sub-area include the Caltrain Station at 22nd Street, the Muni T-line along 3rd Street, the 22nd Street commercial corridor, the Muni Woods Division bus maintenance yard and the 300 businesses located at the American Industrial Center. This sub-area will capture most of the proposed new housing, (increasing from 652 units to 1,797 units), which together with the existing traffic generators, will have a major impact on the availability of on-street parking.

The southern portion of Dogpatch is least affected by new development primarily because it's zoning (mostly Production, Distribution, Repair) generally does not allow new residential development. Though the area is primarily industrial, there are some live-work condos and multi-family units. The primary parking impacts are from the existing industrial businesses, including the three SFMTA Muni facilities, which together employ more than 1,000 mechanics, vehicle operators and administrative staff.

Map 11: Three Planning Sub-Areas



North
- UCSF
- Mission Bay commuters
- Residences (more forthcoming)
- Warriors Arena (forthcoming)

Central
- Residences (historic and newer)
- Neighborhood businesses
- Caltrain and Muni commuters

South
- Neighborhood businesses
- Minnesota Street Project
- SFMTA Divisions – Woods, Islais, Muni Metro East
- Residences
- Caltrain and Muni commuters

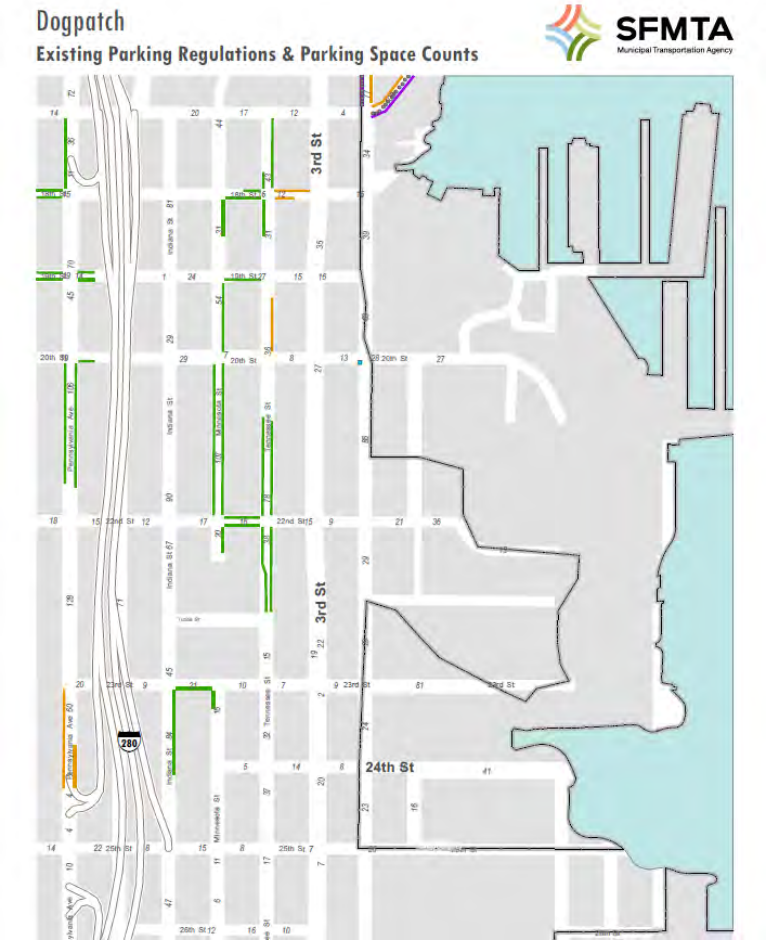
The northern section is most impacted by the growth of Mission Bay, the UCSF campus, and other biotech companies. Though there is adequate off-street parking for workers and visitors to Mission Bay, most or all of that parking is priced and employees and visitors often choose to park for free on the nearby residential streets of Dogpatch. UCSF is growing into the Dogpatch, and will be constructing medical offices and student housing on streets just south of Mariposa Street. This particular sub-area will also be impacted by new residential development, capturing over 1,500 new units.

The differences among the three areas warrant a mix of on-street parking regulations. The project team prepared alternative plans for review and approval by the neighborhood.

Existing Conditions

In the Dogpatch, most parking (83%) is un-regulated, offering an attractive alternative to pricey parking in nearby employment destinations in Mission Bay and downtown. As a result the area is a popular location for long-term car storage. The map below depicts where parking regulations are currently in place. Streets lined in green indicate residential permit parking, while those lined in yellow indicate 2 or 4-hour time limits.

Map 12: Existing Parking Regulations



Parking Utilization Studies

The project team collected and analyzed parking utilization data, summarized below, at two points in the planning process: October 2015 and in August 2016.

As can be seen in the tables and charts below, during hours of enforcement, the percentage of occupied spaces is higher during the late morning and afternoon periods on permitted blocks than on non-permitted blocks.[6]

[6] The first Dogpatch occupancy survey conducted in October 2015 was when the previous 4-hour parking limits for non-residents was in effect. These high occupancy rates indicate that 4-hour time limits were ineffective in creating sufficient availability of parking for residents. Since then, the time limits have changed to 2 hours and a follow-up occupancy survey was completed in August 2016. The results of that follow-up survey are discussed below.

For this particularly mixed-use neighborhood, where residential, retail, and industrial uses coexist, the parking regulation(s) effective on a given block are often related to the land use. Blocks with residential permit restrictions tend to be those with greater demand for on-street parking due to higher density residential uses and greater activity in nearby commercial areas. Unpermitted blocks tend to be primarily low-density industrial uses.

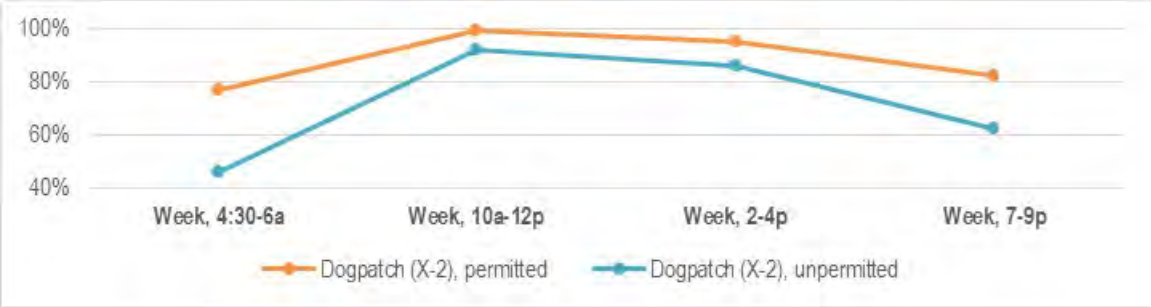
Table 4: Occupancy Rates for Observed Streets, Dogpatch, 2015

	Weekday			
	4:30-6a	10a-12p	2-4p	7-9p
Dogpatch (X-2) *permitted - Area X (3 blks)*	77%	99%	95%	82%
Dogpatch (X-2) *unpermitted (18 blks)*	46%	92%	86%	62%

Prevailing effective hours of permit parking: Monday-Friday, 8am-4pm

Source: SFMTA; Arup; NDS (2016)

Chart 6: Occupancy Rates for Observed Spaces, Dogpatch 2015,



▶ Source: SFMTA; Arup; NDS (2016)

Consistent with its primary land use as industrial, the majority of vehicles parked on Dogpatch neighborhood streets are registered to non-residents, most likely employees of local businesses. As seen in Charts 7 and 8 below, in the early morning and late evening, the majority of parked vehicles are registered to addresses within one-fourth mile of where they are parked (most likely belonging to residents), while during the typical hours of enforcement, 9 AM to 6 PM, the share of parked vehicles registered to addresses more than two miles from where they are parked increases from 18% to over 40%.

Chart 7: Registered Address of Parked Vehicles, Dogpatch

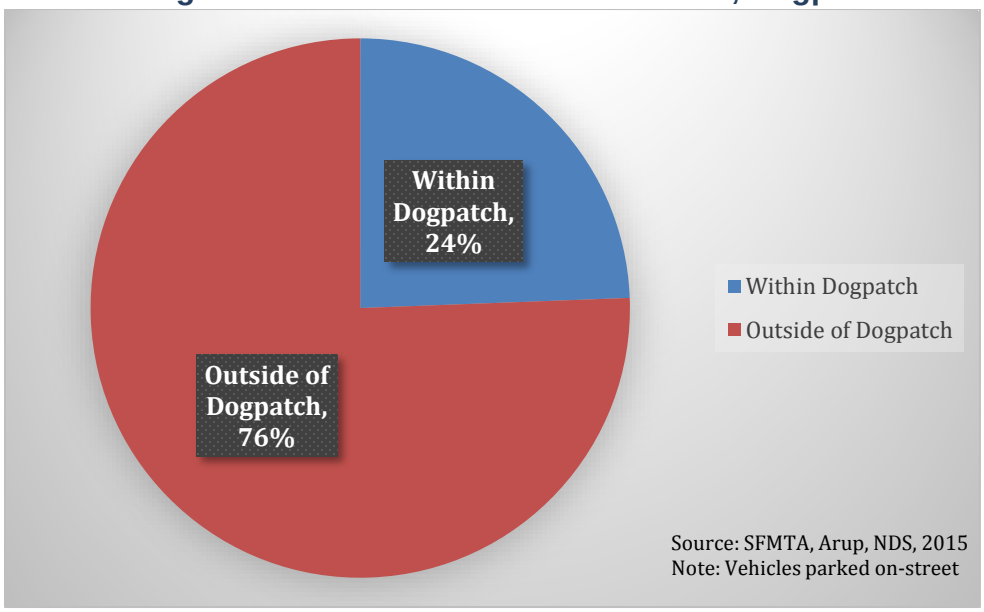
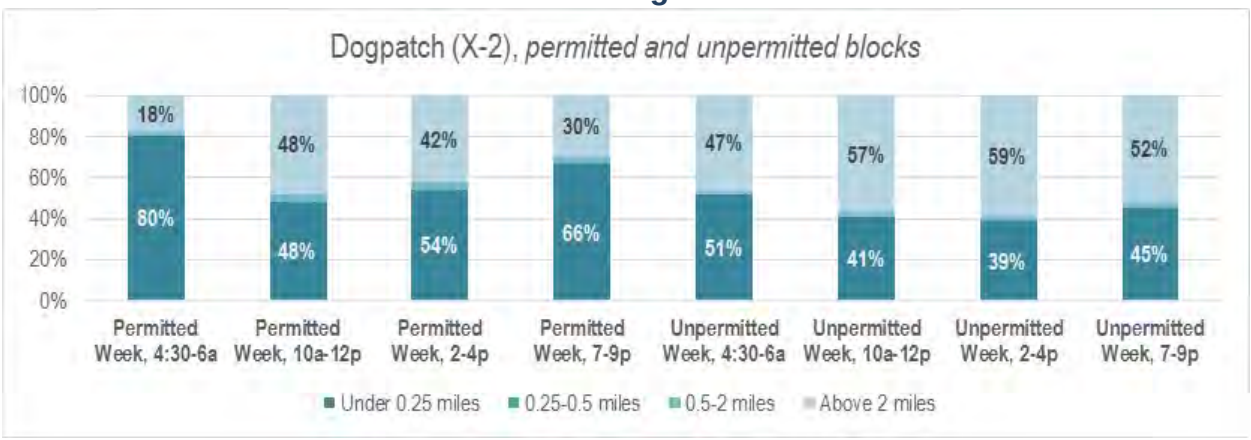


Chart 8: Distance Vehicles Parked from Registered Address



Source: SFMTA; Arup; NDS (2016)

On regulated blocks, the number of parked vehicles that are registered within one-quarter mile (in other words, those that likely belong to local residents) varies significantly throughout the day. In the early morning, approximately 80% of vehicles on permitted blocks are registered within one-quarter mile. This drops to around 50% in the late morning and afternoon periods, rising to two-thirds of vehicles by the evening.

Non-regulated blocks are consistently occupied by non-resident vehicles (those registered to addresses two or more miles away from where they are parked) and make up a majority of all parked vehicles throughout the day. The number of vehicles

registered locally (within one-quarter mile) is about 50% in the early morning, dropping to around 40% mid-day, and rising to 45% by the evening hours.

The time limit on regulated blocks (applicable to those without a parking permit) was 4 hours at the time of the 2015 survey. In early 2016, the time limits were changed to 2 hours. The results of a follow-up study completed in August 2016 compared with the 2015 survey follows.

Table 5: Results of Occupancy Surveys, Dogpatch Neighborhood, 2015 and 20165

All Surveyed Streets

		4 AM - 6 AM	10 AM - 12 PM	2 PM - 4 PM	7 PM - 9 PM
Oct 2015	**Permitted *blocks*** (3)	77%	99%	95%	82%
	Non-permitted *blocks* (17)	48%	92%	86%	62%
Aug 2016	**Permitted *spaces*** (204)	50%	86%	82%	66%
	Non-permitted *spaces* (364)	57%	92%	83%	60%

Minnesota Street, 20th St to 22nd St

		4 AM - 6 AM	10 AM - 12 PM	2 PM - 4 PM	7 PM - 9 PM
Oct 2015	**4-hr, Mon - Fri, 8 AM - 4 PM**	55%	100%	100%	71%
Aug 2016	**2-hr, Mon - Fri, 8 AM - 6 PM**	42%	69%	51%	57%

Indiana Street, 20th St to 22nd St

		4 AM - 6 AM	10 AM - 12 PM	2 PM - 4 PM	7 PM - 9 PM
Oct 2015	**Not permitted**	58%	100%	100%	82%
Aug 2016	**Not permitted**	67%	95%	85%	54%

Source: SFMTA, Arup, NDS, 2016

This data suggests that a 4-hour time limit is less effective at discouraging long-term parking than shorter time limits. Such a long grace period allows an employee or a resident who does not have a permit, to move his or her car once mid-day – perhaps on a lunch break – and comply with parking regulations.

Key Parking Issues for Dogpatch

Issue: Demand exceeds supply. As indicated by the parking utilization studies, demand for parking exceeds supply in many parts of Dogpatch with some blocks showing occupancy rates well above 90%. High demand can make parking difficult to find, leading to circling, congestion, and frustration for residents and visitors.

Issue: Consistency with General Plan and City's Transit First Policies. The Eastern Neighborhoods have area plans and regulations for new developments that limit the number of off-street car parking spaces allowed, and require developers to meet trip reduction measures in order to encourage new residents to live without a car. However, the residential parking permit program allows residents of those developments in existing parking permit areas to obtain permits, which could weaken planning efforts to discourage car use and ownership.

Issue: Managing parking demand in neighborhoods that are not predominantly residential. The Residential Parking Permit program was designed for residential neighborhoods. However, Dogpatch, a primarily industrial neighborhood, is attracting new residential development, about 1,500 units, in the next few years. Residents tend to leave their car parked for the entire day (while they take transit or use other means to get to work or school) while businesses need available parking for customers and vendors as well as employees. Businesses also need on-street parking for loading and un-loading of tractor trailers. The different transportation and parking needs present challenges in the administration of a residential parking permit program. In addition, the existing process of initiating the establishment or expansion of an existing RPP area through a petition process only allows residents to request residential permit parking regulations—it does not provide an avenue for considering the larger transportation needs of the neighborhood, or other parking regulations that may better meet those needs.

Public Engagement Process

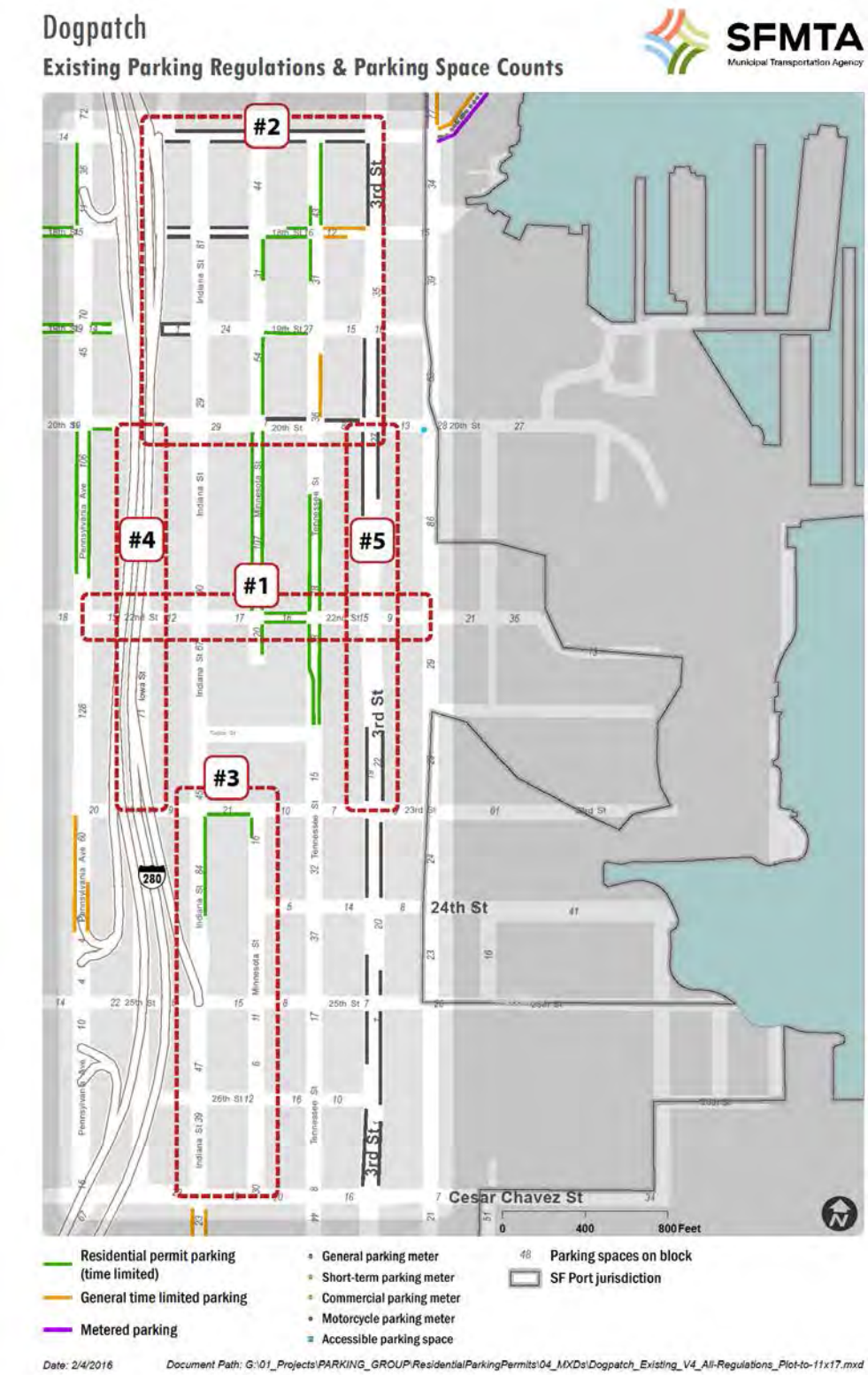
The project team began working with the neighborhood in November 2015. That was preceded by a series of meetings with members of the city's Board of Supervisors, including the Supervisor for District 10. In those discussions the team requested input on possible neighborhoods that would be willing to work with SFMTA in experimenting with new tools for parking management, including some pricing strategies.

The president of the Dogpatch Neighborhood Association (DNA) contacted the project team in to discuss the neighborhood's on-street parking concerns, understanding that SFMTA was looking for neighborhoods willing to participate as a pilot project area. The project team prepared a scope of work and timeline for working with the neighborhood association and the DNA scheduled the first parking management committee meeting for late January 2016. That committee consisted of six members of the neighborhood—residents and business--including three members of their Board.

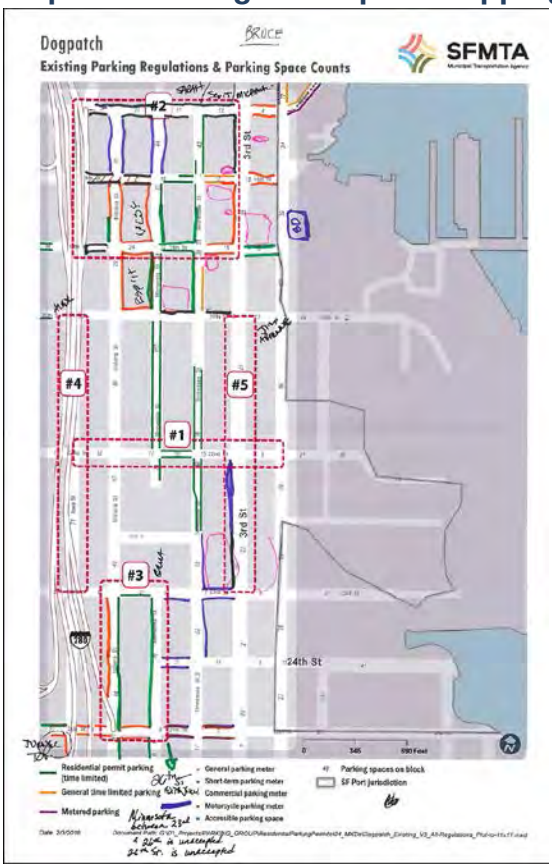
Meeting 1, January 21st. The meeting participants outlined the extent of the planning area as well as specific problem areas on a set of base maps and discussed possible tools for managing parking, including permit parking, time-limited parking and paid parking. A wide range of issues were discussed, including: 22nd Street Caltrain commuters; the 2,500 employees of AIC businesses, the desire to change 4-hour parking to 2- hour parking; the limited amount of on-site parking provided for existing and planned new residential (averaging .72 spaces per unit); the desire for an areawide cap on permits; the need to engage more business and property owners; the planned expansion of UCSF into northern Dogpatch; the future Warriors stadium (18,500 seats) and the lack of parking for local business' employees. Based on this first meeting, the planning area was divided into five study areas as outlined on the map below.

Meeting 2, February 3rd. Twelve members of the community participated in this second meeting. Of these, seven were business owners or representatives of businesses or non-profits. The meeting began with a discussion about the RPP Evaluation and Reform project and the likely policy and administrative reforms that would be recommended. The group split into two groups and, using colored pens, indicated on the maps their ideas for appropriate parking controls.

Map 13: Working Base Map Showing Study Areas



Map 14: Meeting Participant Mapping Project



Meeting 3, February 18th. Nine members of the community participated in the third meeting, including four business members. The project team presented a map showing the results of the second meeting's small group work and then facilitated a discussion about proposed reform policies that would be tested in the Dogpatch. Many concerns were raised regarding parking regulations for 22nd Street and the relatively small amount of residential permit parking. Community members were concerned about installing meters on some blocks and discussed the pros and cons of each of the proposed reform policy changes. The next step would be a presentation to the full DNA Board of Directors in March.

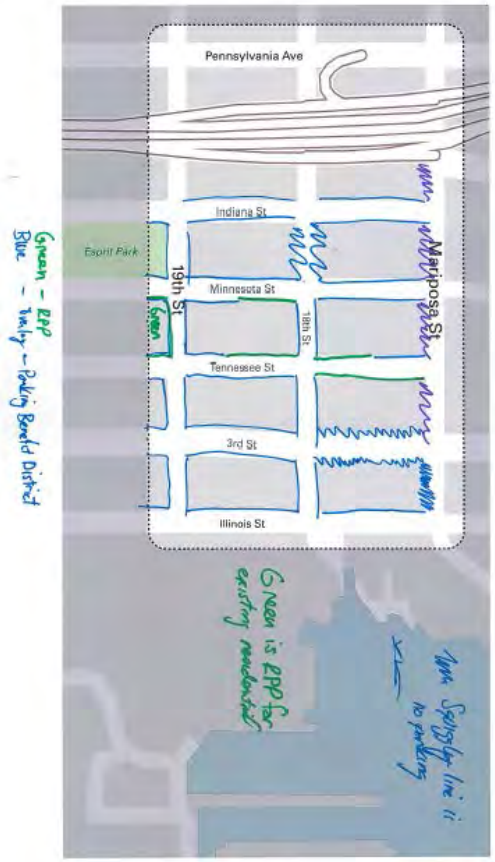
DNA Member Meeting, March 8th. Project team members presented overview of planning process and timeline, summarized the Evaluation and Reform project scope and timeline, presented findings from initial Dogpatch research, including a summary of discussions and maps and discussed possible parking management tools to be effective in Dogpatch.

Meeting 4, March 22nd. Twenty-four members of the community attended the open house, including nine business representatives. The purpose of the meeting was to

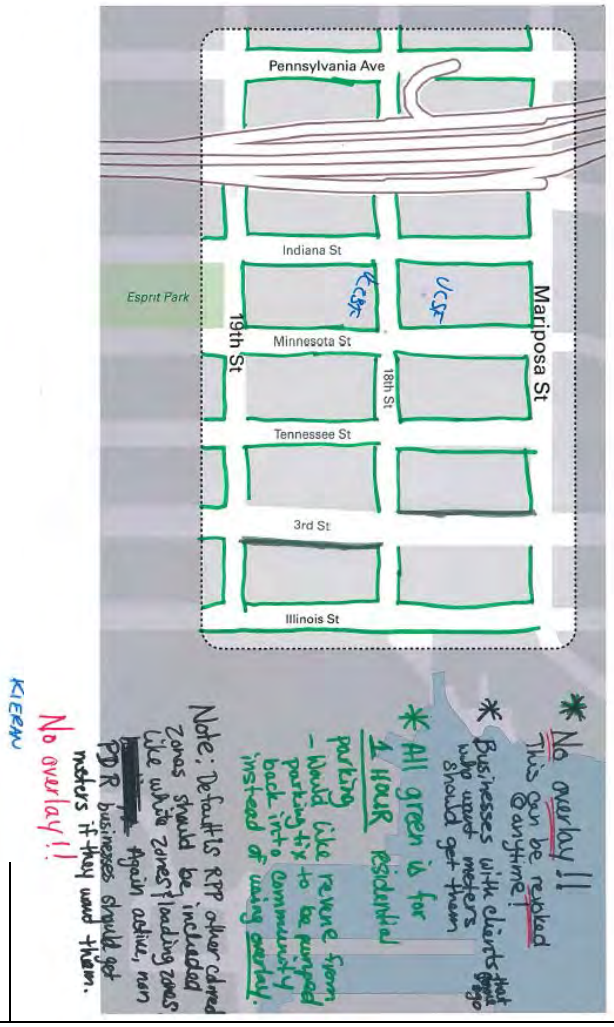
reach beyond the small committee that had been involved to this point and engage a broader group of residents and businesses. The project team presented goals and timeline for the RPP Evaluation and Reform project and how the Dogpatch parking plan would fit into the overall project timeline. Participants divided into five groups based on location of their business or residence and with the same base maps used in Meeting 2, were asked to provide input into possible parking regulations that would be most effective in their area. To accomplish this, groups had to come to agreement and this stimulated a lot of debate and discussion within each group. Five maps, one for each group, resulted from the mapping exercise, with some overlap between groups. As can be seen from the maps below, there was little agreement between groups. The project team stated that the maps would provide some input into the proposal that would be presented at the next DNA member meeting on April 12th.

Map 15: A Sample of Maps Produced at March 22nd Open House

Area: Mariposa to 19th Street



Area: Mariposa to 19th Street



Meeting 5, March 28th The purpose of this meeting was to prepare for the April 12th DNA member meeting at which a proposed parking management plan would be presented. Four members of the community attended. The project team presented one map with proposed parking regulations for each block in the planning area. Community members were very disappointed with proposal of meters on the neighborhood's primary commercial corridor, 22nd Street, asserting that the street contained a significant number of residences and should have only RPP restrictions.

DNA Member Meeting, April 12th. Nearly 100 people, not all residents of the neighborhood, showed up for this meeting, primarily for the parking plan discussion. Fliers had been posted throughout the neighborhood by a resident who feared that SFMTA would install meters on every street. The flier, below, was effective in motivating

people to come to protest the placement of meters in front of their homes. The Project team allayed people's fears stating only selected areas near the Caltrain station, Muni yard and on retail corridors would have meters and that a possible Permit + Paid parking (sometimes referred to as an RPP Overlay) was being considered near the new UCSF facility at the northern end of the planning area. The SFMTA presented the map with proposed parking regulations for the entire planning area and then answered questions from attendees. Members of the DNA Board and the broader community requested that SFMTA divide the entire planning area into three sub-areas: north, central and south, and that existing parking supply as well as parking supply by type of proposed regulation also be provided.

Meeting 6, August 15th. This was the first meeting of the newly-formed Dogpatch Parking working group. Staff presented the results of its research on parking supply and utilization, drivers of parking demand, demographics related to car ownership and usage, and employment. Staff then presented a concept for parking management. This concept included Paid + Permit parking on most blocks in the northern portion of the neighborhood.

Meeting 7, November 2nd. Eight members of the Dogpatch Parking working group attended the meeting. Of these, two represented businesses. The project team prepared three parking management concept maps, each with different mixes of permit,

time-limited and paid parking. For each of these three concepts, staff analyzed the impact on parking demand of the plan put forth by members of the neighborhood, which offered three different scenarios for permit allocation to residents and businesses. Prior to the meeting, staff posted all three permit policy concepts on the project website, along with the parking impact analysis. All three permit allocation options put forth by members of the community would lead to severe over-saturation of permits relative to parking supply, ranging from 1000% to 144%. The majority of the meeting was devoted to a discussion about the pros and cons of each of the SFMTA project team's concepts.

Meeting 8, January 25th, 2017. Eight members of the working group were present, including two members of the business community. The purpose of this meeting was twofold: to provide an update on SFMTA activities relative to the Dogpatch parking planning process and to listen to a parking management proposal prepared by a few members of the community. Members raised the issue of issuing special permits to employers for their employees. SFMTA responded by stating that there were three times as many jobs in Dogpatch as there were residents and that if employees were to get permits there would be no parking available to residents during working hours. The group agreed that 4-hour time limits in primarily industrial areas and on primarily industrial blocks were preferable to permits, primarily because employees would likely not want to purchase permits.

Meeting 9, April 3rd. Members of the Working group and residents of the community provided comment on SFMTA's updated version of the parking plan. Residents expressed disappointment that the amount of permit parking was not increased as much as they wanted.

DNA Member Meeting, October 10th. Staff presented a modified parking plan that reflected input from the community since April. A member of the community that had been active in the planning process stated that he had an alternative parking plan that he wanted Staff to consider. The DNA president suggested that this plan be placed on the following month's agenda.

DNA Member Meeting, November 14th. Staff presented its final parking plan proposal. A member of the community presented an alternative plan requesting more RPP restricted blocks on streets adjacent to industrial uses. Staff stated it could not support that change, but offered to meet with residents to discuss further.

Map 16, Proposed Parking Management Plan

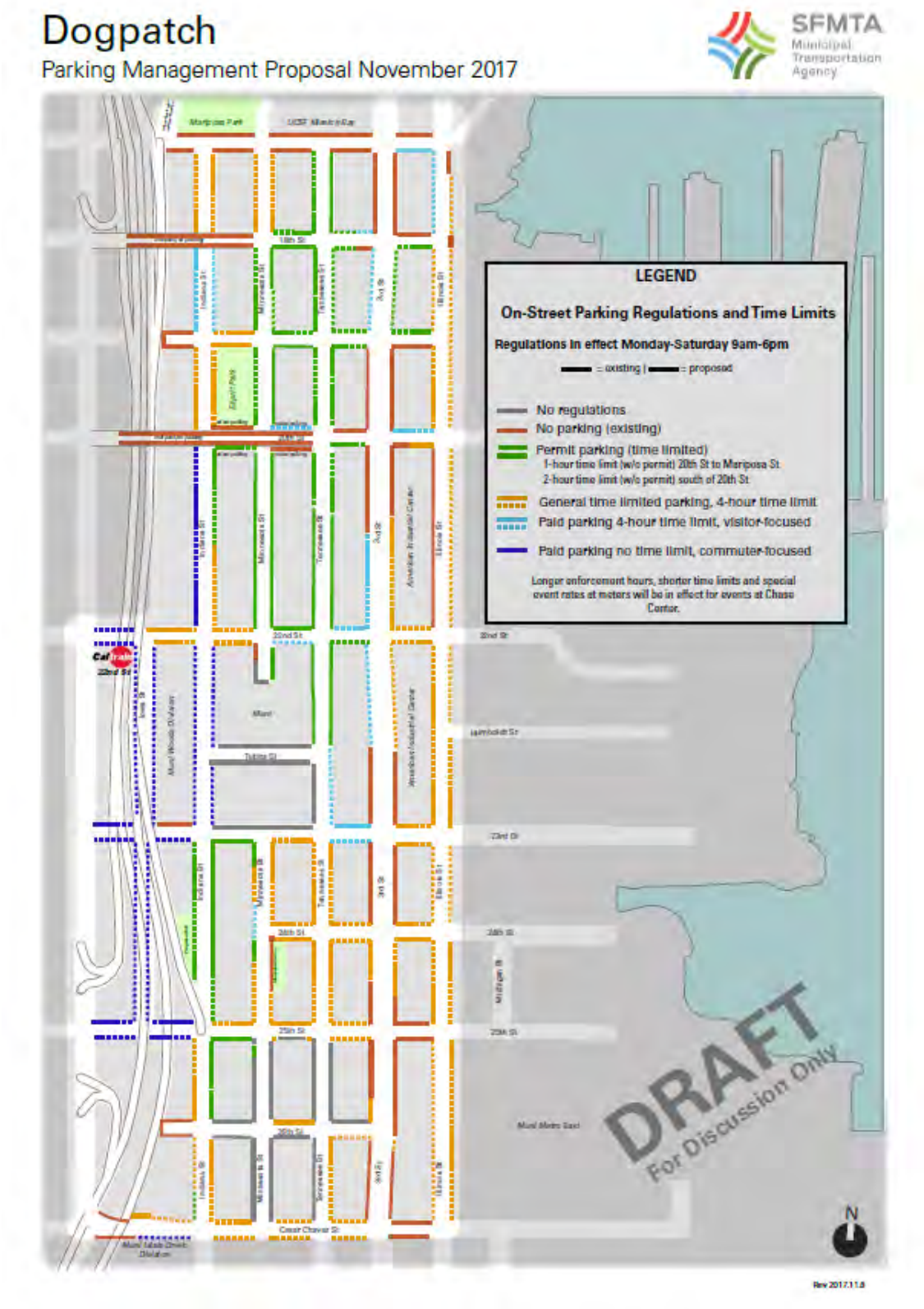


Table 6: Parking Supply by Management Tool, Before and After Plan Implementation

	Before	After
Total	2,661	2,661
Permit restricted	15%	30%
Time - limited	2%	46%
Paid	0%	19%
Un-regulated	82%	4%

Policy Options Proposed for Dogpatch Pilot Area

Policy option: Cap permits at one per licensed driver. Each licensed driver in a permit area would be allowed only one permit. Dogpatch residents are supportive of this option as a means to improve parking availability. This option supports the city's goals to reduce vehicle ownership rates.

Policy option: Reduce the per-residential-unit cap from four to two; allow one additional permit per residential unit for caregivers. Residents and businesses support this policy option as a means to manage the number of permits issued so that parking is available not only for residents, but also for local businesses

Policy option: The existing RPP Area X includes not only the Dogpatch neighborhood, but also the nearby neighborhood of Potrero Hill. To be able to apply modified policies that limit the issuance of permits to the Dogpatch only, it will need to be severed from the existing Area X and established as a separate RPP Area. This option also keeps the permit area at a manageable size and makes it coherent with natural neighborhood borders. Dogpatch residents and businesses are supportive of this policy measure as a means to improve parking availability.

Policy option: Within RPP areas, street segments that have a mix of uses, such as residential and commercial, would be candidates for a hybrid form of parking regulation that combines the flexibility of metered parking with no time limits with an allowance for residents with RPP permits to park on designated blocks without paying the meter. ("Paid + Permit"). Residents with a valid permit are exempt from payment. Payment replaces time limits as the option for visitor parking in permit areas. Paid + Permit parking provides another tool for balancing various demands for parking, especially in neighborhoods with a greater mix of land uses. If paired with no time limits for those who pay, this policy could address the issue of visitors who need to park in permit areas for longer than the time limits (usually one or two hours). The Dogpatch neighborhood

opposes this concept for three reasons: 1) parking meters, or multi-space meters would congest already limited sidewalk area; 2) residents fear the exemption for vehicles with valid permits will be removed at a future date, but the meters will remain and 3) residents fear that the lack of time limits will allow vehicles to be parked for extensive periods of time, reducing availability for residents with permits.

Evaluating Results of Case Study Areas

The goals of evaluating the implementation of modified program policies in the case study areas are three fold:

1. Evaluate operational and organizational feasibility – how does implementation of these modified polices affect agency operations?
2. Evaluate the extent to which the strategies help to achieve the goals of RPP.
3. For the Dogpatch area, SFMTA will evaluate “before” and “after” occupancies on blocks with different parking demand management strategies (e.g., traditional RPP, meters and time limits).

SFMTA will gather “before” and “after” data. SFMTA will gather before data in fall 2017 and after data in summer/fall 2018. Because the new policies are being tested in newly established RPP areas, there are limitations to how precisely SFMTA can determine to what extent benefits or changes are simply from establishing a RPP area or from the modified policies being pilot tested as compared to current practice in existing RPP areas. Many variables are changing at the same time in the case study areas – in addition to RPP being implemented, the case study RPP areas will have different policies that cap the number of RPP permits per person to one and lower the maximum number of permits per household from four to two. Dogpatch is particularly problematic because of rapid development – it is not a stable environment year over year, thus limiting the comparability of “before” and “after” data. Despite this limitation, the evaluation of the case study areas assist the SFMTA to see the broad effectiveness of the policies.

EVALUATION PLAN

Establishing an on-going means of monitoring and evaluating program effectiveness is a key component of the RPP Program Evaluation and Reform project. On-going program monitoring will build from the extensive research completed as a part of the project and documented in this report.

The primary goal of the RPP program is to manage demand for a finite number of on-street parking spaces in RPP areas so as to achieve a level of parking availability that makes it possible for people to find a parking space throughout the day.

This goal statement varies slightly from the original goal articulated in 1976 by clarifying its purpose and to better serve the San Francisco of today and in the future. The intent of the original RPP program was to reduce the number of daytime commuters that park in residential areas – but this goal did not necessarily result in making it easier for residents (or non-residents) to find a parking space throughout the day.

Going forward, the RPP program will more clearly focus on achieving a level of parking availability that makes it easy to find a parking space no matter when people try to find a space, simultaneously addressing transportation and quality of life issues.

This approach will help SFMTA sharpen its tools to manage parking demand in RPP areas to make it easier to park. For instance, in many RPP areas, parking demand is highest in the evening when RPP enforcement is not in effect and most demand for parking is from residents, but RPP does not currently address this time period or demand from residents.

A secondary goal of the RPP program is to reduce long-term (i.e., more than 2 hours) storage of vehicles in an RPP area by non-residents. This goal is related to the desire of most neighborhoods to reduce long-term parking by those who do not live there (e.g., people driving to work who park in the area) without prohibiting short-term visits. This goal is also consistent with SFMTA's goal of reducing single occupant vehicle trips.

Project Baseline Data

To evaluate the effectiveness of the existing RPP program, SFMTA collected, tabulated, and analyzed data to quantify parking demand, parking supply and RPP effectiveness (See the Appendix, Existing Conditions Report, and Household Survey Summary). Use of data from the San Francisco County Transportation Authority (SFCTA) aggregated by

Transportation Analysis Zones (TAZs) was essential to conducting this analysis. The table below summarizes the types of data and their sources acquired as part of the Evaluation and Reform Project.

Table 7: Project Baseline Data Collection Sources

	Source			
Data	Private source	Census or city/state agency	Household Survey	Parking Utilization Study
Parking Demand Factors				
Population		√		
Households		√		
Employment		√		
Income		√		
Day care facilities	√			
Vehicles per household		√	√	
Journey to work			√	
Parking Supply Utilization				
On-street parking supply		√		√
Off-street parking supply (private, residential and public)			√	
Parking occupancy w/wo RPP Permits				√
Parking turnover				√
Zip code of vehicle owner (License Plate Survey)				√
Time needed to find parking (Circling)			√	
Permit Program Activity				
RPP Permits sold by permit area, by type of permit and by household		√		
Citations for RPP overstay		√		

On-going program monitoring

On-going program monitoring will build from this solid base of data generated by the project. By monitoring the program on an annual basis, SFMTA may be able to learn more about the relationship between the use of preferential parking programs and broader public policy goals, such as quality of life, safer streets, reduction in single-occupant vehicle use and reduced traffic congestion. One question often asked by

members of the public is whether preferential parking programs induce car ownership and commuting by private vehicle. Through on-going monitoring of the program, combined with household surveys, parking utilization studies and analysis of Census data, answers to such questions may be attainable. This project has begun the necessary data gathering to begin this effort.

Key Performance Indicators

To measure how successfully the RPP program achieves its primary goal, the SFMTA will use a set of measures, sometimes referred to as key performance indicators, (KPIs) that are tracked over time. The two most important KPIs are 1) parking occupancy and 2) the share of vehicles belonging to non-residents.

Parking Occupancy Rates. For areas, days, and times where SFMTA has sparse data, parking occupancy in residential areas shall not exceed 90%. For areas, days, and times where SFMTA has rich data, the percentage of time that parking occupancy in residential areas exceeds 80%.

RPP areas where data is obtained manually on a sporadic basis does not support more sophisticated and accurate performance measurement, so it requires a different expression of the KPI. More detailed data collected by machines enables more sophisticated measures and estimates of average occupancies by time of day.

The SFMTA is actively exploring options for how to obtain more detailed occupancy data from RPP areas. The most likely technology is outfitting parking enforcement vehicles with license plate recognition technology to dramatically increase the efficiency of enforcement as well as to passively gather large samples over time of occupancy data by block in RPP areas as well as to quantify the level of enforcement (e.g., expressed as, per month, the number of times an enforcement vehicle passed each block in each RPP area). Implementing this approach is a short- to mid-term agency goal, but in the interim SFMTA will rely on manual data collection.

Share of Vehicles Registered to Non-Residents. To measure how well the RPP program achieves its secondary goal of reducing long-term (i.e., more than 2 hours) storage of vehicles in an RPP area by non-residents, SFMTA will measure the percentage of vehicles parked in a RPP area that are parked for more than 120 minutes which are not registered to an address in that RPP area.

For this measure, SFMTA will endeavor to collect data in a manner that allows it to measure how long vehicles were parked in the area, not just a particular block. This is

to address the “two-hour shuffle” whereby non-residents avoid RPP rules by moving their vehicle from block to block every two hours.

Additional indicators

When evaluating the RPP program’s performance, the SFMTA will also gather data to track other indicators. These indicators provide input needed to monitor the overall performance of the RPP program as well as to track achievement of broader Citywide goals related to transit reliability and increased use of transportation alternatives. These indicators include:

- Household permit rate – Number of RPP permits per household in a RPP area
- Individual permit rate – Number of RPP permits per adult in a RPP area
- Car ownership rates – Number of cars/vehicles adult in a RPP area
- Level of enforcement – the number of times an enforcement vehicle passed each block in each RPP area per week or month

Case study area evaluation

In addition to on-going program monitoring, the project will test the efficacy and the impacts of two new policies that will be implemented in the case study RPP areas, Dogpatch and northwest Bernal Heights. The two new policies to be tested were conceived as the best means of increasing parking availability and reducing circling by limiting the issuance of permits to households within the permit area. The two policies are:

Permits will be limited to one per licensed driver
Permits will be limited to two per single address

Case study area evaluation methodology

The goals of evaluating the implementation of modified program policies in the case study areas are three fold:

1. Evaluate operational and organizational feasibility – how does implementation of these modified polices affect agency operations?

2. Evaluate the extent to which the strategies help to achieve the goals of RPP.

3. For the Dogpatch area, SFMTA will evaluate “before” and “after” occupancies on blocks with different parking demand management strategies (e.g., traditional RPP, meters and time limits).

SFMTA will gather before data in fall 2017 and after data in summer/fall 2018. Because the new policies are being tested in newly established RPP areas, there are limitations to how precisely SFMTA can determine to what extent benefits or changes are simply from establishing a RPP area or from the modified policies being pilot tested as compared to current practice in existing RPP areas. Many variables are changing at the same time in the case study areas – in addition to RPP being implemented, the case study RPP areas will have different policies that cap the number of RPP permits per person to one and lower the maximum number of permits per household from four to two. Dogpatch is particularly problematic because of rapid development – it is not a stable environment year over year, thus limiting the comparability of "before" and "after" data. Despite this limitation, SFMTA has designed an evaluation program that will provide useful information for measuring the broad effectiveness of its policies and for determining whether to apply the selected policies in all RPP areas.

The case study area goals, measurements and methods are summarized in the table below.

Table 8: Case Study Area Goals, Measures of Success and Methods

Goal	Measure	Method
Improve residents' and employees' access to on-street parking, when needed, that is close their home or worksite	Occupancy rate	Parking occupancy survey
Reduce commuter and special event parking	Non-resident parking on residential blocks	License plate survey
Increase use of off-street parking	Occupancy rate	Household survey; Parking occupancy in multi-family dwelling garages
Increase the share of residents and workers using commute modes other than a private vehicle	Car ownership rate Commute mode	Household survey; business survey

Table 9. Evaluating Case Study Area Policy Implementation		
Method	**Measurement**	**Time period**
Conditions one year after implementation will be compared to existing conditions as of fall 2017.	-Parking occupancy -Non-resident parking -	T1: (Baseline) Q3, 2017 T2: Q3, 2018
Pilot area data will be compared to data from one or more control areas, (to be determined).	-Parking occupancy -Non-resident parking -Turnover rate -Paid parking revenue	T1: (Baseline) Q3, 2017 T2: approx. Q3, 2018
The overarching question about whether or not preferential parking programs encourage car ownership requires analysis of car ownership and commute mode data over several years. This could be part of the RPP program's overall monitoring program.	--Car ownership -Commute mode	Every 5 – 10 years

Timeline

The timeline for implementation may differ for the two case study areas, depending upon when the legislative process to establish the northwest Bernal Heights RPP Area and to adopt the Dogpatch Neighborhood Parking Plan take place. The following timeline assumes that the two legislative processes will be completed by spring 2018.

Table 10: Timeline for Completing Evaluation of Two RPP Cast Study Areas										
Task	Q2 '17	Q3 '17	Q4 '17	Q1 '18	Q2 '18	Q3 '18	Q4 '18	Q1 '19	Q2 '19	Q3 '19
Legislate policy reforms to §905				√						
Establish Pilot Areas				√						
Prepare scopes of work		√								
Conduct parking utilization study			√			√				
Evaluate research findings							√	√		
Prepare report and recommendations for further action									√	

APPENDICES

1. **Existing Conditions Report**
2. **Area Snap Shots**
3. **Compendium of Best Practices from North America and Europe**
4. **Analysis of Alternative Permit Pricing Scenarios**
5. **Summary of Household Survey**
6. **Final Household Survey Report**
7. **Public Outreach and Engagement Plan**
8. **Focus Group Discussion Summary**

EXISTING CONDITIONS

Introduction

This section documents, through tabulation and analysis of data from multiple sources, the current state of factors that influence the Residential Parking Permit Program's effectiveness. There are five major parts to this analysis.

Trends Analysis looks at changes in population, vehicle registration, and means of transportation to work over several decades to examine how San Francisco's transportation profile has evolved, importantly including its impact on the demand for on-street parking.

Geographies describes various spatial data points relevant to the permit program, including number of permitted parking spaces, length of permitted curb, and surface area by permit area. *Demographics* reports various Census-derived statistics by permit area, such as population, number of households, and population density. It also includes various employment figures, including number of workers and employed residents.

Demographics tabulates data on households, population and population density for each RPP Area. This data is from the Census Transportation Planning Products 5-year dataset and aggregated by Transportation Analysis Zone (TAZ).

Permits & Citations tabulates parking permits and citations by type and by area and presents an analysis of permit sales relative to parking supply within each area.

Parking Utilization presents the results of a parking field study conducted between August 2015 and January 2016. The survey captured data on parking occupancy and address of vehicle registration to ascertain various parking utilization figures, including whether vehicles belonged to local residents or non-residents.

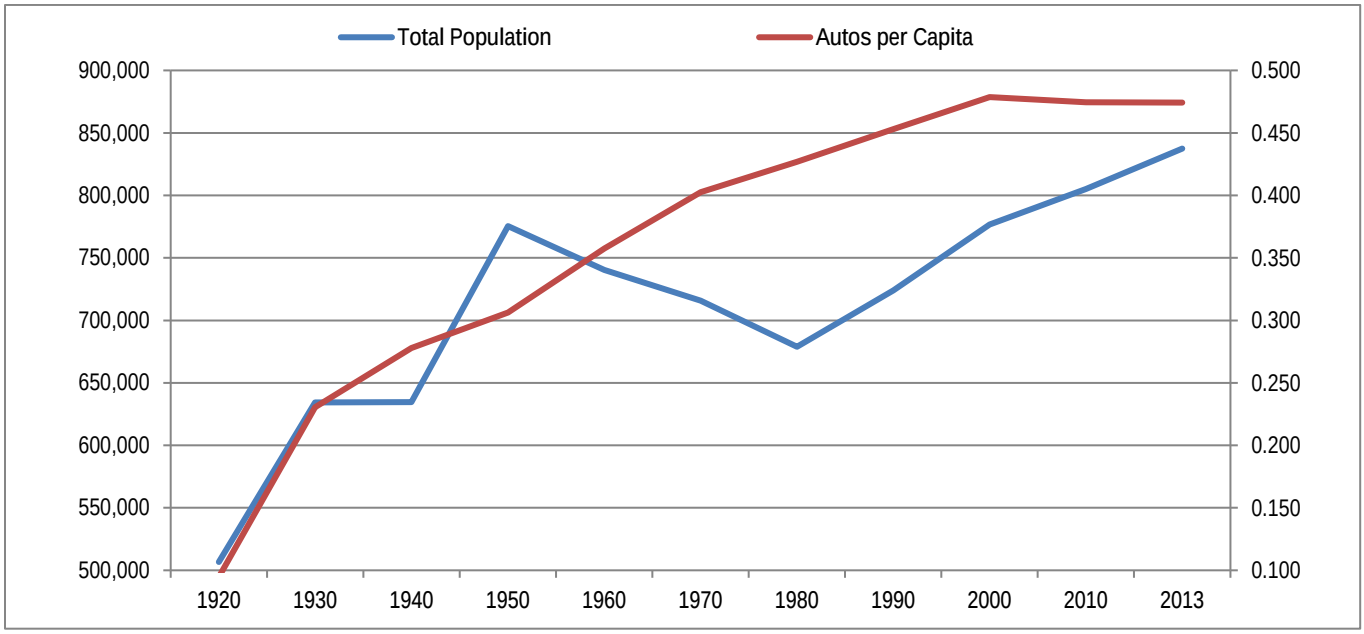
Trends & Analysis

Population and vehicle registration

Examining historical trends in population and the number of registered vehicles provides key insights into the City's parking issues. San Francisco's population steadily increased to about 775,000 people by 1950 before declining by 100,000 over the next three decades. By the 1990s, population began to rise. In 2015 the City's population is approximately 865,000.

Despite sharp decreases in population between 1950 and 1980, the number of automobiles registered rose steadily. Since 2000, however, the number of vehicles registered per capita has declined somewhat. The city's population increased by about 75,000 people between 2000 and 2015, but only 30,000 new autos were registered.[7] It is not clear whether this is due to new residents coming without cars or existing residents getting rid of vehicles. This recent trend suggests that San Franciscans are increasingly relying on a variety modes of travel relying less on their own personal vehicle.

Chart 1: Population and vehicle registration between 1920 and 2013



► Source: SFMTA; DMV registration data; MTC historical records; U.S. Census

San Francisco's most recent population growth (post-2008) has been concentrated in a few areas. These neighborhoods, including the Upper Market, South of Market, Mission

[7] U.S. Census, Annual Estimates of Resident Population (April 1, 2010 to July 1, 2015); DMV registration data

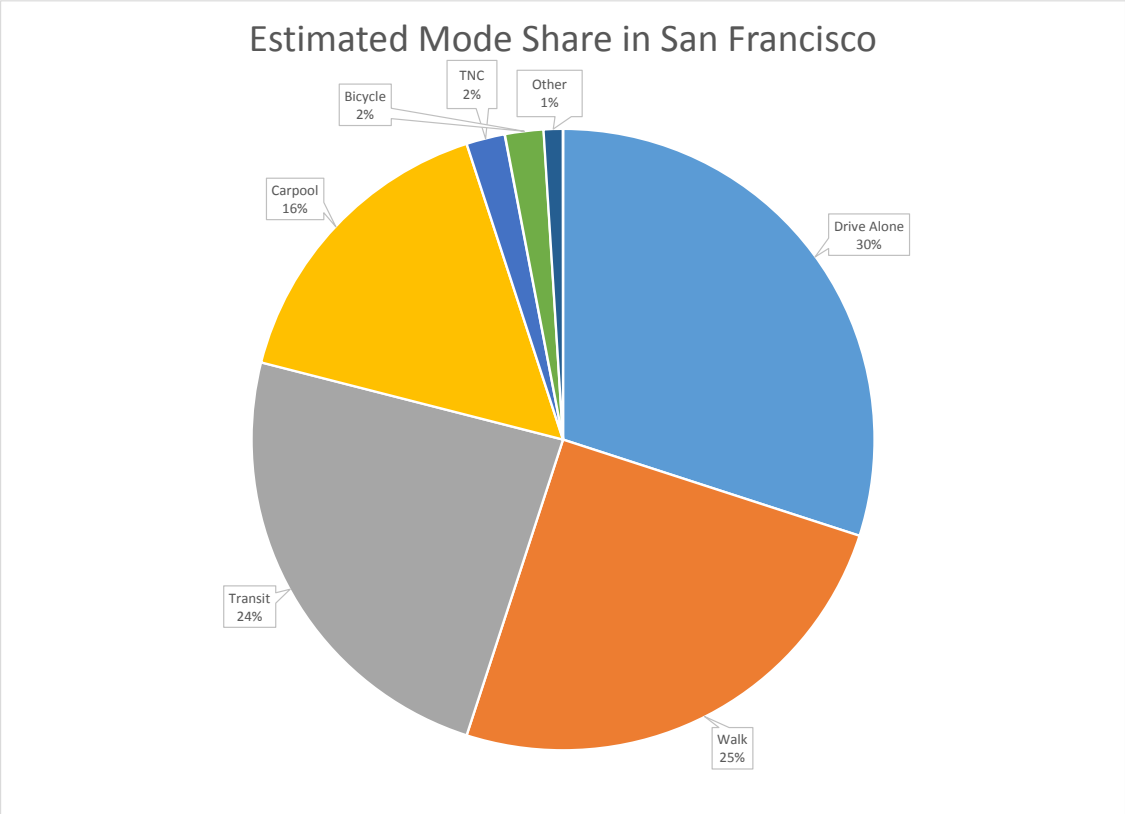
Bay, and in the Eastern Neighborhoods, are currently absorbing the majority of residential development.

Travel mode

The City has articulated many of its transportation and parking goals in SFMTA's Strategic Plan, in the City's General Plan and in the City Charter. Among these goals are reducing vehicle emissions and creating a multi-modal transportation system that gives priority to transit services in the use of streets and roadways, and to encourage walking, bicycling, and ride sharing. One objective of this evaluation and reform project is to better align the parking permit program with these goals; in other words, encouraging means of transportation other than the private vehicle.

San Franciscans are reducing their use of private vehicles. To measure progress in achieving these goals, SFMTA conducts a commute survey each October that provides data on travel patterns and mode split for all travelers to and within San Francisco. The October 2015 Commute Survey found that 46% of all trips are by private vehicle and 53% are by other means, including pubic transport, bicycling, and walking.

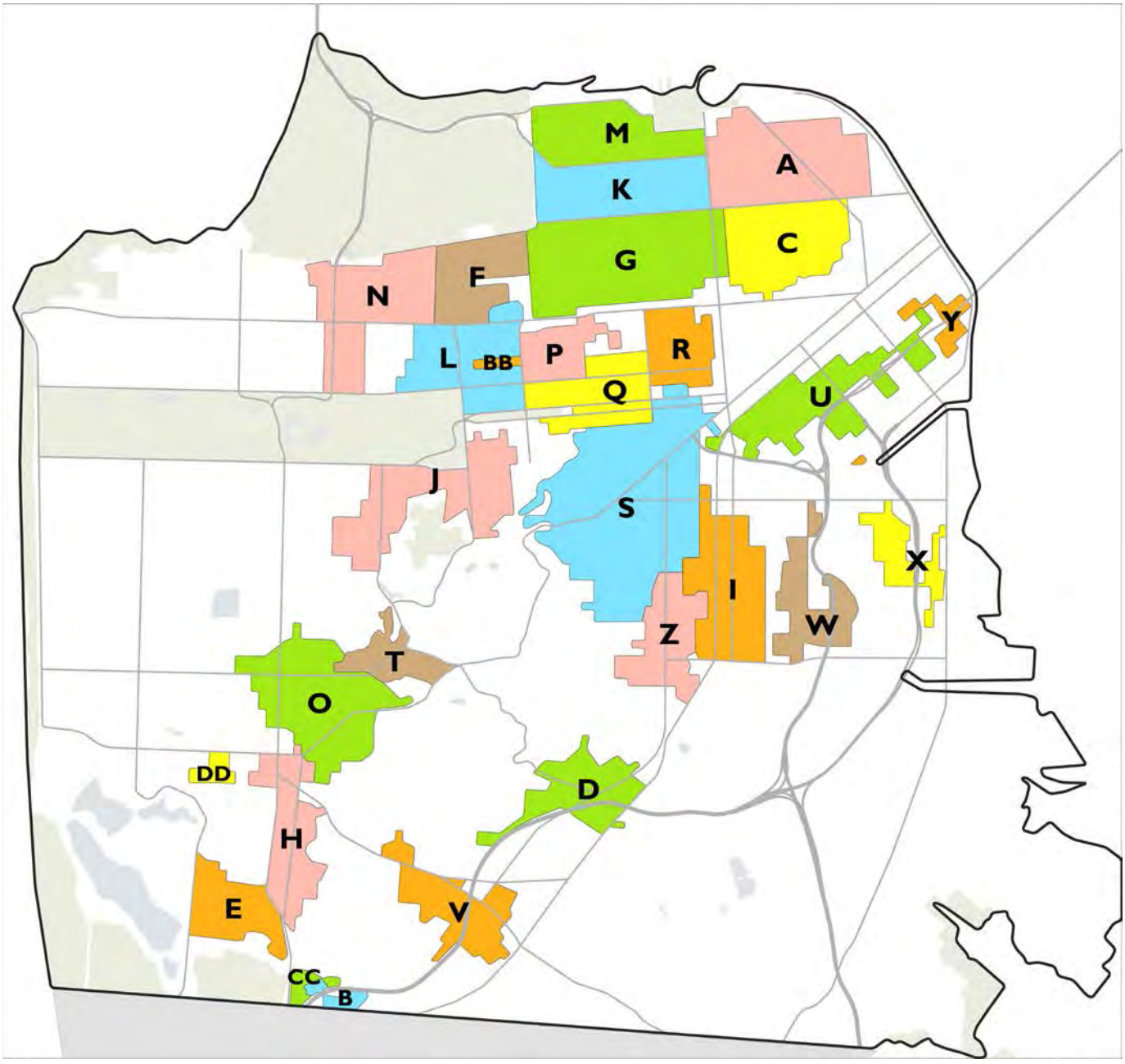
Chart 2: Distribution of Trips by Commute Mode, 2016



Geographies

San Francisco has 29 permit parking areas. Together, they cover 23% of the city's geography (10.6 sq. miles), 28% of all on-street parking spaces, and 44% of San Francisco households are eligible for a permit. **Map 1** shows the rough outlines of each permit parking area.

Map 1: Permit parking areas in San Francisco



► Source: SFMTA – spatial data (2016)

Table 1 below outlines the number of permitted parking spaces, the length of permitted curb, and surface area of permit eligibility for each permit area.

Table 1: Total number of permitted spaces, curb length, and surface area by permit area

PERMIT AREA	Permitted Parking Spaces	Curb Length (miles)	Surface Area (sq. miles)	PERMIT AREA	Permitted Parking Spaces	Curb Length (miles)	Surface Area (sq. miles)
A	5,763	27.6	0.69	**P**	1,592	9.9	0.21
B	420	2.1	0.05	**Q**	2,876	14.2	0.37
C	3,634	16.2	0.50	**R**	1,087	5.6	0.19
D	2,035	11.9	0.33	**S**	9,314	46.6	1.33
E	2,226	7.3	0.30	**T**	1,398	8.8	0.20
F	2,481	13.7	0.32	**U**	1,160	5.6	0.32
G	6,673	35.9	0.88	**V**	2,294	13.0	0.32
H	2,563	12.0	0.35	**W**	2,612	11.6	0.25
I	1,793	9.7	0.32	**X**	1,533	5.4	0.15
J	3,992	21.5	0.56	**Y**	574	1.9	0.05
K	4,685	26.6	0.50	**Z**	2,517	13.1	0.33
L	2,286	12.8	0.37	**BB**	229	1.2	0.02
M	3,223	20.6	0.44	**CC**	363	2.3	0.04
N	3,302	20.1	0.56	**DD**	460	2.0	0.04
O	4,692	22.6	0.64				

► Source: SFMTA – SF*park* Parking Census (2015), spatial data (2015)

Given the significant variation in geographic size between permit areas, the number of on-street spaces in each area varies as well. On average, there are 2,700 spaces in a given permit area, but this ranges widely from just over 200 permitted spaces in the smallest area, Area BB, to over 9,000 spaces in the largest, Area S. Furthermore, the curb length of block faces with permit parking regulations and the surface area of the eligibility to purchase a parking permit vary significantly between areas, as well.

Demographics

The number of households and jobs in any given residential area will affect the demand for parking in that area. Data on both households and jobs, as tabulated below, is from the Census Transportation Planning Products (CTPP) 5-year (2006-2010) dataset aggregated by Transportation Analysis Zone (TAZ), a unit of geography commonly used for transportation planning models. Since TAZ and permit area boundaries do not correspond spatially, estimates of permit-eligible housing units within each TAZ were developed.

Table 2 below outlines statistics related to the people residing in each permit parking area – specifically, population, number of households, and population density (population per square mile). Given the variability in the size of permit areas and of the residential zoning densities within each, there is significant variability between permit areas on these measures.

Table 2: Total population, number of households, and population density (pop. per sq. mile) by permit area

PERMIT AREA	Population	Households	Population Density (per sq. mi.)	PERMIT AREA	Population	Households	Population Density (per sq. mi.)
A	28,605	15,211	41,319	**P**	6,741	3,440	31,663
B	1,366	303	27,935	**Q**	14,800	7,097	40,261
C	36,991	20,034	73,982	**R**	5,662	2,918	29,706
D	5,107	2,049	15,528	**S**	38,158	20,200	28,705
E	7,142	3,000	23,712	**T**	2,181	859	11,156
F	6,155	2,909	19,109	**U**	6,623	2,928	20,762
G	27,560	15,799	31,497	**V**	8,146	2,252	25,641
H	3,875	1,289	10,940	**W**	8,972	3,098	36,003
I	14,271	5,410	44,334	**X**	3,575	1,597	23,214
J	16,672	7,558	29,932	**Y**	3,067	1,612	55,967
K	12,512	7,184	24,806	**Z**	10,135	4,682	31,022
L	11,253	4,433	30,455	**BB**	1,189	195	30,169
M	12,502	7,586	28,556	**CC**	1,606	448	37,788
N	14,042	5,872	25,097	**DD**	561	219	12,522
O	8,318	3,014	12,928				

► Source: Census Transportation Planning Products (ACS 2006-10)

Table 3 below details the number of jobs (a proxy for workers) and the number of employed residents by permit area. Note that these data points do not describe how many workers come from outside the permit area or how many employed residents commute elsewhere – these figures are only meant to allow for relative comparisons between permit areas and as inputs for future analyses of the impacts of potential policy proposals.

Table 3: Total number of jobs and employed residents by permit area

PERMIT AREA	Jobs (Workers)	Employed Residents	PERMIT AREA	Jobs (Workers)	Employed Residents
A	13,410	16,369	**P**	3,259	4,682
B	78	829	**Q**	4,322	8,493
C	29,359	18,230	**R**	10,839	2,366
D	2,659	3,012	**S**	13,623	25,375
E	1,329	4,366	**T**	720	1,109
F	5,133	3,431	**U**	21,489	2,875
G	21,385	18,309	**V**	2,593	3,797
H	1,863	1,514	**W**	17,249	4,757
I	11,712	7,599	**X**	8,413	1,847
J	10,031	9,870	**Y**	*N/A*	1,600
K	10,028	8,756	**Z**	6,510	6,348
L	6,982	6,329	**BB**	*N/A*	458
M	7,523	8,113	**CC**	396	382
N	6,238	7,333	**DD**	185	269
O	5,134	3,999			

► Source: Census Transportation Planning Products

Permits & Citations

Annual permits

SFMTA issues approximately 75,000 annual permits annually – the majority of which (92%) are to residents. Businesses account for 4.5% of all permits and teachers working at schools located in permit areas account for 1.4%. All other permit types account for less than 1% each. The large student populations living off-campus near San Francisco State University and UCSF are evident in the higher than average number of student permits issued in areas E and J. **Table 4** on the following page breaks out the number of annual permits issued by area and by type.

The number of annual parking permits issued varies greatly between areas. Those permit areas larger in area and population logically see higher numbers of permits issued as compared to smaller, lower density areas. Given its particularly large size and moderately high residential density, Permit Area S stands out with 11,317 annual permits issued. At the other extreme, comprised solely of single-family, detached homes and overall small in size is Permit Area DD with only 58 permits issued. Permit saturation, a figure comparing the number of annual permits issued to the number of permitted parking spaces is detailed later in this section and is a better way of comparing permit issuance between permit areas of different spatial extents.

Table 4: Annual permits sold by permit area and permit type

PERMIT AREA	Resident	Business	Delivery Vehicle	Medical Caregiver	Child Caregiver	Student	Teacher	TOTAL
A	7,590	259	15	23	12	23	38	**7,960**
B	170	0	0	0	0	5	0	**175**
C	5,186	233	15	7	8	32	53	**5,534**
D	1,251	30	0	2	11	4	24	**1,322**
E	1,171	0	1	0	0	221	0	**1,393**
F	2,185	226	4	15	28	14	45	**2,517**
G	7,401	587	11	31	79	44	123	**8,276**
H	479	5	0	1	0	24	0	**509**
I	1,974	68	9	0	12	2	45	**2,110**
J	4,280	73	6	6	26	184	43	**4,622**
K	3,805	408	10	9	29	7	47	**4,324**
L	1,982	62	9	1	10	51	0	**2,115**
M	3,614	134	12	11	27	9	16	**3,823**
N	3,180	240	7	4	19	25	68	**3,543**
O	1,651	167	10	1	0	9	38	**1,876**
P	1,102	6	1	0	7	8	224	**1,348**
Q	3,332	11	0	3	9	5	32	**3,392**
R	597	32	0	0	1	1	22	**653**
S	10,670	395	22	13	77	38	102	**11,317**
T	360	0	0	0	0	1	0	**361**
U	1,171	165	18	1	1	7	6	**1,369**
V	1,266	8	0	0	0	26	16	**1,316**
W	1,008	45	9	0	3	13	28	**2,106**
X	889	29	7	1	2	1	0	**929**
Y	735	12	0	3	0	3	0	**762**
Z	2,450	56	0	5	24	9	57	**2,601**
BB	100	2	0	0	0	4	0	**106**
CC	183	0	0	0	0	6	0	**189**
DD	57	1	0	0	0	0	0	**58**
TOTAL	**69,839**	**3,254**	**166**	**137**	**385**	**776**	**1,027**	**75,584**

► Source: SFMTA – permit records (FY 2013-14), Area Q (FY 2015-16)

Short-term permits

SFMTA issues approximately 11,500 short-term parking permits annually. These temporary permits account for 13% of all permits issued (annual and temporary combined). One-day permits account for 43% of all short-term permits. Four-week and six-week permits are also purchased in significant quantities. **Table 5** on the following page breaks down the number of short-term permits issued by permit area and by type.

It should be noted that these figures were summarized prior to some significant modifications to the pricing of 1-day permits. At the time of analysis, the price of 1-day permits was based on the number of permits purchased, with a lower per permit price when more were purchased. This was done to incentivize purchasing more permits at a time to reduce administrative costs. This pricing scheme was as follows:

- **1-5** 1-day permits per order = $12 per permit
- **5-15** 1-day permits per order = $10 per permit
- **16-20** 1-day permits per order = $8 per permit

Largely motivated by the desire to discourage higher consumption of 1-day permits and to support car-free and car-light households' occasional need for access to neighborhood curb space (for example, when renting a car or using car share), the pricing structure was reversed in July 2016– the price increases as more permits are purchased:

- **1-5** 1-day permits per order = $5 per permit
- **5-15** 1-day permits per order = $7 per permit
- **16-20** 1-day permits per order = $10 per permit

Since this pricing change only took effect on July 1, 2016, it is not yet clear what the effect will be on permit sales. It is possible fewer 1-day permits will be sold given that the new pricing structure disincentives higher quantity purchases. However, it is not clear how many 1-day permits are actually used, as households may purchase several at once, only to use fewer throughout the year. An update to this report after July 1, 2017 (a full year after the changes) will address the impacts to this change in the pricing structure of 1-day permits.

Table 5: Short-term permits sold by permit area and permit type

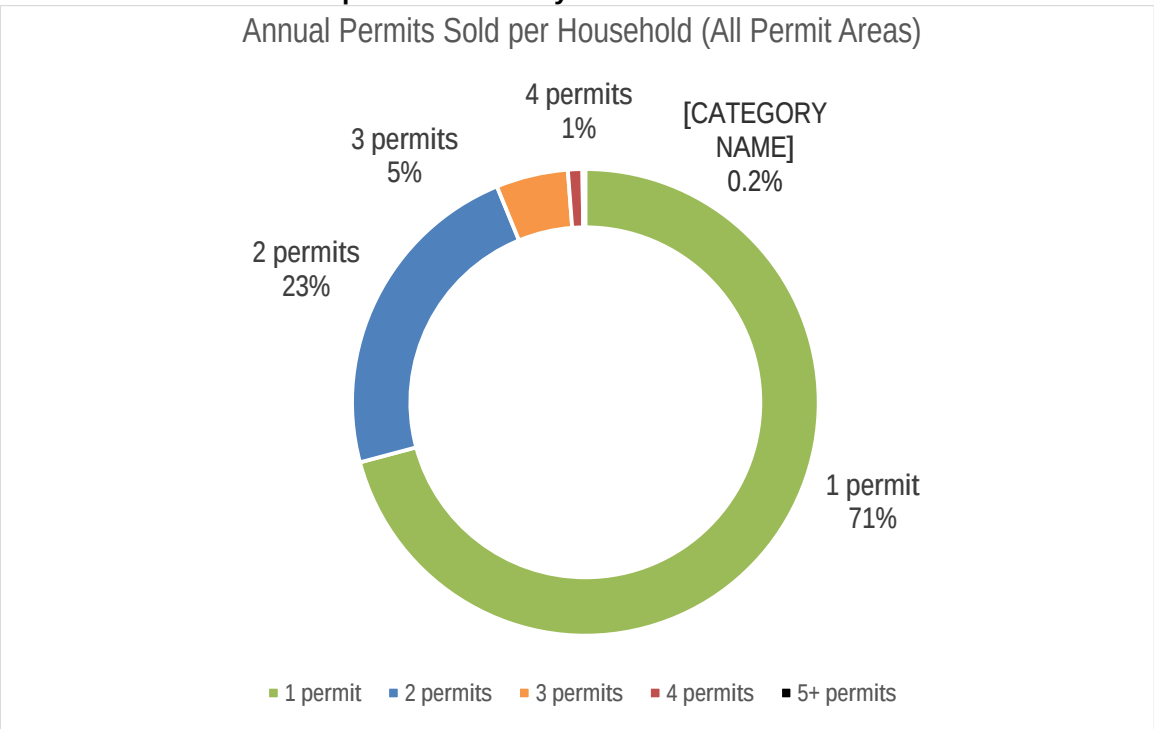
PERMIT AREA	1-Day	2-Week	4-Week	6-Week	8-Week	TOTAL
A	635	375	179	51	319	**1,559**
B	5	4	0	0	1	**10**
C	227	146	99	24	95	**591**
D	44	24	8	8	12	**96**
E	57	49	18	6	40	**170**
F	189	43	33	7	57	**329**
G	692	301	217	45	300	**1,555**
H	0	8	2	1	2	**13**
I	152	58	32	6	44	**292**
J	248	121	88	25	90	**572**
K	356	138	84	30	187	**795**
L	110	48	18	8	39	**223**
M	364	153	73	19	162	**771**
N	184	82	52	10	73	**401**
O	63	18	10	5	13	**109**
P	49	49	19	5	30	**152**
Q	*N/A*	115	90	22	112	**339**
R	29	19	14	3	9	**74**
S	1,064	615	280	76	325	**2,360**
T	0	4	7	0	3	**14**
U	114	58	34	7	23	**236**
V	14	11	4	1	8	**38**
W	77	46	24	9	38	**194**
X	30	14	13	2	9	**68**
Y	116	27	15	7	24	**189**
Z	241	113	55	19	85	**513**
BB	2	4	5	0	3	**14**
CC	0	2	1	0	0	**3**
DD	0	0	0	0	0	**0**
TOTAL	**5,062**	**2,645**	**1,474**	**396**	**2,103**	**11,680**

► Source: SFMTA – permit records (FY 2013-14), Area Q (FY 2015-16)

Permits issued per household

Currently each eligible household is allowed by right to purchase four parking permits (and may petition SFMTA for an exemption to purchase up to eight). Overall though, as shown in **Chart 2**, we see that 94% of households purchase one or two permits, with a strong 71% majority purchasing only one. 6.2% purchased three or more permits, 1.2% received four or more, and 86 households were granted their request to purchase more than four permits, up to a single household which purchased a total of eight. While relatively few households are purchasing several annual permits, this minority can disproportionately affect the availability of parking supply for all residents in a localized area, as if often reported by the public.

Chart 2: Number of annual permits issued by household

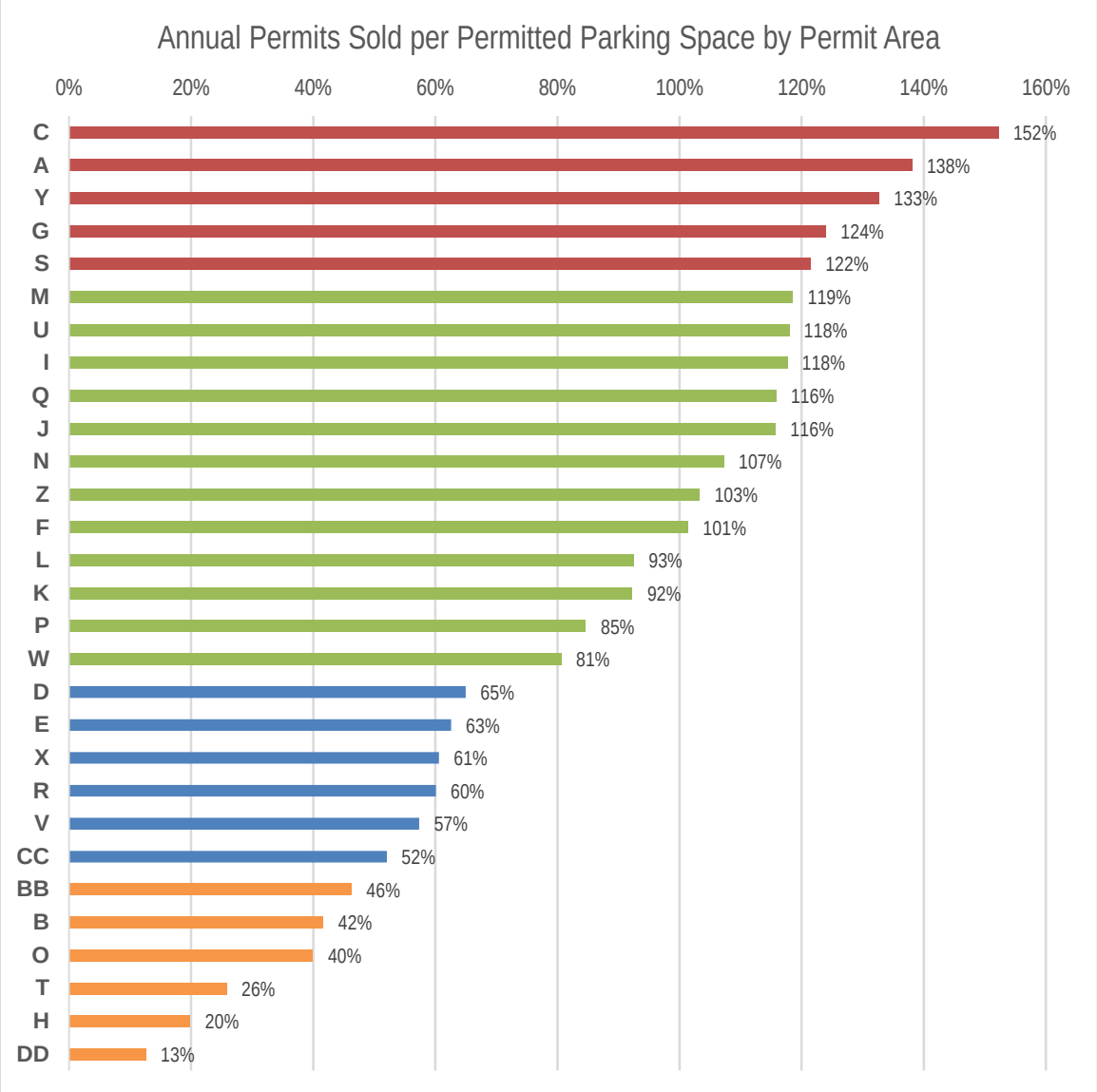


► Source: SFMTA – permit records (FY 2013-14)

Permit saturation

Permit saturation is a figure comparing the number of annual permits issued in a given permit area to the number of permitted parking spaces (provided by SF*park*'s citywide parking census). It is one indicator of the relative balance in the internal/neighborhood demand for on-street parking relative to the supply. The figure is calculated by dividing the total number of annual permits by the number of permitted spaces in the permit area, and is expressed here as a percentage of permitted parking spaces (e.g., 100% = one permit is issued for each permitted parking space). **Chart 3** shows the saturation of permits for each permit area, from most saturated to the least. **Map 2** on the following page overlays this information on the citywide permit parking area map so that this information can be viewed spatially.

Chart 3: Permit saturation by permit area



► Source: SFMTA – permit records (FY 2013-14), Area Q (FY 2015-16)

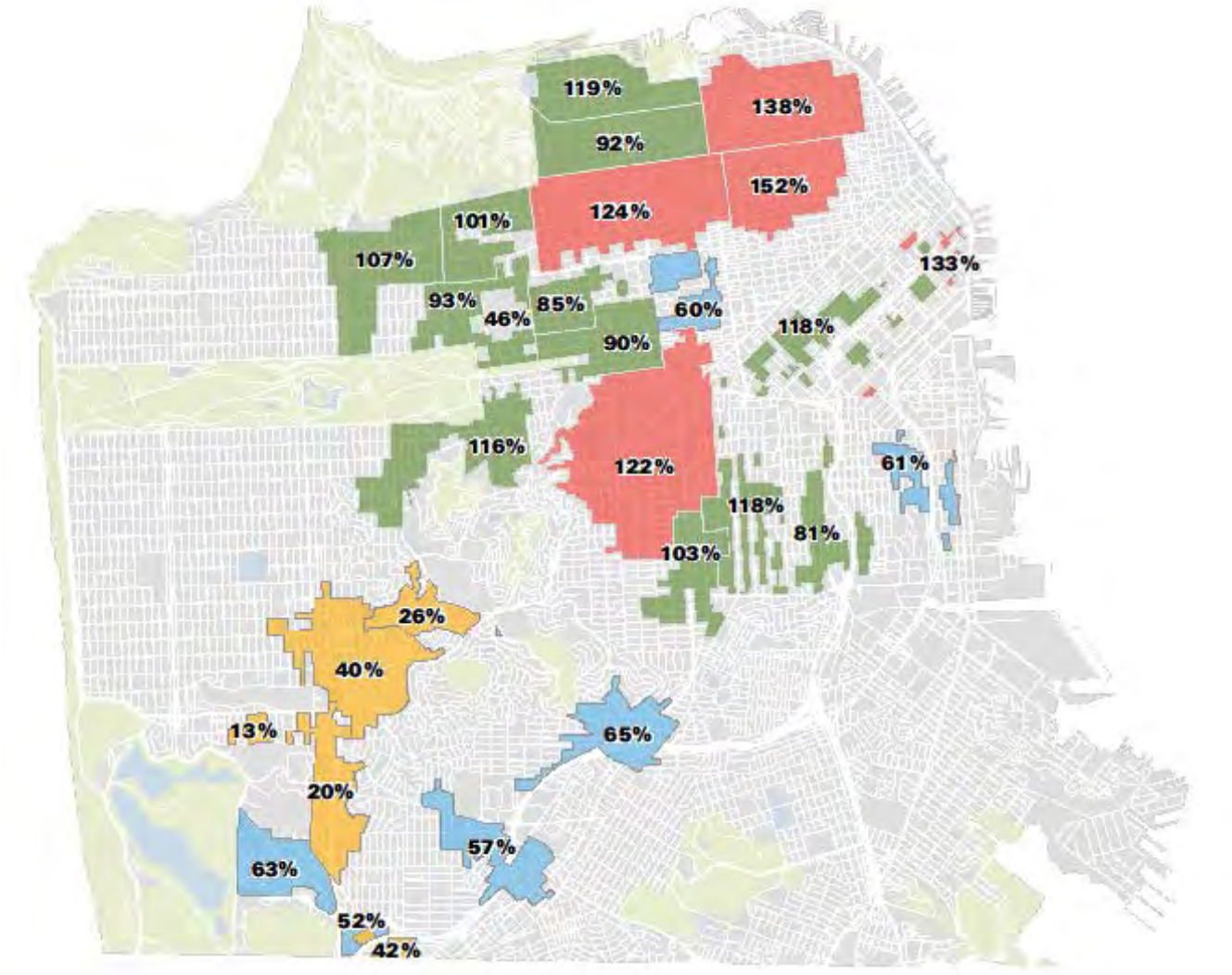
The permit saturation rate exceeds 100% in 13 areas (45% of all permit areas). Of these, five areas have permit saturation rates above 120% (red bars above). These are Permit Areas A, C, G, S and Y. These five areas accordingly see high subscription of permits by residents, businesses, and other local sources, suggesting high internal/neighborhood demand. When one adds in non-permitted vehicles parked within (or possibly in excess of) the posted time limit in these permit areas, one might hypothesize that the overall demand for parking is very high (at least during certain periods) and, correspondingly, the availability of parking spaces is low.

Other permit areas, such as Areas H, T, and DD see less than 30% saturation – significantly fewer permits are issued in these areas as compared to the on-street supply of permit parking. These neighborhoods are overall some of the least dense neighborhoods in San Francisco (around 11,000 people residing per square mile – the lowest of all permit areas) and off-street parking is prevalent, suggesting that on-street supply is better able to accommodate demand. The low subscription of permits in these areas nonetheless suggests that overall demand for on-street parking is low – vehicles leave the neighborhood during the daytime, are parked off-street, and/or residents and local businesses have other reasons for not needing a permit.

It should be noted that issuing more permits than there are available permitted spaces is not primae facie an indication that parking supply and demand are not in balance, as not all permitted cars are parked in the neighborhood at the same time. Some of residents' permitted cars leave the permit area for brief periods during the day or night, others may leave the neighborhood for extended periods (e.g., vacations), and others may typically be parked in an off-street parking space and only parked on-street under certain conditions. Nevertheless, a large imbalance may suggest oversubscription. This report analyzes on-street parking utilization data in several neighborhoods – including occupancy rates and vehicle registration zip codes[8] – in a later section to further understand utilization of and demand for parking.

[8] Vehicle registration data is used to determine the origin location of the parked vehicles.

Map 2: Permit saturation by permit area



► Source: SFMTA – spatial data (2016), Area Q (FY 2015-16)

Citations

Table 6 below details the number of "residential overstay" citations issued in each permit area. These are citations issued to vehicles that are observed parking in excess of the posted time limit without displaying a valid parking permit. In terms of the absolute number of citations issued, a few permit areas stand out prominently. In Permit Area G, over 12,500 citations are issued in a year, and approximately 16,000 citations are issued in Permit Areas A and S. Compared to the average of 5,600 citations issued, the citation counts in these areas are high.

Since, as with other figures, these citation counts differ on the basis of how large each permit area is, a normalized ratio is also provided – residential overstay citations issued per permitted parking space. These normalized figures allow for better comparisons and show that there is nonetheless significant variation between permit areas. In Permit Areas I, U, Y, and BB, over five citations are issued per permitted space in a calendar year. With the exception of Area BB, these areas are located in centrally-located neighborhoods. On the other end, fewer than one citation per space are issued in Permit Areas H, O, T, V, CC, and DD, covering most of the permit areas in the lower-density southwest San Francisco.

Though these figures do provide some insight into how enforcement resources are being allocated between permit areas, it should be noted that it is also possible that in those areas where fewer citations are issued, fewer parking violations are occurring.

Table 6: Total overstay citations issued and per permitted space by permit area

PERMIT AREA	Total Citations	Citations per Space	PERMIT AREA	Total Citations	Citations per Space
A	15,808	2.7	**P**	3,554	2.2
B	479	1.1	**Q**	*N/A*	*N/A*
C	9,370	2.6	**R**	3,984	3.7
D	2,164	1.1	**S**	16,447	1.8
E	5,413	2.4	**T**	674	0.5
F	6,868	2.8	**U**	7,726	6.7
G	12,596	1.9	**V**	2,159	0.9
H	1,250	0.5	**W**	8,166	3.1
I	9,433	5.3	**X**	4,589	3.0
J	7,293	1.8	**Y**	3,041	5.3
K	9,598	2.0	**Z**	5,891	2.3
L	4,792	2.1	**BB**	1,284	5.6

M	5,879	1.8	**CC**	333	0.9
N	5,859	1.8	**DD**	182	0.4
O	3,125	0.7			

► Source: SFMTA – citation records (CY 2014)

Parking Utilization

Overview

Occupancy and vehicle origin data are useful indicators of imbalance in the parking supply and demand at the neighborhood level. The SFMTA worked with a count firm, National Data & Surveying Services (NDS), to conduct a comprehensive study of on-street parking utilization in and around permit areas – including occupancy rates, the proportion of vehicles with permits, and vehicle home zip code – in a diverse sample of neighborhoods and times.

The data collected will help to evaluate some of the study's research questions, such as:

- What is the availability of parking in selected residential neighborhoods and permit areas, across multiple times and days of week?
- What is the ratio of vehicles belonging to residents of the area versus non-residents?
- What is the relationship between permit issuance and parking availability?
- Is there availability of parking for the issuance of additional permits for non-residents, including businesses, childcare centers, and other neighborhood-serving facilities?
- How effective is permit parking in higher density and mixed-use neighborhoods as compared with lower density, more single-use residential areas.

The parking utilization study significantly expanded the City's inventory of occupancy data. A previous effort [9] collected data on parking occupancy and permitted rates in Permit Areas D, I, and J but the current Evaluation and Reform project required data from additional neighborhoods with particular characteristics.

This data collection effort begins an on-going monitoring effort to measure the effectiveness of the Parking Permit program over time. This function is particularly important for the City's rapidly changing Eastern Neighborhoods, such as the Dogpatch, Potrero, and northeast Mission neighborhoods.

SFMTA surveyed nineteen two-mile routes in twelve neighborhoods across San Francisco. **Map X** provides a citywide overview of the blocks surveyed.

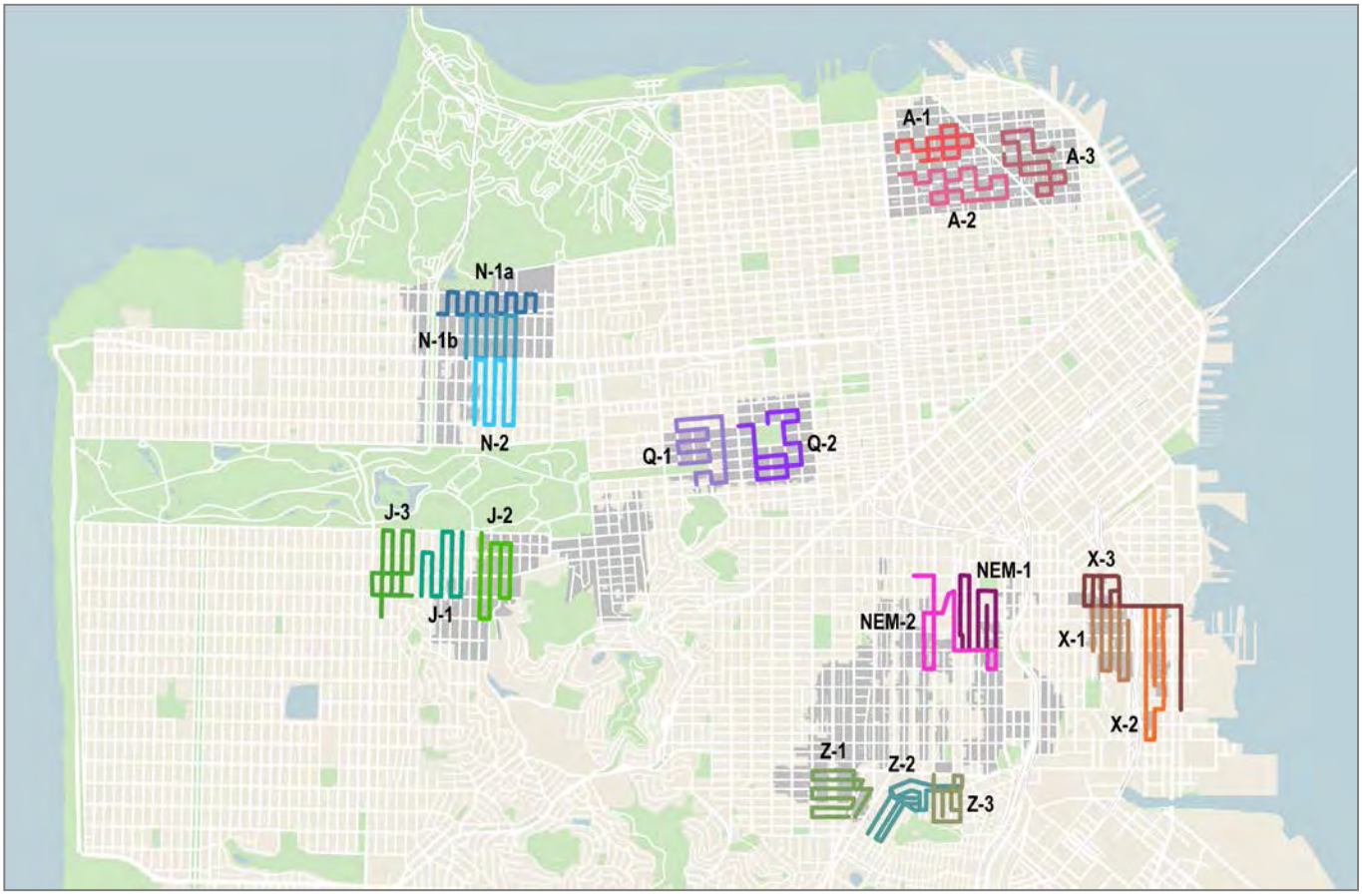
The following list includes each route code, neighborhoods and permit areas. It also indicates whether non-permitted blocks were included.

- A-1, A-2, A-3: Russian Hill, Nob Hill, and Telegraph Hill (all Area A)

[9] See SFMTA RPP Occupancy Survey Plan, 2010

- J-1, J-2, J-3: Inner Sunset and Central Irving (Area J and non-permitted blocks)
- N-1a, N-1b, N-2: Inner Richmond (Area N and non-permitted blocks)
- NEM-1, NEM-2: NE Mission (Areas I & W and non-permitted blocks)
- Q-1, Q-2: North of Panhandle, Alamo Square (before Area Q implementation)
- X-1, X-2, X-3: Potrero Hill, Dogpatch (Area X and non-permitted blocks)
- Z-1: Southern Noe Valley (Area Z and non-permitted blocks)
- Z-2, Z-3: Northern Bernal (all non-permitted blocks)

Map 3: Survey routes



► Source: SFMTA – spatial data (2016); *(extent of permit eligibility for areas surveyed shown in grey, behind routes.)*

The routes represent a diverse sample of San Francisco neighborhoods in terms of density, land use and proximity to significant traffic generators. They range from medium to high density and from primarily residential to mixed-use neighborhoods. To test the effectiveness of the Permit Parking Program's original intent – to improve the availability of parking for residents living close to large traffic generators – the neighborhoods surveyed were adjacent to several different facilities that tend to generate significant parking impacts, including hospitals, transit centers, tourist attractions, neighborhood commercial corridors, and others. We also made sure to

include routes for developing neighborhoods, particularly the Dogpatch, northern Potrero, and northeast Mission areas.

Methodology

SFMTA surveyed each route on two weekdays, avoiding street cleaning days and other times when there is tow-away or other impacts to parking that could have affected the results. Tuesday, Wednesday, and Thursday were preferred over Monday and Friday, given these days typically see peak parking demand for a given week. Routes A-1, A-2, A-3, and Z-2 were also surveyed on one Saturday to test the hypothesis that these areas experience high external parking demand over the weekend.

There are four different survey periods each weekday for most routes:

- Early morning: 4:30 a.m. - 6 a.m.
- Late morning: 10 a.m. - 12 p.m.
- Afternoon: 2 p.m. - 4 p.m.
- Evening: 7 p.m. - 9 p.m.

For those routes also surveyed on a Saturday (Routes A-1, A-2, A-3, and Z-2), there were two additional survey periods:

- Afternoon: 2 p.m. - 4 p.m.
- Evening: 7 p.m. - 9 p.m.

Note that Routes NEM-1 and NEM-2 were not surveyed during the Early Morning (4:30 a.m. - 6 p.m.) period given daily street-cleaning during those hours. In addition, Routes Q-1 and Q-2 were only surveyed during the Evening (7 p.m. - 9 p.m.) period. As noted earlier, data for Routes Q-1 and Q-2 captures parking conditions pre-implementation of Residential Permit Parking. Additional data will be gathered in summer 2016 to allow for a before-and-after study of the impact of permit parking regulations on parking utilization in Permit Area Q.

SFMTA's contractor used License Plate Recognition (LPR) technology to capture license plates; this tool was complemented with manual methods to record other types of data. The LPR unit was mounted on a vehicle and oriented towards parked vehicles. One technician drove the course of the route and another technician took note of block-by-block occupancy rates, whether vehicles displayed a valid permit, the locations and count of colored curb and metered spaces, and vehicles parked across curb cuts. Data was typically only collected from one side of the street under the assumption that parking utilization is similar from one side of the street to another.

Certain blocks and entire routes had to be surveyed with entirely manual methods (i.e.,

without the use of LPR), mostly due to unique parking arrangements, such as back-in angled parking and perpendicular parking. Care was taken that all results are comparable.

Manual Field Data Collection

Field personnel record all information onto segment specific templates for every requested occupancy sweep. This method of collection is utilized: as a supplement to ALPR collection for streets where the ALPR vehicle cannot successfully capture data; as a supplement to ALPR in order to collect ground truth occupancy with detailed information; as an alternative to ALPR when manual collection is preferred.

Manual Field Data Processing

Transcription begins the process. During transcription, field sheets undergo scrutiny in an attempt to identify any field entry errors or other inconsistencies in the organization of the data sets. Street names, sides of the street and the number of segments are checked throughout this process. Next, several macros are used to consolidate the data sets, clean the license plates and check for possible contradictions between occupancy sweeps.

Cleaning the license plates involves:

- Replacing all 0's with O's for consistency and to prevent the loss of preceding 0's in number formats
- Checking the number of alphanumeric characters per license plate to exclude certain plates from being matched for duration
    - DP (Dealer Plate)
    - NP (No Plate)
    - NV (Not Visible)

Converting the raw format into a deliverable plate format

Possible contradictions include:

- Discrepancies in the presence of disabled placards between time periods for the same vehicles
- Discrepancies in the presence of valid permits between time periods for the same vehicles
- Discrepancies in the number of metered spaces recorded in each sweep
- Unreasonable discrepancies in the number of colored curb spaces recorded in each sweep
- Unreasonable discrepancies in the number of spaces present on a block face between sweeps

An algorithm was used to identify the above discrepancies and suggest corrective measures. If a license plate appeared in multiple occupancy sweeps, the algorithm looked for consistency in the presence of disabled placards, valid permits, and parking space type. If a majority of the occupancy sweeps contained identical auxiliary information, the algorithm would suggest matching the auxiliary information among all occupancy sweeps. If insufficient data was present to establish a majority, the raw field templates were reviewed to ensure the accuracy of the transcription.

Next, a custom algorithm matches the license plates for duration and determines the floating inventory. During this process, the algorithm also converts the information into the deliverable template.

Final checks include:

- Checking the duration volumes against the plate volumes
- Checking that the occupancy percentages do not exceed 100% in certain situations

ALPR Field Data Collection

NDS's "Automated License Plate Recognition" vehicle uses two cameras on one side of the vehicle to collect a duplicate plate for every visible license plate located throughout the designated path. The driver takes the same exact route for each occupancy sweep. Since the ALPR unit does not detect vehicles without visible license plates and does not collect vehicles that do not have license plates at all, it is necessary to collect the occupancy related information with a field technician (see Manual Field Data Processing For qa/qc procedures).

ALPR Field Data Processing

Data is downloaded from the unit and the data points are converted into GPS points for data cleansing.

Data cleansing is a time intensive process and includes the following:

- Removing duplicate license plates (each plate is recorded twice)
- When characters are not fully recognized by the ALPR unit, special characters are included in the plate, so duplicate removal cannot be fully automated

Removing plates outside of the requested segments

The ALPR unit is a continuous recording device, so vehicles may be detected in moving traffic or while the vehicle is turning around at different points. Every captured plate is saved as an image which allows the QAQC to include both visual confirmation and GPS coordinates. Both are used to find and remove plates that are considered to be "moving

vehicles" or considered to be outside of the requested segment areas.

During the data cleansing process, the beginning and end of each segment is identified through the use of GPS coordinates and license plate imagery. A custom algorithm is then used to clean the license plates.

Cleaning the license plates involves:

- Replacing all 0's with O's for consistency and to prevent the loss of preceding 0's in number formats
- Checking the number of alphanumeric characters per license plate to exclude certain plates from being matched for duration
  - DP (Dealer Plate)
  - NP (No Plate)
  - NV (Not Visible)

Converting the raw format into a deliverable plate format

Next, a custom algorithm matches the license plates for duration, retrieves the occupancy related information from the processed fieldwork and determines the floating inventory. During this process, the algorithm also converts the information into the deliverable template.

Final checks include:

- Checking the duration volumes against the plate volumes
- Checking that the occupancy percentages do not exceed 100% in certain situations

License plate observations were bundled into one of four distance buckets from the location of the owner's residence1 – within one-quarter mile (5 min walk), above one-quarter mile but below one-half mile (10 min walk), above one-half mile but below 2 miles (extended neighborhood), and over 2 miles (outside neighborhood).

Citywide results

This section provides a high-level summary of the data analyzed – particularly, parking occupancy rates and the proportion of vehicles registered locally – by route and neighborhood. The following section offers neighborhood-by-neighborhood discussions of localized data.

Table X provides a summary of the number of occupied spaces by survey route, separately breaking out occupancy rates for permitted and non-permitted blocks where applicable.

Table 7: Percentage of occupied parking spaces by survey route and time period

ROUTE	PERMIT AREA	NEIGHBORHOOD	Weekday				Weekend	
			4:30-6a	10a-12p	2-4p	7-9p	2-4p	7-9p
A-1	Area A	Russian Hill	92%	92%	88%	86%	84%	88%
A-2	Area A	Nob Hill	99%	92%	91%	98%	93%	99%
A-2	Area A	Telegraph Hill	91%	90%	90%	91%	91%	93%
J-2	Area J	Inner Sunset	86%	80%	83%	88%		
J-1	*Non-permitted*	Inner Sunset	84%	90%	88%	87%		
J-3	*Non-permitted*	Central Irving (East of 19th Ave)	91%	79%	87%	86%		
N-1a	Area N	Inner Richmond (North of California St)	96%	82%	80%	86%		
N-1b	Area N	Inner Richmond (North of Geary Blvd)	95%	91%	88%	92%		
N-2	*Non-permitted*	Inner Richmond (South of Geary Blvd)	96%	95%	94%	96%		
NEM-1	*Permitted & non-permitted*	NE Mission (East of Harrison St)		93%	93%	88%		
	Area W (5 blocks)			82%	86%	94%		
	Non-permitted (10 blocks)			95%	94%	87%		
NEM-2	*Permitted & non-permitted*	NE Mission (West of Harrison St)		90%	91%	88%		
	Areas I & W (8 blocks)			85%	85%	98%		
	Non-permitted (18 blocks)			92%	93%	82%		
Q-1	*Before Area Q Implemented*	North of Panhandle				89%		
Q-2	*Before Area Q Implemented*	Alamo Square				95%		
X-1	*Permitted & non-permitted*	Potrero Hill	64%	75%	74%	72%		
	Area X (14 blocks)		63%	67%	67%	74%		
	Non-permitted (5 blocks)		70%	99%	98%	74%		
X-2	*Permitted & non-permitted*	Dogpatch (West of 3rd St)	51%	94%	87%	66%		
	Area X (3 blocks)		77%	99%	95%	82%		
	Non-permitted (18 blocks)		46%	92%	86%	62%		
X-3	*Permitted & non-permitted*	Potrero & Dogpatch (Illinois St, N of Mariposa)	35%	90%	87%	52%		
	Area X (2 blocks)		46%	72%	75%	68%		
	Non-permitted (22 blocks)		30%	93%	90%	48%		
Z-1	*Permitted & non-permitted*	So. Noe Valley	90%	90%	89%	92%		
	Area Z (13 blocks)		86%	89%	88%	90%		
	Non-permitted (7 blocks)		96%	93%	92%	94%		
Z-2	*Non-permitted*	NW Bernal	86%	72%	75%	85%	??	??
Z-3	*Non-permitted*	NE Bernal	94%	85%	86%	87%		

► Source: SFMTA; Arup; NDS (2016)

Neighborhood results

Russian Hill, Nob Hill, and Telegraph Hill (Permit Area A)

Permit Area A is the first permit area in San Francisco, established in 1978 to reduce the parking spillover effects of these neighborhoods' proximity to the employment-rich Financial District. Area A has both significant internal parking pressures from residents and businesses of the area as well as external pressures from commuters and visitors. The Telegraph Hill and North Beach neighborhoods in particular have a preponderance of pre-automobile homes built without off-street parking; residents with cars subsequently rely on on-street parking. As shown in **Map X**, the three routes cover the area's major neighborhoods – Russian Hill, Nob Hill, Telegraph Hill, and North Beach – and provide a strong sample of the entire permit area. All blocks surveyed have permit parking regulations. In addition, this was one of two study areas surveyed on a Saturday, given the significant concentration of weekend visitor destinations in the vicinity.

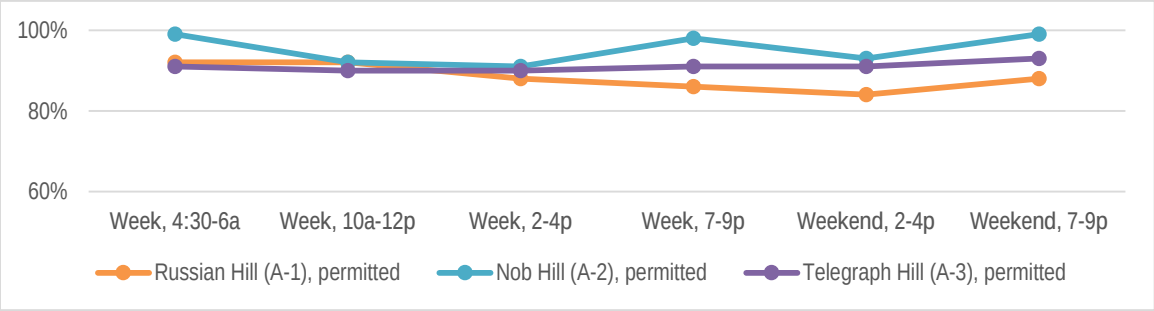
Parking occupancy is very high throughout the day, despite permit parking. In the Nob Hill and Telegraph Hill neighborhoods, the percentage of occupied spaces is in the 90% range all day on both weekdays and on Saturday. In Russian Hill, parking occupancy is somewhat lower, in the mid to high 80% range between 2 p.m. and 9 p.m., suggesting somewhat better availability of parking. Permit parking is effective until 9 p.m. for a majority of the blocks surveyed, but parking availability remains low throughout the day.

Table 8: Percentage of occupied spaces

	Weekday				Saturday	
	4:30-6a	**10a-12p**	**2-4p**	**7-9p**	**2-4p**	**7-9p**
Russian Hill (A-1) *permitted - Area A*	92%	92%	88%	86%	84%	88%
Nob Hill (A-2) *permitted - Area A*	99%	92%	91%	98%	93%	99%
Telegraph Hill (A-3) *permitted - Area A*	91%	90%	90%	91%	91%	93%

► Prevailing effective hours of permit parking: **Monday - Saturday, 8 a.m. - 9 p.m.**
► Source: SFMTA; Arup; NDS (2016)

Chart 4: Percentage of occupied spaces

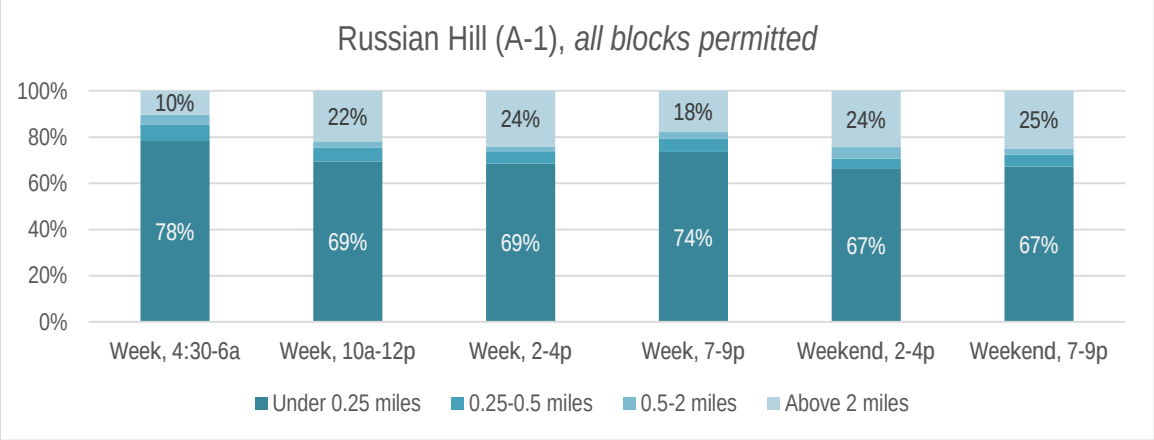


► Source: SFMTA; Arup; NDS (2016)

Residents make up a large majority of those parking on streets in Permit Area A – the highest proportion of all study areas surveyed for this study. In Nob Hill and Telegraph Hill on weekdays, the portion of vehicles parked within one-quarter mile – a 5-minute walk – of where they are registered ranges from around 75% mid-day to just over 80% in the early morning and evening hours. In Russian Hill, the portion of vehicles parked near to their owner's likely home is only slightly lower, ranging from near 70% mid-day to over 75% in the early morning.

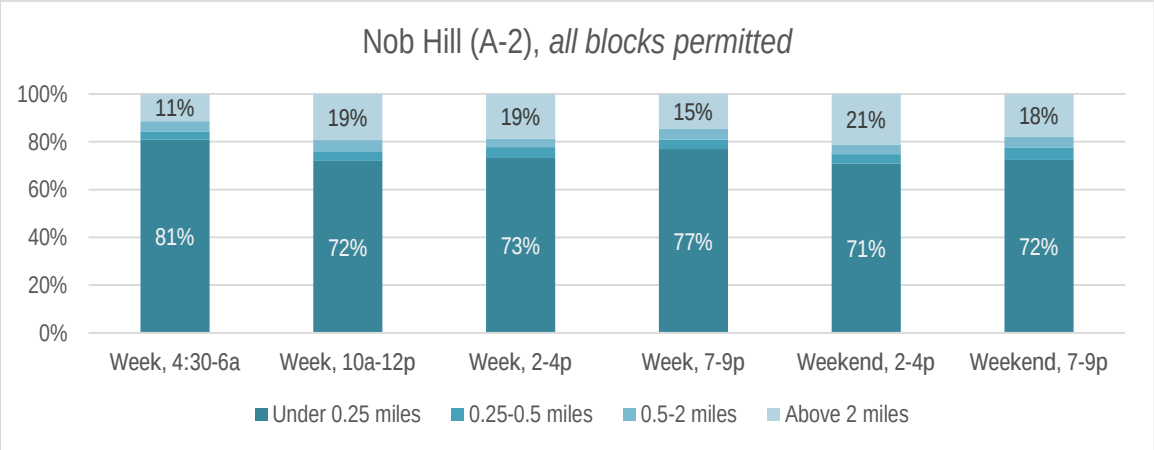
On the weekend, the mid-afternoon period resembles weekdays, while the evening period is a bit lower for all three neighborhoods – just below 75% of vehicles in Nob Hill and Telegraph Hill and about 66% in Russian Hill are registered within one-quarter mile.

Chart 5: Distance vehicles parked from registration address



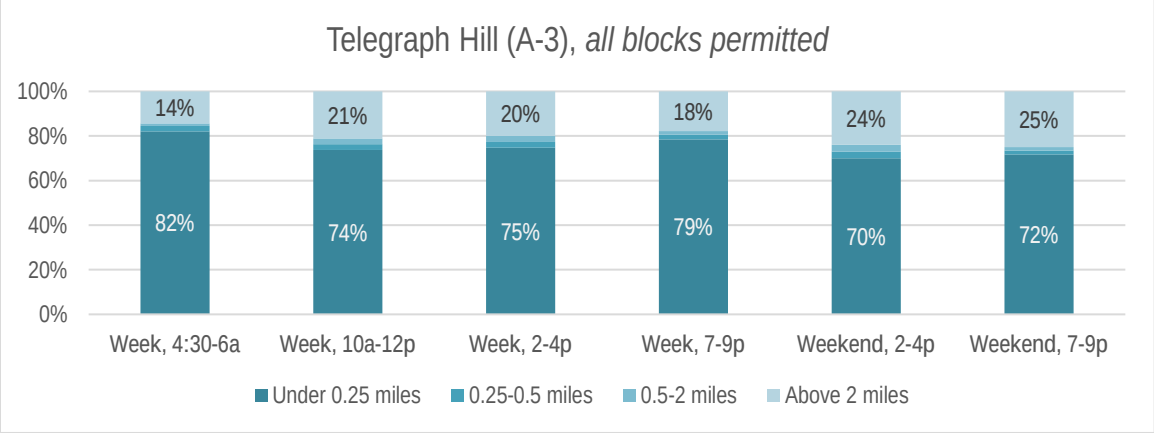
► Source: SFMTA; Arup; NDS (2016)

Chart 6: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Chart 7: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Considering both the occupancy and license plate data together, it is clear that parking is highly utilized in the neighborhoods of Permit Area A. Despite the high concentration of employment and visitor destinations within the area, attracting people from around the region, residents' vehicles make up an overwhelming majority of those observed – higher than any other permitted areas surveyed for this study. Parking is nonetheless difficult to find, as occupancy rates are also some of the highest of all study areas observed.

Within these three neighborhoods, there are 15,000 households, but only 5,750 permitted on-street parking spaces. If the 61% percent of these households that have at least one vehicle[10] were to use on-street parking at the same time, parking availability would be significantly impacted. While the Permit Parking program effectively

[10] SFMTA, 2015 Residential Parking Permit Program Resident Survey, Godbe Research, 2016

discourages non-residents from parking in permit areas, it is less effective in managing internal demand generated by local residents.

Inner Sunset (Permit Area J)

The Inner Sunset neighborhood is located just south of Golden Gate Park and sees significant parking pressures from people visiting the park's many destinations, particularly on weekends. The UCSF Parnassus campus – a significant employment center – is also nearby, as are many neighborhood-scale businesses, focused around Irving Street, Judah Street, and 9th Avenue. Additionally, the N - Judah Muni Metro line – the busiest in the City's light rail system – traverses the neighborhood and attracts people to park on local streets and then ride the train downtown. These many traffic generators place pressure on what is an otherwise moderately dense (30,000 people per sq. mile) neighborhood, with 7,500 households within the permit area itself.

For this neighborhood, both permitted blocks (Route J-2) and comparable non-permitted blocks (Route J-1) were surveyed to allow for study of the effects of permit parking regulations in a similar context. Additional unpermitted blocks were surveyed farther to the west of the concentration of activity around 9th Avenue & Irving Streets – named the Central Irving area (Route J-3) – to allow for additional comparisons and also in anticipation of residents on these blocks petitioning SFMTA to study the suitability of instituting permit parking regulations.

When looking at only Inner Sunset blocks (Routes J-1 and J-2), occupancy rates are quite similar in the early morning and evening periods when permit parking is not in effect, hovering around the mid to high 80% range. During the late morning and early afternoon periods when permit parking is in effect, however, we see an appreciable difference in parking occupancy between permitted and non-permitted blocks. While occupancy rates climb to 90% on non-permitted blocks, they actually decrease to the low 80% range on permitted blocks, suggesting that such regulations do improve parking availability.

In comparison, the Central Irving blocks – farther away from the activity of the Inner Sunset and which are all unpermitted – have slightly higher early morning occupancy rates, experience a dip in late morning occupancy comparable to permitted Inner Sunset blocks, and then rise to the mid to high 80% range for the remainder of the day.

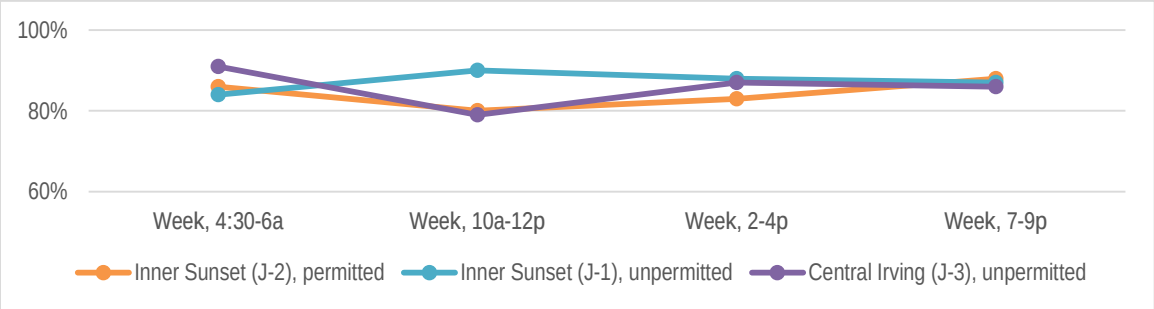
Table 9: Percentage of occupied spaces

	Weekday			
	4:30-6a	10a-12p	2-4p	7-9p

Inner Sunset (J-2) *permitted - Area J*	86%	80%	83%	88%
Inner Sunset (J-1) *unpermitted*	84%	90%	88%	87%
Central Irving (J-3) *unpermitted*	91%	79%	87%	86%

► Prevailing effective hours of permit parking: **Monday-Friday, 8am-6pm**
► Source: SFMTA; Arup; NDS (2016)

Chart 8: Percentage of occupied spaces



► Source: SFMTA; Arup; NDS (2016)

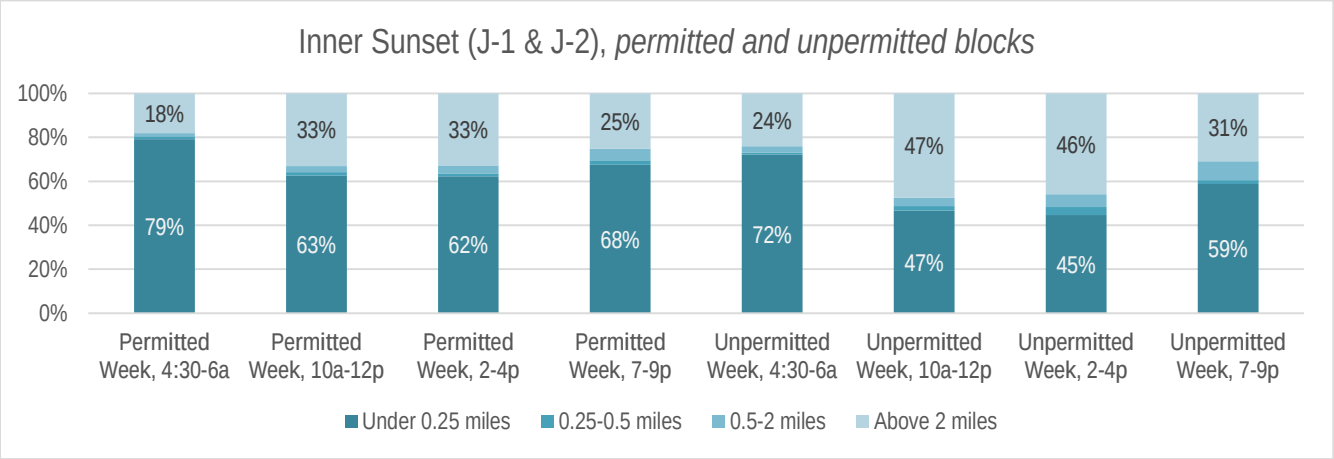
The proportion of locally registered vehicles on permitted blocks varies considerably throughout the day. In the early morning, nearly 80% of vehicles are registered within one-quarter mile of where they were parked. During the late morning and afternoon, about two-thirds of vehicles are registered locally, rising to near 70% in the evening. On unpermitted blocks, the proportion of locally registered vehicles is lower across all times. In the early morning and evening periods, between 60% and 72% of vehicles are parked near their home, but during the daytime working hours there is an almost equal balance between resident and non-resident vehicles. This many suggest a pattern where residents take their vehicles out of the neighborhood during the day, vacating on-street parking spaces, and employees who work in the area then drive in and park on these blocks.

In the Central Irving area, we see a similar pattern as on permitted blocks in the Inner Sunset – almost 75% of parked vehicles are registered locally in the early morning, decreasing to around two-thirds mid-day, and rising back to near 70% by the evening.

Given at least 50% of the vehicles parked on the street must be non-resident vehicles to establish a new permit area – and the Central Irving blocks are about 15% below this threshold during daytime hours when regulations would likely be in effect (35% of observed vehicles are registered two or more miles away) – external parking pressures on these blocks are not yet high enough to meet the requirements for permit parking

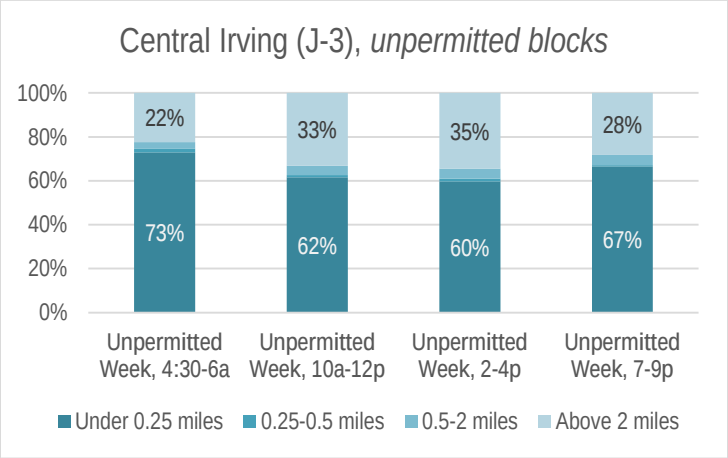
regulations.

Chart 9: Distance vehicles parked from registration address



► Source: Permit Parking Evaluation Parking Utilization Study, NDS Data (2016)

Chart 10: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Considering these results together, there is evidence that permit parking has a positive impact on the availability of parking in the Inner Sunset neighborhood for residents of the area. While occupancy rates rise mid-day on non-permitted Inner Sunset blocks as workers, commuters, and other visitors park in the area, occupancy actually decreases to 80% on permitted blocks. Permit parking may be impacting the proportion of residents parked on-street as well. During those survey periods when permit parking is in effect (late morning and afternoon), resident vehicles make up slightly less than half of all parked vehicles on unpermitted blocks, though its 63% on proximal and similar blocks with permit parking regulations.

Inner Richmond (Permit Area N)

The Inner Richmond neighborhood is just north of the western end of Golden Gate Park and south of the Presidio. Parking pressures stem from multiple sources, including the commercial corridors of Geary Boulevard and Clement Street, the Kaiser Permanente French Campus, and Muni's Rapid/express buses (e.g., 5R, 28R, 31BX, 38R, 38BX). This area is included in this analysis because of these characteristics, the ongoing growth of Permit Area N, and the prevalence of comparable permitted and unpermitted blocks.

As with the Inner Sunset study area, SFMTA surveyed both permitted and non-permitted blocks. There were two routes of permitted blocks. Route N-1a covers the blocks north of California Street, which are farther away from the business activity on Clement Street and Geary Boulevard. Residential density is lower on this route as well. Route N-1b includes the blocks between California Street and Geary Boulevard.

Parking occupancy rates are similar for all Permit Area N blocks in the early morning period and decrease mid-day during permit parking effective hours, but the northern blocks (Route N-1a) see a more significant drop. These northern blocks reach the low 80% range while the southern blocks (Route N-1b) only see a decrease in occupancy to 88% by the mid-afternoon, in line with their higher resident densities and closer proximity to retail destinations.

Comparing permitted and non-permitted blocks, there is evidence of permit parking regulations having an effect on the availability of parking. While parking occupancy rates remain in the mid 90% range all day on non-permitted blocks, there is an appreciable drop for permitted blocks, particularly north of California Street (Route N-1a). Given the number of unpermitted blocks is decreasing in the Inner Richmond as Permit Area N steadily expands, one would expect to see increasing pressure on those blocks still without permit parking regulations as commuters and non-resident workers run out of all-day on-street parking options.

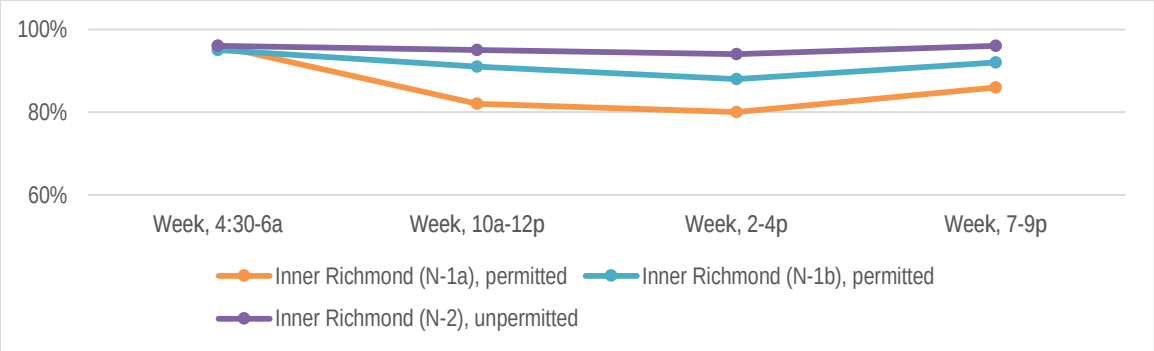
Table 10: Percentage of occupied spaces

	Weekday			
	4:30-6a	**10a-12p**	**2-4p**	**7-9p**
Inner Richmond (N-1a) *permitted - Area N*	96%	82%	80%	86%
Inner Richmond (N-1b) *permitted - Area N*	95%	91%	88%	92%
Inner Richmond (N-2) *unpermitted*	96%	95%	94%	96%

► Prevailing effective hours of permit parking: **Monday-Friday, 9am-6pm**

► Source: SFMTA; Arup; NDS (2016)

Chart 11: Percentage of occupied spaces



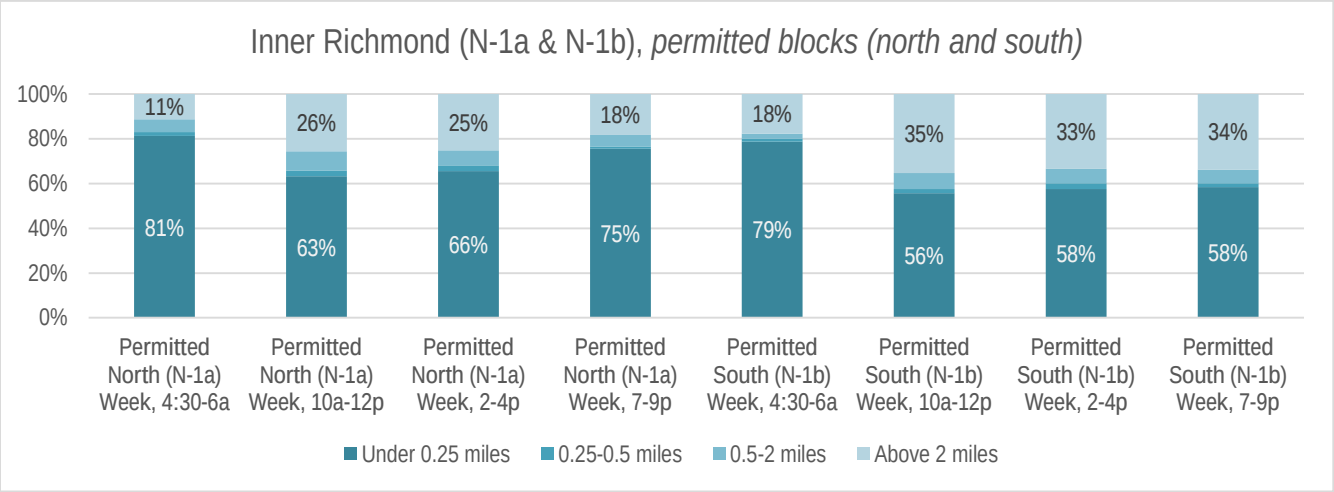
► Source: SFMTA; Arup; NDS (2016)

Some interesting trends emerge when looking at the distance between the locations of parked vehicles in the neighborhood relative to their registered addresses. On permitted blocks north of California Street (Route N-1a), a strong 80% majority of vehicles parked in the early morning period are registered locally, dipping to around two-thirds mid-day, and returning to 75% by the evening. This is a similar pattern as seen on permit blocks in the Inner Sunset. However, on permit blocks between California Street and Geary Boulevard (Route N-1b), closer to the Inner Richmond's commercial corridors, it appears external pressures for parking are stronger and persist through the evening. While locally registered vehicles make up 80% of all parked in the early morning, this proportion drops to 55%-60% from the late morning through the evening.

On non-permitted blocks south of Geary Boulevard, only 68% of parked vehicles are registered within one-quarter mile in the early morning, dropping to 57% mid-day, and rising to 64% by the evening. Yet, as compared with permitted blocks just north of Geary Boulevard (Route N-1b), a slightly higher percentage of resident vehicles are parking on these unpermitted blocks during the late morning and there is no difference in this proportion for the mid-afternoon period. In the evening, the gap grows somewhat and 6% more vehicles on these unpermitted blocks are resident vehicles as compared with Route N-1b blocks. These findings suggest that external parking pressures are strong in the neighborhood in both the daytime and evening hours, particularly on the permitted blocks between Geary Boulevard and California Street.

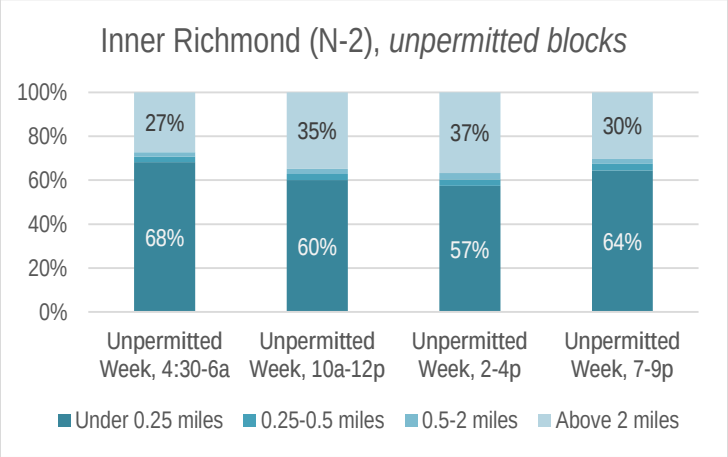
The findings of the Inner Richmond study are an example of the impact that permit parking has on surrounding unpermitted blocks. As permit areas expand, there is often increased pressure on the edges of areas as commuters, residents who avoid purchasing a permit, and others park on these blocks.

Chart 12: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Chart 13: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Parking utilization in the Inner Richmond is overall quite high. While permit parking does appear to be improving the availability of parking for residents, particularly on blocks north of California Street, there is still high demand for parking by non-residents on other blocks. Occupancy is moderately high and non-residents consume a strong third of parking spaces during the daytime on Permit Area N blocks between California Street and Geary Boulevard. There is also evidence of strong parking pressures on the remaining non-permitted blocks in the neighborhood, though resident vehicles still make up about two-thirds of those observed mid-day.

Northeast Mission (Permit Areas I and W)

The Northeast Mission is a characteristically mixed-use area and has been undergoing

much change in recent years. While it is still predominantly industrial area, residential development is increasing. Much of the neighborhood is an easy walk (within one-half mile) to the 16th St / Mission BART station and to the business activity in the larger Mission and SOMA Districts, resulting in parking pressures from several sources. Despite this, many streets remain unregulated and only a few blocks of Permit Areas W and I extend into the area. SFMTA continues to work with neighbors on developing a comprehensive parking management plan for the area and, accordingly, parking utilization data was collected to support this effort.

It should be noted that occupancy rates were not analyzed for the early morning period (4-6 a.m.) in this neighborhood due to daily street cleaning on many blocks. However, license plate data was collected.

As with other neighborhoods, there are differences between permitted and unpermitted blocks with regard to the availability of parking throughout the day. Blocks with permit parking see occupancy rates in the 80% range during the late morning and afternoon hours, while unpermitted blocks have higher occupancy rates, in the 90% range. In the evening, occupancy rises on permitted blocks and inversely drops on unpermitted blocks.

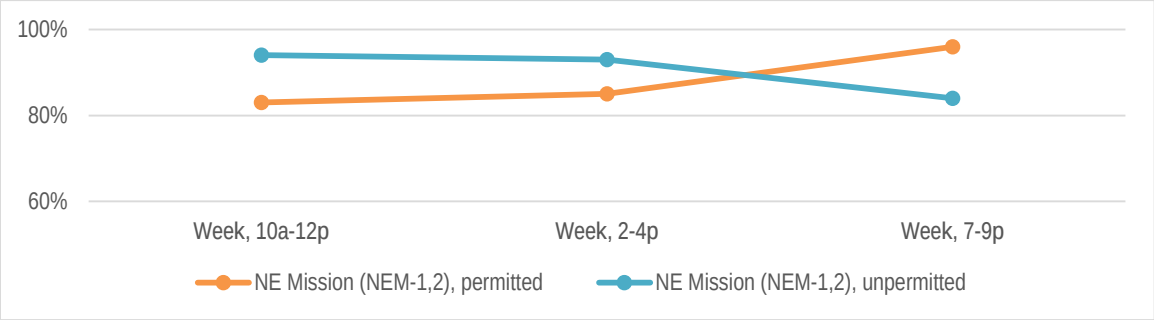
An explanation for this may be differences in the dominant land uses of these blocks – permitted blocks being generally more residential and unpermitted blocks more industrial. As such, higher occupancy is expected on unpermitted blocks in the daytime when employees are at work and higher occupancy is expected on permitted blocks in the evening when residents are home.

Table 11: Percentage of occupied spaces

	Weekday		
	10a-12p	**2-4p**	**7-9p**
NE Mission (NEM-1,2) *permitted (13 blks)*	83%	85%	96%
NE Mission (NEM-1,2) *unpermitted (38 blks)*	94%	93%	84%

► Prevailing effective hours of permit parking: **Monday-Friday/Saturday, 8/9am-6pm**
► Source: SFMTA; Arup; NDS (2016)

Chart 14: Percentage of occupied spaces

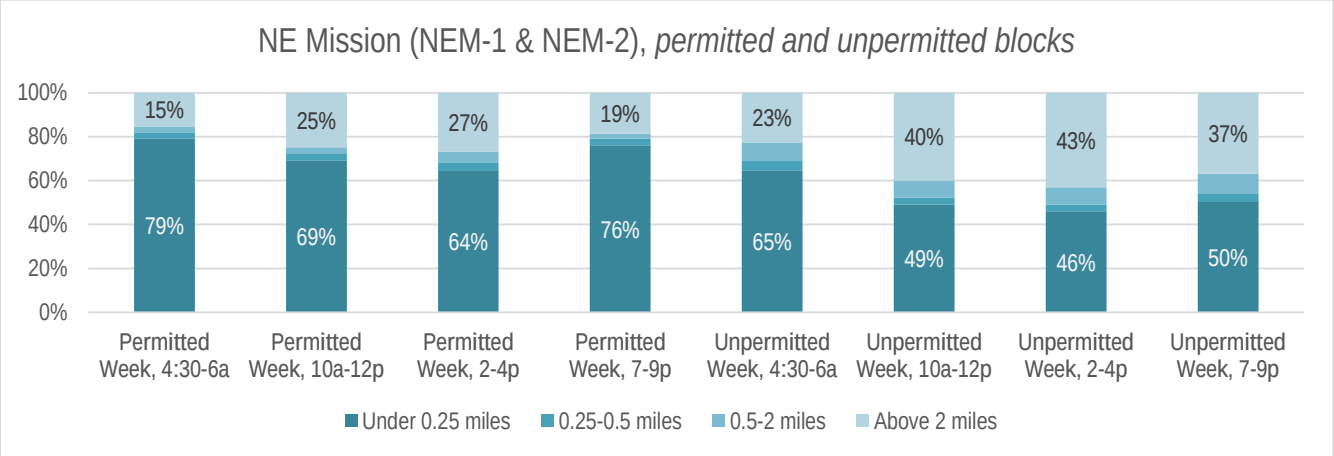


► Source: SFMTA; Arup; NDS (2016)

There are appreciable differences between permitted and non-permitted blocks in terms of the distance between where vehicles are parked and where they are registered. Resident vehicles make up 80% of parked vehicles in the early morning, 70% in the late morning, and 65% in the afternoon, but rise back to 75% by the evening. Comparatively, on non-permitted blocks, resident vehicles make up 65% of all observed in the early morning period and range between 45% and 50% for the remainder of the day.

This area is unique in the share of parked vehicles within a half-mile to 2-mile range (extended neighbor). Vehicles parked on unpermitted blocks between 0.5 and 2 miles of where they are registered make up 8 percent of all parked vehicles. This is a larger proportion compared with other survey routes. It is likely that Mission District residents who are not eligible or choose not to purchase a Permit Area I or W permit – perhaps because they drive infrequently – park on these unpermitted Northeast Mission blocks.

Chart 15: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

There are clear differences in parking utilization between permitted and non-permitted blocks in the Northeast Mission, both in terms of when parking is most occupied and in

terms of whether vehicles belong to residents of the area. Permitted blocks see high occupancy in the evening, while non-permitted blocks' occupancy rates peak mid-day when employees are at work. Residents consume a much greater proportion of parking on permitted blocks, though there is not much difference in the early morning as extended neighbors may also park on these blocks.

North of Panhandle and Alamo Square (Permit Area Q)

The North of Panhandle and Alamo Square neighborhoods are located at the edge of downtown. Within the heart of the City's older Victorian belt, many homes in this area do not have garages or other off-street parking, so residents with cars rely heavily on on-street parking. Until the very recent establishment of Permit Area Q, the blocks in these neighborhoods represented a "doughnut hole" of unregulated parking, surrounded on almost all sides by permit parking areas.

The blocks surveyed for this study encompass a large sample of blocks within Permit Area Q, but were surveyed just prior to permit parking regulations going into effect in September 2015. As part of the planning process for Permit Area Q, all blocks were surveyed during the daytime hours; however, no survey was conducted during the evening period. This Evaluation project provided an opportunity to collect parking utilization data for this missed period, particularly important since permit parking is effective until 9 p.m. for blocks east of Broderick Street. Note that only this additional evening survey period is included in this section.

Occupancy rates are moderately high for the weekday evening period, more so for blocks in the eastern Alamo Square neighborhood where occupancy was recorded at 95%. These results provide some support for the specific effective hours chosen for Permit Area Q, as regulations are effective until 8 p.m. in Alamo Square, but only until 6 p.m. in the North of Panhandle area.

Table 12: Percentage of occupied spaces

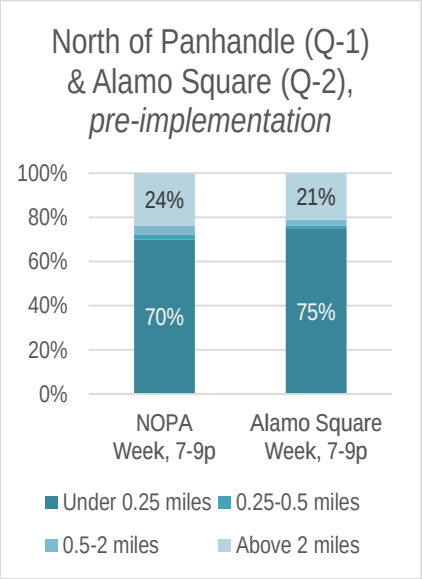
	Weekday
	7-9p
North of Panhandle (Q-1) *pre-implementation*	89%
Alamo Square (Q-2) *pre-implementation*	95%

► Note: All blocks surveyed prior to implementation of Permit Area Q
► Source: SFMTA; Arup; NDS (2016)

Just prior to implementation of Permit Area Q, 70% of vehicles in the North of Panhandle area and 75% in Alamo Square were registered within one-quarter mile of

where they were parked during the evening hours. This suggests residents consume a solid majority of on-street parking spaces by 7-9 p.m., comparable to this same period in Permit Area A and actually higher than permitted blocks in the Inner Sunset (Permit Area J).

Chart 16: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Additional data is being collected in July 2016 – 10 months after the official implementation of Permit Area Q – for all four survey periods, early morning (4:30-6a), late morning (10a-12p), afternoon (2-4p), and evening (7-9p). This data will be compared against all utilization data collected before implementation, including the additional evening survey period reported here.

Potrero (Permit Area X)

The Potrero neighborhood is located on the east side of San Francisco. In terms of land use, the area has two personalities – the hillier blocks to the south are dominantly residential, while the flatter blocks to the north (closer to Showplace Square and SOMA) are more industrial. The historically residential southern blocks are largely made up of older Victorian-style homes, some without garages, and most blocks have permit parking. Despite the dominance of production, distribution, and repair (PDR) activity in the north, larger residential developments are being built, particularly along 16th Street. For this study, blocks throughout the area were surveyed, including both permitted and non-permitted blocks to allow for comparisons.

Occupancy rates on permitted blocks in the Potrero neighborhood see slight movement

throughout the day. Starting rather low in the 60% range, occupancy rises slightly to 67% throughout the day while permit parking is in effect, and then rise to the mid 70% range in the evening. On adjacent unpermitted blocks, the availability of parking is mostly similar in the early morning and evening, but spikes to near 100% (i.e., fully-occupied blocks) during the daytime.

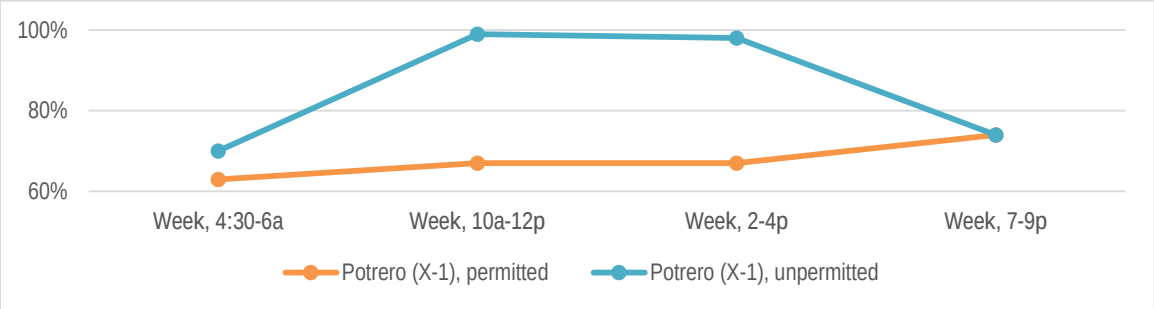
This could be evidence that the many workers in the area who park on street do so on the unpermitted blocks (i.e., that permit parking is effective at discouraging long-term parking by non-residents) but that the demand for parking on these unpermitted blocks is quite high. It should also be noted that generally, as in the Northeast Mission, permitted blocks front primarily residential uses while unpermitted blocks have dominantly industrial and commercial uses.

Table 13: Percentage of occupied spaces

	Weekday			
	4:30-6a	**10a-12p**	**2-4p**	**7-9p**
Potrero (X-1) *permitted - Area X (14 blks)*	63%	67%	67%	74%
Potrero (X-1) *unpermitted (5 blks)*	70%	99%	98%	74%

► Prevailing effective hours of permit parking: **Monday-Friday, 8am-6pm**
► Source: SFMTA; Arup; NDS (2016)

Chart 17: Percentage of occupied spaces

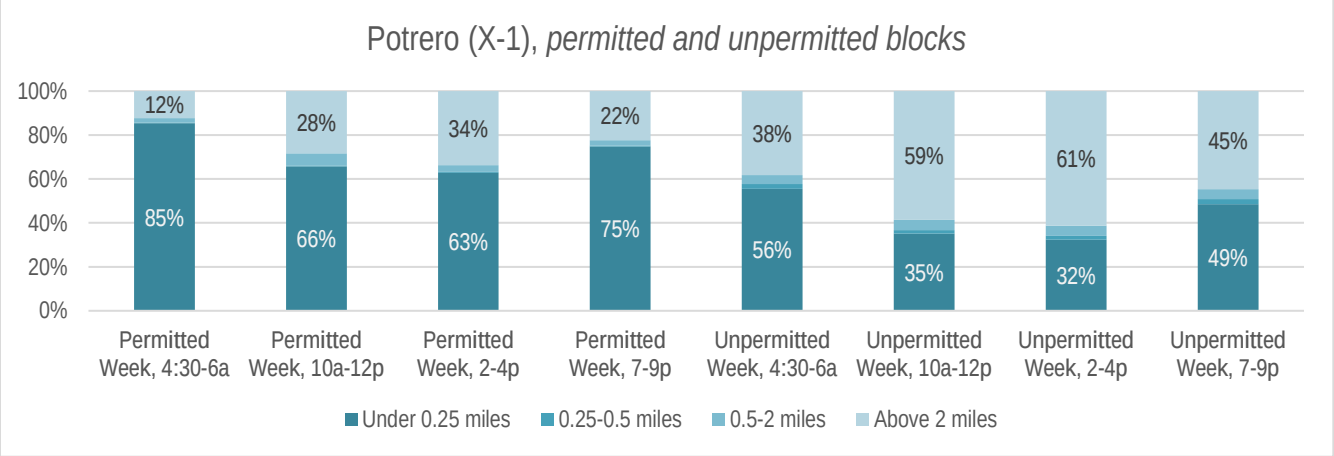


► Source: Permit Parking Evaluation Parking Utilization Study, NDS Data (2016)

There are very significant differences between permitted and non-permitted blocks in terms of the registration address of parked vehicles. On permitted blocks, vehicles parked within one-quarter mile of where they are registered make up 85% of all vehicles observed in the early morning. This proportion drops to around two-thirds for the late morning and afternoon periods, and then rises to 75% by the evening. On non-permitted blocks, about 55% of vehicles are registered locally in the early morning period, dropping to only one-third for the daytime hours, and then rising back to near 50% in the evening.

As noted previously, the differences in land use likely play into these results, as permitted blocks are mostly residential in use while unpermitted blocks are predominantly industrial.

Chart 18: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

There are notable differences between permitted and non-permitted blocks with parking utilization in the Potrero neighborhood. Permitted blocks have greater availability of parking for residents (as well as their guests and other non-residents staying within the time limit) during all survey periods. Parking is being underutilized somewhat, as optimal utilization lies within the 70% to 80% range.[11] Non-permitted blocks, however, see near 100% occupancy rates during the day, but have similar occupancy rates as permitted blocks in the early morning and evening periods.

Vehicles parked on permitted blocks are dominantly those belonging to residents of the area, while the opposite is true of unpermitted blocks, particularly during the daytime working hours. The particularly high occupancy (near 100%) observed on unpermitted blocks suggests that new regulations for these may be necessary to improve availability of parking for customers, workers, and others.

Dogpatch (Permit Area X)

The Dogpatch neighborhood is located along the eastern waterfront south of Mission Bay and north of the Bayview District. Like the Potrero and Northeast Mission study areas, the Dogpatch has a rich diversity of land uses. Most blocks north of 22nd St have a mixture of residential and production, distribution, repair (PDR) uses, while most

blocks south of 22nd St are predominantly industrial. Over the last decade, the neighborhood has seen construction of many new multi-family residences, primarily in the northern half, and the neighborhood is expected to double in the number of residential units in the coming years. As of 2016, there are approximately 1,500 existing units in the Dogpatch and there are about 1,500 units currently planned for development in the near future..[12] Not included is the Pier 70 project, which will add 1,100 units just east of Illinois Street.

In anticipation of these significant changes to the area, the SFMTA has been working with the Dogpatch community since early 2016 to evaluate current parking utilization in the area and to develop a parking management plan. This data collection effort was an opportunity to gather rich utilization data to help with a data-driven evaluation of possible regulations, policies, and other options for the neighborhood.

Occupancy rates in the Dogpatch neighborhood do not follow the typical pattern seen elsewhere in which, during permit parking effective hours, permitted blocks see higher parking availability than comparable non-permitted blocks. In this neighborhood, the opposite is true – the percentage of occupied spaces is higher during the late morning and afternoon periods on permitted blocks than on non-permitted blocks.

For this particularly mixed-use neighborhood, where residential, retail, and industrial uses coexist, the parking regulation(s) effective on a given block are often related to the land use. Permitted blocks have much of the visitor activity (e.g., childcare, gym, restaurants), while most medium to large-scale employment activity is on unpermitted blocks. These differences could factor into why we see high occupancies on all blocks, including on permitted blocks, which typically see a reduction in occupancy rates when permit parking is in effect.

The time limit on permit blocks (applicable to those without a parking permit) was 4 hours at the time of this survey. This data suggests that a 4-hour time limit is less effective at discouraging long-term parking than shorter limits. Such a long grace period allows an employee to move their car a block over once mid-day – perhaps on a lunch break – and comply with parking regulations. A lowered time limit of 2 hours and an extension of effective hours until 6 p.m. became effective May 2016. A follow-up study of these blocks will be conducted to evaluate if these changes improved the availability of parking for residents.

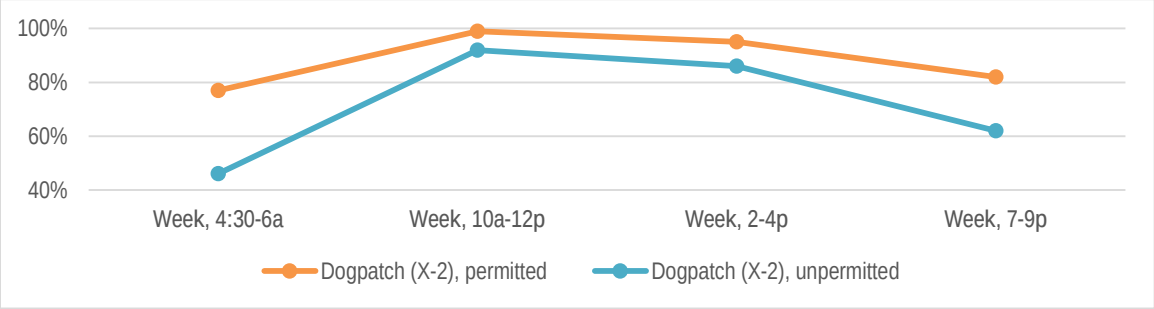
[12] San Francisco Planning Department Pipeline Report, 2016 Q1; Department of Public Words BSM Database (2016)

Table 14: Percentage of occupied spaces

	Weekday			
	4:30-6a	**10a-12p**	**2-4p**	**7-9p**
Dogpatch (X-2) *permitted - Area X (3 blks)*	77%	99%	95%	82%
Dogpatch (X-2) *unpermitted (18 blks)*	46%	92%	86%	62%

► Prevailing effective hours of permit parking: **Monday-Friday, 8am-4pm**
► Source: SFMTA; Arup; NDS (2016)

Chart 19: Percentage of occupied spaces

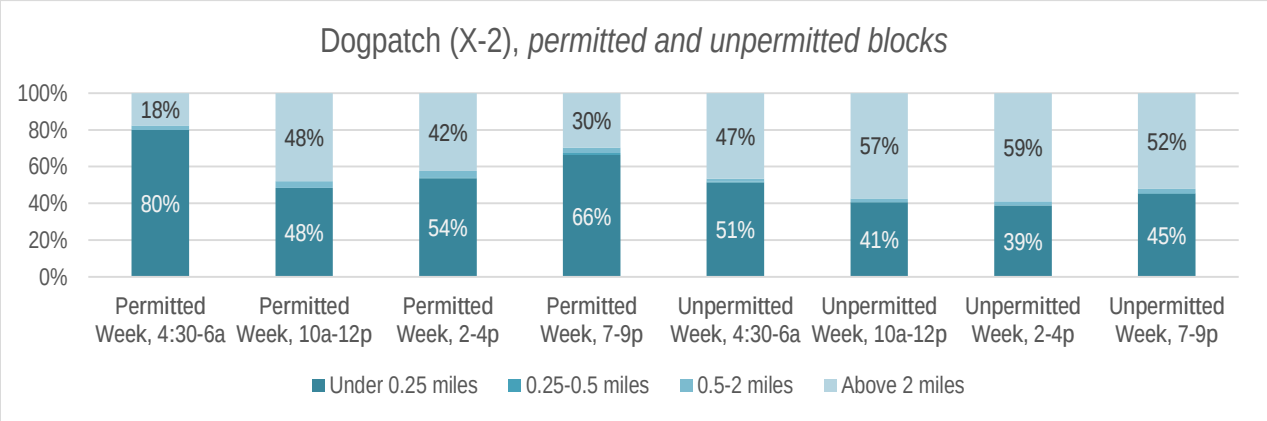


► Source: SFMTA; Arup; NDS (2016)

Examining where vehicles parked in the Dogpatch are registered provides a bit more clarity to the situation. The number of vehicles parked on permitted blocks in the Dogpatch that are registered within one-quarter mile varies significantly throughout the day. In the early morning, approximately 80% of vehicles on permitted blocks are registered locally. This drops to around 50% in the late morning and afternoon periods, rising to two-thirds of vehicles by the evening.

On non-permitted blocks are consistently occupied by Non-resident vehicles consistently make up a majority of all parked vehicles throughout the day. The number of vehicles registered locally is about 50% in the early morning, dropping to around 40% mid-day, and rising to 45% by the evening hours.

Chart 20: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

While residents consume a significant amount of parking spaces on permitted blocks in the early morning and evening periods, there are many non-resident vehicles in the neighborhood during most periods. Vehicles registered two or more miles away account for a sizable proportion on all blocks surveyed – particularly on non-permitted blocks where they make up a majority during the daytime hours and around 50% in the early morning and evening periods. This, and the high occupancy rates observed on permitted blocks in the daytime, indicate a need to improve the management of on-street parking in this neighborhood.

As of May 2016, time limits have shifted from four to two hours and effective hours have been extended to 6 p.m. A follow-up study of the effectiveness of these changes will be conducted in summer 2016.

South Noe Valley (Permit Area Z)

This study area encompasses blocks in the southern section of Noe Valley, bound by Cesar Chavez Street, Sanchez Street, 30th Street, and Tiffany Ave. It is a generally residential neighborhood, though there is commercial activity concentrated around Church Street and Mission Street. The J - Church Muni Metro line runs through the area, attracting commuters to downtown and the 24th St / Mission BART station is also a 10-minute walk away. California Pacific's St. Luke's Hospital (currently undergoing renovation and expansion) is also nearby, with its main entrance at Valencia and Cesar Chaves Streets.

Both permitted and non-permitted blocks were surveyed to allow for comparisons. As in the Inner Sunset and Inner Richmond study areas, permitted and non-permitted blocks are quite similar in terms of land use, density, and proximity to commercial corridors, commuter-service transit lines, and St. Luke's Hospital – offering a useful comparison of

parking regulations

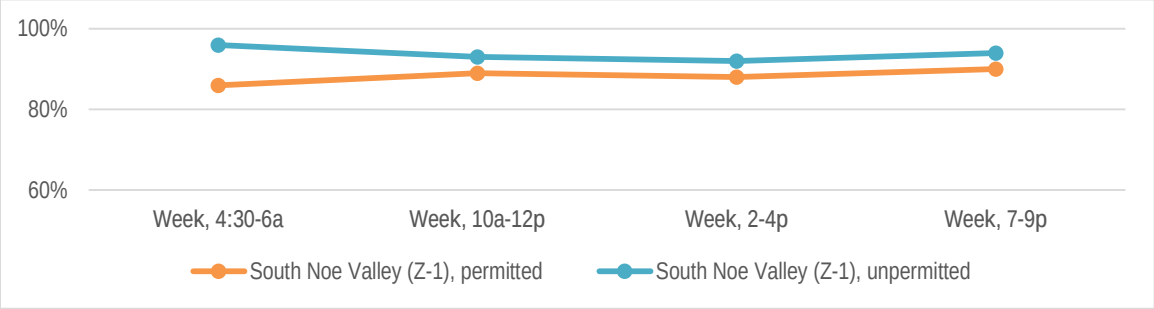
Parking occupancy rates do not vary much throughout the day for either permitted or non-permitted blocks. Unpermitted blocks see occupancy rates in the low to mid 90% range all day, while permitted blocks see slightly better availability of parking with occupancy rates in the upper 80% range. Though occupancy rates are moderately high on permitted blocks, permit parking regulations do appear to improve the availability of parking for residents.

Table 15: Percentage of occupied spaces

	Weekday			
	4:30-6a	**10a-12p**	**2-4p**	**7-9p**
South Noe Valley (Z-1) *permitted - Area Z (13 blks)*	86%	89%	88%	90%
South Noe Valley (Z-1) *unpermitted (7 blks)*	96%	93%	92%	94%

► Prevailing effective hours of permit parking: **Monday-Friday, 8am-6pm**
► Source: SFMTA; Arup; NDS (2016)

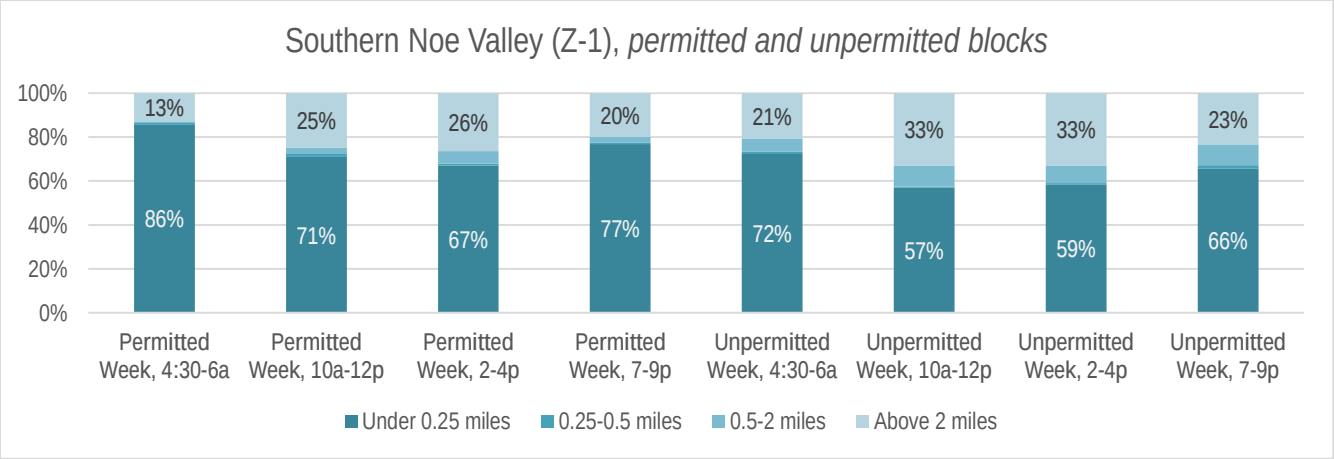
Chart 21: Percentage of occupied spaces



► Source: SFMTA; Arup; NDS (2016)

There are modest differences between permitted and non-permitted blocks relative to where parked vehicles are registered. On permitted blocks, 86% of vehicles observed in the early morning period were registered within one-quarter mile of where they were parked, dropping to near 70% in the daytime, and rising to 77% in the evening. On non-permitted blocks, locally-registered vehicles make up 72% of vehicles in the early morning, but this drops significantly to the high 50% range during the day, and rises to only two-thirds in the evening. Given the similarity of all blocks surveyed in Southern Noe Valley, it is not immediately clear what might explain these differences.

Chart 22: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

There is evidence that permit parking regulations in the Southern Noe Valley area have an effect on parking utilization. While occupancy rates continue to be high on permitted blocks, there are notable differences in the relative share of residents and non-residents. The early morning and evening periods are similar in terms of the proportion of locally registered vehicles, but in the daytime, only 25% of vehicles are registered two or more miles away on permitted blocks, though 33% of vehicles registered two or more miles away are on non-permitted blocks. This suggest that permit parking regulations are effective in discouraging non-residents from parking in the area though the high occupancy rates suggest that a large proportion of parking demand is generated by the residents themselves. .

Northwest Bernal Heights

This study area encompasses blocks in the northern section of the Bernal Heights neighborhood, bound by Mission Street, Cesar Chavez Street, Virginia Avenue, Bernal Heights Park, and the US-101 freeway. This area is not currently within a permit parking area, but many residents are interested in establishing permit parking and other regulations given the neighborhood's proximity to BART, St. Luke's Hospital, and Mission Street. Permit Areas Z, W, and I to the north and west, create additional pressure from residents of those permit areas who choose not to purchase permits to park in their own permit areas. Given reports of parking pressure on the weekend, the NW Bernal route was surveyed on a Saturday as well.

Occupancy rates in the north-west section vary throughout the day; blocks have high occupancy, in the mid 90% range, in the morning, dip below 80% by late morning, rise slightly in the afternoon, and return to the 90% range by the evening. In the north-east section, farther away from the activity on Mission Street, BART, and St. Luke's Hospital,

occupancy rates are similar to north-west blocks in the early morning period, but do not decrease quite as much throughout the day, remaining in the mid to high 80% range through the evening period.

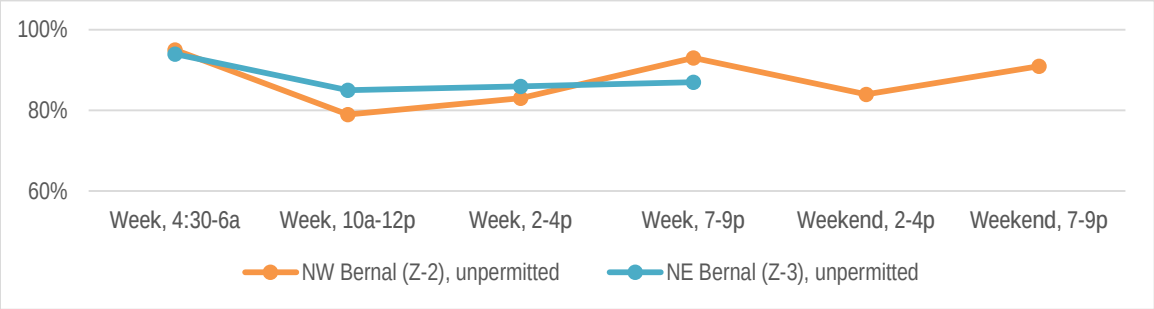
Since occupancy rates are above 80% during the periods of proposed enforcement, it would appear that this area may potentially qualify to become a new permit area based on occupancy alone. Prior to establishing a new area, this data would need to be further analyzed at a block-by-block level.

Table 16: Percentage of occupied spaces

	Weekday				Saturday	
	4:30-6a	**10a-12p**	**2-4p**	**7-9p**	**2-4p**	**7-9p**
NW Bernal (Z-2) *unpermitted*	95%	79%	83%	93%	84%	91%
NE Bernal (Z-3) *unpermitted*	94%	85%	86%	87%		

► All blocks unpermitted
► Source: SFMTA; Arup; NDS (2016)

Chart 23: Percentage of occupied spaces



► Source: SFMTA; Arup; NDS (2016)

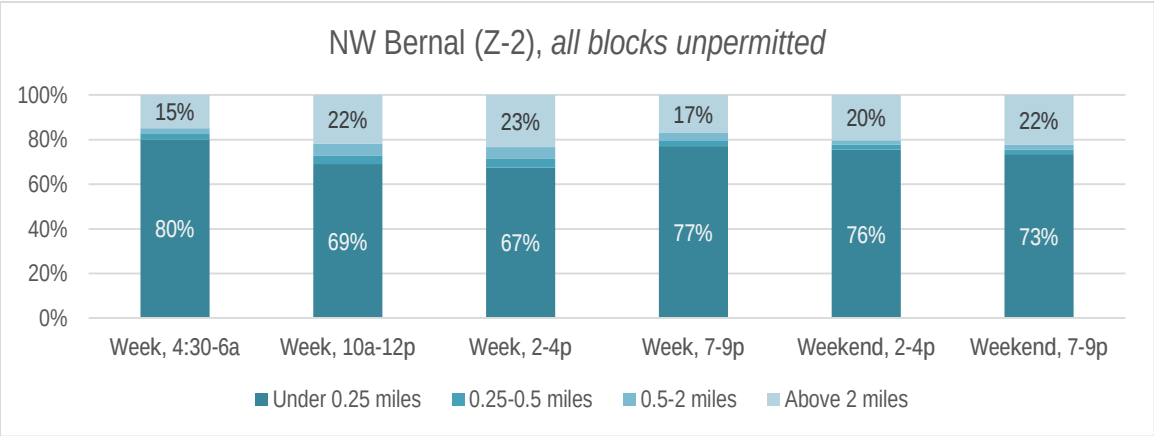
On all northwest Bernal Heights blocks, residents use a majority of on-street parking spaces. In northwest Bernal Heights, locally registered vehicles make up about 80% of all vehicles on weekday mornings and evenings, and slightly below 70% mid-day. On the weekend, resident vehicles in the north-west are about three-quarters of all observed parked vehicles in both the afternoon and evening periods. In northeast Bernal, the proportion of vehicles registered within one-quarter mile is 5-12% lower as compared with NW blocks.

The percentage of vehicles parked in the northwest Bernal Heights neighborhood that are registered locally is comparable to permitted blocks in other areas included in this study, and is actually somewhat higher than permit blocks in the Inner Sunset and Inner Richmond.

To establish a new permit parking area, a majority of parked vehicles should be

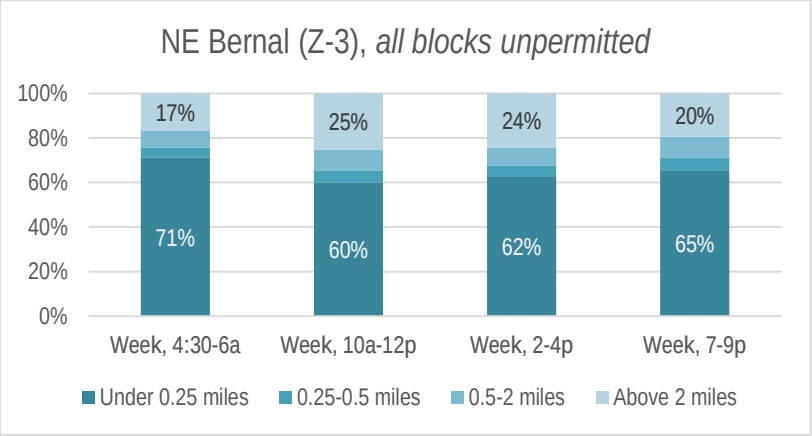
registered to non-residents. The study results indicate that during the daytime, no more than 23% of vehicles are registered two or more miles away. However, as mentioned previously, this data should be analyzed block-by-block to see if acute impacts are occurring on certain blocks, even if residents are the dominant consumers of parking neighborhood-wide.

Chart 24: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

Chart 25: Distance vehicles parked from registration address



► Source: SFMTA; Arup; NDS (2016)

These results suggest strong internal pressures for parking, as occupancy rates are high throughout the day and particularly overnight, while resident vehicles consume a large majority of parking spaces across all survey periods. Traditional permit parking which focuses on discouraging long-term parking by non-residents may not be the best tool for this neighborhood, but additional research is necessary before proposing any solutions for the area.

PERMIT AREA SNAPSHOTS

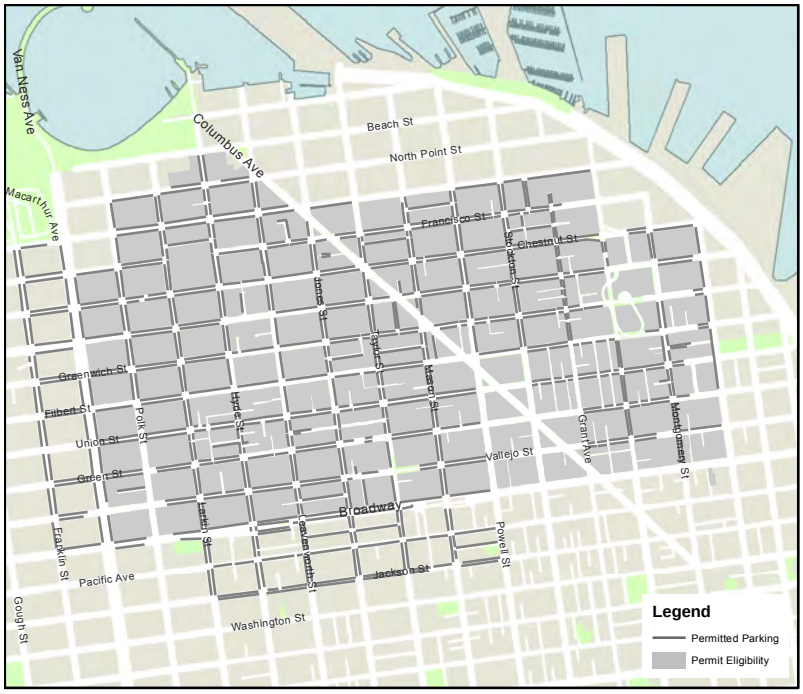
Residential Permit Parking Snapshot

SFMTA
Municipal
Transportation
Agency

Area A

North Beach
Russian Hill
Telegraph Hill

Established in 1978



Primary parking generators:

– Financial District
– Commercial businesses
– Visitor attractions

Spatial

- 5,760 permitted parking spaces
- 27.6 miles of blockface frontage
- 0.69 square miles

Demographics

- Population: 28,600
- Households: 15,200
- Density: 41,300 ppl per sq mile

Employment

- Employment (Jobs): 13,400
- Employed Residents: 16,400

Other

- Transit lines: 14 (2 Express)
- Child care centers: 13

7,960 Annual Permits	**1,559** Short-term Permits
Resident: 7,590	1-Day: 635
Business: 259	2-Week: 375
Commercial: 15	4-Week: 179
Med caregiver: 23	6-Week: 51
Child caregiver: 12	8-Week: 319
Student: 23	
Teacher: 38	
Fire Station: 0	

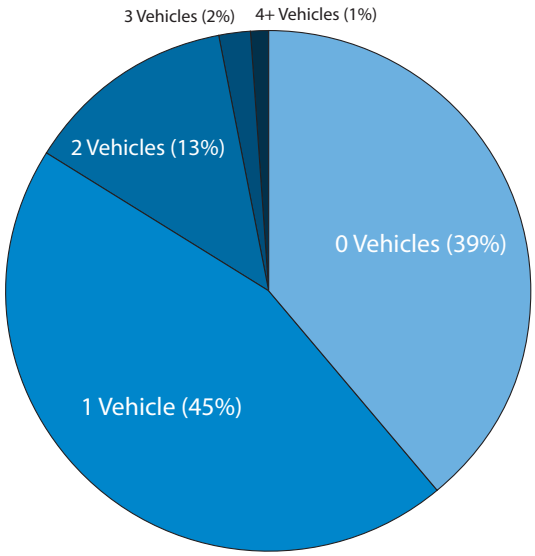
Permits (FY 2013-14)

- Permit Saturation: 138%
  (permits / spaces)

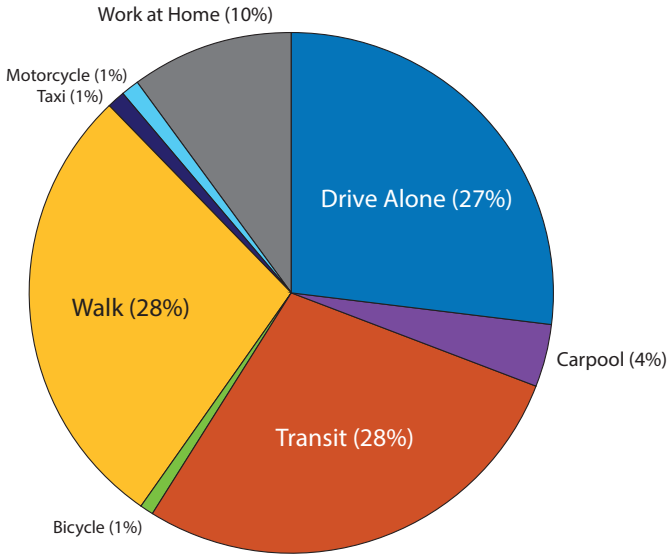
Citations (CY 2014)

- 15,800 residential overstay citations
- 2.7 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Occupancy Rates

	Time Period	Permitted blocks *Russian Hill*	Permitted blocks *Nob Hill*	Permitted blocks *Telegraph Hill*
Weekdays	4:30am – 6am	92%	99%	91%
	10am – 12pm	92%	92%	90%
	2pm – 4pm	88%	91%	90%
	7pm – 9pm	86%	98%	91%
Saturday	2pm – 4pm	84%	93%	91%
	7pm – 9pm	88%	99%	93%
Prevailing Residential Permit Parking effective hours: Monday-Saturday, 8am-9pm				

Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

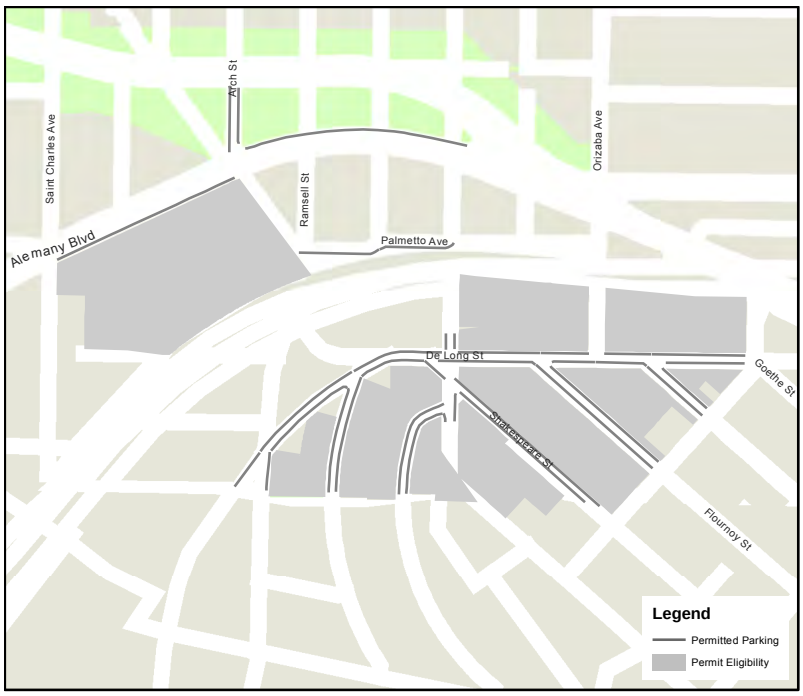
Area B

Ocean View

Established in 1977

Primary parking generator:

– Daly City BART



Spatial

- 420 permitted parking spaces
- 2.1 miles of blockface frontage
- 0.05 square miles

Demographics

- Population: 1,400
- Households: 300
- Density: 27,900 ppl per sq mile

Employment

- Employment (Jobs): 80
- Employed Residents: 830

Other

- Child care centers: 0

175 Annual Permits	**10** Short-term Permits
Resident: 170	1-Day: 5
Business: 0	2-Week: 4
Commercial: 0	4-Week: 0
Med caregiver: 0	6-Week: 0
Child caregiver: 0	8-Week: 1
Student: 5	
Teacher: 0	
Fire Station: 0	

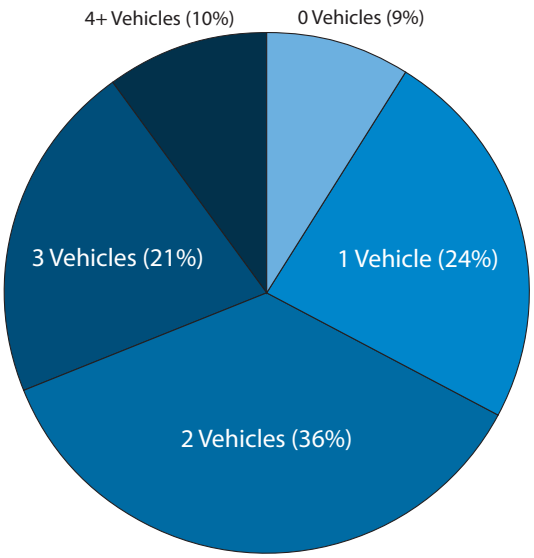
Permits (FY 2013-14)

- Permit Saturation: 42% (permits / spaces)

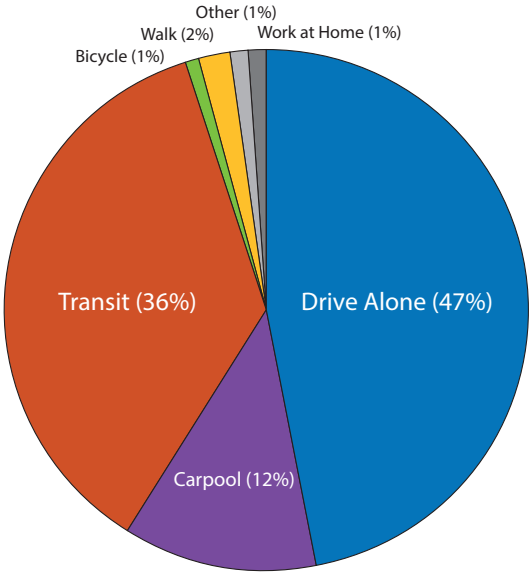
Citations (CY 2014)

- 480 residential overstay citations
- 1.1 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

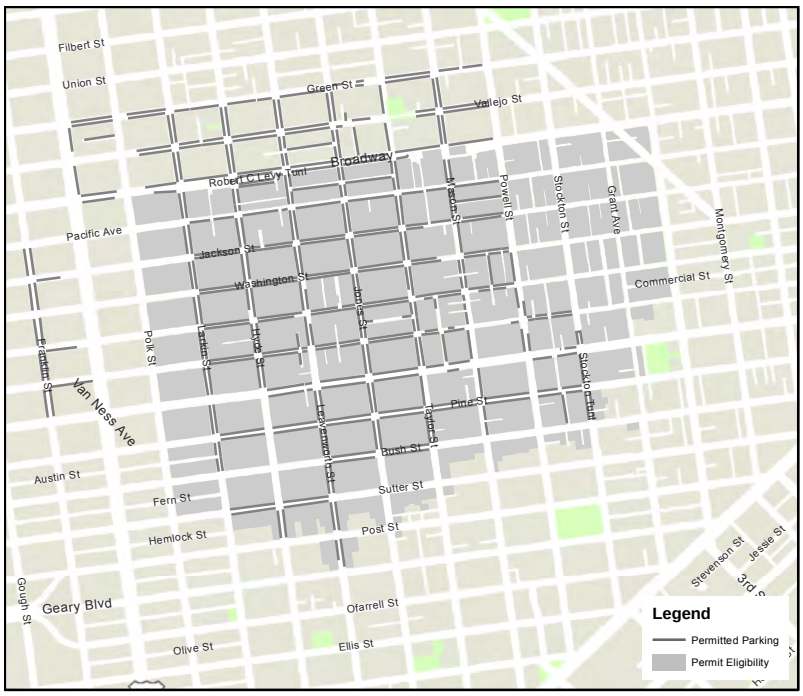
Area C

Chinatown
Nob Hill

Established in 1982

Primary parking generators:

– Financial District
– Employees of area businesses
– Visitor attractions



Spatial

- 3,630 permitted parking spaces
- -- miles of blockface frontage
- 0.50 square miles

Demographics

- Population: 37,000
- Households: 20,000
- Density: 74,000 ppl per sq mile

Employment

- Employment (Jobs): 29,400*
- Employed Residents: 18,200

Other

- Transit lines: -- (-- Rapid), Caltrain
- Child care centers: 15

5,534 Annual Permits	**591** Short-term Permits
Resident: 5,186	1-Day: 227
Business: 233	2-Week: 146
Commercial: 15	4-Week: 99
Med caregiver: 7	6-Week: 24
Child caregiver: 8	8-Week: 95
Student: 32	
Teacher: 53	
Fire Station: 0	

Permits (FY 2013-14)

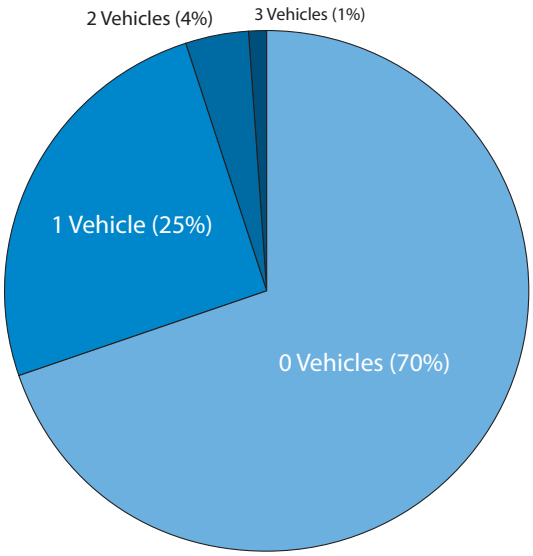
- Permit Saturation: 152% (permits / spaces)
- Permit Accounts: _____
- Households with Permits: __%
  - 1 permit: __
  - 2 permits: __
  - 3 permits: __
  - 4+ permits: __

Citations (CY 2014)

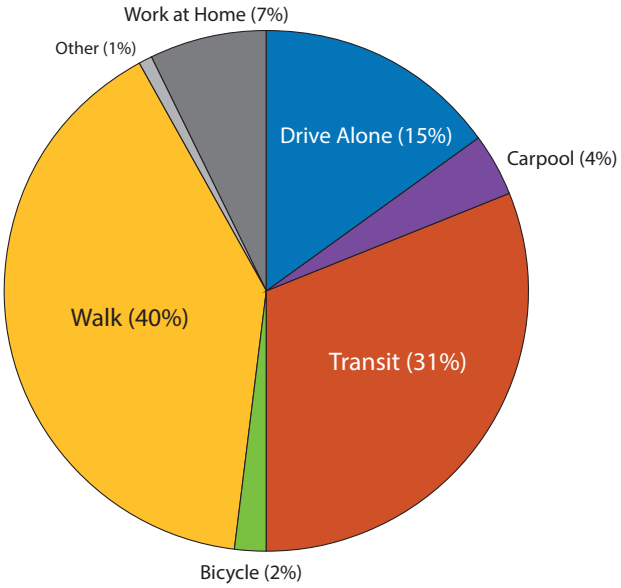
- 9,370 residential overstay citations
- 2.6 citations per space

*Unweighted – includes data from all Transportation Analysis Zones (TAZs) with some Area X eligibility

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area E

Parkmerced

Established in 1979

Primary parking generators:

– San Francisco State University
– Stonestown
– Muni Metro (M - Ocean View)

Spatial

- 2,230 permitted parking spaces
- 7.3 miles of blockface frontage
- 0.30 square miles

Demographics

- Population: 7,100
- Households: 3,000
- Density: 23,700 ppl per sq mile

Employment

- Employment (Jobs): 1,300
- Employed Residents: 4,400

Other

- Child care centers: 2

1,393 Annual Permits	**170** Short-term Permits
Resident: 1,171	1-Day: 57
Business: 0	2-Week: 49
Commercial: 1	4-Week: 18
Med caregiver: 0	6-Week: 6
Child caregiver: 0	8-Week: 40
Student: 221	
Teacher: 0	
Fire Station: 0	

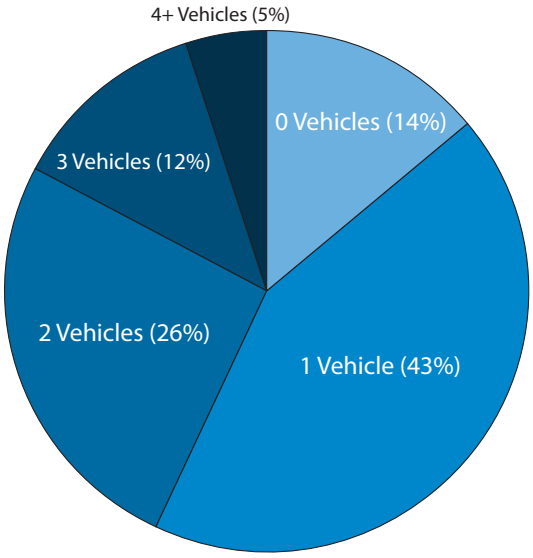
Permits (FY 2013-14)

- Permit Saturation: 63% (permits / spaces)

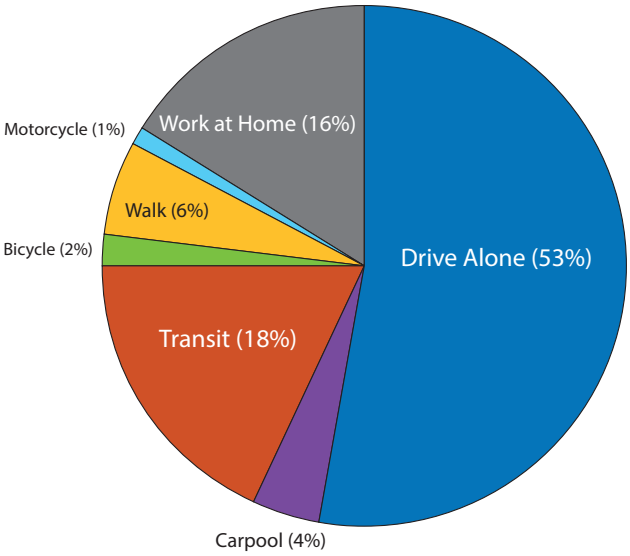
Citations (CY 2014)

- 5,410 residential overstay citations
- 2.4 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area F

Jordan Park
Laurel Heights
Presidio Heights

Established in 1979

Primary parking generators:

– Commercial businesses
– California Pacific Medical Cente

Spatial

- 2,480 permitted parking spaces
- 13.7 miles of permitted curb
- 0.32 square miles

Demographics

- Population: 6,200
- Households: 2,900
- Density: 19,100 ppl per sq mile

Employment

- Employment (Jobs): 5,100
- Employed Residents: 3,400

Other

- Transit lines: 8 (1 Rapid, 2 Express)
- Child care centers: 5

2,517 Annual Permits	**329** Short-term Permits
Resident: 2,185	1-Day: 189
Business: 226	2-Week: 43
Commercial: 4	4-Week: 33
Med caregiver: 15	6-Week: 7
Child caregiver: 28	8-Week: 57
Student: 14	
Teacher: 45	
Fire Station: 0	

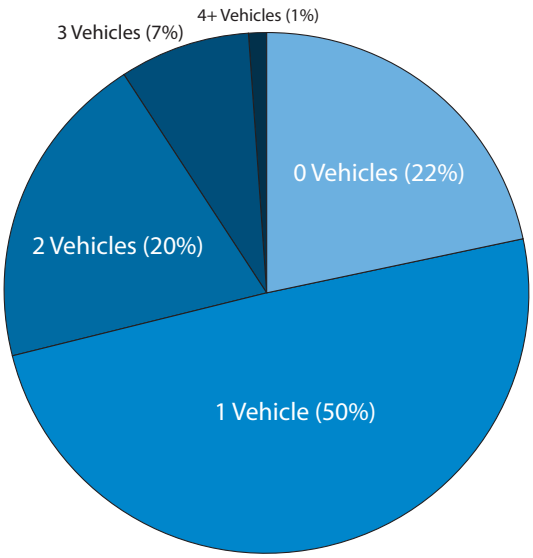
Permits (FY 2013-14)

- Permit Saturation: 101% (permits / spaces)

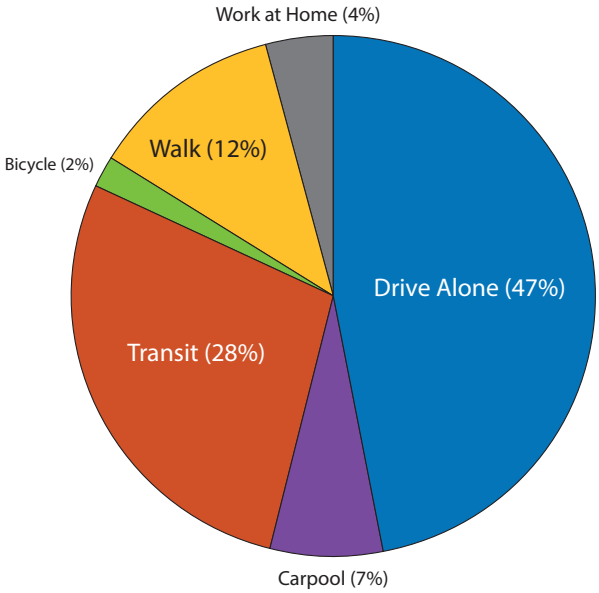
Citations (CY 2014)

- 6,870 residential overstay citations
- 2.8 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

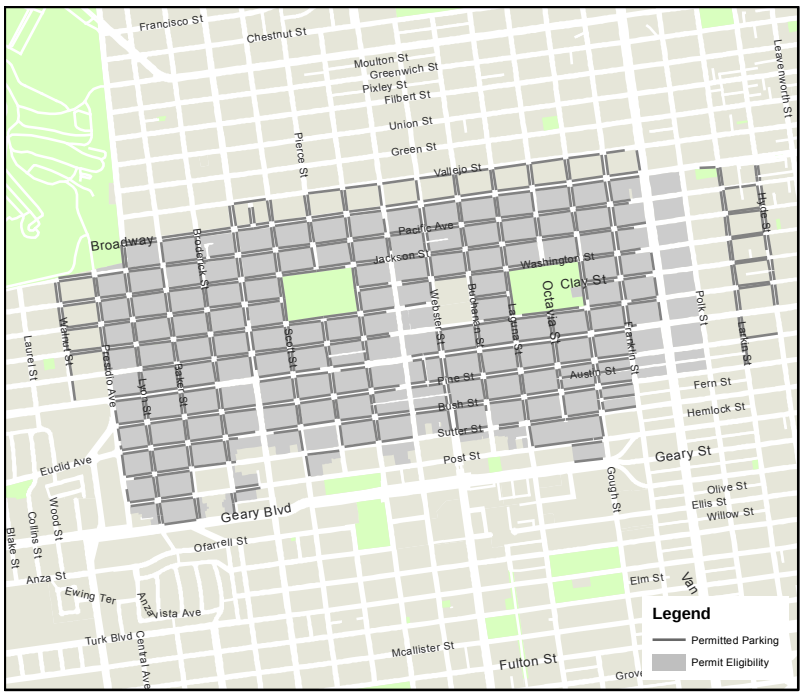
Area G

Pacific Height

Established in 1981

Primary parking generators:

– Commercial businesses
– California Pacific Medical Cente



Spatial

- 6,670 permitted parking spaces
- 35.9 miles of permitted curb
- 0.88 square miles

Demographics

- Population: 27,600
- Households: 15,800
- Density: 31,500 ppl per sq mile

Employment

- Employment (Jobs): 21,400
- Employed Residents: 18,300

Other

- Transit lines: 12 (1 Rapid, 1 Express)
- Child care centers: 19

8,276 Annual Permits	**1,555** Short-term Permits
Resident: 7,401	1-Day: 692
Business: 587	2-Week: 301
Commercial: 11	4-Week: 217
Med caregiver: 31	6-Week: 45
Child caregiver: 79	8-Week: 300
Student: 44	
Teacher: 123	
Fire Station: 0	

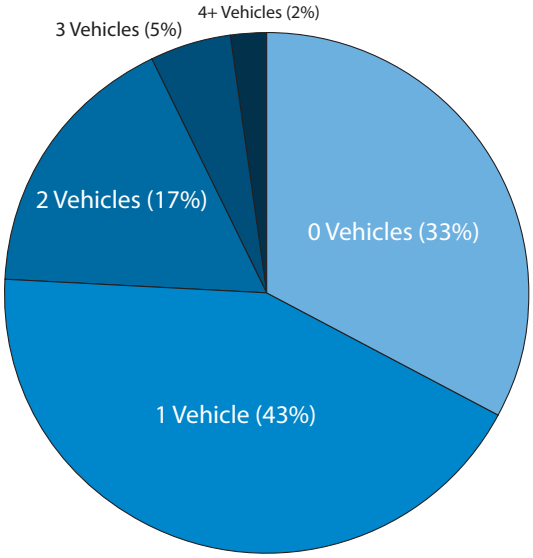
Permits (FY 2013-14)

- Permit Saturation: 124%
  (permits / spaces)

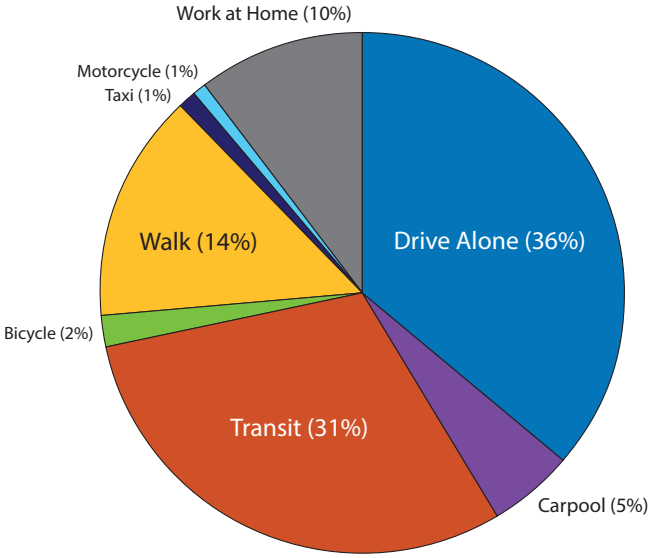
Citations (CY 2014)

- 12,600 residential overstay citations
- 1.9 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area H

Ingleside Terraces
Lakeside
Merced Heights

Established in 1979

Primary parking generators:

– San Francisco State University
– Stonestown
– Muni Metro (M - Ocean View)

Spatial

- 2,560 permitted parking spaces
- 12.0 miles of blockface frontage
- 0.35 square miles

Demographics

- Population: 3,900
- Households: 1,300
- Density: 11,000 ppl per sq mile

Employment

- Employment (Jobs): 1,900
- Employed Residents: 1,500

Other

- Child care centers: 6

509 Annual Permits	**13** Short-term Permits
Resident: 479	1-Day: 0
Business: 5	2-Week: 8
Commercial: 0	4-Week: 2
Med caregiver: 1	6-Week: 1
Child caregiver: 0	8-Week: 2
Student: 24	
Teacher: 0	
Fire Station: 0	

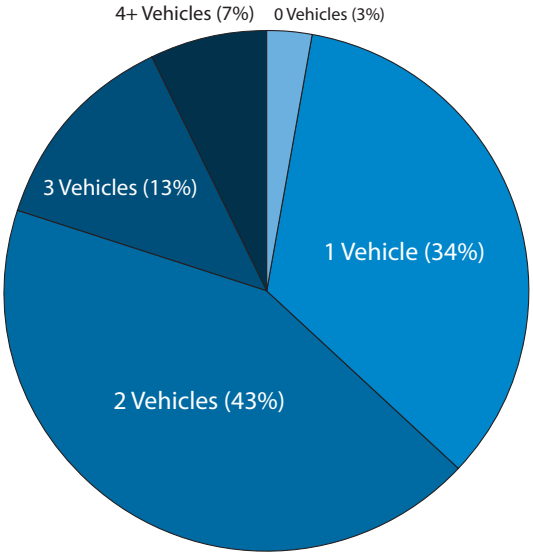
Permits (FY 2013-14)

- Permit Saturation: 20%
  (permits / spaces)

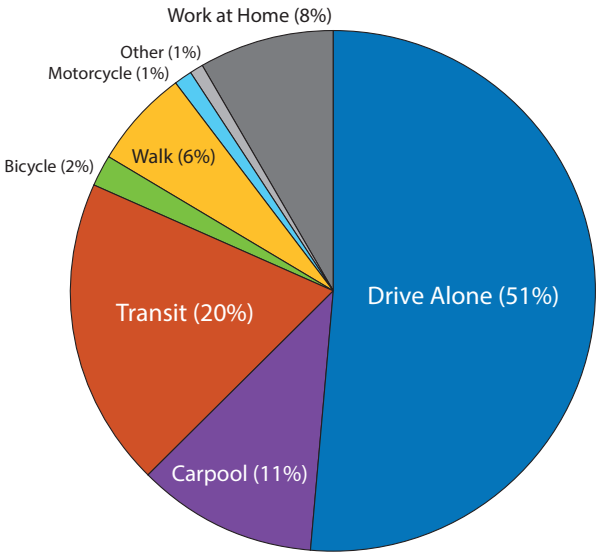
Citations (CY 2014)

- 1,250 residential overstay citations
- 0.5 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA Municipal Transportation Agency

Area I

The Mission

Established in 1979

Primary parking generators:

– Commercial businesses
– 16th St & 24th St BART

Spatial

- 1,790 permitted parking spaces
- 9.2 miles of blockface frontage
- 0.32 square miles

Demographics

- Population: 14,300
- Households: 5,400
- Density: 44,300 ppl per sq mile

Employment

- Employment (Jobs): 11,700*
- Employed Residents: 7,600

Other

- Transit lines: -- (-- Rapid), Caltrain
- Child care centers: 9

2,110 Annual Permits	**292** Short-term Permits
Resident: 1,974	1-Day: 152
Business: 68	2-Week: 58
Commercial: 9	4-Week: 32
Med caregiver: 0	6-Week: 6
Child caregiver: 12	8-Week: 44
Student: 2	
Teacher: 45	
Fire Station: 0	

Permits (FY 2013-14)

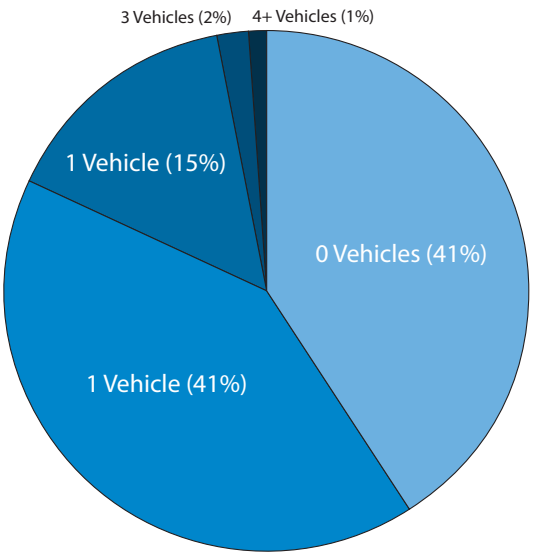
- Permit Saturation: 118% (permits / spaces)
- Permit Accounts: _____
- Households with Permits: __%
  - 1 permit: __
  - 2 permits: __
  - 3 permits: __
  - 4+ permits: __

Citations (CY 2014)

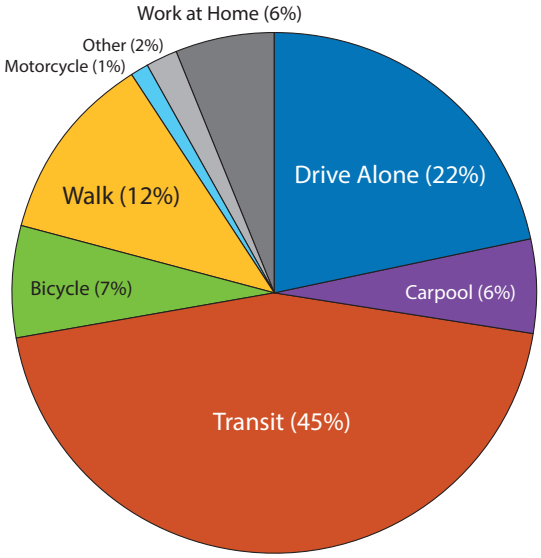
- 9,430 residential overstay citations
- 5.3 citations per space

*Unweighted – includes data from all Transportation Analysis Zones (TAZs) with some Area X eligibility

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



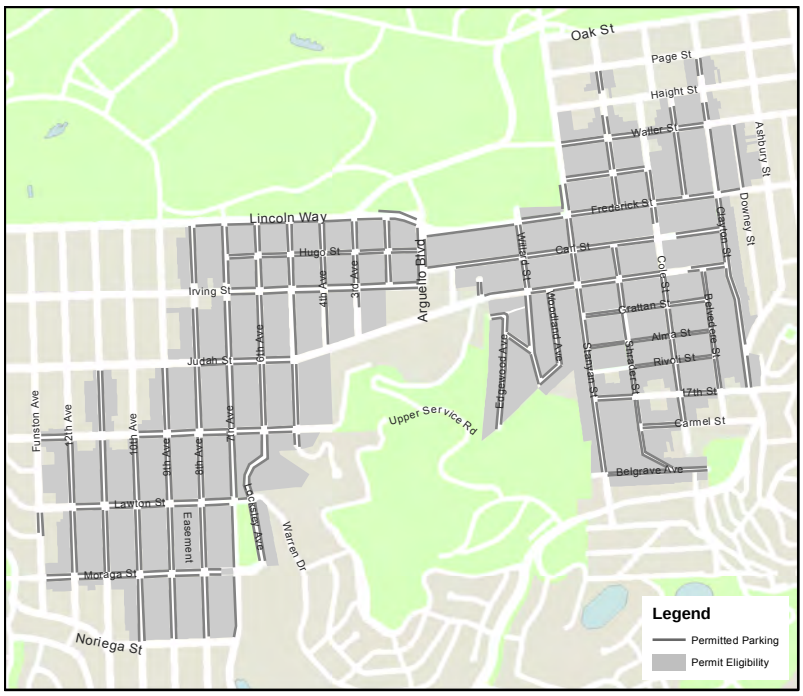
Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area J

Cole Valley
Haight Ashbury
Inner Sunset

Established in 1979



Primary parking generators:

– UCSF Parnassus Medical Center
– Muni Metro (N - Judah)
– Commerical businesses

Spatial

- 3,990 permitted parking spaces
- 21.5 miles of permitted curb
- 0.56 square miles

Demographics

- Population: 16,700
- Households: 7,600
- Density: 29,900 ppl per sq mile

Employment

- Employment (Jobs): 10,000
- Employed Residents: 9,900

Other

- Transit lines: 9 (1 Rapid, 1 Express)
- Child care centers: 16

4,622 Annual Permits	**572** Short-term Permits
Resident: 4,280	1-Day: 248
Business: 73	2-Week: 121
Commercial: 6	4-Week: 88
Med caregiver: 6	6-Week: 25
Child caregiver: 26	8-Week: 90
Student: 184	
Teacher: 43	
Fire Station: 4	

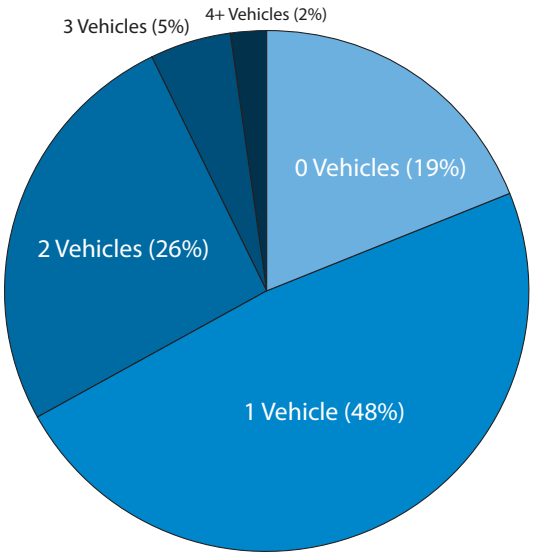
Permits (FY 2013-14)

- Permit Saturation: 116% (permits / spaces)

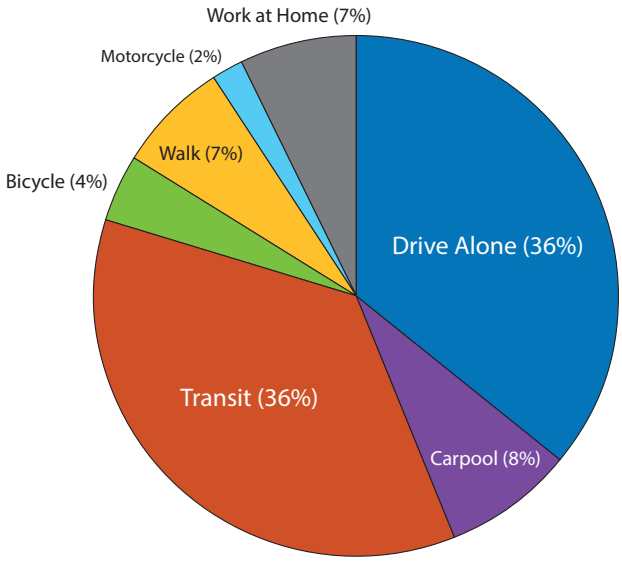
Citations (CY 2014)

- 7,290 residential overstay citations
- 1.8 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Occupancy Rates

	Time Period	Permitted blocks *Inner Sunset*	Unpermitted blocks *Inner Sunset*
Weekdays	4:30am – 6am	86%	84%
	10am – 12pm	80%	90%
	2pm – 4pm	83%	88%
	7pm – 9pm	88%	87%
Prevailing Residential Permit Parking effective hours: Monday-Friday, 8am-6pm			

Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

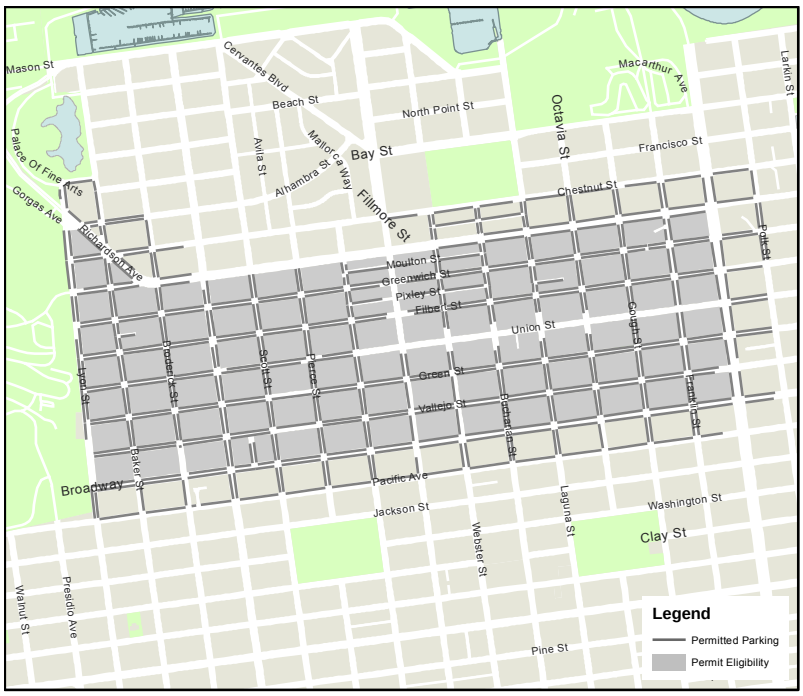
Area K

Cow Hollow
Pacific Height

Established in 1981

Primary parking generators:

– Commercial businesses



Spatial

- 4,690 permitted parking spaces
- 26.6 miles of permitted curb
- 0.50 square miles

Demographics

- Population: 12,500
- Households: 7,200
- Density: 24,800 ppl per sq mile

Employment

- Employment (Jobs): 10,000
- Employed Residents: 8,800

Other

- Transit lines: 10 (1 Rapid, 1 Express)
- Child care centers: 9

4,324 Annual Permits	**795** Short-term Permits
Resident: 3,805	1-Day: 356
Business: 408	2-Week: 138
Commercial: 10	4-Week: 84
Med caregiver: 9	6-Week: 30
Child caregiver: 29	8-Week: 187
Student: 7	
Teacher: 47	
Fire Station: 9	

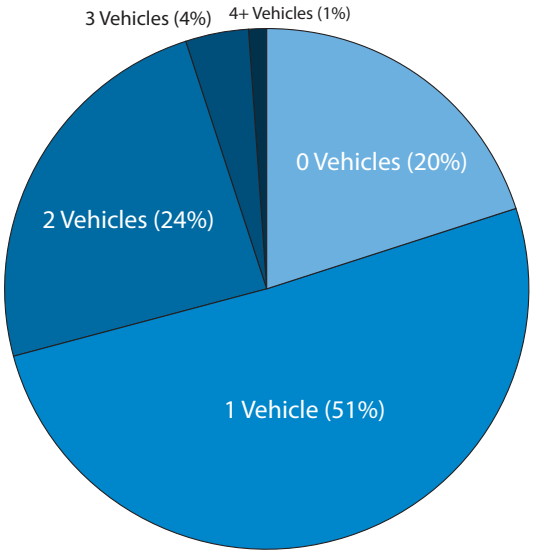
Permits (FY 2013-14)

- Permit Saturation: 92%
  (permits / spaces)

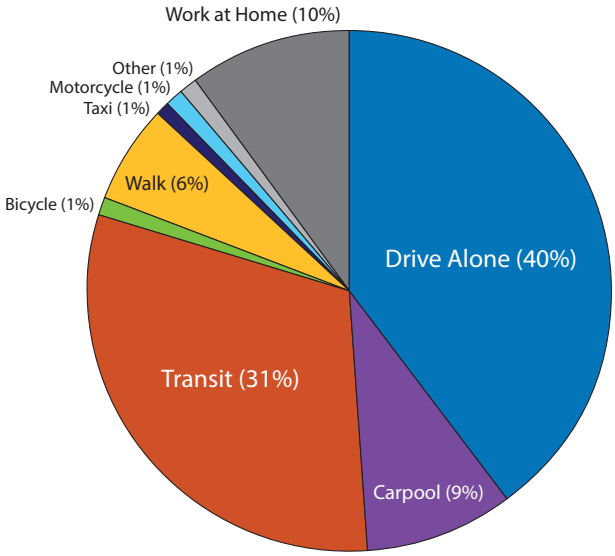
Citations (CY 2014)

- 9,600 residential overstay citations
- 2.0 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area L

Lone Mountain

Established in 1981

Primary parking generators:

– University of San Francisco (USF)
– St. Mary's Medical Center
– Commercial businesses

Spatial

- 2,290 permitted parking spaces
- 12.8 miles of permitted curb
- 0.37 square miles

Demographics

- Population: 11,300
- Households: 4,400
- Density: 30,500 ppl per sq mile

Employment

- Employment (Jobs): 7,000
- Employed Residents: 6,300

Other

- Transit lines: 10 (2 Rapid)
- Child care centers: 3

2,115 Annual Permits	**223** Short-term Permits
Resident: 1,982	1-Day: 110
Business: 62	2-Week: 48
Commercial: 9	4-Week: 18
Med caregiver: 1	6-Week: 8
Child caregiver: 10	8-Week: 39
Student: 51	
Teacher: 0	
Fire Station: 0	

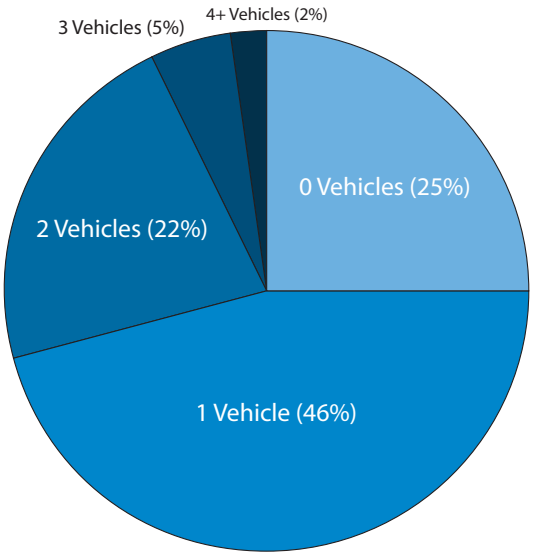
Permits (FY 2013-14)

- Permit Saturation: 93% (permits / spaces)

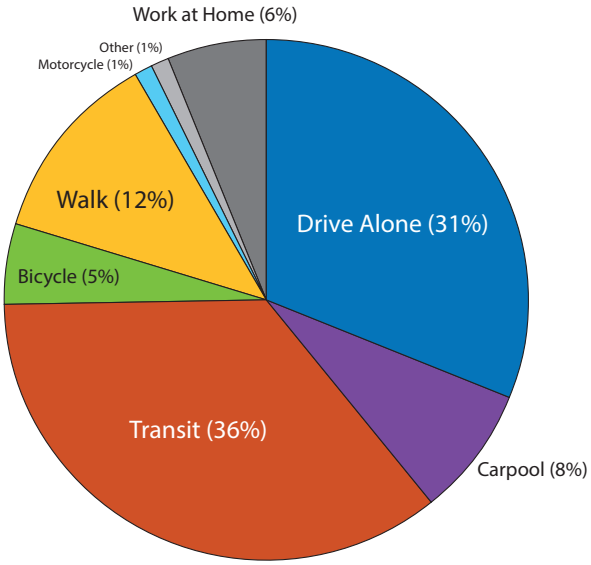
Citations (CY 2014)

- 4,800 residential overstay citations
- 2.1 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area M

The Marina

Established in 1985

Primary parking generators:

– Commercial businesses

Spatial

- 3,220 permitted parking spaces
- 20.6 miles of permitted curb
- 0.44 square miles

Demographics

- Population: 12,500
- Households: 7,600
- Density: 28,600 ppl per sq mile

Employment

- Employment (Jobs): 7,500
- Employed Residents: 8,100

Other

- Transit lines: -- (-- Rapid), Caltrain
- Child care centers: 7

3,823 Annual Permits	**771** Short-term Permits
Resident: 3,614	1-Day: 364
Business: 134	2-Week: 153
Commercial: 12	4-Week: 73
Med caregiver: 11	6-Week: 19
Child caregiver: 27	8-Week: 162
Student: 9	
Teacher: 16	
Fire Station: 0	

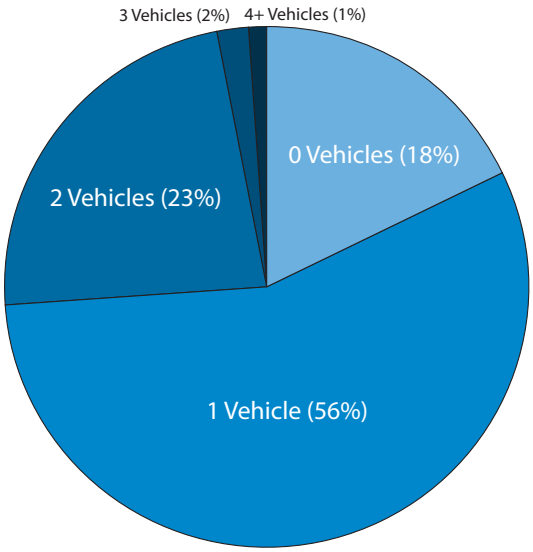
Permits (FY 2013-14)

- Permit Saturation: 119% (permits / spaces)

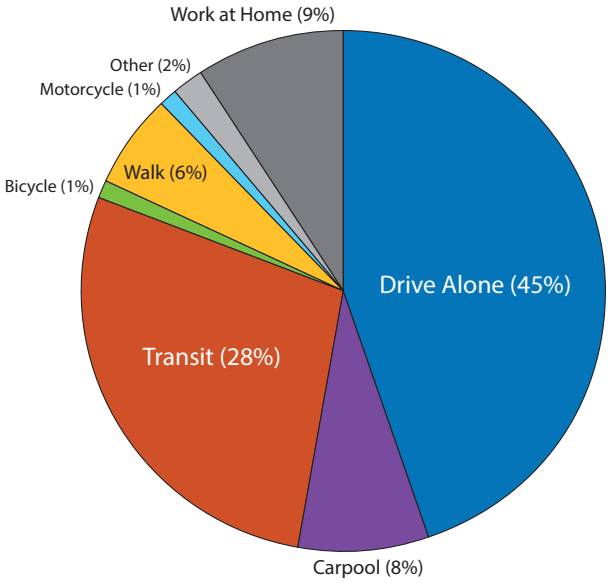
Citations (CY 2014)

- 5,880 residential overstay citations
- 1.8 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

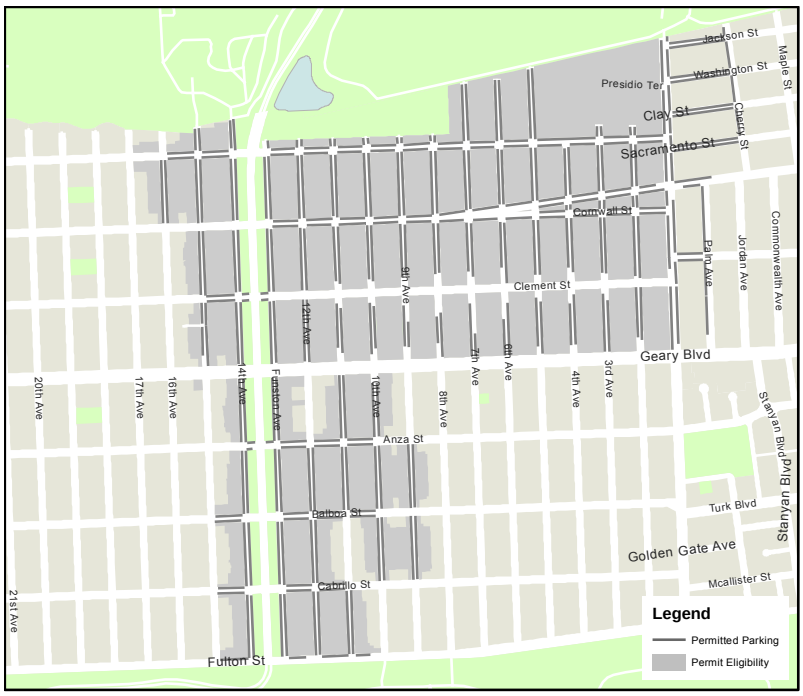
Area N

Inner Richmond

Established in 1986

Primary parking generators:

– Commercial businesses
– Muni (Geary lines, express buses)



Spatial

- 3,300 permitted parking spaces
- 20.1 miles of permitted curb
- 0.56 square miles

Demographics

- Population: 14,000
- Households: 5,900
- Density: 25,100 ppl per sq mile

Employment

- Employment (Jobs): 6,200
- Employed Residents: 7,300

Other

- Transit lines: 16 (3 Rapid, 5 Express)
- Child care centers: 19

3,543 Annual Permits	**401** Short-term Permits
Resident: 3,180	1-Day: 184
Business: 240	2-Week: 82
Commercial: 7	4-Week: 52
Med caregiver: 4	6-Week: 10
Child caregiver: 19	8-Week: 73
Student: 25	
Teacher: 68	
Fire Station: 0	

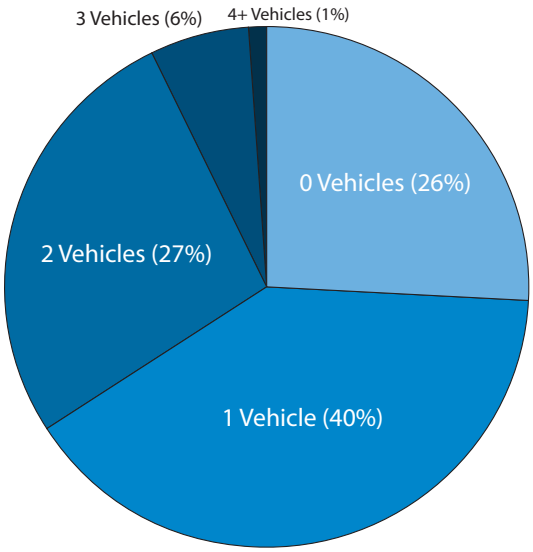
Permits (FY 2013-14)

- Permit Saturation: 107%
  (permits / spaces)

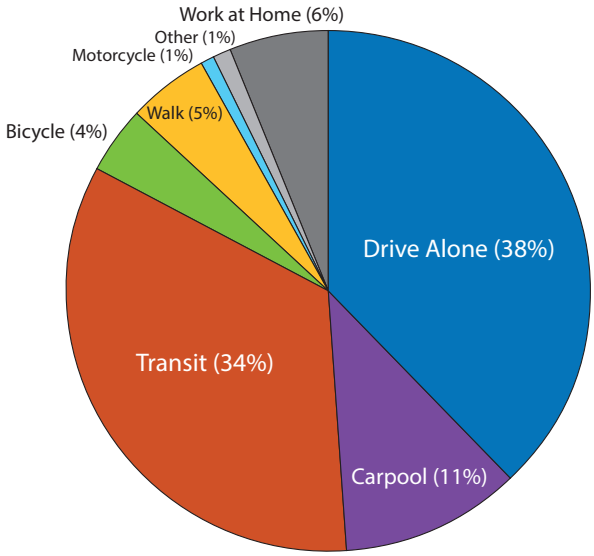
Citations (CY 2014)

- 5,860 residential overstay citations
- 1.8 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Occupancy Rates

	Time Period	Permitted blocks *Inner Richmond*	Unpermitted blocks *Inner Richmond*
Weekdays	4:30am – 6am	95%	96%
	10am – 12pm	86%	95%
	2pm – 4pm	84%	94%
	7pm – 9pm	89%	96%
Prevailing Residential Permit Parking effective hours: Monday-Friday, 9am-6pm			

Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

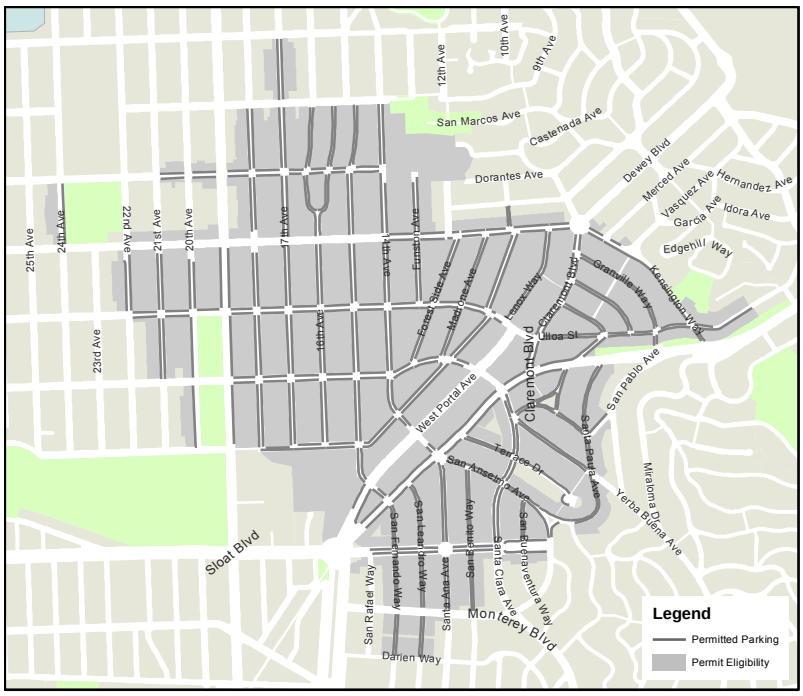
Area O

Parkside
St. Francis Wood
West Portal

Established in 1986

Primary parking generators:

– Muni Metro (K, L, M lines)
– Commerical businesses



Spatial

- 4,700 permitted parking spaces
- 22.5 miles of blockface frontage
- 0.64 square miles

Demographics

- Population: 8,300
- Households: 3,000
- Density: 12,900 ppl per sq mile

Employment

- Employment (Jobs): 5,100
- Employed Residents: 4,000

Other

- Child care centers: 10

1,876 Annual Permits	**109** Short-term Permits
Resident: 1,651	1-Day: 63
Business: 167	2-Week: 18
Commercial: 10	4-Week: 10
Med caregiver: 1	6-Week: 5
Child caregiver: 0	8-Week: 13
Student: 9	
Teacher: 38	
Fire Station: 0	

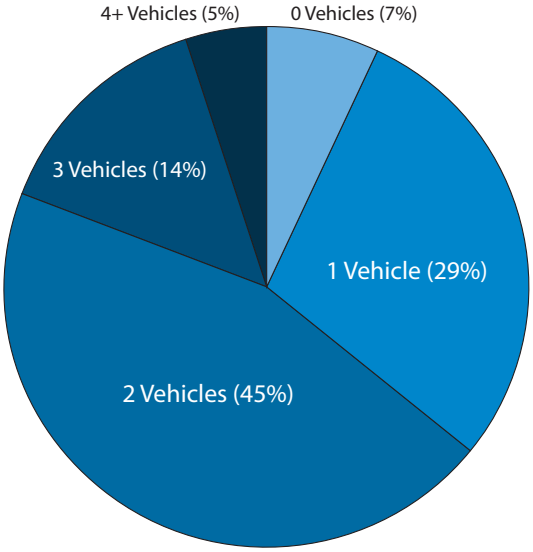
Permits (FY 2013-14)

- Permit Saturation: 40%
  (permits / spaces)

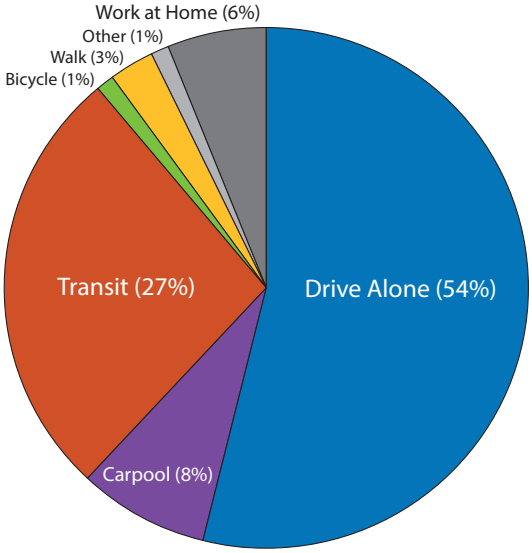
Citations (CY 2014)

- 3,130 residential overstay citations
- 0.7 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area P

Anza Vista
Western Addition

Established in 1986

Primary parking generators:

– Kaiser Permanente Medical Center
– University of San Francisco (USF)
– Commercial businesses

Spatial

- 1,600 permitted parking spaces
- 9.9 miles of permitted curb
- 0.21 square miles

Demographics

- Population: 6,700
- Households: 3,400
- Density: 31,700 ppl per sq mile

Employment

- Employment (Jobs): 3,300
- Employed Residents: 4,700

Other

- Transit lines: 8 (2 Rapid, 1 Express)
- Child care centers: 6

1,348 Annual Permits	**152** Short-term Permits
Resident: 1,102	1-Day: 49
Business: 6	2-Week: 49
Commercial: 1	4-Week: 19
Med caregiver: 0	6-Week: 5
Child caregiver: 7	8-Week: 30
Student: 8	
Teacher: 224	
Fire Station: 0	

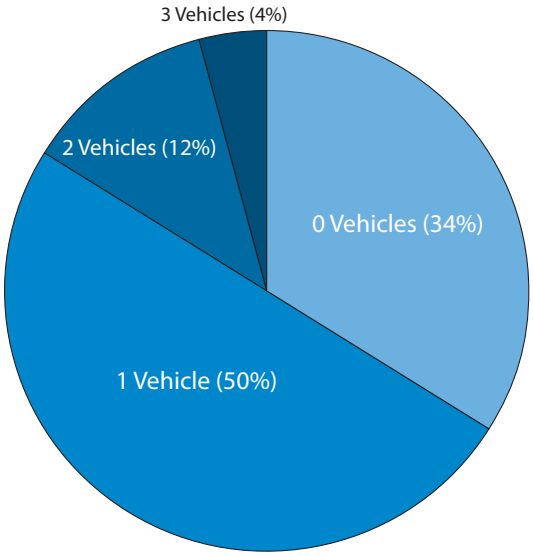
Permits (FY 2013-14)

- Permit Saturation: 85%
  (permits / spaces)

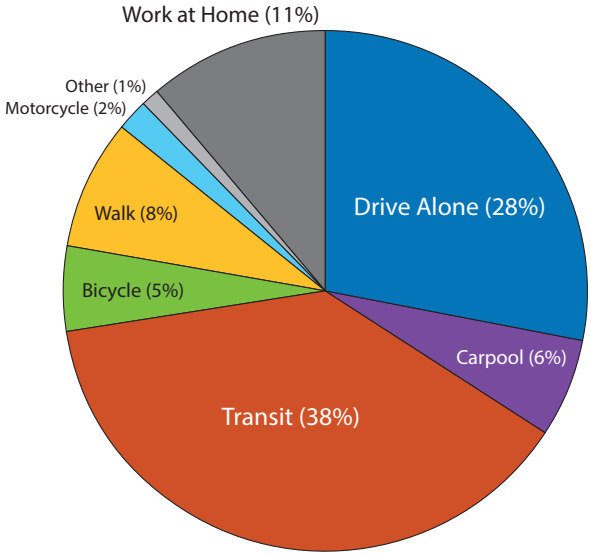
Citations (CY 2014)

- 3,550 residential overstay citations
- 2.2 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal
Transportation
Agency

Area Q

Alamo Square
North of Panhandle
Western Addition

Established in 2015

Primary parking generators:

– Commercial businesses
– Muni Rapid (5 - Fulton)

Spatial

- 2,900 permitted parking spaces
- 14.2 miles of permitted curb
- 0.37 square miles

Demographics

- Population: 14,800
- Households: 7,100
- Density: 40,300 ppl per sq mile

Employment

- Employment (Jobs): 4,300
- Employed Residents: 8,500

Other

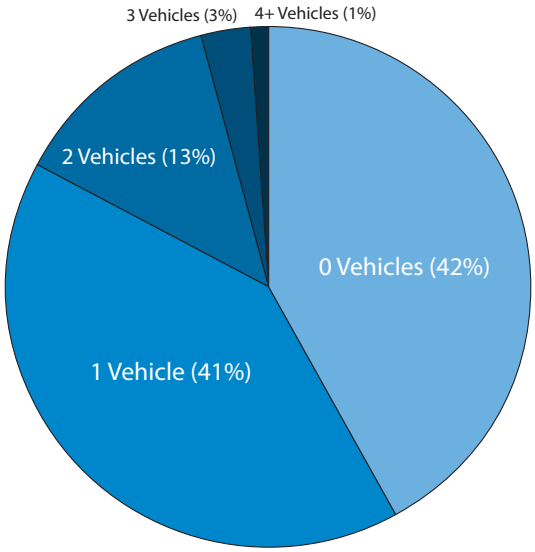
- Transit lines: 8 (1 Rapid)
- Child care centers: 7

3,347
Annual Permits

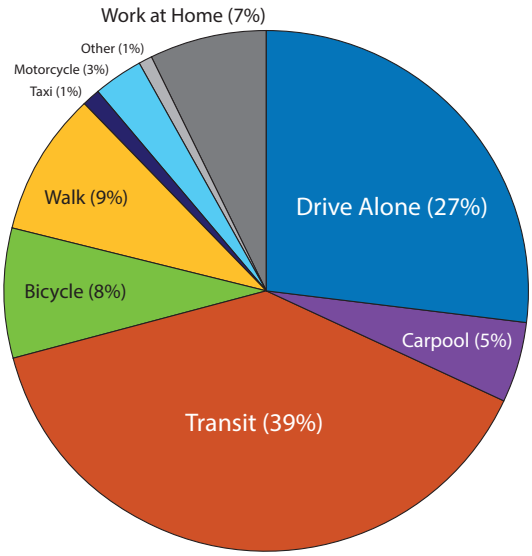
Permits (FY 2015-16)

- Permit Saturation: 116%
  (permits / spaces)

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area R

Civic Center
Hayes Valley
Western Addition

Established in 1987

Primary parking generators:

– Civic Center
– Commercial businesses

Spatial

- 1,090 permitted parking spaces
- 5.6 miles of permitted curb
- 0.19 square miles

Demographics

- Population: 5,700
- Households: 2,900
- Density: 29,700 ppl per sq mile

Employment

- Employment (Jobs): 10,800
- Employed Residents: 2,400

Other

- Transit lines: 8 (2 Rapid)
- Child care centers: 3

653 Annual Permits	**74** Short-term Permits
Resident: 597	1-Day: 29
Business: 32	2-Week: 19
Commercial: 0	4-Week: 14
Med caregiver: 0	6-Week: 3
Child caregiver: 1	8-Week: 9
Student: 1	
Teacher: 22	
Fire Station: 0	

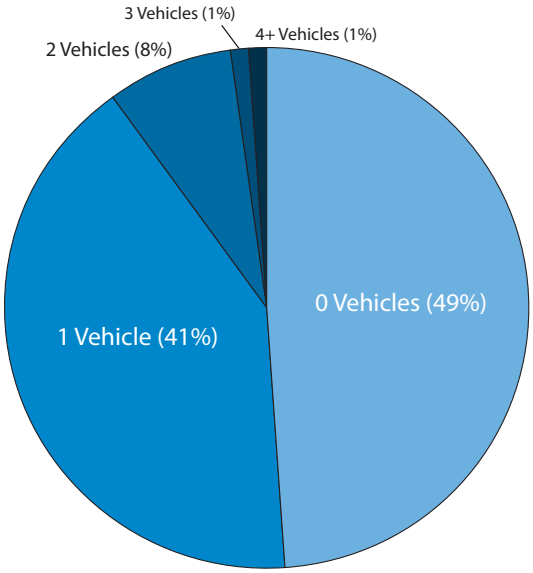
Permits (FY 2013-14)

- Permit Saturation: 60% (permits / spaces)

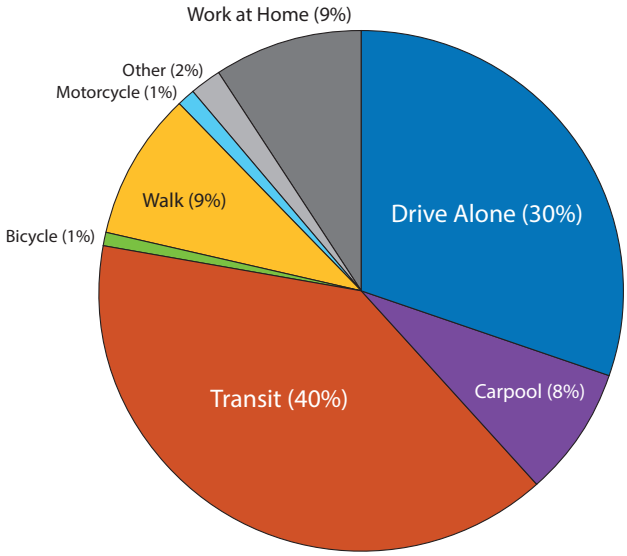
Citations (CY 2014)

- 3,980 residential overstay citations
- 3.7 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



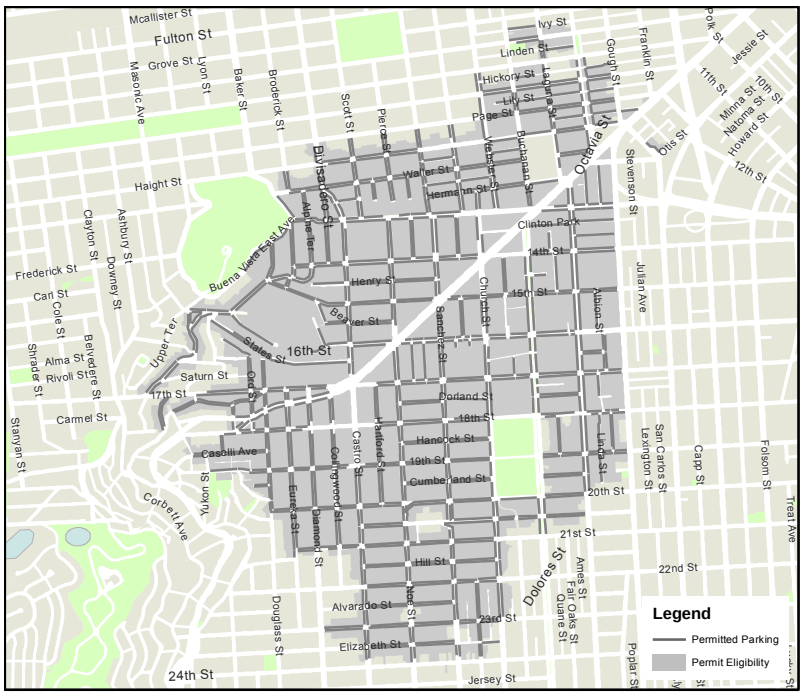
Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area S

The Castro | Duboce Triangle
Liberty Hill | Mission Dolores
Noe Valley | Upper Market

Established in 1988



Primary parking generators:

– Muni Metro (J, K, L, M, N lines)
– Commercial businesses

Spatial

- 9,310 permitted parking spaces
- 46.6 miles of blockface frontage
- 1.33 square miles

Demographics

- Population: 38,200
- Households: 20,200
- Density: 28,700 ppl per sq mile

Employment

- Employment (Jobs): 13,600
- Employed Residents: 25,400

Other

- Transit lines: 15 (5 Rapid)
- Child care centers: 23

11,317 Annual Permits	**2,360** Short-term Permits
Resident: 10,670	1-Day: 1,064
Business: 395	2-Week: 615
Commercial: 22	4-Week: 280
Med caregiver: 13	6-Week: 76
Child caregiver: 77	8-Week: 325
Student: 38	
Teacher: 102	
Fire Station: 0	

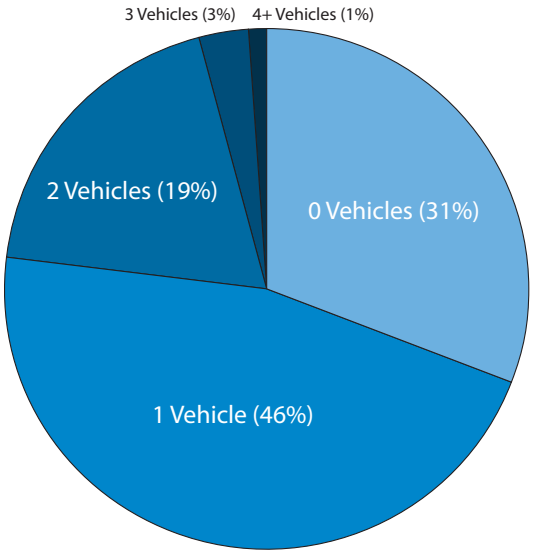
Permits (FY 2013-14)

- Permit Saturation: 122%
  (permits / spaces)

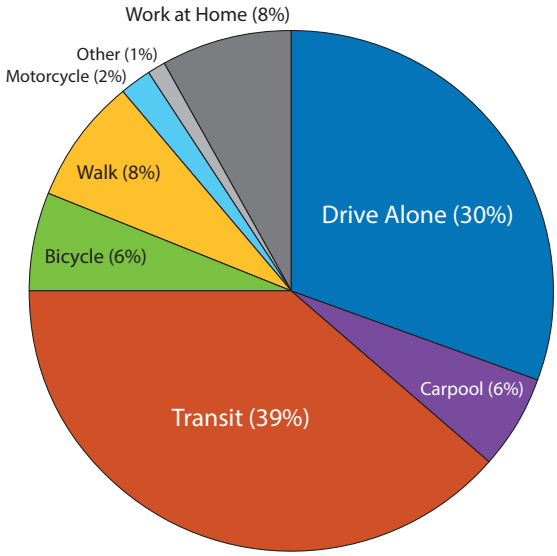
Citations (CY 2014)

- 16,450 residential overstay citations
- 1.8 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

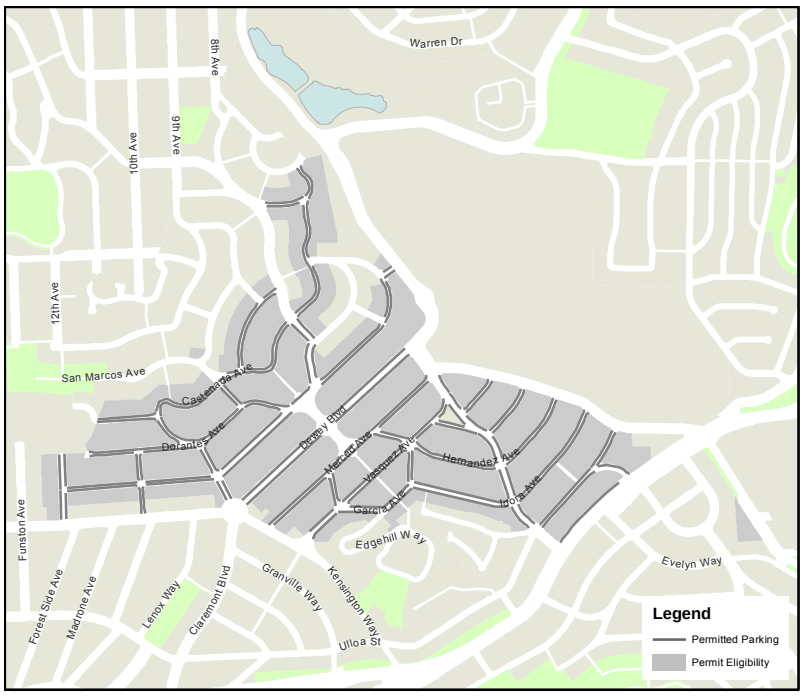
Area T

Forest Hill
Laguna Honda

Established in 1988

Primary parking generators:

– Forest Hill Muni Metro
– Laguna Honda Hospital



Spatial

- 1,400 permitted parking spaces
- 8.3 miles of blockface frontage
- 0.20 square miles

Demographics

- Population: 2,200
- Households: 850
- Density: 11,200 ppl per sq mile

Employment

- Employment (Jobs): 700
- Employed Residents: 1,100

Other

- Child care centers: 2

361 Annual Permits	**14** Short-term Permits
Resident: 360	1-Day: 0
Business: 0	2-Week: 4
Commercial: 0	4-Week: 7
Med caregiver: 0	6-Week: 0
Child caregiver: 0	8-Week: 3
Student: 1	
Teacher: 0	
Fire Station: 0	

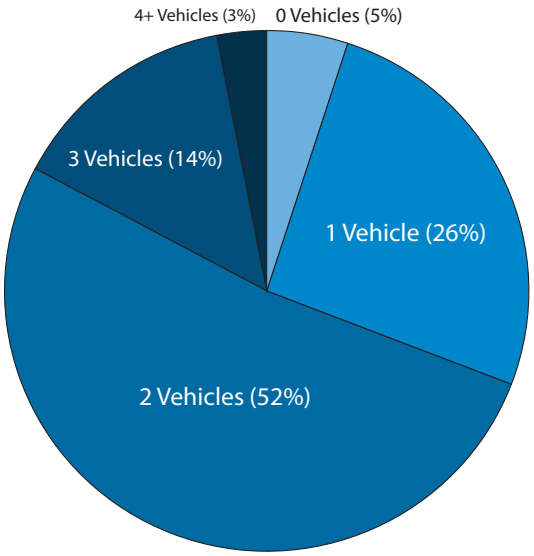
Permits (FY 2013-14)

- Permit Saturation: 26% (permits / spaces)

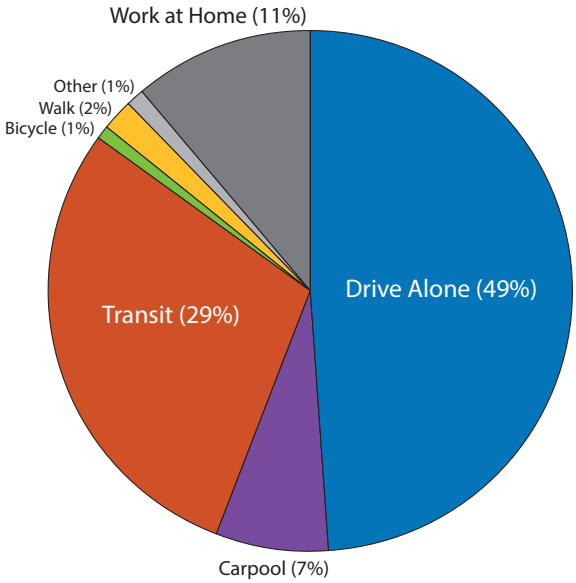
Citations (CY 2014)

- 670 residential overstay citations
- 0.5 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area U

South of Market

Established in 1990

Primary parking generators:

– Downtown office
– Commercial businesses
– Various transit services

Spatial

- 1,160 permitted parking spaces
- 5.7 miles of blockface frontage
- 0.32 square miles

Demographics

- Population: 6,600
- Households: 2,900
- Density: 20,800 ppl per sq mile

Employment

- Employment (Jobs): 21,500
- Employed Residents: 2,900

Other

- Child care centers: 1

1,369 Annual Permits	**236** Short-term Permits
Resident: 1,171	1-Day: 114
Business: 165	2-Week: 58
Commercial: 18	4-Week: 34
Med caregiver: 1	6-Week: 7
Child caregiver: 1	8-Week: 23
Student: 7	
Teacher: 6	
Fire Station: 0	

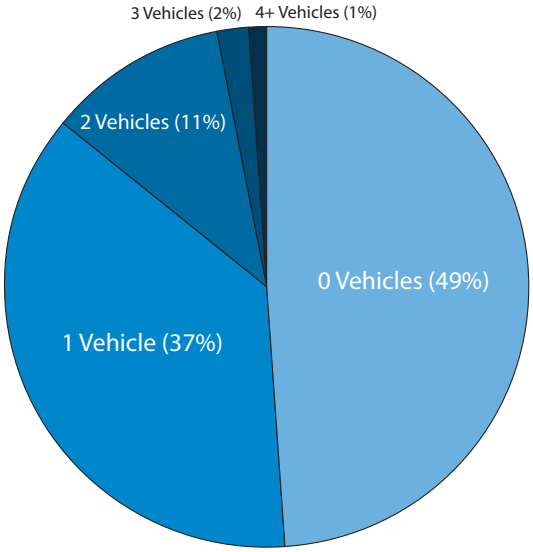
Permits (FY 2013-14)

- Permit Saturation: 118% (permits / spaces)

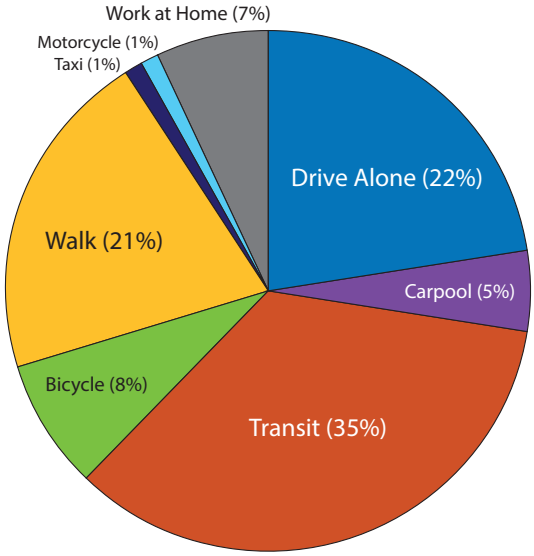
Citations (CY 2014)

- 7,730 residential overstay citations
- 6.7 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



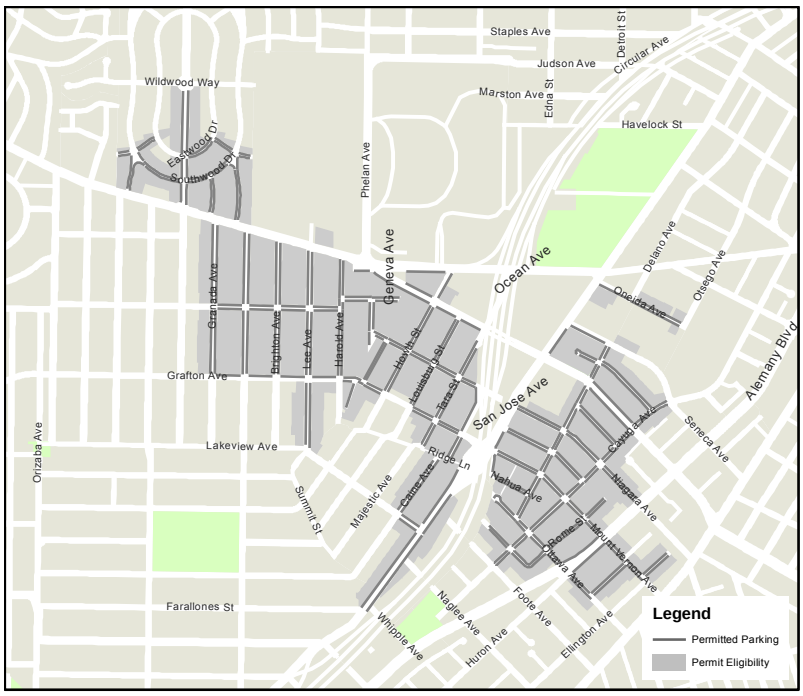
Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area V

Ingleside
Outer Mission
Westwood Park

Established in 1990



Primary parking generators:

– Balboa Park BART
– City College of San Francisco
– Commericial businesses

Spatial

- 2,290 permitted parking spaces
- 12.8 miles of blockface frontage
- 0.32 square miles

Demographics

- Population: 8,100
- Households: 2,300
- Density: 25,600 ppl per sq mile

Employment

- Employment (Jobs): 2,600
- Employed Residents: 3,800

Other

- Child care centers: 10

1,316 Annual Permits	**38** Short-term Permits
Resident: 1,266	1-Day: 14
Business: 8	2-Week: 11
Commercial: 0	4-Week: 4
Med caregiver: 0	6-Week: 1
Child caregiver: 0	8-Week: 8
Student: 26	
Teacher: 16	
Fire Station: 0	

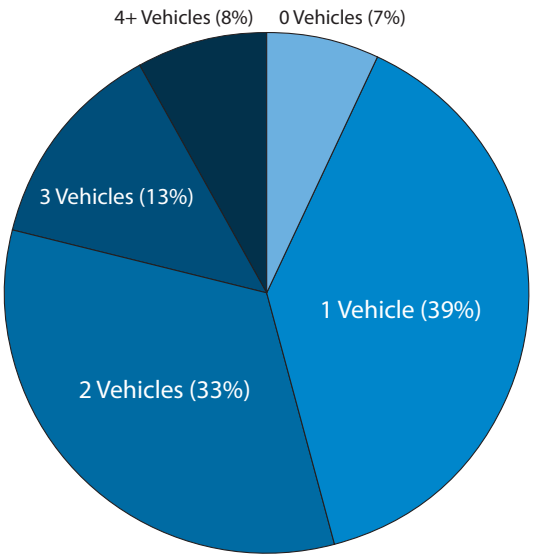
Permits (FY 2013-14)

- Permit Saturation: 57%
  (permits / spaces)

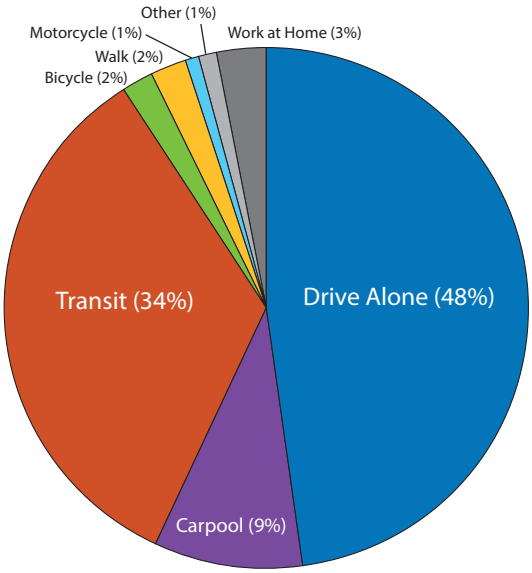
Citations (CY 2014)

- 2,160 residential overstay citations
- 0.9 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

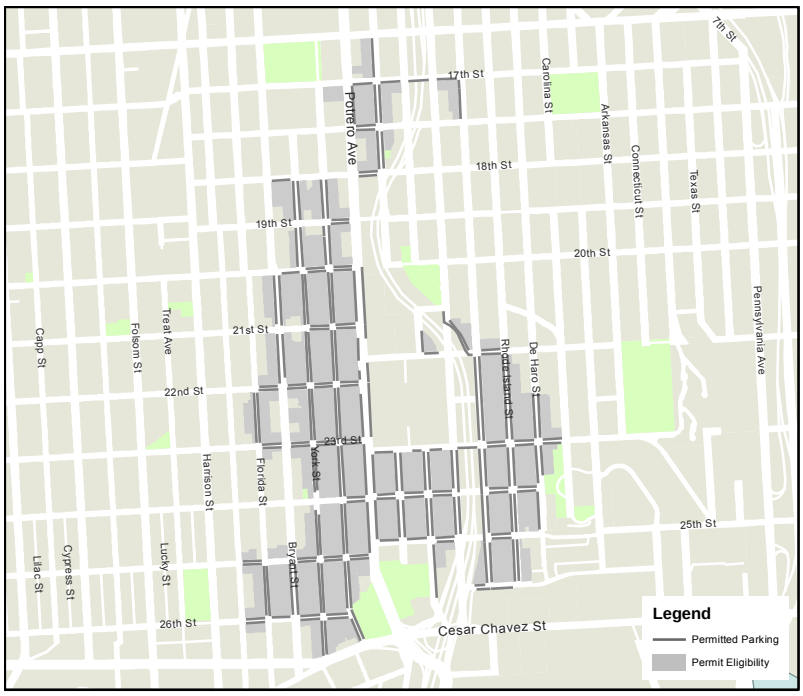
Area W

Potrero
The Mission

Established in ----

Primary parking generators:

– San Francisco General Hospital
– 24th St BART
– Commercial businesses



Spatial

- 2,610 permitted parking spaces
- 11.5 miles of blockface frontage
- 0.25 square miles

Demographics

- Population: 9,000
- Households: 3,100
- Density: 36,000 ppl per sq mile

Employment

- Employment (Jobs): 17,200*
- Employed Residents: 4,800

Other

- Transit lines: -- (-- Rapid), Caltrain
- Child care centers: 6

2,106 Annual Permits	**194** Short-term Permits
Resident: 2,008	1-Day: 77
Business: 45	2-Week: 46
Commercial: 9	4-Week: 24
Med caregiver: 0	6-Week: 9
Child caregiver: 3	8-Week: 38
Student: 13	
Teacher: 28	
Fire Station: 0	

Permits (FY 2013-14)

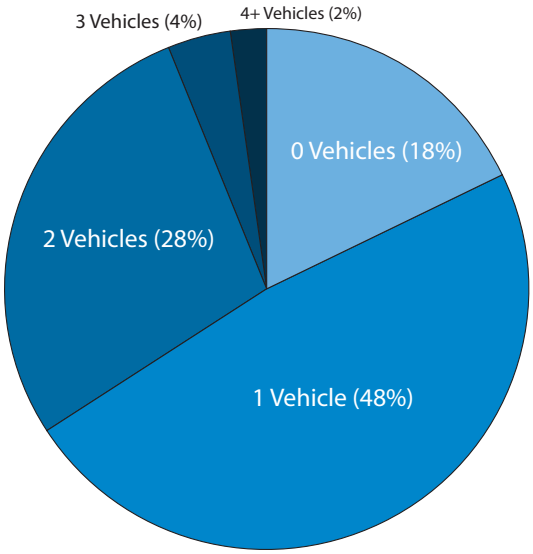
- Permit Saturation: 81% (permits / spaces)
- Permit Accounts: _____
- Households with Permits: __%
  - 1 permit: __
  - 2 permits: __
  - 3 permits: __
  - 4+ permits: __

Citations (CY 2014)

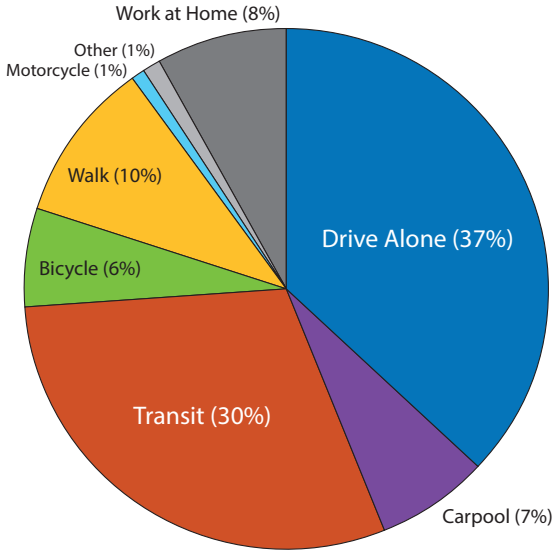
- 8,200 residential overstay citations
- 3.1 citations per space

*Unweighted – includes data from all Transportation Analysis Zones (TAZs) with some Area X eligibility

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal
Transportation
Agency

Area X

Dogpatch
Potrero Hill

Established in 2000

Primary parking generators:

– 22nd St Caltrain
– Muni Metro (T - Third Street)
– Commercial & industrial businesses

Spatial

- 1,530 permitted parking spaces
- 5.3 miles of blockface frontage
- 0.15 square miles

Demographics

- Population: 3,600
- Households: 1,600
- Density: 23,200 ppl per sq mile

Employment

- Employment (Jobs): 8,400
- Employed Residents: 1,800

Other

- Child care centers: 1

929 Annual Permits	**68** Short-term Permits
Resident: 889	1-Day: 30
Business: 29	2-Week: 14
Commercial: 7	4-Week: 13
Med caregiver: 1	6-Week: 2
Child caregiver: 2	8-Week: 9
Student: 1	
Teacher: 0	
Fire Station: 0	

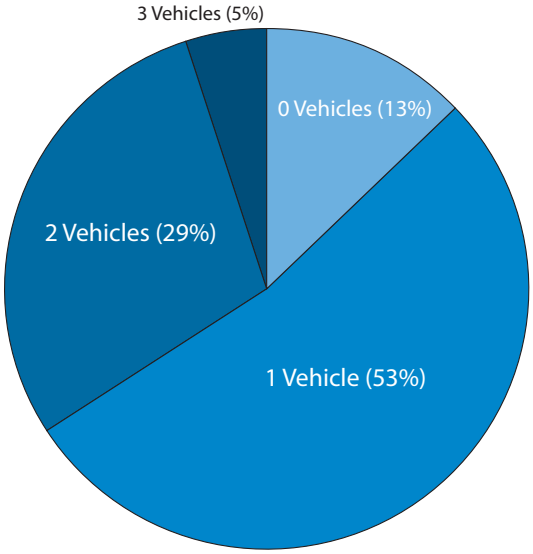
Permits (FY 2013-14)

- Permit Saturation: 61%
  (permits / spaces)

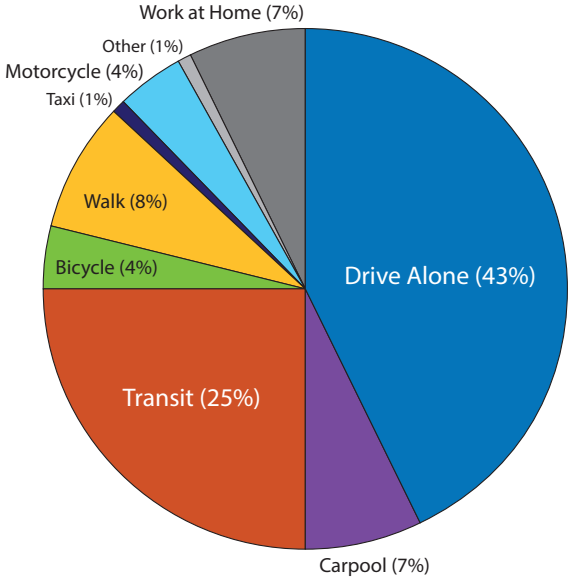
Citations (CY 2014)

- 4,590 residential overstay citations
- 3.0 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Occupancy Rates

	Time Period	Permitted blocks *Potrero Hill*	Non-permitted blocks *Potrero Hill*	Permitted blocks *Dogpatch*	Non-permitted blocks *Dogpatch*
Weekdays	4:30am – 6am	63%	70%	77%	46%
	10am – 12pm	67%	99%	99%	92%
	2pm – 4pm	67%	98%	95%	86%
	7pm – 9pm	74%	74%	82%	62%
Prevailing Residential Permit Parking effective hours: Monday - Friday, 8am – 4pm or 8am – 6pm					

Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area Y

Design District
Rincon Hill
South Beach

Primary parking generators:

– Downtown office
– Commercial businesses
– AT&T Park

Spatial

- 570 permitted parking spaces
- 2.2 miles of blockface frontage
- 0.06 square miles

Demographics

- Population: 3,100
- Households: 1,600
- Density: 56,000 ppl per sq mile

Employment

- Employed Residents: 1,600

Other

- Child care centers: 0

762 Annual Permits	**189** Short-term Permits
Resident: 735	1-Day: 116
Business: 12	2-Week: 27
Commercial: 0	4-Week: 15
Med caregiver: 3	6-Week: 7
Child caregiver: 9	8-Week: 24
Student: 3	
Teacher: 0	
Fire Station: 0	

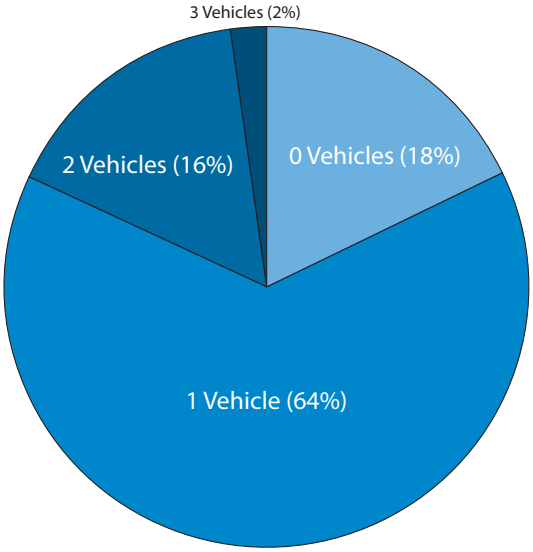
Permits (FY 2013-14)

- Permit Saturation: 133%
  (permits / spaces)

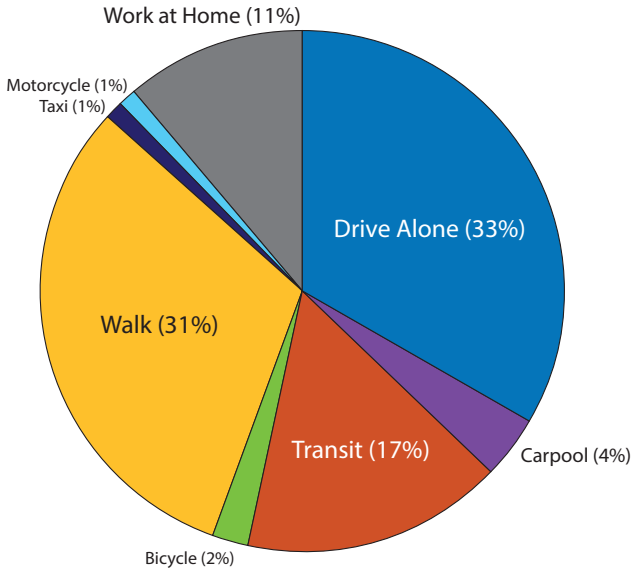
Citations (CY 2014)

- 3,040 residential overstay citations
- 5.3 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area Z

La Lengua
Noe Valley
The Mission

Established in ----

Primary parking generators:

– Commercial businesses
– 24th St BART
– St. Luke's Hospital

Spatial

- 2,520 permitted parking spaces
- 13.1 miles of blockface frontage
- 0.33 square miles

Demographics

- Population: 10,100
- Households: 4,700
- Density: 31,000 ppl per sq mile

Employment

- Employment (Jobs): 6,500*
- Employed Residents: 6,300

Other

- Transit lines: -- (-- Rapid), Caltrain
- Child care centers: 10

2,601 Annual Permits	**513** Short-term Permits
Resident: 2,450	1-Day: 241
Business: 56	2-Week: 113
Commercial: 0	4-Week: 55
Med caregiver: 5	6-Week: 19
Child caregiver: 24	8-Week: 85
Student: 9	
Teacher: 57	
Fire Station: 0	

Permits (FY 2013-14)

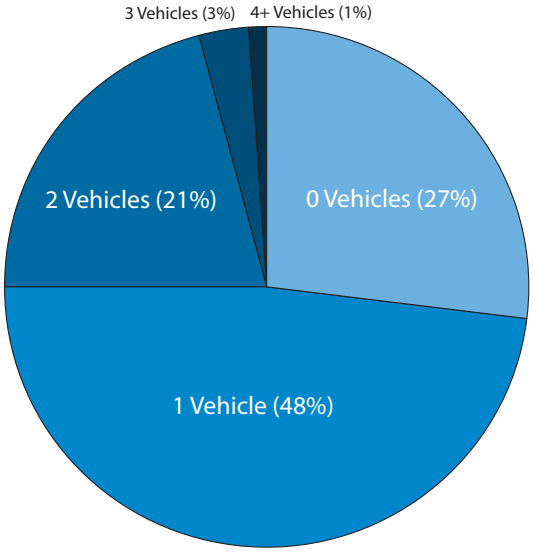
- Permit Saturation: 103% (permits / spaces)
- Permit Accounts: _____
- Households with Permits: __%
  - 1 permit: __
  - 2 permits: __
  - 3 permits: __
  - 4+ permits: __

Citations (CY 2014)

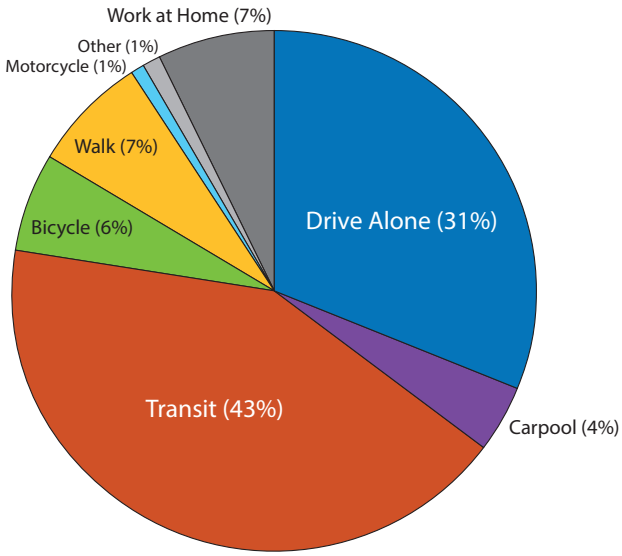
- 5,890 residential overstay citations
- 2.3 citations per space

*Unweighted – includes data from all Transportation Analysis Zones (TAZs) with some Area X eligibility

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area CC

Ocean View

Primary parking generators:

– Daly City BART

Spatial

- 360 permitted parking spaces
- 2.1 miles of blockface frontage
- 0.04 square miles

Demographics

- Population: 1,600
- Households: 450
- Density: 37,800 ppl per sq mile

Employment

- Employment (Jobs): 400
- Employed Residents: 400

Other

- Child care centers: 0

189 Annual Permits	**3** Short-term Permits
Resident: 183	1-Day: 0
Business: 0	2-Week: 2
Commercial: 0	4-Week: 1
Med caregiver: 0	6-Week: 0
Child caregiver: 0	8-Week: 0
Student: 6	
Teacher: 0	
Fire Station: 0	

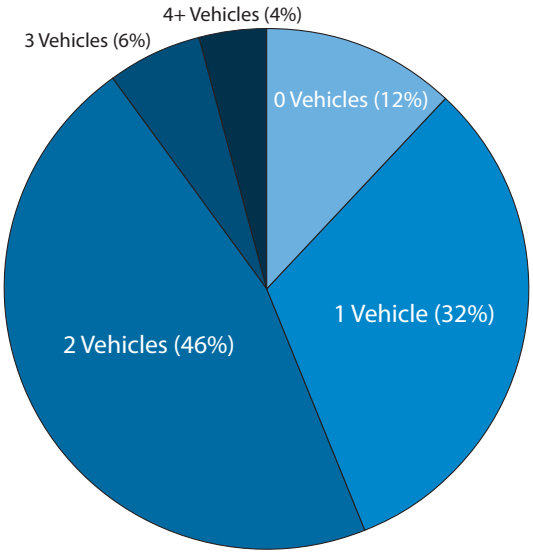
Permits (FY 2013-14)

- Permit Saturation: 52% (permits / spaces)

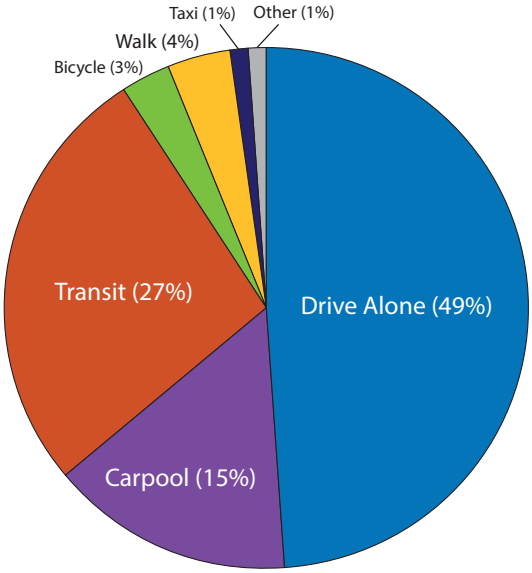
Citations (CY 2014)

- 330 residential overstay citations
- 0.9 citations per space

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)

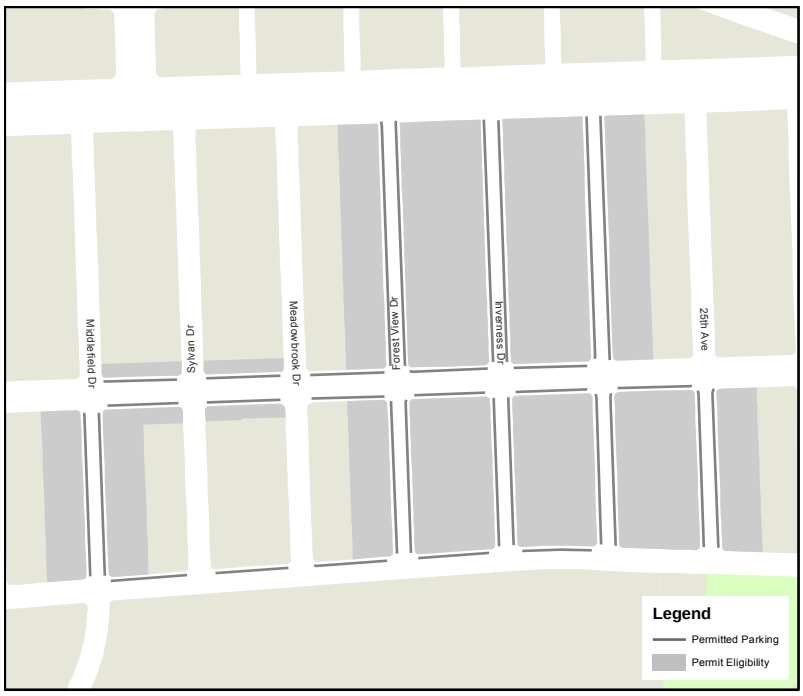


Residential Permit Parking Snapshot

SFMTA
Municipal Transportation Agency

Area DD

Lakeshore
Merced Manor



Primary parking generators:

– Lowell High School

Spatial

- 460 permitted parking spaces
- 2.0 miles of blockface frontage
- 0.05 square miles

Demographics

- Population: 550
- Households: 200
- Density: 12,500 ppl per sq mile

Employment

- Employment (Jobs): 200*
- Employed Residents: 250

Other

- Child care centers: 0

58 Annual Permits	**0** Short-term Permits
Resident: 57	1-Day: 0
Business: 1	2-Week: 0
Commercial: 0	4-Week: 0
Med caregiver: 0	6-Week: 0
Child caregiver: 0	8-Week: 0
Student: 0	
Teacher: 0	
Fire Station: 0	

Permits (FY 2013-14)

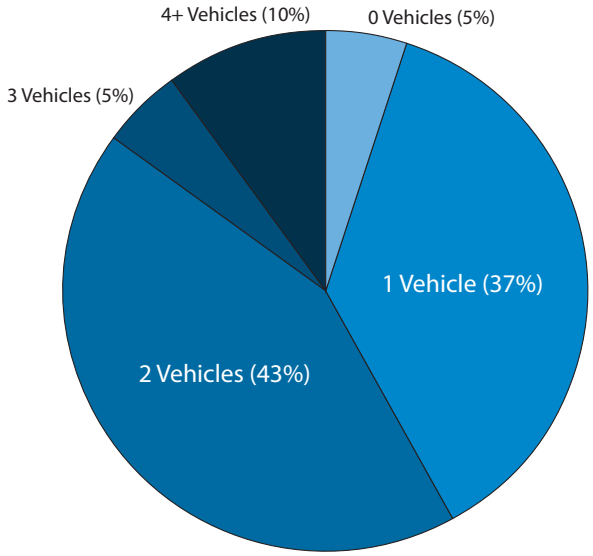
- Permit Saturation: 13% (permits / spaces)

Citations (CY 2014)

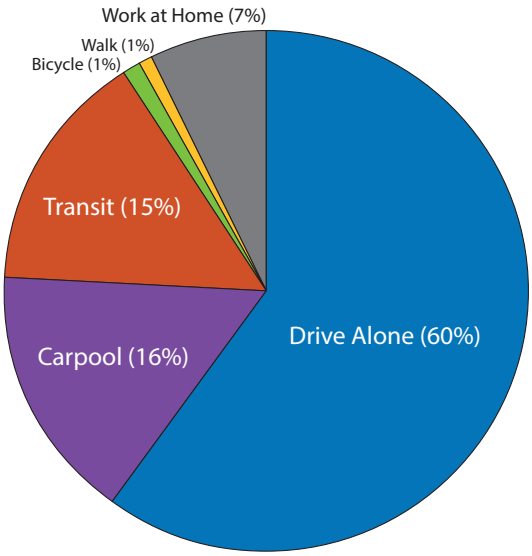
- 180 residential overstay citations
- 0.4 citations per space

*Unweighted – includes data from all Transportation Analysis Zones (TAZs) with some Area X eligibility

Vehicle Availability
(Resident Households)



Journey to Work
(Residents)



COMPENDIUM OF BEST PRACTICES IN PREFERENTIAL PARKING ACROSS NORTH AMERICA AND EUROPE

CITY	COMPARISONS				INNOVATIONS			
	Area permit cap	Cap per unit	Other caps	Business permits	Planning + admin	Permits + eligibility	Pricing	Regulations
Amsterdam, Netherlands https://www.amsterdam.nl/parkeren-verkeer/parkeervergunning/	**YES** - caps in place for each permit area, waitlist when cap met (est. wait time and # of people waiting online)	**3** per address generally, **1** per address in crowded permit areas	> Number of off-street spaces subtracted from per address cap (could result in **0** permits)	> Local businesses eligible for permits > Cap varies by number of employees, access to off-street parking, # of resident permits at same address > Permit prices higher for businesses	> Entire central city already permitted (i.e., no unregulated curb)	> Residents with off-street parking *may* be ineligible for permits > Polluting vehicles ineligible for permits > Digital license plate based permits > Online purchasing > Those moving out must forfeit permit > Permits for schools, health care sites, etc. also available	> Permit fees vary by area (€ 15 - 268) > Permit prices higher for businesses	> Paid + permit parking on all blocks with time limit (no grace period, all parking time paid) > Hourly rates vary (€ 0.10 - 5 per hr) > License plate recognition (LPR) enforcement with digital license plate permits using advanced camera technology
Berkeley, CA http://www.ci.berkeley.ca.us/Customer_Service/Home/RPP_Residential_Preferential_Parking.aspx Kamala Parks KParks@ci.berkeley.ca.us	**NO**	**NO**	**NONE**	**1** permit per business (cost = $154, 280% of resident)	> Typical 51% petition > Min. 80% of a block must be residential > Min. 75% occupancy > City initiation possible	> Residents of new buildings in certain zoning areas with no on-site parking ineligible for permits > **1** permit available for churches, schools, hospitals, etc.	> Flat price - $55/yr	> Effective times vary but are consistent within permit areas (all time limits are 2-hr)
Boulder, CO https://bouldercolorado.gov/parking-services/neighborhood-parking-program CommunityVitality@bouldercolorado.gov	**NO**	**NO**	**2** per driver	> Business permits available for permit area businesses (**3** permits per business) > Commuter permits available for permit area workers	> Planning process very collaborative w/ neighbors > Annual update provided to City Council	> **2** free visitor permits per household	> Flat price - $17/yr	> Vary by area given different needs > Overnight permit parking in one area (no grace period)
Boston, MA https://www.boston.gov/departments/parking-clerk/how-get-resident-parking-permit RppOpc@cityofboston.gov	**NO**	**NO**	**NONE**	**NONE**	> Typical 51% petition > Assign neighborhood names (no letters/#s)	> Online application (can upload documents)	> No cost for permits	> Overnight permit parking > No grace period
Dublin, Ireland http://www.dublincity.ie/main-menu-services-roads-and-traffic-parking-dublin/parking-city-residents customerservices@dublincity.ie	**NO**	**0-4** per unit, based on housing type and demand for parking > Buildings with 4 or more units: 1 permit per unit is low demand, 0 permits per unit if high demand	**1** per resident > Per unit permit caps based on two factors: housing type (# of units) and demand for parking – per unit caps range from 0-4 per unit	**NONE**	> 25% petition to est.	> Dashboard-mounted electronic parking tags used for payment - call number to pay to park > Residential institution permits available (e.g., nursing home, hotel, convent, embassy) - w/o off-street parking	> Higher permit pricing (8 - 9.4x) for those w/ off-street parking and in multi-unit buildings	> Overnight permit parking > Enforcement scans parking tags with a handheld device linked to a central database > Overnight enforcement
Eugene, OR https://www.eugene-or.gov/781/Residential-Permits Jeff Petry	**NO**	**NO**	> Permits issued per property limited by street address (usu. 2 permits per property)	**NONE**	> Define a permit area as a "*nearly* contiguous residential area"	> Have a two-year permit option > Offer service parking permits for child care, housekeeping,	> Pricing varies by permit area (free, $40/yr, $600/yr)	*N/A*

parking@ci.eugene.or.us					> Two votes per parcel (if rented - one vote for renter, one for owner)	gardeners, etc. – signed contract required		
Glendale, CA http://www.glendaleca.gov/government/departments/public-works/engineering/parking-information 818-548-3945	**YES** - cap gradually adjusted according to parking supply	**4** per household	**NONE**	**NONE**	> Plan to lower the threshold of resident approval of a district > Permit districts can be established by staff > Residential parking benefit district planned	*N/A*	> Graduated rates for multiple permits > Residents receive a certain number of free hours of guest parking > Plan to price permits by demand if other measures ineffective	> Multi-space meters on certain blocks where residents park for free
Hermosa Beach, CA http://www.hermosabch.org/index.aspx?page=231 310-318-0217	**NO**	**NO**	**NONE**	> Employee permits available for permit area workers (cost = $143, 358% of resident) > **1** permit per employee	*N/A*	> **1** transferrable guest permit available per residence > Driveway permits	> No charge for permits issued to 100% electric or CNG vehicles (also exempts one from payment at all meters)	> Resident permit holders can park at (yellow cap) meters without paying
Hoboken, NJ http://hobokennj.gov/departments/transportation-parking/residentparking/ 201-653-1919	**NO**	**NO**	**NONE**	**20** permits per business (can petition for more)	*N/A*	> Can establish account and buy permits online (upload scanned docs) > Driveway permits > Have "business" permits that *residents* provide to nannies, caregivers, cleaners, contractors, etc. > Have various permits for residents to park at municipal off-street garages and lots	> Graduated rates ($15, $30, $90 for add.)	> Most blocks are "permit parking" on one side (resident and business permits valid) and "residential permit parking" on the other
Los Angeles, CA https://prodpci.etimspayments.com/pbw/include/laopm/permit.htm 310-843-5936	**NO**	**3** per household	**NONE**	**NONE**	> 66% petition to est. > Can est. temporary parking districts (max. 5 blocks) to quickly address parking issues > 75% occupancy, 25% non-resident threshold	> Can purchase + print 1-day permits online (if have active account) > Permits available for schools and churches > **2** transferable visitor permits per household	> Flat price - $34/yr for daytime permit parking, $15/yr for overnight > Permit fees cover ~50% of program costs	> Have both daytime and overnight permit parking
Palo Alto, CA http://paloalto.parkingguide.com/ 650-329-2317	**YES** - for employee permits in Downtown areas only	**4** per household + **2** guest permits	**NONE**	> **YES** in downtown areas (capped at 2,000 permits, might lower to 1,500 permits)	> Explicitly accommodating businesses into new downtown pilot area	*N/A*	> First permit is no cost, additional $50/yr	*N/A*
Philadelphia, PA http://www.philapark.org/residential-parking-permit/ 215-683-9730	**NO**	**NONE**	**NONE**	**NONE**	> 60% petition and councilmember support to establish	*N/A*	> Graduated rates ($35, $50, $75, $100)	*N/A*
Portland, OR https://www.portlandoregon.gov/transportation/38744 parking@portlandoregon.gov 503-823-2777	**YES** - *Resident* permit program only (new)	**YES** - *Resident* permit program only (new)	**NONE**	> *Area Permit Parking* – explicitly accommodate businesses > Permits per business limited by number of employee hours (50%, 75%, 85%, or 100% of total FTE); varies by permit area	> Have both *Area* and *Resident* permit parking - *Resident* program is traditional permit parking (new program under development), *Area* program is neighborhood permit parking	> Some permit areas require renters to show signature of landlord to purchase a permit	> Pricing: most $60/yr, one area = $140/yr > Graduated pricing for *Resident* program	> Paid + permit parking on residential blocks adjacent to commercial corridors > Overnight permit parking (considering)

				> Pricing: most $60/yr, one area = $140/yr	> Have "supplemental plans" for each area > 75% occupancy, 25% non-resident threshold > Work with n'hood associations to est. > Petitioners submit written description of parking issues > Business sign petition			
Santa Cruz, CA http://www.cityofsantacruz.com/departments/public-works/traffic-and-parking/residential-parking-permit-program 831-420-6100	**NO**	**3** per household	> Commuter permits limited by block	> Commuters can purchase permits on downtown-adjacent permitted blocks	*Nothing innovative*	> Commuter permits valid only on a specific blockface	> No cost for permits	*N/A*
Santa Monica, CA https://www.smgov.net/Departments/PCD/Permits/Preferential-Parking-Permits/ parking@smgov.net 310-458-8341	**NO**	**NO**	**NONE**	**NONE**	> City Council pre-approves boundaries and eligibility before residents petition > 66% petition to est. if not pre-approved	> Permit eligibility pre-approved	> Flat price	> Permit-holders must park 2 blks from home
Seattle, WA http://www.seattle.gov/transportation/parking/parkingrpz.htm 206-684-5086	**NO** - siding against in current RPZ evaluation	**4** per household + **1** guest permit	**NONE**	> Employees of SE Link Light Rail Zones eligible to purchase permits > Seemingly no limit on employee permits	> 75% occupancy, 35% non-resident threshold > Require an identifiable parking generator	> Can verify permit eligibility online	> $0-65 for 2-yr permit > $10 low income price (several ways to verify) > $30 transferable guest permit > Limited graduated pricing in certain areas	> Paid + permit parking on a limited # of blocks > Permit-holders must park 6 blks from home > Resident motorcycles and scooters exempt from RPZ time limits
Toronto, Ontario http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=cd4c4074781e1410VgnVCM10000071d60f89RCRD pparking@toronto.ca 416-392-7873	**YES** - up to 110% of permitted spaces, waitlist when cap met (with priorities within)	**NO**	**NONE**	**NONE**	> Off-street parking recorded by address when est. new areas > Surplus revenues support environmental programs	> Ask about off-street parking on application, incl. *access* (self-report) > Those w/o off-street parking have priority for permits in areas where the cap is met (when become avail.) > Online temp. permit purchasing (daytime)	> Charge more for those with access to off-street parking (350% for convenience) > Graduated pricing (250% for 2nd permit)	> Paid + permit parking > Have daytime and night permit parking > Have permit areas and permits by block > Regulations vary significantly to respond to local parking needs
Tucson, AZ https://www.tucsonaz.gov/park-tucson/residential-parking-permit-program 520-791-5071	**YES** - commuter permits limited by parking supply	> Permits sold per building limited by street frontage	**NONE**	> Separate commuter permit program in place around university	*N/A*	> Offer separate day, overnight, day + night, and basketball permits > Permits valid only on a specific blockface > Permits only avail. for 4 or fewer unit housing	> Commuter permit program has varying rates by distance from university campus	> Residents can purchase permits that allow them to park at meters without paying > Residents can request up to 3 "stay-aways" per month for events or emergency repairs at residence
Ventura, CA http://www.cityofventura.net/page/parking-permits parking@cityofventura.net 805-654-7769	**NO**	**1** per address in downtown permit area	**NONE**	**NONE**	> Surround colleges, high schools, and medical facilities with standard permit parking (distinct from downtown scheme)	> Residents of metered or time limited blocks downtown eligible for permits to park on their own block or a nearby city garage or lot	> Flat price - $20/yr	> Specific block limited paid + permit parking

					> Separate downtown permit program for w/o off-street parking > Residential parking benefit district planned	> Consider off-street parking access when assessing eligibility		
Washington, DC DDOT: http://ddot.dc.gov/service/residential-permit-parking DC DMV: http://dmv.dc.gov/service/residential-parking-permits	**NO**	**NO**	**NONE**	**NONE**	> DC DMV issues windshield permits via vehicle registration process; DDOT plans and administers zones > No permit parking on commercial blocks > Careful consideration of regulating around public facilities > 70% occupancy, 10% non-resident threshold > Zone boundaries correspond with wards	> Can verify permit eligibility online > Can purchase guest permits online (mailed) > Special *reciprocity permits* for temporary residents + dignitaries > 75% occupancy, 35% non-resident threshold > Issue permits for car share in Zone 9 > 1 or 2 year durations avail. for permits	> Seniors (65+) = $25/yr (71% of full price)	> Some resident-only blocks (no time limits) > Evening permit parking (through 9pm) > Commercial vehicles with commercial plates exempt from time limit
West Hollywood, CA http://www.weho.org/city-hall/city-departments/public-works/parking-services/parking-permits 323-848-6375	**NO**	**4** per household + **2** guest permits	**1** per driver	> Commuter permits available in 3 areas	> Typical 51% petition	>Issue free visitor permits (25x per day, 100x per month) up to 5 days in advance	> Graduated rates ($22, $52, $104, $179) ($33, $66 for guest)	*N/A*
Westminster City, London, UK https://www.westminster.gov.uk/resident-parking-permits	**NO**	**NO**	**1** per applicant, but can assign one permit to multiple vehicles	**NONE**	> Entire city permitted	> Online account management portal > Use RFID-based permits > Upload documentation online to verify eligibility - this method is preferred > No customer service personnel - all services through tablets in City Hall lobby > No cash payments accepted > Working towards license plate permits > Have limits on vehicle size (2.28 or 2.33 meters in height) - no weight limit	> Permits cost more for vehicles with larger engines (+/- 1200cc) > Motorcycle discount > 100% discounts avail. for electric, hybrid, fuel cell, CNG, LPG, and hydrogen vehicles - but will be phasing out soon > 141 BPS annual, 131 BPS citation, 4.90/hr paid - prices vary by zone	> 3 parking "bays": resident-only, resident and paid visitor, paid parking (permit-holders exempt from payment 5:30pm-9:30am - first and last hr of metering) > Visitors may park in *shared use* bays (resident + paid visitor) w/ pay-by-phone/text for up to 4 hrs > No grace period - all visitor parking is paid (all pay-by-phone)

ANALYSIS OF ALTERNATIVE PERMIT PRICING SCENARIOS

January 27, 2016

To: Tom Maguire, Director, Sustainable Streets Division

From: Ted Graff, Director of Parking, Sustainable Streets Division
Kathie Studwell & Hank Willson, On-Street Parking

Re: Recommended pricing options for motorcycle and one-day flex permits

Background
The purpose of this memo is to provide background on the analysis on RPP permit pricing scenarios and to recommend a preferred scenario for 1-day flex permits and motorcycle permits.

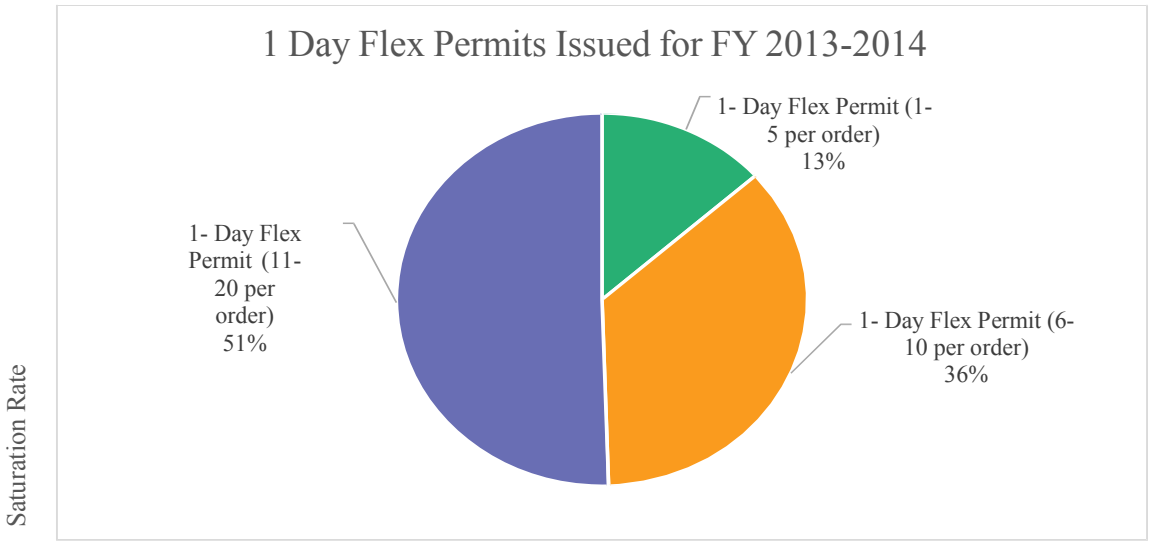
There are two phases to the analysis of pricing options. The first phase responds to concerns raised at public meetings held in 2014 related to the establishment of Area Q. The concerns expressed at that time related to the perceived unfair pricing of motorcycles and the difficulty in obtaining as well as the pricing of 1-day flex permits. As a result, the RPP project team made one of its priorities to focus on evaluating the merits of adjusting the pricing for 1-day flex and motorcycle permits in advance of a more thorough analysis of RPP pricing alternatives. The new permit prices could go into effect starting July 1, 2016.

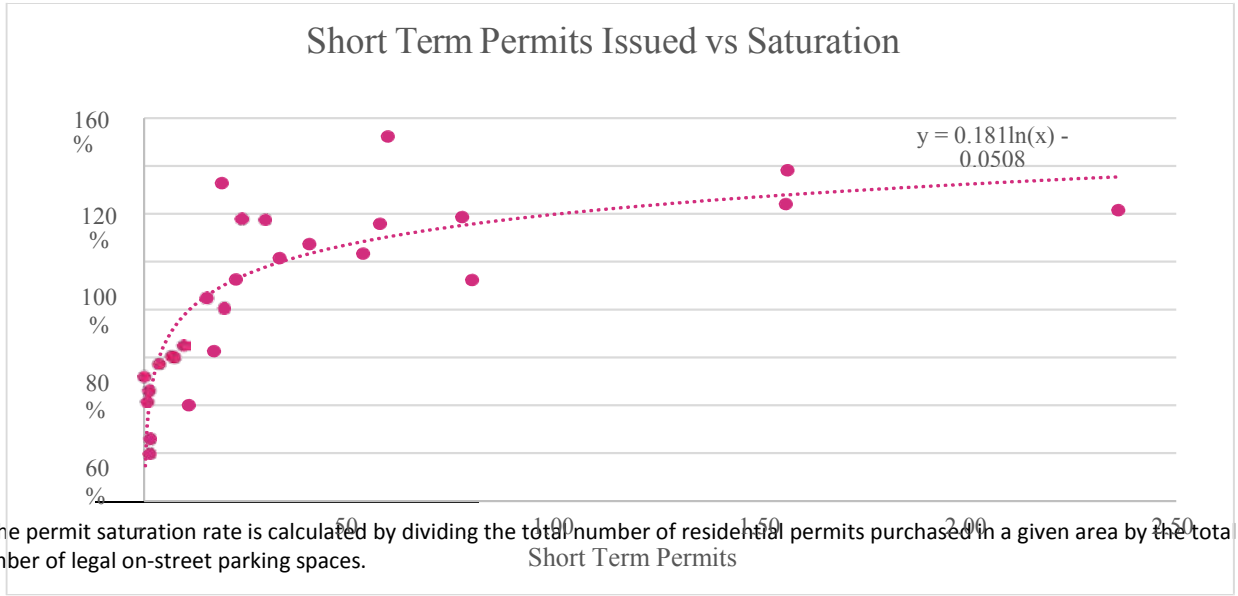
Phase 2 of the project's analysis of pricing options will address pricing of the annual residential, business and other permits, including for teachers, consulates, contractors, child and medical care providers.

Key Findings of Permit Purchasing Patterns
In August, the project team asked its consultant, Arup, to evaluate the impact of multiple pricing scenarios for motorcycle and 1-day flex permits. Several key finding emerged from their study.

First, the current pricing structure incentivizes car use by applying a discount when purchasing more permits. As seen in the pie chart below, the majority of residents who purchase 1-day permits take advantage of this discount. Most (51%) one-day visitor permits purchased are in multiples of 11-20 per order; 36% are purchased in batches of 6-10 per order; and 13% are purchased in batches of 1-5 per order.

The second finding of their study was that more 1-day permits are purchased in RPP Areas with high permit saturation rates[13]. For example, 55% of the 1-day permits sold are purchased by residents of the five most saturated RPP Areas, (A, C, S, G & Y). These five areas have permit saturation rates greater than 120%. Of these five RPP Areas, A, G and S are over-saturated (> 120%), have a large (> 500) number of 1-day flex permit sales AND also have a large number of RPP overstay citations issued. The chart at the bottom of the next page, "Short Term Permits Issued v. Saturation Rate," indicates the relationship between permit sales and area saturation rate for RPP area. As the saturation rate increases, so does the number of 1-day flex permits sold.





[13] The permit saturation rate is calculated by dividing the total number of residential permits purchased in a given area by the total number of legal on-street parking spaces.

The third finding is that RPP areas with high saturation rates are also the most sensitive to changes in pricing. In pricing scenarios in which the price for 6-20 permits is greater than the price for 1-5 permits, the number of permits that are purchased in those RPP areas with high saturation rates decreases substantially. In these same RPP areas, the number of permit orders for 1-5 permits increases.

Evaluation of Impacts of Alternative Pricing Scenarios for 1-day flex and Motorcycle Permits
In all, Arup evaluated 10 pricing scenarios for 1-day flex permits and 4 pricing scenarios for motorcycle permits. The scenarios for 1-day flex permit pricing ranged from offering the permits free of charge to a graduated pricing schedule that would offer the first five or 10 permits for free or for a nominal fee, but increase the price for 6 or more permits. For motorcycles, the pricing is based on a percentage of the annual permit fee. For each scenario, Arup evaluated the impact on total RPP program revenue and determined the required change in the price of the annual permit to keep the program revenue-neutral.

Results of analysis
One-day flex permits**.** In all**,** Arup evaluated ten 1-day flex permit pricing scenarios. For purposes of this memo, we are presenting three of the most viable scenarios. In the first scenario, the first five permits are free, but the price increases for the next two groupings (6-10 and 11-20). The third scenario has only two price groupings, 1-10 and 11-20.

Scenario 1 results in a loss of $69,007 and requires a $1 increase in the annual residential permit for program revenue to remain the same. The modest increase in price for purchasing 6 or more permits decreases the demand somewhat. Scenario 2 is similar to Scenario 1, except that the price for the first five permits is $5 each. This results in less of a loss of program revenue of $51,044. For Scenario 3, Arup was asked to find a 1-day flex pricing scheme that would not change total program revenue or require any change in the annual residential permit price. In this scenario, the first 10 permits are $9 each and the next 10 permits are $17 each.

Table 1: 1- Day Flex Permit Pricing Scenarios

Price Grouping	Scenario 1			Scenario 2			Scenario 3		
FY'17 price	Fee	Quantity	Revenue	Fee	Quantity	Revenue	Fee	Quantity	Revenue
$14; 1- Day Flex Permit (1st-5th)	$0	4,513	$0	$5	3,592	$17,962	$9	7,967	$71,703
$12; 1- Day Flex Permit (6th-10th)	$10	6,450	$64,498	$10	6,449	$64,498			
$10; 1- Day Flex Permit (11th-20th)	$15	2,015	$30,227	$15	2,015	$30,227	$17	5,423	$92,196
Total number of permits purchased		12,978			12,057			13,391	
Total revenue			$94,725			$112,675			$163,903
Projected revenue increase (decrease)			(-$69,007)			(-$51,044)			$167
Annual residnetial permit increase/decrease to achieve reveune neutral result			$1.09			$0.81			(-$0.02)

Source: SFMTA, ARUP

Notes:

1. For Scenario #3, there are only 2 price groupings. The price of $9 is for the 1st through the 10th permit; for the 11th through 20th permits are $17 each.
2. Analysis of all scenarios incorporate price elasticity, changes in demand for permits based on price.

Table 2. Motorcycle Permit Pricing Scenarios

	Existing	Scenario 1	Scenario 2
Motorcycle permit cost	$112	$0	$84
Annual Residential Automobile Permits Issued	63,128	61,424	61,424
Estimated Annual Motorcycle Permits Issued	0	1,704	1,704
Estimated Revenue from annual permits	$7,070,336	$6,879,437	$7,022,573
Projected Revenue decrease	$0	($190,899)	($47,763)
Annual Residential permit increase to overcome revenue decrease	$0.00	$3.02	$0.76
Source: SFMTA; Arup			

Motorcycle permits. For motorcycle pricing, four scenarios were examined: free, one-fifth; one-half and three-fourths the cost of the annual permit for autos. As the annual permit price increases, so will the cost of the motorcycle permit. Two scenarios are presented in Table 2: free motorcycle permits and motorcycle permits that are three-fourths the cost of the annual permit. These scenarios are based on FY 17 prices and program revenues.

Offering motorcycle permits free of charge decreases annual program revenue by nearly $190,000 and requires a $3 increase in the price of the annual permit for other vehicles. A modest 25% discount on the price of the annual permit has only a nominal effect on total program revenue, requiring only a $1 increase in annal permit price for autos.

Combining the pricing scenarios for both 1-day flex permits and motorcycle permits results in, for the most part, declines to total program revenue. The change in revenue, relative to the total, is minimal and varies from about +$171 to -$259,201. To maintain total revenue at the same level, an increase in the price of the annual permit would be required. The total permit price increase would range from $0.02 to $4.12.

- Based on this analysis, staff recommends that we forward the following proposed fees to Tess Navarro, Finance and Information Technology, to incorporate into the proposed FY 17 & 18 budgets: the combination of Scenario 2 for 1-day flex permits and Scenario 2 for motorcycle permits. This results in program revenue loss of $101,000. If it is desired to keep total program revenue the same as it would be without these changes, then there would need to be an increase of $2.00 for the annual permit.

Table 3. Estimated Revenue and Permit Price Changes from Combined Motorcycle and 1-Day Flex Parking Permits

	1-Day Flex Permit Pricing Scenarios				
		Exisiting	**Scenario 1**	**Scenario 2**	**Scenario 3**
		($14; $12; $10)	($0; $10; $15)	($5; $10; $15)	($9; $17)
	Estimated Total Annual Permit Revenue Increase/ Decrease				
M ot	Existing($112)	$0	($69,007)	($51,044)	$171

	Scenario 1 ($0)	($190,899)	($259,906)	($241,943)	($190,728)
	Scenario 2 ($84)	($47,763)	($116,770)	($98,807)	($47,592)
	Estimated Annual Permit Prcie Increase/ Decrease				
	Existing	$0.00	$1.09	$0.81	($0.02)
	Scenario 1	$3.02	$4.12	$3.83	$3.02
	Scenario 2	$0.76	$1.85	$1.57	$0.75

Source: SFMTA, Arup

1 FY ’17 prcies for visitor permits; permit prices are for 15, 6-10 & 11-20 permits per order.

2 For Scenario 3 for 1-day flex permits has only 2 price groupings: 1-10 and 11-20.

3 FY ’17 prices for motorcycle permits.

After Note:
After further discussions, SFMTA selected a fourth scenario which created three price groupings for visitor 1-day permits: $5 for each permit up to 5 per year; $7 for each permit if purchasing between 6 and 10 permits per year; and $10 per permit if purchasing between 11 and 20 permits per year. The result of this analysis is tabulated below:

Table 3. Estimated Revenue and Permit Price Changes from Combined Motorcycle and 1-Day Flex Parking Permits

		Visitor Permit Pricing Scenarios				
		Existing ($14; $12; $10)	Scenario 1 ($1; $6; $9)	Scenario 2 ($5; $10, $15)	Scenario 3 ($10; $13; $15)	Scenario 4 ($5; $7; $10)
		Estimated Total Annual Permit Revenue Increase/Decrease				
Motorcycle Pricing Scenarios	Existing ($126)	$0	($80,007)	($45,111)	$1,362	($47,012)
	Scenario 2 ($95)	($47,763)	($127,770)	($92,874)	($46,401)	($94,775)
		Estimated Annual Permit Price Increase/Decrease				
	Existing	$0.00	$1.27	$0.71	($0.02)	$0.74
	Scenario 2	$0.85	$2.12	$1.56	$0.83	$1.60

Source: SFMTA; Arup

1. FY '17 prices for visitor permits; permit prices are for 1-5, 6-10 & 11-20 permits per order

2. FY '17 prices for motorcycle permits

3. for scenario 4, prices are $5 for 1-10 permits, $7 for 11-15 permits, and $10 for 16-20 permits

Notes:

Scenario 1 keeps the cost of 20 1-day permits below $126; adds only $1 to annual permit > $127

Scenario 2 adds $2 to the cost of annual permit > $128

Scenario 3 keeps RPP program revenue the same, no change in annual permit cost.

Scenario 4 adds almost $2 to the annual permit price > $128

As a result of this analysis, the FY 16-17 budget was approved with the following fees:

Annual Residential Permit: $127

1-day Visitor Permits:

- 1-5 permits per year, $5 each
- 6-10 permits per year, $7 each
- 11-20 permits per year, $10 each

Annual Motorcycle Permit: $95 (a 25% discount from annual residential permit)

Memorandum

ARUP

To	Kathie Studwell and Hank Willson, SFMTA	Date	July 11, 2017
Copies		Reference number	214757/MVI
From	Mike Iswalt and Jasmine Stitt	File reference	4-05
Subject	Residential Parking Permit Value Pricing Pilot Program Study Results		

This memorandum provides a summary of the policy options for the Residential Parking Permit (RPP) Value Pricing Pilot Program (VPPP) study, with a more detailed description of the graduated pricing analysis. The policy options under consideration by SFMTA are intended to manage the residential demand for on-street parking in RPP areas across the city.

The appendices attached to this memorandum include a series of tables that summarize the RPP policies and the calculations included in this study. Table 1 describes each policy and Arup's estimate of the impact on the number of permits purchased and total revenue. For each policy other than Graduated Pricing (Policy 3), the revenue impacts shown in the table identify the revenue

increase/decrease assuming no offsetting price changes are implemented to retain revenue neutrality for the program. The analysis for Graduated Pricing considers the price change required to retain revenue neutrality. The remaining tables in the appendices detail the results of the impact analysis for each policy option.

RPP Policy Options

The policy options include:

Policy #1: Limit of one permit per licensed driver (current household cap of four remains). This policy option has limited reduction potential because only 6% of households in San Francisco have an excess vehicle available (i.e., one or more vehicles in excess of the number of persons residing in the household). This 6% estimate was obtained from Census, which reports the number of vehicles available in 1 through 4+ person households. Not all of these excess vehicles would be parked on the street, as some households have access to off-street parking. The percentage of households with access to off-street parking ranges from 40-53%, depending on the RPP area. Therefore, the number of excess vehicles that would need to be parked on-street and subject to this limitation is approximately 2,100.

This represents a 3 to 4% reduction in overall RPP purchases. Table 2 provides detail on this policy.

Policy #2: Twice the base permit fee for customers with access to off-street parking, with and without enforcement. The base permit fee is set at $127, with an additional premium permit charge of $127 for households with access to off-street parking (for a total fee of $254). Enforcement of this policy would be a challenge. The analysis assumes two options: a) an honor system where the permi

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applicant states whether or not they have off- street parking available, or b) a system with verification and enforcement. The honor system option assumes that only 25% of households correctly report. The analysis uses the access to off-street parking percentage from the RPP household survey (55% of households have access to off-street parking in areas with permit saturation less than 80%, and 40% of households have access to off-street parking in areas with permit saturation rates greater than 80%) and two different scenarios for parking price elasticity. The two elasticity scenarios, which reflect a "Low" and "High" price response by consumers, is described in greater detail in the next section.

The number of permits subject to the premium charge (resulting in twice the base price) were calculated and multiplied by the price elasticity values for each RPP area to estimate the effect on the number of permits and total revenue. The premium added to some permits would generate additional revenue, which would need to be offset by a reduction in the base permit price to maintain revenue neutrality (i.e., no increase in total program revenue). This offset has not been calculated for this policy, but is addressed in the graduated pricing scenario in the next section. The range of results for Honor and Verification/Enforcement options are:

- Policy 2a – Honor System Option: -1,200 to -2,000 reduction in permits (+$600,000 to +$410,000 increase in RPP revenue per year, respectively). Tables 3 and 4 provide the detail on this scenario.
- Policy 2b – Enforcement Option: -4,900 to -7,800 reduction in permits (+$2,380,000 to +$1,650,000 increase in RPP revenue per year, respectively). Tables 5 and 6 provide the detail on this scenario.

Policy #3: Graduated pricing. See the detailed analysis in the next section. The graduated pricing option assumes the second permit per household would be twice the price of the first and the third permit would be, 3x, the fourth, 4x, and the fifth would be 5x (for permits exceeding the 4 per household cap) times the first permit base price. The analysis assumes two options: a) the residential permits are priced sequentially for residents in each household that apply individually, or b) the residential parking permits are priced for households that apply for multiple permits simultaneously.

There is a high degree of uncertainty with how residents will respond to higher prices for 2 or more permits. To address this uncertainty, we developed a pricing model and tested two scenarios, a "Low" and "High" price sensitivity scenario, using a range of price elasticities. We also developed an approach to assign a price elasticity to each RPP area. The approach uses a range of metrics (parking saturation, density, land use mix) to assign elasticity values.

In both the Low and High scenarios, graduated pricing will generate additional revenue because the demand for parking is relatively inelastic (i.e., the % change in permits purchased is less than the associated % change in permit price). To offset the increase in revenue for permits 2-4 and maintain revenue neutrality, the pricing model determined the lower optimal price for the first permit. This policy also has a limited impact on equity, as the first permit would decrease in price and very few lower income households have more than one car.

Tables 7 through 10 provide the calculations for Policy 3 and Table 13 provides the elasticity assumptions for the Low and High scenarios.

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Policy #4: Limit of two permits per household. This is a hard cap on the number permits issued per household. The analysis indicates that this would reduce the number of permits sold by 4,300, which translates into a reduction in RPP revenue of approximately $550,000 per year. Table 9 provides detail on this policy. Table 11 provides the summary for Policy 4.

Policy #5: Permits capped at 120% of total number of regulated spaces in each RPP Area. This policy would impose the cap on areas with permit saturation measured at over 120% of the on-street capacity. This policy will depend on how permit saturation is calculated. Our calculation only uses residential permits and not businesses, contractor permits,etc. Our analysis indicates that this policy would have only a modest reduction on the overall number of permits sold: approximately 1,300, which would reduce RPP revenue by $160,000 per year. Table 12 provides the summary for Policy 5.

Graduated Pricing Analysis By Residential Permit Application

We performed a more detailed analysis on the graduated pricing option. The graduated pricing option assumes 2x, 3x, 4x, 5x (for permits exceeding the 4 per household cap) times the first permit base price are charged for each permit application. This analysis assumes the following:

- **Calculate the percentage of one, two, three, four, and five+ permits purchased in each RPP area.** The detailed permit data provided by SFMTA were used to calculate these percentages for each RPP area.
- **Utilize Low and High elasticities for each RPP area to generate a Low and High estimate for permit reductions.** The Low scenario assumes that households are less sensitive to price, while the High scenario assumes that households are more sensitive to price. The price elasticity of demand is a measure that shows how the quantity demanded by consumers responds to changes in price. Most goods have a negative elasticity, which indicates that an increase in the price results in a decrease in demand. An elasticity value of -1.0 indicates that demand and price move in tandem. An elasticity value between 0.0 and -1.0 indicates that a good is relatively inelastic – i.e., the percent decrease in demand is less than the percent increase in price. There are few studies on price elasticity for residential parking permits. However, we used recent empirical data collected for SFpark for metered on-street spaces as a guide. These elasticities ranged from -0.21 to -0.53, with an average of -0.40. We expect the RPP elasticity values to be less, as the RPP parking is less expensive on an hourly basis and could be viewed by consumers as a necessity. These factors generally lead to lower price sensitivity and elasticities. The Low and High elasticity scenarios used in this analysis assume different ranges of minimum and maximum values, and assign an elasticity to each RPP area based on a weighting of five factors: permit saturation, land use diversity, drive alone percentage, income, and households with more than one vehicle. The Low scenario assumes a range of -0.1 to -0.3, while the High scenario assumes a range of -0.1 to -0.5. The elasticity is multiplied by the percent change in price for each permit (2x, 3x, etc.) to estimate the reduction in the number of permits. The elasticity assumptions are attached to this memo as Table x.
- **For the Low and High elasticity scenarios, optimize the base price charged for the first permit to maintain revenue neutrality.** This was accomplished by reducing the base price

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until the total revenue under graduated pricing is equal to the existing total RPP revenue across all RPP areas. Graduated pricing for the second, third, and fourth permits will reduce the number of permits but increase revenue. To maintain revenue neutrality, the base price would need to be lowered. However, lowering the base price will result in a small increase in the number of first permits purchased. This will cause an increase in the permit revenue derived from first permit purchases. Eventually an equilibrium base price point is reached.

The results for the Low and High scenario are presented below, and the detailed tables with the results for each RPP area are attached as Tables 7 and 8.

Low Elasticity Scenario Results

For the Low elasticity scenario, the base price for the first permit would need to be reduced to $106 to maintain revenue neutrality. The pricing structure is $106, $213, $319, $425, and $531 (for all permits 5+). The number of permits sold would decrease by nearly 2,500, or 4%.

	Value	Total Permits Purchase	Total Revenue
Initial Base Price	$127	68,446	$8,692,642
Modified Base Price + Graduated Pricing	$106	65,968	$8,692,640
Difference	-$21	(2,478)	-$2
% Change	-16%	-4%	0%

High Elasticity Scenario Results

For the High elasticity scenario, the base price for the first permit would need to be reduced to $113 to maintain revenue neutrality. The pricing structure is $113, $226, $339, $452, and $565 (for all permits 5+). The number of permits sold would decrease by 4,300, or 6%.

	Value	Total Permits Purchase	Total Revenue
Initial Base Price	$127	68,446	$8,692,642
Modified Base Price + Graduated Pricing	$113	64,146	$8,692,636
Difference	-$14	(4,300)	-$6
% Change	-11%	-6%	0%

Memorandum

Graduated Pricing Analysis – Permits Purchased and Averaged By Household

A second graduated pricing analysis was conducted that explored an alternative concept for how residential parking permits are priced for households that apply for multiple permits simultaneously. In this scenario, permit prices are averaged across the number of permits that are applied for, which averages the price across the permits and effectively reduces the overall cost burden on each individual permit applicant. For example, if the base price is $113 and two applicants from the same household each purchase a permit, then the total cost is $339 ($113 * $113*2 = $339). This total cost divided by the two permits is $170, which is the amount that would be charged to each applicant in this scenario. For three permits purchased, the total cost is $678, which would cost each of the three applicants $226 each. The same low and high elasticities were used for this analysis.

The results for the Low and High scenario are presented below, and the detailed tables with the results for each RPP area are attached as Tables 9 and 10.

Low Elasticity Scenario Results

For the Low elasticity scenario, the base price for the first permit would need to be reduced to $106 to maintain revenue neutrality. The pricing structure is $113, $169, $225, $282, and $338 (for all permits 5+). The table below shows the average cost per permit for one through four permits purchased.

Permit	Cost per permit	Average cost per permit
1st permit	$113	$113
2nd permit	$226	$170
3rd permit	$339	$226
4th permit	$452	$283

The number of permits sold would decrease by 968, or 1%. This scenario leads to less of a decrease in permits because the pricing structure is lower overall.

	Value	Total Permits Purchase	Total Revenue
Initial Base Price	$127	68,446	$8,692,642
Modified Base Price + Graduated Pricing	$113	67,478	$8,692,646
Difference	-$14	(968)	$4
% Change	-11%	-1%	0%

Memorandum

High Elasticity Scenario Results

For the High elasticity scenario, the base price for the first permit would need to be reduced to $106 to maintain revenue neutrality. The pricing structure is $115, $173, $230, $288, and $345 (for all permits 5+). The table below shows the average cost per permit for one through four permits purchased.

Permit	Cost per permit	Average cost per permit
1st permit	$115	$115
2nd permit	$230	$173
3rd permit	$345	$230
4th permit	$460	$288

The number of permits sold would decrease by 1,708, or 2%. This scenario leads to less of a decrease in permits because the pricing structure is lower overall.

	Value	Total Permits Purchase	Total Revenue
Initial Base Price	$127	68,446	$8,692,642
Modified Base Price + Graduated Pricing	$115	66,738	$8,692,648
Difference	-$12	(1,708)	-$6
% Change	-9%	-2%	0%

NEED FOR FURTHER STUDY

Background

The San Francisco Municipal Transportation Agency (SFMTA) completed a comprehensive, data-driven evaluation of its Residential Parking Permit (RPP) program and developed a package of reform measures designed to reduce the number of permits issued within RPP areas. The purpose of the project is to update the program, align it with the agency's and city's sustainability and transportation goals and improve customer service for permit holders. There are 29 RPP areas, covering approximately one-fourth of the city's land area, which includes over 150,000 households. There are nearly 80,000 on-street parking spaces regulated with permit parking restrictions. The SFMTA sells approximately 95,000 permits annually.

The proposed reform measures were each evaluated to determine possible impacts and likely effectiveness. Several criteria were used for the evaluation of impacts, including: public support; effect on number of permits issued within RPP areas; effect on permit pricing and revenue; possible impacts on staffing; and, practicality of implementation, including the availability of required technologies. Two of the policy options, which are intended to reduce the number of permits issued, were studied in more detail using price elasticities to determine the possible impact on number of permits issued. The results of this analysis are included in the Policy Evaluation Summary section of this report. The complete analysis, including supporting tables, can be found in the Final Report's Appendix. Due to the lack of research on pricing of residential parking permits, the consulting team built a model to calculate price elasticities for residential parking permits and used these elasticities to calculate the expected impact on number of permits purchased in each RPP Area.

The model uses elasticity values of- 0.1 to -0.3[14] applied to the sum of weights applied to a set of five factors, including: permit saturation rates[15] by area, density of land use, the average drive-alone rate for each area, household income and access to more than one vehicle. The resulting calculated elasticities were used to calculate the expected impact on number of permits purchased as a result of implementing two proposed policies: 1) charging a premium above the permit price for residents with access to off-street parking and 2) a graduated pricing scheme.

[14] This range of elasticities are based on the evaluation of the SF*park's* demand-responsive metering program which was limited to commercial corridors in selected areas of San Francisco. It is assumed that the price elasticity for residential parking permits is relatively in-elastic since the RPP permits are inexpensive ($128 annually) and could be viewed by consumers as a necessity—especially in areas with very limited off-street parking.

[15] Permit saturation rate is equal to the total number of permits issued in an area divided by the total available permit-restricted parking spaces in that area. For a full discussion of the analysis of permit saturation rates by RPP area, please see the Existing Conditions chapter of the Appendix.

Since there is no known research on the impacts of permit pricing, further research is needed to develop better predictive models. Ideally, this research would be conducted by a student intern, a graduate student or a graduate student seminar in urban transportation policy. Students of econometrics, statistics or similar fields may also be interested. The intent is for SFMTA to reach out to nearby universities, including UC Berkeley, UC Davis, San Jose State and Stanford to solicit interest in conducting such research.

The purpose of the research would be to identify the best combination of variables to use in a model to predict the permit purchasing behavior of residents living within preferential parking areas.

The goals and parameters of the research are to:

Identify those variables that affect the number of residential parking permits that are purchased annually. These variables may include such factors such as household vehicle ownership, availability and price of off-street parking, availability of direct substitutes for auto ownership, age, household size, presence of children, income and employment status, land use density, geographic location, and the cost of auto ownership, including parking.

Data used in the model must be reliable, credible and readily available on a regular (annual or monthly) basis. Most likely sources would be the City of San Francisco and the US Census as well as the Department of Labor (Consumer Expenditures).

Data should be at the census tract or TAZ (Transportation Analysis Zone) level or estimated at the census tract or TAZ level so that predictions by RPP Area are possible.

Much of the data on permit purchasing patterns will be mined from the San Francisco Traffic Information Management system (eTIMS) database licensed from Conduent.

Data may include sources outside of San Francisco and may cover related topics such as on the relationship between changes in vehicle ownership costs and ownership levels.The interested graduate student or intern will work with SFMTA staff in the Sustainable Streets Division—Parking Section, to refine the scope of work and prepare a schedule for task completion. A preliminary scope of work could have the following tasks.

Task 1: Conduct literature review on the effect of parking pricing on vehicle ownership. As part of this literature review, identify factors, in addition to parking costs, affecting vehicle ownership, such as: vehicle cost; fuel; insurance premiums; tolls and maintenance. The particular interest is in determining the degree to which parking costs, including the cost for city-imposed preferential parking fees—has on the decision to own a vehicle.

Task 2: Collect time-series data for use in the model. Data should be specific to San Francisco. SFMTA has the following time-series data available: Traffic Information Management system (eTIMS) data managed by Conduent which includes preferential parking permits issued by account and by area; permit pricing over time; census of on-street parking spaces. Suggestions for other relevant data sources, depending upon findings of

the meta-analysis are: real estate valuations using parcel database provided by Zillow or similar service; off-street parking prices by area (possibly through services such as Craig's List); land use (to develop a land use diversity index, if necessary); auto ownership rates (possibly from city or state (DMV) data sources); expenditures on vehicles (DOL Consumer Expenditures); County Business Patterns or similar for zip-code business patterns (indication of retail/business activity density).

Task 3: Develop a predictive model, based on the data collected and findings from the literature review that would estimate the change in demand for vehicle ownership and permit purchasing as a result of parking prices and pricing for preferential parking permits.

Task 4: Using the predictive model, analyze the impacts of alternative permit pricing scenarios. These could include pricing permits based on area occupancy rates, availability of off-street parking or using graduated pricing on multiple permits. Determine the market price for permits, by RPP area, given a fixed supply of parking spaces and no legal constraint on revenue generation. Predict the market-clearing price for permits if their quantity were to be limited by available curb space and if distribution were to occur via an auction.

Task 5: Summarize research findings in a technical memo for review by SFMTA staff. Include the predictive model and results of model runs for each scenario analyzed.

APPENDIX

TABLE 1
RPP Policy Option Matrix

		ARUP ANALYSIS				
		SCENARIO 1 - LOW (LOW ELASTICITY & SMALL RANGE)		SCENARIO 2 - HIGH (HIGH ELASTICITY & LARGE RANGE)		
Policy #	Policy Option	Revenue Impact (Assumes no other change to prices)	Permit Sales Impact	Revenue Impact (Assumes no other change to prices)	Permit Sales Impact	Methodology and Assumptions
1	One permit per licensed driver (current household cap of four remains)	$ (262,500.00)	(2,100)	Same as scenario 1, elasticities not affected	Same as scenario 1, elasticities not affected	**Assumed 3.1% decrease with this policy.** For households with vehicles (excluding zero vehicle households), the 3.1% equals the % households with more vehicles than people, and multiplied by the percent of households with access to off street parking (52%).
2a	2x fee for customers with access to off-street parking (honor system)	$ 598,400.00	(1,230)	$ 434,500.00	(1,900)	Assumes 75% of customers don't correctly state their access to off street parking
2b	2x fee for customers with access to off-street parking (with enforcement)	$ 2,391,800.00	(4,900)	$ 1,654,900.00	(7,800)	Applied the 2X fee to a percentage of HHs in each RPP zone. Based on the HH survey, applied 55% of households have access to off street parking in area < 80% saturation, and 40% have access to off street parking in areas with >80% saturation. For each zone, we calculated the number of HHs with off-street using these %s, applied the 2X fee, and used the elasticity for each zone to calculate the change in permits.
3a	Graduated pricing based on number of permits issued	$ (2.00)	(2,500)	$ (6.00)	(4,300)	Uses a pricing structure of $106 for the first permit , $213 for the second permit, $319 for the third permit, $425 for the fourth permit and $531 for the fifth permit. For the low elasticity scenario and uses a pricing structure of $113 for the first permit, $226 for the second permit, $339 for the third permit, $452 for the fourth permit and $565 for the fifth permit for the high elasticity scenario
3b	Graduated pricing based on number of permits issued averaged by household	$ 4.00	(1,000)	$ (6.00)	(1,700)	Uses a pricing structure of $113 for the first permit , $169 for the second permit, $225 for the third permit, $282 for the fourth permit and $338 for the fifth permit. For the low elasticity scenario and uses a pricing structure of $115 for the first permit, $173 for the second permit, $230 for the third permit, $288 for the fourth permit and $345 for the fifth permit for the high elasticity scenario
4	Limit two permits per household	$ (549,000.00)	(4,300)	Same as scenario 1, elasticities not affected	Same as scenario 1, elasticities not affected	We summed the permits over 2 per household.
5	Permits capped at 120% of total occupancy	$ (163,000.00)	(1,280)	Same as scenario 1, elasticities not affected	Same as scenario 1, elasticities not affected	Cap set at 120% of all permits Areas A, C, I, J, N & S affected. this calculation uses the new 15'-16' data, which has less permits than 13'- 14' data, also area C in the older data was very different than 15'-16' data. Area C had a 152% saturation in 13'-14' data and only a 121% in 15'-16' data

*Data set used was SFMTA '15-'16 permit data set. data set had 66,850 residential permits. Some data lost (162 permits) during Arup data cleaning

ELASTICITY ANALYSIS

The elasticity values are approximately half of measured on-street metered parking elasticity values from SF Park (Shoup)

The elasticity values were estimated for each RPP area based on an indexing (min-max adjustments) of five variables: permit saturation, land use mix, % drive alone, income, and vehicle availability

The indexing assumes that lower values of each variable lead to higher elasticities and price sensitivity

LOW elasticity scenario assumes a smaller min/max range (-0.1 to -0.3) and applies greater weight to permit saturation, land use mix, and vehicle availability

HIGH elasticity scenario assumes a larger min/max range (-0.1 to -0.5) and applies a more equal weighting between the variables

TABLE 2: POLICY 1

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

	San Francisco city, California	
	Estimate	Margin of Error
Total:	348,832	+/-1,610
No vehicle available	106,042	+/-2,040
1 vehicle available	143,421	+/-2,195
2 vehicles available	74,387	+/-1,664
3 vehicles available	18,249	+/-915
4 or more vehicles available	6,733	+/-547
1-person household:	133,384	+/-2,292
No vehicle available	64,368	+/-1,572
1 vehicle available	62,520	+/-1,635
2 vehicles available	5,417	+/-541
3 vehicles available	595	+/-177
4 or more vehicles available	484	+/-145
2-person household:	115,893	+/-1,887
No vehicle available	28,025	+/-1,243
1 vehicle available	50,673	+/-1,566
2 vehicles available	32,394	+/-1,304
3 vehicles available	3,814	+/-436
4 or more vehicles available	987	+/-208
3-person household:	45,113	+/-1,259
No vehicle available	7,835	+/-676
1 vehicle available	15,892	+/-787
2 vehicles available	15,339	+/-868
3 vehicles available	5,277	+/-579
4 or more vehicles available	770	+/-201
4-or-more-person household:	54,442	+/-1,129
No vehicle available	5,814	+/-531
1 vehicle available	14,336	+/-832
2 vehicles available	21,237	+/-916
3 vehicles available	8,563	+/-545
4 or more vehicles available	4,492	+/-446

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval
Workers include members of the Armed Forces and civilians who were at work last week.
While the 2010-2014 American Community Survey (ACS) data generally reflect the February 2013 Office of Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas
Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates
Explanation of Symbols:

means the median falls in the upper interval of an open-ended distribution.

Households with vehicles		Households with excess vehicles	Percent of Households with excess vehicles of Households with atleast o	
1-person household:		1-person household:	Percent of Households with excess vehicles of Households with at least one vehicle	5.9%
1 vehicle available	62,520			
2 vehicles available	5,417	6,496		
3 vehicles available	595			
4 or more vehicles available	484		RPP Households with access to off street parking	53%
2-person household:		2-person household:		
1 vehicle available	50,673		Percent of households with excess vehicles with at least one vehcile times the amount of RPP housholds with access to off street parking	3.1%
2 vehicles available	32,394	4,801		
3 vehicles available	3,814			
4 or more vehicles available	987			
3-person household:		3-person household:		
1 vehicle available	15,892			
2 vehicles available	15,339			66,850.00
3 vehicles available	5,277	770		
4 or more vehicles available	770		**Permit Sales Impact**	**2,088.71**
4-or-more-person household:		4-or-more-person household:		
1 vehicle available	14,336			
2 vehicles available	21,237			
3 vehicles available	8,563	2,246.0 assumed 50%		
4 or more vehicles available	4,492			

TABLE 3: POLICY 2a - LOW

RPP ZONE	Current Residential Permits Sold Using Nov 2015-Nov 2016 data	Elasticity Scenario 1	Access to Off Street Parking	Base Permits	Premium permits before demand response	Premium permits before demand response that correctly state their off street avaibility	Premium Permits after demand response
A	7,618	(0.11)	0.40	4,571	3,047	762	675
B	190	(0.26)	0.55	86	105	26	19
C	4,035	(0.24)	0.40	2,421	1,614	404	308
D	1,303	(0.17)	0.55	586	717	179	148
E	1,082	(0.29)	0.55	487	595	149	105
F	2,095	(0.22)	0.40	1,257	838	210	163
G	6,511	(0.14)	0.40	3,907	2,604	651	563
H	501	(0.19)	0.55	225	276	69	56
I	2,033	(0.15)	0.40	1,220	813	203	173
J	4,547	(0.14)	0.40	2,728	1,819	455	390
K	3,806	(0.24)	0.40	2,284	1,522	381	288
L	2,214	(0.20)	0.40	1,328	886	221	177
M	2,308	(0.25)	0.40	1,385	923	231	173
N	3,667	(0.16)	0.40	2,200	1,467	367	309
O	1,974	(0.16)	0.55	888	1,086	271	227
P	1,432	(0.23)	0.40	859	573	143	110
Q*	2,927	(0.21)	0.40	1,756	1,171	293	230
R	764	(0.21)	0.55	344	420	105	83
S	10,536	(0.13)	0.40	6,322	4,214	1,054	918
T	438	(0.26)	0.55	197	241	60	45
U	1,010	(0.19)	0.40	606	404	101	82
V	1,340	(0.18)	0.55	603	737	184	151
W	1,584	(0.29)	0.40	950	634	158	113
X	1,001	(0.11)	0.55	450	551	138	123
Y	646	(0.10)	0.40	388	258	65	58
Z	2,548	(0.12)	0.40	1,529	1,019	255	224
BB	110	(0.30)	0.55	50	61	15	11
CC	179	(0.27)	0.55	81	98	25	18
DD	49	(0.28)	0.55	22	27	7	5
	68,448			**39,729**	**28,719**	**7,180**	**5,946**

Note*: Area Q permit numbers use June 15 - June 16 data

Projected Revenue

Permits Purchased	67,214
Projected Revenue	$ 9,291,276

Current

Permits Purchased	68,448
Revenue	$ 8,692,896

Change

Permit Decrease	1,234
Revenue Increase	$ 598,380

	#	Price		Revenue
Base Permits	39,729	$127	$	5,045,602
Premium Permits that incorrectly state their off street parking availibility	21,539.14	$127	$	2,735,470
Premium Permits that do correctly state their off street parking availibility (honor system)	5,945.68	$254	$	1,510,204
Total	**67,214**		**$**	**9,291,276**

TABLE 4: POLICY 2a - HIGH

RPP ZONE	Current Residential Permits Sold Using Nov 2015-Nov 2016 data	Elasticity Scenario 2	Access to Off Street Parking	Base Permits	Premium permits before demand response	Premium permits before demand response that correctly state their off street availability	Premium Permits after demand response
A	7,618	(0.20)	0.40	4,571	3,047	762	609
B	190	(0.43)	0.55	86	105	26	15
C	4,035	(0.47)	0.40	2,421	1,614	404	213
D	1,303	(0.23)	0.55	586	717	179	138
E	1,082	(0.50)	0.55	487	595	149	74
F	2,095	(0.24)	0.40	1,257	838	210	159
G	6,511	(0.17)	0.40	3,907	2,604	651	539
H	501	(0.14)	0.55	225	276	69	59
I	2,033	(0.30)	0.40	1,220	813	203	142
J	4,547	(0.21)	0.40	2,728	1,819	455	357
K	3,806	(0.33)	0.40	2,284	1,522	381	256
L	2,214	(0.37)	0.40	1,328	886	221	139
M	2,308	(0.34)	0.40	1,385	923	231	152
N	3,667	(0.27)	0.40	2,200	1,467	367	267
O	1,974	(0.13)	0.55	888	1,086	271	237
P	1,432	(0.40)	0.40	859	573	143	86
Q*	2,927	(0.36)	0.40	1,756	1,171	293	188
R	764	(0.41)	0.55	344	420	105	62
S	10,536	(0.19)	0.40	6,322	4,214	1,054	858
T	438	(0.29)	0.55	197	241	60	43
U	1,010	(0.39)	0.40	606	404	101	62
V	1,340	(0.26)	0.55	603	737	184	137
W	1,584	(0.46)	0.40	950	634	158	86
X	1,001	(0.10)	0.55	450	551	138	124
Y	646	(0.11)	0.40	388	258	65	57
Z	2,548	(0.16)	0.40	1,529	1,019	255	215
BB	110	(0.49)	0.55	50	61	15	8
CC	179	(0.44)	0.55	81	98	25	14
DD	49	(0.31)	0.55	22	27	7	5
	68,448			**39,729**	**28,719**	**7,180**	**5,300**

Note*: Area Q permit numbers use June 15 - June 16 data

Projected Revenue

Permits Purchased	66,569
Projected Revenue	$ 9,127,393

Current

Permits Purchased	68,448
Revenue	$ 8,692,896

Change

Permit Decrease	1,879
Revenue Increase	$ 434,497

		Price	Revenue
Base Permits	39,729	$127	$ 5,045,602
Premium Permits that incorrectly state their off street parking availibility	21,539.14	$127	$ 2,735,470
Premium Permits that do correctly state their off street parking availibility (honor system)	5,300.47	$254	$ 1,346,320
Total	**66,569**		**$ 9,127,393**

TABLE 5: POLICY 2b: Residential Annual Permit Fee Pricing Analysis – Pricing Changes Result in a Change to Demand - LOW

Current	Base Price	Percent Change 2x
$ 127.00	$ 127.00	100%

Premium for Off Street Availibility: 2

*if both premimium for second permit and off street availibility is selected, premium is set the same a

Projected

Permits Purchased		Total number of purchased permits
Base	39,729	63,505.24
Premium	23,776	
		Total Revenue
		$ 11,084,728

Projected Revenue Decrease/Increase
$ 2,391,832

Current

Permits Purchased	68,448
Projected Revenue	$ 8,692,896

Change		
	Permits	(4,942.76)
	revenue	$ 2,391,832

Assumptions

0.4	Access to off Street Parking, Areas > 80% Satura
0.55	Access to off Street Parking, Areas < 80% Saturation

RPP ZONE	Current Residential Permits Sold Using Nov 2015-Nov 2016	Elasticity	Base Permits	Premium Permits Before Demand Response	Access to off street Parking	Percent Decrease in Premium Permits	Premium Permits Purcahsed
A	7,618.00	(0.11)	4,571	3,047	0.40	(0.11)	2,699
B	190.00	(0.26)	86	105	0.55	(0.26)	77
C	4,035.00	(0.24)	2,421	1,614	0.40	(0.24)	1,234
D	1,303.00	(0.17)	586	717	0.55	(0.17)	594
E	1,082.00	(0.29)	487	595	0.55	(0.29)	421
F	2,095.00	(0.21)	1,257	838	0.40	(0.21)	658
G	6,511.00	(0.14)	3,907	2,604	0.40	(0.14)	2,251
H	501.00	(0.19)	225	276	0.55	(0.19)	224
I	2,033.00	(0.15)	1,220	813	0.40	(0.15)	691
J	4,547.00	(0.14)	2,728	1,819	0.40	(0.14)	1,559
K	3,806.00	(0.24)	2,284	1,522	0.40	(0.24)	1,153
L	2,214.00	(0.20)	1,328	886	0.40	(0.20)	708
M	2,308.00	(0.25)	1,385	923	0.40	(0.25)	692
N	3,667.00	(0.16)	2,200	1,467	0.40	(0.16)	1,236
O	1,974.00	(0.16)	888	1,086	0.55	(0.16)	907
P	1,432.00	(0.22)	859	573	0.40	(0.22)	446
Q*	2,927.00	(0.23)	1,756	1,171	0.40	(0.23)	903
R	764.00	(0.21)	344	420	0.55	(0.21)	333
S	10,536.00	(0.13)	6,322	4,214	0.40	(0.13)	3,673
T	438.00	(0.26)	197	241	0.55	(0.26)	179
U	1,010.00	(0.19)	606	404	0.40	(0.19)	326
V	1,340.00	(0.18)	603	737	0.55	(0.18)	605
W	1,584.00	(0.29)	950	634	0.40	(0.29)	453
X	1,001.00	(0.11)	450	551	0.55	(0.11)	492
Y	646.00	(0.10)	388	258	0.40	(0.10)	233
Z	2,548.00	(0.12)	1,529	1,019	0.40	(0.12)	895
BB	110.00	(0.30)	50	61	0.55	(0.30)	42
CC	179.00	(0.27)	81	98	0.55	(0.27)	72
DD	49.00	(0.28)	22	27	0.55	(0.28)	19
Sum	**68,448.00**		**39,729.15**	**28,718.85**			**23,776.09**
Column Explanation:	Residential Permits 'before' inputs	Elasticity inputs	These columns divide current permits into premium and base, depending on % of off street parking availibility (Col G)		off street parking availibility inputs	This Column uses elasticities on Premium Permits	Premium purchased before decrease from HH/D/ Limit or % cap

TABLE 6: POLICY 2b: Residential Annual Permit Fee Pricing Analysis – Pricing Changes Result in a Change to Demand - HIGH

Current	Base Price	Percent Change 2x
$ 127.00	$ 127.00	100%

Premium for Off Street Availibility 2

*if both premimium for second permit and off street availibility is selected, premium is set the same as

Projected

Permits Purchased		Total number of purchased permits		
Base	39,729	60,600.08		
Premium	20,871	Total Revenue		Projected Revenue Decrease/Increase
		$ 10,346,818		$ 1,653,922

Current

Permits Purchased	68,448	Change	Permits	(7,847.92)
Projected Revenue	$ 8,692,896		revenue	$ 1,653,922

RPP ZONE	Current Residential Permits Sold Using Nov 2015- Nov 2016 data	Elasticity	Base Permits	Premium Permits Before Demand Response	Access to off street Parking	Percent Decrease in Premium Permits	Premium Permits Purcahsed
A	7,618.00	(0.15)	4,571	3,047	0.40	(0.15)	2,579
B	190.00	(0.56)	86	105	0.55	(0.56)	46
C	4,035.00	(0.40)	2,421	1,614	0.40	(0.40)	963
D	1,303.00	(0.28)	586	717	0.55	(0.28)	517
E	1,082.00	(0.58)	487	595	0.55	(0.58)	249
F	2,095.00	(0.23)	1,257	838	0.40	(0.23)	649
G	6,511.00	(0.14)	3,907	2,604	0.40	(0.14)	2,251
H	501.00	(0.35)	225	276	0.55	(0.35)	179
I	2,033.00	(0.33)	1,220	813	0.40	(0.33)	543
J	4,547.00	(0.21)	2,728	1,819	0.40	(0.21)	1,442
K	3,806.00	(0.37)	2,284	1,522	0.40	(0.37)	962
L	2,214.00	(0.42)	1,328	886	0.40	(0.42)	512
M	2,308.00	(0.24)	1,385	923	0.40	(0.24)	699
N	3,667.00	(0.30)	2,200	1,467	0.40	(0.30)	1,032
O	1,974.00	(0.26)	888	1,086	0.55	(0.26)	803
P	1,432.00	(0.48)	859	573	0.40	(0.48)	301
Q*	2,927.00	(0.44)	1,756	1,171	0.40	(0.44)	656
R	764.00	(0.53)	344	420	0.55	(0.53)	198
S	10,536.00	(0.17)	6,322	4,214	0.40	(0.17)	3,492
T	438.00	(0.46)	197	241	0.55	(0.46)	131
U	1,010.00	(0.31)	606	404	0.40	(0.31)	277
V	1,340.00	(0.39)	603	737	0.55	(0.39)	453
W	1,584.00	(0.51)	950	634	0.40	(0.51)	310
X	1,001.00	(0.12)	450	551	0.55	(0.12)	486
Y	646.00	(0.10)	388	258	0.40	(0.10)	233
Z	2,548.00	(0.19)	1,529	1,019	0.40	(0.19)	826
BB	110.00	(0.60)	50	61	0.55	(0.60)	24
CC	179.00	(0.55)	81	98	0.55	(0.55)	45
DD	49.00	(0.49)	22	27	0.55	(0.49)	14
Sum	**68,448.00**		**39,729.15**	**28,718.85**			**20,870.93**
Column Explanation:	Residential Permits 'before' inputs	Elasticity inputs	These columns divide current permits into premium and base, depending on % of off street parking availibility (Col G)		off street parking availibility inputs	This Column uses elasticities on Premium Permits	Premium purchased before decrease from HH/D/ Limit or % cap

Assumptions

0.4	Access to off Street Parking, Areas > 80% Satura
0.55	Access to off Street Parking, Areas < 80% Saturation

TABLE 7: Policy 3a: Graduated Pricing Changes - LOW Elasticity Scenario & Applied to Each Permit Sequentially

This scenario uses the LOW elasticity assumptions, but applies the graduated pricing to each permit sequentially

		TTL Q	TTL Rev
Initial Base Price=	$127	68,446	$8,692,642
Modified Base Price + Graduated Pricing=	$106	65,968	$8,692,640
Difference	($21)	(2,478)	-$2
% Change	*-16%*	*-4%*	*0%*

Modified Graduated Prices				
1	2	3	4	5
$106	$213	$319	$425	$531

	Elasticity	Initial Price, Quantity, and Revenue								Modified Price, Quantity, and Revenue							Change	
RPP ZONE	e	P$	1P (Q)	2P (Q)	3P (Q)	4P (Q)	5P (Q)	Sum Permits	Revenue	1PX (Q)	2PX (Q)	3PX (Q)	4PX (Q)	5PX (Q)	Sum PermitsX	REV(XP)	Permits	% Change
A	-0.11	$127	5,041	1,775	549	178	74	7,618	$967,486	5,135	1,572	424	117	40	7,289	$1,086,186	-329	-4.3%
B	-0.26	$127	93	47	25	16	9	190	$24,130	97	35	12	3	0	147	$22,827	-43	-22.8%
C	-0.24	$127	2,761	912	237	81	41	4,034	$512,318	2,868	697	125	24	2	3,717	$504,395	-317	-7.9%
D	-0.17	$127	828	345	96	26	7	1,303	$165,481	851	286	63	12	2	1,216	$178,025	-87	-6.7%
E	-0.29	$127	685	264	86	35	13	1,082	$137,414	717	187	36	4	0	944	$129,017	-138	-12.8%
F	-0.22	$127	1,109	554	251	110	69	2,094	$265,938	1,149	431	140	37	8	1,765	$278,405	-329	-15.7%
G	-0.14	$127	4,282	1,553	448	169	59	6,511	$826,897	4,377	1,342	326	100	27	6,173	$911,444	-338	-5.2%
H	-0.19	$127	300	140	43	15	4	501	$63,627	309	114	27	7	1	457	$68,929	-44	-8.8%
I	-0.15	$127	1,372	461	139	35	26	2,033	$258,191	1,405	392	97	19	11	1,924	$277,418	-109	-5.4%
J	-0.14	$127	3,059	1,061	299	88	40	4,547	$577,469	3,130	910	213	50	17	4,321	$624,556	-226	-5.0%
K	-0.24	$127	2,426	933	300	101	46	3,806	$483,362	2,522	706	154	27	1	3,412	$479,757	-394	-10.4%
L	-0.20	$127	1,799	332	65	17	2	2,214	$281,178	1,857	265	39	7	0	2,169	$269,293	-45	-2.0%
M	-0.25	$127	2,058	224	22	4	0	2,308	$293,116	2,142	168	11	1	0	2,322	$267,295	14	0.6%
N	-0.16	$127	3,107	488	59	9	4	3,667	$465,709	3,187	411	40	5	1	3,645	$441,814	-22	-0.6%
O	-0.16	$127	1,633	282	51	6	2	1,974	$250,698	1,677	236	34	3	1	1,951	$240,828	-23	-1.2%
P	-0.23	$127	1,256	155	17	2	1	1,432	$181,864	1,303	120	9	1	0	1,433	$167,257	1	0.1%
Q*	-0.21	$127	2,703	205	16	3	0	2,927	$371,729	2,797	161	9	1	0	2,969	$334,933	42	1.4%
R	-0.21	$127	663	89	9	2	2	764	$97,028	685	70	5	1	0	762	$89,900	-2	-0.3%
S	-0.13	$127	9,133	1,222	144	22	15	10,536	$1,338,072	9,324	1,065	107	14	7	10,517	$1,261,141	-19	-0.2%
T	-0.26	$127	383	49	5	1	0	438	$55,626	399	36	2	0	0	438	$51,021	0	0.0%
U	-0.19	$127	881	110	13	5	1	1,010	$128,270	909	89	8	2	0	1,008	$119,032	-2	-0.2%
V	-0.18	$127	1,161	157	16	3	3	1,340	$170,180	1,195	129	10	1	1	1,336	$158,725	-4	-0.3%
W	-0.29	$127	1,375	181	20	6	1	1,584	$201,168	1,440	130	9	1	0	1,579	$183,638	-5	-0.3%
X	-0.11	$127	845	127	22	5	2	1,001	$127,127	860	113	17	4	1	995	$123,130	-6	-0.6%
Y	-0.10	$127	573	67	6	0	0	646	$82,042	582	60	5	0	0	647	$76,239	1	0.2%
Z	-0.12	$127	2,193	314	32	6	3	2,548	$323,596	2,237	276	24	4	1	2,542	$306,404	-6	-0.2%
BB	-0.30	$127	76	25	5	2	2	110	$13,970	80	18	2	0	0	99	$12,915	-11	-9.6%
CC	-0.27	$127	96	49	21	8	4	179	$22,733	101	36	10	1	0	148	$22,073	-31	-17.4%
DD	-0.28	$127	35	14	1	0	0	49	$6,223	36	10	0	0	0	46	$6,045	-3	-5.6%
	TOTAL		**51,926**	**12,136**	**2,998**	**955**	**431**	**68,446**	**$8,692,642**	**53,372**	**10,065**	**1,961**	**447**	**124**	**65,968**	**$8,692,640**	**-2,478**	**-3.6%**
	Permit Breakdown		*76%*	*18%*	*4%*	*1%*	*1%*			*81%*	*15%*	*3%*	*1%*	*0%*		*65,968*		

TABLE 8: Policy 3a: Graduated Pricing Changes - HIGH Elasticity Scenario & Applied to Each Permit Sequentially

		TTL Q	TTL Rev
Initial Base Price=	**$127**	68,446	$8,692,642
Modified Base Price + Graduated Pricing=	**$113**	64,146	$8,692,636
Difference	($14)	(4,300)	-$6
% Change	-11%	-6%	0%

This scenario uses the HIGH elasticity assumptions, but applies the graduated pricing to each permit sequentially

Modified Graduated Prices

1	2	3	4	5
$113	$226	$339	$452	$565

	Elasticity	Initial Price, Quantity, and Revenue								Modified Price, Quantity, and Revenue							Change	
RPP ZONE	e	P$	1P (Q)	2P (Q)	3P (Q)	4P (Q)	5P (Q)	SumP	Revenue	1PX (Q)	2PX (Q)	3PX (Q)	4PX (Q)	5PX (Q)	SumPX	REV(XP)	Permits	% Change
A	-0.20	$127	5,041	1,775	549	178	74	7,618	$967,486	5,153	1,420	330	71	15	6,989	$1,055,062	-629	-8.3%
B	-0.43	$127	93	47	25	16	9	190	$24,130	97	27	4	0	0	128	$18,279	-62	-32.7%
C	-0.47	$127	2,761	912	237	81	41	4,034	$512,318	2,905	482	14	0	0	3,401	$441,705	-633	-15.7%
D	-0.23	$127	828	345	96	26	7	1,303	$165,481	849	266	52	8	1	1,177	$177,816	-126	-9.7%
E	-0.50	$127	685	264	86	35	13	1,082	$137,414	723	132	0	0	0	855	$111,410	-227	-21.0%
F	-0.24	$127	1,109	554	251	110	69	2,094	$265,938	1,139	420	129	30	2	1,720	$281,826	-374	-17.9%
G	-0.17	$127	4,282	1,553	448	169	59	6,511	$826,897	4,363	1,287	294	82	19	6,045	$930,796	-466	-7.2%
H	-0.14	$127	300	140	43	15	4	501	$63,627	304	120	31	9	2	465	$76,621	-36	-7.2%
I	-0.30	$127	1,372	461	139	35	26	2,033	$258,191	1,417	323	56	3	0	1,799	$253,381	-234	-11.5%
J	-0.21	$127	3,059	1,061	299	88	40	4,547	$577,469	3,132	834	171	32	6	4,173	$617,340	-374	-8.2%
K	-0.33	$127	2,426	933	300	101	46	3,806	$483,362	2,514	626	103	1	0	3,245	$461,020	-561	-14.7%
L	-0.37	$127	1,799	332	65	17	2	2,214	$281,178	1,873	209	17	0	0	2,098	$264,294	-116	-5.2%
M	-0.34	$127	2,058	224	22	4	0	2,308	$293,116	2,136	147	7	0	0	2,290	$276,851	-18	-0.8%
N	-0.27	$127	3,107	488	59	9	4	3,667	$465,709	3,200	356	27	2	0	3,585	$451,696	-82	-2.2%
O	-0.13	$127	1,633	282	51	6	2	1,974	$250,698	1,657	246	38	3	1	1,945	$257,548	-29	-1.5%
P	-0.40	$127	1,256	155	17	2	1	1,432	$181,864	1,312	93	3	0	0	1,408	$170,339	-24	-1.7%
Q*	-0.36	$127	2,703	205	16	3	0	2,927	$371,729	2,810	132	5	0	0	2,946	$348,722	19	0.7%
R	-0.41	$127	663	89	9	2	2	764	$97,028	693	52	2	0	0	747	$90,544	-17	-2.3%
S	-0.19	$127	9,133	1,222	144	22	15	10,536	$1,338,072	9,320	995	90	10	4	10,420	$1,314,788	-116	-1.1%
T	-0.29	$127	383	49	5	1	0	438	$55,626	395	35	2	0	0	432	$53,324	-6	-1.3%
U	-0.39	$127	881	110	13	5	1	1,010	$128,270	918	67	3	0	0	989	$120,008	-21	-2.1%
V	-0.26	$127	1,161	157	16	3	3	1,340	$170,180	1,194	117	8	1	0	1,319	$164,153	-21	-1.6%
W	-0.46	$127	1,375	181	20	6	1	1,584	$201,168	1,445	98	2	0	0	1,545	$186,034	-39	-2.5%
X	-0.10	$127	845	127	22	5	2	1,001	$127,127	854	114	17	4	1	991	$130,645	-10	-1.0%
Y	-0.11	$127	573	67	6	0	0	646	$82,042	580	59	5	0	0	644	$80,511	-2	-0.3%
Z	-0.16	$127	2,193	314	32	6	3	2,548	$323,596	2,232	265	22	3	1	2,522	$321,225	-26	-1.0%
BB	-0.49	$127	76	25	5	2	2	110	$13,970	80	13	0	0	0	93	$11,998	-17	-15.4%
CC	-0.44	$127	96	49	21	8	4	179	$22,733	101	27	2	0	0	131	$18,449	-48	-26.8%
DD	-0.31	$127	35	14	1	0	0	49	$6,223	36	9	0	0	0	45	$6,249	-4	-7.5%
	TOTAL		**51,926**	**12,136**	**2,998**	**955**	**431**	**68,446**	**$8,692,642**	**53,433**	**8,971**	**1,432**	**259**	**51**	**64,146**	**$8,692,636**	**-4,300**	**-6.3%**
	Permit Breakdown		*76%*	*18%*	*4%*	*1%*	*1%*			*83%*	*14%*	*2%*	*0%*	*0%*		*64,146*		

TABLE 9: Policy 3b: Graduated Pricing Changes - LOW Elasticity Scenario & Averaged Across the Permits Sold to the Same ID

This scenario uses the LOW elasticity assumptions, but averages the graduated pricing across the number of permits sold to each Account ID

		TTL Q	TTL Rev
Initial Base Price=	**$127**	68,446	$8,692,642
Modified Base Price + Graduated Pricing=	**$113**	67,478	$8,692,646
Difference	($14)	(968)	$4
% Change	*-11%*	*-1%*	*0%*

Modified Graduated Prices Averaged to HH Purchases

1	1.5	2	2.5	3
$113	$169	$225	$282	$338

	Elasticity	Initial Price, Quantity, and Revenue								Modified Price, Quantity, and Revenue							Change	
RPP ZONE	e	P$	1P (Q)	2P (Q)	3P (Q)	4P (Q)	5P (Q)	Sum Permits	Revenue	1PX (Q)	2PX (Q)	3PX (Q)	4PX (Q)	5PX (Q)	Sum PermitsX	REV(XP)	Permits	% Change
A	-0.11	$127	5,041	1,775	549	178	74	7,618	$967,486	5,106	1,674	487	148	57	7,471	$1,029,210	-147	-1.9%
B	-0.26	$127	93	47	25	16	9	190	$24,130	96	41	18	10	4	169	$25,996	-21	-11.1%
C	-0.24	$127	2,761	912	237	81	41	4,034	$512,318	2,835	805	181	53	22	3,895	$518,775	-139	-3.4%
D	-0.17	$127	828	345	96	26	7	1,303	$165,481	844	316	80	19	5	1,264	$173,569	-39	-3.0%
E	-0.29	$127	685	264	86	35	13	1,082	$137,414	707	225	61	19	5	1,018	$138,785	-64	-5.9%
F	-0.22	$127	1,109	554	251	110	69	2,094	$265,938	1,137	493	196	74	39	1,937	$289,377	-157	-7.5%
G	-0.14	$127	4,282	1,553	448	169	59	6,511	$826,897	4,347	1,448	387	134	43	6,360	$874,610	-151	-2.3%
H	-0.19	$127	300	140	43	15	4	501	$63,627	306	127	35	11	3	481	$67,660	-20	-4.1%
I	-0.15	$127	1,372	461	139	35	26	2,033	$258,191	1,395	426	118	27	18	1,985	$269,844	-48	-2.4%
J	-0.14	$127	3,059	1,061	299	88	40	4,547	$577,469	3,108	985	256	69	28	4,447	$603,886	-100	-2.2%
K	-0.24	$127	2,426	933	300	101	46	3,806	$483,362	2,492	820	227	64	24	3,627	$496,855	-179	-4.7%
L	-0.20	$127	1,799	332	65	17	2	2,214	$281,178	1,839	299	52	12	1	2,203	$273,203	-11	-0.5%
M	-0.25	$127	2,058	224	22	4	0	2,308	$293,116	2,116	196	17	3	0	2,331	$276,096	23	1.0%
N	-0.16	$127	3,107	488	59	9	4	3,667	$465,709	3,162	450	50	7	3	3,671	$446,543	4	0.1%
O	-0.16	$127	1,633	282	51	6	2	1,974	$250,698	1,664	259	43	4	1	1,971	$242,539	-3	-0.2%
P	-0.23	$127	1,256	155	17	2	1	1,432	$181,864	1,288	137	13	2	1	1,441	$172,122	9	0.6%
Q*	-0.21	$127	2,703	205	16	3	0	2,927	$371,729	2,768	183	13	2	0	2,966	$346,398	39	1.3%
R	-0.21	$127	663	89	9	2	2	764	$97,028	678	80	7	1	1	767	$92,200	3	0.4%
S	-0.13	$127	9,133	1,222	144	22	15	10,536	$1,338,072	9,265	1,143	125	18	11	10,563	$1,274,911	27	0.3%
T	-0.26	$127	383	49	5	1	0	438	$55,626	394	43	4	1	0	441	$52,654	3	0.7%
U	-0.19	$127	881	110	13	5	1	1,010	$128,270	900	99	11	4	1	1,014	$121,866	4	0.4%
V	-0.18	$127	1,161	157	16	3	3	1,340	$170,180	1,184	143	13	2	2	1,345	$161,918	5	0.3%
W	-0.29	$127	1,375	181	20	6	1	1,584	$201,168	1,420	156	14	4	0	1,593	$190,682	9	0.6%
X	-0.11	$127	845	127	22	5	2	1,001	$127,127	855	120	19	5	2	1,001	$122,946	0	0.0%
Y	-0.10	$127	573	67	6	0	0	646	$82,042	579	64	5	0	0	648	$77,301	2	0.4%
Z	-0.12	$127	2,193	314	32	6	3	2,548	$323,596	2,223	295	28	5	2	2,553	$308,882	5	0.2%
BB	-0.30	$127	76	25	5	2	2	110	$13,970	79	21	4	1	1	105	$13,819	-5	-4.4%
CC	-0.27	$127	96	49	21	8	4	179	$22,733	99	43	16	5	2	164	$23,860	-15	-8.4%
DD	-0.28	$127	35	14	1	0	0	49	$6,223	36	12	1	0	0	48	$6,138	-1	-2.2%
	TOTAL		**51,926**	**12,136**	**2,998**	**955**	**431**	**68,446**	**$8,692,642**	**52,922**	**11,101**	**2,480**	**701**	**275**	**67,478**	**$8,692,646**	**-968**	**-1.4%**
	Permit Breakdown		*76%*	*18%*	*4%*	*1%*	*1%*			*78%*	*16%*	*4%*	*1%*	*0%*		*67,478*		

TABLE 10: Policy 3b: Graduated Pricing Changes - HIGH Elasticity Scenario & Averaged Across the Permits Sold to the Same ID

This scenario uses the HIGH elasticity assumptions, but averages the graduated pricing across the number of permits sold to each Account ID

		TTL Q	TTL Rev
Initial Base Price=	$127	68,446	$8,692,642
Modified Base Price + Graduated Pricing=	$115	66,738	$8,692,648
Difference	($12)	(1,708)	$6
% Change	-9%	-2%	0%

Modified Graduated Prices

1	1.5	2	2.5	3
$115	$173	$230	$288	$345

	Elasticity	Initial Price, Quantity, and Revenue								Modified Price, Quantity, and Revenue							Change	
RPP ZONE	e	P$	1P (Q)	2P (Q)	3P (Q)	4P (Q)	5P (Q)	SumP	Revenue	1PX (Q)	2PX (Q)	3PX (Q)	4PX (Q)	5PX (Q)	SumPX	REV(XP)	Permits	% Change
A	-0.20	$127	5,041	1,775	549	178	74	7,618	$967,486	5,135	1,598	440	125	44	7,342	$1,019,763	-276	-3.6%
B	-0.43	$127	93	47	25	16	9	190	$24,130	97	37	14	6	1	155	$22,895	-35	-18.5%
C	-0.47	$127	2,761	912	237	81	41	4,034	$512,318	2,883	697	125	24	2	3,732	$489,004	-302	-7.5%
D	-0.23	$127	828	345	96	26	7	1,303	$165,481	846	306	74	17	4	1,247	$173,600	-56	-4.3%
E	-0.50	$127	685	264	86	35	13	1,082	$137,414	717	198	43	9	0	966	$129,073	-116	-10.7%
F	-0.24	$127	1,109	554	251	110	69	2,094	$265,938	1,134	487	190	70	36	1,917	$291,002	-177	-8.5%
G	-0.17	$127	4,282	1,553	448	169	59	6,511	$826,897	4,351	1,420	371	125	39	6,306	$881,244	-205	-3.1%
H	-0.14	$127	300	140	43	15	4	501	$63,627	303	130	37	12	3	485	$70,192	-16	-3.3%
I	-0.30	$127	1,372	461	139	35	26	2,033	$258,191	1,410	392	97	19	11	1,929	$261,637	-104	-5.1%
J	-0.21	$127	3,059	1,061	299	88	40	4,547	$577,469	3,120	947	235	60	23	4,385	$602,110	-162	-3.6%
K	-0.33	$127	2,426	933	300	101	46	3,806	$483,362	2,500	780	201	51	16	3,549	$489,191	-257	-6.8%
L	-0.37	$127	1,799	332	65	17	2	2,214	$281,178	1,861	270	41	7	0	2,180	$272,673	-34	-1.5%
M	-0.34	$127	2,058	224	22	4	0	2,308	$293,116	2,124	185	15	2	0	2,326	$280,521	18	0.8%
N	-0.27	$127	3,107	488	59	9	4	3,667	$465,709	3,186	422	43	5	2	3,658	$451,762	-9	-0.3%
O	-0.13	$127	1,633	282	51	6	2	1,974	$250,698	1,653	264	44	4	1	1,967	$247,959	-7	-0.3%
P	-0.40	$127	1,256	155	17	2	1	1,432	$181,864	1,303	124	10	1	0	1,439	$174,209	7	0.5%
Q*	-0.36	$127	2,703	205	16	3	0	2,927	$371,729	2,793	169	10	1	0	2,973	$353,491	46	1.6%
R	-0.41	$127	663	89	9	2	2	764	$97,028	688	70	5	1	0	765	$92,932	1	0.1%
S	-0.19	$127	9,133	1,222	144	22	15	10,536	$1,338,072	9,291	1,108	117	16	10	10,542	$1,296,268	6	0.1%
T	-0.29	$127	383	49	5	1	0	438	$55,626	393	42	4	1	0	439	$53,521	1	0.3%
U	-0.39	$127	881	110	13	5	1	1,010	$128,270	913	89	8	2	0	1,012	$122,966	2	0.2%
V	-0.26	$127	1,161	157	16	3	3	1,340	$170,180	1,189	137	12	2	1	1,341	$164,304	1	0.1%
W	-0.46	$127	1,375	181	20	6	1	1,584	$201,168	1,434	140	11	2	0	1,587	$192,397	3	0.2%
X	-0.10	$127	845	127	22	5	2	1,001	$127,127	853	120	20	5	2	999	$125,468	-2	-0.2%
Y	-0.11	$127	573	67	6	0	0	646	$82,042	579	63	5	0	0	648	$78,822	2	0.2%
Z	-0.16	$127	2,193	314	32	6	3	2,548	$323,596	2,226	290	27	4	2	2,548	$314,392	0	0.0%
BB	-0.49	$127	76	25	5	2	2	110	$13,970	79	19	3	1	0	102	$13,186	-8	-7.7%
CC	-0.44	$127	96	49	21	8	4	179	$22,733	100	38	12	3	0	154	$21,854	-25	-14.1%
DD	-0.31	$127	35	14	1	0	0	49	$6,223	36	11	1	0	0	48	$6,213	-1	-2.9%
	TOTAL		**51,926**	**12,136**	**2,998**	**955**	**431**	**68,446**	**$8,692,642**	**53,197**	**10,554**	**2,215**	**574**	**198**	**66,738**	**$8,692,648**	**-1,708**	**-2.5%**
	Permit Breakdown		*76%*	*18%*	*4%*	*1%*	*1%*			*80%*	*16%*	*3%*	*1%*	*0%*		*66,738*		

TABLE 11: POLICY 4

	Permits per account		total permits purchased	Permits per order of number purcahsed	Current Permit
1st permits	38,476	1	38,476	1st permit	50,458
2nd permit	9,027	2	18,054	2nd permit	11,982
3rd permit	2,014	3	6,042	3rd permit	2,955
4th	659	4	2,636	4th	941
5th	186	5	930	5th	282
6th	63	6	378	6th	96
7th	21	7	147	7th	33
8th	8	8	64	8th	12
9th	2	9	18	9th	4
10th	2	10	20	10th	2
			66,765		66,765

* some error (+-100) due to data inconsistency

Current Revenue		
Permits Purchased		66,765
Projected Revenue	$	8,479,155
Projected Revenue		
Permits Purchased		62,440
Projected Revenue	$	7,929,880
Projected Revenue	**Decrease**	
	$	(549,275)

TABLE 12: POLICY 5

RPP ZONE	Current Residential Permits Sold Using Nov 2015- Nov	Elasticity Scenario 1	Cap Decrease	Residental Permits Puchased	New Permit Sautration
A	7,618	(0.12)	(1,072.40)	6,546	120%
B	190	(0.25)	-	190	46%
C	4,035	(0.16)	(22.20)	4,013	120%
D	1,303	(0.18)	-	1,303	68%
E	1,082	(0.21)	-	1,082	59%
F	2,095	(0.23)	-	2,095	98%
G	6,511	(0.10)	-	6,511	111%
H	501	(0.26)	-	501	21%
I	2,033	(0.14)	(17.40)	2,016	120%
J	4,547	(0.16)	(98.60)	4,448	120%
K	3,806	(0.28)	-	3,806	92%
L	2,214	(0.19)	-	2,214	103%
M	2,308	(0.24)	-	2,308	78%
N	3,667	(0.15)	(67.60)	3,599	120%
O	1,974	(0.21)	-	1,974	47%
P	1,432	(0.24)	-	1,432	105%
Q*	2,927	(0.29)	-	2,927	46%
R	764	(0.19)	-	764	75%
S	10,536	(0.11)	(6.20)	10,530	120%
T	438	(0.30)	-	438	31%
U	1,010	(0.17)	-	1,010	104%
V	1,340	(0.13)	-	1,340	61%
W	1,584	(0.26)	-	1,584	64%
X	1,001	(0.20)	-	1,001	68%
Y	646	**(0.11)**	-	646	117%
Z	2,548	-0.14	-	2,548	107%
BB	110	-0.29	-	110	51%
CC	179	-0.22	-	179	51%
DD	49	-0.27	-	49	11%
Sum	**68,448**		**(1,284)**	**67,164**	

Projected Revenue

Permits Purchased	67,164
Projected Revenue	$ 8,529,777

Current

Permits Purchased	68,448
Revenue	$ 8,692,896
Permit Decrease	1,284
Revenue Decrease	$ 163,119

Note*: Area Q permit numbers use June 15 - June 16 data

TABLE 13: ELASTICITY ASSUMPTIONS

ELASTICITY FACTORS

Values of each factor lead to (higher/lower) sensitivity, elasticity, and weight:

Value	Higher	Higher	Higher	Higher	Higher
Elasticity	Lower	Lower	Lower	Lower	Lower
RPP Area	Permit Saturation**	Land Use Diversity Factor (1=single, 3=mixed)	Percent Drive Alone	Income $	HHs with 1+ Vehicles (%)
A	132%	3.00	27%	$81,124	61.00
B	45%	1.00	47%	$77,194	91.00
C	111%	3.00	15%	$39,880	30.00
D	64%	2.00	48%	$104,291	87.00
E	49%	1.00	47%	$49,434	78.00
F	84%	1.00	53%	$122,675	86.00
G	98%	3.00	36%	$92,012	67.00
H	20%	2.00	51%	$145,476	97.00
I	113%	3.00	22%	$64,828	59.00
J	114%	2.00	36%	$98,502	81.00
K	81%	1.00	40%	$124,749	80.00
L	97%	2.00	31%	$71,546	75.00
M	72%	1.00	45%	$116,762	82.00
N	111%	2.00	39%	$74,214	74.00
O	42%	2.00	54%	$131,377	93.00
P	90%	2.00	28%	$79,372	66.00
Q*	102%	2.00	27%	$110,109	58.00
R	70%	3.00	30%	$58,737	51.00
S	113%	3.00	31%	$80,927	69.00
T	31%	1.00	49%	$139,441	95.00
U	87%	3.00	23%	$77,170	51.00
V	58%	2.00	48%	$75,307	93.00
W	61%	1.00	37%	$73,319	82.00
X	65%	3.00	43%	$166,016	87.00
Y	113%	3.00	33%	$126,887	82.00
Z	101%	3.00	31%	$96,070	73.00
BB	48%	1.00	35%	$83,793	78.00
CC	49%	1.00	49%	$65,804	88.00
DD	11%	1.00	61%	$112,226	95.00

SCENARIO 1 - LOW

Low max, small range, but varied weights

Adjust the weights to impact elasticity						Elasticity Ranges
WEIGHTS					**MIN**	-0.1
3	**3**	**1**	**1**	**3**	**MAX**	-0.3
Permit Saturation	Land Use Diversity Factor	Percent Drive Alone Factor	Income	HHs with 1+ Veh	Combined Score	Equal Weighted Elasticity Natural Log
0.00	0.00	0.74	0.67	0.54	3.02	-0.11
0.72	1.00	0.30	0.70	0.09	6.42	-0.26
0.17	0.00	1.00	1.00	1.00	5.52	-0.24
0.56	0.50	0.28	0.49	0.15	4.40	-0.17
0.69	1.00	0.30	0.92	0.28	7.14	-0.29
0.39	1.00	0.17	0.34	0.16	5.19	-0.22
0.28	0.00	0.54	0.59	0.45	3.33	-0.14
0.93	0.50	0.22	0.16	0.00	4.66	-0.19
0.15	0.00	0.85	0.80	0.57	3.82	-0.15
0.15	0.50	0.54	0.54	0.24	3.75	-0.14
0.42	1.00	0.46	0.33	0.25	5.80	-0.24
0.29	0.50	0.65	0.75	0.33	4.76	-0.20
0.50	1.00	0.35	0.39	0.22	5.91	-0.25
0.17	0.50	0.48	0.73	0.34	4.26	-0.16
0.74	0.50	0.15	0.27	0.06	4.33	-0.16
0.35	0.50	0.72	0.69	0.46	5.33	-0.23
0.25	0.50	0.74	0.44	0.58	5.17	-0.21
0.51	0.00	0.67	0.85	0.69	5.11	-0.21
0.16	0.00	0.65	0.67	0.42	3.05	-0.13
0.83	1.00	0.26	0.21	0.03	6.05	-0.26
0.37	0.00	0.83	0.70	0.69	4.70	-0.19
0.61	0.50	0.28	0.72	0.06	4.50	-0.18
0.59	1.00	0.52	0.73	0.22	6.69	-0.29
0.55	0.00	0.39	0.00	0.15	2.49	-0.11
0.16	0.00	0.61	0.31	0.22	2.08	-0.10
0.25	0.00	0.65	0.55	0.36	3.05	-0.12
0.69	1.00	0.57	0.65	0.28	7.15	-0.30
0.68	1.00	0.26	0.79	0.13	6.50	-0.27
1.00	1.00	0.00	0.43	0.03	6.52	-0.28

SCENARIO 2 - HIGH

High max, large range, equal weights

Adjust the weights to impact elasticity						Elasticity Ranges
WEIGHTS					**MIN**	-0.1
1	**1**	**1**	**1**	**1**	**MAX**	-0.5
Permit Saturation	Land Use Diversity Factor	Percent Drive Alone Factor	Income	HHs with 1+ Veh	Combined Score	Equal Weighted Elasticity Natural Log
0.00	0.00	0.74	0.67	0.54	1.95	-0.20
0.72	1.00	0.30	0.70	0.09	2.81	-0.43
0.17	0.00	1.00	1.00	1.00	3.17	-0.47
0.56	0.50	0.28	0.49	0.15	1.98	-0.23
0.69	1.00	0.30	0.92	0.28	3.20	-0.50
0.39	1.00	0.17	0.34	0.16	2.07	-0.24
0.28	0.00	0.54	0.59	0.45	1.86	-0.17
0.93	0.50	0.22	0.16	0.00	1.81	-0.14
0.15	0.00	0.85	0.80	0.57	2.37	-0.30
0.15	0.50	0.54	0.54	0.24	1.97	-0.21
0.42	1.00	0.46	0.33	0.25	2.46	-0.33
0.29	0.50	0.65	0.75	0.33	2.52	-0.37
0.50	1.00	0.35	0.39	0.22	2.46	-0.34
0.17	0.50	0.48	0.73	0.34	2.22	-0.27
0.74	0.50	0.15	0.27	0.06	1.73	-0.13
0.35	0.50	0.72	0.69	0.46	2.71	-0.40
0.25	0.50	0.74	0.44	0.58	2.51	-0.36
0.51	0.00	0.67	0.85	0.69	2.72	-0.41
0.16	0.00	0.65	0.67	0.42	1.90	-0.19
0.83	1.00	0.26	0.21	0.03	2.33	-0.29
0.37	0.00	0.83	0.70	0.69	2.59	-0.39
0.61	0.50	0.28	0.72	0.06	2.17	-0.26
0.59	1.00	0.52	0.73	0.22	3.07	-0.46
0.55	0.00	0.39	0.00	0.15	1.09	-0.10
0.16	0.00	0.61	0.31	0.22	1.30	-0.11
0.25	0.00	0.65	0.55	0.36	1.82	-0.16
0.69	1.00	0.57	0.65	0.28	3.19	-0.49
0.68	1.00	0.26	0.79	0.13	2.87	-0.44
1.00	1.00	0.00	0.43	0.03	2.46	-0.31

Key Findings from the 2015 Residential Parking Permit Household Survey

Introduction

The purpose of the household survey was to provide information about the effectiveness of the RPP program as currently designed and to determine those factors which affect a resident's likelihood of purchasing a permit, such as access to off-street parking, work or school location, commute mode, presence of children and number of employed workers in the household. The survey also tested the potential acceptance of two reform concepts: capping the number of permits at two per household and increasing the price of permits.

Key Statistics

- The survey was administered online from November 21 to December 15, 2015 by Godbe Research.
- Email invitations were sent to San Francisco voters who provided their email address when they registered to vote.
- The survey consisted of 41 questions and took approximately 20 minutes to complete.
- The survey was available in English, Spanish, Chinese and Tagalog.
- The total number of registered voters who completed the survey was 2,349.

How effective is the RPP program as currently designed?

The survey asked questions about ease of access to on-street parking near residents' homes and about the time it took to find parking near their home as well as the distance

from their home that they found parking. Answers to these questions were correlated to their answers about their level of satisfaction with their quality of life. Based on responses to these questions, the survey found that access to on-street parking near residents' home impacts their quality of life. The majority of respondents living in RPP areas (59%) rated access to on-street parking as fair or better. Of these, 77 percent were either very satisfied or somewhat satisfied with their quality of life. On the other hand, 40 percent of respondents to the survey rated access to on-street parking near their home as poor. Of these, fewer, 65 percent, were very satisfied or somewhat satisfied with their quality of life. (Q1 x Q35)

		Ability to Access On-Street Parking Near Home					
		Total	Excellent	Good	Fair	Poor	Not sure
1. Generally speaking are you satisfied or dissatisfied with the quality of life in San Francisco?	Total	2349	148	513	716	941	31
	Very satisfied	508 21.6%	48 32.2%	127 24.8%	176 24.5%	146 15.6%	11 35.4%
	Somewhat satisfied	1191 50.7%	81 54.8%	263 51.3%	372 52.0%	462 49.1%	13 41.5%
	Somewhat dissatisfied	496 21.1%	14 9.2%	99 19.4%	135 18.9%	243 25.8%	4 12.4%
	Very dissatisfied	150 6.4%	6 3.8%	23 4.5%	32 4.5%	86 9.1%	3 10.6%
	Not sure	5 .2%	0 .0%	0 .0%	1 .1%	4 .4%	0 .0%

The survey findings did not show that having a parking permit significantly improved residents' quality of life. For all survey respondents (2,349), 72 percent were satisfied with quality of life, and for those with a permit, 73 percent were satisfied with quality of life.

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
1. Generally speaking are you satisfied or dissatisfied with the quality of life in San Francisco?	Total	840	361	3	477	0
	Very satisfied	209 24.9%	87 24.1%	0 .0%	123 25.7%	0 .0%
	Somewhat satisfied	432 51.4%	178 49.3%	3 100.0%	252 52.9%	0 100.0%
	Somewhat dissatisfied	152 18.1%	76 21.1%	0 .0%	76 15.9%	0 .0%
	Very dissatisfied	46 5.5%	20 5.6%	0 .0%	26 5.4%	0 .0%
	Not sure	1 .1%	0 .0%	0 .0%	1 .1%	0 .0%

The time it takes to find parking, however, does affect quality of life. Seventy-eight percent of residents of permit areas who found on-street parking close to their home in 15 minutes or less were very satisfied or somewhat satisfied with quality of life. Only 49 percent of those who took more than 15 minutes to find parking were satisfied with their quality of life.

		Satisfaction with Quality of Life in San Francisco				
		Total	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied
10. On your most recent car or other vehicle trip, how long did it take to find parking when you arrived home?	Total	362	87	179	76	20
	5 minutes or less	142 39.2%	43 49.8%	69 38.8%	23 30.3%	6 31.2%
	6 to 15-minutes	136 37.4%	30 35.0%	74 41.6%	24 32.1%	6 31.5%
	16 to 30-minutes	31 8.5%	4 4.4%	7 4.2%	16 21.2%	3 16.5%
	More than 30-minutes	26 7.2%	1 1.2%	16 8.9%	5 6.5%	4 20.8%
	Other	24 6.5%	8 9.6%	8 4.4%	8 9.9%	0 .0%
	Not sure	4 1.0%	0 .0%	4 2.1%	0 .0%	0 .0%

From the survey results, it is not clear that the RPP program benefits all residents living within an RPP Area. Respondents living in an RPP Area rated their access to on-street parking close to their home more poorly than residents not living in RPP areas. Sixty-five

percent of respondents not living in an RPP area rated access to on-street parking as fair or better while only 60 percent of those living in an RPP area rated access as fair or better. (Q3 x Q35)

		Home Located in RPP Area			
		Total	Yes	No	Not sure
35. Now, thinking about \Uon-street\E parking on public streets in San Francisco near your home, how would you rate the ability to access on-street parking near your home?	Total	1777	840	800	137
	Excellent	121 6.8%	44 5.3%	75 9.3%	2 1.3%
	Good	433 24.4%	195 23.2%	220 27.5%	18 13.3%
	Fair	529 29.8%	268 31.9%	224 27.9%	38 27.7%
	Poor	680 38.3%	327 38.9%	280 35.0%	73 53.2%
	Not sure	14 .8%	6 .7%	2 .2%	6 4.5%

Having a permit improves your access to on-street parking near your home, but only slightly. Those living in a permit area who have a permit are more satisfied with their access to on-street parking than residents who don't have a permit. Thirty-six percent of respondents with a permit rated their access to on-street parking near their home as either excellent or good compared with 23 percent of those who do not have a permit. (Q35 x Q6 – n=839)

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
35. Now, thinking about \Uon-street\E parking on public streets in San Francisco near your home, how would you rate the ability to access on-street parking near your home?	Total	840	361	3	477	0
	Excellent	44 5.3%	23 6.5%	0 .0%	21 4.4%	0 .0%
	Good	195 23.2%	106 29.3%	0 15.4%	89 18.6%	0 .0%
	Fair	268 31.9%	123 34.1%	0 14.8%	144 30.1%	0 100.0%
	Poor	327 38.9%	108 29.8%	2 69.8%	219 45.8%	0 .0%
	Not sure	6 .7%	1 .3%	0 .0%	5 1.1%	0 .0%

Factors that affect permit purchasing decisions.

Every household in a permit area is affected by the RPP parking restrictions, yet not every household in an RPP Area purchases a permit. RPP parking restrictions affect 44 percent of all households citywide, but only 43 percent of households within RPP areas have permits. (Q5 x Q6)

		Total	
		Total	Total
6. Do you currently have an annual Residential Parking Permit or RPP?	Total	840	840
	Yes, resident	361 43.0%	361 43.0%
	Yes, business	3 .3%	3 .3%
	No	477 56.9%	477 56.9%
	Not sure	0 .0%	0 .0%

And, though 75 percent of those living in an RPP Area have access to a personal vehicle, only 48 percent of vehicle owners have a permit.

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
26. Do you currently have access to a motorized vehicle for your personal use?	Total	840	361	3	477	0
	Yes	636 75.8%	305 84.4%	3 100.0%	331 69.2%	0 100.0%
	No	195 23.2%	54 14.8%	0 .0%	142 29.6%	0 .0%
	Not sure	8 1.0%	3 .8%	0 .0%	5 1.1%	0 .0%

Why do some households purchase permits and others do not? Which households are more likely to purchase permits, and therefore be affected by changes in the RPP program? What we have learned is that permit purchasing is affected by many factors, including access to off-street parking, home ownership, the presence of children in the household, work or school location, commute mode and number of employed adults in the household.

Access to a garage and typical cost of garage parking.

Those living in RPP areas are less likely to have off-street parking and those who don't have off-street parking are more likely to have permits.

For those living in an RPP area, 61 percent have off-street parking. For those not living in an RPP area, 70 percent have off-street parking. Whereas 37 percent of respondents with off-street parking have a permit, 73 percent of respondents without off-street parking have a permit. On average, 52 percent of permit-holders have off-street parking.

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
31. Do you currently have access to \Uoff-street\E parking to store your car that isn't on a public street, including a private garage, private driveway or carport, or other private parking space?	Total	636	305	3	331	0
	Yes, at my home	391 61.5%	137 45.0%	1 30.2%	254 76.7%	0 .0%
	Yes, at a location that is not my home	47 7.3%	23 7.4%	0 .0%	24 7.2%	0 100.0%
	No	198 31.0%	144 47.4%	2 69.8%	53 16.1%	0 .0%
	Not sure	1 .1%	1 .3%	0 .0%	0 .0%	0 .0%

Of the 2,349 survey respondents, 73 percent of them have a personal vehicle.[16] Of those that have personal vehicles, 71 percent have access to off-street parking, either at their home (66%) or at another location (5%). Of these, only 37 percent have one or more RPP permits. Fifteen percent of residents pay for parking at their residence or at another location in addition to their rent or mortgage. Eighteen percent pay less than $100 per month; 44 percent pay between $100 and $250 per month and 33 percent pay $250 or more. Its little wonder that more than two-thirds of respondents stated that the RPP permit was a good value for the price, currently $127 annually.

		Total	
		Total	Total
32. How do you pay for your \Uoff-street\E parking?	Total	1216	1216
	included as part of rent or mortgage	941 77.4%	941 77.4%
	Pay separate of rent or mortgage	178 14.6%	178 14.6%
	not sure	97 8.0%	97 8.0%

[16] This is consistent with our analysis of Census data, which indicates that 70% of households have access to a personal vehicle.

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
32. How do you pay for your \Uoff-street\E parking?	Total	438	160	1	277	0
	included as part of rent or mortgage	337 76.9%	119 74.9%	1 100.0%	216 78.0%	0 100.0%
	Pay separate of rent or mortgage	76 17.4%	29 18.5%	0 .0%	47 16.9%	0 .0%
	not sure	25 5.7%	11 6.7%	0 .0%	14 5.1%	0 .0%

		Homeownership Status		
		Total	Own	Rent
33. How much do you pay for your access to \Uoff-street\E parking?	Total	178	53	125
	Less than $100 per month	32 17.8%	13 24.7%	18 14.8%
	$100 to less than $250 per month	79 44.4%	19 35.6%	60 48.1%
	$250 to less than $500 per month	56 31.7%	17 31.3%	40 31.9%
	More than $500 per month	2 1.2%	0 .0%	2 1.7%
	Not sure	9 4.9%	4 8.4%	4 3.5%

How does permit purchasing vary by home ownership status?

Sixty-four percent of respondents are renters[17]. As would be expected, 65 percent of households that purchase permits are renters. Renters are less likely to have access to off-street parking. Of the 992 vehicle owners who are renters, 60 percent stated they had access to off-street parking. Of these, 21 percent stated they had to pay extra for that parking.

		Homeownership Status		
		Total	Own	Rent
31. Do you currently have access to \Uoff-street\E parking to store your car that isn't on a public street, including a private garage, private driveway or carport, or other private parking space?	Total	1707	715	992
	Yes, at my home	1130 66.2%	596 83.3%	535 53.9%
	Yes, at a location that is not my home	86 5.0%	21 3.0%	64 6.5%
	No	483 28.3%	97 13.6%	385 38.8%
	Not sure	9 .5%	1 .1%	8 .8%

According to the survey, 841 (36%) of those who responded owned their own home and 85 percent have access to a personal vehicle. Of these, 83 percent had access to off-street parking. Forty-eight percent of those who own their home have one or more RPP permits.

How do families with children use RPP?

Of the 2,349 survey respondents, 21 percent had at least one child.[18] Families with children are more likely to have off-street parking. While 65 percent of households without children

[17] This is consistent with Census data which estimates that 63% of San Francisco housing units are rentals. U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.
[18] This is slightly higher than Census data which estimates only 18% of households have children under 18. U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates.

have off-street parking, 72 percent of families with children have off-street parking. For families with two children, the rate is higher, 77 percent.

		Children Under 18 in Household						
		Total	0	1	2	3	4	5
31. Do you currently have access to \Uoff-street\E parking to store your car that isn't on a public street, including a private garage, private driveway or carport, or other private parking space?	Total	1707	1308	214	155	19	7	2
	Yes, at my home	1130 66.2%	845 64.6%	144 67.4%	120 77.6%	14 73.7%	7 91.8%	0 .0%
	Yes, at a location that is not my home	86 5.0%	77 5.9%	3 1.3%	5 3.4%	0 2.0%	0 .0%	0 .0%
	No	483 28.3%	377 28.8%	67 31.3%	29 19.0%	5 24.3%	1 8.2%	2 100.0%
	Not sure	9 .5%	9 .7%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%

Family households with children are also more likely to purchase an RPP permit than other types of households. While 41 percent of households with no children purchase RPP permits, 55 percent of families with children have RPP permits.

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
25. How many children ages 18 or under are in your household?	Total	840	361	3	477	0
	0	703 83.7%	285 78.8%	1 30.2%	417 87.4%	0 100.0%
	1	57 6.8%	33 9.2%	2 69.8%	24 5.0%	0 .0%
	2	58 6.9%	34 9.6%	0 .0%	23 4.9%	0 .0%
	3	18 2.1%	5 1.3%	0 .0%	13 2.7%	0 .0%
	4	4 .4%	4 1.0%	0 .0%	0 .0%	0 .0%
	Not sure	0 .1%	0 .1%	0 .0%	0 .0%	0 .0%

Families are more likely to own their home than non-family households. Though 37 percent of all households own their own home, 52 percent of family households own their own home. And, homeowners are more likely to purchase RPP permits than renters.

		Homeownership Status		
		Total	Own	Rent
25. How many children ages 18 or under are in your household?	Total	2349	841	1508
	0	1857 79.1%	620 73.8%	1237 82.0%
	1	249 10.6%	103 12.2%	146 9.7%
	2	200 8.5%	95 11.3%	105 7.0%
	3	23 1.0%	15 1.8%	9 .6%
	4	7 .3%	5 .7%	2 .1%
	5	2 .1%	2 .3%	0 .0%
	Not sure	9 .4%	0 .0%	9 .6%

Does purchasing of a permit affect commute mode and vehicle ownership?

Though residents of RPP Areas are less likely to drive alone to work than residents not in RPP Areas, RPP permit holders are more likely to drive alone to work compared with all residents of their RPP Area. Of respondents living in an RPP Area, 28 percent drive alone to work while 43 percent of respondents not living in an RPP Area drive alone to work. Of the

270 permit holders who commute to work or go to school, 38 percent drive alone to work or school while 21 percent of those who do not have a permit drive alone to work.

Residents of neighborhoods with RPP restrictions are more likely to use alternative commute modes than residents in other areas of the City. The survey asked those respondents who are employed or go to school (1,401) what their commute mode was. Of those who work or go to school, 656 live in RPP areas. While 28 percent of those who live in an RPP area use alternative commute modes (transit, walk, bike), 43 percent of those who do not live in RPP areas are use alternative commute modes.

		Home Located in RPP Area			
		Total	Yes	No	Not sure
19. How do you usually get to work or school on a given day?	Total	1401	656	633	111
	Drive alone	477 34.1%	183 27.8%	273 43.1%	22 19.4%
	Train (BART, Muni, Caltrain, etc.)	289 20.6%	123 18.7%	140 22.1%	26 23.0%
	Bicycle	92 6.6%	54 8.2%	26 4.2%	11 10.3%
	Bus (Muni, Golden Gate, AC Transit, Samtrans, Loop, Chariot, etc.)	257 18.3%	119 18.1%	105 16.6%	33 29.6%
	Carpool or Vanpool	26 1.9%	11 1.6%	16 2.5%	0 .0%
	Ferry	1 .1%	0 .0%	0 .0%	1 .8%
	Employer shuttle	52 3.7%	33 5.0%	13 2.1%	6 5.5%
	Motorcycle	26 1.9%	14 2.1%	11 1.8%	1 1.1%
	Walk	114 8.1%	75 11.4%	30 4.7%	9 8.0%
	Vehicle Share (Zipcar, City CarShare, Scoot, etc.)	3 .2%	3 .4%	0 .0%	0 .4%
	Taxi or Ride Share Services (Uber, Lyft, etc.)	16 1.1%	14 2.1%	1 .2%	1 .6%
	Work at home/telecommute	22 1.6%	13 2.0%	8 1.3%	1 1.2%
	Other	25 1.8%	16 2.5%	9 1.5%	0 .1%

The use of alternative commute modes varies by RPP Area. For instance, in Area C (Chinatown), 70 percent of households do not have access to a private vehicle. And 85 percent use commute alternatives. Similarly, in Area A (Telegraph Hill), 73 percent use alternative commute modes. Area A's population density is 41,300 people per square mile and Area C's population density is 74,000 people per square mile.

On the other hand, in Area O (West Portal/St. Francis Wood), only 46 percent of workers use commute alternatives. The key differences between these two areas is density of land use. Chinatown is characterized by dense development while West Portal is predominantly detached single family homes. West Portal has a population density of only 12,900 people per square mile. Similarly Area H has a population density of 11,000 people per square mile and there, 49 percent use alternative modes. (*Please see Area Snapshots in the Appendix for more information about the relationship between landuse and commute mode.)*

		SFMTA Zone						
		Total	1	2	3	4	5	Other/Prefer not to answer
19. How do you usually get to work or school on a given day?	Total	1871	358	516	332	266	397	2
	Drive alone	587 31.4%	95 26.7%	109 21.1%	106 32.0%	103 38.8%	174 43.8%	0 .0%
	Train (BART, Muni, Caltrain, etc.)	409 21.9%	100 28.0%	87 16.8%	45 13.6%	80 30.0%	96 24.1%	2 100.0%
	Bicycle	111 5.9%	26 7.3%	47 9.0%	23 7.0%	7 2.7%	8 2.0%	0 .0%
	Bus (Muni, Golden Gate, AC Transit, Samtrans, Loop, Chariot, etc.)	398 21.3%	48 13.4%	111 21.6%	113 34.0%	42 15.7%	84 21.2%	0 .0%
	Carpool or Vanpool	44 2.3%	5 1.3%	7 1.3%	7 2.2%	7 2.8%	17 4.3%	0 .0%
	Ferry	1 .0%	0 .0%	1 .2%	0 .0%	0 .0%	0 .0%	0 .0%
	Employer shuttle	66 3.5%	24 6.8%	25 4.8%	4 1.2%	7 2.7%	6 1.4%	0 .0%
	Motorcycle	29 1.5%	5 1.5%	10 2.0%	3 1.0%	4 1.4%	6 1.5%	0 .0%
	Walk	142 7.6%	40 11.0%	77 15.0%	17 5.2%	8 2.8%	1 .2%	0 .0%
	Vehicle Share (Zipcar, City CarShare, Scoot, etc.)	3 .2%	0 .0%	3 .6%	0 .0%	0 .0%	0 .0%	0 .0%
	Taxi or Ride Share Services (Uber, Lyft, etc.)	23 1.2%	5 1.3%	15 2.9%	1 .4%	1 .2%	1 .3%	0 .0%
	Work at home/telecommute	26 1.4%	5 1.3%	11 2.0%	4 1.3%	4 1.4%	3 .7%	0 .0%
	Other	32 1.7%	5 1.4%	14 2.7%	7 2.2%	4 1.5%	2 .4%	0 .0%

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
19. How do you usually get to work or school on a given day?	Total	656	270	3	385	0
	Drive alone	183 27.8%	102 37.7%	3 100.0%	80 20.8%	0 .0%
	Train (BART, Muni, Caltrain, etc.)	123 18.7%	42 15.7%	0 .0%	80 20.9%	0 .0%
	Bicycle	54 8.2%	21 7.9%	0 .0%	33 8.5%	0 .0%
	Bus (Muni, Golden Gate, AC Transit, Samtrans, Loop, Chariot, etc.)	119 18.1%	33 12.4%	0 .0%	85 22.1%	0 100.0%
	Carpool or Vanpool	11 1.6%	2 .6%	0 .0%	9 2.3%	0 .0%
	Employer shuttle	33 5.0%	11 4.1%	0 .0%	22 5.7%	0 .0%
	Motorcycle	14 2.1%	5 1.8%	0 .0%	9 2.3%	0 .0%
	Walk	75 11.4%	32 11.7%	0 .0%	43 11.2%	0 .0%
	Vehicle Share (Zipcar, City CarShare, Scoot, etc.)	3 .4%	0 .1%	0 .0%	2 .6%	0 .0%
	Taxi or Ride Share Services (Uber, Lyft, etc.)	14 2.1%	4 1.3%	0 .0%	10 2.6%	0 .0%
	Work at home/telecommute	13 2.0%	9 3.3%	0 .0%	4 1.0%	0 .0%
	Other	16 2.5%	9 3.3%	0 .0%	7 1.9%	0 .0%

Does work location affect RPP purchasing?

Survey respondents who work outside San Francisco are twice as likely to drive alone to work and more likely to have a permit than those who work in San Francisco. Of the 2,349 respondents, 78 percent work in San Francisco and 74 percent use alternative modes to get to work or school. Of those who work outside of San Francisco, 50 percent use alternative modes to get to work or school. The use of alternative modes varies by county of employment. Those working in Marin and San Mateo counties for instance, primarily drive alone, 89 percent and 70 percent respectively, while those working in Alameda County primarily use alternative modes (59%). Those working in Santa Clara County are the most likely to use commuter shuttles, 37 percent.

		Work/School County											
		Total	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano	Sonoma	Other	Not sure
19. How do you usually get to work or school on a given day?	Total	1871	116	14	18	0	1456	126	100	1	4	28	8
	Drive alone	587 31.4%	48 40.9%	4 31.4%	16 86.0%	0 100.0%	381 26.2%	88 70.0%	34 33.8%	1 100.0%	4 89.3%	9 33.8%	3 37.5%
	Train (BART, Muni, Caltrain, etc.)	409 21.9%	62 52.9%	9 66.3%	0 .0%	0 .0%	303 20.8%	7 5.6%	24 24.0%	0 .0%	0 .0%	4 13.1%	1 12.5%
	Bicycle	111 5.9%	2 1.5%	0 .0%	0 .0%	0 .0%	109 7.5%	1 .4%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%
	Bus (Muni, Golden Gate, AC Transit, Samtrans, Loop,	398 21.3%	1 .8%	0 .0%	1 4.8%	0 .0%	384 26.4%	3 2.4%	2 2.0%	0 .0%	0 .0%	5 16.2%	2 31.6%
	Carpool or Vanpool	44 2.3%	2 1.7%	0 2.3%	1 6.0%	0 .0%	32 2.2%	6 4.4%	2 1.8%	0 .0%	0 10.7%	0 .0%	0 .0%
	Ferry	1 .0%	1 .7%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%
	Employer shuttle	68 3.5%	0 .0%	0 .0%	0 .0%	0 .0%	11 .8%	18 12.5%	37 37.2%	0 .0%	0 .0%	1 3.8%	1 7.4%
	Motorcycle	29 1.5%	0 .0%	0 .0%	1 3.2%	0 .0%	26 1.8%	2 1.6%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%
	Walk	142 7.6%	0 .0%	0 .0%	0 .0%	0 .0%	141 9.7%	0 .0%	0 .0%	0 .0%	0 .0%	1 2.9%	0 .0%
	Vehicle Share (Zipcar, City CarShare, Scoot, etc.)	3 .2%	0 .0%	0 .0%	0 .0%	0 .0%	3 .2%	0 .3%	0 .0%	0 .0%	0 .0%	0 .0%	0 .0%
	Taxi or Ride Share Services (Uber, Lyft, etc.)	23 1.2%	0 .0%	0 .0%	0 .0%	0 .0%	22 1.5%	0 .0%	0 .0%	0 .0%	0 .0%	1 1.9%	0 .0%
	Work at home/telecommute	28 1.4%	0 .0%	0 .0%	0 .0%	0 .0%	20 1.4%	2 1.4%	0 .0%	0 .0%	0 .0%	3 10.5%	1 10.9%
	Other	32 1.7%	2 1.4%	0 .0%	0 .0%	0 .0%	23 1.6%	2 1.3%	1 1.2%	0 .0%	0 .0%	5 17.7%	0 .0%

Of the 1,087 respondents who work in San Francisco, 509 (39%) live in a permit area and have one or more RPP permits. Of those who work outside San Francisco (314), 48 percent have an RPP permit.

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
17. In which county do you work or go to school?	Total	656	270	3	385	0
	Alameda	40 6.1%	22 8.3%	0 .0%	18 4.6%	0 .0%
	Contra Costa	5 .7%	2 .8%	0 .0%	3 .7%	0 .0%
	Marin	11 1.7%	5 1.8%	0 .0%	6 1.5%	0 .0%
	San Francisco	509 77.7%	199 73.8%	3 100.0%	309 80.3%	0 100.0%
	San Mateo	39 5.9%	16 5.8%	0 .0%	23 6.1%	0 .0%
	Santa Clara	41 6.2%	21 7.6%	0 .0%	20 5.3%	0 .0%
	Solano	1 .1%	1 .3%	0 .0%	0 .0%	0 .0%
	Sonoma	3 .5%	1 .3%	0 .0%	2 .6%	0 .0%
	Other	6 .9%	4 1.4%	0 .0%	2 .6%	0 .0%
	Not sure	1 .2%	0 .0%	0 .0%	1 .3%	0 .0%

How personal vehicles are used.

Respondents who have access to a personal vehicle were asked about how they use that vehicle. Of the 1,320 respondents with personal vehicles, the largest share, 73 percent, typically use them on weekends while only 47 percent typically use them on weekdays for work trips. Of all respondents with personal vehicles, only 41 percent used them to get to work. Of those who typically use their vehicle on the weekends, 71 percent use alternative commute modes. And, 48 percent of those who typically use their vehicle on weekends also have RPP permits, a higher share than for all residents of RPP areas (43 percent).

This suggests that a large share of permit-holders use alternative commute modes and may purchase the permits for purposes of storing their vehicle in on-street parking spaces while they are at work or school.

		How Get to Work/School											
		Total	Drive alone	Train (BART, Muni, Caltrain, etc.)	Bicycle	Bus (Muni, Golden Gate, AC Transit, Samtrans, Loop, Chariot, etc.)	Carpool or Vanpool	Employer shuttle	Motorcycle	Walk	Taxi or Ride Share Services (Uber, Lyft, etc.)	Work at home/telecommute	Other
28. Typically, when do you use your personal motorized vehicle?	Total	1320	507	270	72	216	35	41	29	90	13	19	27
	Weekdays for work trips	630 47.7%	446 88.0%	50 18.4%	8 10.5%	36 16.7%	22 64.0%	5 13.1%	27 93.5%	18 19.4%	3 25.4%	5 23.9%	11 39.2%
	Weekdays for non-work trips	549 41.6%	212 41.8%	125 46.3%	25 34.5%	87 40.3%	15 43.2%	17 41.6%	16 56.1%	28 31.2%	4 32.0%	10 53.3%	9 33.3%
	Weekends	968 73.3%	283 55.9%	234 86.5%	60 83.0%	193 89.2%	26 74.3%	34 82.9%	17 58.9%	75 83.5%	13 100.0%	13 66.6%	20 72.2%
	Other	66 5.0%	24 4.8%	6 2.1%	8 10.8%	16 7.2%	0 .0%	0 .7%	2 7.4%	4 4.4%	0 .0%	3 13.0%	4 13.5%
	Not sure	28 2.1%	13 2.5%	7 2.7%	2 2.7%	3 1.4%	0 .0%	2 4.9%	0 .0%	1 1.1%	0 .0%	0 .0%	0 .0%

		How Usually Get to Commute Mode							
		Total	Drive alone	Bicycle	Bus (Muni, Golden Gate, AC Transit, Samtrans Loop, Chariot, etc.)	Walk	Taxi or Ride Share Services (Uber, Lyft, etc.)	I get picked up	Other
28. Typically, when do you use your personal motorized vehicle?	Total	562	35	14	62	418	1	25	8
	Weekdays for work trips	113 20.2%	28 82.1%	1 4.0%	13 20.9%	59 14.1%	0 53.5%	4 17.4%	8 93.3%
	Weekdays for non-work trips	244 43.5%	21 60.3%	7 49.9%	29 45.9%	175 41.8%	1 58.3%	8 31.9%	5 59.0%
	Weekends	486 86.5%	23 65.3%	11 77.3%	53 84.6%	369 88.4%	1 100.0%	23 91.3%	8 96.7%
	Other	22 3.8%	1 3.5%	1 6.2%	1 1.0%	19 4.5%	0 .0%	0 .0%	0 .0%
	Not sure	12 2.2%	0 .0%	0 .0%	0 .0%	12 2.9%	0 .0%	0 .0%	0 .0%

		Currently Have an Annual RPP				
		Total	Yes, resident	Yes, business	No	Not sure
28. Typically, when do you use your personal motorized vehicle?	Total	636	305	3	331	0
	Weekdays for work trips	214 33.6%	108 35.4%	0 15.4%	106 31.9%	0 .0%
	Weekdays for non-work trips	278 43.7%	151 49.4%	0 .0%	127 38.4%	0 100.0%
	Weekends	461 72.4%	223 73.1%	2 84.6%	237 71.8%	0 100.0%
	Other	42 6.6%	18 5.8%	0 .0%	24 7.3%	0 .0%
	Not sure	12 1.9%	7 2.4%	0 .0%	5 1.5%	0 .0%

Support for reform policy concepts

The survey asked residents of permit areas (N=840), for feedback on two policy reform concepts. The first asked respondents to state how likely they would support limiting the number of permits issued per household to two (it is currently 4). The second question asked how likely respondents would support an increase in the permit price, and stated that the current permit price was $111.

Though there was overwhelming support for capping the number of permits at two per household, there was less support for increasing the price of each permit.

Overall, 75 percent of respondents would definitely or probably support capping the number of permits at two per household. Ten percent stated they were not sure and 15 percent definitely or probably would not support a cap of two per household. When asked whether they would support an increase in the permit price if it would improve access to on-street parking near their home, 37 percent of respondents would definitely or probably

support an increase in the price and 58 percent would definitely or probably not support an increase in price.

		Total	
		Total	Total
36. The San Francisco Municipal Transportation Agency or SFMTA is evaluating potential future changes to the Residential Parking Permit or RPP program, which would allow residents to park closer to and spend less time finding on-street parking near home	Total	840	840
	Definitely Yes	369 43.9%	369 43.9%
	Probably Yes	260 31.0%	260 31.0%
	Probably No	73 8.7%	73 8.7%
	Definitely No	46 5.5%	46 5.5%
	Not sure	91 10.9%	91 10.9%

The degree of support for these two policy concepts varied depending upon several factors, including the number of employed workers in the household, the presence of children, access to off-street parking and the number of permits purchased by household members.

Employed workers. Sixty-three percent of permit-holders live in households with two or more employed workers; 23 percent live in households with only one employed worker and 14 percent live in households with no employed workers. While 73 percent of respondents who live in households with no employed workers support a household cap of 2 permits, 79 percent of respondents living in households with one or two employed adults supported the cap. Sixty-one percent of respondents with three or four employed adults

would support the cap. The overall support for a price increase was relatively low, between 32 and 35 percent, no matter the number of employed workers.

		In Favor of Reducing Number of Permits Per Household					
		Total	Definitely Yes	Probably Yes	Probably No	Definitely No	Not sure
24. How many employed adults age 18+ are in your household?	Total	840	369	260	73	46	91
	0	117 13.9%	54 14.7%	31 11.8%	11 15.5%	6 12.7%	15 16.4%
	1	214 25.5%	103 28.0%	65 24.9%	12 16.3%	6 12.0%	28 31.1%
	2	385 45.8%	174 47.3%	130 50.1%	28 38.4%	17 35.8%	35 38.4%
	3	77 9.2%	24 6.5%	23 8.7%	13 17.5%	12 26.8%	5 5.9%
	4	23 2.7%	9 2.5%	5 1.8%	4 5.1%	1 2.3%	4 4.1%
	5	17 2.1%	2 .6%	7 2.5%	5 6.7%	1 1.5%	3 3.4%
	6 or more	6 .7%	1 .3%	0 .2%	0 .0%	4 8.9%	0 .0%
	Not sure	1 .1%	0 .0%	0 .0%	0 .6%	0 .0%	1 .6%

Access to off-street parking. Respondents with no access to off-street parking were only slightly less likely to support limiting permits at two per household than respondents with off-street parking. While 71 percent of respondents with no off-street parking would support the cap, 74 percent of those with off-street parking would support the cap. The differences between the two groups of respondents differed significantly when it came to asking about their support for increasing the permit price. Whereas 34 percent of respondents with off-street parking would support a price increase, only 28 percent of those with no off-street parking would support a price increase.

		In Favor of Increasing Permit Price			
		Total	Definitely Yes	Probably Yes	Probably No
31. Do you currently have access to \Uoff-street\E parking to store your car that isn't on a public street, including a private garage, private driveway or carport, or other private parking space?	Total	636	103	104	192
	Yes, at my home	391 61.5%	68 65.8%	65 62.3%	126 65.6%
	Yes, at a location that is not my home	47 7.3%	9 9.1%	10 9.2%	16 8.1%
	No	198 31.0%	26 25.1%	30 28.4%	50 26.3%
	Not sure	1 .1%	0 .0%	0 .0%	0 .0%

Presence of children. As with employed workers, the number of children in the household affects the level of support for caps on the number of permits per household. Respondents with no children were less likely to support a cap on the number of permits than respondents with one child, but more likely to support a cap than respondents with two or more children. Seventy-six percent of respondents with no children would support a cap, but 82 percent of those with one child would. The level of support drops significantly with the second and third child, 62 percent. The overall support for a price increase was relatively low, between 32 and 35 percent, no matter the number of children.

		In Favor of Reducing Number of Permits Per Household					
		Total	Definitely Yes	Probably Yes	Probably No	Definitely No	Not sure
25. How many children ages 18 or under are in your household?	Total	840	369	260	73	46	91
	0	703 83.7%	323 87.5%	211 80.9%	58 79.1%	36 77.3%	76 83.5%
	1	57 6.8%	28 7.5%	19 7.5%	6 7.6%	1 1.6%	4 4.0%
	2	58 6.9%	13 3.6%	23 8.7%	5 7.2%	7 14.8%	10 10.7%
	3	18 2.1%	5 1.4%	6 2.4%	2 2.4%	3 6.3%	2 1.9%
	4	4 .4%	0 .0%	1 .4%	2 3.2%	0 .0%	0 .0%
	Not sure	0 .1%	0 .0%	0 .0%	0 .6%	0 .0%	0 .0%

Number of permit-holders in the household. Seventy-seven percent of permit-holders would support capping the number of permits per household at two, though the level of support declined as the number of permits each household had increased. While 83 percent of those with one permit would support the cap, only 28 percent of those with three permits would support the cap.

		In Favor of Reducing Number of Permits Per Household					
		Total	Definitely Yes	Probably Yes	Probably No	Definitely No	Not sure
8. How many annual Residential Parking Permits do you have for your home or business under the Residential Parking Permit or RPP program?	Total	362	170	109	34	23	25
	1	264 72.9%	149 87.5%	70 64.1%	19 54.0%	9 37.7%	18 71.4%
	2	85 23.6%	18 10.6%	39 35.5%	12 34.5%	10 43.7%	7 26.3%
	3	11 3.1%	3 1.9%	0 .4%	3 8.7%	4 16.7%	1 2.3%
	4	1 .4%	0 .0%	0 .0%	1 2.8%	0 1.8%	0 .0%

THE RESIDENTIAL PARKING PERMIT EVALUATION & REFORM PROJECT

1: BRIEF DESCRIPTION OF PROJECT

The SFMTA is undertaking a comprehensive, data-driven evaluation of the Residential Parking Permit program. The agency wishes to enhance the program, improve customer service for permit holders, and align program policies with the agency's overall strategic goals. As part of the research process, a survey of local citizens' experience with the existing program will inform the analysis and policy recommendations. A full program evaluation, which will include policy and process reform recommendations, will be presented to the MTA Board of Directors in the fall of 2016.

The City's Residential Parking Permit program was established in 1976 by the San Francisco Board of Supervisors in response to increased commuter traffic in residential neighborhoods. The program places parking time limits within permit designated areas; residents with permits are exempt from these time limits. Currently, there are 29 permit areas, covering about one-fourth of the City's surface area.

Much has happened since 1976, and the program has had only minor changes made over the years. In the last ten years, SFMTA has become increasingly aware that the existing program does not adequately address the growing demand for curb space in residential areas from all users, including residents. The current Transportation Code governing the RPP program does not adequately address such users as small businesses, health and other service providers and car share operators, nor does it address the unique parking challenge of residential development in once industrial neighborhoods. The SFMTA recognizes the need to update the program to meet the needs of an evolving city, to incorporate technological innovation in service delivery and to better align the policies of the program with the strategic transportation goals of the agency and the City as a whole. Chief among these goals is to support the City's transportation demand management policies and sustainably balance the multiple demands for limited curb space.

To support the evaluation effort, the SFMTA sought and was awarded a Federal Highway Administration Value Pricing Pilot Program grant. The grant is funding the required research, data analysis, public engagement and the development of policy and process improvement recommendations.

2: COMMUNICATIONS GOALS

To Inform/Consult: Build understanding and support for needed changes to the Residential Permit Parking Program.

To Involve: Address key concerns of stakeholders.

3: MEASURABLE OBJECTIVES FOR EVALUATING EFFECTIVENESS

- Members in associations that receive emails from the SFMTA
- Website hits
- Names on contact list

- Attendees at meetings
- Achieve 30-40% citywide awareness of the project
- Understand effectiveness and support of current program
- Achieve 80% support from major interest groups/partners
- Achieve 60% support from key neighborhood associations and business groups
- Achieve majority support from the SFMTA Citizens' Advisory Council and SFMTA Board of Directors

4: AUDIENCE

PRIMARY AUDIENCE AND PARTNERS

Our primary audience is residents and business owners in RPP areas, with the broader public being a secondary audience. Given the relatively short timeframe for this project, there are two outreach groupings to help spread the word:

1. Advocacy groups and government agencies that promote and support sustainability, the city's Transit First policy, Vision Zero, and City General Plan Transportation Element, etc. These include Livable City, Walk SF, Bike Coalition, Transit Riders Union, SPUR, SFMTA Board, other SFMTA Divisions (FIT), City Planning Agency and Commission, Department of Environment, etc.

2. Neighborhood Associations, Merchants Associations and Interfaith Council

A. Neighborhood Business Districts

Small Business Commission
SF Council of District Merchant Associations
Local Merchant Group in Permit Areas

- Alamo Square (Divisadero merchants) (Area Q)
- Castro (Area S)
- Chinatown (Area C)
- Dogpatch/Potrero (Area X)
- Glen Park (Area D)
- Inner Richmond (Balboa Street) (Area N, L)
- Inner Sunset (Irving Street) (Area J)
- Mission (Area I, W)
- North Beach/ Telegraph Hill (Area A)
- North Bernal (new)
- West Portal (Area O, T)

B. Neighborhood Associations

- Alamo Square
- Balboa Park
- Castro
- Chinatown
- Glen Park
- Inner Richmond
- Inner Sunset

- Marina
- Mission
- North of Panhandle
- Telegraph Hill/North Beach
- Upper Haight
- West Portal

C. Key Interest Groups

Board of Supervisors, especially:

- 10-Malia Cohen
- 1-Eric Mar
- 2-Mark Farrell
- 3- Peskin
- 5-London Breed
- 8-Eric Weiner
- Bike Coalition
- Interfaith Council
- Livable Cities
- SPUR
- TransForm
- Transit Riders Union
- Walk SF

D. Media

- SFMTA website
- SFMTA Blog
- SFMTA social media pages (Facebook/Twitter)
- Streetsblog
- Hoodline
- Examiner
- Chronicle
- Neighborhood Newspapers
- TV/radio
- Next bus signage
- Bus and train cards (advertising inside the bus or train because many commuters have a car at home and take transit) City Garages and lots?

E. Other City Agencies

- Planning Department
- SFPD
- Fire Department
- Public Works
- Office of Economic and Workforce Development
- Office of Community Investment and Infrastructure
- Mayor's Office of Housing
- Mayor's Office of Neighborhood Services
- Mayor's Office on Disability

SECONDARY AUDIENCE

Residents, businesses, neighborhood groups and merchants groups not currently within an existing RPP area.

PRIMARY AUDIENCE

The compelling benefits for primary audience for engagement in this process are:

1. The SFMTA's Residential Parking Permit Program hasn't really changed in 39 years, but San Francisco has. It's time for a top-to-bottom evaluation to see what is working and what could be improved.
2. We want the full picture. We want to be fair and balance the needs of all users, not just the loudest or most organized.
3. The city's curb space is limited. It makes sense to be smart and fair about how it is used. That's why we're launching a data-driven process and collecting resident feedback to get the full picture.
4. The SFMTA is surveying residents citywide to get their feedback about the current program.
5. When the Residential Permit Parking program began, San Francisco had 686,000 people. Now there are more than 840,000, with 10,000 more projected to arrive each year. Space on our streets is limited. We need to use it smartly to make getting around as reliable and predictable as we can.

SECONDARY AUDIENCE

- Things work best when people have options for getting around that work for them. We have to be fair in how we go about doing that. There is only so much curb space in 47 square miles. Driving your personal car is not always the best way to get where you're going. When it is necessary to drive your own car, we want to make it easier to find parking. We also want people to have reliable options when they don't need to drive.

6: RELEVANT COMMUNICATION STRATEGIES AND TACTICS BY AUDIENCE

Audience: Primary & Partner

Phase I: General (Nov - Feb 2016)

Purpose: Build Awareness; Inform/Consult

- **One-page Project Brief**, sent to:
  - Members of Board of Supervisors and their staff
  - Key advocacy groups
  - Key influentials
  - Neighborhood associations to place in their newsletters and on their websites
  - Merchant associations to place in their newsletters and on websites
- **Project Website** (went live Nov. 17th) and other languages *(Chinese, Russian, Spanish)*
- **Household Survey** (informs and gathers information), Nov. 6th *(Chinese, Russian, Spanish)*
- **Email list** to update interested persons to additions/changes to the website

Targeted

- **One-on-One Meetings** with key influentials, thought leaders, key community leaders,

These would be conducted early in the process, including:
- Members of the BOS
- Key leaders of advocacy groups, including SPUR, Transit Riders Union (TRU), Livable Cities, WalkSF, Bike Coalition, Interfaith Council
- Other interested parties that may be concerned about changes in neighborhood parking

Phase II: General (Feb - May 2016)
Purpose: Involve Stakeholders

- **Presentations and Webinars**:
  - 11 community-specific presentations, one in each of the 11 BOS districts
  - 1 citywide presentation, to be given in a downtown location
  - merchant /business groups, including Small Business Commission, SFCDMA, as well as select merchant associations, such as Castro, Glen Park, Dogpatch,
  - key neighborhood associations: Telegraph Hill, Hayes Valley, Glen Park, Castro

Targeted

- **One-on-One Meetings** with key influentials, thought leaders, key community leaders, These would be conducted early in the process, including:
  - Members of the BOS
  - Key leaders of advocacy groups, including SPUR, Livable Cities, WalkSF, Bike Coalition, Interfaith Council, SF Transit Riders Union, TransForm
  - Other interested parties that may be concerned about changes in neighborhood parking

Internal

- SFMTA technical advisory group, consisting of:
  - Parking group staff
  - Permits and Citations
  - Parking Enforcement
- SFMTA CAC and PAG
- SFMTA employees

Secondary Audience: Users of the curb space in residential permit parking areas

General

- Press releases
- Websites,www.sfmta.com/neighborhoodparking and www.sfmta.com/dogpatchparking

Web, Social

- SFMTA.com – project pages, calendar notices, and a homepage click-through banner
- E-mail blasts
- Supervisors post on their monthly newsletters

B. Techniques for Building Broad-based Awareness, and ultimately, support

1. Project Website
   - Purpose
   - Timeline

- Draft Documents
- Data
- Presentations
- Public meetings
- Policy proposals

2. Email Contact List and Email blasts
Send notices to recipients on contact list pointing them to a particular portion of the website for updates, upcoming meetings, new documents.

3. Meetings with news media & press releases
- Build relationships with key media channels, such as Streetsblog, Hoodline, neighborhood newspapers, Joe Rodriquez of the Examiner, etc. Provide them with an overview of the project.
- Provide monthly updates
- Post on PRNewswire

4. Write a blog for posting on project website with the purpose of educating the public about **PARKING** issues in SF. Build more awareness and understanding about the need for change.

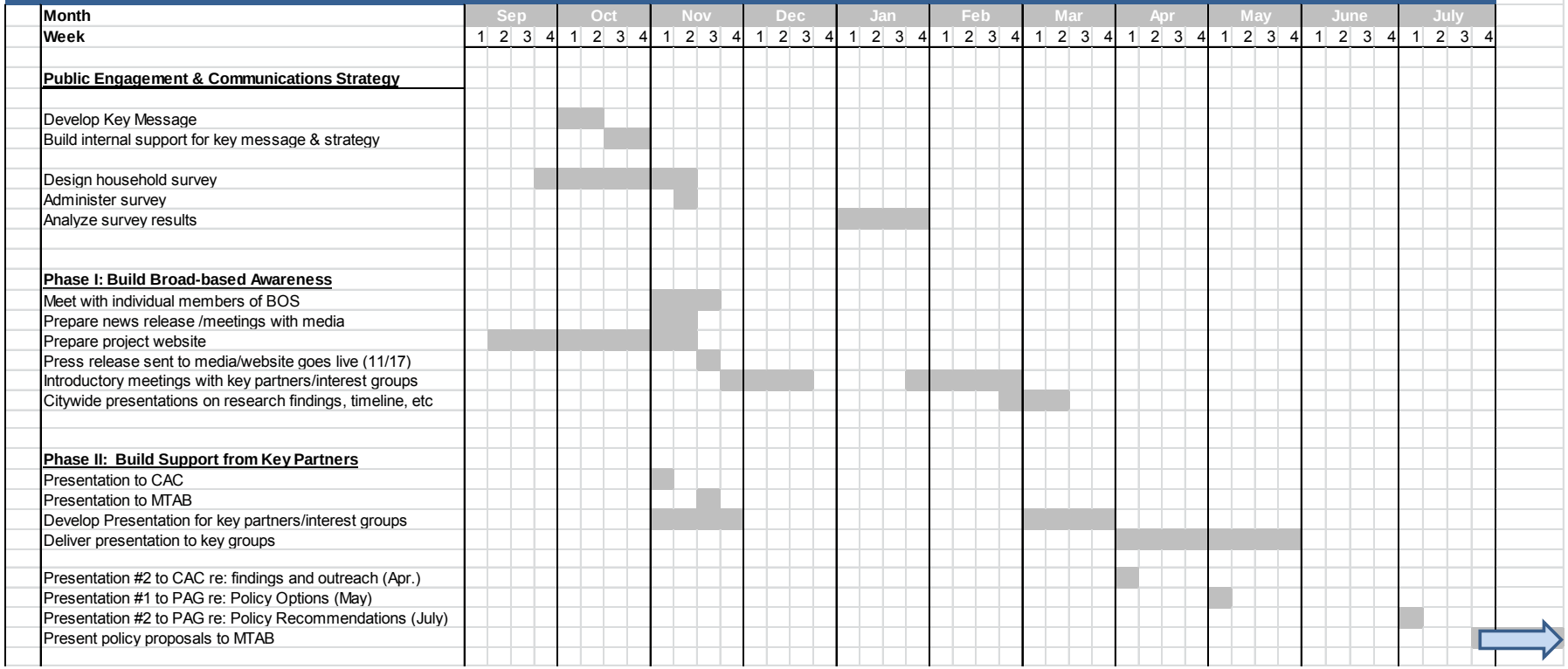
5. Webinar that would allow all audiences to view presentations

A. TECHNIQUES FOR BUILDING SUPPORT FROM KEY INTEREST GROUPS

1**. Interviews**: Conduct interviews with key individuals to understand their point of view, their values, their expectations and initial level of support for concept of changing the RPP program. This would happen early in the process and would provide input into development of policy proposals.

2. **Presentations**: Make presentations to key interest groups. These presentations would be made after data has been analyzed, key issues articulated and possible policy proposals developed, from February through May 2016.

RPP EVALUATION PROGRAM PUBLIC ENGAGEMENT TIMELINE



Focus Group Discussion Summary

SFMTA held two focus group meetings on October 4th and 5th, 2016. Invitations to participate in the focus groups were sent to 70 neighborhood, community and business stakeholders who are actively engaged in their neighborhoods in a leadership capacity. Twenty people accepted the invitation and chose which date they would be able to participate. Of these, 15 attended; 7 on one date and 8 on the other. Each focus group lasted two hours. Below are summary statistics about the participants.

- 15 participants in all
- 12 have personal vehicles
- 10 have off-street parking
- 12 live in a permit area – A, F, BB, Y, K, P, Q, S, X
- 6 are current permit-holders

Focus group participants were asked a series of nine questions. A summary of their comments follows.

Question 1. Introductions

Tell us about your experience with the RPP program. Live in a permit area? Own a vehicle? Purchase a permit? Do any of your neighbors have too many vehicles?

Discussion:

- Intro comments/concerns:
    - Uniqueness of older neighborhood with limited off-street parking
    - No one-size-fits-all approach
    - Want to keep program mostly as it currently is
    - Don't buy permits because they don't see the utility
    - Permits important for those without access to off-street parking
    - Should address internal neighborhood parking issues (i.e., people have multiple cars)
    - Interested in forming a new permit area (NW Bernal)
    - Permit parking (via improved availability) can enhance neighborhood safety
    - Interested in joining a permit area (Area I)

Question 2a. Area-wide permit cap

One of the policy options we are considering is to set a cap on the total number of permits issued per area, say 120% of available permitted spaces. Another option is to limit the number of permits issued per driver to one. Yet another is to limit the number of permits issued per household to no more than two. In terms of possible impacts, setting an area wide cap at 120% of available spaces would affect Areas A (North Beach/Russian Hill); C (Nob Hill/Chinatown); S (Duboce Triangle, Castro, Upper Noe); G (Lower Pacific Heights/Japantown); and Y (South Beach/Rincon).

Currently, households are allowed up to 4 permits and each permit costs the same. A household may petition SFMTA to have additional permits, up to 4 more, for a total of 8, but would pay 2X, 3X or 4X the base cost. There are no area-wide or per driver caps at this time.

How likely are you to support the area-wide cap?

Discussion:

- Concerned about hitting the (120%) area-wide cap

- How will SFMTA keep up with new development, new units?
- So the number of permits per house is not the issue?
- Goal is equitable sharing of a scare resource; area cap doesn't solve anything – if pursued, should give priority to people without off-street parking
- Area cap should take into account access to off-street parking
- Area cap should take into account how many cars are in the neighborhood
- Need finer-grained analysis to pursue – including localized permit saturation, recent changes in parking supply and colored curb, business and other permits
    - Remove unnecessary white zones and other colored curb
- Need to sub-divide larger areas to make an area-wide permit cap work
- People will just bring their cars into the neighborhood even with an area-wide permit cap
- Some permit over-sell are convenience permits that are not being regularly used
    - Those who pay for a permit but rarely use it are benefitting the system
- Support area-wide cap with grandfathering; charge market rate for new permits
- 1-day permits should not be affected by the cap
- OK with an area-wide cap, with a lowered limit per household
- Inability for some to purchase permits could impact home values
- City's increasing density makes area cap more troubling (higher population makes it less likely one will be able to purchase a permit) – how does this keep up with population density?
- Area-wide cap is important because otherwise the permit doesn't have value
- New tech workers will be upset that they can't get a permit
- S.F. attracting young people who want to drive; they will say lift the cap and SFMTA will do it
- Some have a real *need* to drive and have to be considered
    - Older people who have difficulty walking
    - People without garages
- So if sell house, new owner can't get a permit?
- Grandfathering 4 permits in one household where the next over gets none is unfair
    - Creates a two-tier system
- Cheaper to not own a car; if need to drive, don't live where you can't park
- Consider a variance process if need more permits

Question 2b. Cap of two permits per household

How likely are you to support a lowered cap of two per household?

Discussion:

- 2 per household won't work – too strict
- 2 per household hurts large families / groups of unrelated roommates
- Several people against this proposal
- 2 per household logical
- OK with 2 per household
- Need more off-street parking built

Question 2c. Cap of one permit per driver

How likely are you to support a cap of one permit per driver?
Discussion:

- Concerns about the number of permits given to large households
    - Units with 4+ drivers get more under this proposal
- 1 per driver is equitable – only fair way to do it
    - Allocate permits to people, not units
- 1 per driver better than 2 per household for driving teens
- 1 per driver easiest way but does not help without an area-wide cap as well
- Strong support for 1 per driver proposal

Question 3. Graduated permit pricing

Another option for managing demand for parking in residential areas is to establish graduated permit pricing for multiple permits issued to one residential unit. Each successive permit issued to a residential unit would cost more than the previous permit. The purpose of this is to encourage residents to obtain fewer permits, which would reduce parking demand from those residents. In terms of potential impacts, 73% of current permit accounts have only one permit per residential unit. 27% of permit accounts have two or more permits per residential unit. Graduated pricing may require lowering the price for the first permit in order to stay within the limits of cost recovery, which may slightly increase overall permit demand by incentivizing the purchases of single permits. This policy may disproportionately affect large households and families with children.

How likely are you to support the idea of graduated pricing?
Discussion:

- Permits charge people for something that was once free – 1st permit should be free
- Neighborhoods would think that SFMTA is after money (2x, 3x, etc.)
    - People won't get that it's cost recovery – messaging is key
- Reduce cost of 1st permit to attract more people into the program on currently ineligible blocks
- Make the 1st permit lower for public relations benefits, others graduated
- Making the 1st permit cheaper only helps for the 1st year, then people see it as the base rate
- Won't disincentive enough to make an impact but will make people mad
- Could do graduated pricing per driver instead
- Not equitable
- Regressive
- If you can afford it you can purchase all the permits you want; this is regressive tax
- Hard to graduate properly with cost recovery requirement
    - Would have to bring the base price so low that it would flood the market with first permit-holders
- More fair if graduated per person than graduated per household
- How large households or families would deal with this is a concern
- Could be used in combination with an area-wide cap
- System should be based on the *need* for parking, not ability to pay
- Low income families would be hurt the most

- Those with higher income would be subsidizing those with lower income; more fair is based on per driver; second permit should be priced at market rate
- Some people have very legitimate need and reason to use a vehicle

Question 4. Premium permit pricing for those with access to off-street parking

Another option to manage demand for on-street parking in residential areas would be to charge a premium for permits issued to customers with access to on-site, off-street parking. The purpose is to encourage customers with access to off-street parking to use it rather than park their cars on-street using a permit. Approximately 53% of permit-holder accounts have off-street parking. May encourage permit applicants to state that they do not have access to off-street parking even if they do, to obtain a cheaper permit rate. The resulting permit fee would still be far less than the cost of renting an off-street parking space in San Francisco for a single month, which is between $250 and $500 per month.

How likely are you to support the idea of charging a premium for those with access to off-street parking?

Discussion:

- As someone with a garage, it's a great idea; don't mind paying double if I actually got a benefit from purchasing a permit
- Higher pricing for those with off-street parking unfair
- Convenience permits important for guests (e.g., resident who usually parks off-street will park on-street to allow a guest to use their garage)
- SFMTA should be happy that people use their garage but still pay money to the City by purchasing permits for convenience
    - Permits should be less expensive for those who purchase them for convenience since they are using on-street parking less
- This option encourages people who have garages to use them
    - But hard to tease out those who have a garage but don't use it (park on-street instead) from those who have permits for convenience (e.g., when guests visit)
- Could pair easier/cheaper access to 1-day permits with higher annual permit pricing for those with off-street parking to solve the "guest problem"
- Should get a certain number of free 1-day permits with annual permit
    - But then the annual price would be higher for everyone
    - Risk of fraudulent sale
- Strong support from several participants
    - One said they would support though they would pay more for their permit
- Street space is at a premium – if demand > supply, give preference to those without off-street parking (i.e., charge more)
- Important for those without off-street parking to be able to park [on-street] in the neighborhood, particularly if older or disabled
- If disabled, shouldn't have to pay a premium – running errands in the neighborhood (same permit area) is easier if you have a permit and don't have to worry about time limits
- Off-street parking check would be invasive
- Needs to be paired with an area-wide cap – permit needs to have value

- People without garage need permit the most; people with garages don't need a permit

Question 5. Omit permit eligibility for new housing in certain areas

As you know, San Francisco is the densest major city in the U.S. outside of New York City. It also has a robust transit system that provides many neighborhoods with easy access to transit with multiple transit lines. The City has a finite amount of curb space and is responsible for managing access to that curb space.

Some neighborhoods have Area Plans and regulations for new developments that limit the number of off-street car parking spaces allowed, and require developers to meet trip reduction measures, in order to encourage new residents not use a car for most trips. And, so far, this policy seems to be working. New residents do seem to not be bringing their cars or are selling them once they get here. This new residential development is significantly larger than what it replaced and usually includes retail on the street level. This increases neighborhood densities greatly, and makes provision of transit services more cost-effective. If these new residential buildings are located in existing permit areas, residents may obtain permits to park on neighborhood streets undermining, in many cases, planning efforts to encourage reduced car use. The SFMTA wants our policies to be in alignment with City goals and other city policies. This is one area where our permit parking program policies are not in alignment.

How likely are you to support exempting new buildings from eligibility in specific transit rich neighborhoods?

Discussion:

- Muni needs to step up to accommodate all new residents moving in
- Not building sufficient off-street parking is a scam benefitting developers – get to build more units (and generate more profits) while dumping the parking issue onto the public sector
    - Another: this option would prevent this – don't have off-street parking and can't purchase a permit to park on-street
    - Rebuttal: residents will still bring cars and find somewhere to park on-street
- Makes sense – prevents the parking issue from being dumped onto public streets
- Best for new buildings to have parking on-site
- Seniors still drive; people *need* to drive
- Should somehow disincentive larger vehicles
- Preposterous – some people *need* to drive; Muni and other options don't always work, will increase circling for parking
    - Another: but there is car share, Uber, etc. to help, as well
- Not everyone can take Muni – need to provide them with some parking option
- Too many Uber cars circling, waiting for passengers
- Buildings without off-street parking attract car-free/lite households, families without cars
    - Another: don't only want people without cars living in the neighborhood
- Self-selection would be at play if this were implemented (i.e., people who don't own cars would move in) – great idea on a neighborhood-by-neighborhood basis
    - Current policies support developers who don't build on-site parking; not right
- Duboce Triangle debated this extensively (3 years ago) – wanted lower parking provision off-street, but didn't realize how much new housing was going to be built; don't

want to limit neighborhood livability for new residents, so didn't want to deny permit eligibility
- Need various options for housing (some with parking, some without parking)
- Access to parking = livability
- Supports as it aligns with other existing City policies
- Supports in transit-rich areas
    - But make transit better!
- OK with excluding new buildings from eligibility in their area (NE Mission)
- Diversity of living options; need for new people to know what they are getting into

Question 6. Paid + Permit parking

The permit parking program was designed for residential neighborhoods. But over the last two decades, new multi-family housing has been constructed in industrial and commercial areas, especially in Eastern Neighborhoods such as SOMA, Potrero Hill, the Dogpatch, the Mission, South Beach and Rincon Hill. These neighborhoods now have several different uses—residential, commercial and industrial—mixed in together, sometimes even on the same block. Residential and commercial/industrial uses have very different transportation needs and present challenges in the administration of a residential parking permit program. These areas have grown in popularity and now attract more visitors and have more parking demand than they did in past decades. The existing permit program focuses on preferential parking for residents, but is better suited to prototypical San Francisco residential neighborhoods. It has been difficult logistically and politically to superimpose a program designed for residential areas on to a mixed use neighborhood.

One idea is to implement residential permit parking areas where visitors can pay to park if they find a space, something we call "paid + permit parking". Residents with a valid permit are exempt from payment, and the zone functions just like a traditional RPP area for them. Payment replaces time limits as the option for visitor parking in permit areas. A paid + permit overlay provides another tool for balancing various demands for parking, especially in neighborhoods with a greater mix of land uses. If paired with no time limits for those who pay, it could address the issue of employees or visitors who need to park in permit areas for longer than the typical time limits (usually one or two hours).

How likely are you to support paid + permit parking concept?

Discussion:

- Likes overlay idea – gives workers a place to park on occasion
- Great way to share in certain [mixed-use] areas
    - Concern is the overconsumption by those willing to pay for the whole day – this would then lead to less availability of parking for permit-holders
- Would you be able to pay to park at night?
- There was going to be an overlay in the University Terrace area – concerns: meters creating the impression that this is a commercial area, SFMTA making money in neighborhoods [SFMTA note of clarification: no overlay was proposed at that time; only RPP; and meters only in specific high-use areas]
- Makes sense in mixed-use areas, less so in residential areas
- Perception issue – paid parking looks bad to public, too commercial looking, even if nothing changes for permit-holders

- Communication + phasing in would be important
- Negative perception of paying for parking in neighborhoods
- Lack of a time limit is concerning; don't like it if no time limits
- Instead, give PDR businesses transferrable permits (at graduated rates) – pits the new model (overlay concept) against expanding access to permits for businesses
- Should issue "stakeholder"/visitor permits
- Give permits to schools (e.g., USF), if they have small enough cars to park on-street in the area
- Time limits are better at keeping people out of cars – time limits should be shorter
- Workers shouldn't be encouraged to commute by car (whichever solutions are chosen)
- The overlay concept would make parking more complex – already hard to understand rules
- Could try this in the University Terrace area
- Like the concept for areas that border commercial districts or mixed-use areas

Question 7. Subdivide large permit areas

The formation of permit areas depends entirely on petitions from residents. The resulting boundaries and sizes of each permit area vary greatly, ranging from over 1 square mile to less than 1/10th of a square mile. In the larger areas, residents are able to commute to work by car and park in the same permit area, reducing the effectiveness of the program and encouraging commuting by car.

One idea is to revise the borders of existing areas to make them more responsive to traffic generators and natural neighborhood borders. This would result in smaller areas that discourage intra-area car commuting and would allow overall area caps to be more responsive to local neighborhood parking trends.

This option would likely impact about half of the existing permit areas, including (but not limited to): A, D, G, H, I, J, K, L, M, N, O, S, V, W, X, Y

How likely are you to support sub-dividing large permit areas?

Discussion:

- People definitely commute within permit areas to reach transit (i.e., intra-area commuting)
- Several participants like this idea ("makes perfect sense")
- SFMTA let Permit Area L cross Arguello and Geary
- Sub-division reduces peoples' park-shed (can't park in as many places), which would be a burden for seniors and people with disabilities who use permits to run neighborhood errands
    - Some have a *need* to do intra-area commuting
    - Need to enlarge buffer areas