



SOUTH HAYWARD BART STATION ACCESS AUTHORITY

SOUTH HAYWARD BART PARKING & ACCESS STUDY

DRAFT REPORT

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1 INTRODUCTION

A May 2011 South Hayward BART Access Study highlighted multimodal access issues and recommended the formation of a Joint Powers Authority between San Francisco Bay Area Rapid Transit District (BART) and the City of Hayward to implement that report's access strategies. The South Hayward BART Station Access Authority ("Authority") was subsequently established in September 2011 to manage parking and access around the South Hayward BART station. The Authority consists of two members: the City of Hayward and BART.

It is critical that the parking and access needs of both BART patrons and those of the South Hayward community are met as the area continues to develop and change. The purpose of this Parking & Access Study is to identify the Authority's initial and future activities in regards to parking and access.

PROJECT SUMMARY

This study is primarily concerned with the management of parking in the project area. In the near term, various improvement projects and development will reconfigure the available parking at the South Hayward BART station. Managing the parking ramifications of these projects and ensuring that new development does not adversely affect BART patrons or neighborhood residents is the focus of this report.

REPORT STRUCTURE

This report begins with a brief description of the surrounding context, existing parking conditions, and the results of parking occupancy and turnover analyses conducted in January 2010 and November 2011. The parking survey discussed in Chapter 2 documents existing parking supply and the current parking demand at the station, including the extent to which BART patrons park in the surrounding neighborhoods. Understanding the magnitude of parking demand is important to inform the appropriate response to planned removal of some of the existing parking supply. In Chapter 3, the report outlines four alternatives to accommodate existing parking demand given decreased parking supply due to both future development of the BART East Lot along Dixon Street and a future Dixon Street reconfiguration. These alternatives also identify potential effects on the neighborhood around the BART station and strategies to mitigate negative impacts. Next, Chapter 4 investigates the potential initiation of parking charges, parking regulations, and enforcement activities. Financial impacts are discussed in Chapter 5, followed by an implementation strategy for the Authority in Chapter 6. Chapter 7 briefly lists associated recommendations at the Downtown Hayward BART Station.

2 PARKING ANALYSIS

DEFINITION OF THE STUDY AREA

For the purposes of this report, the study area delineates only a portion of the South Hayward BART catchment area, which extends about 2 miles from the station. The study area approximates the limits of the Authority boundary, or roughly ¼-mile of the station (Figure 2-1)¹ Network analysis in GIS was used to determine the ¼-mile walk from the BART station entrance. At average walking speed, walking a ¼-mile takes roughly five minutes, which is the most desirable maximum walking distance for commuters.

The Authority purview contains predominately local residential streets. However, there are a few major residential collector streets within the boundary, including Dixon Street, immediately east of and adjacent to the station, and Tennyson Road immediately north of the station. Mission Boulevard bounds the eastern edge of the Authority boundary and is a four-lane commercial arterial with a variety of local services, including restaurants, hotels, and auto body shops.²

PARKING ISSUES

The Hayward Police Department has received no recent complaints about BART commuter parking from residents and businesses in the vicinity of the BART station.

PARKING SUPPLY

The BART South Hayward Access Study, completed in May of 2011, gauged the number of BART-owned off-street parking spaces and public on-street public parking spaces in January 2010. To corroborate these findings, an inventory of parking spaces both within a ¼-mile walking distance from the station and in the BART lots was conducted again in November of 2011.

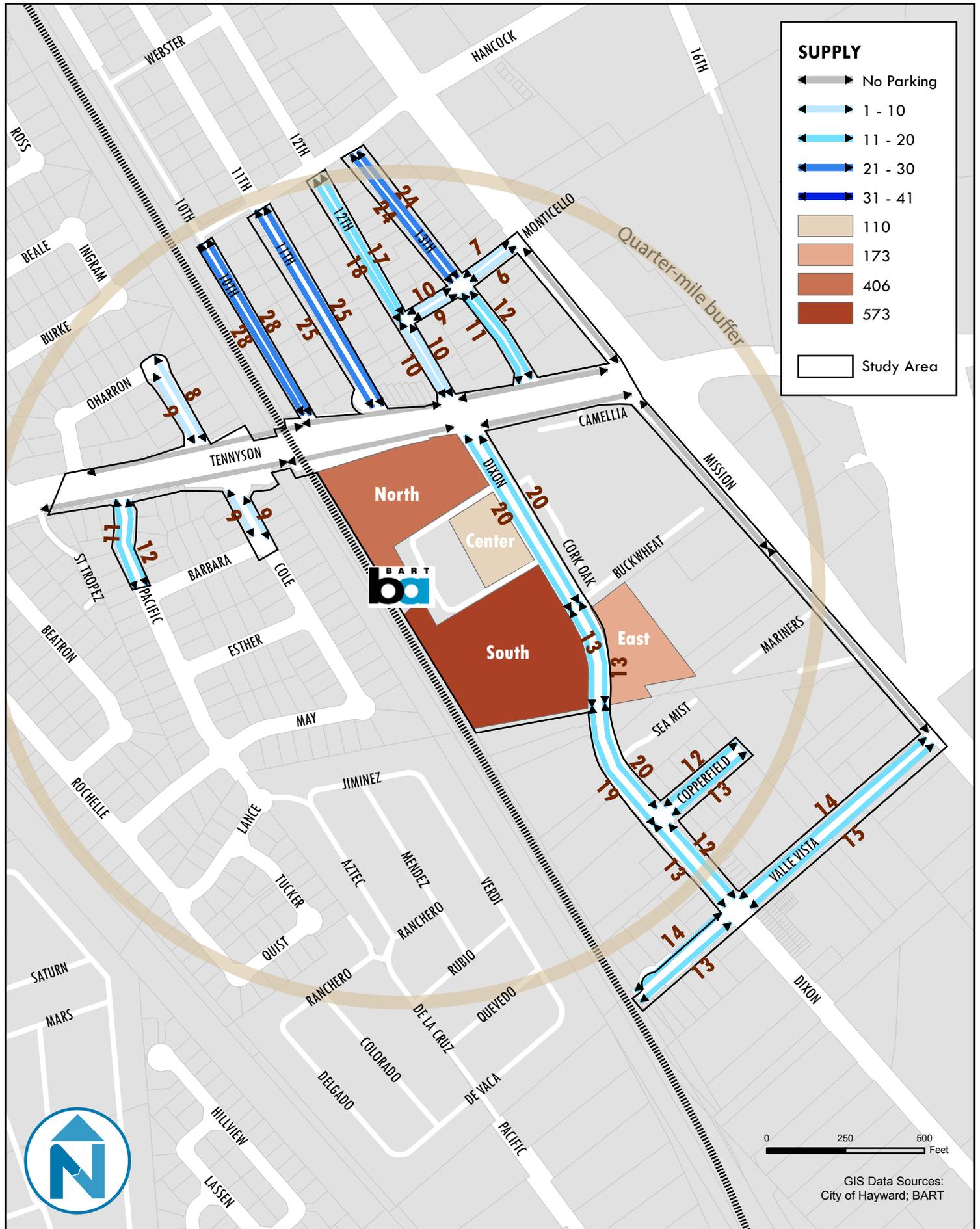
Off-Street Supply

The November 2011 off-street parking inventory surveyed the unregulated, reserved, disabled, and BART employee automobile parking, as well as motorcycle and bicycle parking in two BART parking lots: the BART Main Parking Lot adjacent to the South Hayward BART entrance (divided into three lots in this study for purposes of analysis: the north, central and south lots) and the BART East Parking Lot across Dixon Street from the station entrance, as illustrated in Figure 2-1.

¹ The study area includes a portion of Tennyson Road and Valle Vista Avenue beyond a ¼ mile of the station. Refer to the JPA Boundary Map in Appendix B.

² There is no parking currently on Mission Blvd and none is recommended as part of this study.

Figure 2-1 Parking Supply Within the Study Area



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The BART Main Parking Lot includes the off-street parking west of Dixon Street, and supplies all 27 of the station’s disabled parking spaces³, all 39 reserved parking spaces, two BART employee parking spaces, and 10 motorcycle parking spaces. There are 78 regulated (reserved, disabled, BART official, and motorcycle) spaces and 1,012 unregulated off-street spaces in the Main Parking Lot. The 39 reserved monthly spaces available in the Center lot are priced at \$42 per month. Unoccupied reserved parking spaces become available to any BART rider after 10 AM. The remaining 96% of the spaces are available without charge on a first-come, first-served basis.

The BART East Parking Lot is located across Dixon Street, east of the BART Main Lot and contains 174⁴ unregulated, free of charge spaces. There are a total of 1,264 off-street parking spaces at the South Hayward BART station. Figure 2-2 details the capacity of each lot and the proportion of off-street parking in the Main Parking Lot and East Parking Lot. Figure 2-1 graphically identifies the location of each of the four BART lots and their total capacity.

Figure 2-2 Off-Street Parking Supply

Zone	Un-regulated	Reserved	Disabled	BART Official	Motor-cycle	Total Capacity	Share of Parking at BART Station
	Parking Capacity						
North Lot	382	0	12	2	10	406	32%
Center Lot	65	39	0	0	0	104	8%
South Lot	565	0	15	0	0	580	46%
Subtotal Main Lot	1012	39	27	2	10	1090	86%
East Lot	174	0	0	0	0	174	14%
BART Lots Subtotal	1186	39	27	2	10	1264	100%

Data collected November 2011

On-Street Supply

Because BART patrons may park on streets surrounding the station, the parking surveys in 2010 and 2011 included streets within the Authority boundary. The inventory examined parking regulations on all block faces⁵ in the study area. Special note was made of no parking zones, disabled parking areas, street sweeping, and other restrictions.

Because there are mostly no delineated parking spaces for on-street parking in the area surrounding the South Hayward BART Station, the number of available parking spaces was estimated by measuring the length of curb between the parcel lines at each corner of each block where parking is allowed. Each of these curb lengths were divided by 20 feet, a typical length for a parking space. The resulting number of parking spaces was multiplied by 2/3 to account for the proportion of the block length typically unavailable to parking due to curb cuts, fire hydrants, etc. This figure was checked against representative blocks and adjusted where necessary. The actual number of parking spaces on a street face may vary, depending on how “tightly” cars are parked.

³ In conformance with ADA, it is recommended that all designated disabled parking needed in the study area remain close to the station.

⁴ BART official records list this lot as a capacity of 173 spaces. This inventory found 174 spaces.

⁵ A block face is the entire length of one side of the street between two consecutive intersections (without regard to driveways or other interruptions within the block).

As a result, the inventory may estimate fewer spaces than are actually used, if drivers are parked very close together.

The current on-street parking supply within the Authority boundary is about 533 spaces. Figure 2-1 displays the supply of on-street and off-street parking within the Authority boundary. Darker blue lines indicate block segments with the highest number of on-street parking spaces, while lighter blue block faces contain relatively fewer on-street spaces. As shown in Figure 2-1, there are relatively more parking spaces along 10th, 11th, 12th, and 13th Streets north of Tennyson Road.⁶

Parking Restrictions

Within the Authority ¼-mile study area, parking regulations restrict some parking availability, which temporarily decreases the effective supply. Parking is restricted along Dixon Street adjacent to the station entry two mornings every other week from 7:00 AM until 11:30 AM. Along the west side of Dixon Street (for four blocks within the Authority), street sweeping prohibits parking on the 1st and 3rd Tuesday mornings. On 1st and 3rd Wednesday mornings, street sweeping disallows parking along the east side of Dixon Street. The City of Hayward enforces the parking restriction along Dixon Street during street sweeping, issuing between five and ten tickets on these mornings.

In addition, parking is not permitted on the following street segments within the Authority:

- Adjacent to Vista Park on both sides of Valle Vista Avenue
- Along Mission Boulevard
- Along Tennyson Road

Considering these parking restrictions within the Authority Boundary, there are regularly 533 on-street spaces and 1,264 off-street parking spaces for a net capacity of 1,797 spaces. Temporary parking restrictions due to street sweeping drop this effective supply by approximately 65 spaces two mornings every other week, subject to change.

PARKING DEMAND

Parking demand was observed on the first three days of November 2011 between 6:00 AM and noon, investigating both on-street and off-street parking occupancy. A similar occupancy survey was conducted in January of 2010 for the South Hayward BART Station Access Study. The objective of this updated survey is to verify the findings and monitor recent trends in parking demand. For this report, the parking occupancy or parking demand survey area was confined to the Authority boundary (illustrated in Figure 2-1).

Parking Occupancy

Off-Street Parking

As discussed in the parking supply section, BART provides 1,264 parking spaces in its lots at the South Hayward BART station. One of these lots, the Main Lot adjacent to the station, for the

⁶ A concern has been raised about the availability of parking for BART commuters along 10th, 11th, 12th and 13th Streets. Nelson/Nygaard is conducting an additional survey of these streets to determine actual availability and viability. However, the data was not yet available for this draft of the report.

purposes of this study can be divided into three: North, Center, and South. The East lot, on the east side of Dixon Street, is slightly farther from the station entrance.

These four BART lots were surveyed in January 2010. For that survey, the lots were checked twice per day, at 9:00 AM and again at 11:30 AM, to understand not only how many people parked in the lots but also when people tended to arrive at BART. For the current survey, off-street parking spaces in the four BART lots were surveyed just once each day, at noon on Tuesday, Wednesday, and Thursday, November 1, 2, and 3, 2011. The off-street lots are almost exclusively, if not exclusively, used by BART commuters, who generally arrive in the morning and park for the day. Consequently, measuring occupancy at noon should provide a fairly accurate snapshot of peak parking demand at the station.

As shown in Figure 2-3, in November 2011, there were only ten empty spaces in total, eight of them in the East lot, at a slightly longer walking distance from the station than the other lots. All of the empty spaces were in unregulated areas—there were no empty reserved, disabled, or BART official spaces. See Figure 2-4 for a map of the average off-street occupancy.

Figure 2-3 Off-Street Parking Occupancy

Zone	Total Capacity	Total Empty Spaces	Occupancy %
North Lot	406	1	99.8%
Center Lot	104	0	100.0%
South Lot	580	1	99.8%
East Lot	174	8	95.4%
BART Lots	1264	10	99.2%

Data collected November 2011

Both the 2010 and 2011 surveys found that midday, midweek, BART lot occupancy is very high; in fact, it was higher in November 2011 than it had been in January 2010. The earlier survey in January 2010 found that the three main lots almost fill to capacity by midday, and that as lots reach capacity BART patrons tend to park on Dixon Street rather than in the BART East lot, which is across Dixon Street. This may be because the street parking on Dixon is unrestricted (except during street sweeping), and because parking there is slightly more convenient to the station than the lot.

The November 2011 survey observed the same occurrence: Dixon Street adjacent to the station filled with cars in conjunction with the BART East Parking Lot. However, whereas in 2010, both the BART East Parking Lot and on-street parking along Dixon Street in front of the station filled to approximately 40% of capacity, by late 2011, these areas filled to over 95% of capacity. In November of 2011 the BART Main Parking Lot was 100% full at noon on three days, and Dixon Street in front of the station housed more cars than spaces, implying that some cars were illegally or very tightly parked there. See Figure 2-5 for a comparison of the occupancy rates found in the two surveys.

Figure 2-5 Off-Street Parking Occupancy Rates, 2010 and 2011

Zone	Parking Capacity	January 2010		November 2011	
		11AM Occupancy	11AM % Occupancy	Noon Occupancy	Noon % Occupancy
BART Main Parking Lot	1090	1070	98%	1088	100%
BART East Parking Lot	174	68	39%	166	95%
BART Lots Subtotal	1264	1138	90%	1254	99%
Dixon Street Parking (Tennyson-Sea Mist)	66	28	42%	69	104%
Total including Dixon St	1330	1166	86%	1322	99%

Data collected January 2010 and November 2011

The following section addresses potential causes of this increase in occupancy at the South Hayward BART station.

Regional Initiatives & Parking Demand

The surge in off-street parking in the BART East Parking Lot from 39% occupancy to 95% occupancy in less than two years could be a result of a number of factors. One indicator of the improving regional economy is increased ridership and parking demand throughout the BART system. After dipping in 2008 and 2009, BART ridership has rebounded, and BART staff indicates that parking lots throughout the system seem to be more full in the last year. However, this observation has not been quantified,⁷ but it helps to contextualize the increase in parking demand at South Hayward BART Station. A few regional initiatives, including increasing the cost of driving to San Francisco and parking at other stations, may also be contributing to increased parking occupancy at South Hayward BART Station.

A \$2.50 toll for crossing the Bay Bridge was implemented on July 1, 2010 for carpoolers who had previously crossed for free. The charge for vehicles with less than three occupants crossing the bridge increased to \$6 during the weekday peak period from \$4. As a result of these toll increases, many drivers may have switched modes, choosing to take BART across the San Francisco Bay. The increased utilization of the off-street parking lots at South Hayward BART station may be partially caused by this toll increase. In fact, BART ridership at all three stations (Hayward, South Hayward and Union City stations) did increase after the initiation of higher tolls in mid-2010, as illustrated in Figure 2-6 and Figure 2-7.

Additionally, increased parking demand at South Hayward may be a result of parking charge implementation at neighboring BART stations. The closest station to the south, Union City, began charging for parking in recent years. BART has charged a \$1 daily fee to park at the Union City station since April of 2009, and the City of Union City began charging for parking at adjacent City-owned parking lots and streets near the station in March 2010. The daily parking charge in the City-owned lots is \$3, or \$2/day if a quarterly parking pass is purchased⁸. On-street parking near the station costs \$0.50/hour with no time limit from 8AM – 8PM. As a result of the parking charges, parking utilization has fallen in the two City-owned parking lots. Utilization remains high at the BART-owned Union City parking lot, where the daily fee is still \$1. Ridership at Union

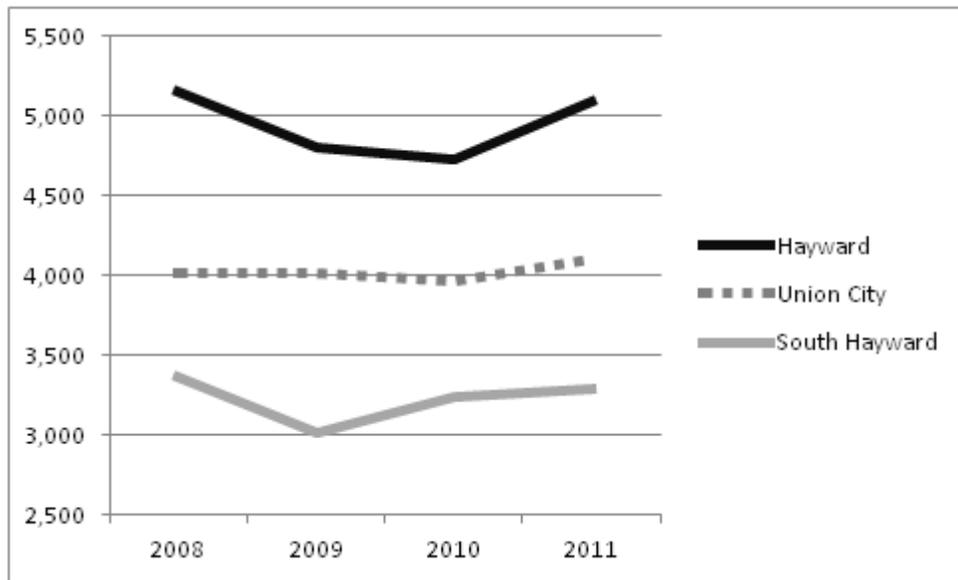
⁷ This study does not analyze behavior at other BART stations.

⁸ In Union City, quarterly parking permits cost \$120, which amounts to roughly \$2/day assuming patrons park Monday-Friday over three months.

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City has remained steady through both parking fee introductions, which could be a result of more patrons accessing the station by other modes than park and ride, partially by the addition of new transit-oriented development at the station. The slight increase in ridership at South Hayward between 2010 and 2011 (Figure 2-6) could be a result of park and ride patrons shifting from Union City to South Hayward. However, the ridership increase at Hayward, which is further away from Union City than South Hayward, is even larger than at South Hayward, so it is uncertain whether the increase in ridership at South Hayward can be attributed to the \$3 fee introduction in the City-owned lots in Union City.

Figure 2-6 Ridership at Hayward, Union City, and South Hayward BART Stations



Data from November 2008, 2009, 2010 and 2011

Figure 2-7 Average Weekday Ridership

Station	Average Weekly Entries (Excluding Holidays)					Station Total
	11/3/2008-11/14/2008	11/2/2009-11/13/2009	11/1/2010-11/12/2010	10/31/2011-11/11/2011	% Change (2008-2011)	
Hayward	5,153	4,799	4,728	5,092	-1.18%	19,772
Union City	4,014	4,019	3,967	4,102	2.19%	16,102
South Hayward	3,363	3,008	3,239	3,294	-2.05%	12,904

On-Street Parking

To gauge on-street parking demand, surveyors recorded the number of cars parked within each street segment within the Authority boundary.⁹ Many of the on-street parking spaces available near the station are in residential areas, so it was important to find a way to separate resident parking from BART commuter parking. To achieve this, the areas were surveyed twice (in both January 2010 and November 2011), once at 6:00 AM and again at 11:00 AM. An effort was made to determine whether specific cars stayed in place—any car parked on the street at 6:00 AM that was still there at 11:00 AM could reasonably be considered to belong to a resident, and therefore was excluded from the count of BART riders.

In January 2010, roughly 30% of on-street spaces were full at both 6:00 AM and 11:30 AM; however, the distribution of these spaces changed as the morning wore on. By 11:30 AM, on-street spaces near the station filled, while those further from the station emptied. Overall occupancy decreased by 4% between 6:00 AM and 11:30 AM.

November 2011 on-street parking occupancy trends are similar to those observed in January 2010. At 6:00 AM in November 2011, parking on all the streets within the Authority is light, with an average of only 31% of available spaces occupied (refer to Figure 2-8). Occupancy of specific segments is shown in Figure 2-9, which provides a more fine-grained perspective. Street segments at the periphery of the Authority boundary are relatively more occupied, but even there the occupancy does not surpass 85%.

⁹ The Nelson\Nygaard on-street parking average occupancy analysis incorporates posted parking restrictions. For instance, when calculating the proportion of parking spaces occupied, those spaces unavailable due to parking restrictions are not included in the total supply during the period of the restriction.

Figure 2-8 On-Street Parking Occupancy Within the Authority Boundary

Survey	On-Street Parking Capacity	6AM			11:30AM			Change in Occupancy between 6AM and 11:30AM
		Number of Spaces Occupied	Number of Spaces Unoccupied	6AM % Occupancy	Number of Spaces Occupied	Number of Spaces Unoccupied	11:30AM % Occupancy	
January 2010	533	178	355	33%	156	377	29%	-4%
November 2011	533	164	369	31%	205	328	38%	8%

Data collected January 2010 and November 2011

At 11:30 AM, on-street spaces within the Authority boundary are slightly more occupied, with 205 (38%) of the 533 spaces occupied. As expected, the distribution of these spaces is the reverse of the 6:00 AM occupancy: the highest relative on-street occupancy is centered on the BART station, not at the periphery of the Authority boundary. It is likely that many residents, who at 6:00 AM parked on the street, have left by 11:00 AM to work or run errands. Between 6:00 AM and 11:30 AM, primarily BART patrons arrived and parked near the station. As can be seen in Figure 2-9, along Dixon Street in front of BART, parking is filled to capacity or beyond (with illegal or very tight parking). Thus, we can conclude that BART spillover parking is first confined to Dixon Street. As Dixon Street and the BART off-street parking lots fill to capacity, parking demand extends across Tennyson Avenue along the west side of 12th Street and 13th Street.

Parking Turnover

Average occupancy figures can mask parking turnover, or the rate of parking usage. Parking turnover identifies the number of discrete vehicles that occupy a single space over a given time. While average occupancy surrounding the South Hayward BART station declined between 6:00 AM and 11:30 AM on all streets except Dixon Street and the west side of 12th Street, many vehicles entered the station area to park after 6:00 AM—replacing vehicles that left the area in the AM peak period.

Parking turnover data were recorded for on-street parking only. This was in part to be able to differentiate the cars of residents parking in front of their homes from those of commuters parking outside of the BART lots. To identify unique vehicles, the last three digits of each license plate were recorded. From this, the number of new vehicles, presumably accessing BART, could be calculated. The November 2011 parking occupancy survey revealed that within the entire Authority boundary, 125 new vehicles parked on neighborhood streets. This turnover figure is close to what was observed in January 2010. In that on-street occupancy survey, on average 128 new, non-resident vehicles parked on-street within the Authority.

As would be expected, these vehicles tended to park close to the BART station. Turnover was much higher along Dixon Street in front of BART than on most other streets within the Authority. In fact, 69 (55%) of the 125 new (nonresident) vehicles parking on the street network within the Authority boundary between 6:00 AM and 11:30 AM parked along the two blocks of Dixon Street in front of the station. However, a few other streets also experienced high turnover, most of them within a reasonable straight-line walk from the BART station.

Figure 2-9 demonstrates that people who drive to BART and park preferred to park adjacent to the station along Dixon Street or south east of the station along Dixon Street and Copperfield Avenue. Some people chose to park north of Tennyson Road, along 12th and 13th Streets. It is

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possible that this is a result of the BART parking lots filling to capacity, causing people to look further afield for parking, and replacing the cars of residents who had driven away. Also, people may choose to park in a location that facilitates exiting the station area and driving home or in areas where they prefer to walk. However, this spillover into the residential area is mostly confined to within two blocks of the station, in part due to parking restrictions along Tennyson Road. In spite of some spillover, the majority of on-street parking spaces are empty during the day.

Figure 2-9 On Street Parking Occupancy - 6 AM

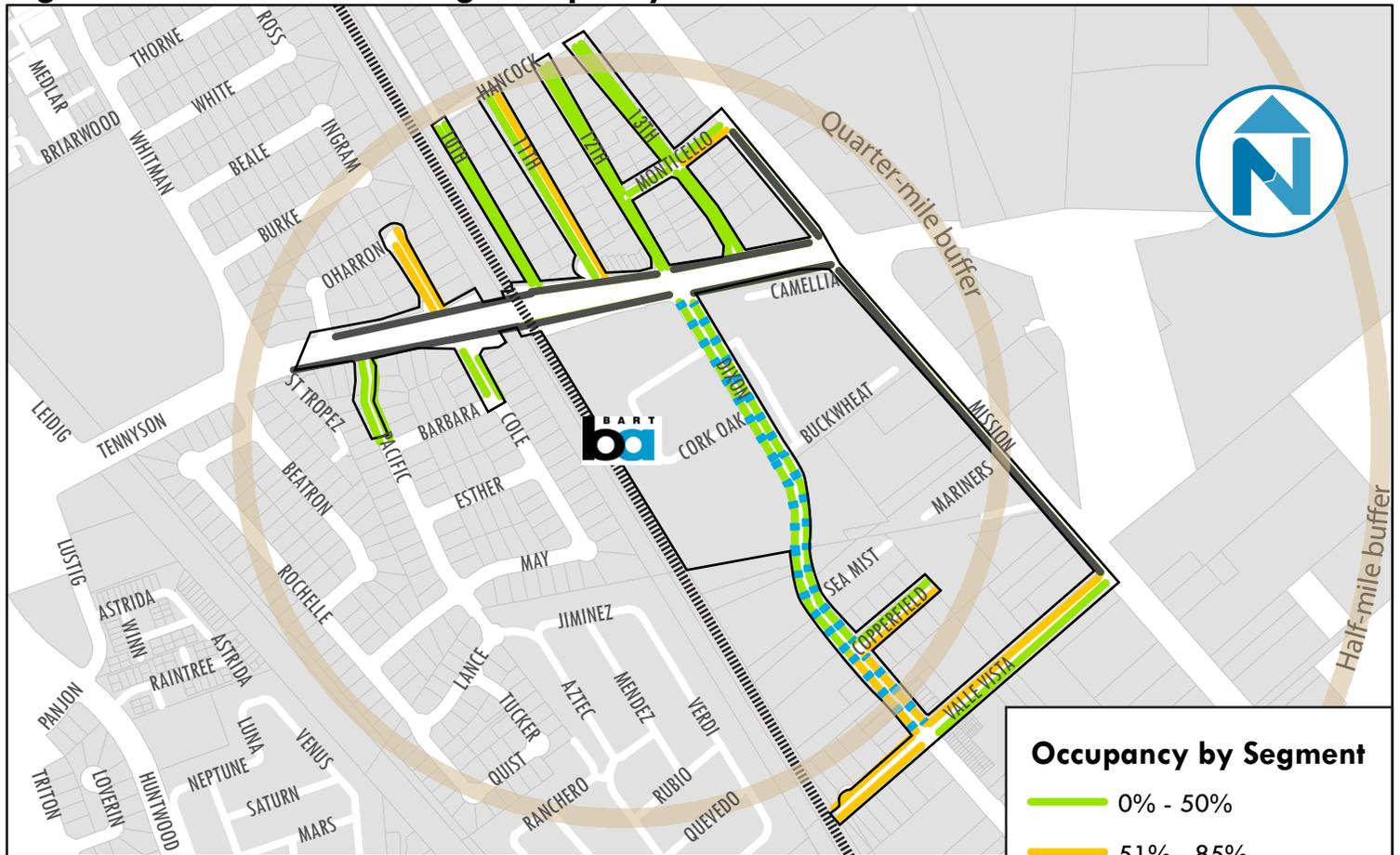
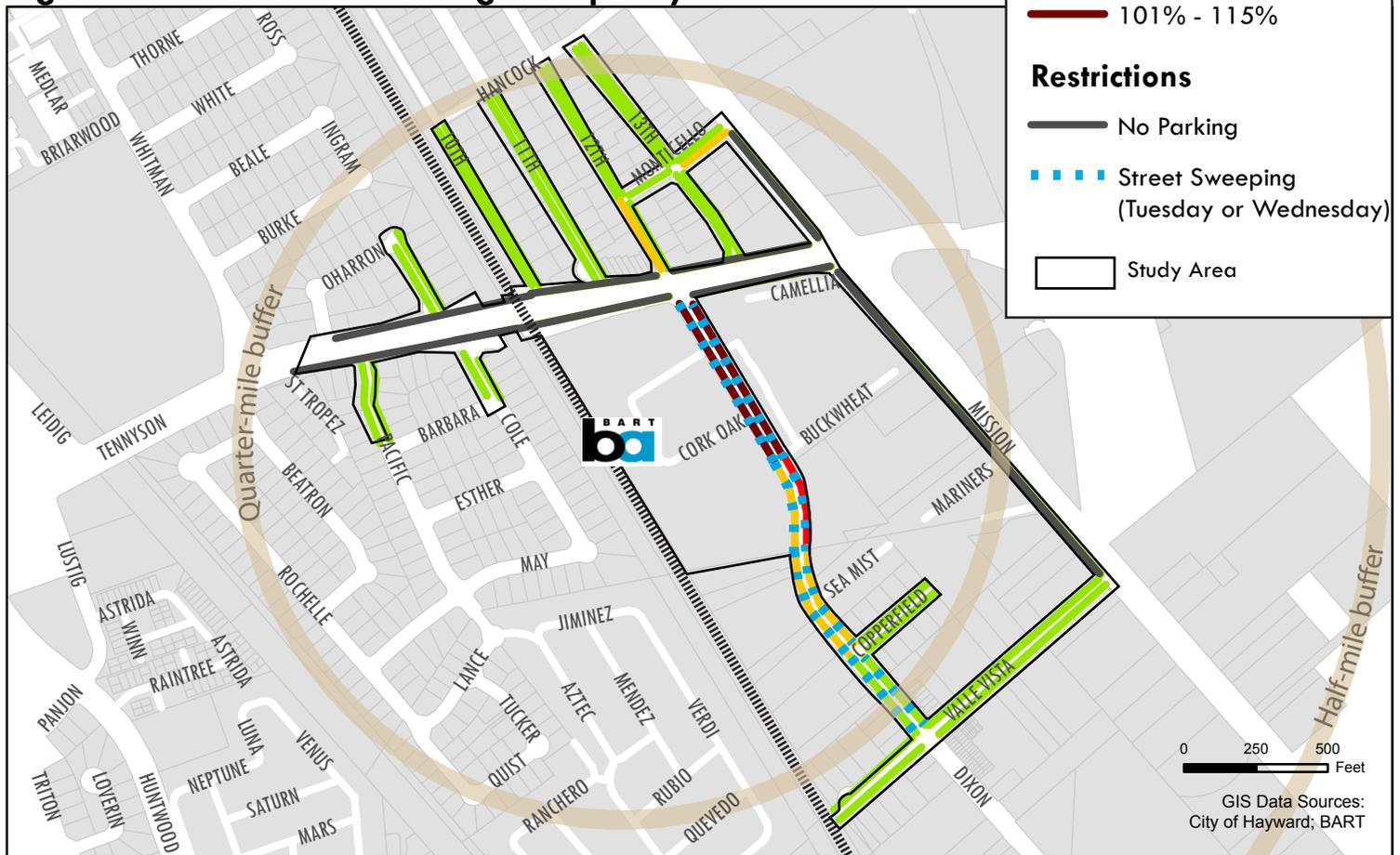


Figure 2-10 On Street Parking Occupancy - 11 AM



Occupancy by Segment

- █ 0% - 50%
- █ 51% - 85%
- █ 86% - 100%
- █ 101% - 115%

Restrictions

- No Parking
- Street Sweeping (Tuesday or Wednesday)
- Study Area

0 250 500 Feet
 GIS Data Sources:
 City of Hayward; BART

3 ALTERNATIVES ANALYSIS

This section examines ways to balance the needs of South Hayward BART patrons and area residents, and visitors to the surrounding neighborhoods. The solutions focus on managing parking in the near term and providing enough parking for both current BART patrons and residents who park on the street network. Looking further ahead, the goal is to foster increasing BART ridership. Understanding that at suburban BART stations, like South Hayward, ridership is, and may in the near-term continue to be, heavily reliant on parking availability. Therefore, a secondary goal of this project is to maintain an occupancy rate of 98% in the BART Main Lot, which would leave approximately 22 spaces in the BART Main Lot empty. The long-term parking demand is further discussed in Appendix A.

Before delving into alternatives for meeting the current parking demand, the following section articulates parking supply and demand assumptions that underlie the alternatives analysis.

PLANNED PARKING SUPPLY & DEMAND

Changes in the supply of both on- and off-street parking are forthcoming. In the long-term, the entire off-street BART parking supply may potentially be replaced with a mix of affordable housing, market rate rental and for-sale housing, some retail, and a parking structure. More imminent and the focus of this analysis, the BART East Parking Lot will lose all 174 spaces when the site is developed. In place of parking, the site is planned to house approximately 203 market rate units and 151 affordable units between Mission Boulevard and Dixon Street. With this development, the future off-street BART parking supply will drop from 1,264 to 1,090 spaces.

Partially offsetting the removal of the 174 spaces in the BART East Parking Lot, as part of the Authority formation, this project operationalizes additional on-street parking along Tennyson Road. Tennyson Road between Mission Boulevard and Huntwood Avenue could open an additional 108 parking spaces within the Authority boundary.¹⁰

The number of on-street parking spaces will also be affected by the Dixon Street Improvement project. In front of the BART station, the parking supply on Dixon Street will be reduced by 72 spaces to accommodate a planned street redesign.

Due to these three projects, total supply of parking within the Authority boundary will be reduced by 138 spaces to 1,659 spaces. Refer to Figure 3-1 for a description of planned on- and off-street parking supply.

¹⁰ The Tennyson Road parking project will add an additional 51 spaces outside the bounds of the Authority, but within a ½-mile of the station. One half-mile is a 10-minute walk along Tennyson Road to the station, and due to its convenience, could effectively be used to bolster the supply of parking at the South Hayward BART station. This analysis is confined to the bounds of the Authority study area.

Figure 3-1 Planned On- and Off-Street Parking Supply

Zone	Within Authority Boundary
Existing On-Street Parking Supply	533
Dixon Street Improvement Project	-72
Tennyson Road	108
Subtotal Planned On-Street Parking Supply	569
Existing Off-Street Parking Supply	1264
Removal of East Lot	-174
Subtotal of Planned Off-Street Parking Supply	1090
Total On- and Off-Street Parking	1,659

As stated in Chapter 2, current BART parking demand regularly fills 1,254 of the 1,264 off-street parking spaces. Additionally, the November 2011 parking survey within the Authority concluded that over three days, on average, 125 BART riders parked on neighborhood streets. Taken together, within the Authority on- and off-street demand for parking spaces due to BART is 1,379. Parking demand has risen over the last year and a half from 1,266 spaces in January 2010 to 1,379 spaces in November 2011—an increase of 9%. However, for initial planning purposes, this report assumes that current parking demand has largely adjusted to regional initiatives. Parking management strategies discussed in Chapter 4 can help maintain current levels of parking demand, while boosting BART ridership and access via other modes. Figure 3-2 demonstrates the gap between the planned parking supply (of 1,659 spaces) after the removal of the BART East Lot and implementation of on-street parking projects, along with the expected near-term parking demand of 1,379 spaces. **Under these circumstances, there would be a total surplus of 280 parking spaces within the Authority.**

Figure 3-2 Planned BART Parking Supply & Demand within the Authority Boundary

Zone	Parking Supply	Parking Demand	Supply - Demand Gap
On-Street Parking	569	125	444
Off-Street Parking	1090	1254	-164
Total	1,659	1379	280

As shown in Figure 3-2, if the on- and off-street parking were treated as one parking pool, there is more than enough on- and off-street parking to meet current BART parking demand.

However, BART is not the only entity vying for access to the parking supply within a ¼-mile of the South Hayward station. Residents of and visitors to the area also would like to park on the street. The November 2011 parking survey found that at 11:30 AM, on average, there were 80 neighborhood residents parked on the street. At 6:00 AM, these 80 cars plus an additional 85

cars were parked on the streets within the Authority, for a total of 165 cars. Because at 6:00 AM, there is virtually no parking demand related to BART or neighboring commercial entities, the largest cumulative demand for on-street parking from both residents and BART patrons can be observed at midday.

The following alternatives provide a blueprint for meeting existing residential and BART demand for parking, given planned changes to the future parking supply.

TYPE & LOCATION OF FUTURE PARKING SUPPLY

As the near term goal is to ensure that the development of the BART East Lot does not adversely affect BART ridership or resident parking needs, the following alternatives utilize parts of existing on-street parking to accommodate the overflow from the BART Main Lot. The balance of the on-street spaces would be reserved for residents of the South Hayward BART station area. Assuming existing parking demand remains unchanged and that the 1,090-space BART lot fills first, additional patrons who drive and park at BART would spill over onto the street. As shown in Figure 3-3, BART-related on-street parking demand amounts to 289 spaces, or approximately 50% of the available on-street parking supply within the Authority. Therefore, the remaining 280 spaces could be reserved for neighborhood residents. To assess the desire for residential on-street parking, the Authority should solicit residential requests for on-street parking, as part of the project. It is possible that the number of requested residential permits will exceed 280 spaces; however actual residential demand was observed to be only 80 spaces in November 2011. The following alternatives assume the number of residents' vehicles parked on-street within the Authority will not exceed 280 spaces, or three and a half times the number of residents who currently park on the street. The remaining 289 on-street spaces within the Authority will be reserved to meet the entire existing BART parking demand. The BART parking demand is 1379 and there are 1090 off-street spaces, therefore, to meet the BART parking demand, 289 on-street spaces are needed.

Figure 3-3 On-Street Parking Reserved for BART Patrons and South Hayward Residents

Zone	Supply	Residential Demand		BART Demand		Supply Reserved for BART Patrons		Supply Reserved for Residents		Total
		No. of Spaces	% of Supply	No. of Spaces	% of Supply	No. of Spaces	% of Supply	No. of Spaces	% of Supply	
Planned On-Street Parking	569	80	14%	289	50%	289	50%	280	50%	100%
Planned Off-Street Parking	1090	0	0%	1090	100%	1090	100%	0	0%	100%
On- and Off-Street Parking Total	1659	80	5%	1379	83%	1379	83%	280	17%	100%

While each of the following alternatives accommodates current on-street parking demand (of 289 spaces), they differ in convenience for BART riders and impact on the neighborhood. Alternatives are presented by order of least impact on residents of the South Hayward BART Station area. All alternatives operationalize 289 spaces. The recommended alternative will depend on which strategy best meets the goals of the neighborhood and BART.

Alternative 1

One way to accommodate the expected 289-space overflow parking demand on streets is to first confine BART parking to those areas currently with fewer housing units or little on-street parking demand. Parking spaces along Tennyson Road, proposed to be newly striped, are excellent candidates. Tennyson Road is a four-lane collector that currently prohibits on-street parking, and in recent years parking has been prohibited due to a lack of demand and safety concerns. One hundred fifty-nine spaces on Tennyson Road could be introduced, although 51 of these spaces would be located outside the Authority boundary. All 159 spaces are within a 10-minute walk of the station. In this alternative, all 159 newly striped spaces along Tennyson Road within a ½-mile of the station—even those outside the ¼-mile Authority boundary—could be reserved for BART patrons. In this manner, over 55% of the BART-related parking spillover onto neighborhood streets could be accommodated in parking spaces that had never been available for residents. Operationalizing 159 spaces along Tennyson Road for BART patrons would not remove parking spaces from the existing residential supply, and would thus have minimal impact on residential parking. However, the Authority boundary would have to be formally modified.

The remaining 130 BART-demanded spaces could be accommodated on other streets within the Authority. To preserve on-street spaces for residential demand throughout the Authority, one side of the street on each block could be reserved for BART patrons, while the other side could be reserved for residential parking. Facilitating the general preference of BART riders to park close to the station without disproportionately affecting certain residents of the area, one side of the street on blocks closest to the station should be reserved for BART parking first. Additional BART-reserved parking could expand outward from the Station until a total of 289 spaces are reserved for BART riders. Parking on Mission Boulevard is not proposed herein.

Alternative 2

Alternatively, in lieu of operationalizing all of the newly created parking spaces along Tennyson Road, only those spaces within the Authority could be reserved for BART parking. This would preclude changing the boundary of the Authority. Those spaces on Tennyson Road further than ¼-mile away from the station would not be reserved for BART riders. In Alternative 2, the 108 newly striped spaces on Tennyson Road within the Authority could be reserved explicitly for BART patrons. If this alternative is selected, it would not be necessary to create parking spaces along Tennyson outside the Authority boundary. Residents of the station area are not accustomed to parking on Tennyson Road, so such an allocation to BART patrons would probably not be seen by residents as a “loss” of existing parking.

However, current BART parking demand outstrips the 108 new Tennyson Road spaces. The on-street BART parking demand above 108 parking spaces, which can be accommodated along Tennyson Road within the Authority boundary, could be served by the locations where BART commuters currently park, as a convenience to BART riders. However, to ensure that residents of these streets are still able to park in front of their houses, one side of each street should be reserved for residents, as discussed in Alternative 1.

Alternative 2 differs from Alternative 1 in geographic reach. Because Alternative 1 utilizes more spaces along Tennyson Road to serve BART demand, it affects less of the South Hayward neighborhood that currently permits on-street parking than Alternative 2.

Alternative 3

Alternative 3 has an unpredictable and potentially uneven impact on residents of the South Hayward BART Station area; however, it may be the easiest to implement. Alternative 3 envisions the distribution of district-wide permits to 289 non-residents. BART patrons would be left to choose where they wished to park. Logically, those spaces nearest to the station (where BART patrons currently park) would fill first and a parking occupancy scenario similar to existing conditions would likely arise (though with no parking on Dixon Street adjacent to the station). However, on those blocks closest to BART, it may be difficult for residents to find a parking spot close to their home, depending on when a resident needs to park versus when BART commuters would be accessing their car to leave the area. Residents near the station on Dixon Street, Copperfield Avenue, and 12th Street would be disproportionately burdened by this alternative.

Preferred Alternative

Because of its predictable and relatively minimal impact on residents of the South Hayward BART Station area, Alternative 1 is recommended. The 159 spaces along Tennyson Road, which will be striped in conjunction with the development of the BART East Lot, should be reserved for BART patrons. It is recommended that the Authority formally expand its boundary to encompass the proposed 159 newly striped spaces on Tennyson Road. The remaining BART-related parking demand of 130 on-street spaces should be accommodated along the east side of the following streets, leaving the west side available for residential parking:

- 13th Street (35 spaces on the east side of the street)
- 12th Street (28 spaces on the east side of the street)
- 11th Street (25 spaces on the east side of the street)
- 10th Street (28 spaces on the east side of the street)

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South Hayward BART Station Access Authority

The south side of the following street should be reserved for BART patrons, while the north side would be reserved for residential parking only.

- Monticello Street (15 spaces on the south side of the street)

The Authority could amend this provision by potentially increasing the supply of on-street parking available to BART patrons. Additional BART-related parking demand could be accommodated on one side of remaining streets within the Authority, as necessary. While current BART-related on-street parking demand within the Authority is 130 spaces (assuming 159 BART spaces on Tennyson Road), the Authority could operationalize another 100 on-street spaces for BART parking. In addition to 159 spaces on Tennyson Road, this strategy could net a total of 230 on-street spaces for BART patrons. The other side of the street would be reserved for residential parking, for 231 spaces. However, continued accommodation of additional parking would not help BART achieve its long term access goals. Before expanding the BART parking supply, the Authority should apply parking prices to help maintain parking demand at the current level, and invest in other access improvements to increase BART ridership.

Pedestrian access enhancements could include better lighting and visual connections to the BART station, wayfinding signage, and/or infrastructure improvements. For instance, 10th and 11th Streets end in cul-de-sacs adjacent to Tennyson Road, potentially complicating direct access to the faregates. At 10th Street, there is currently an ADA non-compliant dirt pathway connecting to Tennyson Road. At the southeast end of 11th Street, there is a 48"-wide sidewalk and ramp to Tennyson Street, which provides an accessible pedestrian facility. Additional crossing improvement is also recommended at the intersection of 12th Street and Tennyson Road. The intersection is currently controlled by a traffic signal, but the crosswalk is faded and high-visibility longitudinal lines should be installed.¹¹

The following two chapters discuss parking pricing and the financial impacts associated with this alternative. Chapter 6 outlines an implementation plan and schedule, along with a variety of strategies that should proceed implementation of the residential and BART parking permit program, including wayfinding, safety, and pedestrian/bicycle improvements (better lighting, street crossings, removal of obstructions, etc.) in the station area.

¹¹ A concern has been raised about the availability of parking for BART commuters along 10th, 11th, 12th and 13th Streets. Nelson/Nygaard is conducting an additional survey of these streets to determine actual availability and viability. However, the data were not yet available for this draft of the report.

4 PRICING PARKING

One way to accommodate the existing demand for parking and provide the flexibility to meet additional future ridership (and subsequent parking demand) is to increase the productivity, or the ratio of vehicles parked to spaces of existing parking facilities. Demand management is one of the best ways to increase productivity and essentially do more with the same resources. Because more than half of patrons access the South Hayward BART station using a private vehicle, adjusting the price of parking is a potentially powerful tool for spreading peak parking demand and increasing off-peak parking demand. In addition, parking pricing can also help manage the number of parkers, while also generating revenue that can be invested in access improvements, which will encourage more patrons to access the station by other modes than driving. If parking prices are set too high and there is little investment in alternative access modes, however, BART may experience a reduction in ridership, which would be opposite of one of the goals of this study.

BART has established parking policies, such as parking pricing and midday and paid reserved spaces, but most BART parking is subsidized: parking fees do not cover the cost of construction, or the \$1.58 cost per space per day for routine operations, maintenance and enforcement.¹² Currently, almost all parking, both on- and off-street, is free at the South Hayward BART station. There are 39 spaces in the Main Lot that cost \$42/month. Only 19 are reserved monthly at this rate. The remaining 20 spaces are available for free daily parking after 10 AM and regularly fill. Because all other passengers at South Hayward BART station know that they must arrive by a certain time to get a parking space, a very large number of passengers arrive at the station during a very short time window during the morning peak. Finally, because unreserved parking fills to capacity during the peak hour and spills over into on-street spaces, there are few spaces left available to people who wish to ride BART at midday (aside from the reserved spaces), when train capacity is plentiful.

Recently, neighboring Union City BART station began charging for parking to help manage parking demand after transit-oriented development reconfigured the available parking supply. As South Hayward BART addresses the same forces, it may consider a similar response.

ESTABLISHING & ADJUSTING PARKING CHARGES

The Authority could begin to charge for parking at the South Hayward BART Main Lot and in on-street spaces. First, it could sell more monthly permits for reserved parking spaces popular among commuters. Virtually every station in the BART system charging for parking offers some amount of reserved monthly parking permits. The second option is to charge for daily parking passes. The price of daily and/or monthly parking permits at South Hayward should be initially set to match the price of parking at adjacent stations and adjusted thereafter to reflect demand. This strategy has recently been tested for daily unreserved parking at Daly City BART, where the daily parking

¹² This is the aggregate cost for BART surface lots per BART FY10 Parking Operations and Maintenance Cost Analysis Annual Expense Summary, Jeffrey Ordway, BART Property Development, December 19, 2011.

fee was raised from \$2 to \$3 in 2009, and then adjusted back to \$2 in March 2010 when occupancy rates fell. BART could also charge hourly fees for parking, with a maximum daily fee; however, this would result in additional operations and enforcement costs.

BART should offer both monthly reserved and daily parking. Prior to initiating any charges for parking at the South Hayward BART station, an on-street and off-street parking occupancy survey at Downtown Hayward BART station will be conducted in order to establish a baseline against which to measure the effects of parking charges at neighboring South Hayward BART station.

Phase One Recommendations

Daily Parking in BART Main Lot

At the introduction of the paid parking system at the South Hayward BART station, the daily parking fee should correspond with the daily fee at neighboring BART stations. At Union City the daily fee in the BART lot is \$1 and in the city-owned lot \$3. At South Hayward, the introductory and minimum parking fee should be \$1/day and the maximum fee \$5/day.¹³ If demand remains high at a fee of \$5/day, the Authority should consider raising the price ceiling with approval from the BART Board. Daily flat rates of \$1 have the advantage of being easy to enforce and are easier to gain acceptance from affected BART riders.¹⁴ Based on BART history, a parking charge of \$1/day has had little long-term impact on parking demand. Therefore, all 1,090 spaces in the BART Main Lot should be priced at \$1/day. In Phase One, the 39 spaces that are currently allocated to monthly reserved parking (of which only 19 are reserved) should be converted to daily fee parking for those who arrive at the station after 10:00 AM in order to ensure some parking supply available for off-peak arrivers. All remaining spaces in the BART Main Lot should be made available for daily parking. Daily parking fees should be required Monday through Friday from 4:00 AM to 3:00 PM.

Depending on the effect this has on parking demand, charges should be adjusted at 50-cent increments, preferably reviewed every six months. For example, if a \$1/day flat rate has no impact on parking demand and lots continue to fill and parking spills over onto residential streets or streets outside the Authority boundary, the price of parking should be ratcheted up to \$1.50/day and so on. However, if after the next six months, occupancy has fallen below 90% in off-street lots, the charge should be recalibrated to \$1/day, minimum. Ninety-eight percent is the recommended occupancy target, as it ensures that some (approximately 22 spaces in the South Hayward BART Main Lot) parking spaces are always available as needed. Ninety percent occupancy would leave approximately 110 spaces available. At or below this occupancy, parking facilities are not being fully utilized; and without other significant access mode improvements or behavioral change (fewer drivers), BART ridership may be adversely affected. The goal is to allow BART to continue growing its ridership.

Monthly Parking in On-Street Facilities

To avoid adverse impacts on the surrounding neighborhood—particularly after the removal of the BART East Lot—on-street parking must be addressed in conjunction with off-street parking charges. When confronted with parking charges in off-street lots, some BART patrons may choose

¹³ A daily fee of \$1 is consistent with fee introductions at other BART Stations. The maximum fee of \$5 was implemented in the Fruitvale BART Paid Parking Program.

¹⁴ Syed, S, A.Golub, & E. Deakin, 2009. "Response of Regional Rail Park-and Ride Users to Parking Price Changes: Systemwide Results and a Detailed Study of Two Stations." TRB.

to park in on-street, free facilities, even if they are less convenient. This parking spillover into residential areas might make it difficult for residents and their visitors to find a place to park near their homes. Spillover into the residential streets is projected to increase—provided parking demand remains unchanged or increases—after the removal of the BART East Lot. Rather than incentivizing additional residential spillover, on-street parking spaces ought to be regulated as discussed in Chapter 3’s Alternatives Analysis, in conjunction with off-street parking charges.

Given the existing parking spillover problems in the residential area surrounding the South Hayward BART station, as well as the likelihood of increased spillover in the near term, it is recommended that South Hayward implement an on-street residential parking permit and on-street BART (or non-residential) parking permit program within the Authority boundaries.

Many cities, including the City of Hayward, implement residential parking permit (RPP) areas by issuing parking permits to residents at a cost established by the City Council. Streets in the neighborhood are posted with signs signaling a Residential Parking Permit area with parking restricted to permit-holders only. These residential parking permits typically allow the residents to park within the area while all others are prohibited from parking there during the designated time. At South Hayward BART station, the RPP district can take the following form:

- Post signs on affected streets to reserve these on-street spaces within the Authority boundary for residents. Vehicles with a permit would be allowed to park on any street in the district designated RPP.
- The Authority should cover the costs of up to two residential parking permits per existing household.¹⁵ The effectively free (to residents) residential permit program is geared towards compensating existing residents’ acceptance of BART commuters parking on the streets. Subsequent resident permits could be sold at \$25 each for two years, in line with the cost for parking permits in other areas of South Hayward.
- For new development within the Authority boundary, the Authority should enable each residential unit to purchase only one permit at a price of \$25 per year.
- Reserve 289 on-street spaces for BART commuter parking permits, following the strategy outlined in Alternative 1, the preferred alternative in Chapter 3. Initially, make all 159 newly created spaces along Tennyson Road available for BART patrons first. As BART demand for parking increases beyond 159 on-street spaces, reserve spaces for BART parking permit holders along one side of 10th Street, 11th Street, 12th Street, 13th Street, and

REINVESTING REVENUE

The Authority will collect all revenue from the monthly on-street parking permits and daily parking fees in the BART Main Lot and use this revenue to administer the parking program. The Authority will contract with a third party vendor to maintain the BART Main Lot and will pay for the cost of parking regulation enforcement and access initiatives both on- and off-street, as elaborated below. The net revenue resulting from BART commuter parking fees or additional residential parking permits should be invested in the neighborhood where the revenue is generated to pay for increased services or transportation and streetscape improvements that the Authority desires.

¹⁵ Assuming those multi-family dwellings located on private streets with private on- and off-street parking do not request additional on-street parking permits, it is estimated that approximately 120 households within the Authority Boundary may request two parking permits for a total of 240 spaces. Under the preferred alternative discussed in Chapter 3, 331 spaces would be reserved for residents which exceeds the 240 predicted demand for permits.

Monticello Street,¹⁶ as necessary until the BART-related demand has been accommodated, to a maximum of 289 spaces.¹⁷ The cost of nonresidential on-street parking permits should correspond with the cost of monthly passes at neighboring stations and daily charges in the off-street BART Main Lot. In Phase 1, the price of a monthly BART commuter parking permit should be \$21.

- Reinvest any net revenue from the parking management program towards improvements in the neighborhood that promote walking, cycling, transit use, or more efficient parking management. Refer to the “Reinvesting Revenue” sidebar for more detailed information.

The impacts of pricing both on-street and off-street parking facilities should be analyzed and prices adjusted to help achieve desired parking occupancy of 98%. If occupancy of reserved on-street parking spaces exceeds 98%, prices for non-residents should be increased in tandem with off-street parking prices until between 90-98% occupancy is achieved. This target occupancy level would be enough to ensure convenient, essentially free parking (as compensation for sharing on-street parking with BART patrons) for residents while allowing paid access for some BART patrons. In addition, reinvesting revenue from the parking program into access improvements could help BART ridership grow and encourage alternative access to the station without increasing the parking supply.

Phase Two Recommendations

In Phase Two, if spillover parking beyond the 289 reserved monthly BART spaces is a problem and residents, businesses or other parkers (e.g., at the neighborhood church and school) lack sufficient parking in the area, the Authority should take one or more of the following actions:

- Raise parking prices for non-residents
- Raise residential permit prices for the third or more vehicle
- Consider expanding the boundaries of the parking program and the Authority boundary, if necessary, if parking demand warrants.

In Phase Two, the proportion and location of daily and monthly permits should also be reassessed and potentially reassigned.

Daily Parking in BART Main Lot

In the BART Main Lot, parking pricing should be managing demand at around 98% occupancy, leaving approximately 22 spaces available during the peak period. The 39 spaces reserved for late (after 10 AM) arrivers could be phased out and the entire lot could become available for daily parking. Daily parking fees should continue to be tied to parking occupancy.

Daily or Hourly Parking in On-Street Facilities

In Phase Two, the Authority may consider transitioning away from monthly parking permits by extending daily or even hourly parking to on-street spaces. Hourly parking charges incentivize

¹⁶ A concern has been raised about the availability of parking for BART commuters along 10th, 11th, 12th and 13th Streets. Nelson/Nygaard is conducting an additional survey of these streets to determine actual availability and viability. However, the data were not yet available for this draft of the report.

¹⁷ Pricing should be utilized to manage parking demand and maintain current parking demand levels. However, if parking demand consistently proves inelastic to price, one side of the remaining streets within the Authority (Copperfield, Valle Vista, Cole, Pacific, and one block of Dixon Street) could be utilized for BART-related parking for an additional 100 spaces.

parking turnover, especially if prices are more expensive during the peak period. Alternatively, daily passes incentivize parking for the entire day, and monthly passes offer little incentive to choose an alternative to driving to BART after the permit has been purchased. As BART intends to encourage alternative access modes, demand-responsive pricing may be an appropriate tool. Potential technologies for implementing these more dynamic charges are discussed in the following section. Transitioning to a more dynamic parking charge would entail additional capital and ongoing costs to the Authority and may not be financially feasible.

PAYMENT & ACCOUNTING MECHANISMS

In Phase One, current demand is intended to be met by daily parking in the BART Main Lot and monthly parking on streets surrounding the station. In Phase Two, daily parking may be extended to on-street spaces. Off-street spaces in the BART Main Lot should continue to be available for a daily fee. There are a variety of ways to charge patrons for parking in and around the BART Main Lot, and the appropriate technology depends on the type of fee.

Phase One Recommendations

Daily Parking in BART Main Lot

Innovations in parking meter technology are rapidly changing the way cities across the United States manage parking and collect parking charges. The primary innovation is wirelessly networked, solar-powered pay stations that accept a wide variety of payment forms. The primary hindrance to multi-space pay stations is the initial capital cost of purchasing the pay stations and on-going maintenance of the stations and administration of a technically more rigorous and technology-dependent program. In order to transition to charging for parking on a daily basis at the South Hayward BART station, the two existing add value pay stations within the faregates should be converted to accept cash as well as BART tickets. In addition, two new Clipper Card readers would need to be installed. Two pay stations within faregates would be sufficient. BART patrons can either pay the daily fee by using cash or credit card or sign up to use a Clipper card as payment.

Monthly Parking in On-Street Facilities

Ease of implementation, previous experience, and the initial low-cost suggest issuing monthly parking permits in Phase 1. The primary benefit of issuing monthly parking permits when establishing a parking management program is its minimal administrative and fiscal burden, especially where spaces are widely disbursed as on-street spaces are. Not only are monthly parking permits the least capital intensive payment mechanism, but as an agency, BART has a history of issuing monthly parking permit tags online.

Currently, BART contracts a third party vendor to manage its monthly parking permit program. The program allows customers to purchase parking permits online via a third party parking permit vendor retained by BART. Permits are then either mailed to the customer's address or printed at home and displayed in the vehicle. Due to ease of implementation, economies of scale, and convenience for BART patrons, BART should extend this existing payment mechanism to the South Hayward BART Station for monthly parking permits. The Authority should reimburse BART the costs of administering the permit program.

Residents of the area could apply for up to two residential parking permits (valid for two years) at no cost. Additional permits could be purchased for an amount to be set by the City Council (\$25 each would be a typical charge). Residential parking permits could be issued via a third party vendor retained by the Authority, the City or BART.

Phase Two Recommendations

Daily Parking in BART Main Lot

Payment and accounting mechanisms for the off-street BART Main Lot will likely not have to change in Phase Two. The pay stations in the fare gates should be sufficient.

Daily or Hourly Parking in On-Street Facilities

To achieve BART's long-term access goals, to incentivize parking turnover (particularly if more retail is one day built on a portion of the BART Main Lot) and to increase productivity of the existing supply, more dynamic, demand-responsive parking charge mechanisms may be warranted in Phase Two. If funds are available and the Authority decides on-street meters are warranted, multi-space pay-and-display machines are recommended on streets with high demand.

Depending on the magnitude of the land use change, the residential parking permit area may need to be modified. For instance, if Tennyson Road or Dixon Street transition to a more commercial/high density residential land use (as currently zoned), residential parking around these centers may be accommodated off-street. Before transitioning to Phase Two, the Authority should review and potentially revise the bounds of the on-street, BART parking program.

Transitioning to daily, on-street non-resident parking facilities will entail additional costs. Pay-and-display multi-space meters cost a minimum of \$10,000. If the Authority utilizes the same multi-space parking meters that are used in the off-street lot, it would assume additional costs to stripe and number individual spaces and to maintain the striping. Alternatively, it is recommended that in Phase Two, a different type of multi-space pay station is utilized to collect fees for on-street parking. Unlike the pay-by-space stations recommended for the BART Main Lot, pay-and-display meters can be used along curbs without designated parking stalls. In fact, if individual stalls are not striped and numbered, people will often park closer together and more efficiently utilize curbside facilities.

One pay-and-display station should be located along each block face with non-residential parking. Patrons would purchase daily (or hourly) parking from the multi-space pay station and display the ticket in the windshield. This system may be less convenient than paying for a specific space at the pay station; however, it would not require striping or numbering of individual spaces and would provide the flexibility to modify the on-street parking arrangement in the future. Additionally, BART riders should be able to purchase a daily reserved space on a certain block via the internet or personal cell phone. Daily or hourly parking in on-street facilities may increase the operations, maintenance, and enforcement costs in Phase Two; and Phase Two may not be financially feasible.

ENFORCEMENT

Enforcement can be a powerful mechanism to promote appropriate behavior. With the initiation of parking restrictions and fees for both on-street and off-street parking spaces, parking regulation enforcement will be critical to educate people who park in the area, promote conformance and safety, and mitigate parking spillover. Enforcement of the program is complicated by cross-agency jurisdiction—the City of Hayward traditionally maintains the City’s streets while BART monitors and maintains parking in the off-street BART lots.

The Authority should utilize a single entity to enforce on- and off-street parking fees and provide a level of security in the neighborhoods. Enforcement can take the form of the part-time BART Community Safety Officers (CSO), Hayward police department cadets, a third party, or some combination. These personnel would patrol the streets within the Authority and the BART Main Lot, at the expense of the Authority. When Union City initiated parking charges, both on-street and within the City-owned parking lots, the salaries of two part-time police cadets were funded with parking violation proceeds. As the Authority collects revenues from parking permits and parking violation fees, the enforcement program should be funded out of the Authority revenues. Until revenues are collected, the cost of enforcement for the first month would be an upfront capital cost.

It is recommended that enforcement personnel also conduct occupancy counts of both on- and off-street parking in October and April.¹⁸ Counts will then be used to adjust the daily and monthly parking fees semiannually, perhaps in January and July.

As the program grows and funding is stable, the Authority may want to consider more advanced technologies that simplify or streamline the enforcement and monitoring procedures in some way—with tools that increase the efficiency of the enforcement officer or automate monitoring procedures. This includes handheld ticket units, curbside sensors, and automated license plate readers.

MAINTENANCE

BART currently maintains the BART Main Lot, and the City of Hayward maintains the streets surrounding the station. It is recommended that the City of Hayward continue to sweep City streets. As the Authority collects the revenue from the parking program, it should fund additional maintenance activities, including those in the BART Main Lot. Using revenues from the parking permit program and parking violations fees, the Authority should contract a third-party vendor to stripe and keep-up the BART Main Lot. However, the Authority and BART should be cognizant of potential BART union issues. Currently, a third party contractor sweeps the parking lot; however, BART personnel maintain the landscaping surrounding South Hayward BART Station. The Authority should coordinate with the BART unions if any existing practice is to be changed.

As maintenance responsibility is shifted to the Authority, it is possible that BART could realize a marginal cost savings. However, until the Authority implements the program and begins receiving revenue, BART should continue to maintain the BART Main Lot for the first six months after the parking pricing program is implemented.

¹⁸ Nelson\Nygaard will provide parking occupancy survey template for use by the Authority.

5 FINANCIAL ANALYSIS

The alternatives analysis (Chapter 3) and parking program recommendations (Chapter 4) develop a strategy for meeting the needs of BART patrons who drive to the station and those who live in the neighborhood of the South Hayward BART station. The following sections assess the revenue expectations and capital and on-going funding needs associated with these recommendations.

PHASE ONE

This financial analysis assumes the entire existing BART Main Lot will be available for BART-related parking. The 39 spaces currently utilized for monthly reserved permit parking will transition to daily, off-peak period parking. As BART currently leases 19 of these 39 spaces for monthly parking, the Authority should remit to BART its lost revenue (\$42/permit) from the 19 spaces currently reserved monthly.¹⁹ All 1,090 spaces will be available on a daily basis for \$1/day. A 2009 study of the BART system found that “introducing daily parking fees of \$1 did not cause significant changes in access mode choice, facility location, or line-haul mode of park-and-ride users.”²⁰ Therefore, this analysis assumes that occupancy will initially remain at 98% of the off-street parking spaces. At this occupancy level, the analysis assumes that after six months, the Authority will increase the price of parking by 50 cents. Previous experience at other BART stations shows that for approximately two weeks after a price increase there is a reduction in parking demand. After a few weeks, however, BART patrons resume parking at the station in equal numbers as before the price increase. While one can only speculate as to the true market price of parking at the South Hayward BART Station, for this analysis, it is assumed that the temporary price elasticity of parking demand holds until parking costs \$3/day. Thus for the purposes of the financial analysis, it is assumed that the price of parking increases in 50 cent increments until the price of \$3 is reached. All new daily rate net revenue would be entirely remitted to the Authority (net of capital and maintenance costs and BART remittance for the 19 existing monthly reserved spaces, discussed below).

On-street parking spaces will be similarly priced, and many of the same demand assumptions are extended to on-street parking spaces. On-street parking is recommended to be shared among BART patrons and residents. Since the three alternatives for sharing on-street parking operationalize 289 BART parking permit hang-tags in Phase One, the revenue and costs associated with on-street parking do not vary by alternative. In other Hayward residential parking permit areas, the citation fee is \$67.50, and it is recommended that the Authority apply the same citation for all parking violations, including those in the off-street parking facility.²¹ At a violation

¹⁹ While this revenue may simply be written off by BART, the remittance is included in the cash flow analysis, as a conservative assumption.

²⁰ Syed, S, A.Golub, & E. Deakin, 2009. “Response of Regional Rail Park-and_ride Users to Parking Price Changes: Systemwide Results and a Detailed Study of Two Stations.” TRB, 2110 <http://pubsindex.trb.org/view.aspx?id=882277>.

²¹ At other stations in the BART system, the parking violation fee is significantly lower than \$67.50.

rate of 1%,²² parking violation revenue is estimated at approximately \$229,000, annually. Before implementation, the BART Board and City Council should determine actions to reconcile citations. For this analysis, because on-street residential parking demand is currently very low, it is assumed that no households within the Authority boundary request more than two on-street parking permits, thus the Authority does not collect revenue from the residential parking permit program. A detailed Phase One ten-year cash flow analysis, along with assumptions and notes, is shown in Figure 5-1.

Capital Funding Needs

Capital costs for monthly parking permit hang-tags are relatively minimal. Rather than creating the infrastructure for selling and distributing permits, the most time and cost effective strategy would be to build onto BART's existing program. As effectively an extension of an existing practice, start-up costs would be nominal. This strategy may also allow the Authority to benefit from the lower per permit cost BART can negotiate with the vendor. The Authority would then reimburse BART for the costs of extending BART's current contract to South Hayward Station.

Charging for daily parking in the BART Main Lot will carry a capital cost. Wayfinding and parking directional signage in Phase One would be critical to communicate to patrons that parking is no longer free. Although the signs themselves do not cost much, developing and installing the signage program may range in cost from \$10,000 to \$20,000. Subsequent phases would build upon the monthly permit model and wayfinding system(s) established in Phase One. This analysis assumes that BART currently has surplus standard (Clipper Card, credit card and cash compatible) multi-space pay stations to be used inside the faregates at South Hayward BART Station; thus the Authority would incur no capital costs for pay stations; however, this should be confirmed by BART Customer Access and Real Estate & Property Development. Capital costs would also need to include funding the enforcement activities referred to in Chapter 4—one full-time parking control officer for the first month of the program.²³ It is assumed that capital costs are covered with a loan, amortized over 20 years at an interest rate of 6%. Refer to Figure 5-1 for capital expenses in Phase One.

Operations & Maintenance Needs

Operations and maintenance (O&M) needs in Phase One for on-street monthly permits include administering permit distribution, maintaining the parking spaces, maintaining two multi-space parking meters inside the fare gates, and enforcing parking restrictions. The costs of maintaining wayfinding signage, including graffiti removal, is also included.

To administer the on-street, monthly parking program, the third party vendor currently charges \$2.70/month/space²⁴ for monthly parking permits at other BART stations, hence this analysis assumes the administrative cost of monthly non-residential and residential permits is \$2.70/month/space. The administrative cost of processing tickets is assumed to be 10% of the expected revenue.

²² Local experience in the Union City BART Station Area indicates that this violation rate is conservative. At Union City, the parking citation rate is above 2%.

²³ This recommendation is drawn from the experience of Union City with a similarly sized parking supply surrounding the Union City BART Station.

²⁴ BART is currently in the process of securing a new vendor ; this permit charge is subject to change.

Administrative costs for the off-street, daily parking program are negligible; however the Authority will incur costs for meter maintenance and parking lot maintenance. The cost of meter maintenance is assumed to be \$57/month for each meter.²⁵ The City of Hayward and BART currently maintain the existing supply of parking; however, this analysis assumes that the Authority will contract operations and maintenance activities in the station district to a third party vendor, just as neighboring Union City does. This analysis assumes that two part-time or one full-time parking control officer will be contracted through BART to enforce parking regulations at a cost of one full-time equivalent employee,²⁶ or \$85,000/year based on BART and City labor rates.²⁷ Per space operations and maintenance costs are expected to be \$0.76/space/day based on non-enforcement BART operations costs and estimates from the Victoria Transport Policy Institute. In neighboring Union City, per space maintenance costs are significantly lower for a similarly sized program. Other unforeseen O&M expenses are included as a cushion of 10%. The estimated operations and maintenance costs are shown in Figure 5-1 below capital cost estimates.

Cash Flow Analysis

To be feasible, the capital, operating, and maintenance costs must be balanced against the predicted revenue. When neighboring Union City implemented a similar program, it immediately experienced a budget surplus of almost 50% of gross revenue. The Phase One cash flow analysis in Figure 5-1 demonstrates a small surplus in the first year of Phase One. The cash flow analysis also shows budget surplus each year, allowing the Authority to reinvest revenue into wayfinding, safety, and access improvements not currently accounted for in this analysis. Figure 5-1 shows the annual cost of the program for the first year, if the capital costs are paid for with cash.

²⁵ Meter maintenance costs vary by location and type of meter. The City of Long Beach, CA pays between \$38-\$57/month for meter maintenance, while the District of Columbia DOT pays \$55/month. The City of Berkeley, CA pays \$29/month. To be conservative, this study uses a meter maintenance cost of \$57/month.

²⁶ Neighboring Union City enforces similarly sized on-street and off-street facilities with one full-time equivalent employee.

²⁷ The first month of enforcement is counted as a capital cost.

Figure 5-1: Phase One Financial Analysis (2012-2021)

ASSUMPTIONS		
	Units	Notes
General		
Annual Interest Rate	6%	
Loan Period (years)	20	
Maintenance/space	\$0.76	BART
Citation Rate	1%	
Citation Fee	\$67.50	
Workdays per Month	21	
Months per Year	12	
Period in Which Elasticity Applies	10.5	
Total Days per Year	365	
BART Main Lot (Daily) Utilization Rate	98%	
BART On-Street Parking Permits (Monthly) Utilization Rate	90%	
BART Off-Street Reserved (Monthly) Utilization Rate	100%	
Elasticity	-0.20	Assumed for first two weeks of price increase
Residential Parking Permits	331	Assumed maximum amount of residential parking permits are requested, such that all remaining parking spaces
CPI (applied to annual O & M costs only)	2.48%	Ten year average
Pricing		
BART Main Lot (Daily) - Year 1	\$1.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1	\$21	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 1 to 1.5	\$1.50	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1 to 1.5	\$32	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly)- Year 1 to 1.5	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 1.5 to 2	\$2.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1.5 to 2	\$42	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1.5 to 2	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 2 to 2.5	\$2.50	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 2 to 2.5	\$53	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 2 to 2.5	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 2.5 to 3	\$3.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 2.5 to 3	\$63	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 2.5 to 3	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
Capital Costs		
Off-street multi-space machines (BART)	2	Assumes BART currently has surplus standard payment machines to be used at South Hayward BART Station
Wayfinding Capital Costs	\$20,000	Assumed to be paid out with a 20-year loan
Other Unforeseen Capital Costs	\$2,000	
Unforeseen Access Improvements	\$0	
O&M Costs		
Enforcement Officer	\$85,000	
Monthly Parking Program Administration	\$2.70	per month
Residential Parking Program Administration (331 spaces)	\$2.70	per year
Meter Maintenance	\$57	per month according to the District DOT (\$55/mo.), City of Berkeley (or \$29/mo.), City of Long Beach (\$37 - \$57/mo.)
BART Main Lot Maintenance	\$0.76	per calendar day according to BART labor & non-labor costs of maintenance & engineering for an individual space in a similarly sized lot in 2010. For the first six months of the program, maintenance of the BART off-street lot will be covered by others.
Ticket processing	10%	Cost for routine maintenance of City streets assumed to be the responsibility of the City of Hayward
Other Unforeseen O&M Costs	10%	Cost of off-street program administration assumed to be negligible.

PARKING SUPPLY										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1090	1090	1090	1090	1090	1090	1090	1090	1090	1090
BART On-Street Parking Permits (Monthly)	289	289	289	289	289	289	289	289	289	289
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Supply	1379									

PARKING DEMAND (W/ TEMPORARY ELASTICITY)										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1068	1056	1047	1046	1046	1046	1046	1046	1046	1046
BART On-Street Parking Permits (Monthly)	260	257	254	254	254	254	254	254	254	254
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Demand	1347	1332	1321	1318						

REVENUE										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	\$269,186	\$465,668	\$725,652	\$790,419	\$790,419	\$790,419	\$790,419	\$790,419	\$790,419	\$790,419
BART On-Street Parking Permits (Monthly)	\$65,545	\$113,207	\$176,198	\$191,924	\$191,924	\$191,924	\$191,924	\$191,924	\$191,924	\$191,924
BART Off-Street Reserved (Monthly)	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576
Parking Ticket Revenue	\$229,176	\$226,610	\$224,629	\$224,259	\$224,259	\$224,259	\$224,259	\$224,259	\$224,259	\$224,259
Total gross revenue	\$554,331	\$795,908	\$1,116,903	\$1,197,026						

EXPENSES										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capital Costs										
Wayfinding Capital Costs	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744
Other Unforeseen Capital Costs	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174
Unforeseen Access Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O&M Costs										
Enforcement Officer	\$85,000	\$87,108	\$89,268	\$91,482	\$93,751	\$96,076	\$98,459	\$100,900	\$103,403	\$105,967
Monthly Parking Program Administration	\$9,364	\$9,596	\$9,834	\$10,078	\$10,328	\$10,584	\$10,846	\$11,115	\$11,391	\$11,673
Residential Parking Program Administration	\$894	\$916	\$939	\$962	\$986	\$1,010	\$1,035	\$1,061	\$1,087	\$1,114
Meter Maintenance	\$1,368	\$1,402	\$1,437	\$1,472	\$1,509	\$1,546	\$1,585	\$1,624	\$1,664	\$1,705
BART Main Lot Maintenance	\$151,183	\$309,865	\$317,549	\$325,425	\$333,495	\$341,766	\$350,242	\$358,928	\$367,829	\$376,951
Ticket processing	\$22,918	\$22,661	\$22,463	\$22,426	\$22,426	\$22,426	\$22,426	\$22,426	\$22,426	\$22,426
Other Unforeseen O&M Costs	\$27,073	\$43,155	\$44,149	\$45,184	\$46,249	\$47,341	\$48,459	\$49,605	\$50,780	\$51,984
Total expenses	\$299,717	\$476,620	\$487,557	\$498,947	\$510,661	\$522,667	\$534,969	\$547,577	\$560,498	\$573,739

NET REVENUE	\$254,615	\$319,288	\$629,346	\$698,079	\$686,365	\$674,360	\$662,057	\$649,449	\$636,528	\$623,287
BALANCE	\$254,615	\$573,902	\$1,203,249	\$1,901,328	\$2,587,693	\$3,262,052	\$3,924,109	\$4,573,558	\$5,210,087	\$5,833,374

PHASE TWO

Phase Two should only be implemented if the District transforms into a more commercial destination with a higher need for short-term parking. If this does not materialize, it is recommended that Phase One remain in place. Phase Two examines finances assuming the following best-case scenario:

- Occupancy has stabilized above 90% in both on- and off-street facilities
- Daily parking charges, along with multi-space pay-and-display meters²⁸, have been implemented in on-street spaces
- The price of parking increases to \$3/day

The Authority may ultimately decide to phase the implementation of Phase Two with a few pay stations installed on key streets to begin with, with additional pay stations installed as demand warrants. For a breakdown of expected revenue for daily on- and off-street parking and parking ticket revenue, refer to Figure 5-2. Because the monthly permit price assumed in Phase One was tied to the price of daily parking permits, revenue does not increase in Phase Two, except when the price of daily parking increases. Unless otherwise stated, the assumptions detailed in Phase One are valid in Phase Two.

Capital Funding Needs

In Phase Two, capital funding needs will be significantly greater due to additional multi-space parking stations on neighborhood streets and associated wayfinding or informational signage. Assuming one pay station for each block face, the number of pay stations required depends on the number of blocks available for BART patrons. In the preferred alternative, all 159 new spaces along Tennyson Road would be reserved for BART, thus decreasing the burden on other neighborhood streets and minimizing the number of multi-space stations to 14. Figure 5-2 also lists capital costs associated with on-street parking pay stations, additional wayfinding, and a 10% cushion for other unforeseen capital expenses.

Operations & Maintenance Needs

Additional multi-space pay stations will incur enforcement and meter maintenance costs. Similar to Phase One, the annual cost to operate and maintain the program include enforcement, residential parking program administration, meter and BART Main Lot maintenance, ticket processing, and a 10% cushion for other unforeseen O&M costs, as shown in Figure 5-2.

Cash Flow Analysis

- In spite of the additional capital and maintenance costs associated with multi-space pay stations, the increase in the price of parking (assuming no subsequent decrease in demand) yields a positive balance in Phase Two, as shown in Figure 5-2. While the net balance after implementing Phase Two is less than the expected net balance in Phase One, a variety of scenarios could affect the cash flow analysis. For instance, if Phase Two—moving to multi-space pay stations on streets within the Authority—would occur in conjunction with higher parking charges and/or more dynamic (e.g., hourly) pricing,

²⁸ For on-street spaces, it is assumed that multi-space pay stations will be installed at the rate of one on every block face.

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revenue would increase above that expected under Phase One. Parking turnover may lead to greater productivity of the existing parking supply and more parking revenue.

Figure 5-2: Phase Two Financial Analysis (2017-2021)

ASSUMPTIONS		
	Units	Notes
General		
Annual Interest Rate	6%	
Loan Period (years)	20	
Maintenance/space	\$0.76	BART
Citation Rate	1%	
Citation Fee	\$67.50	
Workdays per Month	21	
Months per Year	12	
Period in Which Elasticity Applies	10.5	
Total Days per Year	365	
BART Main Lot (Daily) Utilization Rate	98%	
BART On-Street Parking Permits (Monthly) Utilization Rate	90%	
BART Off-Street Reserved (Monthly) Utilization Rate	100%	
Elasticity	-0.20	Assumed for first two weeks of price increase
Residential Parking Permits	331	Assumed maximum amount of residential parking permits are requested, such that all remaining parking spaces
CPI (applied to annual O & M costs only)	2.48%	Ten year average
Pricing		
BART Main Lot (Daily) - Year 1	\$1.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1	\$21	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 1 to 1.5	\$1.50	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1 to 1.5	\$32	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1 to 1.5	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 1.5 to 2	\$2.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1.5 to 2	\$42	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1.5 to 2	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 2 to 2.5	\$2.50	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 2 to 2.5	\$53	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 2 to 2.5	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
BART Main Lot (Daily) - Year 2.5 to 3	\$3.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 2.5 to 3	\$63	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 2.5 to 3	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
Capital Costs		
Off-street multi-space machines (BART)	2	Assumes BART currently has surplus standard payment machines to be used at South Hayward BART Station
Off-street multi-space machines in Phase 2	14	
Wayfinding Capital Costs	\$20,000	Assumed to be paid out with a 20-year loan
Wayfinding Capital Costs in Phase 2	\$20,000	Assumed to be paid out with a 20-year loan
Other Unforeseen Capital Costs	\$2,000	
Unforeseen Access Improvements	\$0	
Cost of on-street multi-space meters	\$140,000	Assumes 14 meters at \$10,000 per meter
O&M Costs		
Enforcement Officer	\$85,000	
Monthly Parking Program Administration	\$2.70	per month
Residential Parking Program Administration (331 spaces)	\$2.70	per year
Meter Maintenance	\$57	per month according to the District DOT (\$55/mo.), City of Berkeley (or \$29/mo.), City of Long Beach (\$37 - \$57/mo.)
BART Main Lot Maintenance	\$0.76	per calendar day according to BART labor & non-labor costs of maintenance & engineering for an individual space in a similarly sized lot in 2010. For the first six months of the program, maintenance of the BART off-street lot will be covered by others.
Ticket processing	10%	Cost for routine maintenance of City streets assumed to be the responsibility of the City of Hayward
Other Unforeseen O&M Costs	10%	Cost of off-street program administration assumed to be negligible.

PARKING SUPPLY										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1090	1090	1090	1090	1090	1090	1090	1090	1090	1090
BART On-Street Parking Permits (Monthly)	289	289	289	289	289	289	289	289	289	289
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Supply	1379									

PARKING DEMAND (W/ TEMPORARY ELASTICITY)										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1068	1056	1047	1046	1046	1046	1046	1046	1046	1046
BART On-Street Parking Permits (Monthly)	260	257	254	254	254	254	254	254	254	254
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Demand	1347	1332	1321	1318						

REVENUE										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	\$269,186	\$465,668	\$725,652	\$790,419	\$790,419	\$790,419	\$790,419	\$790,419	\$790,419	\$790,419
BART On-Street Parking Permits (Monthly)	\$65,545	\$113,207	\$176,198	\$191,924	\$191,924	\$191,924	\$191,924	\$191,924	\$191,924	\$191,924
BART Off-Street Reserved (Monthly)	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576
Parking Ticket Revenue	\$229,176	\$226,610	\$224,629	\$224,259	\$224,259	\$224,259	\$224,259	\$224,259	\$224,259	\$224,259
Total gross revenue	\$554,331	\$795,908	\$1,116,903	\$1,197,026						

EXPENSES										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capital Costs										
Wayfinding Capital Costs	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$3,487	\$3,487	\$3,487	\$3,487	\$3,487
Other Unforeseen Capital Costs	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174
Unforeseen Access Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
On-Street Multi-Space Meters	\$0	\$0	\$0	\$0	\$0	\$13,950	\$13,950	\$13,950	\$13,950	\$13,950
O&M Costs										
Enforcement Officer	\$85,000	\$87,108	\$89,268	\$91,482	\$93,751	\$96,076	\$98,459	\$100,900	\$103,403	\$105,967
Monthly Parking Program Administration	\$9,364	\$9,596	\$9,834	\$10,078	\$10,328	\$10,584	\$10,846	\$11,115	\$11,391	\$11,673
Residential Parking Program Administration	\$894	\$916	\$939	\$962	\$986	\$1,010	\$1,035	\$1,061	\$1,087	\$1,114
Meter Maintenance	\$1,368	\$1,402	\$1,437	\$1,472	\$1,509	\$12,370	\$12,677	\$12,991	\$13,313	\$13,644
BART Main Lot Maintenance	\$151,183	\$309,865	\$317,549	\$325,425	\$333,495	\$341,766	\$350,242	\$358,928	\$367,829	\$376,951
Ticket processing	\$22,918	\$22,661	\$22,463	\$22,426	\$22,426	\$22,426	\$22,426	\$22,426	\$22,426	\$22,426
Other Unforeseen O&M Costs	\$27,073	\$43,155	\$44,149	\$45,184	\$46,249	\$48,423	\$49,568	\$50,742	\$51,945	\$53,178
Total expenses	\$299,717	\$476,620	\$487,557	\$498,947	\$510,661	\$550,266	\$562,864	\$575,774	\$589,005	\$602,564

NET REVENUE	\$254,615	\$319,288	\$629,346	\$698,079	\$686,365	\$646,760	\$634,162	\$621,252	\$608,021	\$594,462
BALANCE	\$254,615	\$573,902	\$1,203,249	\$1,901,328	\$2,587,693	\$3,234,453	\$3,868,615	\$4,489,867	\$5,097,888	\$5,692,350

6 IMPLEMENTATION SCHEDULE

This chapter provides a high level implementation schedule with particular focus on the first few months of Phase One. Implementation of Phase One is time-sensitive, as a program needs to be in effect by mid- to late-2012, when development of the BART East Lot is scheduled to commence. As the parking fee program proposed is very flexible in nature, it is challenging to determine the exact steps that will follow upon the initial implementation. However, the general structure of this schedule should be adhered to in order for the program to be as successful as possible. The Authority is responsible for implementing each item, unless the parenthesis at the end of each bullet indicates otherwise.

PHASE ONE

Initial Steps

1. Hold public information sessions to provide neighbors an opportunity to review and provide feedback on the draft South Hayward BART Parking & Access Study (City & BART)
2. Finalize the South Hayward BART Parking & Access Study (Authority, City & BART staff)
3. Approve the modification to the Authority boundary and select one of the Parking Alternatives 1-3 (Authority & City)
4. Conduct an occupancy survey of parking at the Downtown Hayward BART Station against which to measure the effects of the pricing program at South Hayward BART Station (City & BART)
5. Conduct a detailed informational meeting for impacted residents prior to processing of RPP district (JPA, City and BART)
6. Approve the Residential Permit Parking (RPP) district (Authority & City)
7. Approve legal aspects of RPP district and what net parking revenue can be spent on
8. Secure funding for initial capital and operating expenses (City & BART)
9. Contract with a vendor in collaboration with BART to process the resident and BART parking permits
10. Issue an agreement with the preferred parking permit provider
11. Conduct a safety assessment of the station area to identify hindrances to universal access and/or potential safety concerns.
12. Improve pedestrian connection between 10th Street and 11th Street cul-de-sacs and the BART Station.
13. Identify and prioritize wayfinding and low-cost or high-priority pedestrian/bicycle improvements detailed in the 2011 South Hayward BART Station Access Plan and

potential funding sources. Refer to Appendix C for a prioritized list of access strategies from the 2011 South Hayward BART Access Study.

14. Install BART's pay stations within the BART fare gates
15. Stripe and sign all parking stalls in BART's Main Lot
16. Order street signs and other wayfinding signage
17. Hire two part-time cadets for parking enforcement and monitoring through BART
18. Conduct soft launch of the parking fee program (Ensure that all components above are ready for implementation)
19. Follow BART and City protocol by sending out a notice to residents within 1/2 mile of the station (or other agreed upon distance) and to patrons of parked cars at the station two weeks prior to hard launch
20. Introduce parking fee program at South Hayward BART
21. Provide warnings instead of actual parking citations during the first four weeks after the launch of the parking program
22. Allow the developer to install a fence along the property line on Dixon Street once the East BART Lot has been closed

Phase One to Phase Two Launch

1. Update the revenue and expense sheet with real data as information becomes available
2. Conduct quarterly parking occupancy surveys using Nelson\Nygaard's spreadsheet template
3. Adjust daily and monthly fees accordingly, and by location if warranted
4. Make refinements to wayfinding and consider funding other access improvements (e.g., streetscape, lighting, bicycle facility improvements) as funding becomes available through parking revenue
5. Allow for residents within the Authority boundary to provide ongoing feedback on the parking fee program
6. Have the Authority Board meet regularly to discuss whether Phase Two is warranted
7. Authority Board must approve introduction of Phase Two, based on parking occupancy data and funding security

PHASE TWO

1. Continue conducting quarterly parking occupancy surveys using Nelson\Nygaard's spreadsheet template
2. Adjust daily and monthly fees accordingly, and by location if warranted
3. Issue RFP to select pay station vendor and technology
4. Determine budget for Phase Two
5. Define bounds of multi-space pay station and number of initial pay stations
6. Select pay station locations and where to continue using monthly permits, etc.
7. Install pay stations and new signage and wayfinding

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8. Conduct soft launch of the updated parking fee program (Ensure that all components above are ready for implementation)
9. Follow BART and City protocol by sending out a notice to residents within 1 mile of the station (or other agreed upon distance) and to patrons of parked cars at the station two weeks prior to hard launch
10. Introduce the updated parking fee program
11. Consider providing warnings instead of actual parking citations during the first four weeks after the launch of the parking program
12. Update the revenue and expense sheet regularly with actual data
13. Make refinements to wayfinding and consider funding other access improvements (e.g., streetscape, lighting, bicycle facility improvements) and bigger maintenance projects (e.g. repaving) as funding becomes available through parking revenue

7 DOWNTOWN BART STATION PARKING RECOMMENDATIONS

[TBD per approval to move forward with this task. In brief, Nelson\Nygaard's initial recommendation would be to:

- Immediately conduct a baseline occupancy survey of the BART parking facilities as well as affected public parking within a ¼-mile (walking network) of the Hayward BART station. If the survey findings show that BART parking is more than 95% occupied, then BART and the City should consider charging for parking at the station.
- If paid parking is introduced in downtown, consider charging for parking in the Hayward BART parking facilities, and vice versa. Manage parking using a holistic approach, in other words treat downtown parking in a coordinated fashion rather than implementing different principles in different facilities.
- Semiannual occupancy monitoring in October and April should be conducted in the Hayward BART parking facilities as South Hayward BART introduces pricing. If parking demand increases at Hayward BART or in the downtown public parking facilities, use that as an indication to introduce parking pricing in all parking facilities around the Hayward BART station.
- Use the general recommendations provided herein to guide the introduction of paid parking.]

APPENDIX A

Future Parking Demand

Appendix A Future Parking Demand

In the coming years, parking within the Authority boundaries will be affected more dramatically on both the supply side and demand side. The Alternatives listed previously assume constant demand for parking in the near term, and on the supply side, considered only those parking projects currently planned.

In the long term, overall ridership from the South Hayward BART station is expected to grow, and proportionally fewer of these riders will choose to park at the BART station. By 2020, BART predicts significant access mode shift away from the auto. The 2008 BART Station Profile Study indicated that of the 3,420 total daily boardings at South Hayward, the park and ride mode split was 65%, or 2,223 riders. The BART Ridership Model (BRM) predicts that by 2020, ridership will increase 6% to 3,618, while the park and ride mode split will fall in both relative terms and absolute terms to 44% of ridership, or 1,592. Refer to Figure A-1.

Figure A-1 Projected South Hayward Ridership & Mode Split

South Hayward BART Access	2008		2020		% Change (2020-2008)
	Boardings	Mode Split	Boardings	Mode Split	
Park and Ride	2223	65%	1592	44%	-28%
Drop Off	513	15%	724	20%	41%
Transit	171	5%	543	15%	217%
Bike/ Walk	513	15%	760	21%	48%
Total South Hayward Boardings	3420	100%	3618	100%	6%

Source: South Hayward BART Access Study, 2011 & BART Ridership Model

In 2020, the number of boardings by people who drive to the South Hayward BART station and park is expected to decrease by 631 (2,223 to 1,592), translating to a decrease in parking demand of 391 spaces to 988 spaces (based on average vehicle occupancy). The BART Main lot has 1,090 spaces, which is sufficient to meet the predicted parking demand in 2020, barring any changes in the off-street parking supply.

Between 2008 and 2020, parking demand is predicted to be supplanted by increased transit access (transit access is expected to increase by over 200% in the next decade), bicycling and walking to the station, and passenger drop off at the station. For the purposes of this report, it is assumed that these substantial access changes will not materialize in the next couple of years, thus, this analysis focuses on accommodating current parking demand in the near term.

APPENDIX B

Joint Powers Authority Boundary

South Hayward BART Joint Powers Authority Boundary



APPENDIX C

Prioritized List of Access Strategies

Appendix C Prioritized List of Access Strategies

The 2011 BART South Hayward Access Plan Update recommended the following prioritized list of access strategies. Figure C-1 shows a list of strategies, organized by mode, to help determine the improvements on which to focus. High-level cost assumptions, the potential usage of the proposed improvement, and timeliness (when the improvement should be introduced, assuming funding is available) all help determine the level of priority a strategy has in relation to other strategies in the table.

A critical way to manage the implementation of the access plan is through a single government entity which oversees and manages the improvement implementation. With the City of Hayward, the Hayward Redevelopment Agency, and BART having jurisdiction in different areas, the creation of a Joint Powers Authority (JPA) may be the best way to manage access strategies and their implementation. This concept is further described later in this chapter.

Figure C-1 Proposed Access Improvements to the South Hayward BART Station and Neighborhood

Project	Cost	Usage	Timeliness	Priority	Other Comments
Streets					
New streets southeast of BART Station	High	Moderate	Low	Moderate	Creating more streets, interconnecting Dixon and Mission is dependent on development of large parcels between the two streets.
Wayfinding	Low	Moderate	High	High	Wayfinding will encourage new and existing residents and visitors to use transit by effectively guiding them to the BART station.
Pedestrian					
Enhanced walkways within half mile of the station	Moderate	Moderate	Moderate/High	Moderate/High	Includes sidewalk completion and other improvements in the station area.
Pedestrian bridge over Tennyson Road to connect to Nuestro Parquecito or future multi-use pathway	Moderate/High	Moderate	Moderate	Moderate/High	Would complete the bicycle/pedestrian network to BART from Nuestro Parquecito. A less expensive solution may be to construct new pedestrian paths from 10 th and 11 th Streets down to Tennyson Road.
Enhanced connections under BART tracks	Moderate/High	Low	Moderate	Moderate	Specific improvements may include upgrading the tunnel outside Bowman School and the bridge at Sorenson.
Ped/bike corridor along UP alignment	High	Moderate	Low/Moderate	Moderate	Could be combined with new west entrance to station.

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Project	Cost	Usage	Timeliness	Priority	Other Comments
Ped/bike connection between Dixon and Mission Blvd on Caltrans right of way	Low	Moderate	Low	Moderate	Planned pathway linking Mission and Dixon through a new park will create better neighborhood connectivity.
Bicycle					
Replace single-user lockers with electronic lockers, and if demand warrants it, implement a bicycle station	Low	Low	Moderate	Moderate	Part of system-wide upgrade. Once demand supports the implementation of a bicycle station, secure funding for such implementation.
Restripe and sign Class II bike lanes on Tennyson Road	Low	Low	Moderate	Moderate	The route will be safer if better signed and striped.
Bike boxes and bike actuated traffic signals	Low/ Moderate	Low	Low	Low	On streets with bike lanes in the station area.
Transit and Shuttles					
AC Transit/Shuttle service	Moderate	Low	Low	Low	May be appropriate in conjunction with increased development at key destinations.
Vehicles and Parking					
Tennyson On-Street Parking	Low	Moderate	High	High	The City estimates that 125 parking spaces could be introduced on Tennyson for BART patrons in the future.
Preferred Carpool/Vanpool Parking in BART structure	Low	Moderate	Moderate	Moderate	As demand increases for BART's carpool parking program, increase the number of carpool spaces available. Also, do marketing of the carpool program to drivers.
Shared Parking	Low	Low	Moderate	Moderate	Once parking is unbundled, creating a framework where parking is shared will maximize use of all parking spaces.
Real-time information signage	Moderate	Moderate	Moderate	Moderate	Improve parking access by implementing real-time parking availability signs.
Transportation Demand Management					
Unbundled Parking	Low	Moderate	High	High	Unbundled residential parking will increase the opportunity for shared parking with other users, such as BART commuters.

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Project	Cost	Usage	Timeliness	Priority	Other Comments
Parking Benefit District	Moderate	Low	Moderate	Moderate	On-street parking will need active management following new development and reduced BART parking. This concept could be used in both residential neighborhoods around the station as well as in the immediate station area.
Easy Pass Program	Moderate	Moderate	High	High	By providing free AC Transit passes (Easy Passes), residents will have a readily available choice of taking the bus, potentially increasing overall transit usage. This will be provided to affordable and senior housing residents.
Parking Cash Out	Low	Low	Moderate	Moderate	Parking cash out, while effective, may not be appropriate for all uses at the South Hayward BART Station at this time, but should be considered for future development in the station area.
Carsharing	Low	Moderate	Moderate	Moderate	The station area currently does not have access to carsharing. However, the SHMU development may trigger implementation.
TDM Coordination	Low	Moderate	High	High	An emphasis should be made on existing services and ensuring that individuals are aware of all transportation options.

APPENDIX D

Alternate Cash Flow Analysis (Lower Bound)

Figure D-1: Phase One Financial Analysis (2012-2021)

ASSUMPTIONS		
	Units	Notes
General		
Annual Interest Rate	6%	
Loan Period (years)	20	
Maintenance/space	\$0.76	BART
Citation Rate	1%	
Citation Fee	\$67.50	
Workdays per Month	21	
Months per Year	12	
Total Days per Year	365	
BART Main Lot (Daily) Utilization Rate	98%	
BART On-Street Parking Permits (Monthly) Utilization Rate	90%	
BART Off-Street Reserved (Monthly) Utilization Rate	100%	
Residential Parking Permits	331	Assumed maximum amount of residential parking permits are requested, such that all remaining parking spaces
CPI (applied to annual O & M costs only)	2.48%	Ten year average
Pricing		
BART Main Lot (Daily) - Year 1-10	\$1.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1-10	\$21	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1-10	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
Capital Costs		
Off-street multi-space machines (BART)	2	Assumes BART currently has surplus standard payment machines to be used at South Hayward BART Station
Wayfinding Capital Costs	\$20,000	Assumed to be paid out with a 20-year loan
Other Unforeseen Capital Costs	\$2,000	
Unforeseen Access Improvements	\$0	
O&M Costs		
Enforcement Officer	\$85,000	
Monthly Parking Program Administration	\$2.70	per month
Residential Parking Program Administration (331 spaces)	\$2.70	per year
Meter Maintenance	\$57	per month according to the District DOT (\$55/mo.), City of Berkeley (or \$29/mo.), City of Long Beach (\$37 - \$57/mo.)
BART Main Lot Maintenance	\$0.76	per calendar day according to BART labor & non-labor costs of maintenance & engineering for an individual space in a similarly sized lot in 2010. For the first six months of the program, maintenance of the BART off-street lot will be covered by others.
Ticket processing	10%	Cost for routine maintenance of City streets assumed to be the responsibility of the City of Hayward
Other Unforeseen O&M Costs	10%	Cost of off-street program administration assumed to be negligible.

PARKING SUPPLY

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1090	1090	1090	1090	1090	1090	1090	1090	1090	1090
BART On-Street Parking Permits (Monthly)	289	289	289	289	289	289	289	289	289	289
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Supply	1379									

PARKING DEMAND

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1068	1068	1068	1068	1068	1068	1068	1068	1068	1068
BART On-Street Parking Permits (Monthly)	260	260	260	260	260	260	260	260	260	260
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Demand	1347									

REVENUE

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186
BART On-Street Parking Permits (Monthly)	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545
BART Off-Street Reserved (Monthly)	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576
Parking Ticket Revenue	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176
Total gross revenue	\$554,331									

EXPENSES

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capital Costs										
Wayfinding Capital Costs	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744
Other Unforeseen Capital Costs	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174
Unforeseen Access Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
O&M Costs										
Enforcement Officer	\$85,000	\$87,108	\$89,268	\$91,482	\$93,751	\$96,076	\$98,459	\$100,900	\$103,403	\$105,967
Monthly Parking Program Administration	\$9,364	\$9,596	\$9,834	\$10,078	\$10,328	\$10,584	\$10,846	\$11,115	\$11,391	\$11,673
Residential Parking Program Administration	\$894	\$916	\$939	\$962	\$986	\$1,010	\$1,035	\$1,061	\$1,087	\$1,114
Meter Maintenance	\$1,368	\$1,402	\$1,437	\$1,472	\$1,509	\$1,546	\$1,585	\$1,624	\$1,664	\$1,705
BART Main Lot Maintenance	\$151,183	\$309,865	\$317,549	\$325,425	\$333,495	\$341,766	\$350,242	\$358,928	\$367,829	\$376,951
Ticket processing	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918
Other Unforeseen O&M Costs	\$27,073	\$43,180	\$44,194	\$45,234	\$46,299	\$47,390	\$48,508	\$49,655	\$50,829	\$52,033
Total expenses	\$299,717	\$476,902	\$488,057	\$499,488	\$511,202	\$523,207	\$535,510	\$548,118	\$561,039	\$574,280
NET REVENUE	\$254,615	\$77,429	\$66,275	\$54,844	\$43,129	\$31,124	\$18,821	\$6,213	-\$6,707	-\$19,948
BALANCE	\$254,615	\$332,044	\$398,318	\$453,162	\$496,291	\$527,415	\$546,236	\$552,449	\$545,742	\$525,794

Figure D-2: Phase Two Financial Analysis (2017-2021)

ASSUMPTIONS		
	Units	Notes
General		
Annual Interest Rate	6%	
Loan Period (years)	20	
Maintenance/space	\$0.76	BART
Citation Rate	1%	
Citation Fee	\$67.50	
Workdays per Month	21	
Months per Year	12	
Total Days per Year	365	
BART Main Lot (Daily) Utilization Rate	98%	
BART On-Street Parking Permits (Monthly) Utilization Rate	90%	
BART Off-Street Reserved (Monthly) Utilization Rate	100%	
Residential Parking Permits	331	Assumed maximum amount of residential parking permits are requested, such that all remaining parking spaces
CPI (applied to annual O & M costs only)	2.48%	Ten year average
Pricing		
BART Main Lot (Daily) - Year 1-10	\$1.00	Assumes price only implemented Monday-Friday
BART On-Street Parking Permits (Monthly) - Year 1-10	\$21	Assumes monthly permit costs 21 times the daily cost
BART Off-Street Reserved (Monthly) - Year 1-10	(\$42)	Includes remitting existing monthly parking permit revenue to BART (\$42/month) of the 19 existing monthly reserved spaces in the BART Main Lot
Capital Costs		
Off-street multi-space machines (BART)	2	Assumes BART currently has surplus standard payment machines to be used at South Hayward BART Station
Off-street multi-space machines in Phase 2	14	
Wayfinding Capital Costs	\$20,000	Assumed to be paid out with a 20-year loan
Wayfinding Capital Costs in Phase 2	\$20,000	Assumed to be paid out with a 20-year loan
Other Unforeseen Capital Costs	\$2,000	
Unforeseen Access Improvements	\$0	
Cost of on-street multi-space meters	\$140,000	Assumes 14 meters at \$10,000 per meter
O&M Costs		
Enforcement Officer	\$85,000	
Monthly Parking Program Administration	\$2.70	per month
Residential Parking Program Administration (331 spaces)	\$2.70	per year
Meter Maintenance	\$57	per month according to the District DOT (\$55/mo.), City of Berkeley (or \$29/mo.), City of Long Beach (\$37 - \$57/mo.)
BART Main Lot Maintenance	\$0.76	per calendar day according to BART labor & non-labor costs of maintenance & engineering for an individual space in a similarly sized lot in 2010. For the first six months of the program, maintenance of the BART off-street lot will be covered by others.
Ticket processing	10%	Cost for routine maintenance of City streets assumed to be the responsibility of the City of Hayward
Other Unforeseen O&M Costs	10%	Cost of off-street program administration assumed to be negligible.

PARKING SUPPLY										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1090	1090	1090	1090	1090	1090	1090	1090	1090	1090
BART On-Street Parking Permits (Monthly)	289	289	289	289	289	289	289	289	289	289
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Supply	1379									

PARKING DEMAND										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	1068	1068	1068	1068	1068	1068	1068	1068	1068	1068
BART On-Street Parking Permits (Monthly)	260	260	260	260	260	260	260	260	260	260
BART Off-Street Reserved (Monthly)	19	19	19	19	19	19	19	19	19	19
Total Demand	1347									

REVENUE										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BART Main Lot (Daily)	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186	\$269,186
BART On-Street Parking Permits (Monthly)	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545	\$65,545
BART Off-Street Reserved (Monthly)	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576	-\$9,576
Parking Ticket Revenue	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176	\$229,176
Total gross revenue	\$554,331									

EXPENSES										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capital Costs										
Wayfinding Capital Costs	\$1,744	\$1,744	\$1,744	\$1,744	\$1,744	\$3,487	\$3,487	\$3,487	\$3,487	\$3,487
Other Unforeseen Capital Costs	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174	\$174
Unforeseen Access Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
On-Street Multi-Space Meters	\$0	\$0	\$0	\$0	\$0	\$13,950	\$13,950	\$13,950	\$13,950	\$13,950
O&M Costs										
Enforcement Officer	\$85,000	\$87,108	\$89,268	\$91,482	\$93,751	\$96,076	\$98,459	\$100,900	\$103,403	\$105,967
Monthly Parking Program Administration	\$9,364	\$9,596	\$9,834	\$10,078	\$10,328	\$10,584	\$10,846	\$11,115	\$11,391	\$11,673
Residential Parking Program Administration	\$894	\$916	\$939	\$962	\$986	\$1,010	\$1,035	\$1,061	\$1,087	\$1,114
Meter Maintenance	\$1,368	\$1,402	\$1,437	\$1,472	\$1,509	\$12,370	\$12,677	\$12,991	\$13,313	\$13,644
BART Main Lot Maintenance	\$151,183	\$309,865	\$317,549	\$325,425	\$333,495	\$341,766	\$350,242	\$358,928	\$367,829	\$376,951
Ticket processing	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918	\$22,918
Other Unforeseen O&M Costs	\$27,073	\$43,180	\$44,194	\$45,234	\$46,299	\$48,472	\$49,618	\$50,791	\$51,994	\$53,227
Total expenses	\$299,717	\$476,902	\$488,057	\$499,488	\$511,202	\$550,807	\$563,405	\$576,315	\$589,546	\$603,105

NET REVENUE	\$254,615	\$77,429	\$66,275	\$54,844	\$43,129	\$3,525	-\$9,073	-\$21,984	-\$35,215	-\$48,773
BALANCE	\$254,615	\$332,044	\$398,318	\$453,162	\$496,291	\$499,816	\$490,742	\$468,758	\$433,543	\$384,770