Emeryville Parking Management Plan DRAFT Final Report

Prepared for the City of Emeryville

June 29, 2018



Contents

Executive Summary	
Parking Data Analysis	2
Parking Data Analysis Parking Management Plan	3
Chapter 1. Parking Data Analysis	
Study AreaParking Inventory	7
Parking ()ccupancy	
Parking User Type	15
Duration and Turnover	16
Citywide Vehicle Ownership	17
Chapter 2. Parking Management Program	20
Parking Designation Summary	
Phasing	
Residential Parking Permits	
Business Parking Permits	
Metered Parking	
Hollis Street Bus Corridor	
Parking Management Plan Costs and Revenues	

List of Appendices

Appendix A. Inventory and Occupancy by Neighborhood

Appendix B. Occupancy Maps

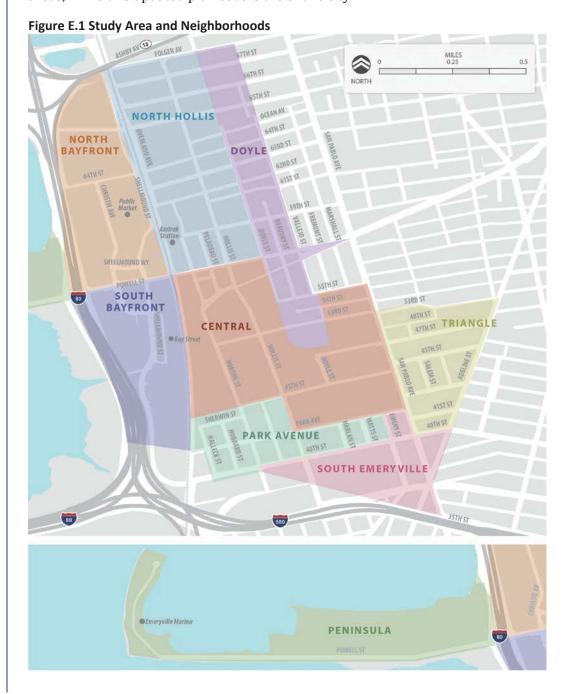
Appendix C. Residential and Business Permit Programs in Comparable Cities

Appendix D. Cost and Revenue Calculations



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 Chapter 1 of this report). 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.



Parking Data Analysis

There were 4,563 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, with no parking fees or time limits. Off-street facilities studied are generally privately owned and operated, but offer free or paid parking that is open to the public. The Watergate residential/office tower complex and structured 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 offstreet 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, many 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 \$66 per year for the first
 vehicle, \$132 per year for the second vehicle, and \$200 per year for the third vehicle.
 Businesses may also purchase permits in these areas
- Business permits are available for employees in certain mid-term and residential permit areas, priced between \$100 and \$500 per year based on the size of the business and number of permits requested

Figure E.2 on the next page shows the plan and the specific parking space designation for the full implementation of the parking program.

It is important to note that the fees recommended for the residential and business permits are estimates developed for the purposes of this plan and the related financial analysis. The actual fees will be set by resolution after the City Council has enacted the enabling ordinances to establish both permit programs. This process will include confirmation that the rates set comply with the requirements of California Proposition 26, which requires permit fees to be cost neutral.







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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. Additional parking that was not included in the data collection, but is controlled by the city and included in the parking management recommendations, includes 259 uncharacterized on-street spaces as follows:

- Beneath the Powell Street overpass at Horton Street 58 spaces
- East Side of La Coste Street 44 spaces
- Cross streets 100 feet east of Adeline Street and San Pablo Avenue north of 36th Street and south of 47th Street – 94 spaces
- Emery Street, Peralta Street, Watts Street, and W MacArthur Boulevard in South Emeryville
 63 spaces



Figure 1.1: Emeryville Parking Study Data Collection Areas

Parking Inventory

Table 1.1 shows the data collection 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-St	reet	On-S	treet
	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%
Uncharacterized ¹	0	0	259	6%
Other	87	3%	47	1%
Total	2,516	100%	4,563	100%

¹ Spaces not included in the data collection but included in the parking management plan.

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	Unchar- acterized¹	Other
Central	624	75%	4%	2%	0%	4%	10%	0%	1%	0%	4%
Doyle	757	95%	2%	0%	1%	1%	1%	0%	0%	0%	0%
North Bayfront	275	79%	0%	1%	0%	1%	0%	0%	0%	16%	3%
North Hollis	1201	70%	13%	2%	0%	2%	3%	3%	1%	5%	0%
Park Avenue	726	92%	3%	0%	1%	3%	0%	0%	0%	0%	1%
Peninsula	107	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
South Emeryville	180	34%	17%	4%	1%	0%	0%	0%	1%	42%	0%
Triangle	703	81%	1%	0%	1%	0%	2%	0%	1%	13%	1%
Citywide	4563	80%	6%	1%	<1%	2%	3%	1%	1%	6%	1%

¹ Spaces not included in the data collection but included in the parking management plan.

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 A*.

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: Observed Hourly Parking Occupancy

	# 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 B*.



ASHBY AV 13 FOLGER AV 67TH ST 66TH ST 65TH ST Legend OCEAN AV Occupancy by Block and Facility 64TH ST Less than 50% 63RD ST 50% to 70% 70% to 85% 62ND ST 85% to 95% 64TH ST 61ST ST 95% or more MILES 0.25 SHELLMOUND WY POWELL ST SSTH ST 54TH ST 53RD ST 53RD ST 48TH ST HELLMOUND ST 47TH ST Bay Street

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%

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

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.



 $^{^{2}}$ 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.

Figure 1.4: 10 AM Occupancy Comparison 2010 - 2017

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2017 Occupancy - 10 AM Peak





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

	4 AM	10 AM	3 PM	Assumed User Type
				Resident
Pattern				Resident
Patt				Resident
on				Resident
Jtilization				Employee/Long-Term Visitor
) Ctili				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 **Figure 1.5** 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.



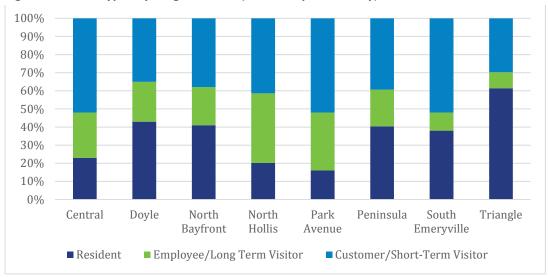


Figure 1.5: User Types by Neighborhood (on-street parkers only)

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 overestimation 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

Citywide Vehicle Ownership

Vehicle ownership data was also collected from the Census to understand how many vehicles households will need to park in Emeryville. **Figure 1.6** shows average household vehicle ownership for Emeryville and other geographies. Emeryville has lower average per household



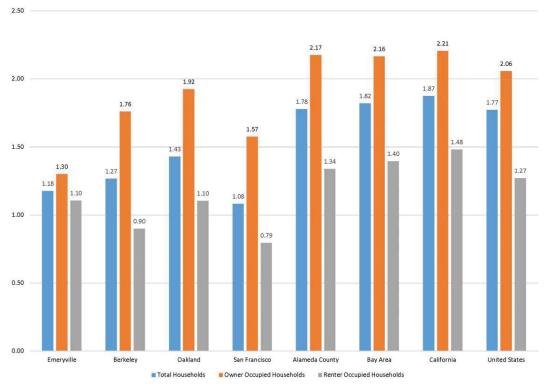


Figure 1.6: Emeryville vehicle ownership compared to other geographies

Source: US Census American Community Survey

vehicle ownership than Oakland, Berkeley, Alameda County, the Bay Area, and the state of California. Emeryville also has less of a difference in vehicle ownership rates when comparing renters and homeowners than any other geography considered.

Figure 1.7 shows vehicle ownership for each of the Census tracts within Emeryville, with the approximate neighborhood identified. North Hollis has the highest vehicle ownership rate whereas South and East Emeryville has the lowest. This pattern is similar for home owners and renters.



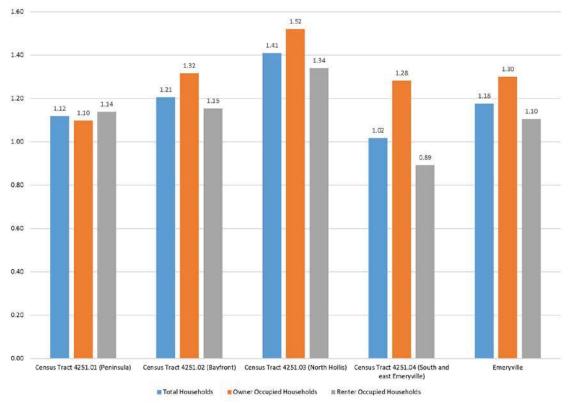


Figure 1.7: Vehicle ownership by Emeryville Neighborhood

Source: US Census American Community Survey



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.

All recommendations in this report are intended to set out the initial pricing, block designations, and permit structure. The program will be reviewed at regular intervals after the plan is implemented, and prices or treatments may be updated to ensure program goals are being met.

Parking Designation Summary

This plan recommends that most on-street parking in the City 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. The block-by-block designations for full implementation of the plan are mapped in **Figure 2.1**. Detailed recommendations for phasing, pricing, and implementing permits and meters are described in the following sections. The five parking designations are:

- Residential Permit Areas: To expand the city's Residential Permit Parking (RPP) program, this plan designates most residential streets in the city as RPP parking. This designation is intended for residential areas and mixed-use areas with significant residential uses. 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. Permits would be available to residents on RPP blocks, up to a maximum of three permits per dwelling unit, and to businesses within the RPP areas for employee use. There are four residential permit areas recommended: North Hollis/Doyle and Triangle/South Hollis in Phase 1, Park Avenue in Phase 2, and the Peninsula in Phase 3 (phasing of the plan is discussed in further detail in the following section). Businesses within the North Hollis/Doyle and Triangle permit areas will be allowed a limited number of permits for employees.
- Short Term Metered: In these locations, parking would be metered with an hourly parking rate. A variable pricing scheme is recommended 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

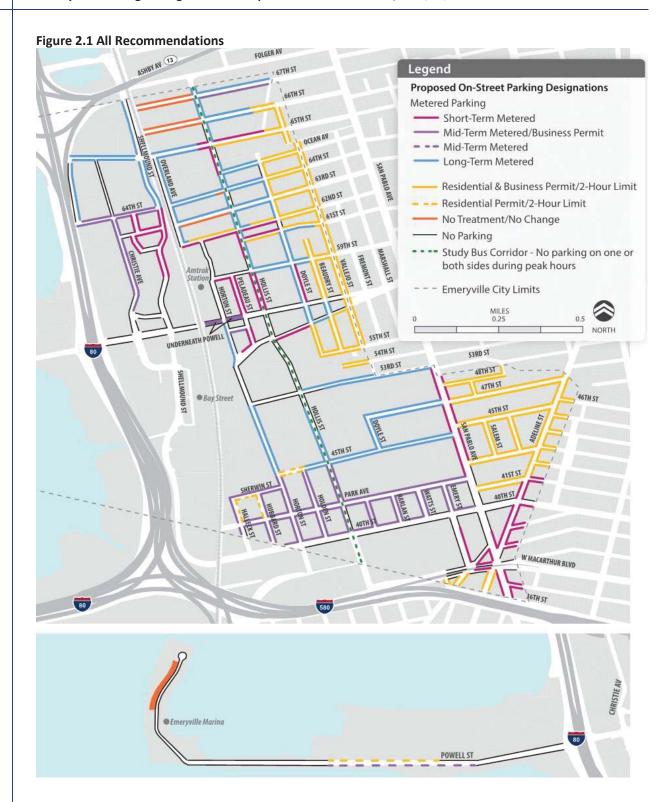
benefit from the increased parking availability created by higher vehicle turnover. Details on potential meter technology and recommended pricing are described in the "Parking Meters" section below. Clear signage and description of the pricing variation is integral to self-enforcement in areas expected 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. Most of the mid-term meter areas also include a business parking permit (BPP) overlay, which will allow businesses within specified areas to purchase annual permits that allow employees to park without having to pay at a mid-term meter. This designation is recommended in areas where some turnover is preferred, but the short-term rates are deemed inappropriate, and where there is significant need for on-street employee parking. This includes areas commercial areas in the Park Avenue, North Bayfront, and North Hollis areas where short-term parking is unlikely to be sufficient for visitors. Mid-term meters are also recommended for Powell Street on the Peninsula where visitors to the park, marina, or residential towers need mid-length parking. Details on potential meter technology and recommended pricing are described in the "Parking Meters" section below.
- 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 noparking 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 to be studied for Hollis Street during Phase 1.





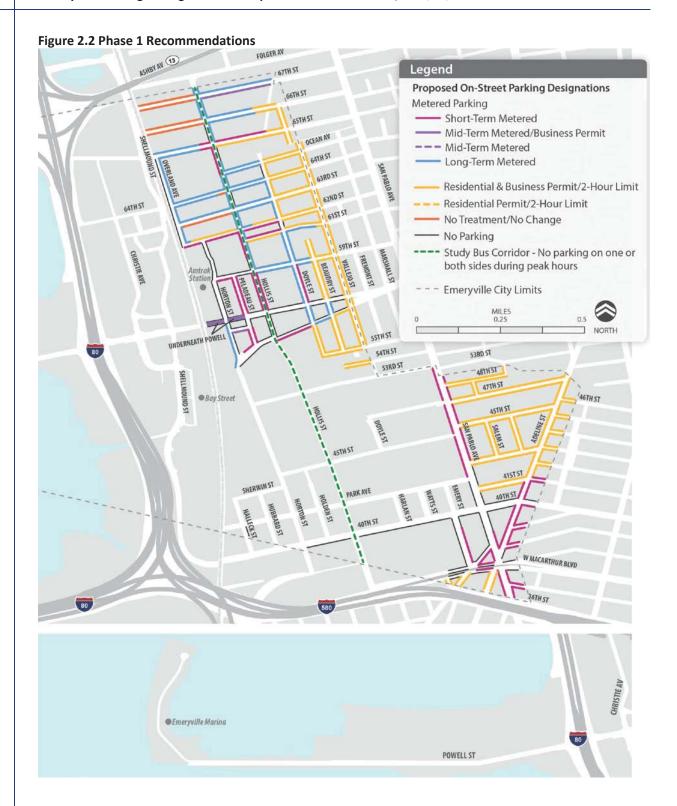


Phasing

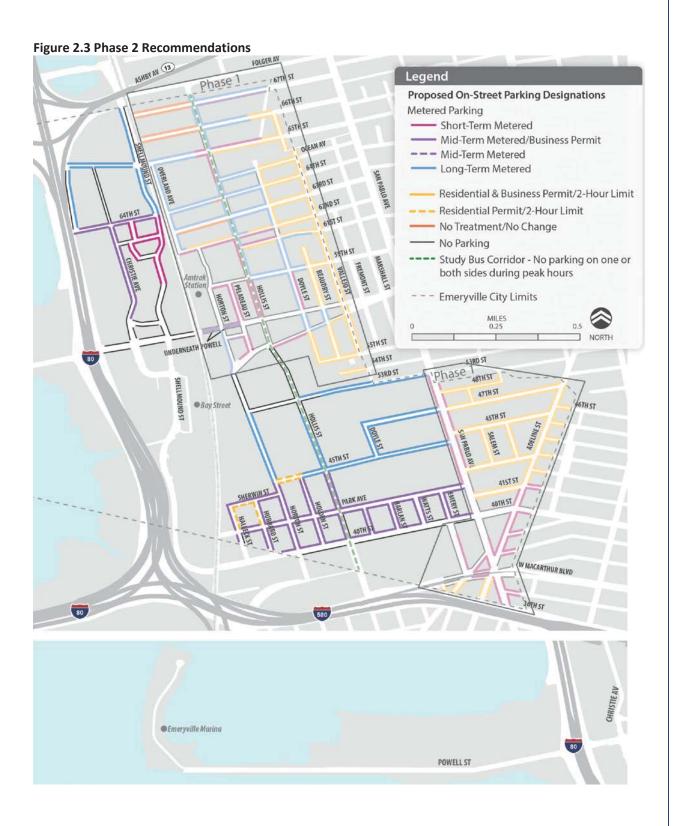
The parking recommendations include a phasing plan for rolling out meters, pricing, and permits throughout the city. Phasing of the improvements allows for a manageable approach to implementing the changes and then monitoring their performances so that refinements can be made as a part of the next phase.

- **Phase 1:** The first phase includes all designations within the North Hollis and Doyle neighborhoods, the Triangle area, and the South Emeryville/MacArthur Boulevard area. Recommendations in the North Hollis area are largely similar to those made in the 2010 parking study, with some alterations based on changes in land use and public feedback, and the addition of the Triangle/South Emeryville Areas. In Phase 1 the North Hollis/Doyle and Triangle RPP areas, and the 67th Street and Powell overpass BPP areas will be established. The proposed Hollis Street Bus Corridor will also be studied concurrently with Phase 1 implementation. Phase 1 would be implemented in early 2019. The areas included in phase 1 are shown in **Figure 2.2**.
- Phase 2: The second phase includes all parking designations in the remainder of the city, excluding the Peninsula. This includes the Park Avenue, Central Emeryville, and North Bayfront areas. In Phase 2 the Park Avenue RPP area and the Park Avenue and North Bayfront BPP areas will be established. Phase 2 could be implemented in 2020 or later, after evaluation of Phase 1, completion of the Highest and Best Use of Curb Technical Assistance Grant, and identification of funding. The areas included in phase 2 are shown in Figure 2.3.
- Phase 3: The third phase will implement designations for the Peninsula, which includes a mix of residential permits and Mid-Term Meters for Powell Street west of I-80. No treatment is currently recommended for the Marina lot, but time limits may be considered. In Phase 3, the Peninsula RPP area will be established. Phase 3 will be implemented after evaluation of both prior phases, completion of the Highest and Best Use of Curb Technical Assistance Grant, identification of funding, and completion of the sewer replacement project at Watergate, anticipated in 2023. The areas included in phase 3 are shown in Figure 2.4.

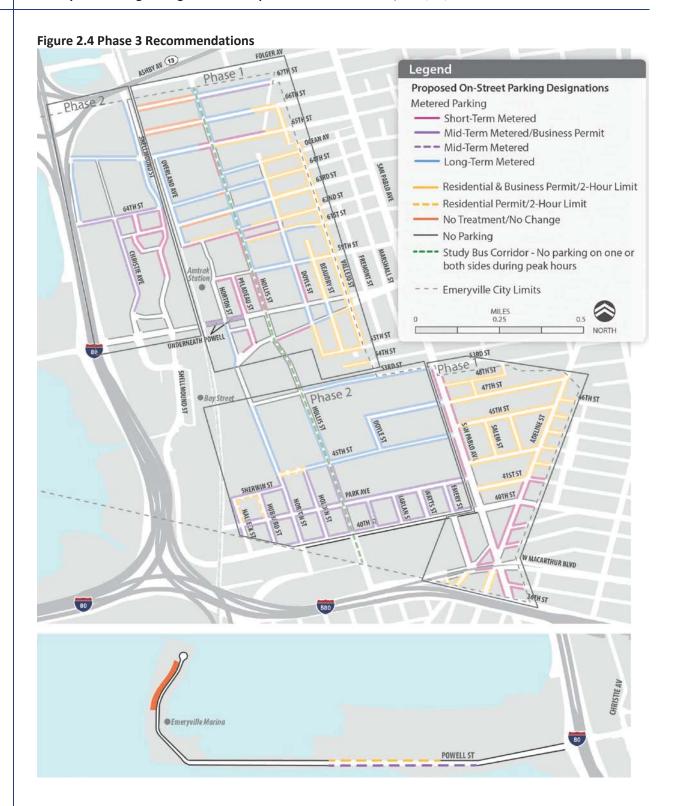














Residential Parking Permits

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 may purchase one visitor permit per year for \$150. Costs and details of RPP programs in nearby cities are detailed in *Appendix C*.

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 and Triangle RPP areas will be implemented. In the second phase of the plan, the Park Avenue RPP area will be implemented, and in Phase 3 the Peninsula RPP area will be implemented. The RPP areas are shown on the map in **Figure 2.5**.

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 to be consistent with nearby cities, and that a tiered pricing scheme be implemented with a higher price for additional permits after the first purchased by each household. Permits, which would be limited to 3 per housing unit, are recommended to be priced as follows:

- \$67 per year for the first permit
- \$132 per year for the second permit



\$200 per year for the third permit

A 50% discount will be offered for qualifying low-income households who are at or below 50% of the area median income. Permits will 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. Exceptions to the permit limit may be granted for circumstances relating to household size or lack of availability of off-street parking. The process for granting and appealing exceptions will be defined in the ordinances, regulations, and administrative instructions created to implement the parking program. If the demand for permits is high, it may be necessary in the future to limit the number of permits available to households with available off-street parking.

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. Single-day visitor permits would be available to residents at a recommended cost of \$5 per day. 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.

The proposed permit costs are compared with existing private residential parking costs in **Table 2.1** below. As the table shows, for two vehicles, the proposed RPP rates are lower than any existing lots that charge for parking. On average, private lots cost \$113 per month.

Table 2.1: Monthly Costs of Permits in Private Residential Lots

Location	Cost/vehicle/month	Second Vehicle	Total for 2 Vehicles
Icon	\$ -	\$ -	\$ -
Proposed RPP Rates	\$5.58	\$11.08	\$16.67
Bridgecourt	\$ -	\$75.00	\$75.00
Artistry unsecured lot	\$40.00	\$40.00	\$80.00
Avenue 64	\$50.00	\$50.00	\$100.00
Parc on Powell	\$50.00	\$75.00	\$125.00
Artistry secured lot	\$65.00	\$65.00	\$130.00
Bakery Lofts	\$100.00	\$50.00	\$150.00
Bay Street	\$75.00	\$75.00	\$150.00
Emme	\$75.00	\$75.00	\$150.00
3900 Adeline	\$125.00	\$125.00	\$250.00
Average	\$53.48	\$65.50	\$113.03



Business Parking Permits

Businesses located within the North Hollis/Doyle and Triangle permit areas as well as the Mid-Term metered areas with business permit overlays may purchase permits for use on these blocks. These eligibility area for these permit areas are described in **Table 2.2** below and shown on the map **Figure 2.5**.

The total number of permits allowed in each area is also summarized in **Table 2.2**. In residential areas, this cap is based on the number of spaces and number of residential units. There are 590 onstreet 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 residents are allowed up to three permits, some have off-street parking spaces available or do not own cars), 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 to 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 in the Triangle neighborhood.

In Mid-Term metered areas, the parking permit cap was determined based on the estimated revenue expected if the maximum number of permits were purchased and used on a daily basis. The revenue analysis showed that if all parking spaces in Mid-Term/BPP areas were used by permit holders rather than hourly meter users, these parking areas would lose money and need to be subsidized heavily by other metered areas. However, if only 75% of the spaces were used by permit holders, the net revenue loss at these spaces would be much lower, and it would be easier for the parking program overall to break even. Thus, the business permit cap is recommended to be 75% of the total Mid-Term metered spaces in each area.

Table 2.2

Permit Area	Business Eligibility Area	Permit Cap	Remaining Spaces (minus Res. & Bus. Permits)
RPP Area 1: North Hollis/Doyle	All businesses within the North Hollis District	200	60
RPP Area 2: Triangle/S. MacArthur	All businesses located in the Triangle or Reverse Triangle	100	20
BPP Area 1: 67 th Street	All businesses on 67 th or 66 th Streets east of Hollis Street and west of the Greenway.	36	12
BPP Area 2: North Bayfront	All businesses on Christie Avenue between Shellmound Way and 64 th Street or on 64 th Street between Shellmound Street and La Coste Street	85	28
BPP Area 3: Powell Overpass	All businesses located in the North Hollis District	50	17
BPP Area 4: Park Avenue	All Businesses in the Park Avenue District	460	152



idential Area 1/Business Permit Area 3 Legend **Permit Areas** Residential Permit Blocks Mid-Term Meter/Business Permit Blocks Residential & Business Permit Areas ---- RPP Business Permit Eligibility Area RPP Area 1 - North Hollis/Doyle (200 bus. permits) RPP Area 2 - Triangle/South MacArthur (100 bus. permits) RPP Area 3 - Park Avenue Business Area 2 RPP Area 4 - Peninsula **Business Permit Areas** ---- Business Permit Eligibility Area BPP 1 - 67th Street BPP 2 - North Bayfront BPP 3 - Powell Overpass BPP 4 - Park Avenue vell Overpass BPP B Residential Area 2 53RD ST 47TH ST Bay Street ASTH ST Residential Area 3 W MACARTHUR BLVD 80 ●Emeryville Marina Residential Area 4 POWELL ST

Figure 2.5: Residential and Business Permit Areas



To ensure that permits are affordable to small businesses and to prevent larger businesses from purchasing all permits available in a particular area, business permits are priced and capped based on the size of the business and the number of permits purchased. Business permits are priced and capped as follows, and summarized in **Table 2.3**:

- Businesses with 55 or fewer employees can purchase a total of 40 permits. The first 25 permits will be priced at \$100 each per year, and an additional 15 permits (up to 40 permits total) will be priced at \$200 each per year.
- Businesses with 56 to 100 employees can purchase a total of 60 permits. The first 25 permits will be priced at \$200 each per year, an additional 15 permits (up to 40 permits total) will be priced at \$300 each per year, and the final 20 permits (up to 60 permits total) will be priced at \$400 each per year.
- Businesses with more than 100 employees can purchase a total of 50 permits. All permits offered to these businesses will be priced at \$500 each per year.

Table 2.3 Summary of Tiered Pricing

Business Size (Number of Employees)	Total Permit Cap	Price per Permit per Year
1 to 55	40	1 st to 25 th : \$100 26 th to 40 th : \$200
56 to 100	60	1 st to 25 th : \$200 26 th to 40 th : \$300 41 st to 60 th : \$400
101 or more	50	1 st to 50 th : \$500

As with residential permits, exceptions to these limits and criteria may be applied by staff with an appeal process to the Public Works and Transportation Committee. This process will be defined in the ordinances, regulations and administrative instructions that will be created to implement the parking program.



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 longterm 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 Policy 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.
 - o 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.
 - o 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 equates to \$84 per month if a drivers parks for 8 hours a day, 21 weekdays a month. This rate is lower than most public parking garages in Emeryville, which range from \$252 to \$966 per month and average \$435 per month (detailed in **Table 2.4**).

Table 2.4: Garage/Fee Lots Rates in Emeryville

Location	Cost/vehicle/month	Spaces
GlasHaus (65th and Hollis)	\$0	50
Proposed Long Term Meters	\$84	NA
Marchant Garage	\$252	535
Towers Lot	\$315	1,816
Bay Street	\$336	1,939
5858 Horton	\$483	180
Hollis Business Center	\$504	627
Proposed Mid Term Meters	\$588	NA
EmeryStation West	\$630	125
Terraces Garage	\$630	800
Heritage Sq. Garage, 6100 Horton	NA	675
Proposed Short Term Meters	\$966	NA
Average	\$435	750
Total	NA	6,747

Note: Assumes drivers pay posted prices for 8 hours per day and 21 days per month. Lots may have lower monthly rates which are not posted publicly.



Table 2.5 summarizes the three proposed pricing schedules 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 at least annually, and bi-annually as needed, particularly in the first year after changes are implemented.

Table 2.5: Recommended Initial On-Street Pricing

	\$/Hour										
Hour	1	2	3	4	5	6	7	8	\$/day	\$/week	\$/month
Short Term	\$2.00	\$2.00	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00	\$7.00	\$46.00	\$230.00	\$966.00
Mid Term	\$1.00	\$1.00	\$1.00	\$1.00	\$6.00	\$6.00	\$6.00	\$6.00	\$28.00	\$140.00	\$588.00
Long Term	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$4.00	\$20.0	\$84.00

Note: Assumes drivers pay posted prices for 8 hours per day and 21 days per month. Lots may have lower monthly rates which are not posted publicly.

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 as compared to a multi-space payment kiosk.
- 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 a space number or 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. The route is also under consideration for a new transbay service operated by AC Transit.

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 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 will be implemented in 2019, the second phase will be implemented in 2020, and the third phase will be implemented in 2023. 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 2.6**.

Table 2.6 Assumed Daily Average Occupancy Rates

	Short Term	Mid Term	Long Term	Citywide Average
Phase 1 spaces with 10% year-1 decrease	61%	75%	77%	64%
Phase 2 & 3 spaces (citywide)	61%	82%	82%	76%

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 2.7** 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 inhouse 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 D*. Labor costs are assumed to escalate at a rate of 5% per year.

Table 2.7 Labor Cost Summary

	Dhara 4 Na	only the life of Table and	DI		
		orth Hollis & Triangle		es 2 & 3 - Citywide	
Labor Category	Total FTE	Annual Cost	Total FTE	Annual Cost	
Operations and Maintenance (Conti	act)				
Maintenance Contractor	-	\$100,000.00	-	\$200,000.00	
Collections Contractor	-	\$100,000.00	-	\$200,000.00	
Administration and Enforcement	Administration and Enforcement				
Finance	0.125	\$25,560	0.175	\$34,330	
Public Works	0.25	\$64,230	0.15	\$41,030	
Police	4	\$882,050	5	\$1,060,170	
Policy and Planning*	0.3	\$74,010	0.15	\$37,010	
Total Labor and Operations		\$1,245,850		\$1,572,540	

^{*}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 2,583 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 \$1.49 million (approximately \$1.19 million for North Hollis and \$0.3 million for the Triangle), for phase 2 are estimated to be \$1.55 million, and are \$77,000 for phase 3. The capital costs are detailed in **Table 2.8**. 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 2.8 Capital Cost Details

	Phas	e 1	Phase 2		Phase	e 3
	Number of new Units	Total Cost	Number of new Units	Total Cost	Number of new Units	Total Cost
	North Hollis: 943	\$962,000				
Meters	Triangle: 221	\$225,000	1,354	\$1,409,000	65	\$72,000
LPR Vehicle	3	\$110,000	4	\$37,000	-	
Handheld Units	3	\$4,600	4	\$1,600	-	
Signs	North Hollis: 217 Triangle: 98	\$27,000 \$12,000	194	\$24,000	9	\$1,200
Software setup cost (one-time)	-	\$75,000	-	-	-	-
Subtotal		\$1,416,000		\$1,472,000		\$73,000
Contingency (5%)		\$70,000		\$74,000		\$4,000
Total		\$1,486,000		\$1,546,000		\$77,000

^{*}Unit costs differ between phases due to inflation.

The estimated revenues and costs are summarized in **Table 2.9**. During the first phase in 2019, costs are slightly higher than revenues, but for the following six years, 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. For example, it is not well understood how the eventuality of autonomous, self-driving vehicles will impact auto ownership and parking demand in the future.



Table 2.9 Parking Management Plan 10-year Cost and Revenue Projection

	Phase 1		Phase 2					Phase 3			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Revenues											
Short term meters	\$775,000	\$896,000	\$874,000	\$852,000	\$830,000	\$810,000	\$789,000	\$770,000	\$750,000	\$732,000	\$713,000
Mid term meters	\$70,000	\$543,000	\$529,000	\$516,000	\$609,000	\$594,000	\$579,000	\$565,000	\$551,000	\$537,000	\$523,000
Long term meters	\$505,000	\$1,011,000	\$986,000	\$961,000	\$937,000	\$913,000	\$891,000	\$868,000	\$847,000	\$825,000	\$805,000
Permit income	\$177,000	\$178,000	\$176,000	\$173,000	\$174,000	\$171,000	\$169,000	\$166,000	\$164,000	\$162,000	\$159,000
Total Revenues	\$1,527,000	\$2,628,000	\$2,565,000	\$2,502,000	\$2,550,000	\$2,488,000	\$2,428,000	\$2,369,000	\$2,312,000	\$2,256,000	\$2,200,000
Expenses											
Capital costs	\$132,000	\$278,000	\$278,000	\$278,000	\$285,000	\$285,000	\$285,000	\$285,000	\$286,000	\$286,000	\$286,000
Labor	\$1,098,000	\$1,293,000 \$1,357,000	\$1,357,000	\$1,380,000	\$1,449,000	\$1,522,000	\$1,598,000	\$1,678,000	\$1,762,000	\$1,850,000	\$1,942,000
Contractors and Software	\$237,000	\$478,000	\$478,000	\$478,000	\$481,000	\$481,000	\$481,000	\$482,000	\$482,000	\$483,000	\$483,000
Total Expenses	\$1,467,000	\$2,049,000 \$2,113,000	\$2,113,000	\$2,136,000	\$2,215,000	\$2,288,000	\$2,364,000	\$2,445,000	\$2,530,000	\$2,619,000	\$2,711,000
Total Expenses + Contingency	\$1,540,350	\$2,151,450 \$2,218,650	\$2,218,650	\$2,242,800	\$2,325,750	\$2,402,400	\$2,482,200	\$2,482,200 \$2,567,250 \$2,656,500	\$2,656,500	\$2,749,950	\$2,846,550
Annual Net Income	(\$13,350)	\$476,550	\$346,350	\$259,200	\$224,250	\$85,600	(\$54,200)	(\$54,200) (\$198,250) (\$344,500)	(\$344,500)	(\$493,950)	(\$646,550)
Internal borrowing from other finds	¢12 250	(612 250)									
Balance	0\$		\$809,550	\$1,068,750		\$1,293,000 \$1,378,600 \$1,324,400 \$1,126,150	\$1,324,400	\$1,126,150	\$781,650	\$287,700	(\$358,850)



Appendix A.

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

N	Iorth Bayfron	it
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

Sc	outh Emeryville	2		
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 Stre	eet							
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-Str	eet							
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-St	reet							
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-St	reet							
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-St	reet		
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-St	reet		
Unregulated	107	64%	97%	86%	80%

Table C.14: South Emeryville On-Street Occupancy

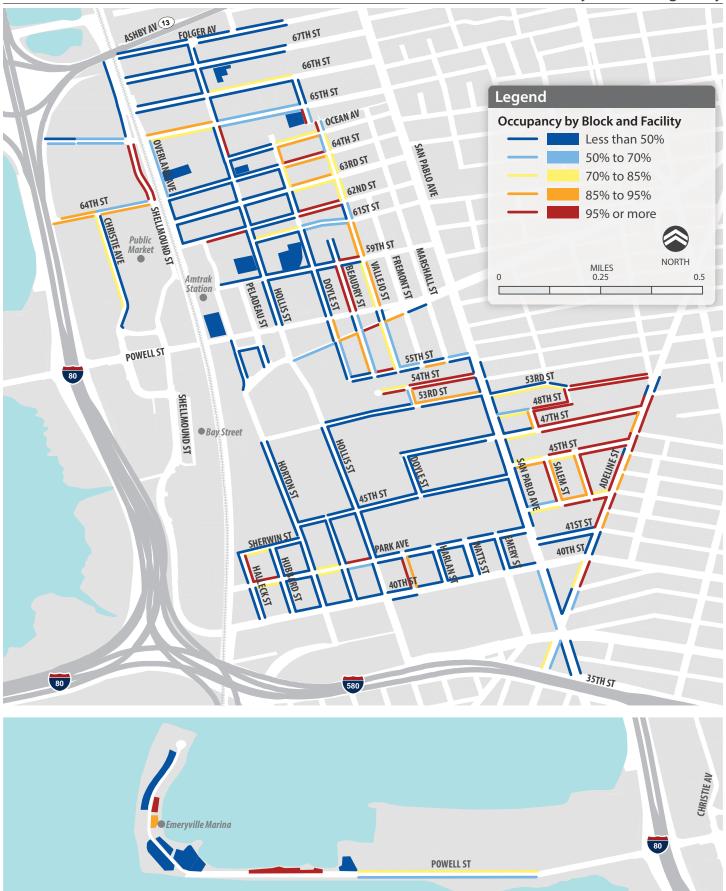
	# of Spaces	4 AM	10 AM	3 PM
Reg	89	38%	66%	63%
2h	31	71%	74%	77%
1h	8	50%	75%	88%
Short Term	3	67%	100%	33%
ADA	2	0%	50%	0%
Total	105	53%	65%	66%

Table C.15: Triangle On-Street Occupancy

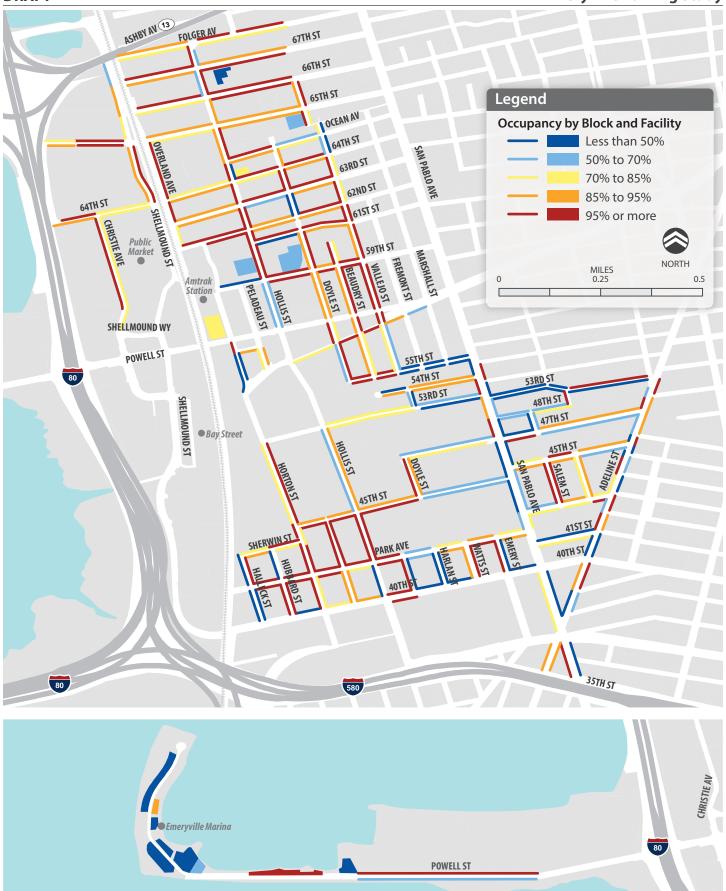
	# of Spaces	4 AM	10 AM	3 PM
Reg	568	84%	72%	68%
2h	6	33%	33%	100%
Short Term	4	25%	25%	75%
L	2	0%	100%	50%
Р	14	29%	79%	64%
ADA	9	44%	33%	44%
Other	8	50%	38%	38%
Total	611	81%	71%	67%

Appendix B.

Occupancy Maps

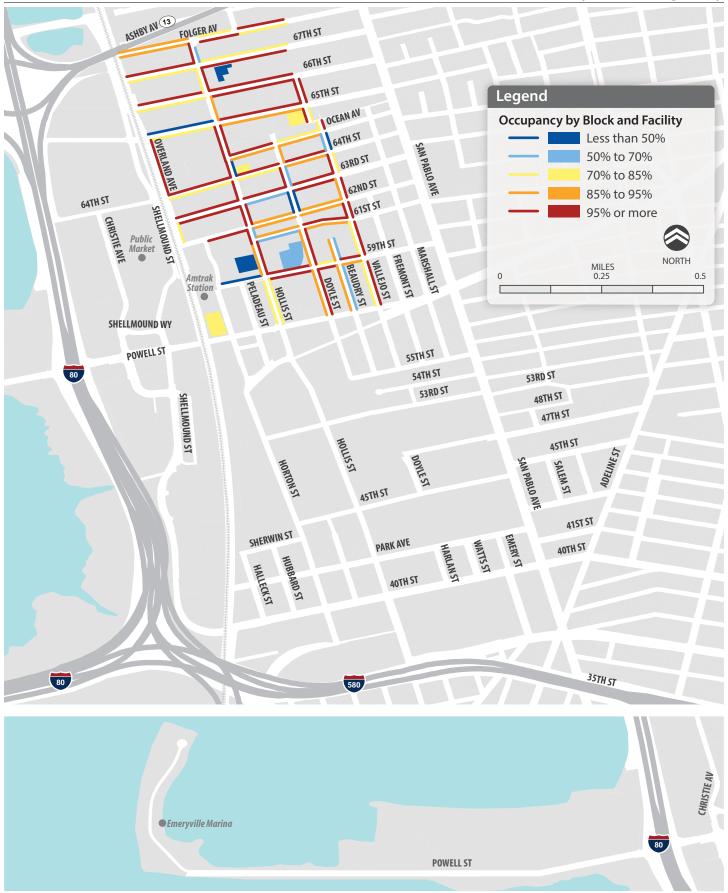




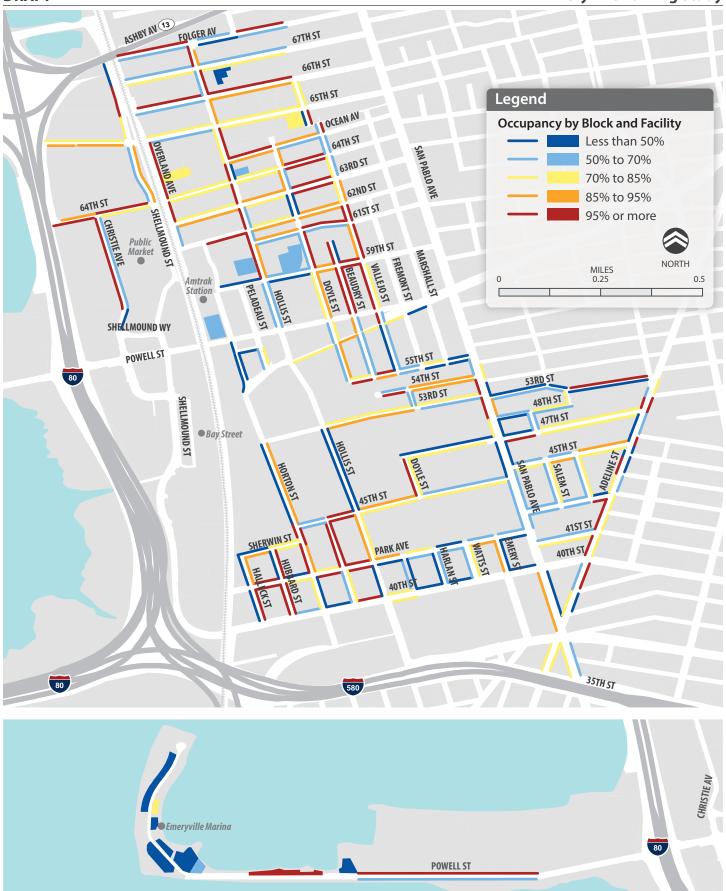




Emeryville Parking Study













Appendix C.

Residential and Business Permit Programs in Comparable Cities

				Walnut			
	Emeryville	Berkeley	Oakland	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	
		\$26	\$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	2	Varies	\$5.33
Renewal	Annual	Daily	Daily	Daily	Daily	2-years	
2-Week Permits		\$29	\$25		\$45.00		\$32.83
			\$15	\$15 for Annual		Single Use-Free	
Business Permit							
Cost	\$58.00	\$154.00	\$96.00	\$15.00	\$128.00	\$35.00	\$81.00
			2- stickers, 1-			As many as on Tax	
Мах	1	1	hanger	3	4 Ce	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				\$6\$	\$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			×	×			
Mopeds				×	×		
Schools	×				×		
Violation Fee		<\$500	\$83		\$76		
Total Numeber of Permits		14 zones	4500	95	95,000 *annually		

Oakland

Employees of business establishments within RPP area may obtain one permit for each vehicle they own, subject to the following criteria for eligibility:

- Inadequate off-street parking and no financially feasible way of creating off-street parking
- Total number issued less than 60% of employees present on a weekday or total # of unrestricted parking spaces along the building frontage, whichever is lower.
- Initial sale limited if total number of permits sold would exceed number of spaces
- Distribution done through a designated representative of business

Public Works can also designate commercial streets that would be impacted by establishment of RPP on adjacent street. Residents or employees on these designated blocks would then be allowed to participate in that program, if their building does not provide off-street parking.

Berkeley

Merchants/business owners in select areas (some specific blockfaces in RPP areas or in commercial zoning districts) can purchase 1 permit per business. Community facilities (church, school, or senior center) can purchase permits for employees if:

- there is inadequate off-street parking and no financially feasible way of providing
- no nearby off-street parking available for lease
- total number of permits does not exceed 60% of enterprise's employees (some exceptions for schools)
- distribution done through designated representative of enterprise.

San Iosé

In certain RPP zones, businesses may request parking permits dependent on availability of off-site parking and visitor parking needs (I didn't find additional details on how parking permits are dependents on needs and availability). Max number of permits is number of employees on the business tax certificate or employee directory, whichever is lesser, though the exact number approved may be determined by the DOT director.

Palo Alto

Downtown RPP Program: Employees can purchase one annual decal or employers can purchase a transferrable permit. Downtown divided into 10 zones, total number of permits in each zone is limited, but any business/employee in downtown can purchase from any zone, so if one zone sells out quicker, they can get a permit from farther away.

- Must upload proof of employment location, and employer must be registered with Palo Alto Business Registry.
- Individuals can only purchase one employee permit, but there doesn't seem to be a perbusiness limit on transferrable hangtags

Washington, DC

DC has proposed (but not yet enacted, the bill may have stalled due to public opposition) a special parking permit class for small businesses, defined as businesses with one location, 10 or fewer employees, and no parking which it controls. Only small business which abut blocks already designated as RPP would be eligible. Excludes home based businesses.

Appendix D.

Cost and Revenue Calculations



Emeryville Parking Revenue Analysis DRAFT Summary - For Discussion 6/28/2018

,	Phase 1		Phase 2					Phase 3			
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Revenues											
Short term meter income	\$775,000	\$896,000	\$874,000	\$852,000	\$830,000	\$810,000	\$789,000	\$770,000	\$750,000	\$732,000	\$713,000
Mid term meter income	\$70,000	\$543,000	\$529,000	\$516,000	\$609,000	\$594,000	\$579,000	\$565,000	\$551,000	\$537,000	\$523,000
Long term meter income	\$505,000	\$1,011,000	\$986,000	\$961,000	\$937,000	\$913,000	\$891,000	\$868,000	\$847,000	\$825,000	\$805,000
Permit income	\$177,000	\$178,000	\$176,000	\$173,000	\$174,000	\$171,000	\$169,000	\$166,000	\$164,000	\$162,000	\$159,000
Total Revenues	s \$1,527,000	\$2,628,000	\$2,565,000	\$2,502,000	\$2,550,000	\$2,488,000	\$2,428,000	\$2,369,000	\$2,312,000	\$2,256,000	\$2,200,000
Expenses											
Capital costs	s \$132,000	\$278,000	\$278,000	\$278,000	\$285,000	\$285,000	\$285,000	\$285,000	\$286,000	\$286,000	\$286,000
Labor	r \$1,098,000	\$1,293,000	\$1,357,000	\$1,380,000	\$1,449,000	\$1,522,000	\$1,598,000	\$1,678,000	\$1,762,000	\$1,850,000	\$1,942,000
Contractors and Software	\$237,000	\$478,000	\$478,000	\$478,000	\$481,000	\$481,000	\$481,000	\$482,000	\$482,000	\$483,000	\$483,000
Total Expenses	s \$1,467,000	\$2,049,000	\$2,113,000	\$2,136,000		\$2,288,000	\$2,364,000	\$2,215,000 \$2,288,000 \$2,364,000 \$2,445,000 \$2,530,000 \$2,619,000	\$2,530,000		\$2,711,000
Total Expenses + Contingency \$1,540,350	/ \$1,540,350	\$2,151,450	\$2,218,650	\$2,242,800		\$2,402,400	\$2,482,200	\$2,567,250	\$2,656,500	\$2,325,750 \$2,402,400 \$2,482,200 \$2,567,250 \$2,656,500 \$2,749,950 \$2,846,550	\$2,846,550
Net Income	(\$13,350)	\$476,550	\$346,350	\$259,200	\$224,250	\$85,600	(\$54,200)	(\$198,250)	(\$344,500)	(\$54,200) (\$198,250) (\$344,500) (\$493,950) (\$646,550)	(\$646,550)
Payments to/from other funds	\$13,350	(\$13,350)									
Balance	0\$	\$463,200	\$809,550	\$1,068,750	\$1,293,000	\$1,378,600	\$1,324,400	\$1,126,150	\$781,650	\$287,700	(\$358,850)

Total # meters Meters LPR Handheld # signs \$1,191,000 \$943 \$961,860 \$110,160 \$4,590 \$217 \$2 \$295,000 \$221 \$225,420 \$37,454 \$1,561 \$194 \$2 \$1,546,000 \$1,354 \$1,408,702 \$37,454 \$1,561 \$194 \$2											
/) Total # meters Meters LPR Handheld # signs Phase 1A - N Hollis \$1,191,000 \$943 \$961,860 \$110,160 \$4,590 \$217 \$2 Phase 1B - Triangle \$295,000 \$221 \$225,420 \$37,454 \$1,546,000 \$1,354 \$1,408,702 \$37,454 \$1,561 \$194 \$2	Total Capital Upfront costs (incl.								Software		
\$1,191,000 \$943 \$961,860 \$110,160 \$4,590 \$217 \$ \$295,000 \$221 \$225,420 \$37,454 \$1,561 \$1,561 \$194 \$	_	Total	# meters	Meters	LPR	Handheld	# signs	Signs	setup	Subtotal	Subtotal Contingency
\$295,000 \$221 \$225,420 \$98 \$ \$1,546,000 \$1,354 \$1,408,702 \$37,454 \$1,561 \$194 \$	Phase 1A - N Hollis \$1,191	91,000	\$943	\$961,860	\$110,160	\$4,590	\$217	\$26,500	\$75,000	\$1,178,110	\$1,237,015
\$1,546,000 \$1,354 \$1,408,702 \$37,454 \$1,561 \$194 \$		95,000	\$221	\$225,420			86\$	\$12,041		\$237,461	\$249,334
25 FC 25 25 CO CC 25	Phase 2 \$1,54	46,000	\$1,354	\$1,408,702	\$37,454	\$1,561	\$194	\$24,221		\$1,471,937	\$1,545,534
6¢ - CO,'T,'¢ CO¢ - CO','/¢	Phase 3 \$77	\$77,000	\$9\$	\$71,765	1		6\$	\$1,192		\$72,958	\$76,606

Assumptions:

- 1. Meter Technology is Dual Head Meters
- 2. Phase 1 assumed to be implemented in 2019, Phase 2 assumed to be implemented in 2020, and Phase 3 in 2023
- 3. All parkers assumed to stay within the recommended time limit. Demand shifted away from short term spaces and to long term spaces
- 4. Capital Costs assumed to inflate 2% per year, and are annualized assuming a 10-year equipment lifespan (complete replacement after 10 years)
- 5. Labor costs assumed to inflate 5% per year
- 6. Meter rates assumed to be constant, but may be subject to adjustment
- 7. Number of parking spaces assumed to decrease 2.5% per year
- 8. Mid-term area business permits assumed to cost the same as RPP business permits and be purchased for 75% of Mid-term spaces
- 9. Equipment and software costs collected from companies between 2016 and 2018 and are estimates for an average implementation
- 10. Parking citation revenue and court costs not included

Emeryville Parking Inputs 6/28/2018

Low

Number	Number of Spaces		
Туре	Phase 1	Phase 2	Phase 3
Short Torm Total	45.4	002	002
Short Term - Total	424	538	238
Lane	0	0	0
Mid Term - No Permit		C	צט
Mid Term - BPP	115	840	840
Long Term - Total	595	1140	1140
ong Term - Bus ane	0	0	0
Residential Permit	1245	1293	1335
Business Permit Cap - RPP Areas	300	300	300
Annual decrease in			
number of spaces	0.025		

Mobile Payment - 3rd Party Setup Mobile Payment - Per Transaction

Signs Permit management and processing - per

> 2583 2518 1164

0.3

0.3

transaction

Enforcement software

& integration - per

66

66

month per enforcer Integration software

71.49666

setup cost per space integration software annual cost (high

end)

Number of multi- space meters	Phase 1	Phase 2	Phase 3
Short Term	69	88	88
Mid Term	6	108	117
Long Term	22	145	145

Years

Equipment Lifespans

Vehicles & Meters

350

341

153

Signs

l	
I	High
	8500
	1000
	36000
1500	1500
	1500
	0.35
┚	9
88	120
l	

Enforcement Vehicle

LPR

Enforcement PDA

Single Space Meters

Multi-Space Meters Technology Costs

50

20

Parking Occupancy			
Assumptions	Short Term Mid Term	Mid Term	Long Term
Year 1 Adjustment			
Period Occupancy			
(10% dib)	61%	75%	77%
Avg. Daily			
Occupancy Phase 1	68%	83%	86%
Avg. Daily			
Occupancy Phase 2	61%	82%	82%
Percent of spaces			
for business permits	%0	75%	%0
significance paitaine most acidadamente con a	o paitoivo m	occitiono	0:0:10

0.05

Contingency

20.85816

Base occupancies from existing conditions analysis.

,														
					Total ETE	Total ETE	Total FTE							
					Phase 1	Phase 2 & 3	(end FDH	Short-Term	Mid-Term	Long-Term		Short-Term	Mid-Term	Long-Term
					(North Hollis)	(Citywide)	labor)	Meters	Meters	Meters	RPP Permit	Meters	Meters	Meters
Labor	Annual Salary	Benefits	Overhead	Total				454	115	595	1245	538	902	1140
O&M - Contract														
Maintenance Contractor				\$200,000.00	0.5	1	. 1	0.20	0.05	0.26		0.21	0.35	0.44
Collections Contractor				\$200,000.00	0.5	1	. 1	0.20	0.05	0.26		0.21	0.35	0.44
Annual Subtotal					\$ 200,000	\$ 400,000	\$ 400,000	\$ 78,007	\$ 19,759	\$ 102,234	- \$	\$ 83,314	\$ 140,147	\$ 176,539
Administration & Enforcement	ant													
Finanace					0.125	0.175	0.175	\$ 25,560.84				\$34,330.02		
Finance Director	\$182,967.00	\$37,280.00	\$100,652.88	\$320,899.88	0.025	0.025	0.025	0.01	00:0	0.01	0.01	0.01	0.01	0.01
Finance/Accounting Staff	\$81,768.00	\$38,605.00	\$55,010.46	\$175,383.46	0.1	0.15	0.15	0.03	00.00	0.02	0.04	0.04	0.03	0.04
Public Works					0.25	0.15	0.15	\$ 64,228.49				\$41,034.95		
PW Staff	\$118,326.00	\$40,861.00	\$72,748.46	\$231,935.46	0.2	0.1	. 0.1	90.0	0.01	0.04	0.09	0.02	0.02	0.03
PW Deputy Manager	\$196,991.00	\$47,915.00	\$111,922.04	\$356,828.04	90.0	90.0	90.02	0.02	00.00	0.01	0.02	0.01	0.01	0.01
Police					4	5	5	\$ 882,047.40				\$1,060,165.65		
/Supervisor (sworn officer)	\$156,324.00	\$82,312.00	\$109,056.65	\$347,692.65	1	1	. 1	0.32	0.04	0.21	0.43	0.24	0.21	0.26
Staff/PST	\$82,572.00	\$39,678.00	\$55,868.25	\$178,118.25	3	4	1	0.95	0.12	0.62	1.30	0.98	0.82	1.03
Policy and Planning					0.3	0.15	0	\$ 74,010.06				\$37,005.03		
EDH Manager	\$149,254.00	\$46,520.00	\$89,468.72	\$285,242.72	0.1	90'0		0.03	00.00	0.02	0.04	0.01	0.01	0.01
EDH Staff	\$112,692.00	\$43,402.00	\$71,334.96	\$227,428.96	0.2	1.0		90.0	0.01	0.04	0.09	0.02	0.02	0.03
Annual Subtotal					\$ 1,045,847	\$ 1,172,536	\$ 1,135,531	\$ 331,690	\$ 42,009	\$ 217,352	\$ 454,795	\$ 285,829	\$ 240,404	\$ 302,830
Total Labor - Annual					4 1 3 AE 0.77	2636431 3	¢ 1 E2E E21	400 G07	¢ 61 760	2010 E 5	\$ AEA 70E	CV1 05C 3	200 5	076 047 7

Snort-1erm wild-1erm Long-1erm Meters Meters Meters RPP Permits	538 905 1140 1293	4 2 2	24% 21% 26% 29%
RPP Permits	595 1245	2 2	21% 43%
Mid-Term Meters Meters	115	2	4% 2
Short-Term Meters Mid-Term Meters	454	ight 4	ltiplier 32%
	Meters	Enforcement weight	Enforcement multiplier

0.0500	Benefit Inflation
	Average Salary-
0.06	Inflation
	Annual Benefit
0.04	Inflation
	Annual Salary
CHOIR COMMISSION OF THE COMISSION OF THE COMMISSION OF THE COMMISS	

Projection of Cost and Revenue for On-Street Parking - Short-Term Meters	for On-Stree	t Parking - Sho	ort-Term Mete	S.							
Year	V19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing											
Hourly	\$774,863	\$895,920	\$873,522	\$851,684	\$830,392	\$809,632	\$789,391	\$769,657	\$750,415	\$731,655	\$713,363
Restricted	\$0	\$0	\$0	\$0	\$0	0¢	\$0	0\$	0¢	\$0	\$0
Total Rev.	\$774,863	\$895,920	\$873,522	\$851,684	\$830,392	\$809,632	\$789,391	\$769,657	\$750,415	\$731,655	\$713,363

210 0000	200 000 000	94 004 004	010000		245 200 19	64 444 700	200 000 000	64 204 003	64 324 000	2000	renues - Opt 3 Constant Rates
\$713,363	\$731,655	\$750,415	\$769,657	\$789,391	\$809,632	\$830,392	\$851,684	\$873,522	\$895,920	\$774,863	zi Rev.
\$0	\$0	0\$	\$0	\$0	0\$	\$0	\$0	\$0	\$0	\$0	tricted
\$713,363	\$731,655	\$750,415	\$769,657	\$789,391	\$809,632	\$830,392	\$851,684	\$873,522	\$895,920	\$774,863	urly
										teep Ramp Up	enues - Opt 2 Recommended Steep Ramp Up
\$713,363	\$731,655	\$750,415	\$769,657	\$789,391	\$809,632	\$830,392	\$851,684	\$873,522	\$895,920	\$774,863	al Rev.
\$0	0\$	S.	\$0	\$0	Ø÷	0\$	0\$	0\$	0\$	0\$	nicted
\$713,363	\$731,655	\$750,415	\$769,657	\$789,391	\$809,632	\$830,392	\$851,684	\$873,522	\$895,920	\$774,863	urly
											enues - Opt 1 Variable Pricing
Y29	Y28	Y27	X26	Y25	Y24	Y23	Y22	Y21	Y20	V19	ı
							ers	ort-Term Mete	et Parking - Sh	ue for On-Stre	jection of Cost and Revenue for On-Street Parking - Short-Term Meters

	V19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing	gı										
lourly	\$774,863	\$895,920	\$873,522	\$851,684	\$830,392	\$809,632	\$789,391	\$769,657	\$750,415	\$731,655	\$713,363
testricted	\$0	\$0	\$0	0\$	\$0	0\$	\$0	\$0	O\$	\$0	\$0
Total Rev.	\$774,863	\$895,920	\$873,522	\$851,684	\$830,392	\$809,632	\$789,391	\$769,657	\$750,415	\$731,655	\$713,363
Revenues - Opt 2 Recommended Steep Ramp Up	d Steep Ramp Up										
fourly	\$774,863	\$895,920	\$873,522	\$851,684	\$830,392	\$809,632	\$789,391	\$769,657	\$750,415	\$731,655	\$713,363
estricted	\$0	80	80	\$0	\$0	8	\$0	\$0	OS	\$0	\$0
Total Rev.	\$774,863	\$895,920	\$873,522	\$851,684	\$830,392	\$809,632	\$789,391	\$769,657	\$750,415	\$731,655	\$713,363
Revenues - Opt 3 Constant Rates	\$6										
lourly	\$1,065,436	\$1,231,890	\$1,201,093	\$1,171,066	\$1,141,789	\$1,113,244	\$1,085,413	\$1,058,278	\$1,031,821	\$1,006,025	\$980,875
testricted	80	\$0	\$0	\$0	80	O\$	\$0	\$0	S	80	\$0
Total Rev.	\$1,065,436	\$1,231,890	\$1,201,093	\$1,171,066	\$1,141,789	\$1,113,244	\$1,085,413	\$1,058,278	\$1,031,821	\$1,006,025	\$980,875
Costs - Alt 1 Dual Head											
Capital Costs	\$50,285	\$59,212	\$59,212	\$59,212	\$59,212	\$59,212	\$59,212	\$59,212	\$59,212	\$59,212	\$59,212
Contractors & Software	\$92,130	\$99,865	\$99,805	\$99,746	\$99,687	\$99,630	\$99,573	\$99,518	\$99,463	\$99,410	\$99,357
	\$348,275	\$315,126	\$330,883	\$336,462	\$353,285	\$370,949	\$389,497	\$408,972	\$429,420	\$450,891	\$473,436
Total Cost	\$490,689	\$474,203	\$489,899	\$495,419	\$512,184	\$529,791	\$548,282	\$567,701	\$588,095	\$609,513	\$632,005
Fotal Cost + Contingency	\$515,224	\$497,913	\$514,394	\$520,190	\$537,793	\$556,280	\$575,696	\$596,086	\$617,500	\$639,988	\$663,605
Vet Rev.	\$259,639	\$398,007	\$359,128	\$331,494	\$292,599	\$253,352	\$213,695	\$173,570	\$132,915	\$91,666	\$49,758
Dam /Cast Datio	00.7	00,	,	***			-				

Y25	Y24		Y23	Y23	Y20 Y21 Y22 Y23 Y24
228	558		238	538 538	228 228 228
404	4/0		488	501	513 501 488
\$389,497	0,949	ės-	\$353,285 \$:	\$336,462 \$353,285 \$:	\$330,883 \$336,462 \$353,285 \$:
0.98	86.0		0.98	86.0	86:0 86:0 86:0
88.00	88.00		88.00	88.00 88.00	88.00 88.00 88.00
61%	61%		61%	61% 61%	61% 61% 61%
\$2.00	\$2.00		\$2.00	\$2.00	\$2.00 \$2.00
\$2.00	\$2.00		\$2.00	\$2.00	\$2.00 \$2.00
\$3.50	\$3.50		\$3.50	\$3.50	\$3.50 \$3.50

life	25	Year	2018	2019	2020	2021	2022	202
		cost/multi-space						
pment Life, Years	10	meter	\$ 8,500	\$ 8,670	\$ 8,843	\$ 9,020	\$ 9,201	\$ 9,385
		cost/single-space						
nber of kiosks, phase 1	69	meter	\$ 1,000 \$	\$ 1,020 \$	\$ 1,040 \$	\$ 1,061	\$ 1,082 \$	\$ 1,104
ber of kiosks, phase 2	88	cost/ vehicle	\$ 36,000	\$ 36,720	\$ 37,454	\$ 38,203	\$ 38,968	\$ 39,747
nber of kiosks, phase 3	88	cost/PDA	\$ 1,500	\$ 1,530	\$ 1,561	\$ 1,592	\$ 1,624	\$ 1,656
		Enforcement						
		Sofware cost per						
		enforcer per						
ual Capital Cost Inflator	2%	month	\$ 99	\$ 101 \$	\$ 103	\$ 105	\$ 107	\$ 109
y & Benefits Inflator	5.0%	Labor cost phase 1 \$	\$ 331,690 \$	\$ 348,275 \$	\$ 365,688	\$ 383,973 \$	\$ 403,171 \$	\$ 423,330
r Rate Inflator	0.0%	Labor Cost phase 2 \$	\$ 285,829 \$	\$ 300,120 \$	\$ 315,126	\$ 330,883	\$ 347,427 \$	\$ 364,798
		Labor Cost 3rd						
ing Spaces Deflator	2.5%	year of phase 3+	\$ 276,808 \$	\$ 290,649 \$	\$ 305,181 \$	\$ 320,440 \$	\$ 336,462 \$	\$ 353,285
	0	1 -0 2	000		100	100		400

61% 68% 61% 70% 55% 55% 2.00 2.00 3.50

hort-Term Meters Y21	ters Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
\$873,522 \$0 \$873,522	\$851,684 \$0 \$851,684	\$830,392 \$0 \$830,392	\$809,632 \$0 \$809,632	\$789,391 \$0 \$789,391	\$769,657 \$0 \$769,657	\$750,415 \$0 \$750,415	\$731,655 \$0 \$731,655	\$713,363 \$0 \$713,363
\$873,522 \$0 \$873,522	\$851,684 \$0 \$851,684	\$830,392 \$0 \$830,392	\$809,632 \$0 \$ 09,632	\$789,391 \$0 \$789,391	\$769,657 \$0 \$769,657	\$750,415 \$0 \$750,415	\$731,655 \$0 \$731,655	\$713,363 \$0 \$713,363
\$1,201,093 \$0 \$1,201,093	\$1,171,066 \$0 \$1,171,066	\$1,141,789 \$0 \$1,141,789	\$1,113,244 \$0 \$1,113,244	\$1,085,413 \$0 \$1,085,413	\$1,058,278 \$0 \$1,058,278	\$1,031,821 \$0 \$1,031,821	\$1,006,025 \$0 \$1,006,025	\$980,875 \$0 \$980,875
\$59,212 \$99,805 \$330,883	\$59,212 \$99,746 \$336,462	\$59,212 \$99,687 \$353,285	\$59,212 \$99,630 \$370,949	\$59,212 \$99,573 \$389,497	\$59,212 \$99,518 \$408,972	\$59,212 \$99,463 \$429,420	\$59,212 \$99,410 \$450,891	\$59,212 \$99,357 \$473,436
\$514,394	\$495,419 \$520,190	\$512,184 \$537,793	\$529,791	\$548,282	\$596,086	\$588,095	\$609,513	\$632,005
1.70	1.64	1.54	1.46	1.37	1.29	27.1	1.14	1.07
\$80,790 \$99,805 \$330,883	\$80,790 \$99,746 \$336,462	\$80,790 \$99,687 \$353,285	\$80,790 \$99,630 \$370,949	\$80,790 \$99,573 \$389,497	\$80,790 \$99,518 \$408,972	\$80,790 \$99,463 \$429,420	\$80,790 \$99,410 \$450,891	\$80,790 \$99,357 \$473,436
\$511,477 \$537,051 \$336,471	\$516,997 \$542,847 \$308,837	\$533,762 \$560,450 \$269,942	\$551,369 \$578,937 \$230,695	\$569,860 \$598,353 \$191,038	\$589,279 \$618,743 \$150,913	\$609,673 \$640,157 \$110,258	\$631,091 \$662,645 \$69,009	\$653,583 \$686,262 \$27.101
1.63	1.57	1.48	1.40	1.32	1.24	1.17	1.10	1.04
Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
538	538	538	538	538	538	538	538	538
\$330,883	\$336,462	\$353,285	\$370,949	\$389,497	\$408,972	\$429,420	\$450,891	\$473,436
88.00 61%	88.00							
\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00	\$2.00

2029	10,569	1.243	44,761	1,865			123	567,303	488.864		473,436	149		83,314			35
	Ş	v	s	Ş			s	\$	v	L	s	\$	L	S	L		ď
2028	10,361	1.219	43,884	1,828			121	540,288	465.585		450,891	146		83,314			34
	v,	v	\$	Ş			₹S-	v.	v		\$	Ş		·s			•
2027	10,158	1.195	43,023	1,793			118	514,560	443.414		429,420	143		83,314			33
	v,	v	s	s			S	₩.	v		s	s		s	l		v
2026	9,959	1.172	42,180	1,757			116	490,057	422.299		408,972	141		83,314			33
2	٠,	٠	\$	\$	_		٠٥	\$	٧.	-	2	\$	L	\$	L		٧
2025	9,764	1.149	41,353	1,723			114	466,721	402.190		389,497	138		83,314			32
_	۰	v	s	s			s	•	v	L	s	s		s	L		v
2024	9,572	1.126	40,542	1,689			111	444,497	383.038		370,949	135		83,314			32
	s	v	s	s			s	\$	v	L	s	\$		s	L		v
2023	9,385	1.104	39,747	1,656			109	423,330	364.798		353,285	132		83,314			31
	۰	v	s	s			s	•	v	L	s	s		s	L		v
2022	9,201	1 082	38,968	1,624			107	403,171	347.427		336,462	130		83,314			30
1	۰	v	·S	s			s	•0-	v	L	s	Ş	L	S	L		v
2021	9,020	1.061	38,203	1,592			105	383,973	330.883		320,440	127		83,314			30
	۰S	v	s	s			s	ψ,	-√	L	s	Ş		s	L		v
2020	8,843	1.040	37,454	1,561			103	365,688	315.126		305,181	125		83,314			29
6	ş	٠	\$	\$	_		s	- ₹	٧.	-	\$	s.	L	\$	L		29 \$
2019	8,670	1.020	36,720	1,530			101	348,275	300.120		290,649	122		78,007			20
	v,	v	·S	s	L		s	45	v	L	s	\$	L	s	L		ď
2018	8,500	1,000	36,000	1,500			66	331,690	285.829		276,808	120		78,007			28
	s)	v	s	s	L		₩.	405	v	L	s	\$	L	s	L		ď
Year	cost/multi-space meter	cost/single-space	cost/ vehicle	cost/PDA	Enforcement	anforcer ner	month	Labor cost phase 1	Labor Cost phase 2	Labor Cost 3rd	year of phase 3+	Sign Cost	Maintenance &	Operations	Software setup	and annual maint	perspace

Projection of Cost and Revenue for On-Street Parking - Mid-Term Meters	te for On-Stree	et Parking - M.	id-Term Meter	g							
Year	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing											
Hourly	\$42,781	\$341,848	\$333,302	\$324,970	\$423,019	\$412,443	\$402,132	\$392,079	\$382,277	\$372,720	\$363,402
Restricted	80	80	80	80	80	80	0\$	80	0\$	80	80
BPP	\$27,600	\$200,910	\$195,887	\$190,990	\$186,215	\$181,560	\$177,021	\$172,595	\$168,281	\$164,074	\$159,972
Total Rev.	\$70,381	\$542,758	\$529,189	\$515,960	\$609,234	\$594,003	\$579,153	\$564,675	\$550,558	\$536,794	\$523,374

	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
enues - Opt 1 Variable Pricing	icing										
rrly	\$42,781	\$341,848	\$333,302	\$324,970	\$423,019	\$412,443	\$402,132	\$392,079	\$382,277	\$372,720	\$363,402
nicted	80	80	80	80	80	80	O\$	80	O\$	80	0\$
	\$27,600	\$200,910	\$195,887	\$190,990	\$186,215	\$181,560	\$177,021	\$172,595	\$168,281	\$164,074	\$159,972
al Rev.	\$70,381	\$542,758	\$529,189	\$515,960	\$609,234	\$594,003	\$579,153	\$564,675	\$550,558	\$536,794	\$523,374
enues - Opt 2 Recommended Steep Ramp Up	ded Steep Ramp Up										
rik	\$42,781	\$341,848	\$333,302	\$324,970	\$423,019	\$412,443	\$402,132	\$392,079	\$382,277	\$372,720	\$363,402
nicted	90	80	\$0	80	0\$	\$0	0\$	\$0	O\$	\$0	0\$
	\$27,600	\$200,910	\$195,887	\$190,990	\$186,215	\$181,560	\$177,021	\$172,595	\$168,281	\$164,074	\$159,972
al Rev.	\$70,381	\$542,758	\$529,189	\$515,960	\$609,234	\$594,003	\$579,153	\$564,675	\$550,558	\$536,794	\$523,374

/Rev.	\$70,381	\$542,758	\$529,189	\$515,960	\$609,234	\$594,003	\$579,153	\$564,675	\$550,558	\$536,794	\$523,374
nues - Opt 3 Constant Rates											
	\$74,866	\$598,235	\$583,279	\$568,697	\$740,283	\$721,776	\$703,732	\$686,138	\$668,985	\$652,260	\$635,954
cted	\$0	80	\$0	\$0	80	80	0\$	80	O\$	80	0\$
	\$27,600	\$200,910	\$195,887	\$190,990	\$186,215	\$181,560	\$177,021	\$172,595	\$168,281	\$164,074	\$159,972
IRev.	\$102,466	\$799,145	\$779,166	\$759,687	\$926,499	\$903,336	\$880,753	\$858,734	\$837,265	\$816,334	\$795,925
s - Alt 1 Dual Head											
d Costs	\$12,235	\$90,888	\$90,888	\$90,888	\$98,112	\$98,112	\$98,112	\$98,112	\$98,112	\$98,112	\$98,112
actors & Software	\$23,191	\$165,638	\$166,148	\$166,668	\$169,208	\$169,789	\$170,382	\$170,987	\$171,604	\$172,233	\$172,874
	\$44,110	\$265,046	\$278,298	\$282,991	\$297,140	\$311,997	\$327,597	\$343,977	\$361,176	\$379,235	\$398,196
l Cost	\$79,535	\$521,572	\$535,334	\$540,546	\$564,461	\$579,899	\$596,091	\$613,076	\$630,892	\$649,580	\$669,183
Cost + Contingency	\$83,512	\$547,650	\$562,100	\$567,574	\$592,684	\$608,894	\$625,896	\$643,730	\$662,436	\$682,059	\$702,642
lev.	(\$13,132)	(\$4,892)	(\$32,911)	(\$51,614)	\$16,551	(\$14,890)	(\$46,743)	(\$20,055)	(\$111,879)	(\$145,265)	(\$179,268)
Cost Ratio	0.84	0.99	0.94	0.91	1.03	96'0	0.93	0.88	0.83	0.79	0.74

al Costs	\$0,300	\$20,000	\$22,002	\$22,002	9/6,/01\$	0/6,/01\$	9/6,/01\$	0/6,/01\$	0/6,/01\$	9/6,/01\$	\$107,016
ractors & Software	\$20,727	\$147,259	\$147,246	\$147,233	\$149,231	\$149,209	\$149,187	\$149,165	\$149,145	\$149,125	\$149,106
Li Li	\$44,110	\$265,046	\$278,298	\$282,991	\$297,140	\$311,997	\$327,597	\$343,977	\$361,176	\$379,235	\$398,196
l Cost	\$73,144	\$511,386	\$524,625	\$529,306	\$553,947	\$568,781	\$584,359	\$600,718	\$617,896	\$635,935	\$654,878
d Cost + Contingency	\$76,802	\$536,956	\$550,857	\$555,771	\$581,644	\$597,220	\$613,577	\$630,754	\$648,791	\$667,732	\$687,622
Rev.	(\$6,421)	\$5,803	(\$21,667)	(\$39,811)	\$27,590	(\$3,217)	(\$34,424)	(\$66,079)	(\$98,234)	(\$130,939)	(\$164,248)
/Cost Ratio	0.92	101	96'0	0.93	1.05	0.99	0.94	06'0	0.85	0.80	0.76
CITTATIONS	V10	06A	V21	CCA	V23	V24	V25	96A	LCA	V28	V29

CALCULATIONS	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
olid Term Spaces - Existing	115	840	840	840	902	902	905	905	906	902	905
fid Term Spaces - Minus BPP	29	210	210	210	275	275	275	275	275	275	275
fid term meter spaces - Deflated	29	209	204	199	259	252	246	240	234	228	222
abor & Administration	\$44,110	\$265,046	\$278,298	\$282,991	\$297,140	\$311,997	\$327,597	\$343,977	\$361,176	\$379,235	\$398,196
Number of enforcement vehicles,	0.12	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Number of multi-space kiosks	0.00	108.00	108.00	108.00	117.00	117.00	117.00	117.00	117.00	117.00	117.00
wg Daily Occupancy	75%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
estricted Spaces											
6 Restricted Spaces	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	0%0

2019 2020 2021 2022 2023 2024 2025 2026 2027		8,670 \$ 8,843 \$ 9,020 \$ 9,201 \$ 9,385 \$ 9,572 \$ 9,764 \$ 9,959 \$ 10,158 \$ 10,361		1,020 \$ 1,040 \$ 1,051 \$ 1,185 \$ 1,182 \$ 1,104 \$ 1,126 \$ 1,149 \$ 1,172 \$ 1,195 \$ 1,195 \$ 1,219 \$	36,720 \$ 37,454 \$ 38,203 \$ 38,968 \$ 39,747 \$ 40,542 \$ 41,353 \$ 42,180 \$ 43,023 \$ 43,884	1,530 \$ 1,561 \$ 1,592 \$ 1,594 \$ 1,656 \$ 1,689 \$ 1,757 \$ 1,793 \$				101 S 103 S 106 S 107 S 109 S 111 S 114 S 116 S 118 S	44.110 \$ 46.315 \$ 48.631 \$ 51.062 \$ 53.616 \$ 56.296 \$ 59.111 \$ 62.067 \$ 65.170 \$ 68.429	252.425 \$ 265,046 \$ 278,298 \$ 292,213 \$ 306,824 \$ 322,165 \$ 388,273 \$ 355,187 \$ 375,946 \$ 391,593		244,458 \$ 256,681 \$ 269,515 \$ 282,991 \$ 297,140 \$ 311,997 \$ 327,597 \$ 343,977 \$ 361,176 \$ 379,235	122 \$ 125 \$ 127 \$ 130 \$ 132 \$ 132 \$ 138 \$ 141 \$ 143 \$		
2018		8,500 \$		1,000 \$	36,000 \$	1,500 \$				\$ 66	42,009	240,404 \$		232,817 \$ 2	120 \$		10.750
Year	cost/multi-space	meter \$	cost/single-space	meter \$	cost/ vehicle \$	cost/PDA \$	Enforcement	Sofware cost per	enforcer per	month \$	Labor cost phase 1 \$	Labor Cost phase 2 \$	Labor Cost 3rd	year of phase 2 + \$	Sign Cost \$	Maintenance &	Opportions

Projection of Cost and Revenue Year	ue for On-Street Parking Y19 Y20		Mid-Term Mer	Meters Y22	
Revenues - Opt 1 Variable Pricing	642.761	6341 640	\$333 300	\$324.070	
Restricted PRD	\$0	\$00,000	\$00.000	\$0	
Total Rev.	\$70,381	\$542,758	\$529,189	\$515,960	- 1
Revenues - Opt 2 Recommended Steep Ramp Up Hourly \$42.781	teep Ramp Up \$42,781	\$341,848	\$333.302	\$324.970	
Restricted	80	0\$	\$0	\$0	
	\$27,000 \$70,381	\$200,910 \$542,758	\$1,02,887 \$529,189	\$150,990 \$515,960	
Revenues - Opt 3 Constant Rates Hourly	\$74.866	\$598.235	\$583.279	\$568.697	
Restricted	80	80	\$0	80	
BPP Total Rev.	\$27,600 \$102,466	\$200,910 \$799,145	\$1.95,887 \$779,166	\$190,990 \$759,687	- 1
Costs - Alt 1 Dual Head					
Capital Costs Contractors & Software	\$23,191	\$165,638	\$166,148	\$166,668	
Total Cost	\$44,110	\$205,040	\$535,334	\$540,546	1 1
Net Rev.	(\$13,132)	(\$4,892)	(\$32,911)	\$30/,3/4 (\$51,614)	
Act, Cost Asido	*0.0*	0.39	200	0.57	1 1
Costs - Alt 2 Multi Space Capital Costs	\$8,308	\$99,082	\$99,082	\$99,082	
Contractors & Software Labor	\$20,727 \$44,110	\$147,259 \$265,046	\$147,246 \$278,298	\$147,233 \$282,991	
Total Cost Total Cost + Contingency	\$73,144 \$76,802	\$511,386 \$536,956	\$524,625 \$550,857	\$529,306 \$555,771	
Net Rev. Rev./Cost Ratio	(\$6,421) 0.92	\$5,803 1.01	(\$21,667) 0.96	(\$39,811) 0.93	
CALCULATIONS Mid Term Spaces - Existing	Y19	Y20 840	Y21	Y22	-
Mid Term Spaces - Minus BPP	29	210	210	210	
Mid term meter spaces - Deflated Labor & Administration	\$44,110	\$265,046	\$278,298	\$282,991	
Number of enforcement vehicles, Number of multi-space kiosks	0.12	0.82	0.82	0.82	
Avg Daily Occupancy	75%	82%	82%	82%	
Restricted Spaces					
% Restricted Spaces	0%0	0%0	%0	0%0	
oji wis	36	Vea		2018	
and me	3 9	cost	cost/multi-space	0707	
Equipment Lite, Years	0 0	cost	+	8,500	۸ .
Number of kiosks, phase 1 Number of kiosks, phase 2	108	cost	er ; /vehicle \$	36,000 \$	A 10
Number of kiosks, phase 3	117	COST	+	1,500	10
4	òò	Son	Sofware cost per enforcer per	8	
Annual Capital Cost Inflator	270	OE .		S.F.	. اہ
Salary & Benefits Inflator	5.0%	Labor	-	42,009	٠,
Meter Rate Inflator	%0.0	(ap)	se 2	240,404	10
Parking Spaces Deflator Revenue Hours/day	2.5%	year	r of phase 2+ \$	232,817	\$ \$
Restricted Area Revenue Hours/c		Mai		19,759	
	•	Son	etup		
Revenue Days/Year	249	ber	per space \$	28 \$	10
Avg Daily Occupancy Phase 1	83%				
Avg. Daily Occupancy Phase 2 Demand Adjutment Option 1	82% 100%				
Demand Adjutment Option 2 Demand Adjutment Option 3	100% 70%				
Mid Term Business Permit percer Operations& Maintenance Cost/S \$	75%				
	1.00				
Average Rate	2.50				
familiano tros					

tal Cost	Phase 2	\$591,738
Total Capit	Phase 1	\$639,928

Year	V19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues - Opt 1 Variable Pricing											
Hourly	\$504,557	\$1,010,803	\$985,533	\$960,895	\$936,873	\$913,451	\$890,614	\$868,349	\$846,640	\$825,474	\$804,837
Restricted	\$0	\$0	\$0	\$0	\$0	Ø÷	\$0	\$0	0¢	\$0	\$0
Total Rev.	\$504,557	\$1,010,803	\$985,533	\$960,895	\$936,873	\$913,451	\$890,614	\$868,349	\$846,640	\$825,474	\$804,837
	4										
Revenues - Opt 2 Recommended Steep Ramp Of Hourly \$504.557	d Steep Kamp Up 8504 557	\$1 010 803	\$085 533	\$06.0 895	\$936.873	\$913.451	\$890.614	\$868 349	\$846.640	\$825,474	\$804 837
Restricted	80	80	08	80	80	S	80	80	S	80	08
Total Rev.	\$504,557	\$1,010,803	\$985,533	\$960,895	\$936,873	\$913,451	\$890,614	\$868,349	\$846,640	\$825,474	\$804,837
Revenues - Opt 3 Constant Rates											
Hourly	\$825,638	\$1,654,042	\$1,612,691	\$1,572,373	\$1,533,064	\$1,494,738	\$1,457,369	\$1,420,935	\$1,385,411	\$1,350,776	\$1,317,007
Restricted	\$0	\$0	\$0	\$0	\$0	Ø\$	\$0	\$0	0\$	\$0	\$0
Total Rev.	\$825,638	\$1,654,042	\$1,612,691	\$1,572,373	\$1,533,064	\$1,494,738	\$1,457,369	\$1,420,935	\$1,385,411	\$1,350,776	\$1,317,007
Costs - Alt 1 Dual Head											
Capital Costs	\$63,442	\$122,091	\$122,091	\$122,091	\$122,091	\$122,091	\$122,091	\$122,091	\$122,091	\$122,091	\$122,091
Contractors & Software	\$119,987	\$210,601	\$210,446	\$210,293	\$210,141	\$209,991	\$209,842	\$209,695	\$209,549	\$209,405	\$209,263
Labor	\$228,220	\$333,870	\$350,563	\$356,475	\$374,298	\$393,013	\$412,664	\$433,297	\$454,962	\$477,710	\$501,596
Total Cost	\$411,649	\$666,562	\$683,101	\$688,859	\$706,531	\$725,096	\$744,598	\$765,084	\$786,603	\$809,207	\$832,950
Total Cost + Contingency	\$432,231	\$699,891	\$717,256	\$723,302	\$741,858	\$761,351	\$781,828	\$803,338	\$825,933	\$849,667	\$874,597
Net Rev.	\$72,325	\$310,913	\$268,277	\$237,593	\$195,015	\$152,100	\$108,787	\$65,011	\$20,707	(\$24, 193)	(\$69,760)
Rev./Cost Ratio	1.17	1.44	1.37	1.33	1.26	1.20	1.14	1.08	1.03	0.97	0.92
Costs - Alt 2 Multi Space											
Capital Costs	\$67,777	\$131,628	\$131,628	\$131,628	\$131,628	\$131,628	\$131,628	\$131,628	\$131,628	\$131,628	\$131,628
Contractors & Software	\$119,987	\$210,601	\$210,446	\$210,293	\$210,141	\$209,991	\$209,842	\$209,695	\$209,549	\$209,405	\$209,263
Labor	\$228,220	\$333,870	\$350,563	\$356,475	\$374,298	\$393,013	\$412,664	\$433,297	\$454,962	\$477,710	\$501,596
Total Cost	\$415,984	\$676,099	\$692,638	\$698,396	\$716,068	\$734,633	\$754,135	\$774,621	\$796,140	\$818,744	\$842,487
Total Cost + Contingency	\$436,783	\$709,904	\$727,270	\$733,316	\$751,872	\$771,364	\$791,841	\$813,352	\$835,947	\$859,681	\$884,611
Net Rev.	\$67.774	\$300.899	\$258,263	\$227.579	\$185,001	\$142,086	\$98,773	\$54.997	\$10.694	(\$34,207)	(\$79,773)
			,		,	97.7	47.7		, 0,	, ,	

CALCULATIONS	V19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Short Term Spaces - Existing	595	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140
Short term meter spaces - Deflate	595	1125	1097	1070	1043	1017	991	296	942	919	896
Labor & Administration	\$228,220	\$333,870	\$350,563	\$356,475	\$374,298	\$393,013	\$412,664	\$433,297	\$454,962	\$477,710	\$501,596
Number of enforcement vehicles,	0.62	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Number of multi-space kiosks	75.00	145.00	145.00	145.00	145.00	145.00	145.00	145.00	145.00	145.00	145.00
Avg Daily Occupancy	0.77	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
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
Restricted Spaces	0	0	0	0	0	0	0	0	0	0	0
% Restricted Spaces	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0

sign life	25	Year
Equipment Life, Years	10	meter
Number of kiosks, phase 1	75	meter
Number of kiosks, phase 2	145	cost/
Annual Capital Cost Inflator	2%	cost/i
		Softwa
		enfor
Salary & Benefits Inflator	5.0%	mont
Meter Rate Inflator	0.0%	Labor
Parking Spaces Deflator	2.5%	Labor
Revenue Hours/day		Labor
Restricted Area Revenue Hours/c	· -	Sign C
Revenue Days/Year	249	Opera
		anda
Year 1 Adjustment Period Occup	77%	bersp
Avg. Daily Occupancy Phase 1	%98	l
Avg. Daily Occupancy Phase 2	82%	
Demand Adjutment Option 1	110%	
Demand Adjutment Option 2	110%	
Demand Adjutment Option 3	%06	
Option 1 Average Rate \$	0.50	
Option 2 Average Rate \$	0.50	
Option 3 Average Rate \$	1.00	
	C	

Year	2018	18	2019	L	2020		2021		2022	2	2023	2024	4	2025		2026	2	2027	2028	~	2029
cost/multi-space		4	C E C	,	0 0		0000		,000		- 5		,		,	010	,	9	4000	,	0.0
meter	\$ 8,500	2	8,670	s	8,843	5	9,020	2	9,201	5 9.	9,385 \$	9,572	s	9,764	s	9,959	5 10,1	10,158 \$	10,361	s	10,569
cost/single-space																					
meter	\$ 1,000	\$ 0	1,020	ş	1,040	s	1,061	\$	1,082	\$ 1,.	1,104 \$	1,126	\$	1,149	s	1,172	\$ 1,1	1,195 \$	1,219	s	1,243
cost/ vehicle	\$ 36,000	\$ 0.	36,720	\$	37,454	\$	38,203	\$	38,968	\$ 39,	39,747 \$	40,542	ψ.	41,353	s	42,180	\$ 43,0	43,023 \$	43,884	s	44,761
cost/PDA	\$ 1,500	\$ 0.	1,530	ş	1,561	\$	1,592	\$	1,624	\$ 1,1	1,656 \$	1,689	\$	1,723	\$	1,757	\$ 1,7	1,793 \$	1,828	Ş	1,865
Enforcement		L		L					Ī		L		L		L			H		L	
Sofware cost per																					
enforcer per																					
month	\$ 36	\$ 66	101	s	103	s	105	\$	107	\$	\$ 601	111	s,	114	s	116	\$	118 \$	121	s	123
		L									\vdash		L		L			H		L	
Labor cost phase 1 \$	\$ 217,352	5 \$	228,220	s	239,631	\$	251,612	\$ 24	264,193	\$ 277,402	402 \$	291,273	s.	305,836 \$		321,128	\$ 337,1	84 \$	337,184 \$ 354,044	s	371,746
Labor Cost phase 2	\$ 302,830	\$ 0	317,971	Ş	333,870	\$	350,563	\$ 30	368,091	\$ 386,	386,496 \$	405,821	S	426,112 \$	\$ 4	447,418 \$		88 \$	469,788 \$ 493,278	s	517,942
Labor Cost 3rd											_							_			
year of phase 2+	\$ 293,273	3	307,936	Ş	323,333	\$	339,500	\$ 39	356,475	\$ 374,298	\$ 862	393,013	S	412,664	\$ 4	412,664 \$ 433,297	\$ 454,9	62 \$	454,962 \$ 477,710	s	501,596
Sign Cost	\$ 120	\$ 0	122	Ş	125	\$	127	\$	130	\$	132 \$	135	\$	138	Ş	141	\$ 1	143 \$	146	Ş	149
Maintenance &		L		L							H		L		L			H		L	
Operations	\$ 102,234	\$	102,234	s	176,539	s	176,539	\$ 1.	176,539	\$ 176,:	176,539 \$	176,539	s	176,539	\$	\$ 176,539 \$ 176,539 \$		\$ 689	176,539 \$ 176,539	s	176,539
software setup		L		L							-		L		L			H		L	
and annual maint																					
perspace	\$ 28	28 \$	29	s	29	Ş	30	\$	30	\$	31 \$	37	32 \$	32	s	33	s	33 \$	34	s	35

	Phase 3	S
oital Cost	Phase 2	-\$4 419
Total Capital Cost	Phase 1B	\$33.030
	Phase 1A	\$36.105

Projection of Cost and Revenue for RP	for RPP Program										
Year	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Revenues											
JPP Permit	\$80,807	\$82,250	\$79,552	\$76,922	\$77,949	\$75,359	\$72,834	\$70,372	\$67,971	\$65,631	\$63,348
business Permit - RPP Area	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000
Total Rev.	\$176,807	\$178,250	\$175,552	\$172,922	\$173,949	\$171,359	\$168,834	\$166,372	\$163,971	\$161,631	\$159,348
Costs											
Capital Costs	\$5,759	\$5,375	\$5,470	\$5,566	\$5,694	\$5,795	\$5,897	\$6,002	\$6,108	\$6,217	\$6,328
Other costs	\$1,581	\$1,448	\$1,477	\$1,507	\$1,537	\$1,568	\$1,599	\$1,631	\$1,664	\$1,697	\$1,731
abor & Administration	\$477,535	\$378,679	\$397,613	\$404,317	\$424,533	\$445,760	\$468,048	\$491,450	\$516,023	\$541,824	\$568,915
Total Cost	\$484,875	\$385,502	\$404,559	\$411,390	\$431,764	\$453,122	\$475,544	\$499,083	\$523,795	\$549,738	\$576,974
Total Cost + Contingency	\$509,119	\$404,777	\$424,787	\$431,960	\$453,352	\$475,778	\$499,321	\$524,037	\$549,984	\$577,225	\$605,822
Vet Rev.	(\$332,312)	(\$226,527)	(\$249,235)	(\$259,038)	(\$279,403)	(\$304,419)	(\$330,487)	(\$357,665)	(\$386,013)	(\$415,594)	(\$446,474)

CALCULATIONS	Y19	Y20	Y21	Y22	Y23	Y24	Y25	Y26	Y27	Y28	Y29
Permit Spaces	1245	1293	1293	1293	1335	1335	1335	1335	1335	1335	1335
Permit spaces - Deflated	1245	1262	1230	1200	1212	1181	1152	1123	1095	1068	1041
Labor & Administration	\$477,535	\$378,679	\$397,613	\$404,317	\$424,533	\$445,760	\$468,048	\$491,450	\$516,023	\$541,824	\$568,915
Number of enforcement vehicles/PDAs	130	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
RPP First Permit Rates/yr.	\$67	\$67	\$67	29\$	29\$	29\$	29\$	298	29\$	29\$	299
RPP Second Permit Rates/yr.	\$133	\$133	\$133	\$133	\$133	\$133	\$133	\$133	\$133	\$133	\$133
RPP Third Permit Rates/yr.	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
Business Permit Rates/yr	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320	\$320
RPP Spaces	1245	1262	1230	1200	1212	1181	1152	1123	1095	1068	1041
Susiness Permit Cap	300	300	300	300	300	300	300	300	300	300	300
% Spaces for Businesses	24%	24%	24%	25%	25%	25%	26%	27%	27%	28%	29%
APP Permits purchased	945	962	930	006	912	881	852	823	795	768	741
APP Permit Revenue	\$80,806.95	\$82,249.93	\$79,552.36	\$76,922.22	\$77,949.26	\$75,359.21	\$72,833.90	\$70,371.73	\$67,971.11	\$65,630.51	\$63,348.42
Business permits purchased	300	300	300	300	300	300	300	300	300	300	300
RPPBusiness Permit Revenue	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000	\$96,000
MID-TERM BPP CALCULATIONS - USED O	ED ON MID-TERM METER TAB	AETER TAB									
Mid-Term Parking Permit Spaces	115	840	840	840	840	840	840	840	840	840	840
Mid-Term Parking Spaces - Deflated	115	837	816	2007	776	756	738	719	701	684	299
Mid-Term Busness permits purchased	86.25	628	612	597	582	292	553	539	526	513	200
Mid-Term Business permit revenue	\$27,600.00	\$200,910	\$195,887	\$190,990	\$186,215	\$181,560	\$177,021	\$172,595	\$168,281	\$164,074	\$159,972
Cost of 3rd party permit processing	\$399	\$567	\$553	\$539	\$538	\$525	\$511	\$499	\$486	\$474	\$462

ear	2018	2019	6	2020		2021	2022	2023	3	2024	72	2025 20	2026	2027	8	2028	2029
gn Costs	\$ 120	\$ 124	8	127	S	131 \$	135	\$ 139	\$	143	\$ 1.	148 \$ 11	152 \$	157	\$ 1	51 \$	166
/ vehicle	\$ 36,000	\$ 36,720	s	37,454	38 38	38,203 \$	38,968	\$ 39,747	8	40,542	\$ 41,353	53 \$ 42,180	Ś	43,023	\$ 43,884	84 \$ 4	4,761
ost/PDA	\$ 1,500	\$ 1,530	s	1,561	8	1,592 \$	1,624	\$ 1,656	65	1,689	\$ 1,723	8	\$ 1,757	1,793	\$ 1,8	\$ 828	1,865
inforcement ofware cost per inforcer per month	\$	\$ 101	v,	103	v.	105 \$	107	\$ 109	vs	111	\$	114 \$ 1	116 \$	118	\$	121 \$	123
bor Cost Phase 1	\$ 454,795	\$ 477,535	\$	501,412	\$ 520	526,483 \$	552,807	\$ 580,447	8	609,469	\$ 639,943	43 \$ 671,9	7.8 7.7	705,537	\$ 740,81	4	777,854
abor Cost Phase 2	\$ 343,473	\$ 360,646	\$	378,679	\$ 397	397,613 \$	417,493	\$ 438,368	%	460,286	\$ 483,301	01 \$ 507,466	_	\$ 532,839	\$ 559,481	- 07	587,455
abor Cost 3rd year f phase 2 +	\$ 332,633	\$ 349,264	S	366,728	\$ 385	385,064 \$	404,317	\$ 424,533	05	445,760	s	468,048 \$ 491,450	50 \$ 5	\$ 516,023	\$ 541,824		\$ 568,915
intenance & Opera			Ş		\$	\$		\$	Ş		\$	\$	\$		\$	Ş	,

77% 86% 2.5% 0.00%	Year 1 Adjustment Period Avg. Daily Occupancy Parking Spaces Deflator Price Elasticity Adjustment phase 1
249	Restricted Area revenue Hours/day Revenue Days/Year
80	Revenue Hours/day
2.5%	Parking Spaces Deflator
0.0%	Meter Rate Inflator
5.00%	Salary & Benefits Inflator
2%	retrint days/ month Annual Capital Cost Inflator
10	Vehicle Life
25	Signage Life