Emeryville Parking Management Plan

DRAFT Report

Prepared for the City of Emeryville

April 17, 2018

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Attachment 2

Contents

List of Appendices

Executive Summary

This report provides an update to the Emeryville Parking Management Plan, based on analysis of recently collected parking utilization data and surveys of parking users and business owners (details are provided in *Appendix A)*. The original plan was completed in 2010, and at that time the City Council accepted the plan, but decided to defer its implementation because the economy was in recession. The original plan focused on the North Hollis, Doyle, and Triangle areas, while this updated plan covers the entire city.

Figure E.1 Study Area and Neighborhoods

Parking Data Analysis

There were 4,304 on-street parking spaces counted for this study, and 2,516 spaces in off-street facilities were included. A large majority (85 percent) of the on-street parking throughout the City is currently unregulated. Off-street facilities studied are generally privately owned and operated, but offer free or metered public parking. The Watergate office towers and parking dedicated to residential or employee use only were not included in the study. The key findings of this analysis are:

- Parking Occupancy
  - Citywide parking occupancy peaks at 10 AM with 72 percent occupancy citywide.
  - On-street parking has higher occupancy than off-street, with 82 percent occupancy citywide at the peak, and 90 percent occupancy sustained from 9 AM to 2 PM in the North Hollis and Doyle areas where hourly parking data was collected.
  - Off-street occupancy peaks at 56 percent citywide, possibly due to the fact that off-street parking is less visible to drivers, but also because off-street facilities are more likely to be priced or restricted to certain users. The off-street facilities also include lots on the Peninsula, which have low utilization during the weekday.
  - The neighborhoods with the highest utilization during the 10 AM peak are North Hollis and Park Avenue, while the Triangle and Peninsula have relatively low occupancies.
  - Compared to 2010, parking occupancies have increased throughout most of the city, with the largest increase in the Doyle residential neighborhood.
- Parking User Types
  - On-street parking throughout Emeryville is used by a variety of parkers with differing needs.
  - Customer and short-term visitor needs are highest in the Central, Park Avenue, and South Emeryville areas
  - Employees are a large proportion of the parkers in the North Hollis and Park Avenue areas.
  - The Triangle neighborhood is the only area where more than half of parking users are residents, but residents make up at least 15 percent of parkers in all neighborhoods in the City.
  - Areas near transit nodes, such as AC Transit Transbay bus service stops, appear to attract park-and-ride activity from commuters, most of whom drive from outside the City.
- Parking Duration and Turnover

- While there is demand for both long-term and short-term parking in the North Hollis and Doyle neighborhoods, a lack of enforcement means that spaces currently designated for short-term parking are often used by long-term parkers. Improved enforcement and parking management strategies will help increase availability in short-term spaces while providing options for long-term parkers

Parking Management Plan

The Parking Management Plan makes recommendations for parking throughout the City, to be implemented in phases. The recommendations include the following regulations for public parking:

- Short-Term Metered: $2 per hour for the first two hours with a sharp increase after the first two hours to encourage turnover
- Mid-Term Metered: $1 per hour for the first four hours, with a sharp increase after this to encourage mid-length stays. Businesses may also purchase permits for employees to park in these areas
- Long-term Metered: $0.50 per hour all day.
- Residential permit parking: two residential permit parking areas allow free 2-hour parking for all vehicles, and residents may purchase parking permits at $100 per year for the first vehicle and $300 per year for the second vehicle. Businesses may also purchase permits in these areas for $200 per year.

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Chapter 1.
Parking Data Analysis

This study is an update to the Emeryville Parking Management Plan prepared by CDM Smith for the City of Emeryville in 2010. The 2010 study recommended a pricing plan which was not implemented because the economy was in recession. However, the city has recently been awarded funding from the Alameda CTC to implement a parking management program including paid parking and residential permit parking in the North Hollis Parking District. Before implementing this program, there is a need to update the 2010 plan with current parking conditions and needs and make recommendations for later phases of parking pricing and permitting Citywide.

This report describes the results of the existing conditions analysis, which included parking occupancy and license plate data collection as well as parking user and Emeryville business owner surveys Citywide. Below is a summary of findings, followed by detailed descriptions of the methodology and results of the parking data collection and survey.

Study Area

To identify patterns in parking usage and behavior, parking data was collected in October 2017, including all on-street parking spaces in the study area and public off-street facilities. The data collection effort largely replicated that conducted in 2010 for a consistent comparison of results, with an expanded study area to provide citywide results in addition to the original study area.

Figure 1.1 shows the study area blockfaces and off-street facilities for which parking occupancy data was collected. The data collection was intended to collect all public parking within Emeryville, excluding large lots for regional retail not in the study area. The outlined off-street facilities were not studied in 2017 due to changes of use, construction, or, in two locations, a lack of permission from the property owner. The parking data collection occurred before construction at the Public Market was completed, which realigned the streets near the Public Market added approximately 50 on-street parking spaces.

Figure 1.1: Emeryville Parking Updated Study Area

Parking Inventory

Table 1.1 shows the citywide public parking inventory by space type, including on- and off-street facilities. Approximately one-third of the off-street parking and 85 percent of the on-street parking in the study area is public, unregulated parking. In off-street facilities, 24 percent of the spaces are permit-only spaces, and 10 percent are reserved spaces, which are generally reserved for customers or employees of specific businesses. On-street, only 3 percent of spaces are permit spaces, designated in the residential permit parking program, and 1 percent are reserved, indicating areas where businesses are using their building setbacks as private parking for

employees, visitors, or official vehicles. 22 percent of off-street spaces are in privately owned garages which charge for the public to use. Approximately 7 percent of the on-street parking spaces in Emeryville are time-limited at one or two hours. Loading spaces make up approximately two percent of on-street spaces, and a small number of short-term spaces, including 12-minute, 20-minute, 30-minute, and 45-minute spaces, are located throughout the study area. The "Other" category includes spaces reserved for school use, valet parking, trailer spaces at the Marina, ZipCar spaces BikeShare and motorcycle spaces.

Table 1.1: Study Area Inventory by Space Type

	Off-Street		On-Street	
	Total	Percent	Total	Percent
Unregulated	900	36%	3,657	85%
Permit	598	24%	121	3%
Private Paid	564	22%	0	0%
Reserved	261	10%	42	1%
2-Hour	21	1%	264	6%
1-Hour	0	0%	45	1%
Loading	0	0%	82	2%
Short Term < 45 min	0	0%	19	0%
ADA	85	3%	27	1%
Other	87	3%	47	1%
Total	**2,516**	**100%**	**4,304**	**100%**

Parking supply and occupancy are also analyzed by neighborhood. **Figure 1.2** on the next page shows the neighborhood borders used for this study, and **Tables 1.2 and 1.3** show the parking inventory by neighborhood and space type. The largest sub-area in terms of number of spaces is North Hollis with the only permitted parking off-street. This area also had the most unregulated spaces, but almost all of the spaces in the Doyle and Triangle sub-areas were unregulated as well. On the Peninsula, a large number of spaces were permit or reserved spaces. Time-limited parking was primarily found in the Central, North Hollis, and South Emeryville neighborhoods.

Table 1.2: Study Area Inventory by Neighborhood and Space Type – On-Street

	Total	Unreg-ulated	2-Hour	1-Hour	Short Term <45 Min	Loading	Permit	Reserved	ADA	Other
Central	624	75%	4%	2%	0%	4%	10%	0%	1%	4%
Doyle	757	95%	2%	0%	1%	1%	1%	0%	0%	0%
North Bayfront	231	94%	0%	1%	0%	1%	0%	0%	0%	4%
North Hollis	1,143	74%	14%	2%	0%	2%	3%	4%	1%	0%
Park Avenue	726	92%	3%	0%	1%	3%	0%	0%	0%	1%
Peninsula	107	100%	0%	0%	0%	0%	0%	0%	0%	0%
South Emeryville	105	59%	30%	8%	2%	0%	0%	0%	2%	0%
Triangle	611	93%	1%	0%	1%	0%	2%	0%	1%	1%
Citywide	**4,304**	**85%**	**6%**	**1%**	**0%**	**2%**	**3%**	**1%**	**1%**	**1%**

Table 1.3: Study Area Inventory by Neighborhood and Space Type – Off-Street

	Total	Unreg-ulated	2-Hour	Private Paid	Permit	Reserved	ADA	Other
Doyle	65	0%	0%	0%	97%	0%	3%	0%
North Hollis	1,726	37%	1%	33%	17%	5%	3%	4%
Peninsula	725	35%	0%	0%	34%	24%	4%	3%
Total	**2,516**	**36%**	**1%**	**22%**	**24%**	**10%**	**3%**	**3%**

Figure 1.2: Emeryville Neighborhoods

Parking Occupancy

The tables in this section show the citywide percent occupancy throughout the day, as well as peak period comparisons with the 2010 study. This analysis uses the common practical capacity threshold of 85 percent occupancy for determining when a facility is too full for an arriving driver

to easily find parking close to their destination. Experience shows that at occupancies over 85 percent, a driver is likely to circle for parking and to have to park farther from their destination than is ideal. In the following tables, occupancies over 85 percent are shaded pink. This section includes citywide occupancies and a comparison by neighborhood with the 2010 data. Detailed occupancy tables for each neighborhood are included in *Appendix C.*

Table 1.4 shows the citywide parking occupancy for the three time points collected for most facilities: 4 AM, 10 AM, and 3 PM. Overall, parking was most well-used at 10 AM, with 72 percent of spaces overall and 82 percent of on-street spaces utilized. Utilization in off-street facilities is generally quite low throughout the City. This is expected, as it is common for on-street parking to fill up first, as it is more convenient and visible for drivers, and, in this case, the same price or cheaper than private, off-street facilities. Drivers may not realize there is availability in off-street facilities, or may not be willing to pay for parking in fee garages. Additionally, the off-street parking includes lots on the Peninsula, were there is less activity during the weekday compared to evenings and weekends when people are more likely to visit the restaurants, park, and marina.

Table 1.4: Citywide Occupancy

	# of Spaces	4 AM	10 AM	3 PM
All Spaces	6,820	33%	72%	62%
On-Street	4,304	43%	82%	73%
Off-Street	2,516	17%	56%	43%

Hourly data was also collected in the North Hollis, Doyle, and Central neighborhoods from 7 AM to 6 PM. **Table 1.5** shows the observed hourly occupancy in these three areas. Overall occupancy peaked at 11 AM and 1 PM with 83 percent occupancy. On-street parking was above the practical capacity threshold between 9 AM and 3 PM. Off-street occupancy was under 60 percent throughout the day.

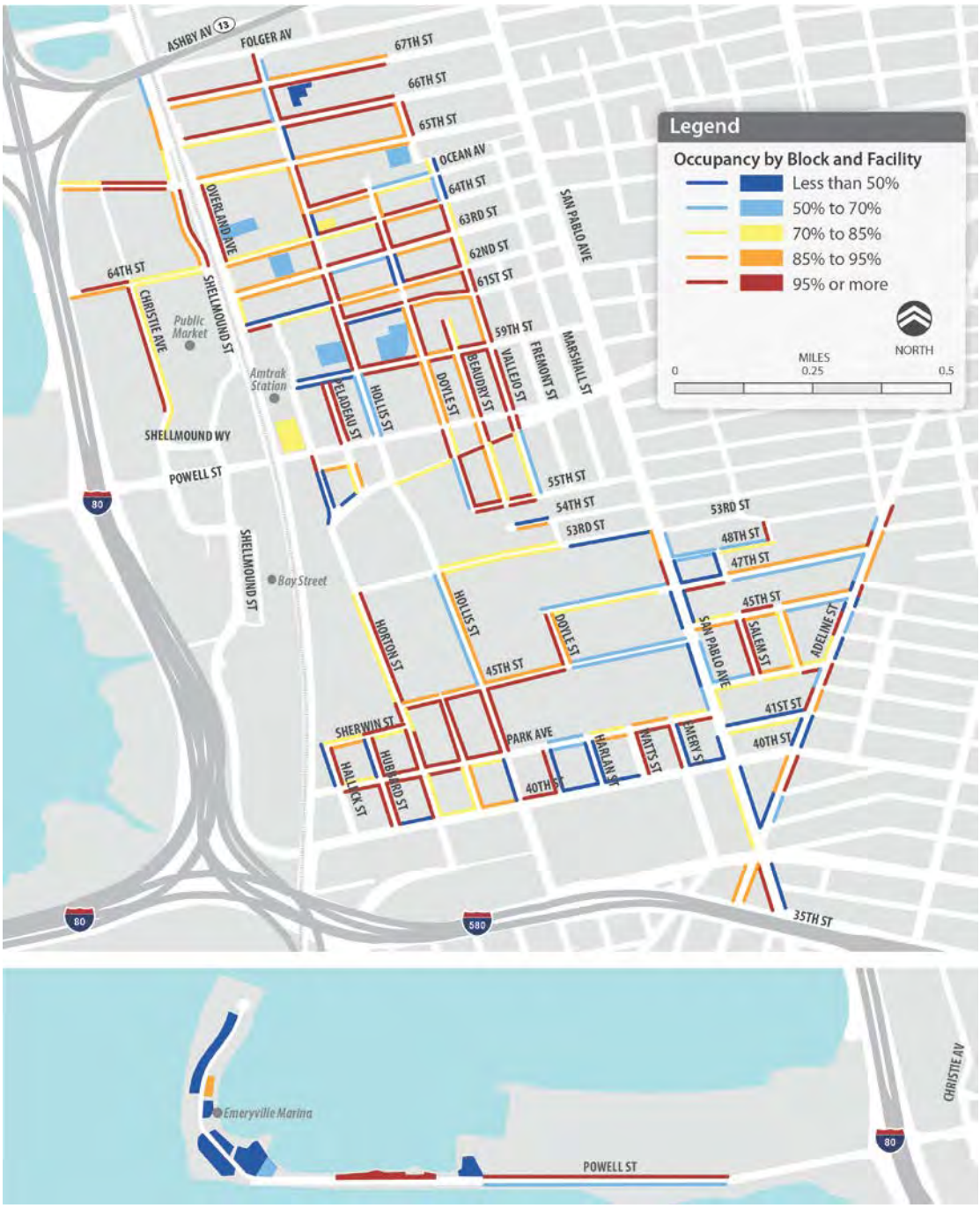
Table 1.5: Occupancy for Hourly Collection Facilities

	# of Spaces	4 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM
All Spaces	3,475	22%	36%	46%	65%	74%	76%	71%	76%	73%	60%	60%	46%	38%
On-Street	1,684	39%	62%	76%	87%	90%	90%	89%	90%	89%	80%	71%	60%	56%
Off-Street	1,791	6%	11%	17%	45%	59%	62%	54%	62%	58%	42%	50%	33%	21%

Note: Includes on-street spaces in Central, Doyle, and North Hollis and off-street spaces in Doyle and North Hollis.

Occupancy for the 10 AM peak period is also shown by blockface in **Figure 1.3**. The busiest areas are around the commercial centers of North Hollis and Park Avenue, but there are blocks with high occupancies throughout the city, including in the primarily residential Triangle neighborhood. San Pablo Avenue has relatively low usage at this time of day, as does most of the Peninsula, except the north side of Powell St and the narrow lot serving Emery Cove Harbor. Maps showing occupancies at other times of day are attached in *Appendix D.*

Figure 1.3: 10 AM Occupancy Map



Compared to the 2010 occupancy observations, there were generally higher occupancies in most of the study area in 2017. **Table 1.6** shows the 10 AM peak occupancy results by neighborhood compared with the 2010 data. Some of the blocks observed in 2017 were not included in the 2010 study, but on average, the occupancies can be compared.

Occupancies increased in all but three neighborhoods. The Central neighborhood had a 3 percent decrease in occupancy, likely due to the fact that in 2010, most of the blocks collected in this area were near Pixar, in a busier area, compared to the 2017 study, which collected all blocks in the

neighborhood. North Bayfront had the same overall occupancy in both years. South Emeryville only included one block in 2010, so the 100 percent occupancy is likely not representative of all parking in that area. The largest increase in parking occupancy was in the Doyle neighborhood, indicating increased demand for residential parking and/or increased spillover from the North Hollis business and commercial areas.

Table 1.6: 10 AM On-Street Occupancy Comparison by Neighborhood

Area	2010	2017	Change
Central	71%	68%	-3%
Doyle	71%	87%	+16%
North Bayfront	89%	89%	0%
North Hollis	87%	90%	+3%
Park Avenue	83%	88%	+5%
Peninsula	N/A	97%	N/A
South Emeryville	100%[1]	67%	N/A
Triangle	63%	71%	+8%
Citywide[2]	79%	82%	+3%

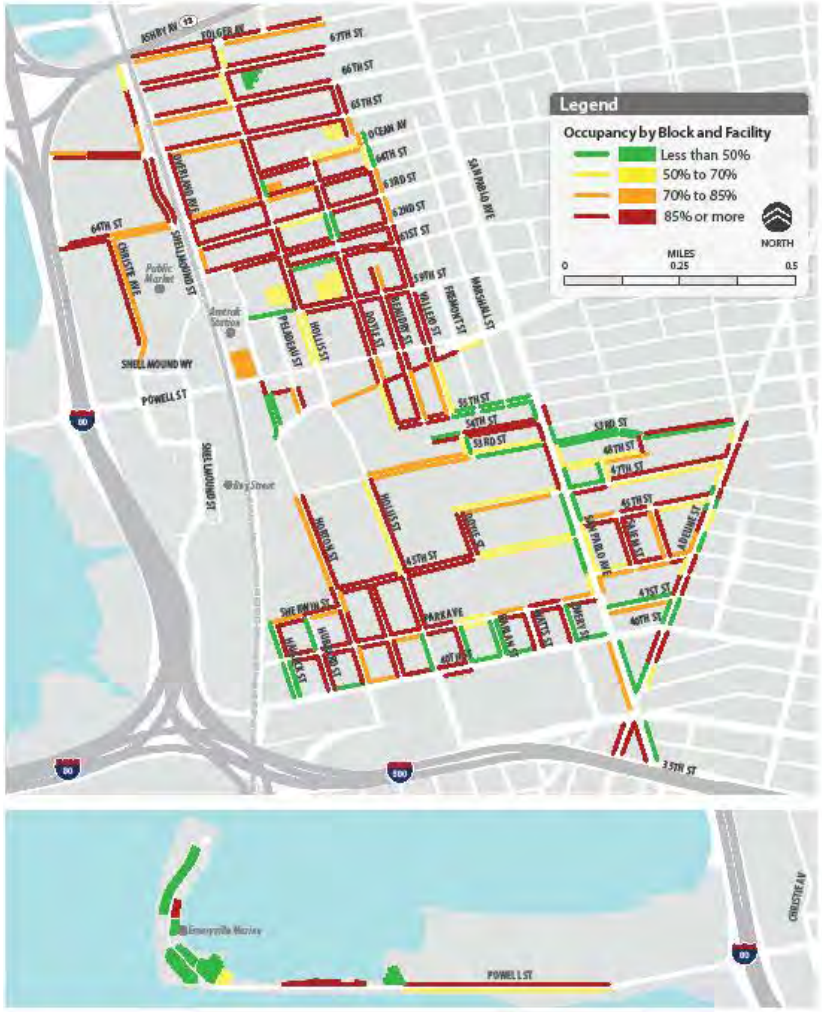
[1]Only one block surveyed in 2010, so 2010 and 2017 data are not compared directly

[2]In 2010, the Citywide average only includes surveyed blocks, and thus North Hollis is over-represented as more blocks were collected there than the rest of the city.

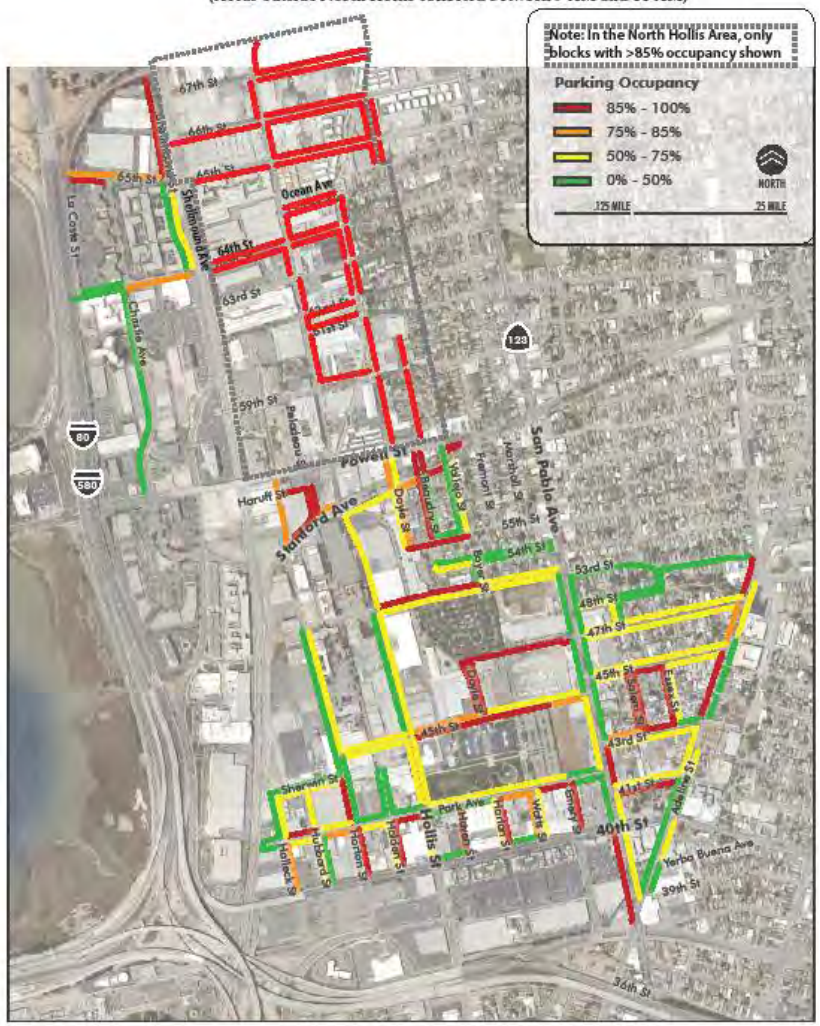
A comparison of occupancies by blockface and facility is also included in **Figure 1.4.** Consistent with the above results, occupancies are heavier in most areas throughout the city.

Figure 1.4: 10 AM Occupancy Comparison 2010 - 2017

2017 Occupancy - 10 AM Peak



2010 Occupancy - 10 AM Peak
(Areas outside North Hollis collected between 9 AM and 11 AM)



Parking User Type

In order to understand what kinds of users are likely using parking in each neighborhood, license plate data was used to approximate the user type of parkers. Vehicles parking in on-street spaces were assigned one of three user types, resident, employee/long-term visitor, or customer/short-term visitor, based on which of the three data collection time points the vehicle was observed in. **Table 1.7** below shows how the parking behavior of individual vehicles was linked to user types.

Table 1.7: User Type Assignments by Utilization Pattern

	4 AM	10 AM	3 PM	Assumed User Type
Utilization Pattern				Resident
				Resident
				Resident
				Resident
				Employee/Long-Term Visitor
				Customer/Short-Term Visitor
				Customer/Short-Term Visitor

Using these definitions, a user type was assumed for each observed vehicle parked in on-street spaces, which was then summarized by neighborhood, as shown in **Table 1.8** below. The Triangle neighborhood is the only one in which a majority of parkers are likely to be residents, but in Doyle, North Bayfront, Peninsula, and South Emeryville around 40 percent of parkers are likely residents. Parkers in the Central, Park Avenue, and South Emeryville neighborhoods are more than 50 percent customer and short-term visitor. The areas with the highest percentages of employee or long-term parkers are North Hollis and Park Avenue, but in both of these areas, a higher percentage of parkers are visitors or short-term parkers. There are no areas in which one user type dominates, confirming the fact that street parking in each neighborhood in Emeryville serves a variety of users.

Table 1.8: User Types by Neighborhood (on-street parkers only)

Neighborhood	Resident	Employee/Long Term Visitor	Customer/Short-Term Visitor
Central	23%	25%	52%
Doyle	43%	22%	35%
North Bayfront	41%	21%	38%
North Hollis	20%	38%	41%
Park Avenue	16%	32%	52%
Peninsula	40%	20%	39%
South Emeryville	38%	10%	52%
Triangle	62%	9%	30%

Duration and Turnover

The data collected also allows estimation of average duration and turnover of vehicles in areas with hourly data collection, and approximation of user type based on the times a vehicle was parked in the entire study area.

Parking duration is the length of time a vehicle is parked in a single area and parking turnover is the number of unique vehicles that use a space throughout the day. These measurements can be made in the North Hollis and Doyle area, where license plate data was collected hourly from 8 AM to 6 PM. Duration is calculated by adding up the total occupancy for each hour during the day and dividing by the number of unique vehicles. The calculated duration may be a slight over-estimation of duration, as a vehicle is assumed to have stayed for a full hour for each hour that it was observed. Turnover is calculated by dividing the number of unique vehicles by the number of parking spaces. For high-turnover blocks, the turnover estimation may be an underestimation of the actual turnover, as vehicles that parked for short durations between data collection times would not have been observed. Average vehicle duration and turnover for these two areas are shown in **Tables 1.9** and **1.10** below.

In unregulated spaces, vehicles parked on average for around 3.5 hours, with slightly longer average durations in North Hollis compared to Doyle. Turnover in these spaces was 2 to 2.5 vehicles per space per day on average in the two neighborhoods. Durations in 2-hour spaces in North Hollis were slightly higher than in unregulated spaces, indicating a lack of enforcement of time limits as well as demand for long-term parking in these areas. The vehicle turnover in these spaces, however, was higher than in unregulated spaces, at almost 2.6 vehicles per day, which can happen if there is a small portion of spaces where vehicles are staying for very long durations, while there is high turnover in the remaining spaces. The discrepancy may also be caused by vehicles parking for less than one hour, which would not have been observed with hourly data collection. The results indicate there are a few long-term parkers using the 2-hour spaces, but most 2-hour spaces are used by short-term visitors, and that there may be more demand for short-term parking than was observed by the hourly data collection. Improved enforcement could ensure that there is parking availability for short-term parking and direct long-term parkers to appropriate facilities.

In the Doyle neighborhood, durations and turnover are slightly lower for 2-hour parking compared to unregulated parking, indicating vehicles are staying for shorter durations but fewer vehicles overall are parking in these spaces. This is consistent with the residential character of the neighborhood, which might mean short-term parking spaces are less attractive.

In the North Hollis area, the 1-hour and loading spaces have short average durations, indicating these spaces are meeting a need for short term parking. The estimated turnover in these spaces is also low, but it is difficult to estimate the actual turnover rate in very short-term spaces when data is only collected every hour. Permit and reserved parking is generally used by employees or residents, thus resulting in long average durations and low turnover.

Figure 1.9: North Hollis On-Street Duration and Turnover by Space Type

Space Type	Inventory	Average Duration (Hours)	Turnover (Vehicles/Space/Day)
Unregulated	842	3.71	2.05
2-Hour	161	4.00	2.58
1-Hour	20	1.85	1.65
Loading	28	0.60	1.71
Permit	39	3.92	1.36
Reserved	42	4.26	1.93

Figure 1.10: Doyle On-Street Duration and Turnover by Space Type

Space Type	Inventory	Average Duration (Hours)	Turnover (Vehicles/Space/Day)
Unregulated	506	3.43	2.50
2-Hour	16	2.85	2.06

Chapter 2.

Parking Management Program

Based on the results of existing conditions data collection, driver and property owner surveys, and two public workshops, recommendations were developed for on-street parking policies throughout Emeryville. This chapter describes the recommendations for parking meter pricing and technology, permit programs, and on-street parking designations. The recommendations include parking meters and permits throughout the city, but the meters and permits would be implemented in phases, with opportunity to adjust the plan as conditions change and drivers respond to the new management solutions.

The recommendations are an update to those developed for the 2010 Emeryville Parking Management Plan. Overall, the locations where parking is most heavily used have not shifted since 2010, and while occupancies have increased throughout the City, the types of parking management needed in each neighborhood have remained similar.

Parking Designation Summary

This plan recommends that most on-street parking and the public lot in the Marina be assigned one of five parking designations, which include residential permit parking, three different metered parking designations, and unregulated parking. This section summarizes these parking designations. Detailed recommendations for pricing and implementing permits and meters are described in the following sections, including a map showing the recommended designations for each blockface. The five parking designations are:

- **Residential Permit Areas:** In these locations, parking would be unmetered, but with a 2-hour time limit for non -permit holders. Vehicles with a parking permit would be exempt from the time limits. This designation is intended for residential areas and mixed-use areas with significant residential uses. Permits would be available to residents on blocks within the permit areas, with a maximum of two permits per dwelling unit, and to businesses within the permit areas and in specified nearby commercial areas. There are two permit areas recommended: North Hollis/Doyle in Phase 1 and Triangle, if needed, in Phase 2 (phasing of the plan is discussed in further detail in the following section). Business adjacent to these areas will be allowed a limited number of permits for employees. The number of permits issued to businesses may vary based on the demand from residents (who may have off street options like driveways and garages and not want a permit) but will initially be set at a relatively low number to maintain no greater than an 85% occupancy rate on a typical block.

- **Short Term Metered:** In these locations, parking would be metered with an hourly parking rate using a variable pricing scheme to encourage two-hour parking without an enforced time limit. This designation is used in commercial areas visited heavily by customers who do not need to spend a long time at their destination. Businesses would benefit from the increased parking availability created by higher vehicle turnover. Details on potential meter technology and recommended pricing are described in the “Parking Meters” section below.

Clear signage and description of the pricing variation is integral to self-enforcement in areas expected for high turnover. The variable pricing scheme is preferred as it reduces enforcement costs from becoming prohibitive and it allows for flexibility in responding to changes in parking behaviors.

- **Mid-Term Metered/Business Permit:** In these locations, parking would be metered, as above, with a variable hourly rate which encourages parking durations of four hours or less. This designation is recommended in areas where some turnover is preferred, but the short-term rates are deemed inappropriate. This includes areas on the Peninsula where visitors to the park, marina, or residential towers need mid-length parking, as well as some commercial areas where short-term parking is unlikely to be sufficient for visitors. Details on potential meter technology and recommended pricing are described in the "Parking Meters" section below. Businesses may also be issued permits to use in the mid-term parking areas to allow employees to park at these meters for an annual fee rather than paying the meter each day. Policies regarding this need to be developed in Phase II.

- **Long Term Metered:** In these locations, parking would be metered with a relatively low hourly rate and no variable pricing or time limit. This designation is used in commercial areas where parking is used primarily by employees or long-term visitors, or in area adjacent to commercial locations where employees can park for longer periods of time. Details on potential meter technology and recommended pricing are described in the "Parking Meters" section below.

- **Unregulated/No Meters:** In these locations, parking would be unmetered and unregulated. This designation is intended for blocks with primarily industrial uses, and where parking meters are not viable due to a lack of sidewalks and other infrastructure. In many of these areas, businesses use their building setbacks to provide parking for employees, visitors, and company vehicles. Adding public parking on these blocks would create complications with these existing uses. On these blocks, no changes are recommended to the current conditions.

All existing ADA accessible parking spaces, blue curbs, loading zones, and red curbs or other no-parking zones would remain as they currently are designations, and would not be affected by new parking designations. Construction parking impacts on available parking to residents and visors was raised as a concern by the Public. A Construction Parking Zone is not proposed for citywide treatments rather the City is advised to review its Public Works Encroachment process for development to seek mitigations of construction impacts on limited off street parking.

All parking designations would be enforced Monday through Friday, 9 AM to 5 PM. In addition to these designations, a bus priority corridor with additional parking restrictions during the peak hours is recommended for consideration along Hollis Street in Phase III.

Phasing

The parking recommendations include a phasing plan for rolling out meters, pricing, and permits throughout the city. Phasing of the improvements allows for a manageable approach to implementing the changes and then monitoring their performances so that refinements can be made as a part of the next phase.

- **Phase 1:** The first phase includes all designations within the North Hollis and Doyle neighborhoods, bordered by Overland Avenue and the railroad tracks to the west, 53rd St to the south, and the Emeryville City limits to the north and east. This would include the entirety of the proposed North Hollis/Doyle parking permit area. Phase 1 would be implemented as early as late 2018.
- **Phase 2:** The second phase includes all parking designations in the remainder of the city, including the Peninsula. The Triangle permit area would be included in this phase if residents and the city identify a need to manage parking on residential streets in the Triangle after other improvements on San Pablo Avenue or 40th Street alter parking patterns. Phase 2 could be implemented in 2019 or later.
- **Phase 3:** The third phase would potentially implement a peak period bus lane on one or both sides of Hollis St, replacing parking during peak periods. Implementation of this option depends on a feasibility study, including whether the lane geometry would allow conversion of the parking lane, determination of the direction and times during which buses are most impacted by traffic, and limitations on turning movements or impacts of turning movements on through travel. Phase 3 would not be implemented until a detailed feasibility study is completed.

Permit Parking Program Recommendations

This study recommends expanding the Residential Parking Permit (RPP) program in the city. The goals of RPP are to:

- Improve residents' and employees' access to on-street parking close their home or worksite, when needed;
- Increase turnover along commercial corridors to allow more customer access by providing alternatives for long-term parkers;
- Reduce commuter and special event parking in residential areas;
- Increase use of available off-street parking; and
- Increase the share of residents and employees using commute modes other than a private vehicle.

Many residential areas in the City experience high parking demand throughout the day, and many residents have trouble parking their cars near their homes. In these areas, the City wishes to prioritize residents, reduce spillover parking from commercial areas, and discourage all-day parking for those who neither live nor work in Emeryville but take advantage of free parking and

transit accessibility. Currently, the City operates an RPP program to manage parking in these areas, but this has only been implemented on a few blocks. Under the current parking permit program, parking is restricted to permit holders. Permits can be purchased by residents and businesses in the area at an annual cost of $58 per vehicle, limited to three vehicles per household and one per business. Residents and businesses my purchase one visitor permit per year for $150. Costs and details of RPP programs in nearby cities are detailed in *Appendix E.*

This section recommends improving the RPP program and expanding it, in phases, to single family residential areas throughout the city. The existing RPP program is underutilized because the process for approval is cumbersome and there are few resources to enforce. The recommendations include two defined permit areas within which RPP would be implemented by the City, without residents needing to request the program. In the first phase of the parking plan, the North Hollis/Doyle residential permit area would be implemented. In the second phase of the plan, the Triangle residential permit area may be implemented if a need is identified by the residents.

Due to continued high demand on residential streets, and because parking demand on residential streets is likely to increase if nearby streets become metered, this plan recommends that the price per permit be increased, with a higher price for additional permits after the first purchased by each household. Based on the parking user survey, respondents slightly preferred to purchase visitor parking permits on an as-needed basis rather than including it with their annual permit purchase for an increased fee. The recommended prices and household limits are detailed in **Table 2.1** below. These permits would be available to all households on permit blocks regardless of whether it is a single-family home or multi-family building, and regardless of the amount of parking provided on-site.

Single-day visitor permits would be available to residents at a recommended cost of $5 per day. This would need to be reviewed for effectiveness. As currently, the permits would only be enforced Monday through Friday, 9 AM to 5 PM, during which time free 2-hour parking would still be available to non-permitted vehicles. Therefore, parking would remain free for:

- Residents who only park their car in their neighborhood overnight after 5:00 pm,
- Short-term visitors (less than 2 hours), and
- Evening or weekend visitors,

none of whom would need a permit.

Businesses located on or adjacent to the blocks designated for the North Hollis/Doyle and Triangle permit areas would also be able to purchase permits for their employees. These permit areas could also be used by nearby businesses, as follows:

- **North Hollis Permit Area:** All businesses within the North Hollis neighborhood, north of 53rd Street and east of the railroad tracks to the city borders
- **Triangle:** All businesses on Adeline Street and San Pablo Avenue within the City of Emeryville, and in the area bounded by San Pablo Avenue to the east, 40th Street to the south,

53rd Street to the north, and the railroad tracks to the west. These businesses would only be included in the permit area if it is implemented, pending identification of need by residents.

Because businesses of various sizes may wish to purchase permits, a limit per business is not recommended. Instead, an overall maximum for permits issued to businesses should be set for each permit area. An application window will be opened under which the program will be advertised and applications solicited to ensure the neediest businesses, such as those with no off-street parking, could apply. Policies for distribution priorities for businesses may be developed if the program is oversubscribed. The city should continue to monitor occupancy on permit blocks as well as the number of permits issued, and adjust the maximum number of permits issued on an annual basis. The recommended limits and prices per permit are detailed in **Table 2.1** below.

There are 590 on-street spaces proposed for residential permitting in the North Hollis/Doyle permit area, and approximately 330 housing units on these blocks, including about 180 single family homes and 150 units in multi-family buildings. Assuming that on average residents will use one on-street parking space per unit (though allowed up to two), approximately 260 additional spaces will remain available for other users. It is recommended that 200 business permits be made available to avoid overselling the parking supply and maintain some parking availability. There are 450 spaces in the Triangle permit area and approximately 330 housing units on these blocks. Assuming one on-street space per unit, approximately 120 additional spaces will be available. It is recommended that 100 business permits be made available if permits are implemented in the Triangle neighborhood.

Table 2.1: Permit pricing and limits

	North Hollis/Doyle	Triangle
Residents	*Available to residents with addresses on blocks within each permit area*	
Limit per household	2 Permits	2 Permits
Cost (annual)	1st permit - $100 2nd permit - $300	1st permit - $100 2nd permit - $300
Visitor Permit	$5/day	$5/day
Businesses	*Available to businesses within the North Hollis Area: North of Powell St and East of railroad tracks to Emeryville Borders*	*Available to businesses within the permit area, on Adeline St, and between Powell St and 40th St within Emeryville*
Total Business Permit Limit	200 Permits	100 Permits
Initial Cost Proposed (Actual cost limited to cost of administration of the permitting program)	$200*	$200*

Metered Parking

The plan recommends installing parking meters in the short-term, mid-term, and long-term parking areas throughout the city. The goals of metering and pricing parking are to

- Improve parking turnover and availability for customers while maintaining affordable long-term parking for employees,
- Support citywide mode-shift and sustainability goals, and

- Ensure financial sustainability of the parking program.

Potential pricing and technology options are discussed in this section.

Variable Pricing

For the recommended meter pricing detailed below, variable on-street pricing is recommended. Variable on-street pricing is intended to increase vehicle turnover in spaces that are close to retail and commercial destinations without imposing strict time limits, by varying the hourly rate based on how long a vehicle is parked in the same area. The variable pricing strategy recommended in Emeryville charges a relatively low rate for the first two or four hours, for short-term and mid-term parking respectively, then has a sharp increase in price, so that any additional hours parked cost much more. This provides an economic incentive for long-term parkers to move to peripheral parking, which is recommended to have a low, constant price. Parkers are allowed to stay as long as they need to allow for flexibility and reduce enforcement needs, but would pay steep costs for this flexibility, while not increasing enforcement costs unnecessarily.

Pricing Recommendation

The pricing recommendations in this document would be adopted as the initial parking rates, along with a pricing policy, which would set for the process for increasing or decreasing rates after implementation. The pricing policy will:

- Target 85% occupancy throughout the city and review occupancy rates at least annually.
- Require the city to review occupancy, turnover, citywide modal use changes, and complaints at least annually, and bi-annually as needed, particularly in the first year after changes are implemented.
- Set occupancy thresholds for raising or lowering parking prices within each metered parking category.
    - It is recommended that meter prices be lowered when average occupancy within each metered parking designation (short-, mid-, and long-term) falls below a low occupancy threshold, recommended to be 65% occupancy during the peak period, and raised when occupancy rises above a high occupancy threshold, recommended to be 85% occupancy during the peak period.
    - The city should also review blockfaces within each area to determine if individual blocks should be re-designated to a different meter category or if additional meter categories should be created to allow for differing needs throughout the city.
- Set the increment by which parking prices are raised or lowered according to the occupancy thresholds.
    - The increment is recommended to be low to avoid dramatic changes to parking prices, but high enough to change behavior. $0.50 is recommended as a reasonable increment. Variable increments may also be set based on the magnitude by which observed occupancies differ from the occupancy thresholds. Maximum and

minimum parking rates should be set citywide, recommended to be $10 per hour maximum and $0.50 per hour minimum.

The hourly prices for short-term and mid-term parking were chosen to be similar to prices for Oakland and Berkeley. In Oakland, most on-street parking is currently $2 per hour. Short term (2-hour) parking in Berkeley ranges from $3.00 to $3.50 per hour depending on the location, mid-term (3- to 4-hour) parking ranges from $1.50 to $2.50 per hour, and long-term (8-hour) parking is $2.50 per hour.

Long-term parking is recommended to be set at a low, constant rate of $0.50 per hour for employees and visitors who wish to park for extended periods of time. This rate is lower than public parking garages in Emeryville, which range from $2 to $7 per hour or $12 to $30 per day (detailed in **Table 2.2**). However, the recommended long-term rate is higher than the recommended price for employee permits, which would cost $200 per year in the permit areas, which would encourage regular long-term parkers to seek permits if they are available.

Table 2.2: Garage/Fee Lots Rates in Emeryville

	Hourly	Daily
Bay Street	$2 for first three hours, +$1 for fourth hour, +$2 for each additional hour +$1 Fri-Sun	$12 daily max
Terraces Garage	$7 per hour	$30 daily max $5 for Amtrak passengers
Towers Lots	First 20 minutes free and $2 per additional 20 minutes ($6 per hour)	$15 daily max
Hollis Business Center	$3 per hour	N/A
Glas Haus*	Free	N/A
EmeryStation West *(to open August 2018)*	$6 for first hour and $8 per additional hour $0.75 for first hour and $2 per additional hour	$30 daily max $11 per day for Amtrak (Prices to rise 5% annually)

*The parking capital project could add meters to this garage and pricing consistent with midterm parking would be considered

Table 2.3 outlines three proposed pricing scheme for short-term, mid-term, and long-term on-street parking meters. As described above, short-term and mid-term areas are priced to encourage parkers to stay for under 2 hours or under 4 hours, respectively, while long-term parking is intended for all-day parkers. In short-term and mid-term areas, a single jump in price is recommended after a vehicle stays in the same space for longer than the preferred length. The selected prices would be set as the initial prices for the program. After implementation, it is recommended that the City continue to monitor occupancy and adjust prices to meet occupancy targets.

Table 2.3: Recommended On-Street Pricing

Hour	$/Hour								$/day	$/week	$/month
	1	2	3	4	5	6	7	8			
Short Term	$2.00	$2.00	$7.00	$7.00	$7.00	$7.00	$7.00	$7.00	$46.00	$230.00	$920.00
Mid Term	$1.00	$1.00	$1.00	$1.00	$6.00	$6.00	$6.00	$6.00	$28.00	$140.00	$560.00
Long Term	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$4.00	$20.0	$80.00

Technology

There are two types of meters that can be used for on-street parking.

- **Single-Space Meters** are the more traditional type of parking meter, and would be located at each parking space. Modern smart meters can accept credit cards or coins. These could be implemented on single-head meters or double-head meters covering two adjacent parking spaces. A dual head meter uses a single pole, reducing sidewalk impacts and minimizing distance to payment, while creating diffused payment options, in case of equipment failure.
- **Multi-space meters** can be kiosks that serve multiple parking spaces. Parkers can pay at the kiosk and return to their car to display the receipt on the dashboard, or enter their license plate number and do not need to return to their vehicle, depending on how the City chooses to set up the kiosks. Multi-space meters can accept credit cards, cash, or coins. Based on feedback received during the public workshops, and to be relatively consistent with neighboring Oakland's technology, dual-head meters are recommended for Emeryville.

In addition to the physical meters, mobile payment technology is recommended to be implemented along with the meters. This allows drivers to pay via a smartphone app using a credit card. Drivers can check how much time they have remaining and add money to their meter without returning to their vehicle. Mobile payment is compatible with both single-space and multi-space meters.

Hollis Street Bus Corridor

The City is considering restricting parking availability along Hollis Street during the peak commute times, approximately 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, to allow for the provision of special bus-only lanes. This could provide faster, more reliable bus service which would promote increased transit use, and is consistent with the designation of Hollis Street as a transit street in the General Plan. Hollis Street is used primarily by the Emery-Go-Round routes as well as the AC Transit route 29.

At many intersections along Hollis, parking lanes are currently used for right turns or as a shifted through lane to allow dedicated left turn movements. Transit conflicts or restrictions related to these parking lane uses must be considered prior to implementation of a bus only lane in the parking lane. Additionally, signage, signal modifications, pavement markings, other capital improvements and user education and enforcement would be required and need further review to ensure feasibility before this could be implemented.

Parking along Hollis Street is recommended to be a mix of short-term and long-term parking. Restricting parking during the morning peak would have a small effect on short term parking availability during the bus lane hours, but may prevent some long-term parkers from being able to

park in the morning or the afternoon for work or other purposes. Consequently, this requires additional study.

Parking Recommendations Map

The maps in **Figures 2.1** through **2.4** show the block-by-block parking designations recommended for the entire City of Emeryville. **Figure 2.1** shows the full, citywide buildout of the parking plan. The recommendations would apply to all existing on-street parking spaces on the blocks indicated and the Marina Lot, except for existing ADA accessible parking spaces, blue curbs, and loading zones. These spaces, as well as any existing red curb or other no-parking zones, would not be affected by the recommendations. **Figure 2.2** shows the area included in Phase 1, starting with the North Hollis area north of Powell Street and east of the railroad tracks. The remaining areas as shown in **Figure 2.3** would be implemented in Phase 2, and Phase 3 as shown in **Figure 2.4** would include the addition of a bus-only lane on Hollis St., pending further study.

Phase 1, which could be implemented as early as late 2018, includes the North Hollis and Doyle neighborhoods. The Phase 1 recommendations are largely similar to those recommended in the 2010 study, with some alterations where construction has been completed and land uses have changed. Because this is a mixed-use area, there is significant variation of parking types among adjacent blockfaces to ensure the needs of visitors, employees, and residents are met.

Phase 2 includes the North Bayfront, South of Powell, Peninsula, and Triangle neighborhoods, and would be implemented in 2019 or later. East of the railroad tracks in the North Bayfront area, short-term meters are recommended on Shellmound Street in the Public Market area, which was recently redeveloped with on-street parking spaces, with mid- and long-term parking on blocks further away from this center of activity. The area west and north of the Public Market includes multi-family residential, which would primarily bordered by mid-term parking for visitors.

South of Powell street, there is less fine-tuned variation amongst the blockfaces, as there is more separation of uses in this area. It is expected that most of the businesses in the area would benefit from mid-term parking nearby for visitors and long-term parking further away for employees. Business permits are also recommended to be issued for the mid-term areas to allow employees to park all day without paying an hourly fee at the meter. Short-term parking is recommended on the commercial segments of San Pablo Avenue and Adeline Street. An optional RPP area is identified in the Triangle residential neighborhood, to be studied before the second phase of the parking plan is implemented.

On the Peninsula, the street parking is recommended to be mid-term parking, to serve the needs of visitors to the Watergate Towers and to the Marina park and trail, and to discourage Transbay bus riders and carpoolers from leaving their cars here all day. The public parking lot at the end of the Peninsula at the marina is recommended to be designated for long term parking, providing another low-cost option for park and marina visitors. This area could also be designated by the city as a park-and-ride facility for carpoolers to meet. It is also recommended that the City continue to honor parking permits issued for people living aboard boats in the marina.

Figure 2.1 All Recommendations

Figure 2.2 Phase 1 Recommendations

Figure 2.3 Phase 2 Recommendations

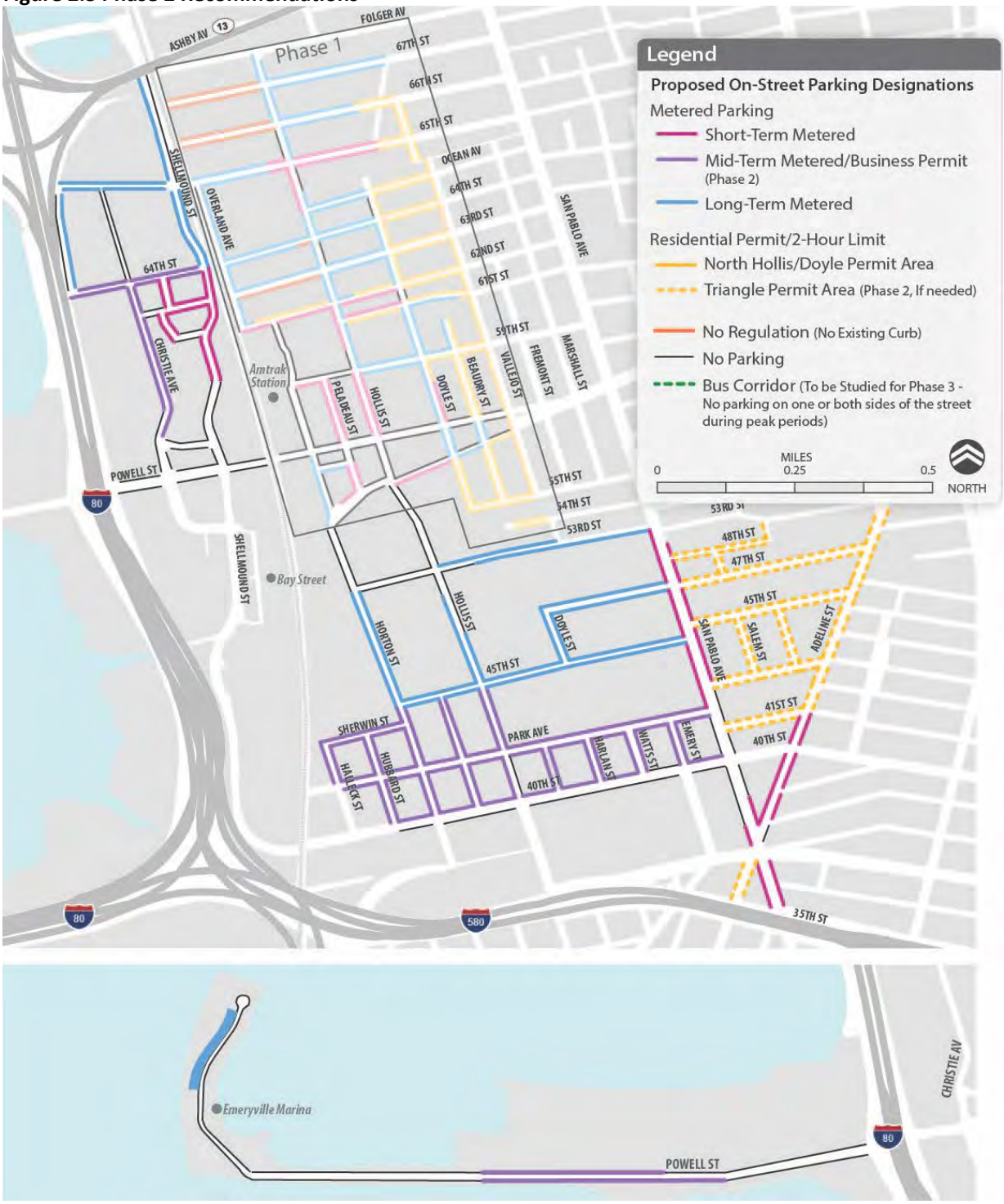
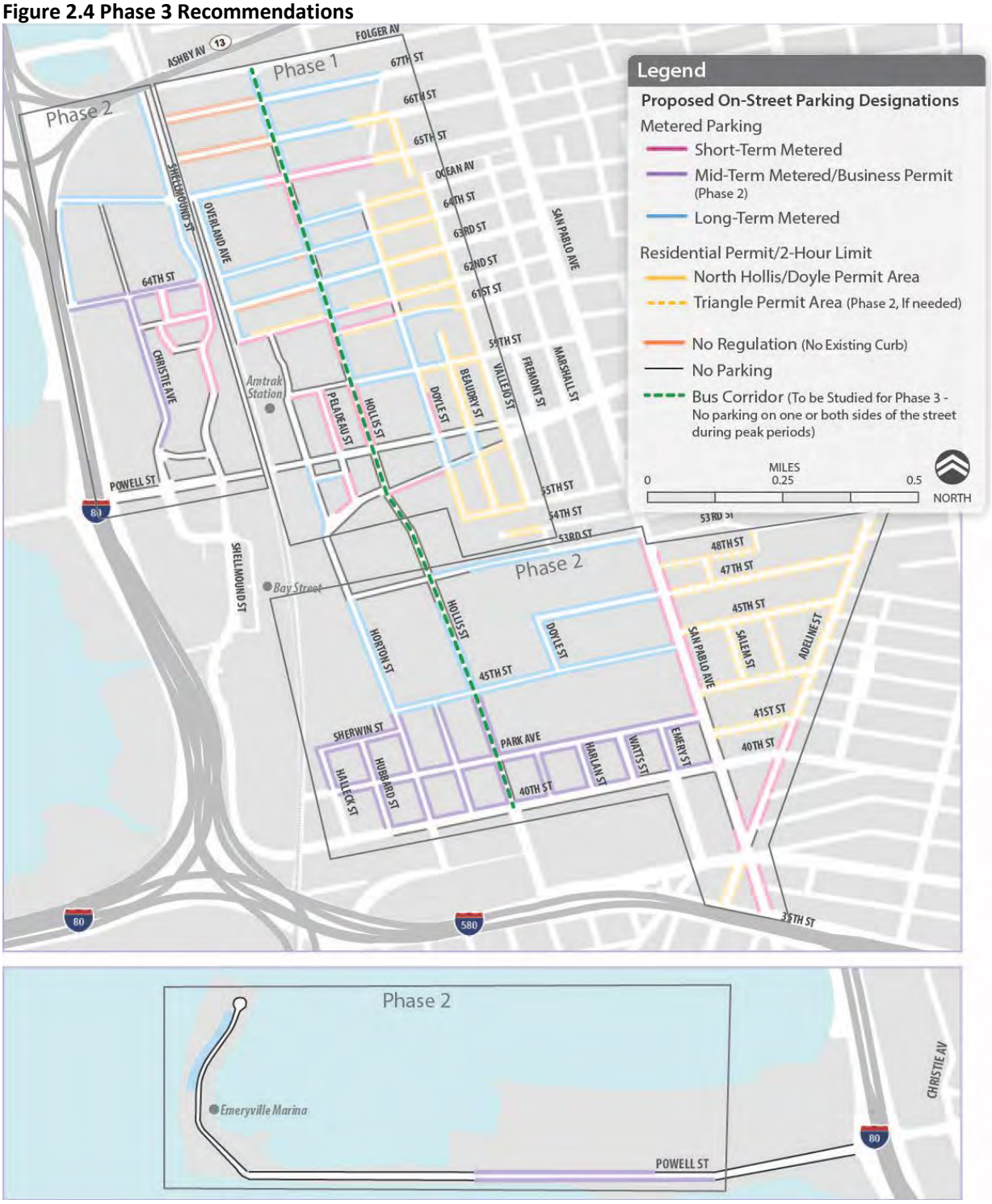


Figure 2.4 Phase 3 Recommendations



Parking Management Plan Costs and Revenues

Implementing the above parking strategies would require purchasing parking meters and enforcement equipment as well as the cost of enforcement, maintenance, collections, and administrative support. Potential costs and revenues for this program were estimated using a proforma model based on the recommendations, observed parking demand, and expected costs. The results of this analysis are summarized in this section.

The financial analysis applies the meter and permit parking prices recommended above to the observed parking demand to estimate parking revenues, and estimates labor, capital, and operational costs to estimate a net income for the program. The analysis assumes that the first phase, North Hollis, will be implemented in 2019, and the second phase will be implemented in 2020. From these estimates an annual net income was estimated for the first ten years of the program.

The revenue analysis conservatively assumes that parking will be used, on average, at approximately the same occupancy rates as was observed for on-street spaces in the existing conditions analysis. In the revenue model, existing demand for short-term, mid-term, and long-term spaces from the parking occupancy data is used. Average parking demand was calculated as the total number of occupied hours from 9 AM to 5 PM divided by the revenue hours (the total number of spaces multiplied by eight hours). Short-term occupancy was adjusted down approximately 30%, and long-term parking was increased by an equivalent amount, to conservatively reflect an expected shift toward lower-cost pricing. The analysis also includes a ten percent decrease in demand during the first year as drivers take fewer trips or other modes in response to the new parking pricing and technology. After the first year, demand for parking is expected to increase due to increased space availability, and the occupancy is assumed to stay constant at the existing observed rates. The assumed occupancy rates by space location and phase are shown in **Table 2.4**.

Table 2.4 Assumed Daily Average Occupancy Rates

	Short Term	Mid Term	Long Term	Citywide Average
Phase 1 spaces with 10% year-1 decrease	43%	N/A	67%	61%
Phase 2 spaces (citywide)	45%	77%	72%	66%

These occupancies are multiplied by the hourly parking rates described in the recommendations above, assuming all vehicles in short- and mid-term parking spaces stay for the recommended time limit, two and four hours respectively, to avoid paying the higher rate. Meter rates are also assumed to stay constant for the analysis period, and the number of metered spaces is assumed to decrease at a rate of 2.5% per year to account for changes in curb use such as drop off zones, bus lanes, parklets, etc. Both of these assumptions result in a conservative revenue estimate, as no revenue is assumed to be garnered from those overstaying at meters and the revenue is expected to decrease with the assumed loss of metered spaces.

Labor costs for administering and enforcing the program, summarized in **Table 2.5** below, were estimated using salaries obtained from the City and approximate full-time equivalent (FTE) hours based on the level of administration and enforcement required for each phase. The annual hours and total costs shown are for all positions within each department, including overhead and benefit costs. Contractors for meter maintenance and collection were assumed instead of in-house collections, with a high-end annual contracting cost included for a conservative estimate. The annual hours and full-time equivalents for each position are detailed in *Appendix F*. Labor costs are assumed to escalate at a rate of 5% per year.

Table 2.5 Labor Cost Summary

	Phase 1 - North Hollis		Phase 2 - Citywide	
Labor Category	**Total FTE**	**Annual Cost**	**Total FTE**	**Annual Cost**
Operations and Maintenance (Contract)				
Maintenance Contractor	-	$100,000.00	-	$200,000.00
Collections Contractor	-	$100,000.00	-	$200,000.00
Administration and Enforcement				
Finance	0.075	$16,791.67	0.125	$25,560.84
Public Works	0.075	$20,517.47	0.125	$32,114.25
Police	3	$703,929.15	5	$1,060,165.65
Policy and Planning*	0.075	$18,502.52	0.125	$29,873.96
Total Labor and Operations		**$959,741**		**$1,547,715**

*Policy and planning staff needs assumed to end after the second year of phase 2.

Capital costs for both phases include purchasing a total of 2,730 parking meter heads, four license plate-recognition (LPR) enabled vehicles, handheld enforcement units, and signage. In total, capital costs for phase 1 are estimated to be approximately $1.14 million and for phase 2 are estimated to be $1.94 million. The capital costs are detailed in **Table 2.6**. These capital costs are annualized for the cost and revenue comparison assuming a full replacement after 10 years. Additional software and contracting costs for mobile payment, permit management, and system integration are also included in the proforma analysis. Parking citation revenues and associated court and processing costs are excluded from the model.

Table 2.6 Capital Cost Details

	Phase 1		Phase 2	
	Number	**Total Cost**	**Number**	**Total Cost**
Meters	949	$968,000	1757	$1,826,000
LPR Vehicle	2	$73,000	2	$75,000
Handheld Units	2	$3,100	2	$3,100
Signs	198	$24,000	283	$35,000
Software setup cost (one-time)	-	$75,000	-	-
Total		**$1,144,000**		**$1,941,000**

*Phase 2 per-unit costs differ from phase 1 due to inflation. The number of spaces has also been decreased 2.5% between phase 1 and phase 2.

The estimated revenues and costs are summarized in **Table 2.7**. During the first phase in 2019, costs are slightly higher than revenues, but for the first six years of phase 2, the project is expected to make money. After 2025, due to the assumed inflation rates and gradual loss of parking spaces, revenues would decrease below the costs. Increased meter rates could be considered to cover the cost increases. It is important to note that these estimates are based on a number of assumptions about user behavior and economic conditions which are difficult to predict. For example, an economic downturn, or an increase in inflation could substantially impact revenues or costs. The estimates assume current behaviors regarding auto ownership and use of private autos for commuting and other types of trips will not change in any major way.

Table 2.7 Parking Management Plan 10-year Cost and Revenue Projection

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Revenues											
Short term meters	$466,000	$855,000	$834,000	$813,000	$793,000	$773,000	$754,000	$735,000	$716,000	$699,000	$681,000
Mid term meters	$0	$641,000	$625,000	$609,000	$594,000	$579,000	$565,000	$551,000	$537,000	$524,000	$511,000
Long term meters	$456,000	$991,000	$966,000	$942,000	$918,000	$895,000	$873,000	$851,000	$830,000	$809,000	$789,000
Permit income	$77,000	$229,000	$229,000	$229,000	$229,000	$229,000	$229,000	$229,000	$229,000	$229,000	$229,000
Total Revenues	***$999,000***	***$2,716,000***	***$2,654,000***	***$2,593,000***	***$2,534,000***	***$2,476,000***	***$2,421,000***	***$2,366,000***	***$2,312,000***	***$2,261,000***	***$2,210,000***
Expenses											
Capital costs	$105,000	$300,000	$299,000	$297,000	$296,000	$295,000	$294,000	$293,000	$292,000	$291,000	$290,000
Labor	$798,000	$1,265,000	$1,329,000	$1,359,000	$1,427,000	$1,498,000	$1,573,000	$1,652,000	$1,734,000	$1,821,000	$1,912,000
Contractors and Software	$222,000	$454,000	$454,000	$454,000	$454,000	$454,000	$453,000	$453,000	$453,000	$453,000	$453,000
Total Expenses	***$1,125,000***	***$2,019,000***	***$2,082,000***	***$2,110,000***	***$2,177,000***	***$2,247,000***	***$2,320,000***	***$2,398,000***	***$2,479,000***	***$2,565,000***	***$2,655,000***
Annual Net Income	**($126,000)**	**$697,000**	**$572,000**	**$483,000**	**$357,000**	**$229,000**	**$101,000**	**($32,000)**	**($167,000)**	**($304,000)**	**($445,000)**
Internal borrowing from other funds	$126,000	($126,000)	-	-	-	-	-	-	-	-	-
Balance	***$0***	***$571,000***	***$1,143,000***	***$1,626,000***	***$1,983,000***	***$2,212,000***	***$2,313,000***	***$2,281,000***	***$2,114,000***	***$1,810,000***	***$1,365,000***

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Appendix A.

Parking Survey Summary

Introduction

In the winter of 2017, following the existing conditions data collection for the Emeryville Parking Plan Update, two online surveys collected information about parking usage, preferences, and attitudes from business and property owners, residents, employees and visitors in Emeryville. The results of these surveys are described in this section of the report. Section 2.2 details the results of the business and property owner survey and Section 2.3 details the results of the Parking User survey.

The surveys conducted in 2017 were based on surveys developed for the 2010 Emeryville Parking Plan and intended to provide an update to the 2010 results. There were differences between the scope and the format of the surveys used for the two studies. The 2010 survey covered primarily the North Hollis neighborhood, while the 2017 survey encompassed the entire city of Emeryville. The 2010 version of the Parking User Survey was conducted as an intercept survey, with surveyors collecting responses in-person in the North Hollis neighborhood. Instead of a business and property owner survey, a small number of facility managers were interviewed in detail about their parking facilities. Because of the differing format of the 2010 and 2017 facility/property owner surveys, only the responses of North Hollis parking users in 2010 and 2017 are compared directly to each other, in Section 2.3.8 below.

Summary of Findings

Two online surveys were used to gather the opinions and preferences of business owners and parking users, as well as additional detail about parking behavior from parking users. The key finding from this analysis are:

- Business and Property Owner Survey
  - Respondents' businesses and properties were located primarily in the North Hollis, Central, and Park Avenue areas.
  - One-third of respondents indicated they would not be interested in purchasing permits for employees regardless of the options presented.
    - Those that would purchase permits prefer paying for additional permits for visitors rather than bundling them into the cost of a permit and prefer a 4-hour time limit on permit streets rather than a 2-hour limit.
  - Respondents agree that customers, employees, and visitors have difficulty finding safe and convenient parking, have other transportation options, and are willing to park in nearby lots and walk.

- Respondents did not agree that customers would be willing to pay for convenient parking.

- Parking User Survey
  - While a majority of Emeryville residents have at least one vehicle available at home, 14.6 percent of respondents do not have a car, and thus are dependent on other modes.
  - 17.1 percent of resident respondents do not have on-site parking at their home and must rely on public parking to store a vehicle.
  - For all trip purposes except shopping, respondents were more likely to park on the street than in an off-street facility.
  - Permit Preferences:
    - Approximately 25 to 35 percent of respondents would not purchase a residential parking permit, depending on the options presented.
    - Those that would purchase permits prefer paying for additional permits for visitors rather than bundling them into the cost of a permit.
    - Respondents with vehicles were more likely to prefer setting a cap on the number of parking permits with a flat fee rather than increasing the fee for each additional permit, although all respondents overall were split on this issue.
    - A slight majority of respondents prefer that permits would be restricted to residents and not made available to employees of nearby businesses.
  - Respondents generally agreed that it is difficult to find safe and convenient parking, but many indicated they were not willing to park in off-street facilities and walk or to pay for more convenient parking.

Parking User Survey

In November and December of 2017 the City of Emeryville conducted an online survey to identify the needs and characteristics of parking users. This survey asked respondents to describe their most recent experience parking in Emeryville, as well as about their overall impressions and opinions of parking in Emeryville. Survey questions were intended to understand parking behavior of individuals in greater detail, to supplement the parking behavior data collected in task 1, and to understand the needs of different types of parkers in Emeryville. The survey is reproduced for reference in *Appendix B.*

Survey Recruitment and Response Rate

The Parking User Survey was open online through Survey Monkey from November 4, 2017 to December 19, 2017. Survey respondents were recruited through flyers handed out in-person and left on car windshields in the North Hollis, Doyle, and Park Avenue neighborhoods during one day in early December 2017. The survey was also accessible via the Parking Management Plan website, which was shared during public meetings and other public communications about the

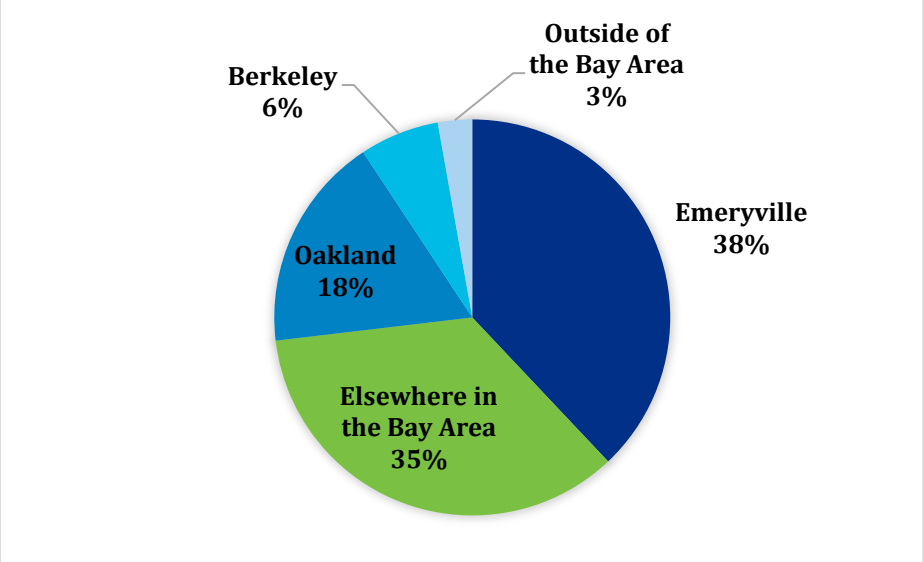
project. 192 respondents completed or partially completed the survey. The survey was not intended to be statistically significant, as its primary purpose was to add detail to existing parking behavior data and gauge parking user attitudes.

Respondent Characteristics and Parking Availability

Respondents to the 2017 Parking User Survey were asked to provide information about their residences and workplaces, including location and parking availability at these locations. Details on the home cities of respondents and the availability of parking are represented in **Figure A.1**, **Figure A.2**, and **Figure A.3**.

Employees and the businesses that employ them will be affected by any new permit programs or changes in parking prices, so it is necessary to understand this groups specific permitting program preferences. Currently, few residents of Emeryville pay separately for parking at their buildings. Of the 19 respondents who responded to the question "Is parking at your residence included in your rent?", 16 said that it was included in their rent and only 3 said they paid separately for their space. Two respondents pay $75/month and one pays $50/month.
As shown in **Figure A.1**, the respondents to the survey are widely geographically dispersed throughout the Bay Area, with only 38 percent of those responding to this survey question living in Emeryville and about 24 percent living in the neighboring cities of Oakland and Berkeley. Over a third (about 35 percent) of respondents live elsewhere in the Bay Area.

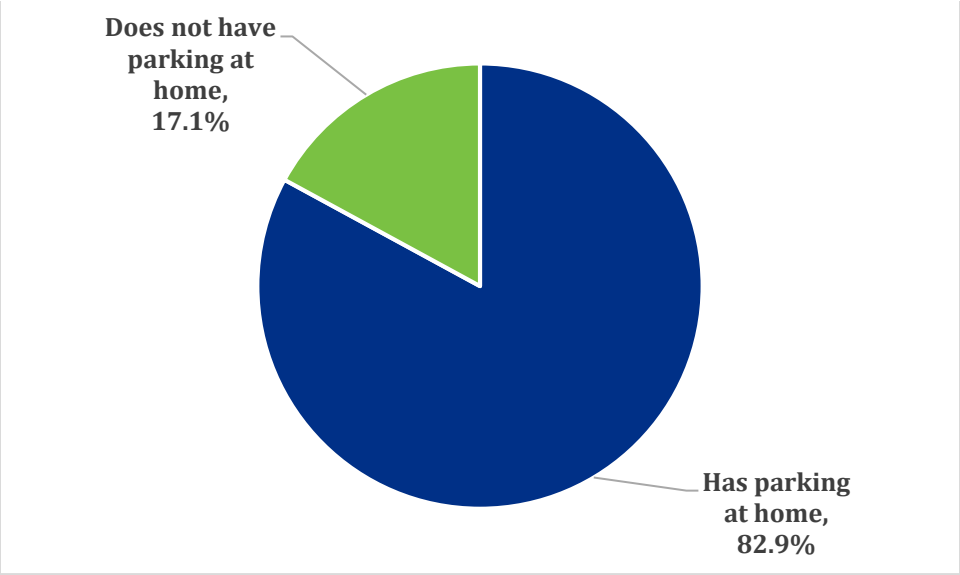
Figure A.1 City of Residence (n = 108)



Source: Emeryville 2017 Parking User Survey, CDM Smith.

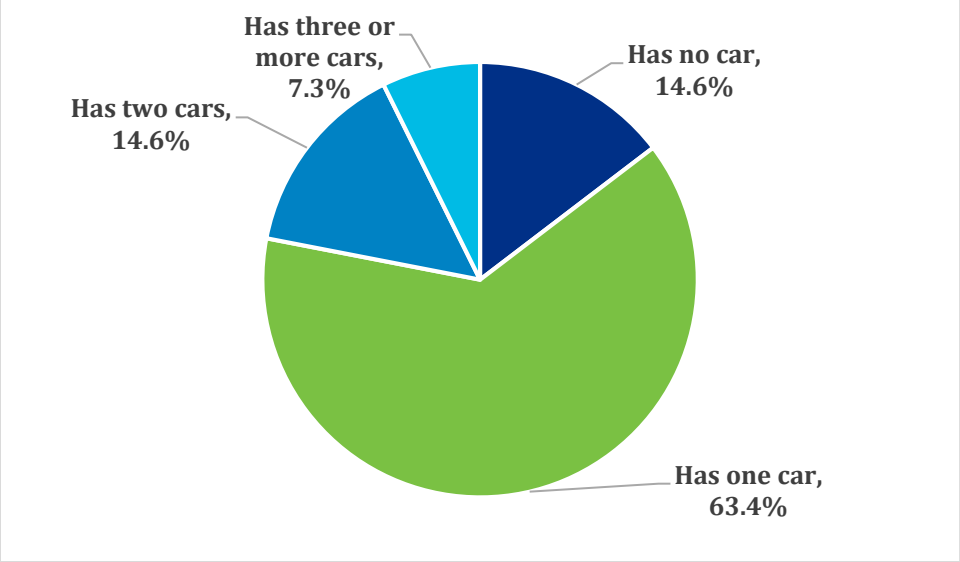
Survey respondents who are Emeryville residents were asked about parking and vehicle availability at their home. **Figure A.2** shows that a large majority of respondents, 82.9 percent, have a parking space available at their home. **Figure A.3** shows vehicle availability for Emeryville residents. Responses indicate that while almost 22 percent of respondents have two or more vehicles at home 14.6 percent do not have a vehicle at home, indicating a significant number of residents may be dependent on other transportation options and do not need parking at home.

Figure A.2 Whether Respondent has at least one parking space at home for their use (N = 41)



Source: Emeryville 2017 Parking User Survey, CDM Smith.

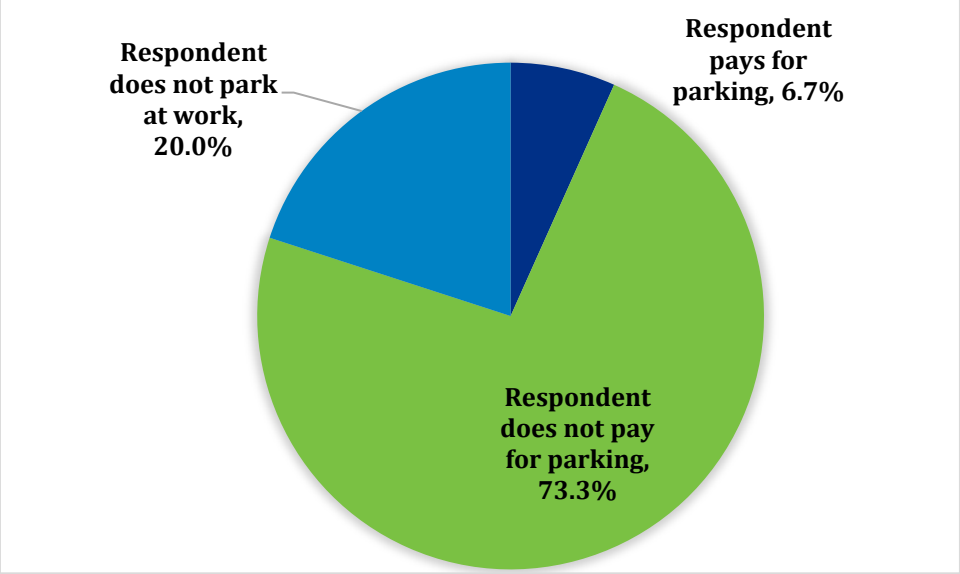
Figure A.3 Vehicle Availability per Household for Emeryville Residents (N = 41)



Source: 2017 Emeryville Parking User Survey, CDM Smith.

Respondents who work in Emeryville were also asked to indicate whether they park a vehicle at work, and whether they are required to pay to park at work. **Figure A.4** shows that most respondents, 73.3 percent, have free parking available at work. 20 percent of respondents do not park a vehicle at work, and therefore commute via another mode, and only 6.7 percent of respondents pay to park at work.

Figure A.4 Whether respondents who work in Emeryville pay for parking at work (N=90)



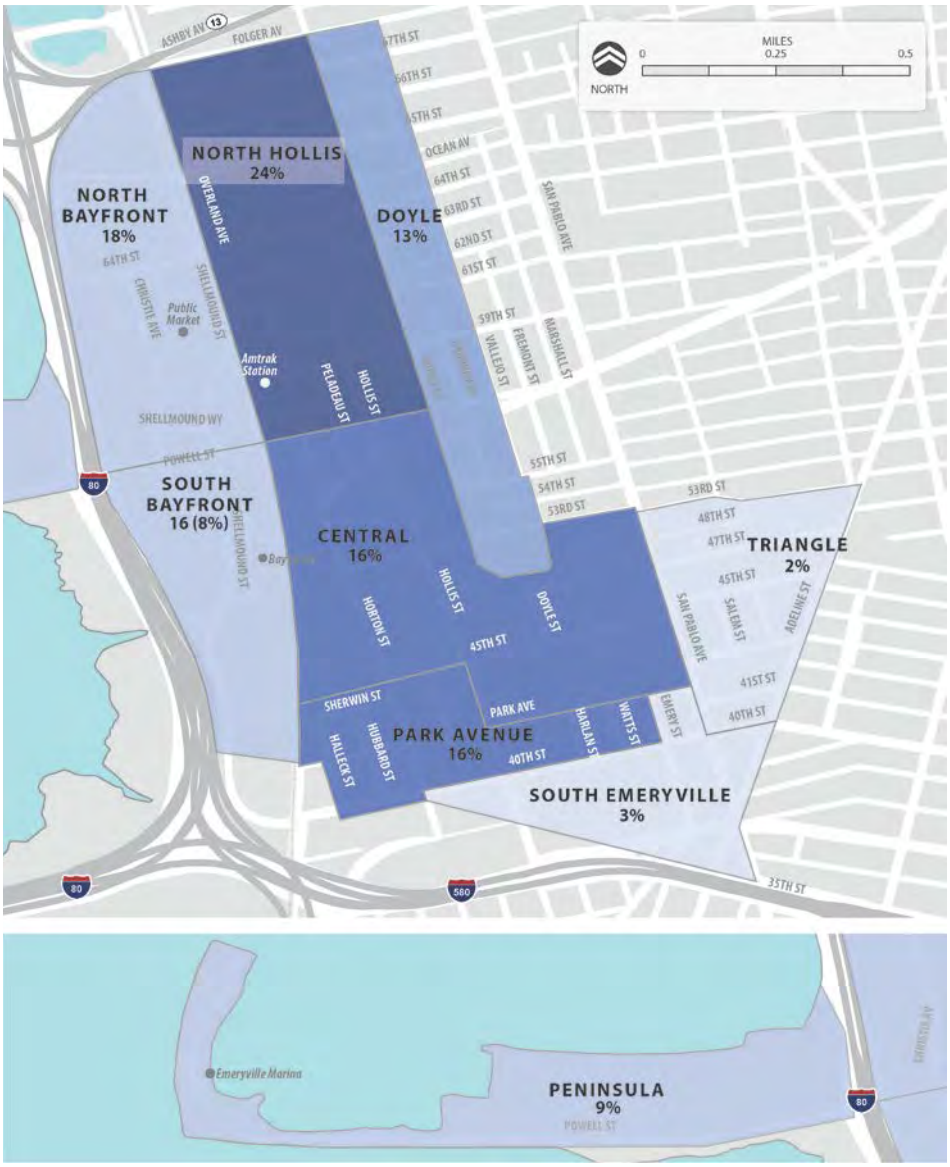
Source: Emeryville 2017 Parking User Survey, CDM Smith.

Recent Parking Experiences

The survey asked respondents to describe their most recent trip to a destination in Emeryville. This included any work, school, shopping, or other activity-based trips as well as trips returning home, for residents of Emeryville.

As shown in **Figure A.5,** the most common destination of survey respondents was North Hollis, accounting for 24 percent of all response. The Central and Park Area avenues were the next most popular destinations, with 16 percent of responses each.

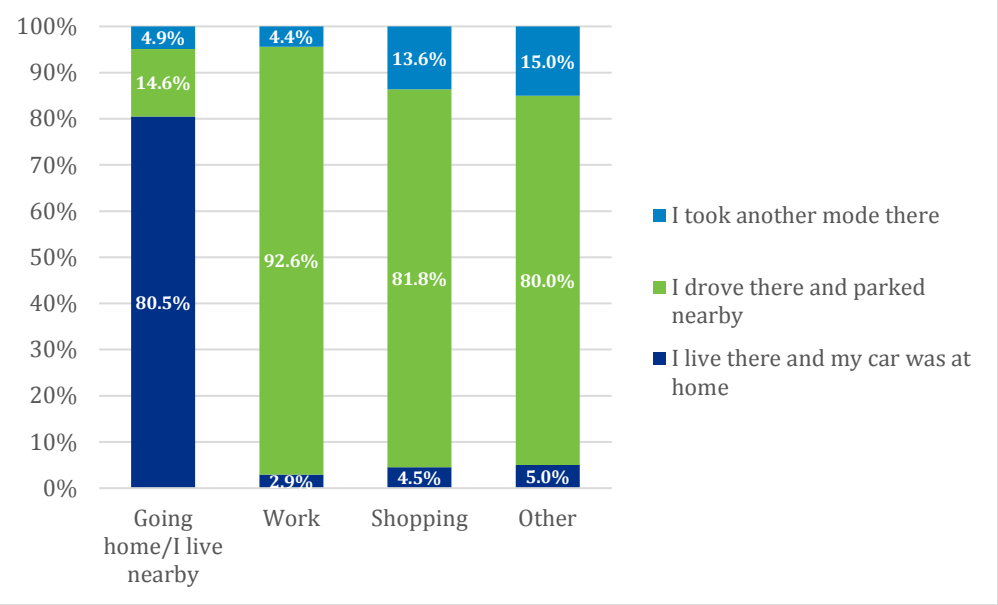
Figure A.5 Destination of Most Recent Trip to Emeryville



Source: CDM Smith

Figure A.6, **Figure A.7**, and **Figure A.8** show a detailed breakdown of how survey respondents parked, where survey respondents parked, and whether they paid or not by most recent trip purpose. The way respondents answered these questions frequently differs greatly depending on their most recent trip purpose.

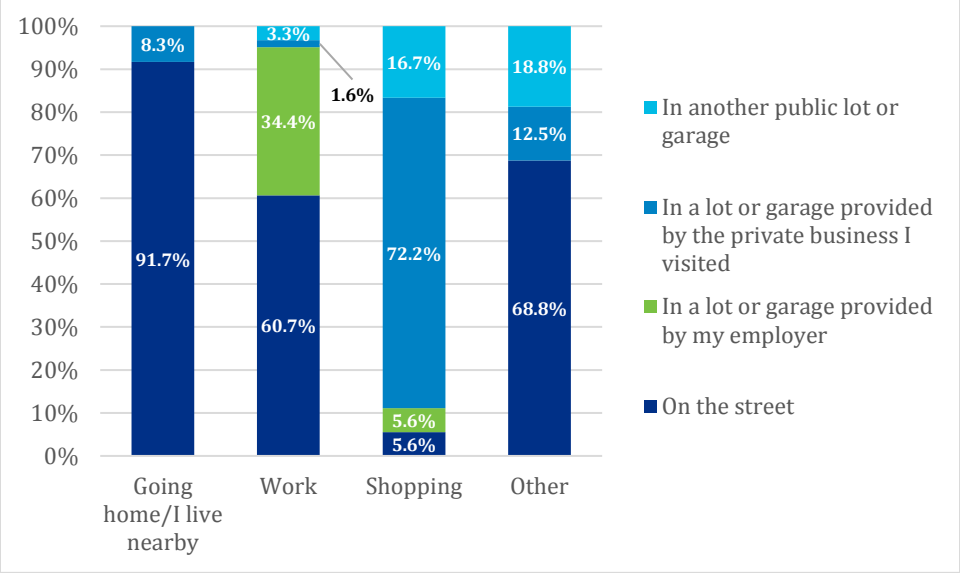
Figure A.6 How respondent parked in area by trip purpose (N=192)



Source: 2017 Emeryville Parking User Survey, CDM Smith.

Except for respondents whose most recent trip was to their homes large majorities of respondents drove to their destinations and could park nearby. Shoppers and travelers for purposes other than shopping, work, or returning home were more likely to take an alternative mode. Employees were least likely to take another mode, potentially due to the fact that many Emeryville area employees have parking provided to them at work.

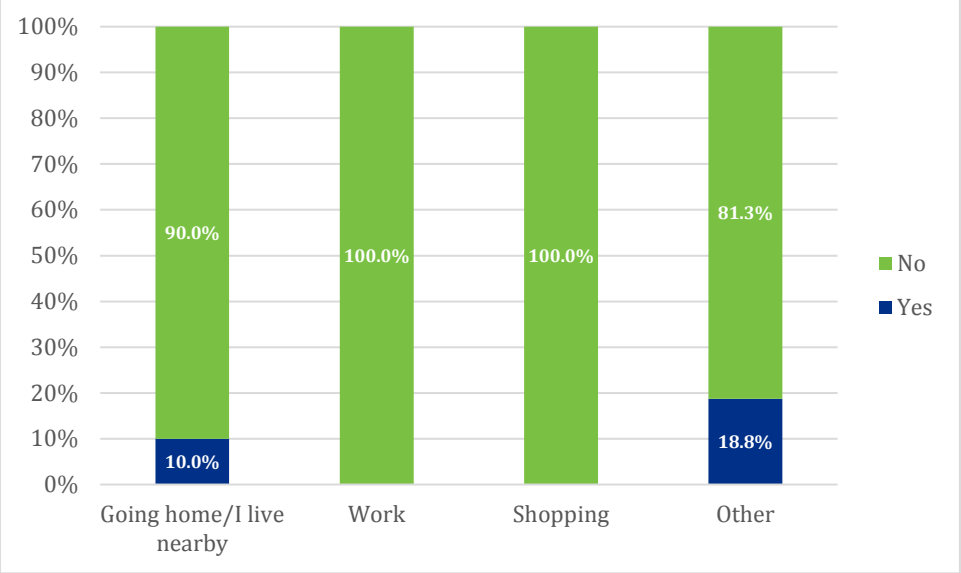
Figure A.7 Where respondent parked in area by trip purpose, respondents who did not park at home only (N=108)



Source: 2017 Emeryville Parking User Survey, CDM Smith.

Figure A.7 above shows the parking locations of respondents who did not park at home by the purpose of their trip. 91.7 percent of respondents who were returning home (and did park at home) parked on the street, as did 60.7 percent of respondents who parked for work and 68.8 percent of respondents parking for reasons other than going home, going to work, or going shopping. The only trip purpose in which a very small minority (5.6 percent) of respondents parked on the street is shopping. Shoppers overwhelmingly chose to park in either garages or lots provided by the private business they visited (72.2 percent) or in other public lots or garages (16.7 percent). It should be noted that although both property owners and business owners generally agree that employees and customers are willing to park and walk a certain distance to their jobs or destinations, the data here suggests that employees traveling to work are far more likely to park on the street than shoppers. These responses reflect visitors throughout Emeryville, and thus may reflect differing parking facilities at common shopping locations compared to the locations of large Employers.

Figure A.8 Whether respondent paid for parking by trip purpose (N=83)



Source: 2017 Emeryville Parking User Survey, CDM Smith.

As shown in **Figure A.8, a**lmost no respondents surveyed paid for parking, except for one respondent out of 10 who parked at home (10%) and three respondents who came for other purposes (18.8%). Survey respondents travel to all parts of Emeryville mainly to commute to and from their workplace, with shopping and other tasks as secondary purposes. Most respondents did not pay for parking on their most recent trip and have one or more parking spaces available to them at their workplace or residence. Commuting is usually a predictable activity in that large numbers of travelers, in this case parking users, travel to and from work consistently on an hourly and weekly basis. Commuters also carry little with them compared to those who travel for other purposes like shopping, medical visits, etc. These characteristics make commuters more likely to use transit and other modes than SOV and HOV for traveling, suggesting that multimodal transportation improvements in Emeryville could relieve pressure on demand for parking in the future.

Parking User Preferences for Permit Programs

The City of Emeryville currently has a residential and business parking permit program that has been implemented in a few blocks in one area of the city. Emeryville is considering expanding this program to improve residents' access to parking spaces near their homes. Parking users and property owners were surveyed on their preferences regarding the implementation of residential parking permits. Emeryville residents were surveyed for their preferences for two types of permit – a visitor's permit and a resident's permit – and on whether parking permits should be restricted to residents or available to employees of Emeryville businesses as well. The preferences of Emeryville residents on these specific programs are shown in **Table A.1, Table A.2,** and **Table A.3.** Additional information on Emeryville residents' preferences for expanding permit programs to non-residential users is found in **Table A.4**.

Table A.1 Emeryville Resident Permit Preferences – Visitor Permits

	No. Respondents	Percent
Visitor passes are included in the annual cost for the parking permit at an increased annual cost per permit	7	17.1%
Residents pay an additional fee for visitor permits on as-needed basis	20	48.8%
Not Applicable (I would not use a permit)	14	34.1%
Total	**41**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith

Table A.2 Emeryville Resident Permit Preferences – Permit Pricing and Caps

	No. Respondents	Percent
Each additional parking permit per household is more expensive than the previous (for example, $45 for the first permit, $90 for the second permit, $135 for the third permit)	14	34.1%
Limit of two parking permits per household at the same cost each (currently $58 per vehicle per year)	16	39.0%
Not Applicable (I would not use a permit)	11	26.8%
Total	**41**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith

Respondents generally prefer adding an additional fee for visitor permits rather than bundling the cost of visitor parking into the annual cost of a residential parking permit, with only 17.1 percent of respondents stating they preferred bundling compared to 48.8 percent favoring an additional fee for visitor permits. Views on the limits and cost structure of residential permits were more evenly divided with 39.0 percent of respondents in favor of a program capping residential permits at two with flat fee for each vehicle and 34.1 percent in favor of a program with no cap and progressively higher prices per vehicle.

Vehicle availability by permitting preferences was broken out for respondents who indicated that they lived in Emeryville to understand how vehicle availability affects opinion on how residential permitting programs should be implemented. Residential permit preferences are broken down by respondent vehicle availability in **Table A.3**. The options for residential permit pricing structure addressed are a program in which permits are capped at 2 per household with a flat fee (currently $58/vehicle/year) and another in which there is no cap but each additional permit is more expensive than the previous. Three residents did not respond to the question “How many vehicles are available at home for you to use?”.

Table A.3 Emeryville Resident Permit Preferences – Permit Pricing and Caps by Vehicle Availability

	Vehicle Availability				
	No Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles	Total
Number of Residents	4	26	6	2	38
Permit Preference					
Each additional parking permit per household is more expensive than the previous (for example, $45 for the first permit, $90 for the second permit, $135 for the third permit)	75.0%	23.1%	50.0%	0.0%	31.6%
Limit of two parking permits per household at the same cost each (currently $58 per vehicle per year)	0.0%	46.2%	50.0%	50.0%	42.1%
Not Applicable (I would not use a permit)	25.0%	30.8%	0.0%	50.0%	26.3%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith.

The results show a slight overall preference for a flat fee, two car cap program rather than a program with no cap and progressively higher fees. This preference likely reflects the fact that a majority of respondents had only one vehicle available, and they preferred a cap on permits by a margin of two-to-one. Only two respondents have more than three vehicles available to them.

Table A.4 Emeryville Resident Permit Preferences – Employee Permits

	Number of Respondents	Percent
Businesses would have access to permits for their employees	11	26.8%
Permits would be restricted to residents	23	56.1%
Not Applicable (I do not have a mix of uses on my block)	7	17.1%
Total	**41**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith

Respondents are in favor limiting permits in mixed-use areas to residents by a factor of two to one. These responses may reflect concerns that bundling visitor and residential parking may induce more visitors, reducing the amount of parking available to residents and concerns that business will do the same. Respondents show high rates of general disinterest in permits as well, with 34.1 percent of respondents having no interest in a visitor's permit, 26.8 percent having no interest in a permit for multiple cars, and 17.1 percent uninterested in business permits. Overall the permit preferences of residents are somewhat opposed to those of business and property owners, described later in this report.

Comments Summary

Respondents were offered an opportunity to comment on their experiences regarding parking in Emeryville. A majority of comments were about the parking attributes that both employers and parking users were asked to rank in importance earlier in the survey. Comments were categorized qualitatively by these attributes and are summarized below in **Table A.5, Table A.6,** and **Table A.7** for parking users who had last parked near their residences, their workplaces, or for other purposes respectively.

Table A.5 Attributes Commented on by Parking Users – Residents

	Respondents	Percent
Availability	15	42.9%
Cost	9	25.7%
Other	7	20.0%
Safety	2	5.7%
Proximity to Destination	2	5.7%
Information	0	0.0%
Total	**35**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith

Respondents who are residents who chose to make comments on the survey were most concerned with the availability of parking throughout Emeryville and with excessive costs. There was little interest expressed in extra comments on safety and proximity and none on information.

Table A.6 Attributes Commented on by Parking Users – Employees

	Respondents	Percent
Cost	8	32.0%
Availability	6	24.0%
Proximity to Destination	5	20.0%
Other	3	12.0%
Safety	2	8.0%
Information	1	4.0%
Total	**25**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith

Respondents who are employees who chose to make comments on the survey were most concerned with the availability of parking and the cost, since availability and cost both impact their ability to commute to their jobs. Some respondents also expressed concerns about proximity to their destination, worrying that they will be unable to park close to work.

Table A.7 Attributes Commented on by Parking Users – Visitors

	Respondents	Percent
Availability	12	48.0%
Other	8	32.0%
Proximity to Destination	4	16.0%
Cost	1	4.0%
Safety	0	0.0%
Information	0	0.0%
Total	**25**	**100.0%**

Source: 2017 Emeryville Parking User Survey, CDM Smith

Like other subsets of parking users, visitor respondents were most concerned about the availability of parking spaces. Visitors also express a degree of concern about proximity to their destinations, specifically shopping destinations.

Change in Parking Perception and Attributes

This section compares the results of the 2017 online survey with the 2010 intercept survey. Because the scope of the 2010 study was limited to the North Hollis area, only respondents to the 2017 survey whose most recent trip was in North Hollis were compared to the respondents in the 2010 survey. Because this only includes a small subset of respondents in the 2017 survey, responses may not be representative of all parkers in the area. However, responses from the two surveys are compared to show potential trends in the perceptions and experience of parking. The total number of responses in the 2017 survey is much smaller than the 2010 survey, so the results may not be exactly representative. Additionally, the 2010 survey was an intercept survey conducted in person while the 2017 survey was conducted online. This may have caused subtle differences in response patterns, as respondents were asked to recall a recent trip for the online survey rather than discuss their current trip during the intercept survey.

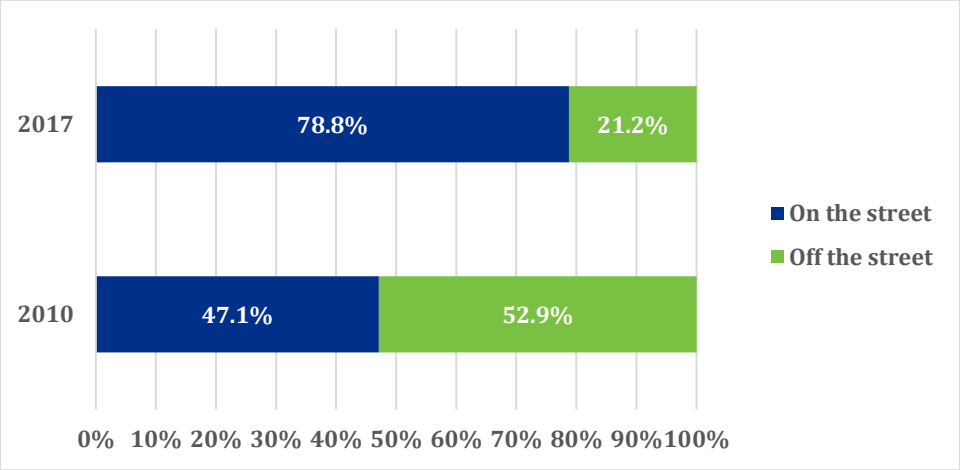
Recent Parking Experiences

In both the 2010 intercept survey and the 2017 online survey respondents were asked about characteristics of the parking facilities used during a recent trip. In 2010 as in 2017, paid parking was rare to nonexistent – in the 2017 survey, no respondents reported paying for parking on their previous trip to North Hollis, and in 2010 only 1 percent of respondents reported paying for parking. In 2010, 90 percent of respondents reported that they found a parking space immediately or within 5 minutes of reaching their destination, and only 4 percent reported searching for parking for longer than 7 minutes. The 2017 survey did not record whether respondents were able to park directly at their destinations but did record that 86 percent of respondents spent less than 5 minutes walking to their destination, and only 7 percent of respondents spent more than 10 minutes walking to their destinations, indicating that respondents were generally able to find parking close to their destination.

The type of parking used by respondents can be compared between the 2010 and 2017 surveys, which both asked parking users whether they parked in an on-street or off-street space. **Figure A.9** compares the results of this question for North Hollis parkers. On street parking is significantly more prevalent among parking users in North Hollis in 2017 than 2010. This may be

because some garages in the area are no longer open to the public due to construction or changes in use. It is also important to note that the 2017 survey sample size for North Hollis is relatively small, and may not be representative of all parkers in the area.

Figure A.9 Responses to, "Where did you park?" 2010 and 2017 Parking User Survey Respondents in North Hollis (n = 138 for 2010 Survey and n = 33 for 2017 Survey).

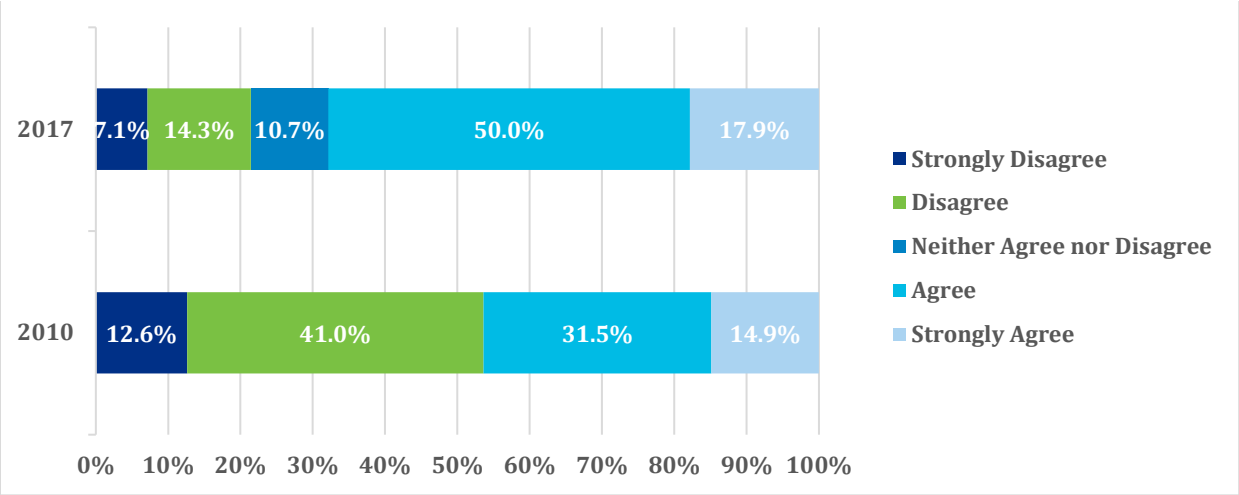


Source: 2010 and 2017 Emeryville Parking User Survey, CDM Smith.

Parking Perceptions

Survey questions regarding perceptions of parking in the neighborhood were also asked in the 2010 survey. In 2010, respondents were not given the options to answer "neither agree or disagree", so the results cannot be compared directly. However, they are shown side-by-side in **Figure A.10**, **Figure A.11**, **Figure A.12**, **Figure A.13**, and **Figure A.14**.

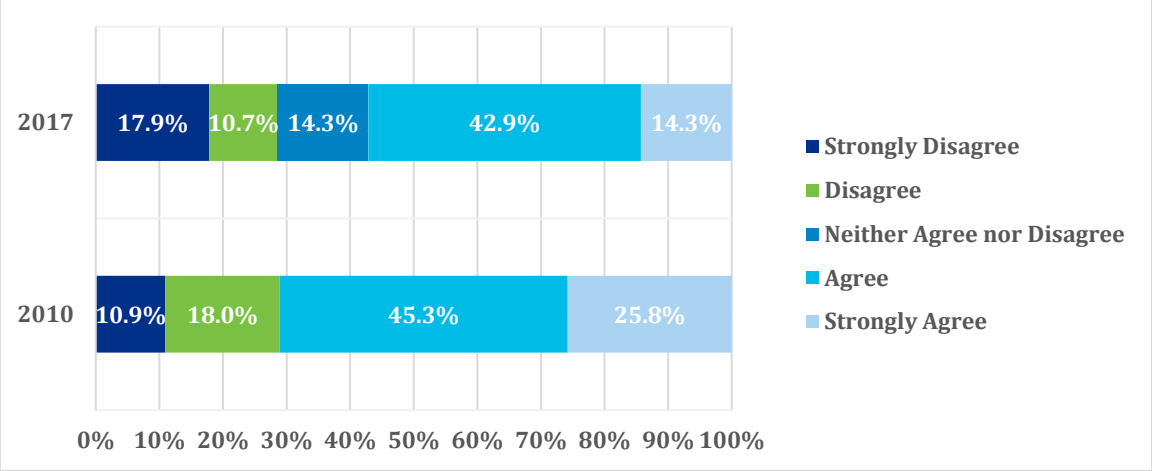
Figure A.10 Responses to, "It is difficult to find convenient parking", 2010 and 2017 Parking User Survey Respondents in North Hollis (n = 222 for 2010 Survey and n = 28 for 2017 Survey)



Source: 2010 and 2017 Emeryville Parking User Survey, CDM Smith.

Survey respondents perceive convenient parking to be much more difficult to find in 2017 than 2010, with most of the shift in opinion from "agree" to "disagree". This may be due to the increased demand for parking found in the Existing Conditions Analysis.

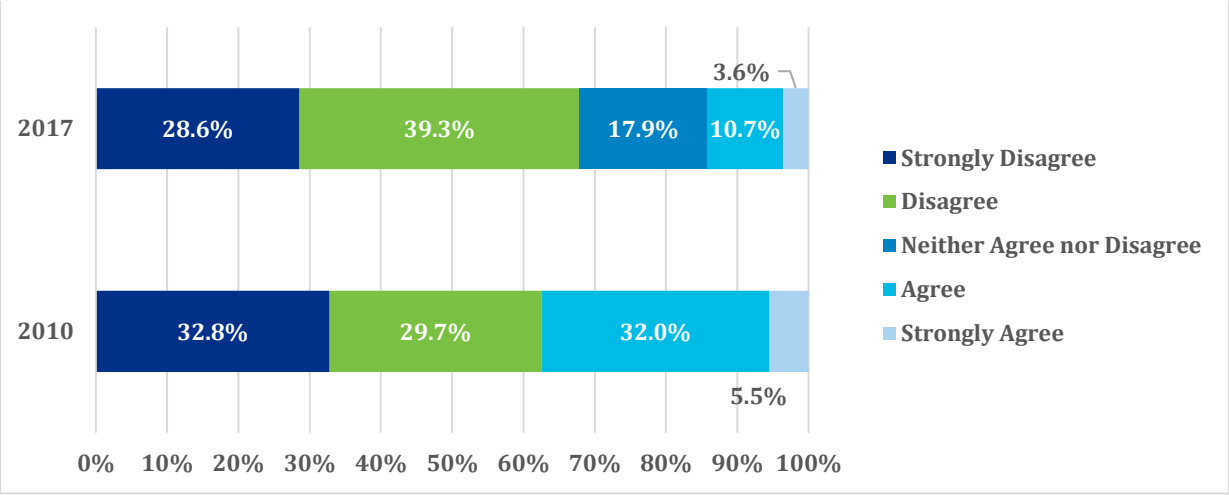
Figure A.11 Responses to, "There are other transportation options to travel to and from this area", 2010 and 2017 Survey Respondents in North Hollis (n = 128 for 2010 Survey and n = 28 for 2017 Survey)



Source: 2010 and 2017 Emeryville Parking User Survey, CDM Smith.

The percentage of respondents who strongly agree or agree that transportation options other than private vehicles are available for travel to and from North Hollis decreased between 2010 and 2017, and the percentage strongly disagreeing or disagreeing remained basically the same. The overall shift in opinion was more pronounced toward disagreement, with a higher share of respondents in the "agree" categories shifting from "Strongly Agree" to "Agree" and a higher share of respondents in the "disagree" categories shifting from "Disagree" to "Strongly Disagree. change. These results show that there is an awareness of other modes of transportation but that not everyone finds modes other than driving and parking to be a viable option. There could be several reasons for this, including a generalized shift in travel preferences or that a rising number of people from less transit accessible areas are traveling to Emeryville using private vehicles, and crowding on the Emery GoRound. It is also important to note that only drivers were asked this question, so the results do not hold for all visitors to North Hollis, only those who already drive there.

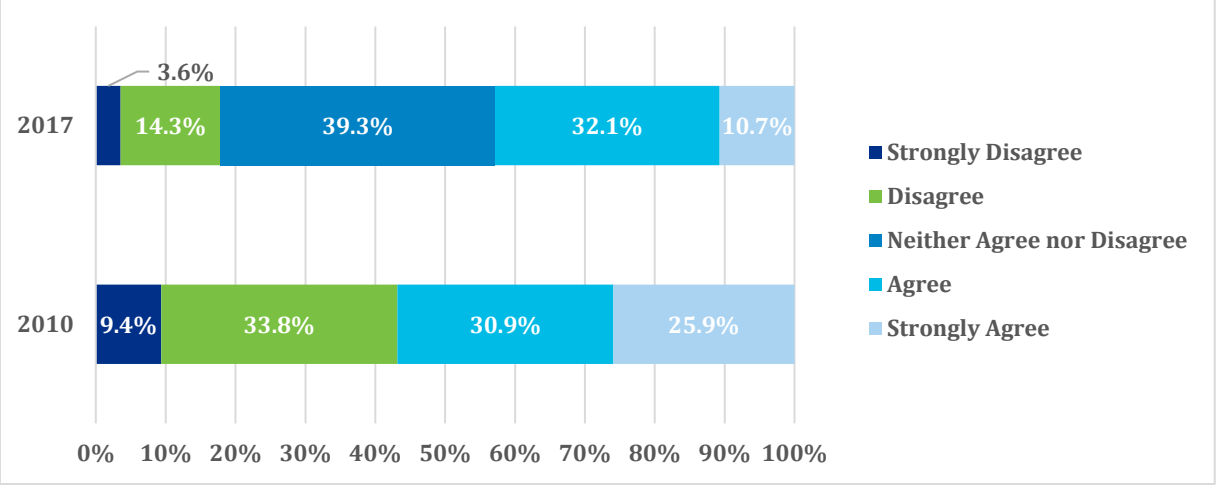
Figure A.12 Responses to, "I am willing to park in remote lots to get to this neighborhood" (2010 Parking User Intercept Survey) and "I am willing to park in lots far away from my destination and walk" (2017 Parking User Survey) (n = 128 for 2010 Survey and n = 28 for 2017 Survey)



Source: 2010 and 2017 Emeryville Parking User Survey, CDM Smith.

The percentage of respondents strongly disagreeing or disagreeing with willingness to park in remote or far away parking lots and walk to their destinations increased between 2010 and 2017. The percentage of respondents strongly agreeing or agreeing decreased, though a relatively large percentage of respondents in the 2017 survey neither agreed or disagreed that they would be willing to walk long distances to their destination from a parked car. The reasons behind this decline may have to do with the phrasing of the survey question – 2017 may have interpreted "far away from" to be farther from their hypothetical destination than "remote" which may have caused a negative perception of this action. Additionally, parking may be scarcer or in higher demand in 2017 than in 2010 and 2017 survey respondents may think of distances as being greater.

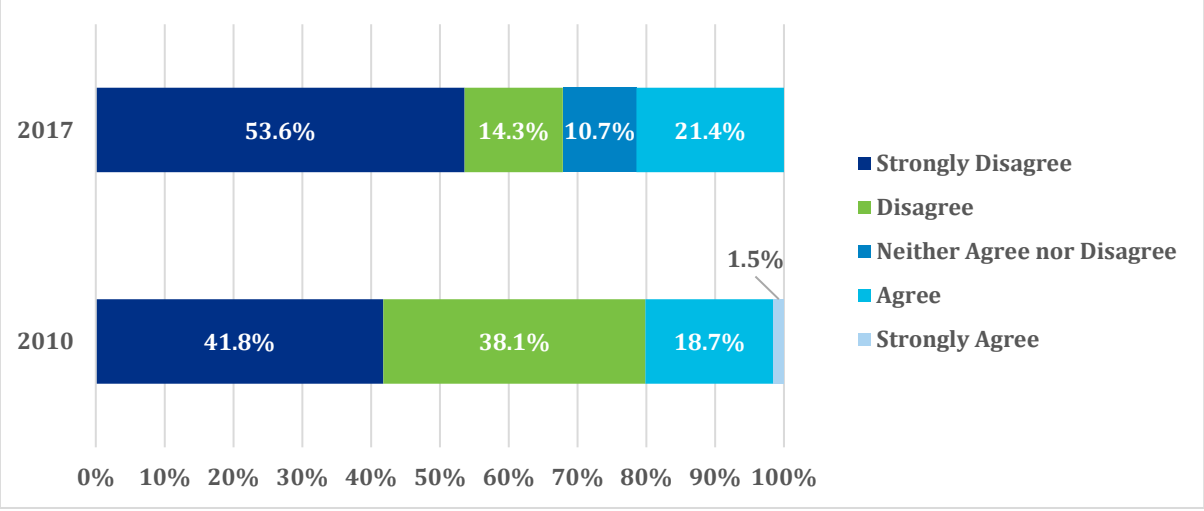
Figure A.13 Responses to, "I am concerned about safety when parking in this area" (n = 139 for 2010 Survey and n = 28 for 2017 Survey)



Source: 2010 and 2017 Emeryville Parking User Survey, CDM Smith.

Between 2010 and 2017 survey respondents generally became less concerned about safety when parking in North Hollis. The percentage of respondents strongly disagreeing or disagreeing that safety was a concern decreased while the percentage strongly agreeing or agreeing also decreased. In 2017, 39.3 percent of survey respondents neither agreed nor disagreed with the statement. Since the number of respondents to this question in the 2017 survey was so low, this latter shift is not likely to be especially significant.

Figure A.14 Responses to, "I am willing to pay for more convenient parking in this area" (n = 134 for 2010 Survey and n = 28 for 2017 Survey)



Source: 2010 and 2017 Emeryville Parking User Survey, CDM Smith.

The percentage of respondents either strongly disagreeing or disagreeing with willingness to pay more decreased between 2010 and 2017, but the percentage who strongly disagreed increased and the percentage who strongly agreed or agreed with paying more for parking convenience changed only slightly. 10.7 percent of respondents to the 2017 survey neither agreed or

disagreed with paying more for convenient parking. Nearly one-third of respondents agreed with or were neutral regarding the idea of paying for more convenient parking, although the number strongly opposed increased.

Parking Attributes

In both the 2010 intercept survey and the 2017 online survey respondents rated how important cost, availability, convenience, information, and safety were to them on a scale, with a scale of 1 (lowest) to 5 (highest) in 2010 and a scale of 5 (least important) to 1 (most important) in 2017. This was done to gain perspective on what attributes are most valued by patrons. Only the responses of North Hollis parking users in 2010 and 2017 are compared directly to each other. A weighted score was used by averaging the score of the responses for each attribute. The lower an attribute's weighted score, the higher its overall perceived importance.

Table A.8 Respondent Ranking of Importance of Parking Attributes for Respondents in North Hollis

	1 - Most Important	2	3	4	5 - Least Important	Weighted Score
Convenience	5	5	10	2	0	2.41
Availability	3	8	7	2	4	2.83
Cost	11	4	2	5	4	2.50
Safety	5	6	1	10	0	2.73
Information	3	2	4	2	15	3.92

Source: 2017 Emeryville Parking User Survey, CDM Smith.

2017 survey respondents on average identified parking availability as the most important parking attribute according to the weighted score, but more respondents ranked parking price as the single most important attribute than any other. Safety and the proximity to destination are moderately important, while information is by far the least important attribute to survey respondents. This is consistent with the results of the 2010 intercept survey in which the cost attribute also received the highest percentage of "most important" scores and availability ranked second overall. In both 2010 and 2017 respondents were sensitive to cost and availability more than any other attributes. Compared to the 2010 survey, the information attribute fell dramatically in importance, with moderate and low moderate ratings for information replaced by the safety attribute and the proximity to destination attribute. The fall in perceived importance of the information attribute in parking from 2010 to 2017 may be caused by the increasing penetration of smartphones which allow users to access information on their own without signage or other improvements.

Business and Property Owner Survey

A parallel survey concurrent with the parking user survey was conducted online by the City of Emeryville for business and commercial property owners throughout the city. The survey asked questions related to the supply of parking on and near the businesses and properties of survey respondents, and the parking behavior of employees. The survey questions were designed to better understand the supply and utilization of parking on private property, attitudes about the parking experience throughout Emeryville, and opinions about potential changes to the parking permit program. The survey is reproduced for reference in *Appendix B*.

Survey Recruitment and Response Rate

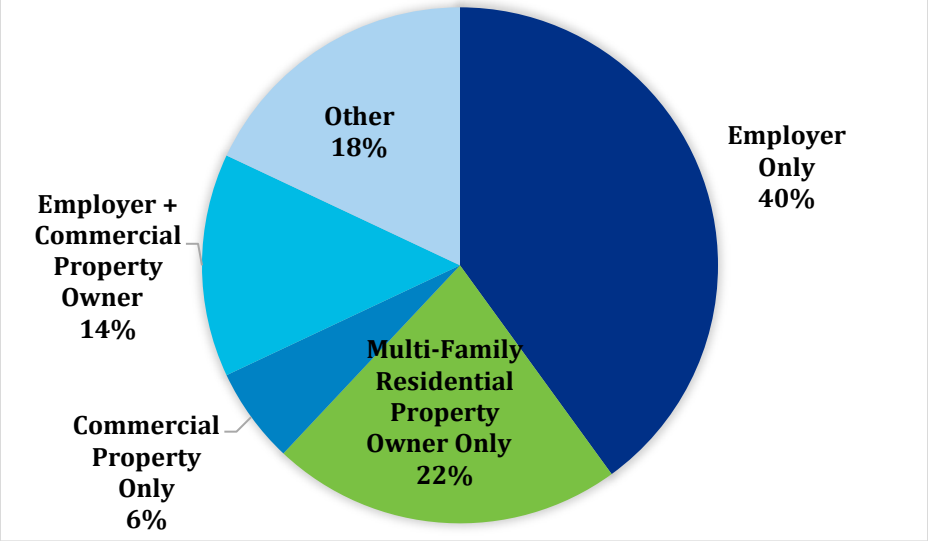
The Business and Property Owner Survey was open online through Survey Monkey from November 4, 2017 to December 19, 2017. Survey respondents were recruited through a flyer included with the City's business license renewal mailer, as well as through links on the Parking Management Plan website, which was shared during public meetings and other public communications about the project. 50 business and property owners completed the survey. The survey was not intended to be statistically significant, as its primary purpose was to gauge attitudes about parking in Emeryville.

Characteristics of Respondents, Businesses, and Properties

The survey collected basic information about the types of property owners and the location of businesses, commercial property, and multifamily residences in Emeryville. Respondents were first asked to identify whether they were an employer, residential multi-family property owner, or commercial property owner. This question was used to determine which pages in the questionnaire to show to the respondent. Responses to this question are shown in **Figure A.15**. Most respondents were employers: 40 percent were employers only, and 14 percent were both employers and commercial property owners.

A relatively large number of respondents (18 percent) selected "Other". Based on the comments received, it is likely that many of these respondents were homeowners who took the survey by mistake. These respondents were directed to the end of the survey and did not complete other questions.

Figure A.15 Type of Respondent (N=50)



Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith.

Property owners were asked to identify the location of their business using a map of neighborhoods developed by City staff. These neighborhoods are shown in **Figure A.16**, along with the number and percent of respondents who said their property was located in each neighborhood. The property owners surveyed mostly own property located along North Hollis or in the Park Avenue neighborhood, reflecting the distribution of smaller commercial business uses without off-street parking lots in Emeryville.

Figure A.16 Location of Respondents' Business or Property

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith.

Business and Property Owner Preferences for Permit Programs

Emeryville currently has a residential permit program which allows residents and businesses to purchase on-street parking permits on designated blocks to park for extended periods of time, with 2-hour time limits for non-permitted vehicles. To determine whether the current permit parking program is meeting the needs of residents and businesses, and to gauge interest in specific changes being considered for the program, respondents were asked to indicate their preferences between several options for parking permit programs. The first question asked respondents to indicate whether they would prefer paying an additional fee for visitor parking permits, of to have them included in the annual cost of a permit at an increased cost. As shown in **Table A.9,** more property owners prefer unbundling visitor permits from residential permits and having residents pay for them on an as needed basis.

Table A.9 Visitor Permits – Property Owner Responses

	Respondents	Percent
Permit holders pay an additional fee for visitor permits on as-needed basis	11	45.8%
Visitor passes were included in annual cost for the parking permit, at an increased annual cost per permit	4	16.7%
I would not use permits under either scenario	9	37.5%
Total	**24**	**100.0%**

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith

The second permit question asked respondents to choose between limiting the number of employee permits available to each business or having no limit, but scaling the price by the number of permits purchased. As shown in **Table A.10,** property owners have no clear preference for limited, flat price parking permits or unlimited, scale price permits.

Table A.10 Permit Limits and Costs – Property Owner Responses

	Respondents	Percent
Limit number of parking permits available to each business based on size or number of employees	9	36.0%
A number of parking permits are available at a low fee (currently $58), additional permits would be increasingly more expensive. For example, a business could purchase 2 permits at $58 each, the next 2 would be $100 each, and the next 2 would be $150 each.	8	32.0%
I would not use permits under either scenario	8	32.0%
Total	**25**	**100.0%**

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith

The final permit-related question asked respondents whether they would prefer a 2-hour or 4-hour time limit for non-permitted vehicles. This is relevant to business owners and commercial property owners because the non-permitted vehicles could be visitors to their businesses. A longer time limit increases flexibility for visitors, while shorter time limits increases turnover and parking availability for visitors. **Table A.11** shows the responses to this question. Respondent property and business owners prefer allowing for longer parking hours for non-permitted, likely because they may have customers and visitors who would benefit from having a more forgiving time restriction.

Table A.11 Time Limits on Permit Blocks – Property Owner Responses

	Respondents	Percent
Non-permitted vehicles would be able to park a maximum of 2 hours	9	39.1%
Non-permitted vehicles would be able to park a maximum of 4 hours	14	60.9%
Total	**23**	**100.0%**

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith

Parking Perceptions

Commercial property owners and business owners were asked about their perceptions of parking conditions encountered by employees, customers and tenants. Respondents were presented with statements and asked to indicate the extent to which they agreed or disagreed with each. **Table A.12** details the responses to these statements for property owners, **Table A.13** shows responses for business owners.

Table A.12 Property Owner Parking Perceptions n=11

Statement	Number of Responses					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Majority Agree or Disagree, or Split?
It is difficult to find convenient parking	3	2	2	2	2	**Split**
There are other transportation options to travel to and from this area	3	7	1	0	0	**Agree**
My customers and employees are willing to park in available lots and walk	3	3	3	1	1	**Agree**
My customers or employees are willing to pay for more convenient parking in this area	0	0	4	4	3	**Disagree**
My customers or employees are concerned about safety when parking in this area	1	6	3	1	0	**Agree**

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith

Table A.13 Employer/Business Owner Parking Perceptions n=25

Statement	Number of Responses					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Majority Agree or Disagree
It is difficult to find convenient parking	8	4	2	8	3	**Split**
There are other transportation options to travel to and from this area	2	15	6	2	0	**Agree**
My customers and employees are willing to park in available lots and walk	5	9	5	3	3	**Agree**
My customers or employees are willing to pay for more convenient parking in this area	1	1	3	7	13	**Disagree**
My customers or employees are concerned about safety when parking in this area	6	4	6	8	1	**Split**

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith

Generally, property and business owners see Emeryville's parking situation in the same way. They are split on the difficulty of finding convenient parking, in agreement that other modes than

driving and parking available, and believe that customers or employees are willing to park in available lots and walk to their destinations rather than pay for more convenient parking.

Comments Summary

Respondents were offered an opportunity to comment on their experiences regarding parking in Emeryville. A majority of comments were about the parking attributes that both employers and parking users were asked to rank in importance earlier in the survey. Comments were categorized qualitatively by these attributes and are summarized below in **Table A.14**

Table A.14 Property Owner Comments by Subject

	No. Respondents	Percent
Availability	8	30.8%
Cost	6	23.1%
Safety	2	7.7%
Proximity to Destination	0	0.0%
Information	0	0.0%
Other	10	38.5%
Total	**26**	**100.0%**

Source: Emeryville 2017 Business and Property Owner Survey, CDM Smith

Respondents who are property owners who chose to make comments on the survey were most concerned with the lack of availability of parking throughout Emeryville and in commercial areas and the costs of a permit program and ticket enforcement, either positive or negative. There was relatively little concern given to safety and none to proximity to destination or information available.

Appendix B.

Parking Survey Forms

Parking User Survey

Thank you for participating in the Emeryville Parking Study

Emeryville is conducting a parking study to understand how parking is used throughout the city and to improve parking management in areas where parking is scarce or underutilized. This survey will ask you questions about your parking activities in Emeryville.

Your answers will help city staff identify parking issues and potential solutions. The survey should take under 10 minutes to complete.

Please visit http://emeryvilleparkingmanagement.com/ to learn more about this project, receive updates, and find out other ways to get involved with the process.

The first few pages of the survey will ask you about your activities duringa specific trip to or within Emeryville. Please consider the most recent time you traveled to a destination in Emeryville.

Please use this map to identify the destination of your most recent trip to or within Emeryville in Question 1 below.

* 1. Using the map above, please select which area in Emeryville you most recently traveled to:

- A. North Bayfront
- B. North Hollis
- C. Doyle/residential neighborhoods
- D. Peninsula
- E. South Bayfront
- F. Central
- G. Triangle
- H. Park Avenue
- I. South Emeryville

* 2. What was your primary reason for traveling to this area?

- ◯ Going home/I live nearby
- ◯ Work
- ◯ School
- ◯ Shopping
- ◯ Other (please specify)
- ◯ Entertainment
- ◯ Medical/other services
- ◯ Decline to state

* 3. Did you park in this area?

- ◯ Yes, I live there and my car was at home
- ◯ Yes, I drove there and parked nearby
- ◯ No, I took another mode there

* 4. What is the approximate total amount of time you stayed in this area for this activity?

hours

minutes

Still considering your most recent trip to or within Emeryville:

* 5. Where did you park?

- ◯ On the street
- ◯ In a lot or garage provided by my employer
- ◯ In a lot or garage provided by the private business I visited
- ◯ In another public lot or garage

Still considering your most recent trip to or within Emeryville:

* 6. How long in minutes did it take for you to find your parking space once you started looking?

* 7. How long in minutes did it take you to reach your destination after parking (walking from your car to your destination)?

* 8. Did you pay for parking?

- Yes
- No

Still considering your most recent trip to or within Emeryville:

* 9. Did you pay for parking?

- ◯ Yes
- ◯ No

Still considering your most recent trip to or within Emeryville:

* 10. How much did it cost to park your car?

* 11. Is the above parking cost:

- ◯ Per hour
- ◯ Per day
- ◯ Per month
- ◯ Per year
- ◯ Other (please specify)

Still considering your recent activity in Emeryville,and your other past experiences parking in that area:

* 12. Please indicate the extent to which you agree or disagree with the following statements about parking in this area.

	Stongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It is difficult to find convenient parking	○	○	○	○	○
There are other transportation options to travel to and from this area	○	○	○	○	○
I am willing to park in lots that are far from my destination and walk	○	○	○	○	○
I am concerned about safety when parking in this area	○	○	○	○	○
I am willing to pay for more convenient parking in this area	○	○	○	○	○

Other concerns/opportunities for parking?

* 13. Please indicate the importance of each of the following in choosing a parking location by ranking them, with 1 being the most important and 5 being the least important.

	1 - Most Important	2	3	4	5 - Least Important
It is easy to find a parking space when I need it	○	○	○	○	○
I'm able to park near my destination	○	○	○	○	○
Parking is low-cost or free	○	○	○	○	○
I can park my car in a safe and secure area and route from area is safe and secure	○	○	○	○	○
It is clear to me where to park, how long I can stay, and how much it will cost	○	○	○	○	○

The questions on the next few pages will ask you more generally about your travel and parking activities in Emeryville.

* 14. Do you live in Emeryville?

- ◯ Yes
- ◯ No

* 15. Where do you live?

- ◯ Oakland
- ◯ Berkeley
- ◯ Elsewhere in the Bay Area
- ◯ Outside of the Bay Area
- ◯ Prefer not to state

* 16. Do you rent or own your home?

- ◯ Own
- ◯ Rent

* 17. Do you have at least one parking space at your residence for your use?

- ◯ Yes, I have one space and I use it to store a vehicle
- ◯ Yes, I have more than one space and I use at least one to store a vehicle
- ◯ Yes, but I do not use the space for parking a vehicle (I use it for other storage or do not use it at all)
- ◯ No, I choose not to purchase parking at my residence
- ◯ No, parking is not available at my residence

* 18. Is parking at your residence included in your rent?

- Yes, it is included in rent
- No, I pay separately for parking at my residence

* 19. How much does parking cost per space at your residence?

* 20. Is the above parking cost:

- Per hour
- Per month
- Per day
- Per year
- Per week
- Other (please specify)

The questions on this page relate to residential parking permits

The City of Emeryville has a residential and business parking permit program, which is only implemented in a few small areas.

In permit areas, on-street parking is restricted to a 2-hour time limit, except for permit holders. Permits can be purchased by residents and businesses in the area at an annual cost of $58 per vehicle, limited to three vehicles per household or one per business. Residents and businesses may purchase one visitor permit per year for $150.

The City of Emeryville is considering expanding this program to accommodate residents' access to parking spaces near their homes, and may change individual aspects of the program to best fit the needs of the Emeryville parking program.

The next three questions each present two options related to obtaining or using residential parking permits. Please select the one option you would prefer for each scenario, or select "Not Applicable" if you would not use an on-street residential permit in either scenario.

* 21. If permits were available on your street, would you prefer:

- ◯ Visitor passes are included in the annual cost for the parking permit, at an increased annual cost per permit
- ◯ Residents pay an additional fee for visitor permits on as-needed basis
- ◯ Not Applicable (I would not use a permit)

* 22. If permits were available on your street, would you prefer:

- ◯ Limit of two parking permits per household at the same cost each (currently $58 per vehicle per year)
- ◯ Each additional parking permit per household is more expensive than the previous (for example, $45 for the first permit, $90 for the second permit, $135 for the third permit)
- ◯ Not Applicable (I would not use a permit)

* 23. If there are non-residential uses on your block, would you prefer:

- ◯ Businesses would have access to permits for their employees
- ◯ Permits would be restricted to residents
- ◯ Not Applicable (I do not have a mix of uses on my block)

* 24. Are there a mix of uses on your block? Please identify all of the types of buildings and businesses on your block (select all that apply):

- [ ] Residential
- [ ] Medical
- [ ] Restaurant
- [ ] Services
- [ ] Office
- [ ] Recreational
- [ ] Retail
- [ ] Industrial
- [ ] Other (please specify)

* 25. Are any members of your household eligible for a disabled person parking placard or license plate?

- ( ) Yes
- ( ) No
- ( ) Prefer not to state

* 26. Do you work in Emeryville?

- Yes
- No

* 27. Do you pay for parking at work?

- Yes, I pay for parking
- No, I park for free at work
- No, I do not park a vehicle at work

* 28. How much do you pay per space for parking at work?

* 29. Is the above parking cost:

- ◯ Per hour
- ◯ Per day
- ◯ Per week
- ◯ Other (please specify)
- ◯ Per month
- ◯ Per year

* 30. What other activities do you do in Emeryville? (select all that apply)

- [ ] I own a business in Emeryville
- [ ] I shop, go to the movies or to other entertainment
- [ ] I visit Emeryville for medical or other services
- [ ] None of the above
- [ ] Other (please specify)

The following questions will help us learn a little more about you. These questions are confidential, and they are all optional; you may skip any them.

31. (Optional) How many vehicles are available at your home for you to use?

- ◯ 0
- ◯ 1
- ◯ 2
- ◯ 3+

32. (Optional) What travel modes do you use regularly to get around Emeryville? (select all that apply)

- ☐ Drive car
- ☐ Walk
- ☐ Bike or Bike Share
- ☐ Other (please specify)
- ☐ Emery-Go-Round
- ☐ AC Transit
- ☐ Lyft/Uber

33. (Optional) Do you identify as:

- ◯ Male
- ◯ Female
- ◯ Non-binary
- ◯ Other (please specify)

34. (Optional) What is your age

- ◯ Under 25
- ◯ 25 - 35
- ◯ 36 - 45
- ◯ 46 - 55
- ◯ 56 - 65
- ◯ 66 - 75
- ◯ 76 or older

35. (Optional) Do you have any other comments about this survey or about parking in Emeryville?

Business Owner/Property Owner Survey

Welcome to My Survey

Emeryville is conducting a parking study to understand how parking is used throughout the city and to improve parking management in areas where parking is scarce or underutilized. This survey will ask you questions about parking facilities and activities at your property or business. Your answers will help city staff identify parking issues and potential solutions.

The survey should take under 10 minutes to complete. Please visit http://emeryvilleparkingmanagement.com/ to learn more about this project, receive updates, and find out other ways to get involved with the process.

* 1. Are you a (select all that apply):

- [ ] Employer
- [ ] Multi-family Residential property owner
- [ ] Commercial property owner
- [ ] Other property owner (please Specify): _____

Please use this image to identify the location of your business or property in the following question

* 2. Using the map above, please select which area in Emeryville your property or business is located in:

- A. North Bayfront
- B. North Hollis
- C. Doyle/residential neighborhoods
- D. Peninsula
- E. South Bayfront
- F. Central
- G. Triangle
- H. Park Avenue
- I. South Emeryville

* 3. Do your tenants pay separately for parking or is it included in the lease?

- ◯ Pay separately
- ◯ Included

* 4. How many parking spaces are on-site at your property?

* 5. Approximately how many tenants do you have at your property?

* 6. How much do tenants pay per space for parking at your property?

* 7. Is the above cost:

- per hour
- per day
- per week
- per month
- per year

* 8. For this question, please consider your knowledge of tenant experiences and perceptions of parking near your property. Please indicate the extent to which you agree or disagree with the following statements about parking near your property.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It is difficult to find convenient parking	○	○	○	○	○
There are other transportation options to travel to and from this area	○	○	○	○	○
My customers or employees are willing to park in available lots and walk	○	○	○	○	○
My customers or employees are concerned about safety when parking in this area	○	○	○	○	○
My customers or employees are willing to pay for more convenient parking in this area	○	○	○	○	○

Other concerns/opportunities for parking improvement

* 9. Please indicate the importance of each of the following aspects of parking near your property, with 1 being the most important and 5 being the least important.

	1 - Most Important	2	3	4	5 - Least Important
Employees and tenants are able to park close to the property	○	○	○	○	○
Customers or other visitors can quickly and easily find convenient parking	○	○	○	○	○
Parking is low-cost or free	○	○	○	○	○
Parking areas are safe and secure	○	○	○	○	○
It is clear where to park, how long a parked car can stay, and how much it will cost	○	○	○	○	○

* 10. Do you provide parking on-site for your employees, visitors, or customers?

- ◯ Yes
- ◯ No

* 11. Do you provide any of the following transportation benefits for employees?

- ☐ Free or reduced price transit passes
- ☐ Secure bicycle parking
- ☐ Carpool/Vanpool/Rideshare support or coordination
- ☐ Flexible work schedule
- ☐ Carshare membership
- ☐ Bike share membership
- ☐ Permit parking
- ☐ On-site parking
- ☐ None of the above
- ☐ Other (please specify)

* 12. How many employees are at your business during your busiest period?

* 13. For this question, please consider your knowledge of the experiences of employees and customers parking near your business. Please indicate the extent to which you agree or disagree with the following statements about parking near your business.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
It is difficult to find convenient parking	○	○	○	○	○
There are other transportation options to travel to and from this area	○	○	○	○	○
My customers or employees are willing to park in available lots and walk	○	○	○	○	○
My customers or employees are concerned about safety when parking in this area	○	○	○	○	○
My customers or employees are willing to pay for more convenient parking in this area	○	○	○	○	○

Other concerns/opportunities for parking

* 14. Please indicate the importance of each of the following aspects of parking near your business, with 1 being the most important and 5 being the least important.

	1 - Most Important	2	3	4	5 - Least Important
Employees are able to park close to my business	○	○	○	○	○
Customers or other visitors can quickly and easily find convenient parking	○	○	○	○	○
Parking is low-cost or free	○	○	○	○	○
Parking areas are safe and secure	○	○	○	○	○
It is clear where to park, how long a parked car can stay, and how much it will cost	○	○	○	○	○

* 15. Do you pay separately for parking for employees and/or visitors or is it included in your lease?

- ◯ Pay separately
- ◯ Included

* 16. How many spaces do you have on site for employees and/or visitors?

* 17. How much do you pay per-space for employee/visitor parking?

* 18. Is the above parking cost:

- Per hour
- Per month
- Per day
- Per year
- Per week
- Other (please specify)

* 19. Where do your employees park, or what other modes do they take? [select all that apply]

- [ ] Park on-site in off-street lot or garage
- [ ] On-street in front of my business or other nearby businesses
- [ ] On-street in nearby residential areas (please specify approximate average distance away below)
- [ ] In other public parking lots or garages (please specify facility, approximate location, or average distance away below)
- [ ] Take transit
- [ ] Bike/Bike Share
- [ ] Walk
- [ ] Dropped off/Taxi/Uber/Lyft
- [ ] Other (please specify below)

(Additional information)

The questions on this page relate to on-street parking permits. The City of Emeryville has a residential and business parking permit program, which is only implemented in a few small areas.

In permit areas, on-street parking is restricted to a 2-hour time limit, except for permit holders. Permits can be purchased by business owners and residents in the area at an annual cost of $58 per vehicle. Permit holders may purchase one visitor permit per year for $150.

The City of Emeryville is considering expanding this program, and may change individual aspects of the program to fit the needs of Emeryville's parking program.

The following three questions each present options related to obtaining or using parking permits. Please select the one option you would prefer for each scenario.

* 20. If employee permits were available in your area, would you prefer:

- ◯ Visitor passes were included in annual cost for the parking permit, at an increased annual cost per permit
- ◯ Permit holders pay an additional fee for visitor permits on as-needed basis
- ◯ I would not use permits under either scenario

* 21. If employee permits were available in your area, would you prefer:

- ◯ Limit number of parking permits available to each business to one permit
- ◯ Limit number of parking permits available to each business based on size or number of employees
- ◯ A number of parking permits are available at a low fee (currently $58), additional permits would be increasingly more expensive. For example, a business could purchase 2 permits at $58 each, the next 2 would be $100 each, and the next 2 would be $150 each.
- ◯ I would not use permits under any of these scenarios

* 22. If on-street permits were implemented in your area, would you prefer:

- ◯ Non-permitted vehicles would be able to park a maximum of 2 hours
- ◯ Non-permitted vehicles would be able to park a maximum of 4 hours
- ◯ Non-permitted vehicles would not be allowed to park on-street

* 23. Are there a mix of uses on your block? Please identify all of the types of buildings and businesses on your block (check all that apply):

- [ ] Residential
- [ ] Medical
- [ ] Restaurant
- [ ] Services
- [ ] Office
- [ ] Recreational
- [ ] Retail
- [ ] Industrial
- [ ] Other (please specify)

* 24. Do you have employees who are eligible for a disabled person placard or license plate?

- ( ) Yes
- ( ) No
- ( ) Prefer not to state

25. Do you have any other comments about this survey or parking in Emeryville?

Appendix C.

Inventory and Occupancy by Neighborhood

The following tables detail the parking inventory in each neighborhood in Emeryville.

Table C.1: Central Parking Inventory

Central		
Space Type	Count	Percentage
On-Street		
Unregulated	354	79%
2 Hour	66	15%
1 Hour	8	2%
Loading	16	4%
ADA	2	0%
Other	3	1%
Total	449	100%

Table C.2: Doyle Parking Inventory

Doyle		
Space Type	Count	Percentage
On-Street		
Unregulated	725	95%
2 Hour	16	2%
Short Term	5	1%
Loading	6	1%
Permit	7	1%
ADA	1	0%
Total	760	100%
Off-Street		
Permit	63	97%
ADA	2	3%
Total	65	100%

Table C.3: North Bayfront Inventory

North Bayfront		
Space Type	**Count**	**Percentage**
On-Street		
Unregulated	218	96%
1 Hour	2	1%
Loading	2	1%
ADA	1	0%
Other	5	2%
Total	228	100%

Table C.4: North Hollis Inventory

North Hollis		
Space Type	**Count**	**Percentage**
On-Street		
Unregulated	743	82%
2 Hour	65	7%
1 Hour	12	1%
Short Term	3	0%
Loading	22	2%
Permit	20	2%
Reserved	40	4%
ADA	6	1%
Total	911	100%
Off-Street		
Unregulated	83	19%
2 Hour	21	5%
Permit	291	66%
Reserved	17	4%
ADA	13	3%
Other	15	3%
Total	440	100%

Table C.5: Peninsula Inventory

Peninsula		
Space Type	Count	Percentage
On-Street		
Unregulated	107	100%
Total	107	100%
Off-Street		
Unregulated	241	31%
Permit	244	31%
Reserved	173	22%
ADA	99	13%
Other	18	2%
Total	775	100%

Table C.6: South Emeryville Inventory

South Emeryville		
Space Type	Count	Percentage
On-Street		
Unregulated	62	59%
2 Hour	31	30%
1 Hour	8	8%
Short Term	2	2%
ADA	2	2%
Total	105	100%

Table C.7: Triangle Inventory

Triangle		
Space Type	Count	Percentage
On-Street		
Unregulated	511	92%
2 Hour	6	1%
Short Term	4	1%
Loading	2	0%
Permit	14	3%
ADA	9	2%
Other	8	1%
Total	554	100%

Table C.8: Central On-Street Occupancy

	# of Spaces	4 AM	10 AM	3 PM
Unregulated	510	26%	70%	63%
2 Hour	15	0%	87%	73%
1 Hour	8	0%	75%	50%
Loading	28	0%	4%	21%
Permit	61	11%	103%	84%
ADA	6	0%	0%	0%
Other	22	36%	23%	59%
Total	**650**	**23%**	**68%**	**62%**

Table C.9: Doyle Occupancy, On- and Off-Street

	# of Spaces	4 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM
On Street														
Unregulated														
Hourly	506	70%	74%	81%	91%	93%	94%	90%	96%	95%	89%	81%	75%	67%
Timepoint	216	67%	-	-	-	79%	-	-	-	-	69%	-	-	-
2-Hour	16	0%	13%	56%	63%	81%	81%	81%	88%	81%	69%	75%	56%	56%
Loading	6	0%	0%	0%	0%	0%	0%	0%	17%	33%	33%	50%	50%	33%
Permit	7	0%	14%	14%	14%	71%	57%	57%	57%	57%	43%	43%	57%	57%
Short Term	5	80%	60%	80%	80%	40%	40%	60%	80%	80%	80%	80%	60%	0%
ADA	1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total (Hourly only)	**544**	**66%**	**69%**	**78%**	**87%**	**90%**	**91%**	**87%**	**93%**	**92%**	**87%**	**79%**	**73%**	**65%**
Off-Street														
Total	65	0%	3%	14%	51%	65%	75%	72%	78%	75%	72%	62%	43%	20%

Note: 2 of the off-street spaces are ADA spaces, the remainder are permit spaces.

Table C.10: North Bayfront On-Street Occupancy

	# of Spaces	4 AM	10 AM	3 PM
Unregulated	218	64%	92%	83%
1-Hour	2	0%	0%	0%
Loading	2	0%	0%	0%
Other	9	0%	56%	60%
Total	**231**	**60%**	**89%**	**80%**

Table C.11: North Hollis Occupancy, On- and Off-Street

	# of Spaces	4 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM
On-Street														
Unregulated	828	23%	61%	80%	91%	93%	94%	96%	93%	90%	80%	68%	54%	46%
2-Hour	65	26%	72%	85%	86%	88%	83%	72%	88%	83%	75%	66%	43%	49%
1-Hour	10	50%	20%	40%	50%	50%	50%	50%	50%	60%	50%	50%	30%	20%
Short Term	3	0%	33%	33%	33%	100%	67%	67%	67%	33%	0%	0%	0%	0%
Loading	27	4%	7%	11%	33%	37%	30%	37%	52%	30%	26%	15%	11%	7%
Permit	51	12%	49%	53%	59%	73%	71%	73%	71%	73%	67%	63%	63%	25%
Reserved	42	31%	52%	67%	98%	98%	93%	100%	98%	117%	107%	83%	76%	19%
ADA	8	13%	13%	38%	38%	38%	25%	25%	50%	38%	38%	63%	25%	25%
Total	**1034**	**23%**	**59%**	**76%**	**87%**	**90%**	**90%**	**91%**	**90%**	**87%**	**78%**	**66%**	**53%**	**42%**
Off-Street														
Unregulated	643	17%	26%	36%	58%	75%	74%	76%	76%	69%	67%	61%	49%	34%
2-Hour	21	0%	5%	10%	33%	48%	81%	52%	67%	71%	62%	43%	33%	19%
Permit	35	0%	0%	29%	31%	80%	74%	74%	63%	57%	51%	49%	29%	29%
Reserved	88	1%	10%	16%	19%	34%	25%	16%	26%	24%	22%	18%	18%	8%
ADA	307	1%	6%	12%	31%	48%	53%	56%	54%	56%	53%	46%	29%	17%
Other	632	0%	0%	1%	44%	52%	55%	33%	56%	51%	10%	44%	21%	10%
Total	**1726**	**6%**	**11%**	**17%**	**45%**	**59%**	**61%**	**53%**	**62%**	**58%**	**41%**	**50%**	**33%**	**21%**

Note: occupancies over 100 percent occur when the number of cars observed exceeds the estimated number of spaces based on curb length. This may be due to cars parking close together to fit more than the average space length on each block, or due to cars parking in driveways or red-curb areas.

Table C.12: Park Avenue On-Street Occupancy

	# of Spaces	4 AM	10 AM	3 PM
Unregulated	608	22%	89%	76%
Short Term	2	0%	100%	100%
Loading	13	0%	38%	31%
ADA	1	0%	0%	100%
Other	8	0%	100%	88%
Total	**632**	**22%**	**88%**	**75%**

Table C.13: Peninsula Occupancy, On- and Off-Street

	Inventory	4 AM	10 AM	3 PM	7 PM
Off-Street					
Unregulated	364	57%	74%	74%	83%
Permit	244	55%	48%	39%	36%
Reserved	173	12%	27%	32%	24%
ADA	32	16%	28%	19%	28%
Other	19	26%	26%	26%	21%
Total	**832**	**45%**	**54%**	**52%**	**53%**
On-Street					
Unregulated	107	64%	97%	86%	80%

Table C.14: South Emeryville On-Street Occupancy

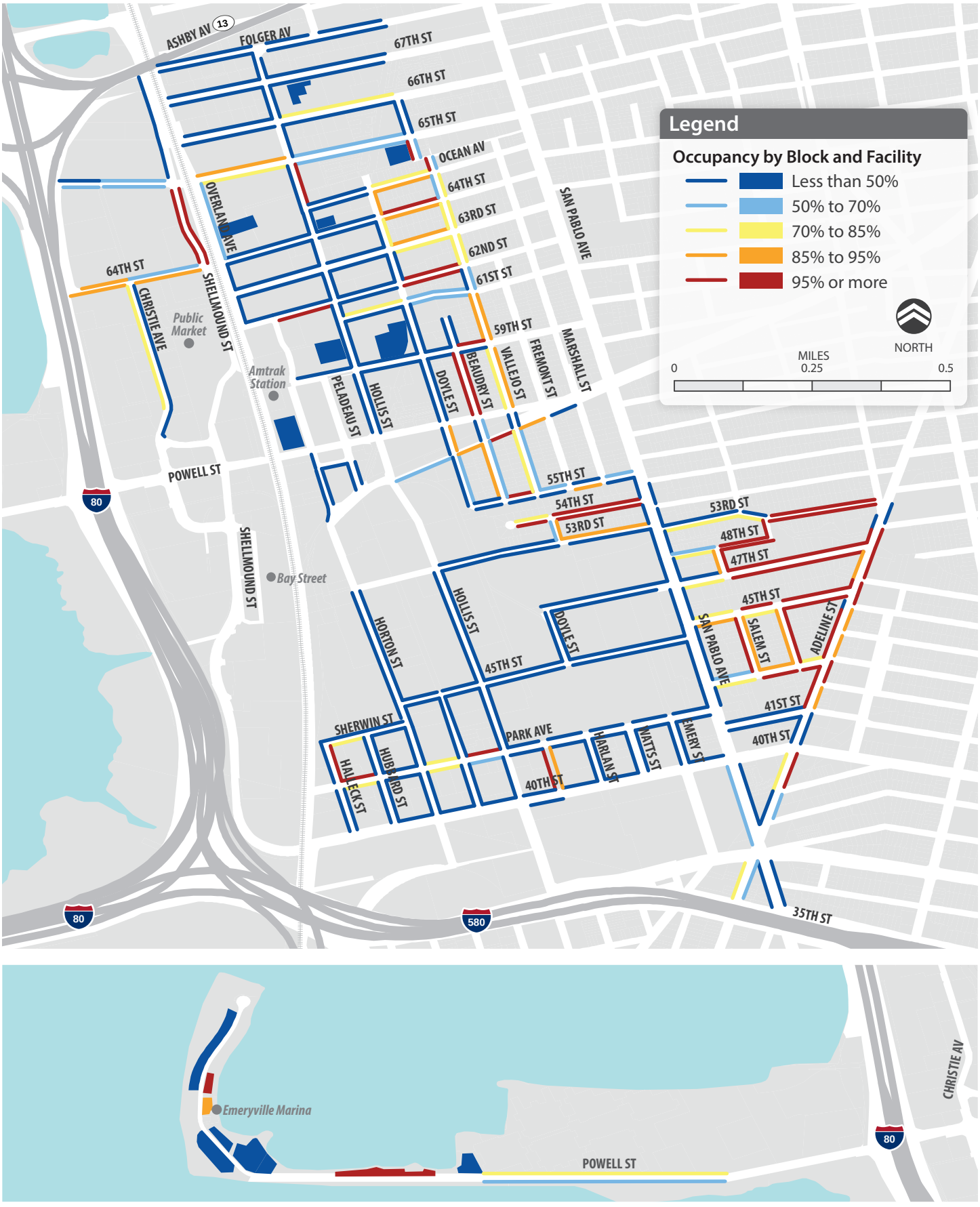
	# of Spaces	4 AM	10 AM	3 PM
Reg	89	38%	66%	63%
2h	31	71%	74%	77%
1h	8	50%	75%	88%
Short Term	3	67%	100%	33%
ADA	2	0%	50%	0%
Total	**105**	**53%**	**65%**	**66%**

Table C.15: Triangle On-Street Occupancy

	# of Spaces	4 AM	10 AM	3 PM
Reg	568	84%	72%	68%
2h	6	33%	33%	100%
Short Term	4	25%	25%	75%
L	2	0%	100%	50%
P	14	29%	79%	64%
ADA	9	44%	33%	44%
Other	8	50%	38%	38%
Total	**611**	**81%**	**71%**	**67%**

Appendix D.

Occupancy Maps


Legend
Occupancy by Block and Facility
Less than 50%
50% to 70%
70% to 85%
85% to 95%
95% or more
NORTH
MILES
0
0.25
0.5
ASHBY AV
13
FOLGER AV
67TH ST
66TH ST
65TH ST
OCEAN AV
64TH ST
63RD ST
62ND ST
61ST ST
59TH ST
OVERLAND AVE
SHELLMOUND ST
CHRISTIE AVE
Public Market
Amtrak Station
PELADEAU ST
HOLLIS ST
DOYLE ST
BEAUDRY ST
VALLEJO ST
FREMONT ST
MARSHALL ST
SAN PABLO AVE
POWELL ST
55TH ST
54TH ST
53RD ST
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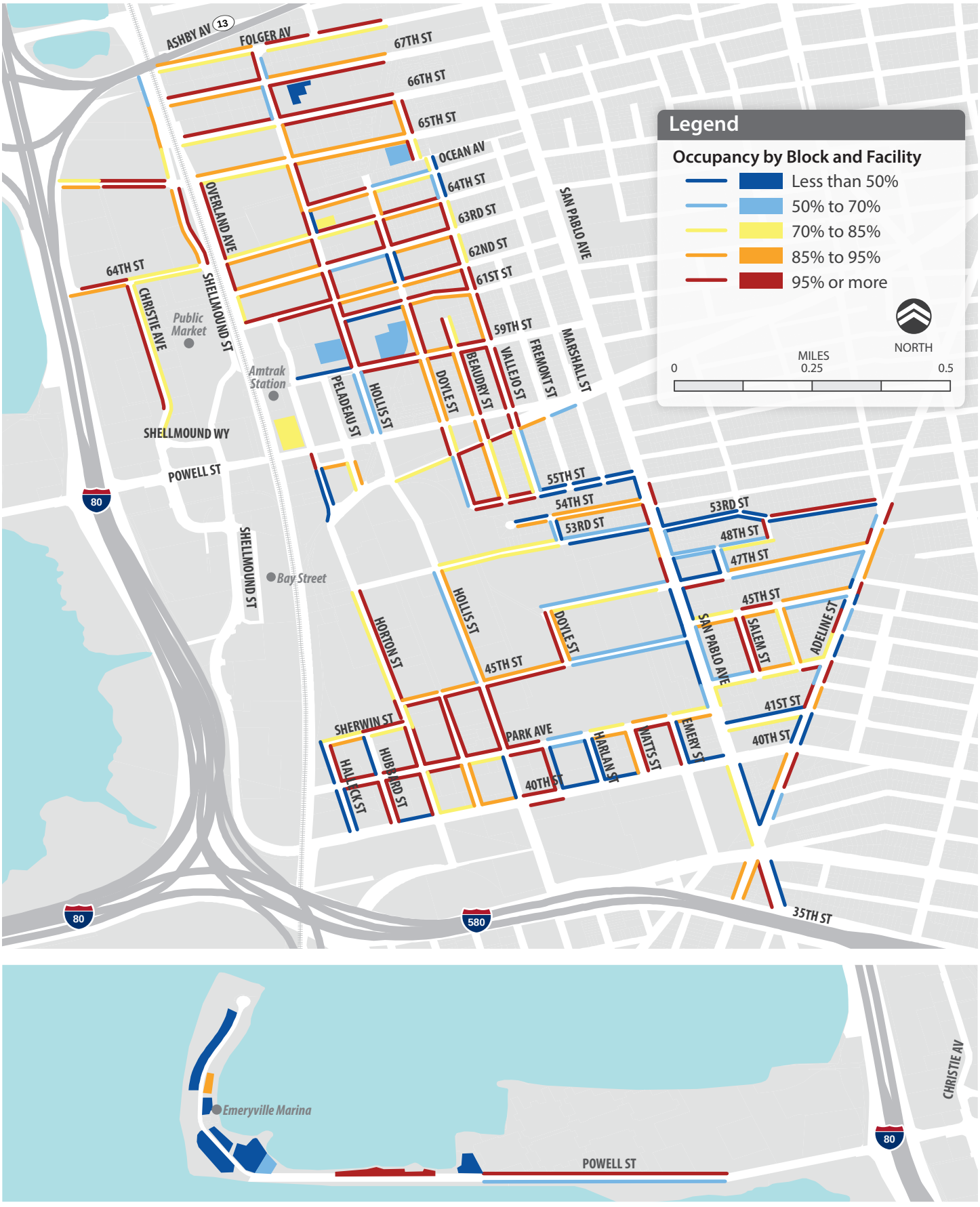
47TH ST
45TH ST
SALEM ST
ADELINE ST
HORTON ST
SHERWIN ST
HALLECK ST
HUBBARD ST
PARK AVE
HARLAN ST
WATTS ST
EMERY ST
41ST ST
40TH ST
35TH ST
80
580
Bay Street
Emeryville Marina
CHRISTIE AV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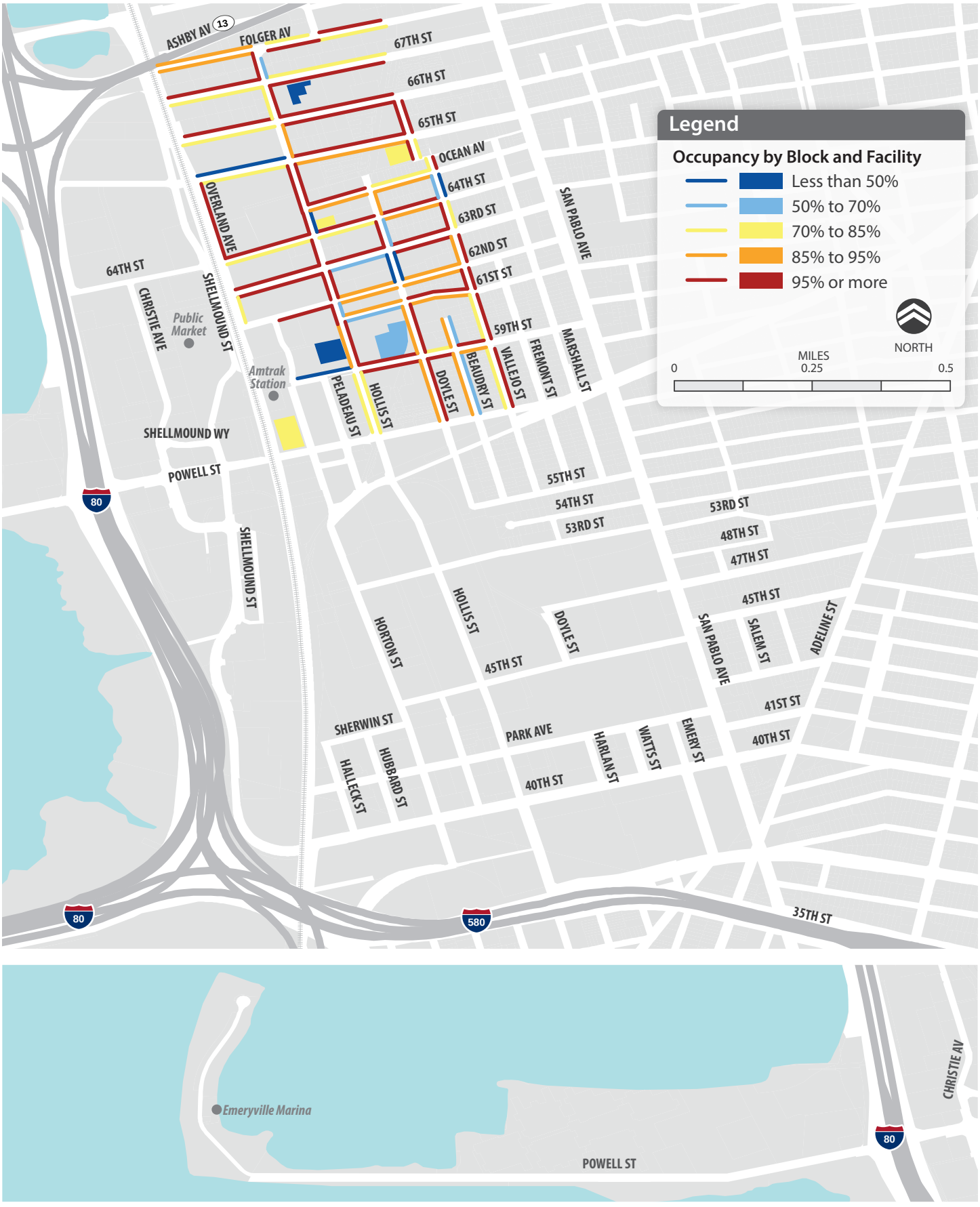
Emeryville Marina
POWELL ST
80
CHRISTIE AV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Emeryville Marina
CHRISTIE AV
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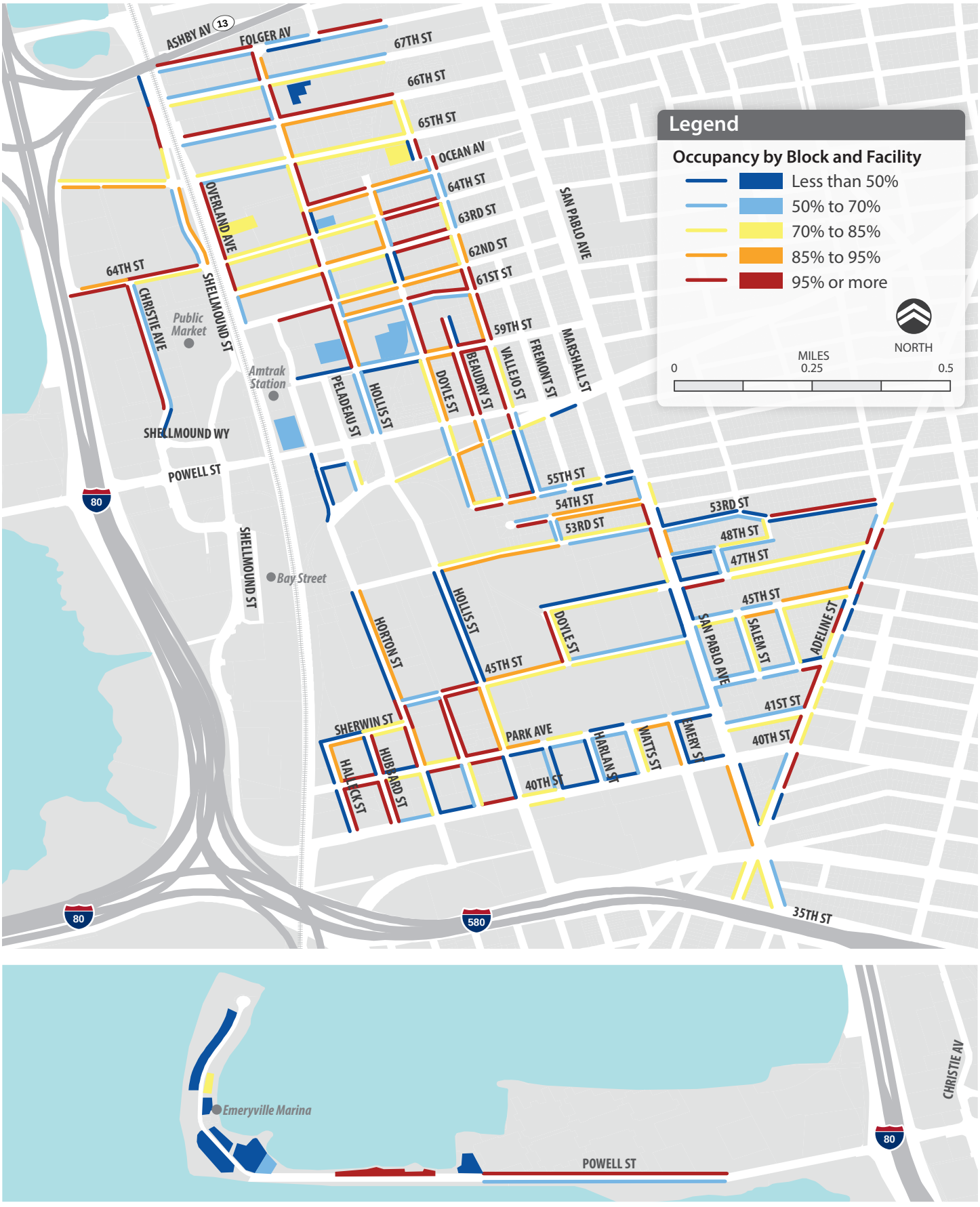
CDM Smith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Emeryville Marina
POWELL ST
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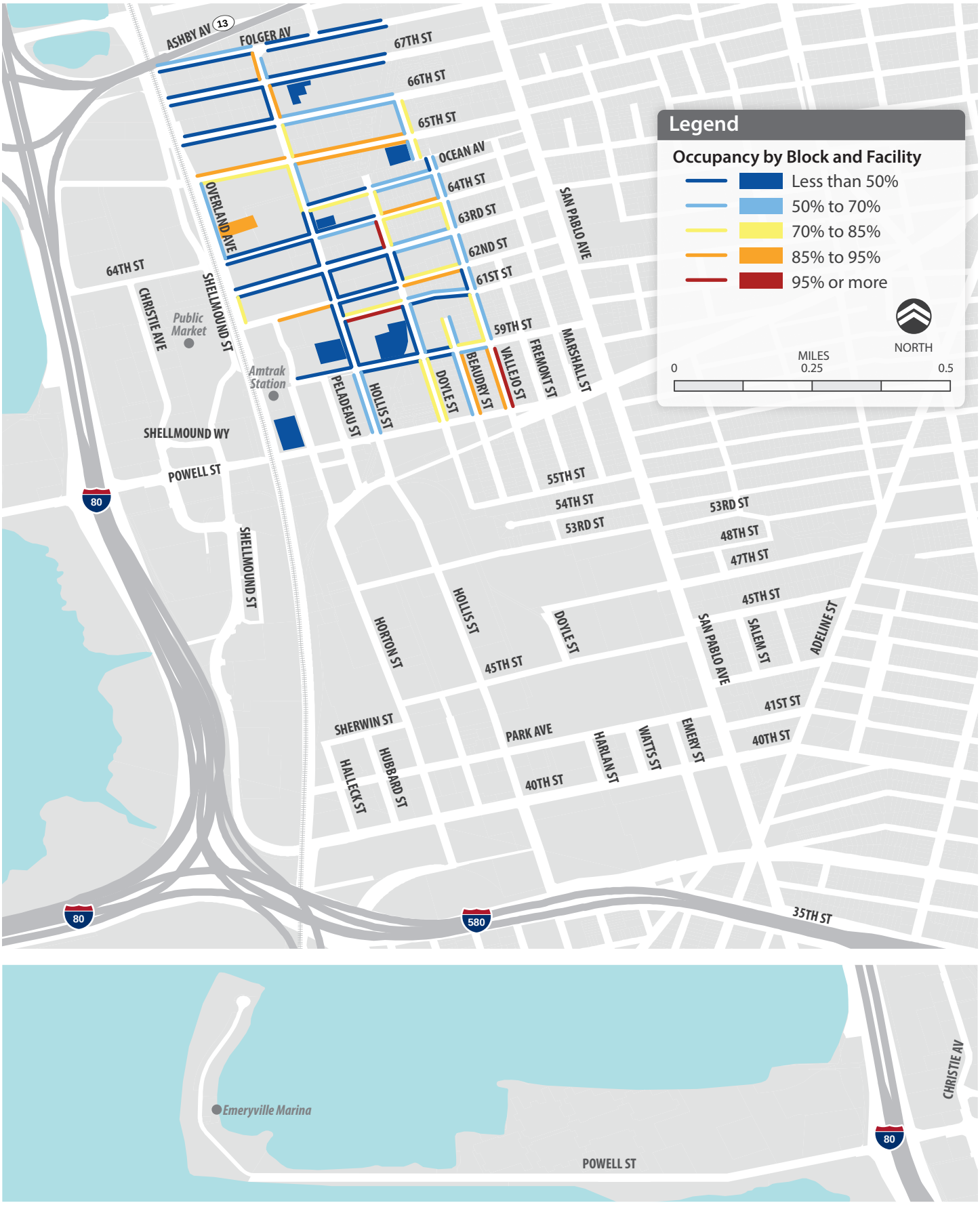
CHRISTIE AV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0.25
0.5
Emeryville Marina
POWELL ST
80
CHRISTIE AV

Appendix E.

Residential Permit Programs in Comparable Cities

	Emeryville	Berkeley	Oakland	Walnut Creek	San Francisco	San Jose	Average
Residential Permit							
Cost	$58.00	$55.00	$82.00	$15.00	$128.00	$35.00	**$62.17**
< 6 months before permit expires					$63.00		**$63.00**
Max per Household	3		Varies	3	4	Varies	**$3.33**
Renewal	Annual	Annual	Annual	Annual	Annual	2-years	
			$59-renew; $160 in Area M				
Vistor Permit							
Cost	$150.00	$2.75	$5.00	FREE	$6.00	$35	**$39.75**
Max Per Household	1			10	5	Varies	**$5.33**
Renewal	Annual	Daily	Daily	Daily	Daily	2-years	
2-Week Permits		$29	$25		$45.00		**$32.83**
				$15 for Annual		Single Use-Free	
Business Permit							
Cost	$58.00	$154.00	$96.00	$15.00	$128.00	$35.00	**$81.00**
Max	1	1	2- stickers, 1-hanger	3	4	As many as on Tax Certificate or Directory	**$2.25**
Renewal	Annual	Annual	Annual	Annual	Annual	2-years	
Special Permits							
Meet AMI Criterian	$27.00						**$27.00**
In Home Care		$55.00			$128.00		**$91.50**
Motorcycle				$95	$96.00		**$95.50**
Replace Lost Permit			$10	$25	$22.00		**$19.00**
Contractor Permits	$0				$1,280		**$640.00**
Vanpool Permits (7-15 seats)					$128.00		**$128.00**
Press					$62.00		**$62.00**
Exemptions							
Handicapped/Disabled Placard			X	X			
Mopeds				X	X		
Schools	X				X		
Violation Fee		<$500	$83		$76		
Total Numeber of Permits		14 zones	4500		95,000 *annually		

Appendix F.

Cost and Revenue Calculations

Labor - Effort By Task and Job Type - Assumptions

					Phase 1							Phase 2		
					Total FTE Phase 1 (North Hollis)	Total FTE Phase 2 (Citywide)	Total FTE Phase 2.5 (Citywide)	Short-Term Meters	Mid-Term Meters	Long-Term Meters	RPP Permit	Short-Term Meters	Mid-Term Meters	Long-Term Meters
Labor	**Annual Salary**	**Benefits**	**Overhead**	**Total**				269	0	680	593	486	418	1408
O&M - Contract														
Maintenance Contractor				$200,000.00	0.5	1	1	0.14	0.00	0.36		0.21	0.18	0.61
Collections Contractor				$200,000.00	0.5	1	1	0.14	0.00	0.36		0.21	0.18	0.61
Annual Subtotal					**$ 200,000**	**$ 400,000**	**$ 400,000**	**$ 56,691**	**$ -**	**$ 143,309**	**$ -**	**$ 84,083**	**$ 72,318**	**$ 243,599**
Administration & Enforcement														
Finanace	*$264,735.00*	*$75,885.00*	*$155,663.34*	*$496,283.34*	*$0.08*	*$0.13*	*$0.13*							
Finance Director	$182,967.00	$37,280.00	$100,652.88	$320,899.88	0.025	0.025	0.025	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Finance/Accounting Staff	$81,768.00	$38,605.00	$55,010.46	$175,383.46	0.05	0.1	0.1	0.02	0.00	0.02	0.01	0.03	0.01	0.04
Public Works	*$315,317.00*	*$88,776.00*	*$184,670.50*	*$588,763.50*	*$0.08*	*$0.13*	*$0.13*							
PW Staff	$118,326.00	$40,861.00	$72,748.46	$231,935.46	0.05	0.1	0.1	0.02	0.00	0.02	0.01	0.03	0.01	0.04
PW Deputy Manager	$196,991.00	$47,915.00	$111,922.04	$356,828.04	0.025	0.025	0.025	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Police	*$238,896.00*	*$121,990.00*	*$164,924.90*	*$525,810.90*	*$3.00*	*$5.00*	*$5.00*							
/Supervisor (sworn officer)	$156,324.00	$82,312.00	$109,056.65	$347,692.65	1	1	1	0.36	0.00	0.45	0.20	0.28	0.12	0.40
Staff/PST	$82,572.00	$39,678.00	$55,868.25	$178,118.25	2	4	4	0.71	0.00	0.90	0.39	1.10	0.47	1.60
Policy and Planning	*$261,946.00*	*$89,922.00*	*$160,803.68*	*$512,671.68*	*$0.08*	*$0.13*	*$0.00*							
EDH Manager	$149,254.00	$46,520.00	$89,468.72	$285,242.72	0.025	0.025		0.01	0.00	0.01	0.00	0.01	0.00	0.01
EDH Staff	$112,692.00	$43,402.00	$71,334.96	$227,428.96	0.05	0.1		0.02	0.00	0.02	0.01	0.03	0.01	0.04
Annual Subtotal					**$ 2,419,781**	**$ 3,914,449**	**$3,820,491**	**$ 269,885**	**$ -**	**$ 341,118**	**$ 148,738**	**$ 315,983**	**$ 135,886**	**$ 457,721**
Total Labor - Annual					**$ 2,619,781**	**$ 4,314,449**	**$4,220,491**	**$ 326,576**	**$ -**	**$ 484,427**	**$ 148,738**	**$ 400,066**	**$ 208,204**	**$ 701,319**

	Short-Term Meters	Mid-Term Meters	Long-Term Meters	RPP Permits	Short-Term Meters	Mid-Term Meters	Long-Term Meters	RPP Permits
Meters	269	0	680	593	486	418	1408	1465
Enforcement weight	4	2	2	1	4	2	2	1
Enforcement multiplier	36%	0%	45%	20%	28%	12%	40%	21%

Inflation Assumptions

Annual Salary Inflation	0.04
Annual Benefit Inflation	0.06
Average Salary-Benefit Inflation	0.0500

Emeryville Parking Inputs

5/1/2018

Number of Spaces		
Type	Phase 1	Phase 2
Short Term - Total	269	486
Short Term - Bus Lane	0	0
Mid Term	0	836
Long Term - Total	680	1408
Long Term - Bus Lane	0	0
Residential Permit	593	1047
Business Permit Cap	200	500
Annual decrease in number of spaces	0.025	

Technology Costs	Low	High
Multi-Space Meters	6500	8500
Single Space Meters	600	1000
LPR		
Enforcement Vehicle	27000	36000
Enforcement PDA	1500	1500
Mobile Payment - 3rd Party Setup	0	1500
Mobile Payment - Per Transaction	0	0.35
Signs	80	120
Permit management and processing - per transaction	0.3	0.3
Enforcement software & integration - per month per enforcer	99	99
Integration software setup cost per space		79.03056
integration software annual cost (high end)		12.82051

Meter Calculations	
Meter days per year	249
Meter days per month	20
Revenue Hours Per Day	8
Bus Lane Revenue Hours Per Day	7
Working Weeks per Year	50
Spaces Per Multi-Space Meter	8

Number of multi-space meters	Phase 1	Phase 2
Short Term	39	70
Mid Term	0	113
Long Term	85	167

Equipment Lifespans	Years
Signs	25
Vehicles & Meters	10

Parking Occupancy Assumptions	Short Term	Mid Term	Long Term
Year 1 Adjustment Period Occupancy (10% dip)	62%	0%	61%
Avg. Daily Occupancy Phase 1	69%		68%
Avg. Daily Occupancy Phase 2	64%	77%	65%
Percent of spaces for business permits	0%	50%	0%

Base occupancies from existing conditions analysis.

Option 1. Variable Pricing

	$/hour								$/day	$/week	$/month	**Average hourly price**	**Demand Adjustment**
Hour	1	2	3	4	5	6	7	8					
Short Term	$2.00	$2.00	$3.00	$3.00	$4.00	$4.00	$5.00	$5.00	$28.00	$140.00	$560.00	$2.00	0.7
Mid Term	$1.00	$1.00	$1.00	$1.00	$1.50	$2.00	$2.50	$2.50	$12.50	$62.50	$250.00	$1.00	1.0
Long Term	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$4.00	$20.00	$80.00	$0.50	1.1

Option 2. Recommended - Steep Ramp Up

	$/hour								$/day	$/week	$/month	Average Hourly	Relative Demand
Hour	1	2	3	4	5	6	7	8					
Short Term	$2.00	$2.00	$7.00	$7.00	$7.00	$7.00	$7.00	$7.00	$46.00	$230.00	$920.00	$2.00	0.7
Mid Term	$1.00	$1.00	$1.00	$1.00	$6.00	$6.00	$6.00	$6.00	$28.00	$140.00	$560.00	$1.00	1
Long Term	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$4.00	$20.00	$80.00	$0.50	1.1

Option 3. High Constant rates

	$/hour								$/day	$/week	$/month		
Hour	1	2	3	4	5	6	7	8					
Short Term	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$28.00	$140.00	$560.00	$3.50	0.6
Mid Term	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$20.00	$100.00	$400.00	$2.50	0.7
Long Term	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$8.00	$40.00	$160.00	$1.00	0.9

Projection of Cost and Revenue for On-Street Parking - Short-Term Meters

Year	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing											
Hourly	$465,866	$855,425	$834,040	$813,189	$792,859	$773,038	$753,712	$734,869	$716,497	$698,585	$681,120
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$465,866***	***$855,425***	***$834,040***	***$813,189***	***$792,859***	***$773,038***	***$753,712***	***$734,869***	***$716,497***	***$698,585***	***$681,120***
Revenues - Opt 2 Recommended Steep Ramp Up											
Hourly	$465,866	$855,425	$834,040	$813,189	$792,859	$773,038	$753,712	$734,869	$716,497	$698,585	$681,120
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$465,866***	***$855,425***	***$834,040***	***$813,189***	***$792,859***	***$773,038***	***$753,712***	***$734,869***	***$716,497***	***$698,585***	***$681,120***
Revenues - Opt 3 Constant Rates											
Hourly	$640,566	$1,176,210	$1,146,805	$1,118,135	$1,090,181	$1,062,927	$1,036,353	$1,010,445	$985,183	$960,554	$936,540
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$640,566***	***$1,176,210***	***$1,146,805***	***$1,118,135***	***$1,090,181***	***$1,062,927***	***$1,036,353***	***$1,010,445***	***$985,183***	***$960,554***	***$936,540***
Costs - Alt 1 Dual Head											
Capital Costs	$30,346	$53,903	$52,631	$51,367	$50,109	$48,859	$47,615	$46,378	$45,148	$43,924	$42,708
Contractors & Software	$63,238	$95,778	$95,748	$95,719	$95,691	$95,664	$95,638	$95,613	$95,589	$95,565	$95,543
Labor	$283,379	$348,371	$365,790	$374,082	$392,786	$412,426	$433,047	$454,699	$477,434	$501,306	$526,371
Total Cost	***$376,964***	***$498,052***	***$514,170***	***$521,169***	***$538,587***	***$556,949***	***$576,300***	***$596,690***	***$618,171***	***$640,796***	***$664,622***
Net Rev.	***$88,902***	***$357,373***	***$319,870***	***$292,020***	***$254,272***	***$216,089***	***$177,411***	***$138,178***	***$98,326***	***$57,789***	***$16,498***
Rev./Cost Ratio	***1.24***	***1.72***	***1.62***	***1.56***	***1.47***	***1.39***	***1.31***	***1.23***	***1.16***	***1.09***	***1.02***
Costs - Alt 2 Multi-Space											
Capital Costs	$36,721	$65,816	$65,816	$65,816	$65,816	$65,816	$65,816	$65,816	$65,816	$65,816	$65,816
Contractors & Software	$63,238	$95,778	$95,748	$95,719	$95,691	$95,664	$95,638	$95,613	$95,589	$95,565	$95,543
Labor	$283,379	$348,371	$365,790	$374,082	$392,786	$412,426	$433,047	$454,699	$477,434	$501,306	$526,371
Total Cost	***$383,339***	***$509,965***	***$527,354***	***$535,617***	***$554,293***	***$573,906***	***$594,501***	***$616,128***	***$638,839***	***$662,687***	***$687,730***
Net Rev.	***$82,527***	***$345,461***	***$306,686***	***$277,572***	***$238,566***	***$199,132***	***$159,211***	***$118,741***	***$77,658***	***$35,898***	***($6,610)***
Rev./Cost Ratio	***1.22***	***1.68***	***1.58***	***1.52***	***1.43***	***1.35***	***1.27***	***1.19***	***1.12***	***1.05***	***0.99***

CALCULATIONS	**Y19**	**Y20**	**Y21**	**Y22**	**Y23**	**Y24**	**Y25**	**Y26**	**Y27**	**Y28**	**Y29**
Short Term Spaces - Existing	269	486	486	486	486	486	486	486	486	486	486
Short Term Spaces - Deflated	269	479	467	456	444	433	422	412	401	391	382
Labor & Administration	$283,379	$348,371	$365,790	$374,082	$392,786	$412,426	$433,047	$454,699	$477,434	$501,306	$526,371
Number of enforcement vehicles	0.71	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Number of signs and multi-space	39.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Avg Daily Occupancy	62%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
Alt 1 Meter Rates	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Alt 2 Meter Rates	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Alt 3 Meter Rates	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50	$3.50

sign life		25
Equipment Life, Years		10
Number of kiosks, phase 1		39
Number of kiosks, phase 2		70
Annual Capital Cost Inflator		2%
Salary & Benefits Inflator		5.0%
Meter Rate Inflator		0.0%
Parking Spaces Deflator		2.5%
Revenue Hours/day		8
Restricted Area Revenue Hours/		7
Revenue Days/Year		249
Year 1 Adjustment Period Occup		62%
Avg. Daily Occupancy Phase 1		69%
Avg. Daily Occupancy Phase 2		64%
Demand Adjutment Option 1		70%
Demand Adjutment Option 2		70%
Demand Adjutment Option 3		55%
Option 1 Average Rate	$	2.00
Option 2 Average Rate	$	2.00
Option 3 Average Rate	$	3.50

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
cost/multi-space meter	$ 8,500	$ 8,670	$ 8,843	$ 9,020	$ 9,201	$ 9,385	$ 9,572	$ 9,764	$ 9,959	$ 10,158	$ 10,361	$ 10,569
cost/single-space meter	$ 1,000	$ 1,020	$ 1,040	$ 1,061	$ 1,082	$ 1,104	$ 1,126	$ 1,149	$ 1,172	$ 1,195	$ 1,219	$ 1,243
cost/ vehicle	$ 36,000	$ 36,720	$ 37,454	$ 38,203	$ 38,968	$ 39,747	$ 40,542	$ 41,353	$ 42,180	$ 43,023	$ 43,884	$ 44,761
cost/PDA	$ 1,500	$ 1,530	$ 1,561	$ 1,592	$ 1,624	$ 1,656	$ 1,689	$ 1,723	$ 1,757	$ 1,793	$ 1,828	$ 1,865
Enforcement Sofware cost per enforcer per month	$ 99	$ 101	$ 103	$ 105	$ 107	$ 109	$ 111	$ 114	$ 116	$ 118	$ 121	$ 123
Labor cost phase 1	$ 269,885	$ 283,379	$ 297,548	$ 312,425	$ 328,047	$ 344,449	$ 361,671	$ 379,755	$ 398,743	$ 418,680	$ 439,614	$ 461,595
Labor Cost phase 2	$ 315,983	$ 331,782	$ 348,371	$ 365,790	$ 384,080	$ 403,284	$ 423,448	$ 444,620	$ 466,851	$ 490,194	$ 514,703	$ 540,439
Labor Cost 3rd year of phase 2 +	$ 307,758	$ 323,146	$ 339,304	$ 356,269	$ 374,082	$ 392,786	$ 412,426	$ 433,047	$ 454,699	$ 477,434	$ 501,306	$ 526,371
Sign Cost	$ 120	$ 122	$ 125	$ 127	$ 130	$ 132	$ 135	$ 138	$ 141	$ 143	$ 146	$ 149
Maintenance & Operations	$ 56,691	$ 56,691	$ 84,083	$ 84,083	$ 84,083	$ 84,083	$ 84,083	$ 84,083	$ 84,083	$ 84,083	$ 84,083	$ 84,083
Software setup and annual maint per space	$ 21	$ 21	$ 22	$ 22	$ 22	$ 23	$ 23	$ 24	$ 24	$ 25	$ 25	$ 26

Total Capital Cost	
Phase 1	**Phase 2**
$306,329	$237,887

Projection of Cost and Revenue for On-Street Parking - Mid-Term Meters

Year	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing											
Hourly	$0	$641,145	$625,116	$609,489	$594,251	$579,395	$564,910	$550,787	$537,018	$523,592	$510,503
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$0***	***$641,145***	***$625,116***	***$609,489***	***$594,251***	***$579,395***	***$564,910***	***$550,787***	***$537,018***	***$523,592***	***$510,503***
Revenues - Opt 2 Recommended Steep Ramp Up											
Hourly	$0	$641,145	$625,116	$609,489	$594,251	$579,395	$564,910	$550,787	$537,018	$523,592	$510,503
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$0***	***$641,145***	***$625,116***	***$609,489***	***$594,251***	***$579,395***	***$564,910***	***$550,787***	***$537,018***	***$523,592***	***$510,503***
Revenues - Opt 3 Constant Rates											
Hourly	$0	$1,122,004	$1,093,954	$1,066,605	$1,039,940	$1,013,941	$988,593	$963,878	$939,781	$916,287	$893,379
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$0***	***$1,122,004***	***$1,093,954***	***$1,066,605***	***$1,039,940***	***$1,013,941***	***$988,593***	***$963,878***	***$939,781***	***$916,287***	***$893,379***
Costs - Alt 1 Dual Head											
Capital Costs	$0	$89,389	$89,389	$89,389	$89,389	$89,389	$89,389	$89,389	$89,389	$89,389	$89,389
Contractors & Software	$0	$81,916	$81,878	$81,841	$81,804	$81,768	$81,732	$81,697	$81,662	$81,628	$81,594
Labor	$0	$149,814	$157,305	$160,871	$168,914	$177,360	$186,228	$195,539	$205,316	$215,582	$226,361
Total Cost	***$0***	***$321,120***	***$328,572***	***$332,101***	***$340,108***	***$348,517***	***$357,349***	***$366,626***	***$376,368***	***$386,599***	***$397,345***
Net Rev.	***$0***	***$320,025***	***$296,544***	***$277,387***	***$254,144***	***$230,878***	***$207,561***	***$184,162***	***$160,650***	***$136,993***	***$113,158***
Rev./Cost Ratio ***N/A***		***2.00***	***1.90***	***1.84***	***1.75***	***1.66***	***1.58***	***1.50***	***1.43***	***1.35***	***1.28***
Costs - Alt 2 Multi Space											
Capital Costs	$0	$102,342	$102,342	$102,342	$102,342	$102,342	$102,342	$102,342	$102,342	$102,342	$102,342
Contractors & Software	$0	$81,916	$81,878	$81,841	$81,804	$81,768	$81,732	$81,697	$81,662	$81,628	$81,594
Labor	$0	$149,814	$157,305	$160,871	$168,914	$177,360	$186,228	$195,539	$205,316	$215,582	$226,361
Total Cost	***$0***	***$334,073***	***$341,525***	***$345,054***	***$353,061***	***$361,470***	***$370,302***	***$379,578***	***$389,321***	***$399,552***	***$410,298***
Net Rev.	***$0***	***$307,073***	***$283,591***	***$264,434***	***$241,191***	***$217,925***	***$194,608***	***$171,209***	***$147,697***	***$124,040***	***$100,205***
Rev./Cost Ratio ***N/A***		***1.92***	***1.83***	***1.77***	***1.68***	***1.60***	***1.53***	***1.45***	***1.38***	***1.31***	***1.24***

CALCULATIONS	**Y19**	**Y20**	**Y21**	**Y22**	**Y23**	**Y24**	**Y25**	**Y26**	**Y27**	**Y28**	**Y29**
Mid Term Spaces - Existing	0	418	418	418	418	418	418	418	418	418	418
Mid term meter spaces - Deflated	0	418	408	397	387	378	368	359	350	341	333
Labor & Administration	$0	$149,814	$157,305	$160,871	$168,914	$177,360	$186,228	$195,539	$205,316	$215,582	$226,361
Number of enforcement vehicles,	0.00	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Number of multi-space kiosks	0.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00	113.00
Avg Daily Occupancy	0%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%
Alt 1 Meter Rates	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00
Alt 2 Meter Rates	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00
Alt 3 Meter Rates	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50	$2.50

sign life		25
Equipment Life, Years		10
Number of kiosks, phase 1		0
Number of kiosks, phase 2		113
Annual Capital Cost Inflator		2%
Salary & Benefits Inflator		5.0%
Meter Rate Inflator		0.0%
Parking Spaces Deflator		2.5%
Revenue Hours/day		8
Restricted Area Revenue Hours/d		7
Revenue Days/Year		249
Year 1 Adjustment Period Occup		0%
Avg. Daily Occupancy Phase 1		0%
Avg. Daily Occupancy Phase 2		77%
Demand Adjutment Option 1		100%
Demand Adjutment Option 2		100%
Demand Adjutment Option 3		70%
Mid Term Business Permit percer		50%
Operations& Maintenance Cost/S	$	1,082
Option 1 Average Rate	$	1.00
Option 2 Average Rate	$	1.00
Option 3 Average Rate	$	2.50

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
cost/multi-space meter	$ 8,500	$ 8,670	$ 8,843	$ 9,020	$ 9,201	$ 9,385	$ 9,572	$ 9,764	$ 9,959	$ 10,158	$ 10,361	$ 10,569
cost/single-space meter	$ 1,000	$ 1,020	$ 1,040	$ 1,061	$ 1,082	$ 1,104	$ 1,126	$ 1,149	$ 1,172	$ 1,195	$ 1,219	$ 1,243
cost/ vehicle	$ 36,000	$ 36,720	$ 37,454	$ 38,203	$ 38,968	$ 39,747	$ 40,542	$ 41,353	$ 42,180	$ 43,023	$ 43,884	$ 44,761
cost/PDA	$ 1,500	$ 1,530	$ 1,561	$ 1,592	$ 1,624	$ 1,656	$ 1,689	$ 1,723	$ 1,757	$ 1,793	$ 1,828	$ 1,865
Enforcement Sofware cost per enforcer per month	$ 99	$ 101	$ 103	$ 105	$ 107	$ 109	$ 111	$ 114	$ 116	$ 118	$ 121	$ 123
Labor cost phase 1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Labor Cost phase 2	$ 135,886	$ 142,680	$ 149,814	$ 157,305	$ 165,170	$ 173,429	$ 182,100	$ 191,205	$ 200,765	$ 210,803	$ 221,344	$ 232,411
Labor Cost 3rd year of phase 2 +	$ 132,349	$ 138,966	$ 145,915	$ 153,210	$ 160,871	$ 168,914	$ 177,360	$ 186,228	$ 195,539	$ 205,316	$ 215,582	$ 226,361
Sign Cost	$ 120	$ 122	$ 125	$ 127	$ 130	$ 132	$ 135	$ 138	$ 141	$ 143	$ 146	$ 149
Maintenance & Operations	$ -	$ -	$ 72,318	$ 72,318	$ 72,318	$ 72,318	$ 72,318	$ 72,318	$ 72,318	$ 72,318	$ 72,318	$ 72,318
Software setup and annual maint per space	$ 21	$ 21	$ 22	$ 22	$ 22	$ 23	$ 23	$ 24	$ 24	$ 25	$ 25	$ 26

Total Capital Cost

Phase 1	Phase 2
$0	$902,359

Projection of Cost and Revenue for On-Street Parking - Long-Term Meters

Year	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing											
Hourly	$455,945	$990,587	$965,822	$941,677	$918,135	$895,181	$872,802	$850,982	$829,707	$808,964	$788,740
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$455,945***	***$990,587***	***$965,822***	***$941,677***	***$918,135***	***$895,181***	***$872,802***	***$850,982***	***$829,707***	***$808,964***	***$788,740***
Revenues - Opt 2 Recommended Steep Ramp Up											
Hourly	$455,945	$990,587	$965,822	$941,677	$918,135	$895,181	$872,802	$850,982	$829,707	$808,964	$788,740
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$455,945***	***$990,587***	***$965,822***	***$941,677***	***$918,135***	***$895,181***	***$872,802***	***$850,982***	***$829,707***	***$808,964***	***$788,740***
Revenues - Opt 3 Constant Rates											
Hourly	$746,092	$1,620,960	$1,580,436	$1,540,925	$1,502,402	$1,464,842	$1,428,221	$1,392,515	$1,357,703	$1,323,760	$1,290,666
Restricted	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Rev.	***$746,092***	***$1,620,960***	***$1,580,436***	***$1,540,925***	***$1,502,402***	***$1,464,842***	***$1,428,221***	***$1,392,515***	***$1,357,703***	***$1,323,760***	***$1,290,666***
Costs - Alt 1 Dual Head											
Capital Costs	$73,211	$152,082	$152,082	$152,082	$152,082	$152,082	$152,082	$152,082	$152,082	$152,082	$152,082
Contractors & Software	$158,771	$275,561	$275,436	$275,312	$275,190	$275,070	$274,951	$274,834	$274,719	$274,605	$274,494
Labor	$358,174	$504,637	$529,869	$541,881	$568,975	$597,423	$627,294	$658,659	$691,592	$726,172	$762,480
Total Cost	***$590,156***	***$932,280***	***$957,387***	***$969,275***	***$996,246***	***$1,024,575***	***$1,054,327***	***$1,085,575***	***$1,118,393***	***$1,152,859***	***$1,189,056***
Net Rev.	***($134,211)***	***$58,307***	***$8,436***	***($27,598)***	***($78,112)***	***($129,394)***	***($181,526)***	***($234,593)***	***($288,686)***	***($343,895)***	***($400,316)***
Rev./Cost Ratio	***0.77***	***1.06***	***1.01***	***0.97***	***0.92***	***0.87***	***0.83***	***0.78***	***0.74***	***0.70***	***0.66***
Costs - Alt 2 Multi Space											
Capital Costs	$77,546	$153,192	$153,192	$153,192	$153,192	$153,192	$153,192	$153,192	$153,192	$153,192	$153,192
Contractors & Software	$158,771	$275,561	$275,436	$275,312	$275,190	$275,070	$274,951	$274,834	$274,719	$274,605	$274,494
Labor	$358,174	$504,637	$529,869	$541,881	$568,975	$597,423	$627,294	$658,659	$691,592	$726,172	$762,480
Total Cost	***$594,491***	***$933,390***	***$958,496***	***$970,384***	***$997,356***	***$1,025,685***	***$1,055,437***	***$1,086,685***	***$1,119,503***	***$1,153,969***	***$1,190,166***
Net Rev.	***($138,546)***	***$57,197***	***$7,326***	***($28,708)***	***($79,222)***	***($130,503)***	***($182,635)***	***($235,703)***	***($289,796)***	***($345,004)***	***($401,425)***
Rev./Cost Ratio	***0.77***	***1.06***	***1.01***	***0.97***	***0.92***	***0.87***	***0.83***	***0.78***	***0.74***	***0.70***	***0.66***

CALCULATIONS	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Short Term Spaces - Existing	680	1408	1408	1408	1408	1408	1408	1408	1408	1408	1408
Short term meter spaces - Deflate	680	1391	1356	1322	1289	1257	1226	1195	1165	1136	1108
Labor & Administration	$358,174	$504,637	$529,869	$541,881	$568,975	$597,423	$627,294	$658,659	$691,592	$726,172	$762,480
Number of enforcement vehicles	0.90	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
Number of multi-space kiosks	85.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00	167.00
Avg Daily Occupancy	0.61	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Alt 1 Meter Rates	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50
Alt 2 Meter Rates	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50
Alt 3 Meter Rates	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00	$1.00

sign life		25
Equipment Life, Years		10
Number of kiosks, phase 1		85
Number of kiosks, phase 2		167
Annual Capital Cost Inflator		2%
Salary & Benefits Inflator		5.0%
Meter Rate Inflator		0.0%
Parking Spaces Deflator		2.5%
Revenue Hours/day		8
Restricted Area Revenue Hours/		7
Revenue Days/Year		249
Year 1 Adjustment Period Occup		61%
Avg. Daily Occupancy Phase 1		68%
Avg. Daily Occupancy Phase 2		65%
Demand Adjutment Option 1		110%
Demand Adjutment Option 2		110%
Demand Adjutment Option 3		90%
Option 1 Average Rate	$	0.50
Option 2 Average Rate	$	0.50
Option 3 Average Rate	$	1.00

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
cost/multi-space meter	$ 8,500	$ 8,670	$ 8,843	$ 9,020	$ 9,201	$ 9,385	$ 9,572	$ 9,764	$ 9,959	$ 10,158	$ 10,361	$ 10,569
cost/single-space meter	$ 1,000	$ 1,020	$ 1,040	$ 1,061	$ 1,082	$ 1,104	$ 1,126	$ 1,149	$ 1,172	$ 1,195	$ 1,219	$ 1,243
cost/ vehicle	$ 36,000	$ 36,720	$ 37,454	$ 38,203	$ 38,968	$ 39,747	$ 40,542	$ 41,353	$ 42,180	$ 43,023	$ 43,884	$ 44,761
cost/PDA	$ 1,500	$ 1,530	$ 1,561	$ 1,592	$ 1,624	$ 1,656	$ 1,689	$ 1,723	$ 1,757	$ 1,793	$ 1,828	$ 1,865
Enforcement Sofware cost per enforcer per month	$ 99	$ 101	$ 103	$ 105	$ 107	$ 109	$ 111	$ 114	$ 116	$ 118	$ 121	$ 123
Labor cost phase 1	$ 341,118	$ 358,174	$ 376,083	$ 394,887	$ 414,631	$ 435,363	$ 457,131	$ 479,988	$ 503,987	$ 529,187	$ 555,646	$ 583,428
Labor Cost phase 2	$ 457,721	$ 480,607	$ 504,637	$ 529,869	$ 556,362	$ 584,180	$ 613,389	$ 644,059	$ 676,262	$ 710,075	$ 745,579	$ 782,857
Labor Cost 3rd year of phase 2 +	$ 445,806	$ 468,097	$ 491,502	$ 516,077	$ 541,881	$ 568,975	$ 597,423	$ 627,294	$ 658,659	$ 691,592	$ 726,172	$ 762,480
Sign Cost	$ 120	$ 122	$ 125	$ 127	$ 130	$ 132	$ 135	$ 138	$ 141	$ 143	$ 146	$ 149
Maintenance & Operations	$ 143,309	$ 143,309	$ 243,599	$ 243,599	$ 243,599	$ 243,599	$ 243,599	$ 243,599	$ 243,599	$ 243,599	$ 243,599	$ 243,599
Software setup and annual maint per space	$ 21	$ 21	$ 22	$ 22	$ 22	$ 23	$ 23	$ 24	$ 24	$ 25	$ 25	$ 26

Total Capital Cost	
Phase 1	Phase 2
$738,352	$777,165

Projection of Cost and Revenue for RPP Program

Year	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues											
RPP Permit	$46,515	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560
Business Permit - RPP Area	$30,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Business Permit - Mid-Term Area	$0	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600
Total Rev.	***$76,515***	***$229,160***	***$229,160***	***$229,160***	***$229,160***	***$229,160***	***$229,160***	***$229,160***	***$229,160***	***$229,160***	***$229,160***
Costs											
Capital Costs	$1,864	$4,437	$4,537	$4,640	$4,746	$4,854	$4,964	$5,078	$5,193	$5,312	$5,433
Other costs	$474	$1,026	$1,046	$1,067	$1,089	$1,110	$1,133	$1,155	$1,178	$1,202	$1,226
Labor & Administration	$156,175	$262,533	$275,660	$281,909	$296,004	$310,804	$326,345	$342,662	$359,795	$377,785	$396,674
Total Cost	***$158,513***	***$267,995***	***$281,243***	***$287,616***	***$301,839***	***$316,769***	***$332,442***	***$348,895***	***$366,167***	***$384,299***	***$403,333***
Net Rev.	***($81,998)***	***($38,835)***	***($52,083)***	***($58,456)***	***($72,679)***	***($87,609)***	***($103,282)***	***($119,735)***	***($137,007)***	***($155,139)***	***($174,173)***
Rev./Cost Ratio	***0.48***	***0.86***	***0.81***	***0.80***	***0.76***	***0.72***	***0.69***	***0.66***	***0.63***	***0.60***	***0.57***

CALCULATIONS	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Short Term Spaces	593	1047	1047	1047	1047	1047	1047	1047	1047	1047	1047
Labor & Administration	$156,175	$262,533	$275,660	$281,909	$296,004	$310,804	$326,345	$342,662	$359,795	$377,785	$396,674
Number of enforcement vehicles/PDAs	0.39	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
RPP First Permit Rates/yr.	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100
RPP First Permit Rates/day	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42	$0.42
RPP Second Permit Rates/yr.	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300	$300
RPP Second Permit Rates/day	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25	$1.25
Business Permit Rates/yr	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
RPP Spaces	593	1047	1047	1047	1047	1047	1047	1047	1047	1047	1047
Business Permit Cap	200	500	500	500	500	500	500	500	500	500	500
% Spaces for Businesses	34%	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
RPP Permits purchased	332	504	504	504	504	504	504	504	504	504	504
RPP Permit Revenue	$46,515.00	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560	$70,560
Business permits purchased	150	375	375	375	375	375	375	375	375	375	375
RPPBusiness Permit Revenue	$30,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Mid-Term Parking Spaces	0	836	836	836	836	836	836	836	836	836	836
Mid-Term Busness permits purchased	0	418	418	418	418	418	418	418	418	418	418
Mid-Term Business permit revenue	$0.00	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600	$83,600
Cost of 3rd party permit processing	$145	$264	$264	$264	$264	$264	$264	$264	$264	$264	$264

Signage Life	25
Vehicle Life	10
Permit days/month	20
Annual Capital Cost Inflator	*2%*
Salary & Benefits Inflator	*5.00%*
Meter Rate Inflator	0.0%
Parking Spaces Deflator	2.5%
Revenue Hours/day	*8*
Restricted Area revenue Hours/day	*7*
Revenue Days/Year	249
Year 1 Adjustment Period	*61%*
Avg. Daily Occupancy	*68%*
Price Elasticity Adjustment phase 1	*0.00%*
Price Elasticity Adjustment phase 2	*0.00%*
RPP Permit Demand	*75%*
RPP Permit % 2nd permit	*20%*
Mid Term Business Permit percentage	*50%*
Working days per Permit Holder/Month	*20*
Working weeks per year	*50*

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Sign Costs	$ 120	$ 124	$ 127	$ 131	$ 135	$ 139	$ 143	$ 148	$ 152	$ 157	$ 161	$ 166
cost/ vehicle	$ 36,000	$ 36,720	$ 37,454	$ 38,203	$ 38,968	$ 39,747	$ 40,542	$ 41,353	$ 42,180	$ 43,023	$ 43,884	$ 44,761
cost/PDA	$ 1,500	$ 1,530	$ 1,561	$ 1,592	$ 1,624	$ 1,656	$ 1,689	$ 1,723	$ 1,757	$ 1,793	$ 1,828	$ 1,865
Enforcement Sofware cost per enforcer per month	$ 99	$ 101	$ 103	$ 105	$ 107	$ 109	$ 111	$ 114	$ 116	$ 118	$ 121	$ 123
Labor Cost Phase 1	$ 148,738	$ 156,174.52	$ 163,983	$ 172,182	$ 180,792	$ 189,831	$ 199,323	$ 209,289	$ 219,753	$ 230,741	$ 242,278	$ 254,392
Labor Cost Phase 2	$ 238,125	$ 250,031.46	$ 262,533	$ 275,660	$ 289,443	$ 303,915	$ 319,111	$ 335,066	$ 351,819	$ 369,410	$ 387,881	$ 407,275
Labor Cost 3rd year of phase 2 +	$ 231,927	$ 243,523.37	$ 255,700	$ 268,485	$ 281,909	$ 296,004	$ 310,804	$ 326,345	$ 342,662	$ 359,795	$ 377,785	$ 396,674
Maintenance & Opera	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Total Capital Cost	
Phase 1	Phase 2
$24,139	$24,327