

MEMORANDUM

DATE July 22, 2013
TO Darin Ranelletti
City of Oakland
FROM The Planning Center | DC&E
RE **Oakland Multi-Family Residential Parking Survey**

The City of Oakland, with support from the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), has completed a Multi-Family Residential Parking Survey to capture information about the parking habits and attitudes of a cross-section of residents living in multi-family housing in three of Oakland's transit-rich neighborhoods: the Telegraph Avenue Corridor, the Jack London Square Area, and the Fruitvale District. The survey focused on these neighborhoods in particular because a robust transit network, including BART and high frequency bus service, was within a ½ mile or less of the multi-family housing units. The Planning Center | DC&E, together with the City of Oakland Planning and Zoning Division, researched, designed, and administered the survey, which received responses from 294 Oakland households. The results of this survey are discussed and summarized below.

A. Overview and Purpose of Project

This section gives an overview of the project purpose and background.

1. Purpose

The purpose of this project was to understand the parking behavior of multi-family residents who live in close proximity to transit. This project was, in part, based on the hypothesis that parking demand in multi-family residential buildings with good access to transit is lower than might be expected; such a hypothesis has been suggested in recent academic studies.¹ If this hypothesis is true, then new and reduced parking requirements for new development may be appropriate. The project also attempted to uncover how likely residents would be to alter their parking behavior in response to parking/transportation management strategies such as the free provision of transit passes, an increase in the cost of parking, or an increase in the availability of car sharing. The results provide a baseline picture of the parking demand and habits of residents in Oakland's multi-family buildings.

¹ Cervero, Robert, et al, 2010, "Are suburban TODs over-parked," *Journal of Public Transportation*, 13(2): pages 47 to 70.

2. Background

The City of Oakland is in the process of a comprehensive Zoning Code Update, including modernization and revision of its parking regulations. As part of this process, the City wants to have context-specific data to inform and support its decision-making. Additionally, the City has been engaging the public in the Zoning Code Update process, to learn about and better respond to residents' perceptions and needs and to educate residents about existing conditions and innovative strategies for updating and tailoring the Zoning Code.

The data generated by the survey are intended as one means to answer questions germane to the Zoning Code Update. To that end, the City successfully applied for a Technical Assistance grant from the MTC and ABAG FOCUS Program to fund this study. MTC assigned The Planning Center | DC&E, as part of an on-call group of consultants, to provide technical assistance and assist the City with implementing the survey project.

3. Overview of the Project

This project consisted of a literature review of parking strategies and multi-family residential parking, a 15-question survey administered in person and electronically, and a parking utilization count. The project included three study areas (the Telegraph Avenue Corridor, Jack London Square, and the Fruitvale District), consisting of 11 buildings holding 815 units.

a. Literature Review

Research conducted as part of the literature review revealed that multi-family residential developments tend to be over-parked; that is, there are generally more parking spaces provided in the building than are actually used by residents. However, the literature review also indicated that this phenomenon varies somewhat according to other contributing factors such as proximity to transit, size and density of the jurisdiction, the age and socioeconomic status of tenants, and the availability of car share. The list of articles reviewed is attached in Appendix A of this memo.

b. Survey

The survey instrument took the form of a 15-question, multiple choice questionnaire utilizing both open- and close-ended single indicator and rating scale questions. A copy of the survey is included in Appendix B. The Survey questions were written in a manner intended to elicit simple responses with a minimal need for interpretation. The first part of the Survey consisted of background questions, exploring topics such as type and size of residence (e.g. rented or owned, number of bedrooms), vehicle ownership, and parking space location, usage, and availability. The second part of the Survey focused on factors that potentially influence the number of vehicles owned (e.g. cost of public transportation, cost of parking, and availability of car share).

c. Parking Utilization Count

In addition to the survey, the project also included a parking utilization count. The parking utilization count consisted of counting the number of vacant parking spots in lots associated with the buildings in the survey population, and then comparing that number to the total number of spaces provided to determine the utilization rate. Counts were conducted between 1:00 and 3:00 am on a weeknight to get the most accurate possible counts. This is similar to the methodology used in the Cervero study mentioned earlier. These middle-of-the-night counts are seen as representing “peak” demand, since most residents are at home and asleep at the time.²

B. Buildings Surveyed

The locations of the 11 buildings surveyed as part of this project are shown in Figures 1, 2, and 3. Each of these buildings varied in age, zoning, and available parking supply. However, as shown in Table 1, there were similarities between buildings within each area. For example, buildings in the Telegraph Corridor were more likely to have some traits in common with one another than with buildings in either the Fruitvale District or Jack London Square Area, and so forth. This section provides an overview of the building age, zoning, and parking supply.

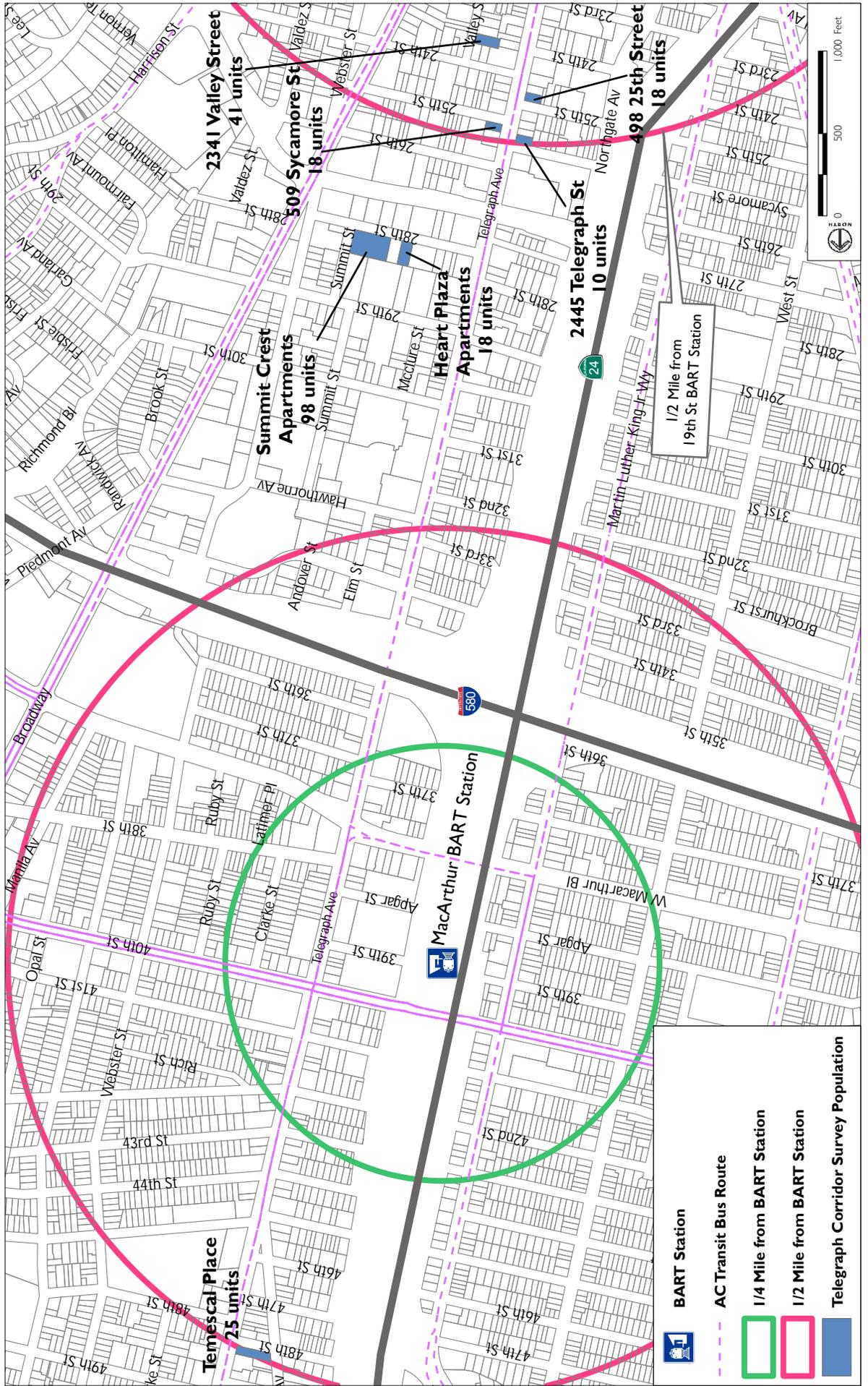
1. Telegraph Corridor

Seven buildings were surveyed in the Telegraph Corridor, ranging in age from the 7-year-old Temescal Place in the Temescal neighborhood to century-old buildings in the Koreatown/Northgate neighborhood.

Six of the buildings studied in this corridor are in the south of the Telegraph Corridor, are zoned Community Commercial and are adjacent to or within one block of AC Transit bus lines, and most are within ½ mile of the 19th Street or MacArthur BART station as shown on Figure 1. They include the following:

- ◆ 509 Sycamore Street, built in 1920, is located in Koreatown/Northgate. It is in a mixed-use building on the corner of Telegraph Avenue and Sycamore Street. This building has 13 market-rate units and does not provide any parking.
- ◆ 2447 Telegraph Avenue, similar to 509 Sycamore Street, was built in the late 1920s and is a mixed-use building with 10 market-rate units. On the ground floor of the building facing 25th Street, there is a gated garage with five parking spaces for tenants. Parking spaces are included in the rental price and are assigned for the life of the lease on a first-come, first-served basis. Residents with reserved parking spaces pay the same rent as residents without reserved parking spaces.

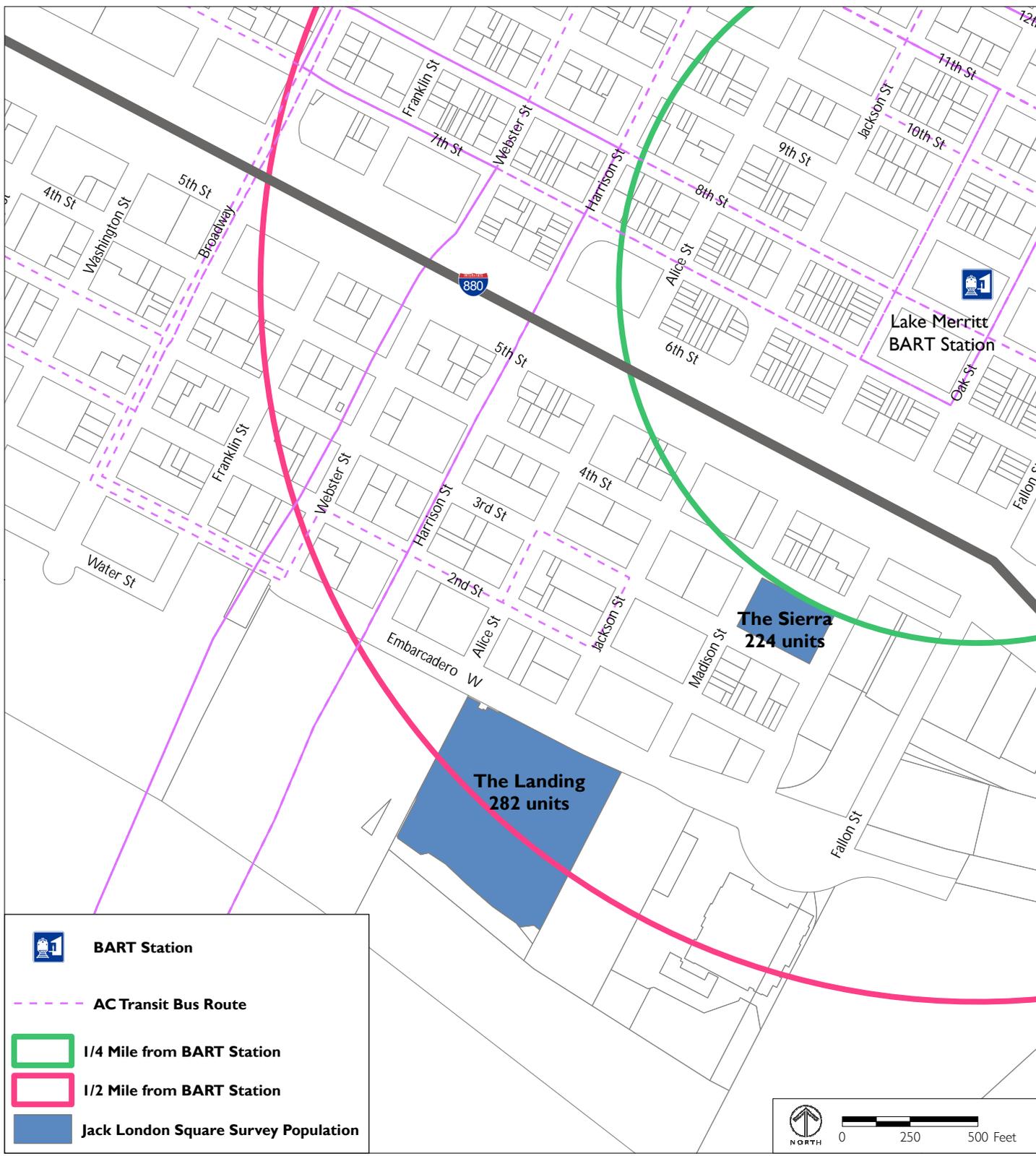
² Cervero, Robert, et al, 2010, “Are suburban TODs over-parked,” *Journal of Public Transportation*, 13(2): page 50.



Source: City of Oakland and The Planning Center | DC&E

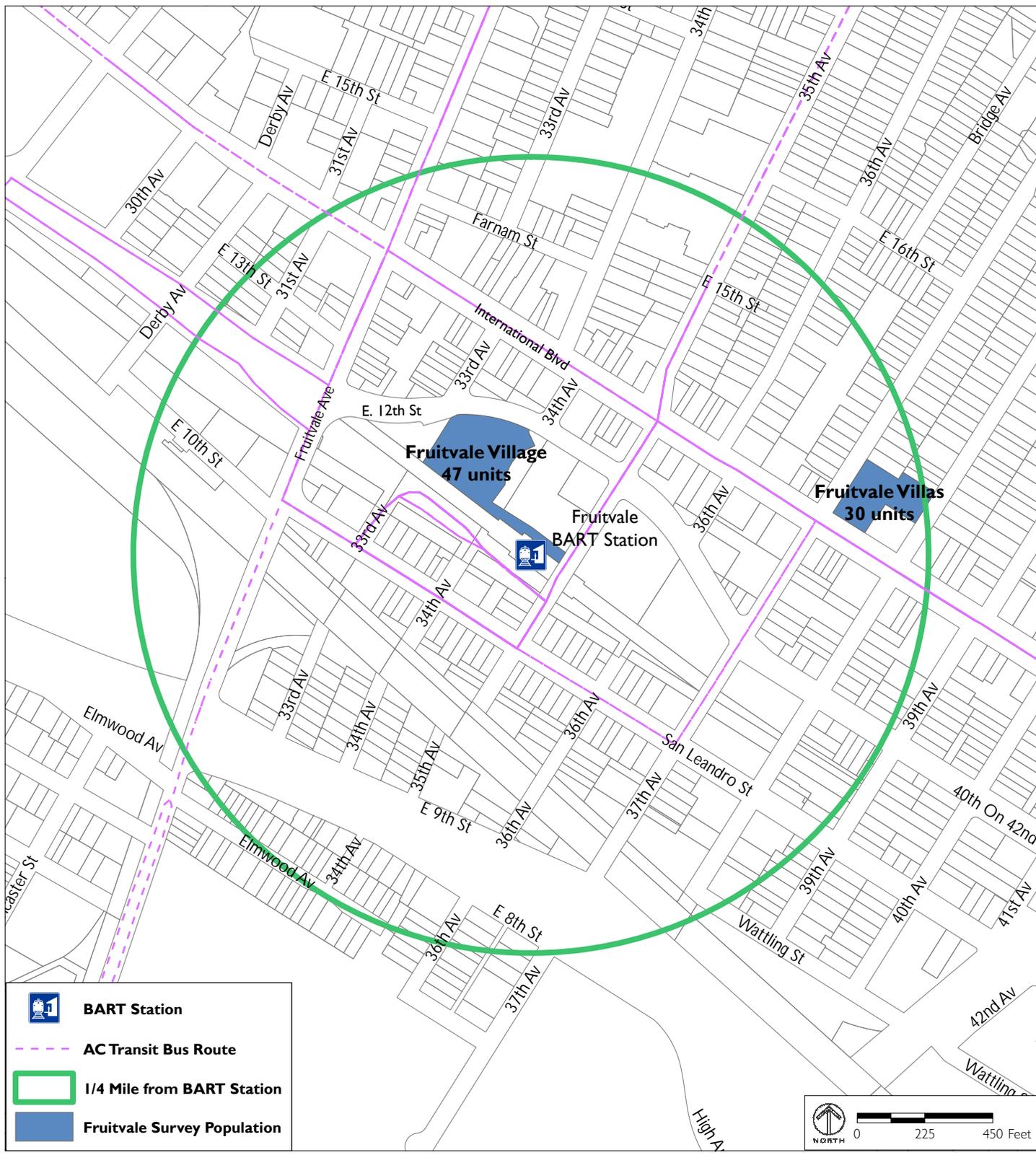
FIGURE 1

TELEGRAPH CORRIDOR SURVEY POPULATION



Source: City of Oakland and The Planning Center | DC&E.

FIGURE 2
JACK LONDON SQUARE SURVEY POPULATION



Source: City of Oakland and The Planning Center | DC&E.

FIGURE 3
 FRUITVALE SURVEY POPULATION

TABLE 1 MULTI-FAMILY RESIDENTIAL BUILDINGS AND PARKING IN OAKLAND

	Units	Type	Year Built ^a	Parking Spaces	Spaces Per Unit	Zoning District	Zoning-Required Parking Spaces ^b	Transit	On-Street Parking Permit Program
Telegraph Corridor									
Harp Plaza Apartments (430 28th Street)	18	Rental; Affordable	1993	20	1.11	CC-2	1 space per unit; 18 spaces	AC Transit within 1 block	None
Summit Crest Apartments (2801 Summit Street)	98	Rental; Market-Rate	1967	98	1.00	CC-2	1 space per unit; 98 spaces	AC Transit within 1 block	None
509 Sycamore Street	13	Rental; Market-Rate	1920	0	0	CC-2	1 space per unit; 13 spaces	AC Transit lines adjacent; 19 th Street BART within ½ mile	None
2447 Telegraph Avenue	10	Rental; Market-Rate	1929	5	0.50	CC-2	1 space per unit; 10 spaces	AC Transit lines adjacent; 19 th Street BART within ½ mile	None
Temescal Place (4811 Telegraph Avenue)	25	Owned; Market-Rate	2005	38	1.52	CN-2 & CN-3	1 space per unit; 25 spaces	AC Transit lines adjacent; MacArthur BART within ½ mile	None
498 25 th Street	27	Rental; Varied, Market-Rate with some Affordable (e.g. Section 8)	1913	0	0	CC-2	1 space per unit; 27 spaces	AC Transit lines adjacent; 19 th Street BART within ½ mile	None
2341 Valley Street	41	Rental; Varied, Market-Rate with some Affordable (e.g. Section 8)	1910	0	0	CC-2	1 space per unit; 41 spaces	AC Transit lines within 1 block; 19 th Street BART within ½ mile	None
Jack London Square Area									
The Landing (101 Embarcadero West)	282	Rental; Market-Rate	2001	465	1.65	R-80	1 space per unit; 282 spaces	AC Transit & Amtrak within 1 block; Lake Merritt BART within ½ mile	Yes, "M" zone within 1 block
The Sierra (311 Oak Street)	224	Owned; Market-Rate	2003	285	1.27	C-45	1 space per unit; 224 spaces	AC Transit & Amtrak within 4 blocks; Lake Merritt BART within ½ mile	Yes, "M" zone is adjacent
Fruitvale District									
Fruitvale Village (3301 E 12th Street)	47	Rental; 10 Affordable, 27 Market-Rate	2004	26	0.55	S-15	½ space per dwelling unit; 24 spaces	Fruitvale BART & AC Transit lines are adjacent	None
Fruitvale Villas (3700 International Boulevard)	30	Rental; Market-Rate	1987	24	0.80	CN-2 & RM-2	1 space per dwelling unit (CN-2); ½ spaces per unit (RM-2)	AC Transit lines adjacent; Fruitvale BART within ¼ mile	None
TOTAL ^c	785			937	1.19		762		

^a Year built dates are approximate—in some cases accurate records were available, while others could only provide an estimate.

^b In some cases, zoning may have been different at the time a development was permitted.

^c Total excludes Fruitvale Villas from totals since the total number of required parking spaces cannot be determined due to the split zoning on the site.

Source: The Planning Center | DC&E, 2012.

- ◆ 498 25th Street, situated a block further south, is a mixed use building accommodating 27 housing units. Most of the housing units are market-rate, although the building does have some affordable housing units. Built in 1913, the building does not have on-site parking.
- ◆ 2341 Valley Street, the only building surveyed in Koreatown/Northgate not located directly on Telegraph Avenue, has the distinction of being the oldest building surveyed, at 100 years old. There are 41 units in the building, three of which are affordable housing, while the rest are market-rate units. Although 2341 Valley Street originally had an adjacent uncovered, surface parking lot, that lot has since been sold, and residents now have no on-site parking.
- ◆ Harp Plaza Apartments, built in 1993, is located in the Pill Hill neighborhood, at 430 28th Street. It has 18 affordable housing units. Parking is provided in a ground floor parking garage with 20 parking spaces. Tenants pay an extra fee for a garage opener and are allocated one parking space per unit. Extra parking spaces are available on a first-come, first-served basis.
- ◆ Also in the Pill Hill neighborhood, Summit Crest Apartments is located at 2801 Summit Street and has 98 market-rate housing units. Built in 1967, Summit Crest Apartments has 98 parking spaces for its residents. Residents must pay an extra fee to secure a parking space.

The seventh building surveyed in the Telegraph Corridor was Temescal Place, which is further north in the Temescal neighborhood and was constructed in 2005. It is located at 4811 Telegraph Avenue and straddles two Neighborhood Commercial zones (CN-2 and CN-3). The building is adjacent to AC Transit bus lines and within a ½-mile of MacArthur BART. Temescal Place consists of 25 resident-owned, market-rate units and 38 parking spaces in a ground floor parking garage. Some of the parking spaces are stacked spaces provided in a mechanical car elevator. The cost of each unit includes one parking space. Additional parking spaces can be purchased on a first-come, first-served basis.

2. Jack London Square Area

Two buildings were surveyed in the Jack London Square Area: The Landing and The Sierra. The Jack London Square Area is the only area that has an on-street parking permit program adjacent to the buildings surveyed. Anyone who can demonstrate that he or she works, lives, operates a business, or represents a neighborhood-serving establishment in the Jack London Square Area may purchase an annual parking permit.³ Vehicles displaying a parking permit are not restricted by parking time limits wherever signs are posted in the Jack London Square Area.

The Landing is located along the waterfront at 101 Embarcadero West, in the High Rise Apartment Residential zone (R-80). Built in 2001, The Landing is a gated complex with four residential structures housing 282 units. There are several AC Transit bus lines and an Amtrak/Capitol Corridor train station within 1 block, and the Lake Merritt BART Station within a ½-mile of the complex. However, due to a

³ The parking permit program extends from Fifth Street in the north to the waterfront in the south, and from Brush Street in the west to Oak Street in the east.

fenced-off portion of railroad tracks running parallel to the complex (i.e. along Embarcadero West), residents must use a pedestrian overpass or walk several blocks to the east or west in order to walk to any of these transit options.

Parking at The Landing is provided in two areas: 280 spaces underneath the residential buildings on the ground floor and 185 uncovered spaces, located throughout the gated complex. Parking is included in the rental price for each unit. For the most part, there is one assigned covered space per unit. Because there are more units than covered spaces, two units are assigned uncovered spaces. The remaining spaces are unassigned and available for use by residents.

The Sierra, built in 2009, is a mid-rise condominium, with 224 market-rate units and 285 parking spaces located within an on-site parking structure. Located in the Community Shopping Commercial zone, The Sierra is within four blocks of several AC Transit bus lines and an Amtrak train station and within ½ mile of the Lake Merritt BART Station. The Sierra's 285 parking spaces are allocated as follows: 59 of the largest units (by square footage) have two parking spaces each and the remaining units each have access to one parking space. Parking spaces are included in the condominium purchase price.

3. Fruitvale District

Buildings surveyed in the Fruitvale District include: Fruitvale Village and Fruitvale Villas.

Fruitvale Village is a mixed-use, transit-oriented development which provides both market-rate and affordable housing units. It is located in an area zoned Transit-Oriented Development (S-15), adjacent to Fruitvale BART and a number of AC Transit bus lines. Built in 2004, Fruitvale Village consists of 47 units in two mixed-use buildings, as well as a parking structure with 146 parking spaces, including 26 parking spaces dedicated for residents. Parking management of the structure has evolved over time. Initially, the cost of parking was unbundled from the rental price, meaning that tenants were required to pay an additional fee to secure a parking space. Eventually, the property management modified this policy to include parking in the rental price for new market-rate tenants. Under the modified policy, existing tenants and new affordable housing tenants still pay separately for parking. There are a total of 26 units whose residents either have parking included in their rent or pay separately for assigned parking; the remaining 21 units have access to the 120 unassigned spaces at the hourly rate charged by the parking garage operators.

Fruitvale Villas was built in 1987 and consists of a two-story, multiple residential building with 30 market-rate units and a covered parking area with 24 parking spaces. Spanning two zoning areas, Neighborhood Center Commercial (CN-2) and Mixed Housing Type Residential (RM-2), Fruitvale Villas is located at the corner of International Boulevard and 37th Avenue. It is within a ¼-mile of Fruitvale BART and adjacent to several AC Transit bus lines. Parking is included in the rental price and is assigned to residents on a first-come, first-served basis. Residents with reserved parking spaces pay the same rent as residents without reserved parking spaces.

C. Survey Methodology

This section describes the methodology used to collect the survey data.

The survey was administered in three primary formats: in person, via US mail, and online via Survey Monkey. The US mail format, referred to as a “leave-behind,” consisted of the survey questionnaire, an introduction letter, and a self-addressed stamped envelope. The “leave-behind” was left at residents’ doors only after three attempts were first made to administer the survey in person. Both the in person and leave behind formats of the Survey were available in several languages: Chinese, English, Korean, Spanish, and Vietnamese.

To help increase the survey response rate, the City of Oakland worked with merchants in each of the three areas to secure survey incentives (e.g. coupon for discount at a restaurant). The incentives were made available upon completion of a survey.

1. In Person and Leave Behind Surveys

A staff person from The Planning Center | DC&E contacted building and property managers at each of the multi-family residential buildings to obtain permission to survey and gain access to the buildings. Additionally, each building and property manager was given a flyer to distribute to residents apprising them of when surveyors would be in the building and providing some background information about the survey. A brief summary of the in person survey population is shown in Table 2.

Prior to surveying, The Planning Center | DC&E created training materials for surveyors, including a detailed protocol for survey administration. One staff person from The Planning Center | DC&E and three City of Oakland interns administered the in person survey several times a week during October 2012, as detailed in Table 3.

All surveyors were emailed training materials prior to the first time surveying. On a surveyor’s first day in the field, a staff person from The Planning Center | DC&E provided an in-person 15-minute training, reviewing the protocol contained in the training materials and answering questions.

The Planning Center | DC&E staff person took a picture of every building surveyed and collected the following information for each building: number of units, number of parking spaces, how parking is managed, whether the units are rented versus owned, access to transit, estimated age of building, whether the units are market-rate or affordable housing, zoning district, and presence of a residential parking permit program.

At each in person survey location, the surveyors were instructed to follow the protocol below:

- ◆ Every time a surveyor approached a resident, the event was recorded. If the resident declined to participate, the surveyor tallied a non-response for the appropriate hour and survey location.

TABLE 2 IN PERSON SURVEY POPULATION

	Units	Parking Spaces	Spaces Per Unit	Primary Languages Spoken
Telegraph Corridor				
Harp Plaza Apartments	18	20	1.11	English
Summit Crest Apartments	98	98	1.00	African languages, English
509 Sycamore Street	13	0	0	English, Korean
2447 Telegraph Avenue	10	5	0.50	African languages, English, Korean
498 25 th Street	27	0	0	English
2341 Valley Street	41	0	0	English, Korean, Mongolian, Spanish
<i>Telegraph Corridor Subtotal</i>	207	123		
Jack London Square Area				
The Landing	282	465	1.65	English
<i>Jack London Square Area Subtotal</i>	282	465		
Fruitvale District				
Fruitvale Village	47	26	0.55	Chinese, English, Spanish
Fruitvale Villas	30	24	0.80	English
<i>Fruitvale District Subtotal</i>	77	50		
TOTAL	566	638		
AVERAGE (SPACES PER UNIT)			1.13	

Source: The Planning Center | DC&E, 2012.

- ◆ If a resident appeared willing to participate, the surveyor asked to speak to the adult of the house. The surveyor then explained to the adult of the household the purpose of the survey and asked if he/she had five minutes to answer a short survey questionnaire.
- ◆ Additionally, the surveyor offered the respondent the incentive for participating in the survey. For in person surveys, the incentive was given to the respondent after the completed survey. For e-mail or leave behind surveys, the incentive was mailed to the respondent within two weeks of receipt of the survey.

TABLE 3 **IN PERSON SURVEY SCHEDULE**

<i>Telegraph Corridor – 207 units</i>	October 23, 2012	Tuesday	5:00 pm – 7:00 pm	2 surveyors
	October 24, 2012	Wednesday	5:00 pm – 7:00 pm	3 surveyors
	October 25, 2012	Thursday	5:00 pm – 7:00 pm	2 surveyors
	October 26, 2012	Friday	5:00 pm – 7:00 pm	1 surveyor
	October 27, 2012	Saturday	11:00 am – 1:00 pm	2 surveyors
<i>Jack London Square Area – 282 units</i>	October 8, 2012	Monday	5:00 pm – 7:00 pm	2 surveyors
	October 9, 2012	Tuesday	5:00 pm – 7:00 pm	2 surveyors
	October 10, 2012	Wednesday	5:00 pm – 7:00 pm	2 surveyors
<i>Fruitvale District – 77 units</i>	October 16, 2012	Tuesday	5:00 pm – 7:00 pm	2 surveyors
	October 17, 2012	Wednesday	5:00 pm – 7:00 pm	3 surveyors
	October 18, 2012	Thursday	4:30 pm – 6:30 pm	1 surveyor
	October 19, 2012	Friday	4:30 pm – 6:30 pm	1 surveyor

Source: The Planning Center | DC&E, 2012.

- ◆ The survey had 15 questions. If a respondent asked to stop part way through the survey, the surveyor thanked him/her and marked all remaining questions as “nr” for non-response. These surveys were tallied and analyzed.
- ◆ Each question on the survey had multiple possible responses. Ideally, the surveyor read the question and was able to categorize the respondents’ answer without having to also read all the available choices. Surveyors only prompted the respondent with choices as needed to help the survey proceed efficiently.
- ◆ If the respondent’s answer did not match any of the categories on the sheet, the surveyor marked “other” and moved on.
- ◆ If the respondent did not speak English, the surveyor tried to determine what language he/she spoke by offering him/her the survey translated into the appropriate language (i.e. Spanish, Chinese, Vietnamese, and Korean). If the appropriate language could be determined, the surveyor provided a translated survey and waited until the respondent was finished and collected the survey.
- ◆ If no one answered the door, the surveyor noted the unit number and proceeded to the next unit. At the end of the survey window, the surveyors compiled the list of “no answers.” The Planning

Center | DC&E maintained the “no answer” list. The units on the “no answer” list were revisited at subsequent survey visits.

- ◆ By the third visit, should the surveyor have never connected with a “no answer” unit, the survey was left at the door in all the translated languages along with instructions on how to submit the response via e-mail or via US mail. In addition to the survey, a self-addressed, stamped envelope was left at the door.

Surveyors were also instructed to avoid leading the question, to remain passive in body language and facial expression, and to be consistent in the manner in which they administered each survey.

2. On-Line Survey

Two building managers (at The Sierra and Temescal Place) would not grant access to their buildings, but offered to distribute the Survey to their residents electronically. These building managers would not provide residents’ email addresses, but offered to distribute the Survey to residents themselves. The electronic Survey was administered via Survey Monkey. Building managers were provided links to the electronic Survey, as well as text to accompany the link when sent to residents. The electronic Survey was only available in English, but this was not seen as a barrier as both buildings had mainly English-speaking populations, as shown in Table 4.

TABLE 4 **ON-LINE SURVEY POPULATION**

	Units	Parking Spaces	Spaces Per Unit	Languages Spoken
<i>Telegraph Corridor</i>				
Temescal Place	25	38	1.52	English
<i>Jack London Square Area</i>				
The Sierra	224	285	1.27	English
TOTAL	249	323		

Source: The Planning Center | DC&E, 2012.

3. Response Rate

Responses were received from 294 units of the 815 units in the sample. This represents a 36 percent response rate and is over the sample size required to ensure +/-5 percent margin of error with a confidence level of 95 percent.⁴ That is, it is possible to assume with a reasonable degree of certainty, that the survey sample (294 units) represents an accurate picture of the larger population (815 units). While this would not necessarily translate to *all* other multi-family buildings in Oakland, it does provide a reasonable insight into the parking demand and habits of *similar* multi-family buildings.

Of the 11 buildings surveyed, the highest building response rate, 55 percent, was at Fruitvale Village.

The majority of respondents, or 53 percent, reported living in households with two adults in one or two bedroom units. The remaining 41 percent included people in households with one, three, or four adults.

D. Summary of Results

This section summarizes the overall findings that are common to the entire survey population as well as results specific to the study areas.

1. Vehicle Ownership

As shown in Figure 4, over 81 percent of the respondents owned or leased one or more vehicles.⁵ The total number of vehicles owned or leased varied among those surveyed; 43 percent of respondents reported owning or leasing one vehicle and 33 percent reported owning or leasing two vehicles. Jack London Square residents had the highest rate of vehicle ownership (95 percent) and Telegraph Corridor residents had the lowest rate of vehicle ownership (57 percent). Telegraph Corridor's low percentage of vehicle ownership could be attributed to it being the only area surveyed that included buildings which do not provide parking. Of the total Fruitvale respondents, 68 percent reported owning or leasing a vehicle. On average, respondents owned or leased 0.97 vehicles per unit, as shown in Table 5, which is less than the citywide vehicle ownership rate of 1.42 vehicles per household.⁶ The rate of vehicle ownership per respondent varied in all three study areas.

⁴ With a population size of 815, the sample size would need to be 262 to ensure a +/-5 percent margin of error with a 95 percent confidence level.

⁵ To determine the total number of vehicles owned by respondents, The Planning Center | DC&E assumed that when respondents reported owning or leasing four or more vehicles they owned exactly four vehicles.

⁶ US Census, <http://quickfacts.census.gov/qfd/states/06/0653000.html>, accessed on December 6, 2012. And US Census, American Factfinder, Aggregate Number of Vehicles Available by Tenure, 2011 American Community Survey 1-year Estimates

FIGURE 4 HOUSEHOLD VEHICLE OWNERSHIP

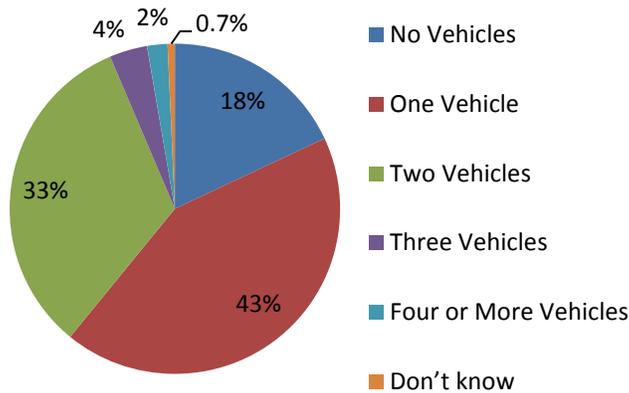


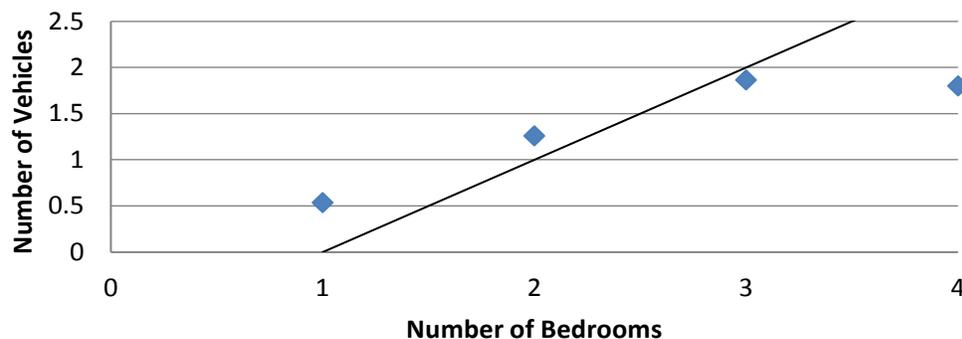
TABLE 5 AVERAGE VEHICLE OWNERSHIP PER UNIT, BUILDING, AND AREA

	Total Number of Units Surveyed	Total Number of Vehicles Owned by Surveyed Residents	Vehicles Per Unit Surveyed
2341 Valley Street	17	11	0.65
2447 Telegraph Avenue	3*	4	1.33
498 25th Street	9	8	0.89
509 Sycamore Street	6	2	0.33
Harp Plaza Apartments	5	2	0.40
Summit Crest Apartments	37	32	0.86
Temescal Place	2*	3	1.50
<i>Telegraph Corridor Average</i>			0.78
The Landing	92	133	1.45
The Sierra	81	140	1.73
<i>Jack London Square Average</i>			1.58
Fruitvale Village	26	29	1.12
Fruitvale Villas	15	9	0.60
<i>Fruitvale District Average</i>			0.93
TOTAL AVERAGE			0.97

*Since the total number of units surveyed for 2447 Telegraph Avenue and Temescal Place is relatively low compared to the total number of units in the buildings, conclusions about these individual buildings could be skewed. However, responses from these units are still relevant to the overall survey analysis.

Units with more bedrooms tended to have a higher rate of vehicle ownership. As shown in Figure 5, the rate of vehicle ownership increased as the total number of bedrooms increased. This relationship held true for up to two-bedroom units. When looking at disaggregated data, the relationship between the number of bedrooms and number of vehicles owned or leased held true for both the Jack London Square Area and the Fruitvale District. However, the Telegraph Corridor did not show any relationship between the number of bedrooms per unit and the number of vehicles owned. Additionally, the relationship between the number of bedrooms per unit and the number of vehicles owned per unit was still strongly present when looking solely at respondents with bundled parking.⁷

FIGURE 5 NUMBER OF BEDROOMS PER UNIT COMPARED TO VEHICLE OWNERSHIP



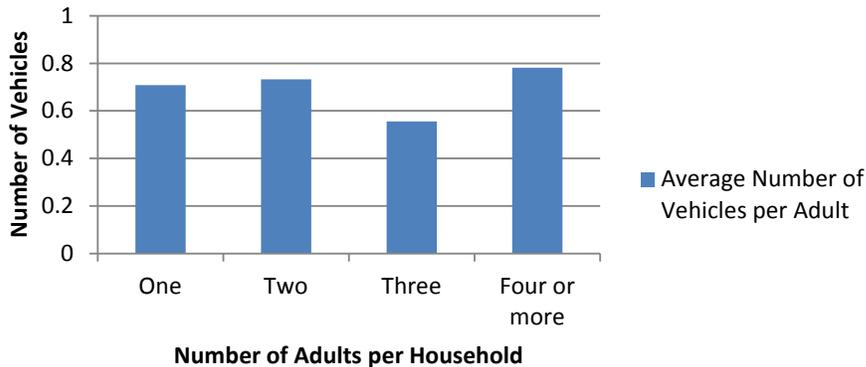
When looking at those reporting unbundled parking,⁸ 80 percent of whom live in the Telegraph Corridor, the relationship between the number of bedrooms per unit and the number of vehicles owned per unit disappeared. Although the data only represented a very small subset of the sample and thus is not as reliable, it is interesting to note that the number of vehicles owned appeared to have been related to the number of bedrooms in a household, except for when parking must be paid for separate from housing/rental costs.

As shown in Figure 6, vehicle ownership tends to stay about the same as the number of adults in the household increases. Of the survey population, 56 percent of one-adult households had one vehicle and 47 percent of two-adult households had two vehicles. However, some households had more drivers than vehicles, particularly for households with three adults. The most typical reasons cited for lesser vehicle ownership was that the household did not need more vehicles or could not afford more vehicles. A small number of respondents (4 percent) listed difficulty parking in the neighborhood as the reason for having fewer vehicles than drivers.

⁷ Bundled parking is when the cost of parking is included in the rent or mortgage of a unit.

⁸ Unbundled parking is when the cost of parking is separate and in addition to the rent or mortgage of a unit.

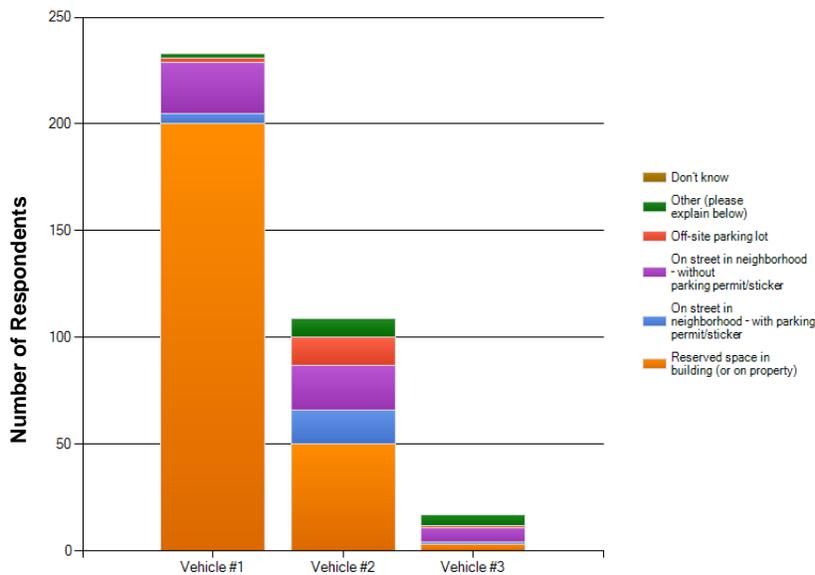
FIGURE 6 NUMBER OF ADULTS PER HOUSEHOLD COMPARED TO VEHICLE OWNERSHIP



2. Parking Behavior

As detailed in Figure 7, the majority of respondents parked one of the vehicles they owned or leased at the same location in which they lived. Residents with two vehicles tended to park the second vehicle on-site as well. However, a larger percentage of the second vehicles were parked off-site compared to the first vehicle owned or leased by residents. While some respondents were able to park even their third vehicle in a reserved space, most parked a third vehicle on the street in the neighborhood.

FIGURE 7 HOUSEHOLD PARKING HABITS



Only 14 percent of respondents reported living in buildings with no designated parking. Of the respondents without designated parking, 45 percent owned or leased at least one vehicle, compared to residents with designated parking, of which 91 percent owned or leased at least one vehicle. These data appear to show a correlation between a lack of parking and a reduction in vehicle ownership.

The amount of parking that occurred on the street, either with or without a residential parking permit is shown in Table 6 and Figure 8. Approximately 20 percent of all respondents reported parking at least one vehicle on the street. Of those respondents who parked on the street, 51 percent parked two vehicles on the street, and 8 percent parked three vehicles on the street. As would be expected, the buildings with the highest rates of parking on the street were also among those buildings with little or no reserved parking (e.g. 2341 Valley Street, 2447 Telegraph Avenue, and 498 25th Street). The other buildings with a high rate of on-street parking (i.e. Temescal Place and The Sierra) were the buildings with the highest number of vehicles per unit.

FIGURE 8 **VEHICLES PARKED ON STREET COMPARED TO AVAILABLE PARKING SPACES, PER BUILDING**

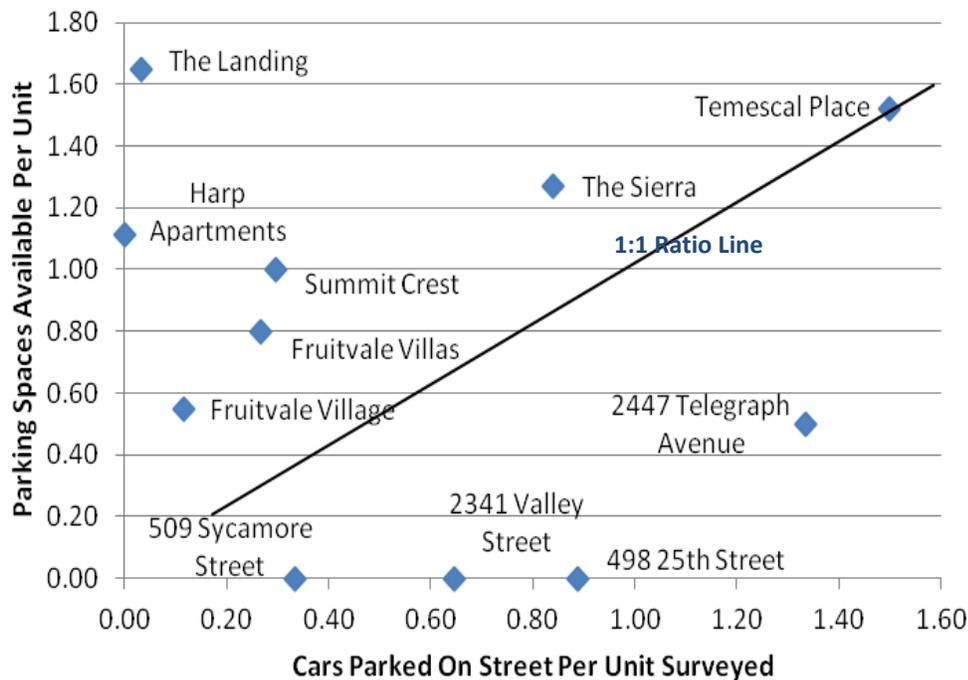


TABLE 6 ON-STREET PARKING RATE

	Parking Space Supply, Per Unit	Vehicles Parked on Street, Per Unit
Harp Plaza	1.11	0.00
Summit Crest	1.00	0.30
509 Sycamore Street	0	0.33 ^b
2341 Valley Street	0	0.65 ^c
498 25 th Street	0	0.89 ^d
2447 Telegraph Avenue	0.50	1.33 ^e
Temescal Place	1.52	1.50 ^e
<i>Telegraph Corridor Average</i>	<i>0.59</i>	<i>0.71</i>
The Landing	1.65	0.03
The Sierra	1.27	0.84
<i>Jack London Square Average</i>	<i>1.46</i>	<i>0.44</i>
Fruitvale Village	3.11 ^a	0.12
Fruitvale Villas	0.80	0.27
<i>Fruitvale Average</i>	<i>1.95</i>	<i>0.19</i>
TOTAL AVERAGE	0.76	0.57

^a Note, there are of 26 reserved spaces for residents in the parking garages. Residents are able to purchase additional parking spaces (above and beyond that which is designated per unit) directly from the parking garage operator. No information on which spaces were the officially designated spaces was available at the time of the count, therefore the parking utilization for Fruitvale Village is not considered in our analysis.

^{b,c,d} The number of vehicles parked on the street per unit for 509 Sycamore Street, 498 25th Street, and 2341 Valley Street is identical to the number of vehicles owned per unit. This means that all of the respondents surveyed in those three buildings park all vehicles they own or lease on the street.

^e The number of units surveyed for both 2447 Telegraph (3 units) and Temescal Place (2 units) was extremely low. The resulting ratios for vehicles parked on street, per unit, may not accurately represent behavior in the two buildings.

Source: The Planning Center | DC&E, 2012.

3. Parking Pricing

From a parking pricing perspective, survey respondents lived in three types of buildings: buildings that bundled parking in the price of rent, buildings that unbundled the cost of parking, and buildings that did not provide on-site parking. Of the five buildings with bundled parking, on average, 69 percent of respondents correctly reported that the price of parking was included in the cost/price of their unit. In comparison, 72 percent of respondents living in the two buildings with unbundled parking correctly reported that the price of parking was not included in the cost/price of their unit. The three buildings

which do not provide parking were excluded from these calculations, as was Fruitvale Village, the one building which has alternated its parking pricing policy between bundled and unbundled parking.

Of respondents living in buildings with bundled parking (i.e. 2447 Telegraph Avenue, Temescal Place, The Landing, The Sierra, and Fruitvale Villas), 92 percent own one or more vehicles, while only 60 percent of respondents living in buildings with unbundled parking (i.e. Harp Plaza and Summit Crest) own one or more vehicles. Also, where the price of parking was bundled, residents tended to own more vehicles compared to residents who had to pay an additional fee for parking. For example, of the vehicle owners whose parking was bundled, 48 percent owned one vehicle and 39 percent owned two vehicles, and the vast majority parked both their first and second vehicles (96 percent and 50 percent, respectively) in a reserved space within their building. Of the vehicle owners who lived in buildings with unbundled parking, 37 percent owned one vehicle and 15 percent owned two vehicles. While most residents with unbundled parking chose to pay to park their first vehicle at the reserved space on-site, a smaller percentage parked their second vehicle on-site (78 percent and 27 percent, respectively) compared to residents whose parking was bundled.

Of the three study areas, 90 percent of Jack London Square respondents reported the cost of parking was included in the rent or price of the unit, in comparison to just 63 percent of the aggregated data. As noted above, Jack London Square respondents also had the highest rate of vehicle ownership of the three study areas. The higher rate of vehicle ownership is therefore not surprising since, as shown above, residents with bundled parking tended to own a higher number of vehicles.

4. Commute Patterns

Although the majority of respondents reported using their personal vehicle to commute to work or school, 42 percent of respondents use public transit, carpool, bicycle, or walk to commute to work or school as shown in Figure 9. The use of public transit and other modes of travel by Survey residents were higher than in Oakland as a whole. According to the 2006-2010 American Community Survey, approximately 34 percent of Oakland residents used public transit, carpooled, bicycled, or walked to work as shown in Figure 10. This appears to indicate that living in close proximity to transit is related with increased transit use and decreased reliance on personal vehicles.

Of the three study areas, Fruitvale was strikingly different from the Survey aggregated responses, in that 56 percent of Fruitvale respondents report public transit as the primary mode of transportation, as shown in Figure 11. This is compared to 32 percent for the overall survey, and 17 percent citywide. Fruitvale's high use of public transit are probably explained by its close proximity to the Fruitvale BART station, especially Fruitvale Village which is directly adjacent to the BART station. As shown on Figures 12 and 13, 38 percent of Telegraph Corridor residents and 25 percent of Jack London Square residents used public transit to commute to work or school which is still higher than the overall citywide percentage.

FIGURE 9 TOTAL SURVEY POPULATION, PRIMARY MODE OF COMMUTE TO WORK OR SCHOOL PER ADULT

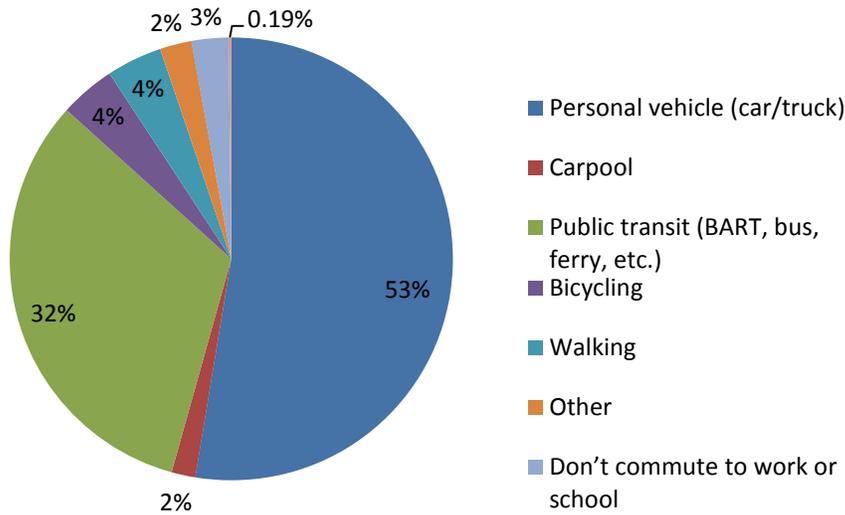
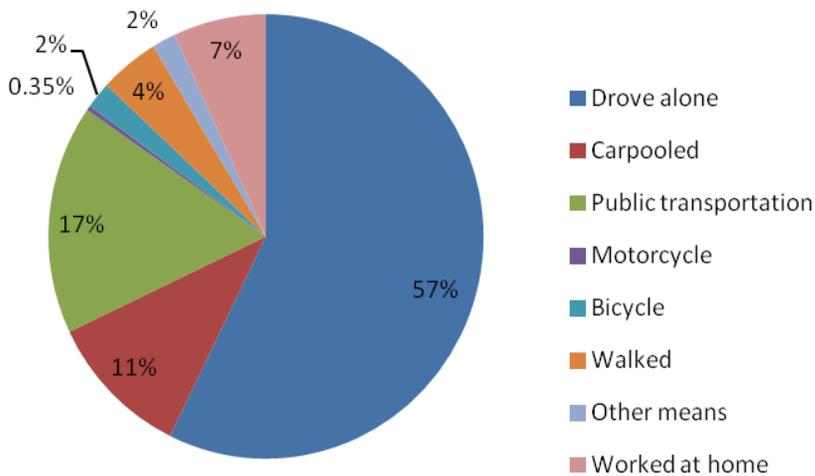
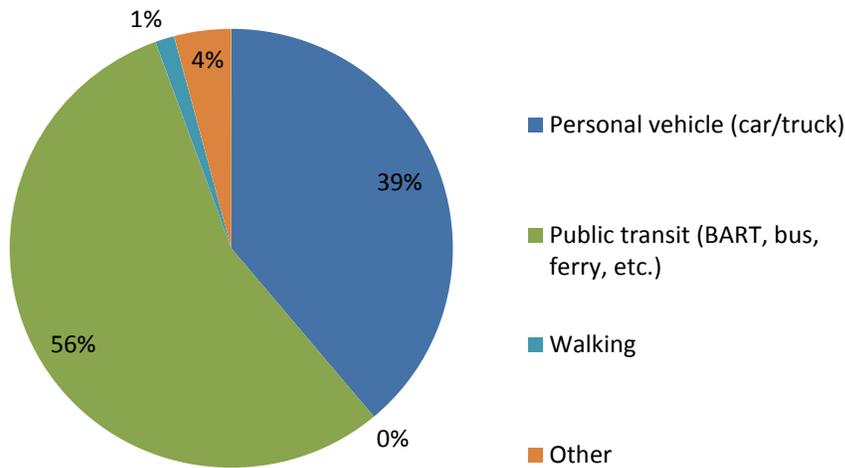


FIGURE 10 CITYWIDE, PRIMARY MODE OF COMMUTE TO WORK OR SCHOOL



Source: 2006-2010 American Community Survey.

FIGURE 11 **FRUITVALE DISTRICT, PRIMARY MODE OF COMMUTE TO WORK OR SCHOOL PER ADULT**



Note: No respondents selected carpool, bicycling, don't commute, or don't know.

FIGURE 12 **TELEGRAPH CORRIDOR, PRIMARY MODE OF COMMUTE TO WORK OR SCHOOL PER ADULT**

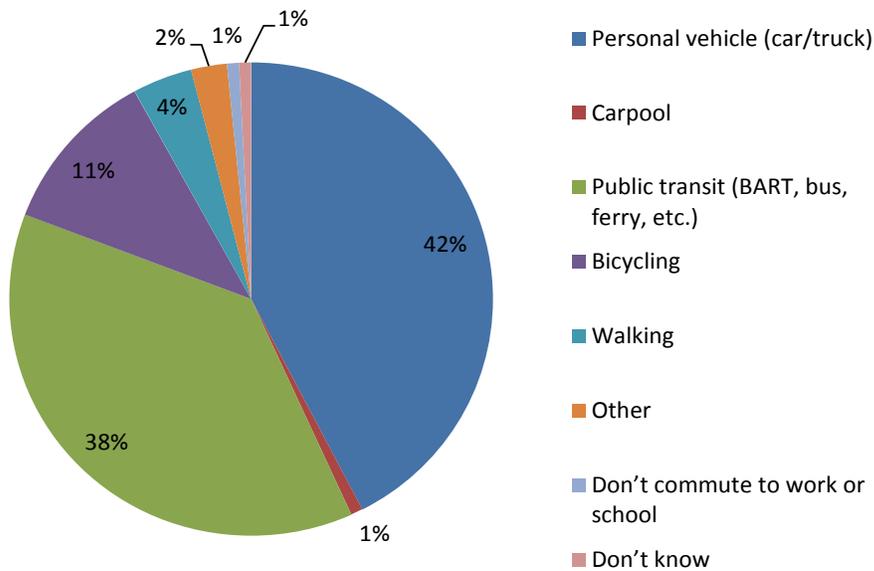
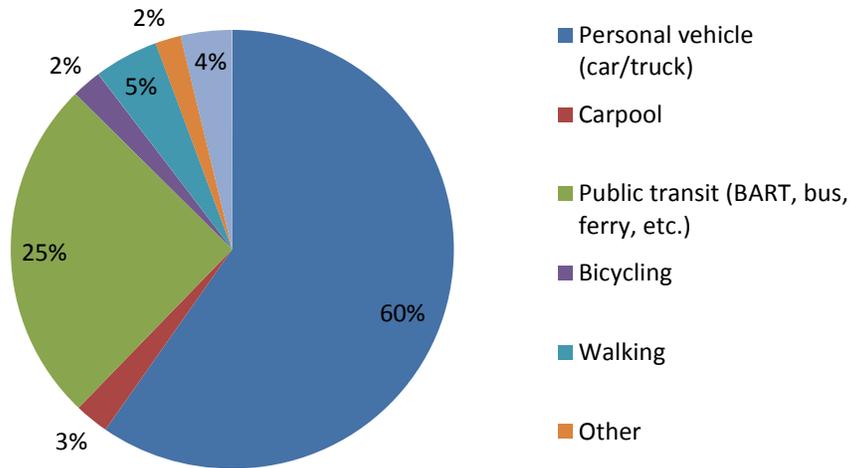


FIGURE 13 JACK LONDON SQUARE, PRIMARY MODE OF COMMUTE TO WORK OR SCHOOL PER ADULT



Note: No respondents selected don't commute or don't know.

5. Likelihood to Change Parking Behavior

The parking survey asked whether several factors would influence the number of vehicles owned or leased by residents. These factors consisted of providing additional reserved parking spaces in the building, increasing the cost of reserved parking spaces, providing free public transportation passes as part of the rent or price of the unit, and locating car share at or within walking distance of the building.

All respondents lived within ½-mile (i.e. a ten minute walk) of a car share location. Among those surveyed, 85 percent were aware of this, while 15 percent of respondents incorrectly indicated that car share was not located within a ten-minute walk of his or her home. This indicates a strong awareness of car share programs.

Overall, respondents reported in noteworthy numbers that they would be very likely and somewhat likely to alter their vehicle ownership (i.e. either a reduction or increase in the number of vehicles a household owns or leases) if provided incentives to do so. For example, the provision of free transit passes had the highest likelihood to change respondent behavior with more than 30 percent of vehicle owners indicating that they would be very likely (16 percent) or somewhat likely (15 percent) to reduce the number of vehicles they owned or leased if the rent or price of their unit included free passes for public transportation. In addition, approximately 25 percent of respondents reported they would be very likely or somewhat likely to reduce the number of vehicles they owned or leased if car share were located within close proximity of their residence. Lastly, approximately 17 percent of respondents

indicated they would be very likely or somewhat likely to reduce the number of vehicles they owned or leased if the cost of parking was unbundled from their rent or mortgage. This suggests that the City should further explore the use of transit passes, car share, and unbundling parking costs when considering future revisions to the City's parking regulations.

6. Parking Supply and Utilization

Over 80 percent of respondents live in units that come with one or more parking space(s) per unit. Table 7 shows the number of parking spaces available per unit (this table excludes the three buildings in the survey population that have no on-site parking). Interestingly, the number of spaces per unit is highest at the three newest buildings of the survey population: The Landing, The Sierra, and Temescal Place. Although Fruitvale Village is also a new building, as a transit-oriented development it has the second lowest number of parking spaces available per unit for buildings with parking. Excluding Fruitvale Village, the other buildings with the lowest number of parking spaces available per unit are older buildings, 2447 Telegraph Avenue, Fruitvale Villas, and 2001 Summit, all three built between 25 and 83 years ago.

TABLE 7 PARKING UTILIZATION COUNT OBSERVATIONS

	Units	Parking Spaces	Spaces per Unit	Occupied Spaces	Percent of Occupied Spaces	Occupied Spaces Per Unit
<i>Telegraph Corridor</i>						
2447 Telegraph Avenue	10	5	0.50	4	80%	0.4
Harp Plaza Apartments	18	20	1.11	13	65%	0.7
Summit Crest Apartments	98	98	1.00	73	75%	0.7
Temescal Place	25	38	1.52	29	76%	1.2
<i>Jack London Square</i>						
The Landing	282	465	1.65	301	65%	1.1
The Sierra	224	285	1.27	211	74%	0.9
<i>Fruitvale District</i>						
Fruitvale Village	47	146 (26 designated for residents)	0.55 ^a	40	n/a ^a	0.9
Fruitvale Villas	30	24	0.80	18	75%	0.6
TOTAL AVERAGE^b			0.73		69%	0.8

^a There are 26 reserved spaces for residents in the parking garages. Residents are able to purchase additional parking spaces (above and beyond that which is designated per unit) directly from the parking garage operator. No information on which spaces were the officially designated spaces was available at the time of the count, therefore the parking utilization for Fruitvale Village is not considered in our analysis.

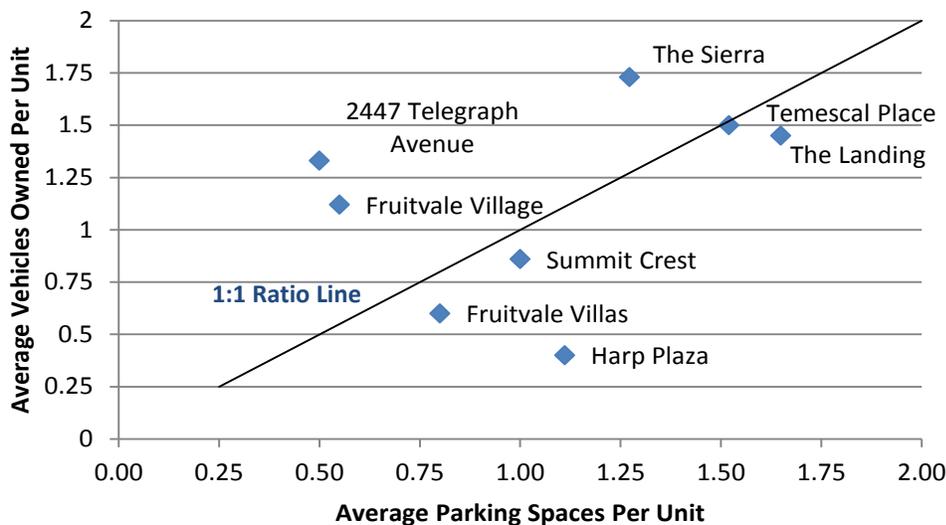
^b Total Average excludes Fruitvale Village.

Source: The Planning Center | DC&E, 2012.

The parking utilization count observations are detailed in Table 7 above. The average overall utilization was approximately 69 percent, meaning that 31 percent of the parking spaces available were not being used at the time of the count.⁹ Several analyses were conducted to compare the utilization rate with average number of vehicles per adult, average number of adults per unit, and the average number of bedrooms per unit. There does not appear to be a relationship between the utilization rate and these other factors.

The utilization rate observed in the field is also supported by the reported data. As shown in Figure 14, there appears to be more available average supplied parking spaces per unit (i.e. parking supply) compared to average vehicles owned per unit. Figure 14 shows a 1:1 ratio line of average parking spaces per unit (as verified in the field) to average vehicles owned per unit (as reported by respondents). Buildings below the line had more parking spaces than vehicles per unit while buildings above the line had more vehicles than parking per unit. For example, Harp Plaza Apartments had more than double the available parking spaces compared to vehicles owned or leased. Exceptions to this observation include Fruitvale Village, 2447 Telegraph Avenue, and The Sierra, the building with the highest number of vehicles per unit.

FIGURE 14 **AVERAGE VEHICLES PER UNIT COMPARED TO AVERAGE AVAILABLE PARKING SPACES PER UNIT**



E. Conclusions

Overall, this study found that parking behavior varies widely from unit to unit, building to building, and neighborhood to neighborhood. As shown above, a number of factors affect parking behavior including the number of bedrooms per unit, available parking supply, and parking pricing. This

⁹ Average utilization does not include Fruitvale Village.

variability limits the ability to predict the precise parking behavior in new multi-family developments. However, the results of this survey paint a general picture of parking behavior of multi-family buildings with good access to transit which will be useful when considering updates to the City's parking requirements.

A major finding of the survey is that the parking demand of residents of multi-family units is, on average, 0.97 spaces per unit while the average parking supply is 1.19 spaces per unit. Most of the buildings surveyed are located in zones that require one parking space per unit. This suggests that multi-family buildings may have more parking than needed by residents, and that housing developers may be building more parking than required by the City's zoning code.

When looking at the utilization of parking at each individual building, there appears to be an underutilization of parking; only 69 percent of the parking spaces surveyed were occupied. However, even though there is an oversupply of parking, residents are still parking their vehicles on the street. As noted above, respondents parked their vehicle on-street when parking was absent or constrained at their place of residence. That is, buildings with little or no parking and buildings with the highest numbers of vehicles per unit had a higher rate of on-street parking. This means it is likely that within a building some households may own no vehicles but have an assigned parking space, while some households own more vehicles than they have parking spaces. This suggests that if building managers administered the parking program more efficiently (i.e. unbundled parking from the unit's rent/mortgage) street parking would decline and the parking oversupply would lessen.

Survey respondents, on average, own or lease fewer vehicles compared to the city as a whole. In fact, 18 percent of respondents do not own or lease a vehicle at all. One potential reason for the lower rate of vehicle ownership of survey respondents is the close access to transit and high walkability of the study areas.

When examining the factors that affect vehicle ownership, the number of bedrooms per unit had the highest correlation to number of vehicles owned for the Jack London Square and Fruitvale Village study areas. That is, the rate of vehicle ownership seems to increase as the total number of bedrooms increases from zero to two bedroom units.

Residents with a designated parking space had a higher rate of vehicle ownership compared to residents without a designated parking space. This could indicate that vehicle owners self-selected units with designated parking (or vice versa) or that the absence of a parking space discouraged people from owning a vehicle. Further studies would need to be completed to determine the exact cause for this relationship.

Additionally, residents with bundled parking had a higher rate of vehicle ownership compared to residents who paid for parking separate from their rent or mortgage. This appears to show that when the true cost of parking is separated from the unit price, people are financially motivated to own fewer

vehicles. This also suggests that financial incentives may affect vehicle ownership even though vehicle owners reported that price would not affect the number of vehicles they own.

The survey population was more likely to use carpool, public transit, walk, or bike to work compared to the city as a whole, which indicates that people living near transit avail themselves of this mode and other non-automobile modes. When examining the commute behavior of the three study areas, the Fruitvale District had the highest rate of using public transit to commute to work or school. This may be a result of socioeconomic conditions (i.e. income, age) and the fact that Fruitvale Village is adjacent to the BART station.

The survey also examined whether different factors would influence the number of vehicles a household owns. Respondents reported that decisions about vehicle ownership were most likely to be influenced by the provision of free transit passes, having access to car-share, and unbundling the cost of parking from the unit's rent or mortgage.

The results of the survey suggest that the City may want to consider the following policy recommendations when updating the parking regulations:

- ◆ Encourage or require building owners to manage the parking supply on their properties more efficiently in order to reduce on-street parking and underutilization of off-street parking spaces.
- ◆ Reducing minimum parking requirements may not reduce parking supply or demand due to developers supplying more parking than required by the zoning regulations.
- ◆ The following strategies may be effective in reducing parking supply and demand:
 - Unbundling the price of parking from residential rents/prices;
 - Providing free transit passes to residents;
 - Providing access to car-sharing services; and
 - Implementing maximum parking requirements to reduce over-supplying of parking by developers.

A P P E N D I X A

L I T E R A T U R E R E V I E W

APPENDIX A
LITERATURE REVIEW

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OAKLAND MULTI-FAMILY RESIDENTIAL
PARKING SURVEY
CITY OF OAKLAND/
APPENDIX A: LITERATURE REVIEW

A P P E N D I X B

SURVEY QUESTIONNAIRE



oakland parking update

OAKLAND RESIDENTIAL PARKING SURVEY

The City of Oakland is conducting a residential parking survey to identify the parking needs and opinions of people who live in apartments and condos. Your participation in the survey will help the City plan for future parking requirements. We need to hear from you to draft parking regulations that are right for Oakland!

The information collected in the survey is confidential. The survey will only be used by the City for updating its parking regulations. The survey will not be used to modify parking in your building.

The survey should take approximately 5 minutes to complete. Everyone who completes the survey will receive a coupon for a discount at a local merchant.

Thanks for your help!

SURVEY QUESTIONS	
1. What building do you live in?	
<input type="radio"/> Fruitvale Village <input type="radio"/> Fruitvale Villas Apartments <input type="radio"/> The Landing <input type="radio"/> The Sierra <input type="radio"/> 2341 Valley Street <input type="radio"/> 244 Telegraph Avenue <input type="radio"/> 498 25 th Street	<input type="radio"/> 509 Sycamore Street <input type="radio"/> 430 28 th Street (Heart Plaza Apartments) <input type="radio"/> 2801 Summit (Summit Crest Apartments) <input type="radio"/> Temescal Place <input type="radio"/> Other (please specify): _____
2. How many people living in your household are currently 18 years or older?	
<input type="radio"/> One <input type="radio"/> Two <input type="radio"/> Three	<input type="radio"/> Four or more <input type="radio"/> Don't know
3. What form of transportation do adult members in your household <u>most often</u> use for commuting to work or school?	
Adult #1 <input type="radio"/> Personal vehicle (car/truck) <input type="radio"/> Carpool <input type="radio"/> Public transit (BART, bus, ferry, etc.) <input type="radio"/> Bicycling <input type="radio"/> Walking <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't commute to work or school <input type="radio"/> Don't know	Adult #2 <input type="radio"/> Personal vehicle (car/truck) <input type="radio"/> Carpool <input type="radio"/> Public transit (BART, bus, ferry, etc.) <input type="radio"/> Bicycling <input type="radio"/> Walking <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't commute to work or school <input type="radio"/> Don't know

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Surveyor: _____

Date: _____



oakland parking update

SURVEY QUESTIONS	
<p>3 cont'd What form of transportation do adult members in your household <u>most often</u> use for commuting to work or school?</p>	
<p>Adult #3</p> <ul style="list-style-type: none"> <input type="radio"/> Personal vehicle (car/truck) <input type="radio"/> Carpool <input type="radio"/> Public transit (BART, bus, ferry, etc.) <input type="radio"/> Bicycling <input type="radio"/> Walking <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't commute to work or school <input type="radio"/> Don't know 	<p>Adult #4</p> <ul style="list-style-type: none"> <input type="radio"/> Personal vehicle (car/truck) <input type="radio"/> Carpool <input type="radio"/> Public transit (BART, bus, ferry, etc.) <input type="radio"/> Bicycling <input type="radio"/> Walking <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't commute to work or school <input type="radio"/> Don't know
<p>4. How many bedrooms are in your apartment/condo?</p> <ul style="list-style-type: none"> <input type="radio"/> Zero/Studio <input type="radio"/> One <input type="radio"/> Two <input type="radio"/> Three or more 	
<p>5. How many vehicle parking spaces in your building (or elsewhere on the property) are designated for your unit?</p> <ul style="list-style-type: none"> <input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two <input type="radio"/> Three <input type="radio"/> Four or more <input type="radio"/> Don't know 	
<p>6. Is the cost of parking in the building (or on the property) included in the rent/price of your unit or do you pay an extra fee for parking?</p> <ul style="list-style-type: none"> <input type="radio"/> Parking included in rent/price <input type="radio"/> Pay an extra fee for parking <input type="radio"/> Don't know <input type="radio"/> No parking in building or on property <input type="radio"/> Other (explain): _____ 	
<p>7. How many total vehicles are owned by your household? (Include any car or truck that you or someone else in your unit owns or leases on a permanent basis.)</p> <ul style="list-style-type: none"> <input type="radio"/> None <input type="radio"/> One <input type="radio"/> Two <input type="radio"/> Three <input type="radio"/> Four or more <input type="radio"/> Don't know <p>➤ If you answered "None" or "Don't know" to the above question, skip ahead to Question 13.</p>	
<p>8. Where are your household's vehicles parked <u>most often</u>?</p>	
<p>Vehicle #1</p> <ul style="list-style-type: none"> <input type="radio"/> Reserve space in building (or on property) <input type="radio"/> On street in neighborhood – with parking permit/sticker <input type="radio"/> On street in neighborhood – without parking permit/sticker <input type="radio"/> Off-site parking lot <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't know 	<p>Vehicle #2</p> <ul style="list-style-type: none"> <input type="radio"/> Reserve space in building (or on property) <input type="radio"/> On street in neighborhood – with parking permit/sticker <input type="radio"/> On street in neighborhood – without parking permit/sticker <input type="radio"/> Off-site parking lot <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't know

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Surveyor: _____

Date: _____



oakland parking update

SURVEY QUESTIONS	
8 cont'd Where are your household's vehicles parked <u>most often</u> ?	
Vehicle #3	Vehicle #4
<input type="radio"/> Reserve space in building (or on property) <input type="radio"/> On street in neighborhood – with parking permit/sticker <input type="radio"/> On street in neighborhood – without parking permit/sticker <input type="radio"/> Off-site parking lot <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't know	<input type="radio"/> Reserve space in building (or on property) <input type="radio"/> On street in neighborhood – with parking permit/sticker <input type="radio"/> On street in neighborhood – without parking permit/sticker <input type="radio"/> Off-site parking lot <input type="radio"/> Other (explain): _____ <input type="radio"/> Don't know
9. If your household has fewer vehicles than drivers, why? (Check as many answers as applicable)	
<input type="radio"/> Not applicable (we have at least one vehicle for every driver in our household) <input type="radio"/> Parking is too difficult in my neighborhood <input type="radio"/> Cannot afford more vehicles	<input type="radio"/> Some of the adults in my household are unable to drive <input type="radio"/> Do not need more vehicles <input type="radio"/> Other (explain): _____
10. If there were additional parking spaces available in your building that you could use, how likely would your household be to <u>increase</u> the number of vehicles it owns or leases?	
<input type="radio"/> Very likely <input type="radio"/> Somewhat likely <input type="radio"/> Neutral	<input type="radio"/> Somewhat unlikely <input type="radio"/> Very unlikely <input type="radio"/> Don't know
11. If your unit currently has reserved parking in the building (or elsewhere on the property) and you were required to pay more for parking, how likely would your household be to <u>reduce</u> the number of vehicles it owns or leases?	
<input type="radio"/> Very likely <input type="radio"/> Somewhat likely <input type="radio"/> Neutral <input type="radio"/> Somewhat unlikely	<input type="radio"/> Very unlikely <input type="radio"/> Don't currently have parking in the building <input type="radio"/> Don't know
12. If the rent/price of your unit included free passes for public transportation (such as BART and AC Transit), how likely would your household be to <u>reduce</u> the number of vehicles it owns or leases?	
<input type="radio"/> Very likely <input type="radio"/> Somewhat likely <input type="radio"/> Neutral	<input type="radio"/> Somewhat unlikely <input type="radio"/> Very unlikely <input type="radio"/> Don't know
13. Car-sharing is a program where you pay a fee to rent cars by the hour or the day from various self-service pick-up locations. Are there car-share vehicles located within a 10-minute walk of your home?	
<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't know	
14. Do you currently use car-share?	
<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Don't know	
15. If car-share vehicles were located in your building or within walking distance, how likely would your household be to <u>reduce</u> the number of vehicles it owns or leases?	
<input type="radio"/> Very likely <input type="radio"/> Somewhat likely <input type="radio"/> Neutral <input type="radio"/> Somewhat unlikely	<input type="radio"/> Very unlikely <input type="radio"/> Don't know <input type="radio"/> Do not currently own vehicles