

Fruitvale Alive!

Community Transportation Plan

Final Report

City of Oakland
Community and Economic Development Agency



Submitted by:

CHS Consulting Group

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EXECUTIVE SUMMARY

The *Fruitvale Alive! Master Transportation Plan (Fruitvale Alive!)* is funded by a Caltrans Environmental Justice Grant. The City of Oakland's Community and Economic Development Agency (CEDA) is the grant administrator. This plan presents study findings and recommendations for pedestrian, bicycle, traffic, transit, and parking improvements in the Dimond and Fruitvale Districts in the City of Oakland.

The City of Oakland, with input from community members in the study area, established the following three major objectives for this project:

- Improve pedestrian safety and pedestrian connections to schools, parks, and transit.
- Enhance the connection between the Fruitvale and Dimond Districts.
- Improve traffic flow.

The study area for this project includes Fruitvale Avenue from the Alameda City Border to Coloma Street; MacArthur Boulevard from Canon Avenue /East 38th Street/Excelsior Avenue intersection to Coolidge Avenue; and Coolidge Avenue from MacArthur Boulevard to Foothill Boulevard. The City and members of the community also identified 22 "Hot spots" along the Fruitvale Avenue corridor (shown below) as the focus of this project.

1. Fruitvale Avenue/San Leandro Street;
2. Fruitvale Avenue/East 12th Street;
3. Fruitvale Avenue/International Boulevard;
4. Fruitvale Avenue/Foothill Boulevard;
5. La Clinica de la Raza (Fruitvale Avenue/ East 15th Street);
6. Josie de la Cruz Park (Fruitvale Avenue/East 16th Street);
7. Hawthorne Elementary School (Fruitvale Avenue/East 18th Street);
8. Fruitvale Avenue/East 27th Street;
9. Eden Manor (Fruitvale Avenue/School Street);
10. Fruitvale Avenue/Pleasant Street;
11. Fruitvale Elementary School (Boston/Pleasant Streets, School/Pleasant Streets, and Coolidge Avenue/ School Street);
12. Pleasant Street/Champion Street;
13. Champion Street/Harold Street;
14. I-580 undercrossings at Fruitvale, Flagg , and Boston Avenues, and at Champion Street;
15. Dimond Library;
16. MacArthur Boulevard/Excelsior Avenue/East 38th Street/Canon Avenue/Adell Court;
17. MacArthur Boulevard/Fruitvale Avenue;
18. MacArthur Boulevard/Champion Street;
19. MacArthur Boulevard/May Court;
20. MacArthur Boulevard/Lincoln Avenue;
21. MacArthur Boulevard/Coolidge Avenue; and
22. Coolidge Avenue/Foothill Boulevard.



Community Outreach and the Planning Process

There has been extensive involvement from stakeholders, including residents, community activists, government agencies, and District City Council offices, during the entire planning process of this project. Community members from the four major neighborhood areas – the Dimond, Coolidge, Fruitvale Gateway, and Fruitvale neighborhoods – have also been involved throughout the entire process. The main tenets of public outreach for this project have been general community meetings, web-based communication, and small community group meetings.

The Spanish Speaking Unity Council (SSUC) and the Dimond Improvement Association (DIA) have been partnering organizations with the City of Oakland from the inception of this project. A Technical Advisory Committee (TAC) and Steering Committee (SC) were formed to provide input on this project. Members of the TAC included Caltrans, representatives from the City of Oakland's Community and Economic Development Agency (CEDA), Redevelopment Agency (RA), the Oakland Pedestrian Safety Project (OPSP), the Transportation Services Division of the City's Public Works Agency, AC Transit, and BART. Members of the SC include representatives of City Council members Ignacio De La Fuente (District 5) and Jean Quan (District 4), and representatives from CEDA, RA, OPSP, SSUC, and DIA.

Key Issues

The key issues for this project related to the following transportation modes:

Pedestrians. The major pedestrian issue in the study area is safe pedestrian crossings, both at signalized and non-signalized marked crosswalks. The study area contains a large number of public institutions, such as schools, churches, parks, clinics and retirement homes, so safe pedestrian crossing is a high priority in the community. The study area intersections also have high pedestrian/vehicle collision rates, especially the intersections of Fruitvale Avenue/International Boulevard and Fruitvale Avenue/Foothill Boulevard, which are among the intersections in the City of Oakland with the highest number of pedestrian collisions.

Bicycles. The City of Oakland's Bicycle Master Plan identifies Fruitvale Avenue, MacArthur Boulevard, and Coolidge Avenue as Class II bicycle lanes or Class III bicycle routes. The community also has strong interest in establishing bicycle routes in the study area, especially as a connection with the Fruitvale BART Station. A Class II bicycle lane has been installed on Fruitvale Avenue between Alameda Avenue and East 12th Street, but no other bikeways have been implemented, and the only existing bicycle amenity is the "bicycle station" at the Fruitvale BART Station. Despite this policy framework and community support, there are constraints that limit the installation of Class II bike lanes in the study area, including roadway width and traffic volumes.

Transit. Bus transit on Fruitvale Avenue was found to be generally adequate. Analysis indicated, however, that bus stop spacing along Fruitvale Avenue is more frequent than the standard for similar neighborhood settings. Also, the study area contained very few bus shelters at bus stops. MacArthur, Foothill, and International Boulevards are also served by bus lines, and the Project Area includes the Fruitvale BART Station.



Motor Vehicle Traffic. The project study area includes several traffic issues, including congestion, safety, traffic pattern, speed, and signal operations. Several intersections, including the Fruitvale Avenue/East 27th Street, Fruitvale Avenue/East 23rd Street, Fruitvale Avenue/Foothill Boulevard, and Fruitvale Avenue/San Leandro Street intersections, currently operate at congested levels during the morning and afternoon peak periods. The collision rates at several intersections in the project study area, including the Fruitvale Avenue/International Boulevard and Fruitvale Avenue/Foothill Boulevard intersections, are among the highest in the City of Oakland, and thirteen study area intersections have collision rates that exceed the statewide average. Data obtained from the Alameda County Congestion Management Agency’s travel forecasting model and a field license plate survey show that the majority of the vehicular traffic along Fruitvale Avenue is generated by residents and workers in the corridor. However, due to the absence of an I-880 southbound ramp connection between 10th Avenue and High Street, vehicles attempting to get on I-880 southbound in the area must drive through the southern portion of the project study area (East 12th Street to San Leandro Street), creating a large volume of non-local traffic. Average measured 85 percentile speeds (defined as the speed at or below which 85 percent of the vehicles are moving on a particular stretch of roadway) along Fruitvale Avenue are generally higher than posted speed limits. Finally, the traffic signals in the study area do not function as coordinated, actuated signals.

Connectivity. While the study area is physically connected by roads and sidewalks, the two freeway structures (I-580 in Dimond and I-880 in Fruitvale) form visual barriers in the corridor. These visual barriers cause residents and business owners in the Dimond and Fruitvale neighborhoods feel that they are separated from each other. The challenge of this project is to identify streetscape treatments that would strengthen the connections between these two neighborhoods.

Recommended Corridor-wide Improvements

Enhance Pedestrian Crosswalks

- Use continental style thermoplastic markings or highly visible markings, such as were used in the recently implemented streetscape project along International Boulevard and East 12th Street in the Eastlake District.
- Add in-pavement marking “PED XING” in advance of the crosswalk.
- Add pedestrian countdown timers at all approaches at all signalized intersections (eight per intersection, except at the “T” intersections, where six countdown timers would be needed).
- Add advanced reflective pedestrian crossing signs indicating the downstream pedestrian crosswalks at all unsignalized crosswalks.
- Add in-pavement markers at all unsignalized crosswalks.
- Install advance limit lines as appropriate.



Add Pedestrian Bulbouts

Add pedestrian bulbouts at all marked crosswalks at unsignalized intersections along Fruitvale Avenue, including:

- Fruitvale Avenue/Pleasant Street;
- Fruitvale Avenue/School Street;
- Fruitvale Avenue/Brookdale Avenue;
- Fruitvale Avenue/Lynde Street;
- Fruitvale Avenue/Blossom Street;
- Fruitvale Avenue/Logan Street;
- Fruitvale Avenue/Galindo Street;
- Fruitvale Avenue/East 19th Street;
- Fruitvale Avenue/East 18th Street;
- Fruitvale Avenue/East 17th Street;
- Fruitvale Avenue/East 16th Street (both east and west of Fruitvale);
- Fruitvale Avenue/East 15th Street;
- Fruitvale Avenue/Farnam Street; and
- Fruitvale Avenue/East 13th Street.

Improve Signal Coordination

- Implement 80-second cycle at all signalized intersections along Fruitvale Avenue.
- Modify traffic signals so that they are all actuated signals.
- Add bicycle-sensitive detectors at the minor approaches as appropriate.

Enhance Traffic Enforcement

- Use solar-powered LED speed detectors as self-enforcement tool.
- Enforce Traffic Laws at key locations.
- Consider implementation of Red Light Cameras at key locations.



Initiate Traffic Education Program

Focus on the following groups:

- Fruitvale and Hawthorne Elementary School students and parents, and
- Community organizations.

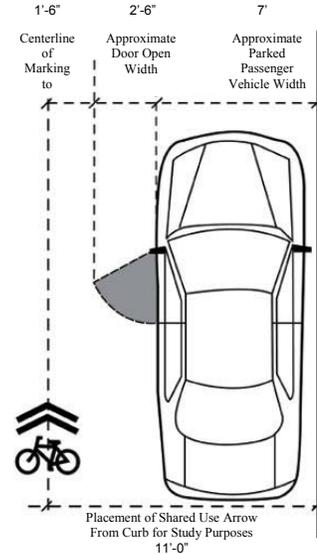
Improve Transit Services

- Eliminate redundant AC Transit bus stops.
- Locate bus stops on the far side of intersections to allow buses to take advantage of signal timing and to facilitate safer pedestrian crossings.
- Work with AC Transit and ClearChannel/Adshel to install bus shelters at more bus stops in the study area.



Bicycle Lanes

- Implement Class III bicycle routes along Fruitvale Avenue with the use of a Shared Lane Bicycle Pavement Marking (“Sharrow”).
- Gather additional community input and conduct further studies to establish a long-term vision and direction for bicycling infrastructure on Fruitvale Avenue.



Recommended Localized Improvements in the Fruitvale District

Fruitvale Avenue & San Leandro Street

- Re-stripe the southbound lanes to two left-turn lanes and one through lane.
- Install a traffic sign before the pedestrian crosswalk that reads “Keep Crosswalk Clear.”
- Instead of using a red color bulb on the signal head for the right turn movement during the phases that they should stop, use a red arrow bulb.
- Work with Caltrans to conduct a study for improving access from Oakland to I-880 southbound between East 10th and High Streets.

Fruitvale Avenue & East 12th Street

- Eliminate the northbound right turn lane and replace the area with pedestrian/bicycle amenities.
- Re-stripe the northbound approach to two left-turn only lanes, one through lane, and one through/right-turn lane.
- Reconfigure the eastbound right-turn lanes to increase the turning radius for trucks.

Fruitvale Avenue & International Boulevard

- Add pedestrian corner bulbouts.
- Provide protected left-turn signal phases for the eastbound and westbound movements.
- Install “Yield to Pedestrians” traffic signs.
- Adjust the clearance interval to enable vehicles to clear the intersection safely and reduce the likelihood of a broadside collision.

La Clinica de la Raza (Fruitvale Avenue between East 16th and East 15th Streets)

- Implement the corridor-wide traffic operation and streetscape improvements.

Josie de la Cruz Park (Fruitvale Avenue between East 16th and East 15th Streets)

- Implement the corridor-wide traffic operation and streetscape improvements.

Hawthorne Elementary School (Fruitvale Avenue & East 18th Street)

- Create corner bulbouts on both sides of Fruitvale Avenue.
- Consider adding an additional crossing guard.

Fruitvale Avenue & Foothill Boulevard

- Add pedestrian corner bulbouts at three corners.

- Modify street striping. Modify the westbound striping at the approach to the Fruitvale intersection to add one right turn only lane during the PM peak period only.
- Install “No Parking 4:00 – 6:00 PM” on Foothill Boulevard westbound between 33rd Avenue and Fruitvale, and enforce as necessary.
- Lengthen the Foothill westbound bus stop farther west so that it is at least 80 feet long.

Fruitvale Avenue between International Boulevard and Foothill Boulevard

- Implement Class III bicycle routes along Fruitvale Avenue with the use of the Sharrow marking.

Foothill Boulevard & Coolidge Avenue

- Add a southbound lane and stripe the southbound approach for one right-turn lane and one left-turn lane.
- Provide a protected signal phase for the eastbound vehicles turning left to Coolidge Avenue.

Fruitvale Avenue at Logan and Nicol Streets

- Remove several on-street parking spaces to create a “Two Way Left Turn Lane” at both approaches to these two intersections.
- Increase the length of the red zones on both approaches of this street to improve visibility.

Recommended Localized Improvements in the Fruitvale Gateway District

Fruitvale Avenue & East 27th Street

- Actuate the signal.
- Provide a southbound right-turn lane.
- To reduce illegal entry to the one-way East 27th Street, narrow the approach at the east side of the intersection (e.g., erect a barrier such as a set of bollards or a large cement planter box in the street on the southern half of East 27th Street). Also, add additional signs and enforcement. Add two additional signs, a “No Left Turn” sign at the southbound far-side corner and a “No Right Turn” at the northbound nearside corner.
- Monitor the illegal entry issue, because there is no record of the extent of illegal entry.
- Change the northbound left turn signal phase from the lead to the lag phase.

Eden Manor (between East and West School Streets on the west side of Fruitvale Avenue)

- Implement the corridor-wide traffic operation and streetscape improvements.

St. Jarlath’s Elementary School and I-580 Undercrossings

- Implement the corridor-wide traffic operation and streetscape improvements.

Fruitvale Avenue & Harold Street

- Implement a mast arm with signal head for each lane in the eastbound direction to increase visibility for the eastbound traffic.



Recommended Localized Improvements on Coolidge Avenue

Fruitvale Elementary School

- Add additional crossing guards from 8:00 to 8:30 AM during the morning school commute and from 2:45 to 3:30 PM during the afternoon school commute at the Boston/Pleasant Streets, Boston/School Streets, and School Street/Coolidge Avenue intersections. There should be an adult at the first two locations to accompany the student crossing guards. There needs to be an extra adult crossing guard at the third location.
- The current parking signs “No parking between 8:00 AM and 4:00 PM” should be changed to “School Passenger Drop-off Only, 7:30 – 8:30 AM and 2:45 – 3:45 PM.”
- The City of Oakland Parking Enforcement Division should have enforcement personnel on duty from 7:30 to 8:30 AM and from 2:45 to 3:45 PM to ensure that the on-street curb spaces are available for drop-off and pick-up activities only.
- The school should have a comprehensive “Safe Route to School” education program in place during the school year, targeting both students and parents.

Recommended Localized Improvements in the Dimond District

MacArthur Boulevard & Excelsior Avenue & 38th Street & Canon Avenue & Adell Court

Four alternatives were presented to the community and no preferred alternative was selected. Alternative 1 involves the creation of a roundabout and Alternatives 2, 3, and 4 involve striping changes that would provide more clarity to this intersection. The community wishes to continue its deliberation and selection of a preferred alternative.

Fruitvale Avenue & MacArthur Boulevard

- Create left-turn pockets at the MacArthur Boulevard approaches.
- Modify AC Transit Bus stop locations, including potentially eliminating the northbound near side bus stop and relocating the eastbound AC Transit bus stop from the near side to the far side of the intersection.

MacArthur Boulevard & Champion Street Intersection (Wells Fargo Parking Lot Access)

- Realign Champion Street and MacArthur Boulevard to reduce pedestrian crossing distance and pedestrian/vehicle conflicts.
- Modify access pattern and internal layout of the Wells Fargo parking lot.

MacArthur Boulevard & May Court

- Paint “KEEP CLEAR” in the roadway pavement on MacArthur Boulevard for the width of May Court.

MacArthur Boulevard & Lincoln Avenue Intersection

- Install pedestrian push buttons at this intersection and increase pedestrian crossing time to account for senior citizen crossing needs
- Install pedestrian signal heads and countdown timers.
- Add corner bulbouts at this intersection, except the west side of Lincoln Avenue north of MacArthur Boulevard.



MacArthur Boulevard & Coolidge Avenue

- Reconfigure the intersection with bulbouts and re-striping of the crosswalks.
- Change the crosswalk marking to continental style.
- Add pedestrian crossing signs at all four approaches to the intersection.
- Conduct an engineering study for the U-turns on MacArthur Boulevard in this vicinity. These U-turns are considered by the community to be dangerous.

Marked Pedestrian Crosswalk Near Dimond Library

- Implement the corridor-wide traffic operation and streetscape improvements.

Recommended Streetscape Improvements

One of the objectives for this project is to “enhance the connection between the Fruitvale and Dimond Districts.” The two districts are already physically connected by roadways and sidewalks, but they lack visual connectivity. Streetscape design is a tool that is often used to accomplish visual connectivity, visual quality, comfort, and safety. Typical streetscape elements include street trees, lighting improvements, street furniture, and special identity elements.

This study recognizes that Fruitvale Avenue has six distinct segments with distinctive land uses and neighborhood characteristics. The six segments are:

- Alameda Avenue to East 12th Street (The City of Alameda border to the Fruitvale Transit Village);
- East 12th Street to Foothill Boulevard;
- Foothill Boulevard to Blossom Street;
- Blossom Street to Lynde Street (The Fruitvale Gateway);
- Lynde Street to I-580 (The Lower Dimond); and
- I-580 to Coloma Street (The Dimond Business District).

Three primary goals were put forth to help direct the streetscape design of the entire 2.5-mile stretch of Fruitvale. Additional goals were also put forth for each of the six street segments.

- Create a stronger visual connection between neighborhoods (e.g. Alameda to Fruitvale, Fruitvale to Fruitvale Gateway, and Lower Dimond to the Dimond Business District).
- Create a stronger visual connection between distinct nodes of activity.
- Strengthen the identity of Fruitvale and Dimond Districts.

The specific recommendations for each of the six segments are listed in the main body of this document. The following is a list of recommendations that were made for some or all of the segments:

- Construct sidewalks with a minimum width of six feet, wherever sidewalks are non-existent.
- Install pedestrian-scaled lighting fixtures.
- Plant large, broad-canopied trees on segments that are devoid of or sparsely provided with trees.
- Work with property owners to encourage landscaping and other improvements.



- Include location-specific and unique design elements in segments that have a specific character. In some segments, such elements could include tile, stucco, paving, ornamental ironwork, bollards, planters, and paint. In other segments, these elements might include banners or kiosks highlighting special features of that particular location.
- Improve the appearance and comfort of I-580 and I-880 undercrossings for pedestrians, using landscaping, paint, and pedestrian-scale lighting.
- Install fencing or walls to separate sidewalks from unattractive or unsafe adjacent property uses.

Project Cost Estimates

The proposed recommendations are expected to cost approximately \$15,000,000.

Project Implementation, Phasing and Potential Funding

The recommendations in this report include physical changes to the existing roadways and sidewalks, operational modifications, and enforcement strategies. Operational changes and the implementation of enforcement strategies typically would not follow the process outlined below. They are at the discretion of the City agencies and the key constraint is the availability of funding and other resources. Recommendations that involve modifications to the physical configuration of a street or sidewalk would follow the process outlined below. Funding would be required to accomplish each step.

1. **Prepare a plan.** This step has been completed. The recommendations in this report represent a plan for the study area.
2. **Prepare an environmental document.** An environmental document would be required for a project that may cause environmental impacts. The document is intended to analyze potential impacts on a wide ranges of issues, including land use, air quality, noise and vibration, transportation, hazardous materials, utilities, and construction. Some projects, such as the placement of street trees, the addition of signs along bicycle routes, and the relocation of bus stops could be exempted from environmental review.
3. **Prepare engineering drawings.** Once a project clears the environmental process and funding is obtained, it will proceed to the engineering design phase. This phase would typically be prepared in three steps, 30%, 60%, and final design. It will include final construction cost estimates and specifications. During this phase, plans shown in this report may be revised or refined with actual survey data. During the 30 percent design phase, there is an opportunity for public input to finalize the preliminary design plan.
4. **Project construction.** Once the project design phase is completed, the City would issue an invitation to bid and select a contractor to begin construction of the project

This report includes recommendations that can be implemented in the short term as well as recommendations that will take longer time to implement. The following criteria were used to determine project phasing:

- Level of community support;
- Potential for significant improvements;
- Readiness for implementation; and
- Cost.



Potential funding sources for project implementation include the following.

- Transportation for Livability Communities (administered by the Metropolitan Transportation Commission);
- Capital Improvement Program (funding programmed by the Oakland Public Works Agency);
- Regional Transportation Improvement Projects (administered by the Metropolitan Transportation Commission);
- Measure B funding;
- Redevelopment Agency funds;
- Public Health Department funds; and
- Safe Routes to Transit Program (funded by Regional Measure 2 and administered by the Metropolitan Transportation Commission).

The specific phasing recommendations are listed in the main body of this document.



1.0 INTRODUCTION

The *Fruitvale Alive! Master Transportation Plan (Fruitvale Alive!)* is funded by a Caltrans Environmental Justice Grant. The City of Oakland’s Community and Economic Development Agency (CEDA) is the grant administrator. This plan presents study findings and recommendations for pedestrian, bicycle, traffic, transit, and parking improvements in the Dimond and Fruitvale Districts in the City of Oakland.

The City of Oakland, with input from community members in the study area, established the following three major objectives for this project:

- Improve pedestrian safety and pedestrian connections to schools, parks, and transit.
- Enhance the connection between the Fruitvale and Dimond Districts.
- Improve traffic flow.

The study area includes three arterial roads (listed below). Figure 1 shows the study area, including all the signalized intersections and the major public institutions.

- Fruitvale Avenue—from Coloma Street to the boundary between the Cities of Oakland and Alameda;
- MacArthur Boulevard—from the intersection of MacArthur Boulevard/Excelsior Avenue/East 38th Street/Canon Avenue/Adell Court to the intersection of MacArthur Boulevard/Coolidge Avenue; and
- Coolidge Avenue—from MacArthur Boulevard to Foothill Boulevard.

The City of Oakland initially identified 15 locations as “hot spots” along the Fruitvale Avenue corridor. Some of these hot spots include just one intersection, while others include several intersections. These “hot spots” were selected because the adjacent community feels that they are locations at which pedestrian safety is a concern. As the planning process progressed, seven additional intersections were added based on the input received from the community. All of these hot spots are shown in Figure 2.

The 15 locations originally identified were:

1. Fruitvale Avenue/San Leandro Street;
2. Fruitvale Avenue/East 12th Street;
3. Fruitvale Avenue/International Boulevard;
4. Fruitvale Avenue/Foothill Boulevard;
5. La Clinica de la Raza (Fruitvale Avenue/ East 15th Street);
6. Josie de la Cruz Park (Fruitvale Avenue/East 16th Street);
7. Hawthorne Elementary School (Fruitvale Avenue/East 18th Street);
8. Fruitvale Avenue/East 27th Street;
9. Eden Manor (Fruitvale Avenue/School Street);
10. Fruitvale Avenue/Pleasant Street;
11. Fruitvale Elementary School (Boston/Pleasant Streets, School/Pleasant Streets, and Coolidge Avenue/ School Street);
12. Pleasant Street/Champion Street;



13. Champion Street/Harold Street;
14. I-580 undercrossings at Fruitvale Avenue, Flagg Avenue, Champion Street, and Boston Avenue; and
15. Dimond Library.

The seven intersections added later due to community input were:

1. MacArthur Boulevard/Excelsior Avenue/East 38th Street/Canon Avenue/Adell Court;
2. MacArthur Boulevard/Fruitvale Avenue;
3. MacArthur Boulevard/Champion Street;
4. MacArthur Boulevard/May Court;
5. MacArthur Boulevard/Lincoln Avenue;
6. MacArthur Boulevard/Coolidge Avenue; and
7. Coolidge Avenue/Foothill Boulevard.

1.1 Report Organization

This Final Report has five chapters as follows:

- Chapter 1 provides a general introduction of the study area and project goals.
- Chapter 2 outlines the steps that have been taken during the planning process, including public outreach and government inter-agency coordination.
- Chapter 3 presents the existing conditions of the project study area, including a general project area description, the current policy framework, and data and observations regarding traffic, parking, pedestrian, bicycling, and transit services in the project area.
- Chapter 4 presents the Year 2025 future traffic conditions in the project study area.
- Chapters 5 through 7 present the study recommendations. These recommendations are developed to address project area issues, with consideration of community inputs received at various public meetings. Chapter 5 contains recommendations for corridor-wide transportation improvements; Chapter 6 contains recommendations for localized issues and concerns; and Chapter 7 contains streetscape recommendations to improve connection between Fruitvale and Dimond Districts.
- Chapter 8 presents order of magnitude cost estimates for each recommendation.
- Chapter 9 presents recommended project phasing.



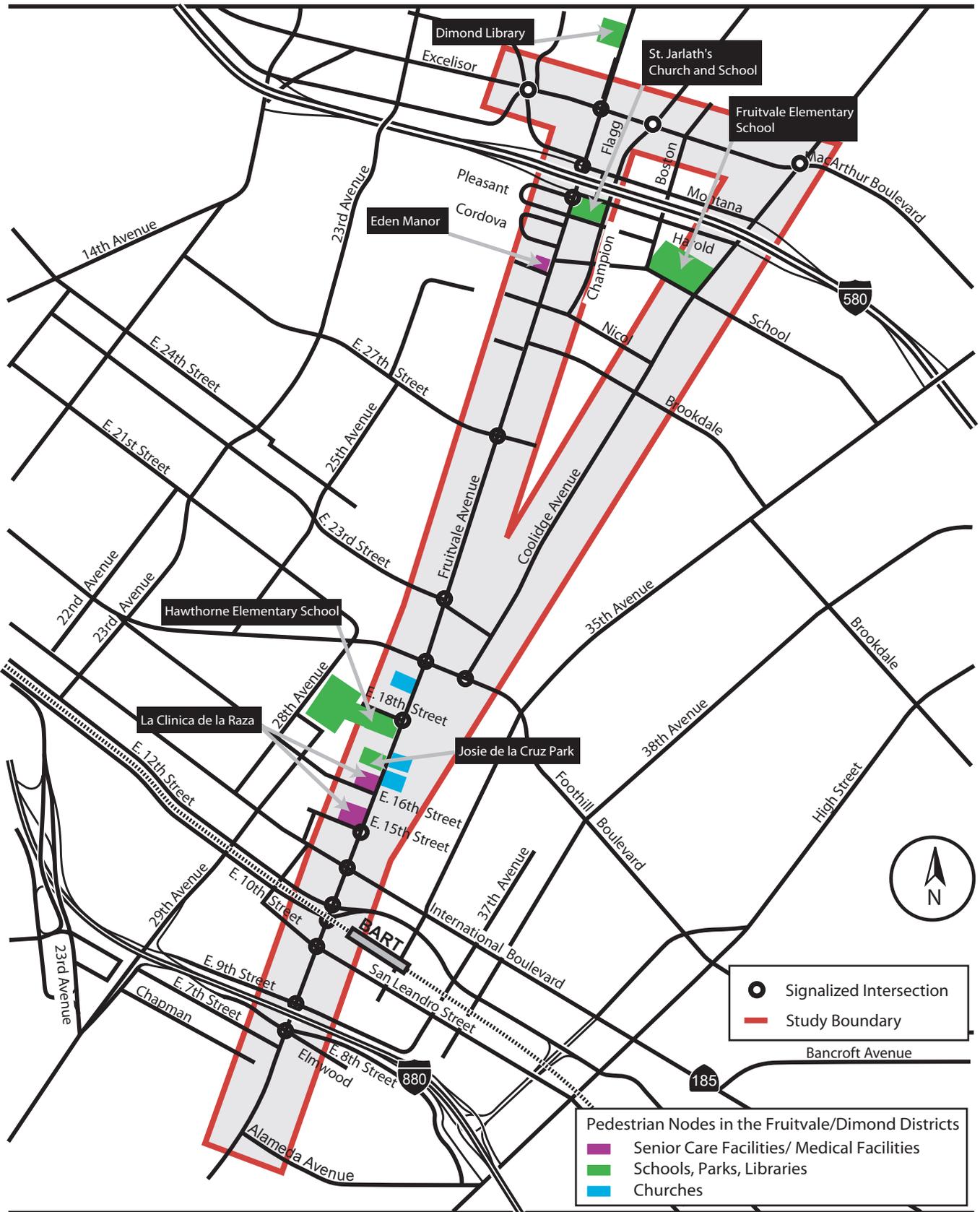


Figure 1
Study Area



Figure 2
Study Area Hot Spots

2.0 PLANNING PROCESS

There has been extensive involvement from stakeholders, including residents, community activists, government agencies, and District City Council offices, during the entire planning process of this project. Community members from the four major neighborhood areas—the Dimond, Coolidge, Fruitvale Gateway, and Fruitvale neighborhoods—have also been involved throughout the entire process.

2.1 Community Group Participation

The City of Oakland has included two community groups in this project as official partnering organizations. The two community groups, the Spanish Speaking Unity Council (SSUC) and the Dimond Improvement Association (DIA), began public outreach early in the process to determine the community's wishes and concerns regarding transportation services in the study area. The key issues identified by community members were included in the initial grant application to Caltrans. Both the SSUC and the DIA were then responsible for community outreach throughout the duration of this project.

2.2 Public Outreach

The main tenets of public outreach for this project have been general community meetings, web-based communication, and small community group meetings. In addition to these three primary methods, a Fruitvale Alive! Binder with printed documents and slides has been kept on reserve at the Dimond Library during the process.

2.2.1 General Community Meetings

Four general community meetings were held during the study period. Three of the meetings were held at Patten University (November 18, 2004, February 16, 2005, and October 19, 2005) and one of them was held at the Fruitvale Senior Center (May 18, 2005). The first meeting focused on the presentation of the existing conditions in the study area. The second meeting focused on the presentation of preliminary recommendations. The third meeting focused on the presentation of draft recommendations. The fourth meeting focused on the presentation of final recommendations. Table 1 presents a summary of these meetings.

2.2.2 Web-based Communication

DIA has maintained a Website (www.dimondnews.org) for communication with its members, and it has proven to be a very powerful communication tool for its members. The DIA web site was used for this project for three primary reasons:

- To solicit continuous public input;
- To inform the public of meetings (dates, locations and agenda); and
- To post updates of project findings and recommendations.

Extensive amount of public comments were received via the website. All working papers and presentation materials were posted on the web to allow the public to have full access to the consultants' technical work.

2.2.3 Small Group Community Meetings

Three small group community meetings were held with community stakeholders to present recommendations specific to each community: Dimond District and Coolidge Avenue (February 2); Fruitvale District (March 24); and Fruitvale Gateway (June 17). These meetings were conducted using workshop format and were highly interactive between the study team members and community stakeholders.

2.3 Government Agency and Elected Officials' Participation

A Technical Advisory Committee (TAC) and the project's Steering Committee were formed to provide input on this project. The committees are comprised of community and agency stakeholders.

Members of the TAC included Caltrans, representatives from the City of Oakland's Community and Economic Development Agency (CEDA), the Oakland Redevelopment Agency (ORA), the Oakland Pedestrian Safety Project (OPSP), the Transportation Services Division of the City's Public Works Agency, AC Transit, and BART. At the first TAC meeting, the team presented existing conditions data; at the second meeting they introduced different strategies and alternatives for review, and at the third meeting they presented a technical evaluation of project alternatives.

Members of the SC include representatives of City Council members Ignacio De La Fuente (District 5) and Jean Quan (District 4), and representatives from CEDA, ORA, OPSP, SSUC, and DIA. The two City Council members and their staff were active participants throughout the process. The Steering Committee began meeting upon the award of the Caltrans environmental justice grant and will continue to meet to facilitate the implementation of the plan. The Steering Committee generally meets before the TAC with the same topics. Steering Committee meetings were also held after the community meetings to provide policy guidance to the study team.

2.4 Future Community Outreach

As the project moves into the design phase, more public input will be solicited. The recommendations in this report include concept plans for the recommended improvements, but the exact dimensions, colors, and materials for the improvements would be decided in the design phase. Typically the City includes additional community meetings during the design phase of a project before the final design is completed and approved.



Table 1 – Intersection Level of Service: Existing Weekday AM and PM conditions

MEETING	DATE	LOCATION	# OF PARTICIPANTS	SUBJECTS
1	November 18, 2004	Patten University	69	Presentation on Project overview, Existing Conditions in Project Area, Questions & Answers, Additional Issue from the public.
2	February 16, 2005	Patten University	46	Presentation on Potential Projects & Improvements, Questions & Answers.
3	May 18, 2005	Fruitvale Transit Village Senior Center	31	Presentation on Recommended Strategies, Questions & Answers.
4	October 19, 2005	Patten University	75 (anticipated at the time of the writing of this Report)	Presentation of Fruitvale Alive Community Transportation Plan
Special Meeting for Dimond/ Coolidge Avenue area	February 2, 2005	Dimond Library	20	Intersections/hot spots in these areas, specifically on Dimond Library pedestrian crossing
Special Meeting for Foothill and Fruitvale Avenue area	March 24, 2005	Spanish Speaking Unity Council Office	15	Intersections & hot spots in this area, especially on two-lane Fruitvale south of Foothill Boulevard
Special Meeting for Lower Dimond area	June 15, 2005	??	??	Fruitvale and East 27 th Street area improvements

3.0 EXISTING CONDITIONS

3.1 Project Area Description

The study area includes large portions of Oakland's Fruitvale and Dimond neighborhoods. It stretches through the Fruitvale neighborhood, the Lower Dimond neighborhood, and the Dimond Business District. The area contains many different land uses. The southern portion of the Fruitvale corridor (south of East 12th Street) contains predominantly industrial uses. The rest of the corridor is comprised of various residential and commercial uses, with community institutions such as schools, parks, churches, La Clinica de la Raza, and the Dimond Library scattered throughout the area.

There are four distinct large commercial retail cores. The first one stretches from approximately East 12th Street to a few blocks north of International Boulevard. This section is closely tied to the businesses along International Boulevard and to the new Fruitvale Transit Village at the Fruitvale BART Station. The second one is located approximately two blocks north and south of Foothill Boulevard and forms part of the Foothill/Fruitvale commercial area. The third section, the Fruitvale Gateway area, includes approximately one block to the north and south of East 27th Street. The fourth, the Dimond commercial district, includes the blocks from approximately I-580 to Coloma Street and includes businesses on both Fruitvale Avenue and MacArthur Boulevard. The remaining sections of Fruitvale Avenue are predominantly residential with scattered commercial uses.

3.1.1 Population Characteristics

The 2000 U.S. Census data show a high percentage of minority populations in the project study area. South of Foothill Boulevard, approximately 60 – 70 percent of the population is Hispanic, 6 – 12 percent is Black/African-American, 8 – 13 percent is Asian, and 6 – 12 percent is white (non-Hispanic). Between Foothill Boulevard and East 27th Street, the population becomes about one-third Hispanic, one-third Asian, and one-third black/African-American. Between East 27th Street and I-580, the population is still divided primarily between these three groups, but the Hispanic population decreases to 14 – 21 percent of the population while the Black/African-American and Asian populations increases to 31 – 38 percent and 22 – 30 percent, respectively. North of I-580 the relative composition changes, but it still retains a large minority population of approximately 44 – 53 percent.

Income levels also vary along the study area alignment, though less dramatically than with race or ethnicity. The southern portions of the study area have relatively low median household income levels (less than \$34,000). North of East 27th Street, the median household income is slightly higher on the east side of Fruitvale Avenue (\$36,000) and dramatically higher on the west side of Fruitvale Avenue (\$49,000). North of I-580 the median household income climbs above \$53,000 on both sides of Fruitvale Avenue.

3.2 Policy Framework

This plan acknowledges the policy framework that has been adopted by the City of Oakland, as documented in the *City of Oakland General Plan* (1998), the *City of Oakland Pedestrian Master Plan* (2002), and the *City of Oakland Bicycle Master Plan* (1999).

3.2.1 Street Circulation System and Functional Classification

The Oakland Public Works Agency classifies roadways in Oakland as arterial streets, collector streets, or local streets. Arterial streets serve as the basic network for through traffic between different sections of the City. The arterial streets in the project study area (Figure 3) are Fruitvale Avenue (between MacArthur Boulevard and the City of Alameda), Lincoln Avenue, MacArthur Boulevard, Foothill Boulevard, International Boulevard, East 12th Street, San Leandro Street, and Alameda Avenue. Collector streets move traffic between local streets and the arterial street system. The collector streets in the project study area are Coolidge Avenue, School Street, Brookdale Avenue, East 27th Street, and East 21st Street. Local streets provide access to abutting property in residential neighborhoods and business districts. The remaining streets in the project study area are local streets. Figure 3 shows the functional classification of the streets within the study area.

3.2.2 Pedestrian Circulation Systems

The *City of Oakland Pedestrian Master Plan* structures the pedestrian network by types of routes: City, District, and Neighborhood (Figure 4).

City Routes are destinations in and of themselves—places to live, work, shop, socialize, and travel. They provide the most direct connection between the various districts in the City, and also foster connections between transit centers. City Routes within the study area include Fruitvale Avenue, MacArthur Boulevard (west of Lincoln Avenue), Foothill Boulevard, International Boulevard, and San Leandro Street.

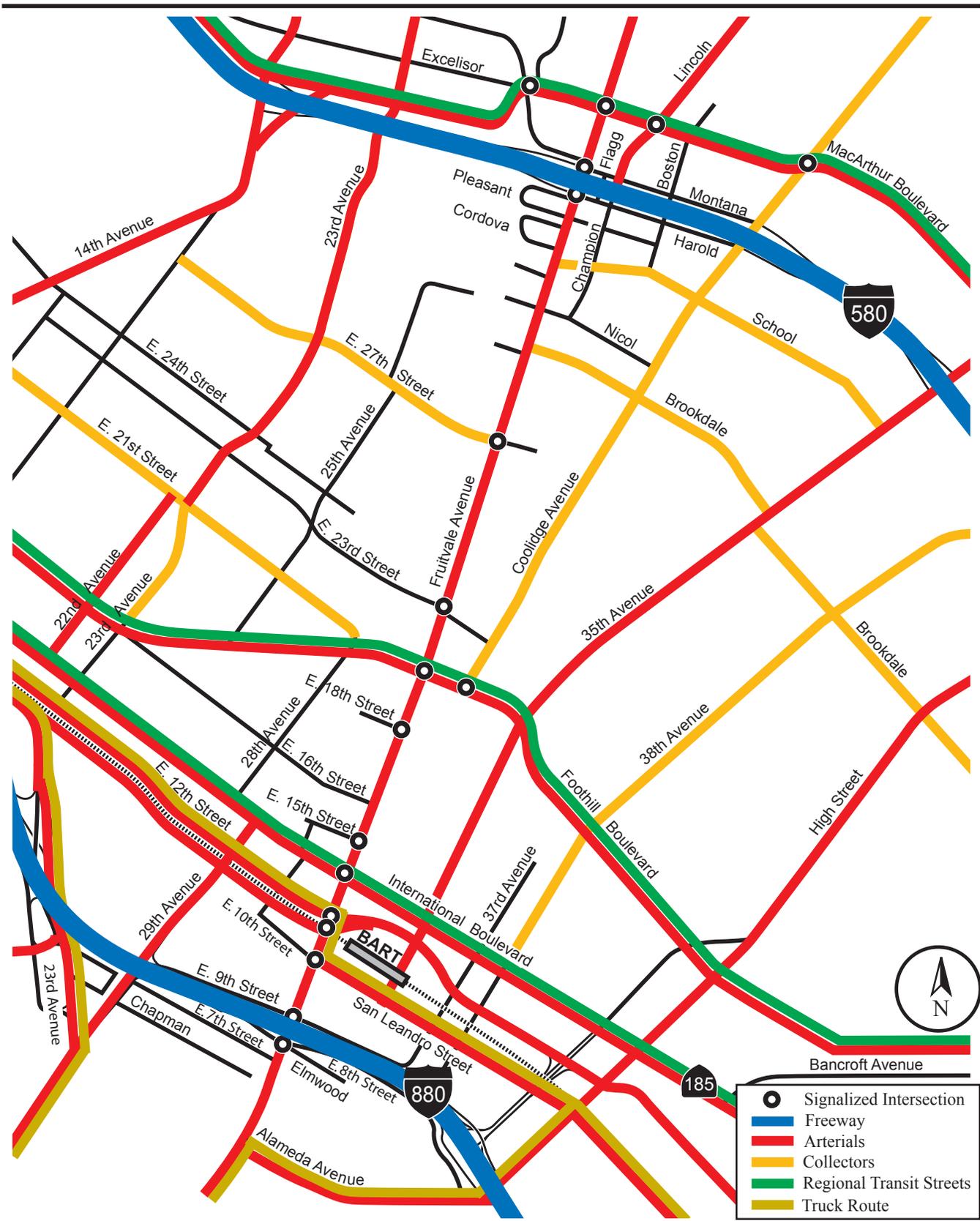
District Routes provide connections to schools, community centers, and neighborhood shops. District Routes within the study area include Coolidge Avenue, School Street (between Fruitvale Avenue and Coolidge Avenue), East 12th Street, 35th Avenue, and 29th Avenue.

Neighborhood Routes are local streets that connect schools, parks, recreational centers, and libraries. Neighborhood routes in the study area include East 27th Street, East 23rd Street, East 21st Street, 28th Avenue, East 7th Street, and East 8th Street.

The Bay Trail is a planned recreational corridor for pedestrians and bicycles that was established by the Association of Bay Area Governments (ABAG). It consists of a network of hiking and cycling trails that encircle the San Francisco and San Pablo Bays. The Bay Trail enters the project study area, running along Embarcadero East from the Estuary to East 7th Street/Kennedy Street and along the waterfront, where it intersects with Fruitvale Avenue.

The *Pedestrian Master Plan* has goals and objectives that are applicable to the *Fruitvale Alive!* Project. It also includes design guidelines for sidewalk design, crossing treatments, and traffic calming, and lists potential improvement projects to be studied and developed for implementation within the City.





- Signalized Intersection
- Freeway
- Arterials
- Collectors
- Regional Transit Streets
- Truck Route



CHS Consulting Group

Fruitvale Alive! Master Transportation Plan

Figure 3
City of Oakland Street Classification System

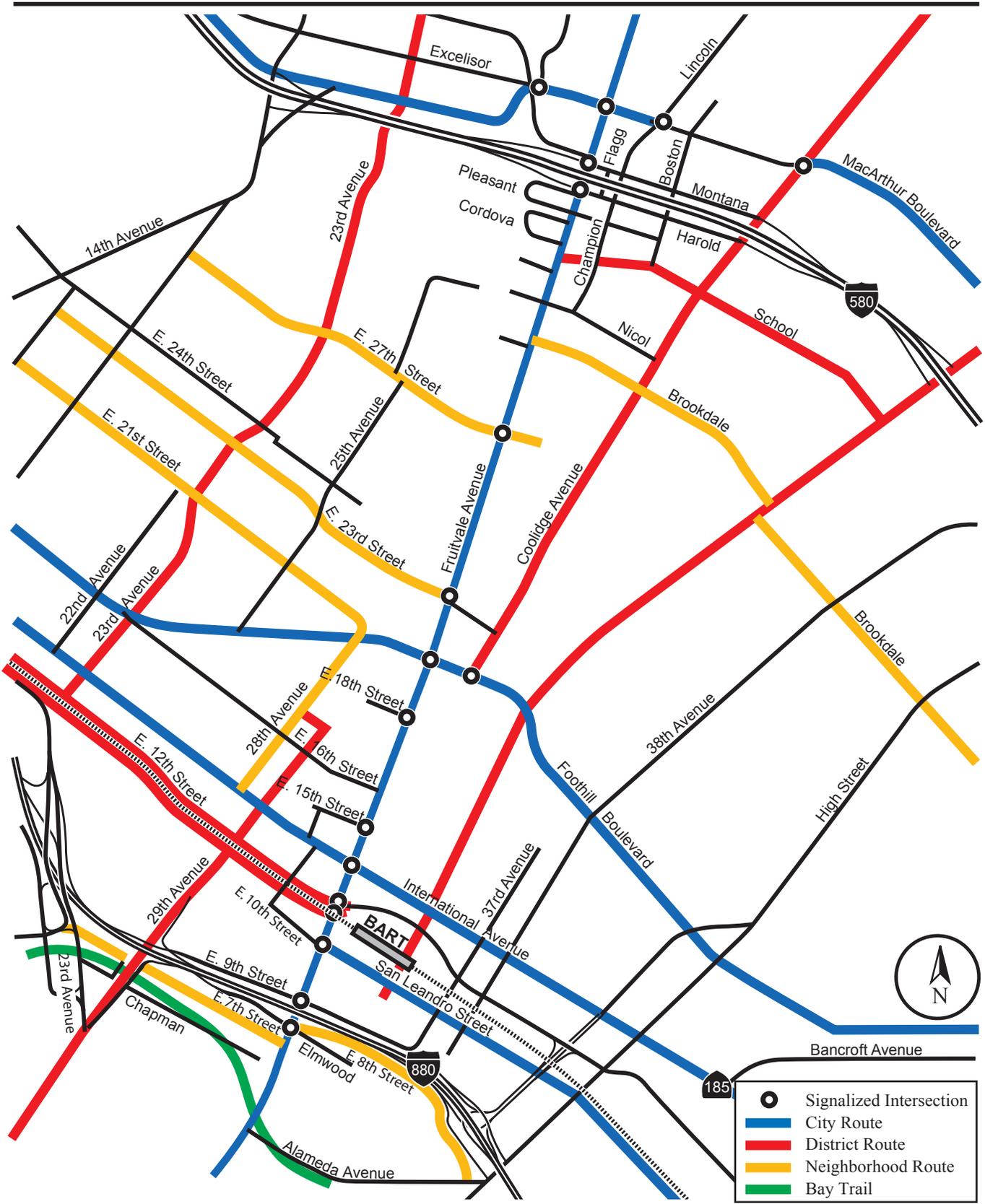


Figure 4
City of Oakland Pedestrian Routes

3.2.3 Bicycle System

The City of Oakland's *Bicycle Master Plan* (BMP), adopted in 1999, provides a policy framework and recommended actions for increasing bicycle travel options in Oakland. The plan establishes several objectives with the goal to increase and encourage cycling in the City of Oakland, and it calls for bicycle-friendly transit amenities, increased education, and the procurement of sufficient funds for implementation of bikeway projects that meet the needs of the surrounding neighborhoods and commercial areas. The plan also includes design guidelines and standards for the various types of bicycle routes.

There are three distinct types of bicycle bikeways:

- Class I – off-street bicycle paths or multi-use trails;
- Class II – on-street striped bicycle lanes; and
- Class III – signed bicycle routes without dedicated bicycle lanes.

The BMP indicates existing and proposed bicycle routes on roadways in the project study area as follows:

- Class I – San Leandro Street (proposed for implementation by year 2015);
- Class II – Fruitvale Avenue, Foothill Boulevard, and International Boulevard; and
- Class III – Coolidge Avenue, Brookdale Avenue, and East 24th Street.

The BMP also identifies key bikeway corridors. These corridors include:

- Embarcadero Parkway from Oak Street to 66th Avenue via East 7th Street and waterfront trails – Part of the Bay Trail; is funded and a current project.
- Foothill Boulevard/Bancroft Avenue – Class II bikeway from downtown Oakland to the City of San Leandro; identified as a short-term priority project for implementation by 2007.
- Fruitvale Avenue/Lincoln Avenue – Class II bikeway from the Bay Trail at Chapman to Lincoln Avenue; identified as a short-term priority project for implementation by 2007.
- International Boulevard – Class II bikeway from Lakeshore Avenue to the City of San Leandro; identified as a short-term priority project for implementation by 2007.
- San Leandro Street – Either a Class I bikeway along the Union Pacific abandoned right-of-way or a Class II bikeway along San Leandro Street; identified as a mid-term priority project for implementation by 2015.
- 35th Avenue – Bikeway from Fruitvale Avenue BART station to Mountain Boulevard; identified as a long-term priority project for implementation by 2030.
- MacArthur Boulevard – Bikeway from Lakeshore Avenue to the City of San Leandro; identified as a long-term priority project for implementation by 2030.

Figure 5 presents the existing and proposed bikeways in the project study area, as shown in the BMP.





CHS Consulting Group

Fruitvale Alive! Master Transportation Plan

Figure 5
City of Oakland Bicycle Routes

3.2.4 Transit Streets

In Oakland, streets designated as “Transit Streets” provide a high level of regional and/or local transit services. These streets have priority for preferential treatments to enhance transit service. Within the study area International Boulevard, Foothill Boulevard, and MacArthur Boulevard are designated as regional Transit Streets and are the City’s primary candidates for future light rail or electric trolley service. Figure 6 shows the transit routes and stops that currently exist in the study area.

3.2.5 Truck Routes

Within the project study area, streets designated as “Truck Routes” provide alternative routes to I-580 due to the truck prohibition on I-580 between Grand Avenue Interchange and the San Leandro city border. The streets within the study area that are designated as Truck Routes are East 12th Street, San Leandro Street, and Alameda Avenue.

3.3 Existing Traffic Conditions

Existing traffic conditions were examined at 17 signalized intersections during weekday AM and PM peak hours. Thirteen of these intersections are along Fruitvale Avenue; three are along MacArthur Boulevard; and one is along Foothill Boulevard. In addition, the percentage of through traffic along three segments of Fruitvale Avenue was also estimated. Intersection turning movement traffic volumes were collected for nine intersections during both AM and PM peak hours. Traffic counts for the remaining six intersections were provided by the City of Oakland. Figures 7 and 8 present turning movement volumes for the study intersections during AM and PM peak hours, respectively. The City of Oakland also provided 24-hour traffic counts and speed data at selected locations, which are presented in Section 3.4.4.

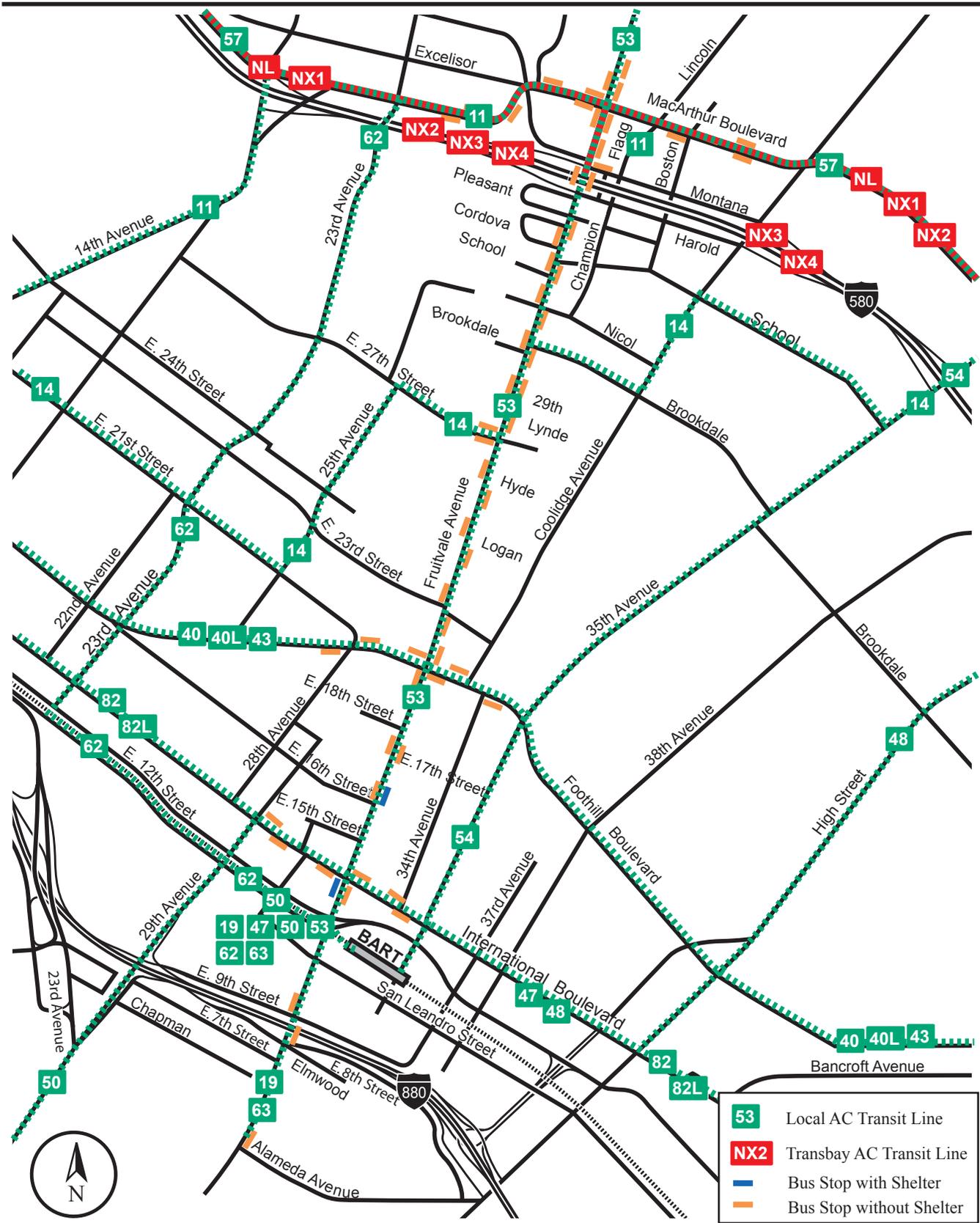
3.3.1 Traffic Signal System

There are 14 signalized intersections along Fruitvale Avenue. These signals are coordinated in four subgroups, with each signal coordinated with a maximum of three adjacent signals. The locations and basic characteristics of the signals are shown in Figure 9.

According to the signal-timing plan provided by the City of Oakland, most of the signals are actuated signals. Intersections equipped with actuated signals have vehicle detectors and pedestrian push buttons, and the lights for the approaches on the minor street at each actuated intersection will turn green only if the detector detects a vehicle needing to enter the intersection. For actuated signals, the actual length of green intervals could vary from cycle to cycle depending on demand, but the background cycle length must remain constant.

In practice, however, several signals along Fruitvale Avenue operate in a fashion that is similar to pre-timed signals (rather than actuated signals) during peak and midday periods, using pre-set cycle lengths and green/yellow/all-red signal intervals in order to coordinate the timing with adjacent signals.





CHS Consulting Group

Fruitvale Alive! Master Transportation Plan

Figure 6
Transit Routes and Bus Stop Locations

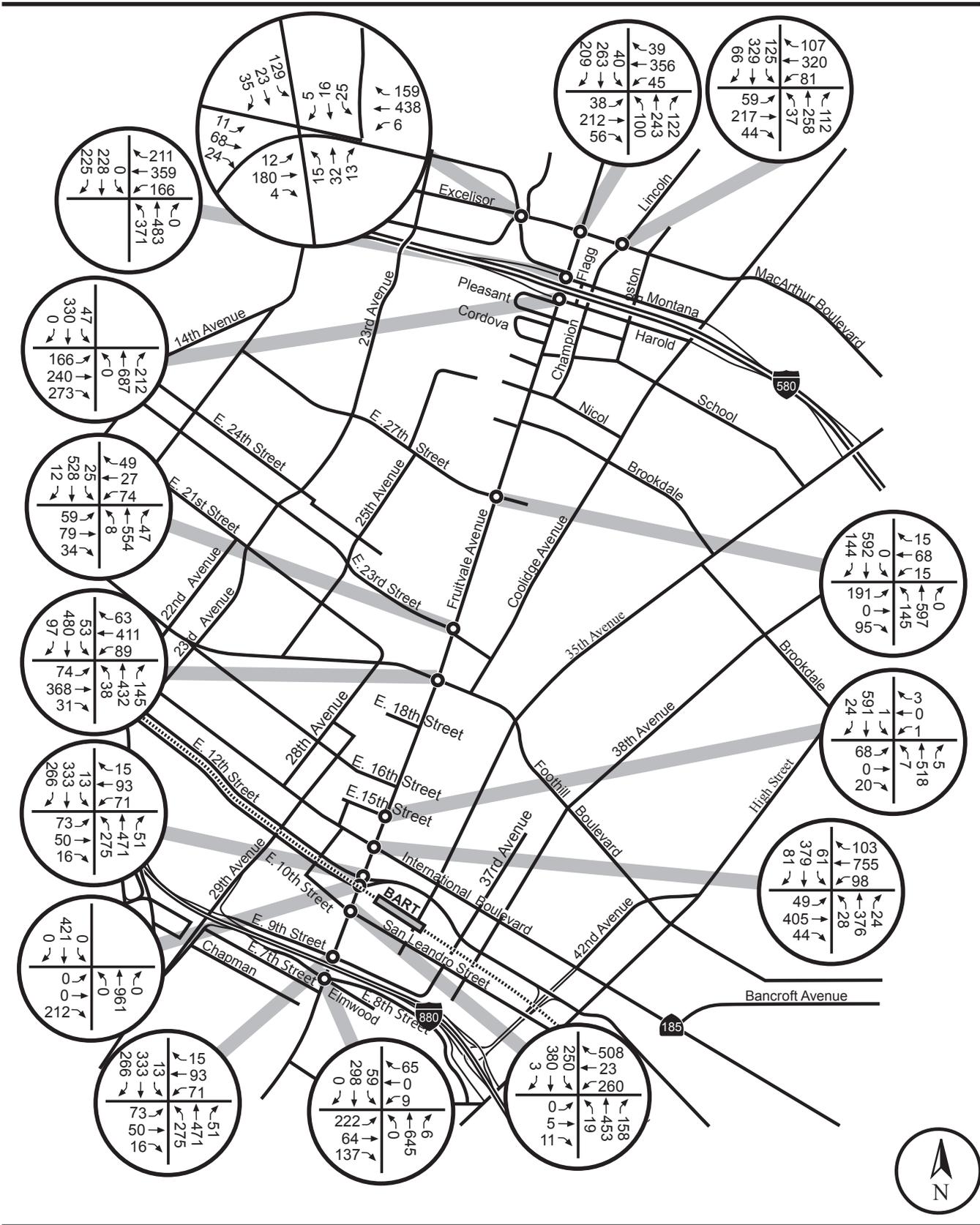


Figure 7
Existing Traffic Turning Movement Volumes(AM Peak Hour)

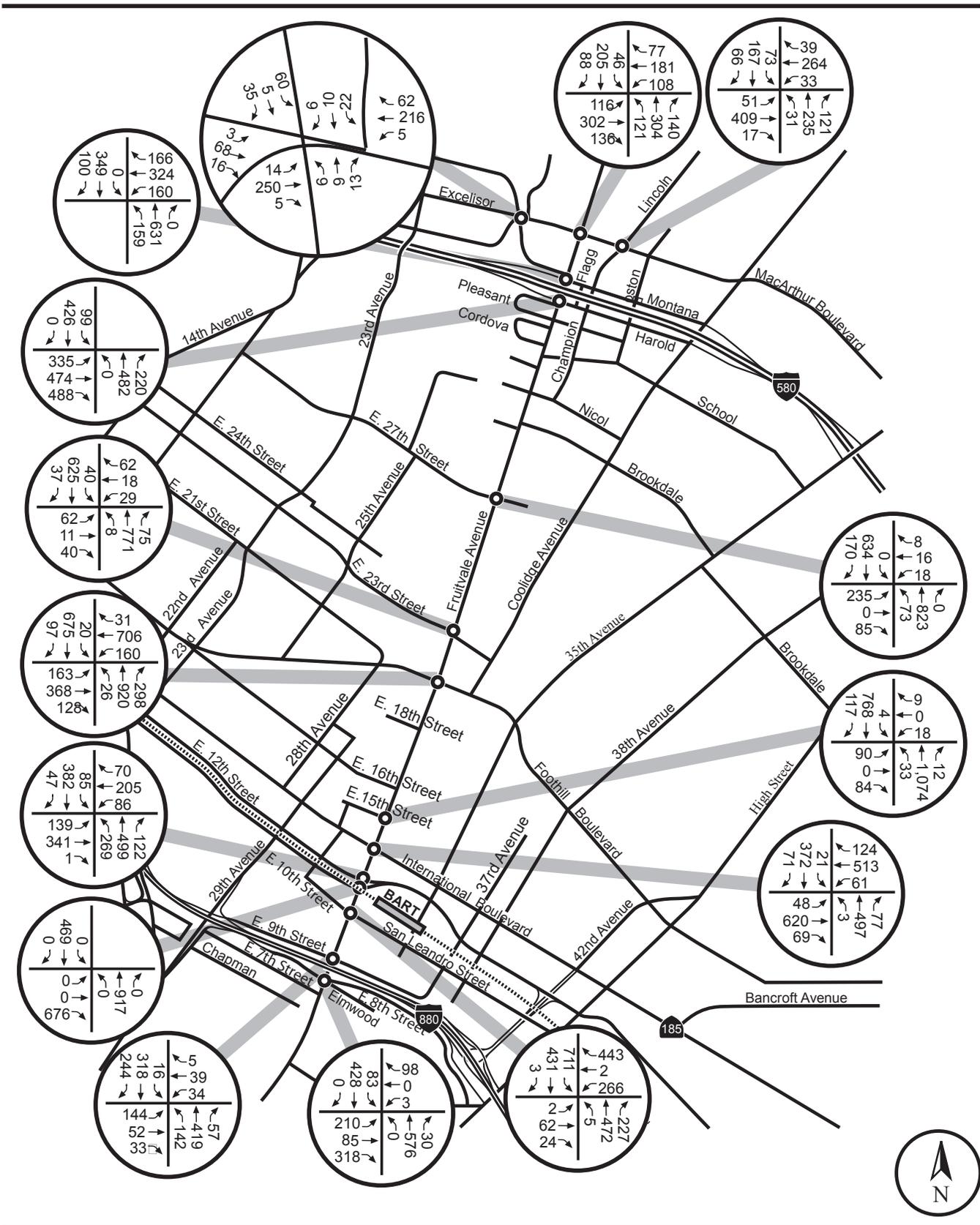


Figure 8
Existing Traffic Turning Movement Volumes(PM Peak Hour)

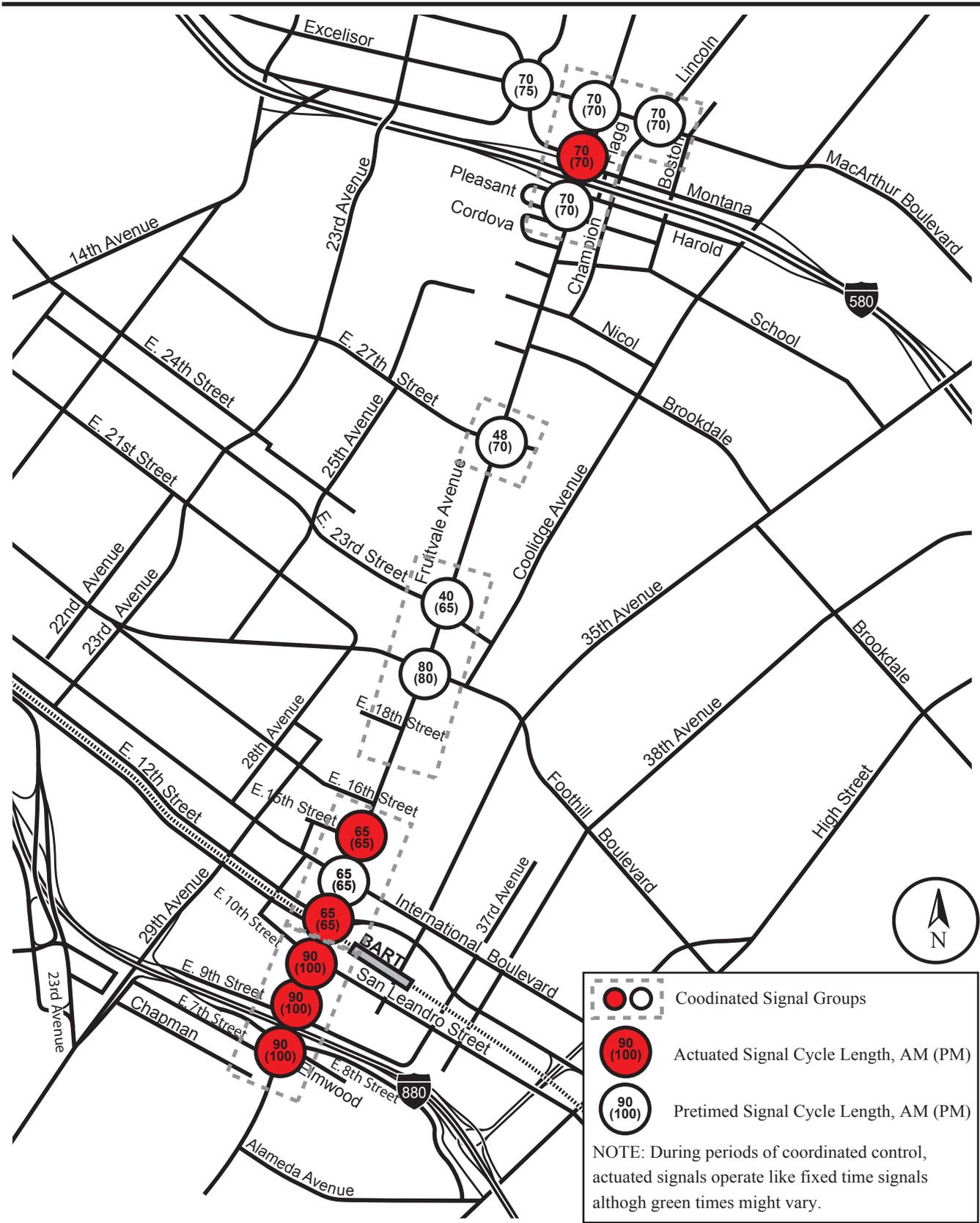


Figure 9
Existing Traffic Signal Systems

3.3.2 Intersection Geometries

Many of the intersections along Fruitvale Avenue have offsets and as a result the eastbound and westbound approaches to the intersections are not located directly across from each other. For example, the west side of East 17th Street at Fruitvale Avenue is not directly opposite the east side of East 17th Street: it is located approximately 100 feet south of the east side of East 17th Street. This kind of intersection geometry causes unnecessary vehicle turning and makes pedestrian crosswalk markings difficult and awkward.

3.3.3 Intersection Operating Conditions

Intersection traffic operating characteristics are described using the concept of “Level Of Service” (LOS). LOS is a qualitative description utilized by transportation planners and traffic engineers to characterize the operation of an intersection based on the average stop delay per vehicle. Intersection LOS performance ranges from “A” to “F”. Table 1 presents the definitions of each level of service. LOS A through D are considered excellent to satisfactory service levels¹, while LOS E is undesirable and LOS F is unacceptable. This working paper presents the results of an LOS analysis as well as a traffic simulation analysis to illustrate actual traffic operating conditions.

The LOS analysis was performed using SYNCHRO, a software package utilized to model urban traffic networks, and the entire network was also simulated using the traffic simulation model SIMTRAFFIC, a software package which performs micro simulation and animation of vehicle traffic. LOS is based on average stopped delay per vehicle (seconds per vehicle) for the various movements within a specified intersection. Adjustments are made to the intersection analysis to reflect the impact of location-specific conditions such as heavy pedestrian volumes, delays due to bus stops, and lane widths. Table 2 presents the LOS and average stop delay analysis for the study intersections.

Table 2 shows that most of the intersections operate at an acceptable LOS (D or better conditions) during the AM peak hour, except for the intersection of Fruitvale Avenue and East 27th Street. At this intersection, vehicle queuing was observed frequently during the AM peak hour, especially in the southbound direction. It appears that a major cause for the long vehicle queuing is the current signal timing at this intersection.

Field observations also indicate vehicle queuing along Fruitvale Avenue in the northbound lanes, south of Montana Street, during the AM peak hour. This is caused by vehicles making left turns to I-580 westbound that are backed up from the intersection of Fruitvale Avenue at Montana and Harold Streets. The northbound approach at the Fruitvale/Harold intersection (approximately 85 feet south of the intersection) has been widened to two lanes to facilitate better traffic flow through this location, but the curb lane is oftentimes underutilized because northbound through traffic cannot reach the segment that has two lanes.

¹ LOS D is typically chosen as the threshold by local jurisdictions. It should be noted that delays presented in Table 1 are average delays for the intersection as a whole. It is possible that one or more approach of the intersection would operate at lower LOS with longer delays and vehicle queuing.



Table 2 – Signalized Intersection Level of Service Definitions, Based on Delay

Level of Service	Control Delay (sec/veh)	Typical Traffic Condition
A	≤ 10	Insignificant Delays: Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	> 10 - 20	Minimal Delays: Generally good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay. Drivers begin to feel restricted.
C	> 20 - 35	Acceptable Delays: Fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear, though many still pass through the intersection without stopping. Most drivers feel somewhat restricted.
D	> 35 - 55	Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. Queues may develop but dissipate rapidly, without excessive delays.
E	> 55 - 80	Significant Delays: Considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 80	Excessive Delays: Considered to be unacceptable to most drivers. Often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. Queues may block upstream intersections.

Sources: *Highway Capacity Manual 2000*, Transportation Research Board, National Research Council, 2000.



Table 3 – Intersection Level of Service: Existing Weekday AM and PM conditions

Intersection	AM		PM	
	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS
Fruitvale Ave/MacArthur Blvd.	18.4	B	16.7	B
Fruitvale Ave./Montana St.	22.6	C	18.5	B
Fruitvale Ave./Harold St.	29.9	C	30.8	C
Fruitvale Ave./E 27 TH St.	158.3	F	40.0	D
Fruitvale Ave./E 23 RD St.	20.7	C	28.5	C
Fruitvale Ave./Foothill Blvd.	72.5	E	128	F
Foothill Blvd./Coolidge Ave.	14.6	B	32.3	C
Fruitvale Ave./E 15 TH St.	10.3	B	15.1	B
Fruitvale Ave./International Blvd	21.6	C	17.6	B
Fruitvale Ave./E 12 TH St. (North)	16.7	B	32.5	C
Fruitvale Ave./E 12 TH St. (South)	14.6	B	16.3	B
Fruitvale Ave./San Leandro St.	25.5	C	65.2	E
Fruitvale Ave./E. 9 TH St.	48.1	D	37.3	D
Fruitvale Ave./Elmwood	39.1	D	57.4	E
MacArthur Blvd./Excelsior Ave.	35.9	D	25.4	C
MacArthur Blvd./Lincoln Ave.	44.3	D	15.5	B

Source: CHS Consulting Group

Notes: Delay values are not actually measured in the field, but are estimated based on calculations of existing traffic volumes.

During the PM peak hour, five intersections operate at an unacceptable E or F level: Fruitvale Avenue/East 27th Street (E), Fruitvale Avenue/East 23rd Street (F), Fruitvale Avenue/Foothill Boulevard (F), Fruitvale Avenue/San Leandro Street (F), and Fruitvale/Elmwood Avenue (E). The key issues are inefficient traffic signal coordination, high traffic volumes, and inadequate intersection capacity.

There is a unique traffic pattern along the southern portion of Fruitvale Avenue, which is the major cause of traffic congestion along Fruitvale Avenue between East 12th Street and San Leandro Street. Due to the lack of a direct I-880 southbound connection from East 10th Street to High Street in Oakland, high volumes of vehicles use East 12th Street, Fruitvale Avenue, and San Leandro Street to access the High Street southbound on-ramp. There are equally high volumes of traffic traveling in the reverse direction.



3.3.4 Traffic Speeds

The City of Oakland Public Works Agency provided traffic speed data for four sections along Fruitvale Avenue (Table 3) and three sections along Coolidge Avenue (Table 4). These data were collected on October 30, 2002 and during November 2003, respectively. Table 3 shows that traffic speeds exceeded the posted speed limit by over five mph on several segments along Fruitvale Avenue. However, Table 4 shows that traffic speed is generally within the posted speed limit along Coolidge Avenue.

Table 4 – Traffic Speed Along Fruitvale Avenue

Street Segment		85 th Percentile Speed	Posted Speed Limit
From	To		
Alameda City Limit	International Blvd.	36.9 mph @ Alameda Ave.	25 mph
		26.9 mph @ E. 10 th St.	
		24.9 mph @ E. 13 th St.	
International Blvd.	Lynde Street	30.8 mph @ E. 16 th St.	
		31.9 mph @ E. 18 th St.	
		32.2 mph @ Galindo St.	
Lynde Street	School Street	31.0 mph @ Lynde St.	30 mph
		31.8 mph @ School St.	
Harold St.	Lyman Rd.	27.4 mph @ Coloma St	25 mph

Source: City of Oakland Public Works Agency, Transportation Services Division.

Note: 85th Percentile Speed is defined as the speed at or below which 85% of the vehicles are moving on a particular stretch of roadway.

Table 5 – Traffic Speed Along Coolidge Avenue

Street Segment		85 th Percentile Speed	Posted Speed
From	To		
Foothill Boulevard	School Street	28.4 mph @ East 23 rd St.	30 mph
		25.2 mph @ Prentiss St.	
		27.3 mph @ Nicol Ave.	
School Street	Harold Street	26.4 mph @ Texas St.	
MacArthur Boulevard	Carmel Drive	27.3 mph @ Madeline St.	25 mph

Source: City of Oakland Public Works Agency, Transportation Services Division

Note: 85th Percentile Speed is defined as the speed at or below which 85% of the vehicles are moving on a particular stretch of roadway.

3.3.5 Traffic Origin/Destination Data

Origin/destination data were obtained both from the Alameda Congestion Management Agency's (CMA) Countywide Travel Forecasting Model and a field license plate survey. Table 5 presents the results from the CMA Model and Table 6 presents the results from the license plate survey. Both sets of data suggest that most of the vehicle trips along Fruitvale Avenue are generated in the surrounding area, and that only a small portion is through traffic.



Alameda CMA Model Data

Three segments along Fruitvale Avenue (between East 9th Street and Alameda Avenue, between Foothill Boulevard and East 19th Street, and between MacArthur Boulevard and Montana Street) were chosen for the “Selected Analysis.” The “Selected Analysis” provides estimated trip origin/destination pairs established in the Alameda CMA model (Table 5). It shows that the majority of the traffic comes from the east-west direction and that through trips accounted for less than ten percent of traffic along Fruitvale Avenue.

Field License Plate Survey

A vehicle license plate survey was conducted on November 3, 2004 by CHS Consulting Group to supplement the origin-destination data generated by the CMA model. Vehicle license plates were recorded during the PM peak period (4:00 to 6:00 PM) at the following three locations:

- Fruitvale Avenue/MacArthur Boulevard;
- Fruitvale Avenue/East 23rd Street; and
- Fruitvale Avenue/East 12th Street

These three locations represent the upper (MacArthur Boulevard to Montana Street), middle (Foothill Boulevard to East 19th Street), and lower (East 9th Street to Alameda) segments of Fruitvale Avenue. The last four digits of the license plates of each vehicle observed were recorded at each entry point. The license plate numbers collected at each entry point were then matched. Table 6 shows results that are relatively consistent with those presented in Table 5, that the percentage of through traffic from I-880 and I-580 is generally less than ten percent.

Table 6 – Origin and Destination of Traffic Along Fruitvale Avenue (Based on the Alameda CMA Travel Forecasting Model)

Street Segments	Direction	Time	Trip Origins			
			North of MacArthur	E/W Direction	South of San Leandro	E/W Direction
MacArthur to Montana	SB	AM			6%	94%
		PM			6%	94%
	NB	AM			6%	94%
		PM			15%	85%
Foothill to East 19 th Street	SB	AM	9%	91%		
		PM	9%	91%		
	NB	AM	30%	70%		
		PM	18%	82%		
East 9 th to Alameda	SB	AM	6%	94%		
		PM	6%	94%		
	NB	AM	4%	96%		
		PM	7%	93%		

Source: Alameda CMA Travel Forecasting Model



Table 7 – Origin and Destination of Traffic Along Fruitvale Avenue (Based on a Field License Plate Survey)

Street Segments	Direction	Fruitvale/MacArthur	Fruitvale/23rd Street	Fruitvale/International
Fruitvale/MacArthur	SB	--	19%	10%
	NB	--	--	--
Fruitvale/East 23 rd Street	SB	--	--	25%
	NB	6%	--	--
Fruitvale/International	SB	--	--	--
	NB	6%	29%	--

Source: A license plate survey conducted on November 3, 2004 by CHS Consulting Group

3.4 Traffic/Pedestrian Collision Data

Traffic collision data were obtained from the Statewide Integrated Traffic Records System (SWITRS) database for all intersections and mid-block locations along Fruitvale Avenue and MacArthur Boulevard, and in the vicinity of three schools—Fruitvale Elementary School, St. Jarlath’s Elementary School, and Hawthorne Elementary School—between January 1998 and December 2003². Also, the City of Oakland Public Works Agency provided collision diagrams for the key intersections located along Fruitvale Avenue.

Table 7 presents a summary of the collision data for the locations where the total number of collisions is high and/or the collision rates exceed the statewide average (0.43 collisions per million entry vehicles). Collision rates were calculated only for locations where traffic volume data are available. They were calculated by factoring the number of collisions per total annual entry vehicles. Appendix A presents a list of 68 intersections in the study area where traffic collision data were compiled. As shown in Table 7, 13 intersections in the study area have collision rates that exceeded the statewide average. Figures 10 and 11 present traffic and pedestrian collisions by intersection.

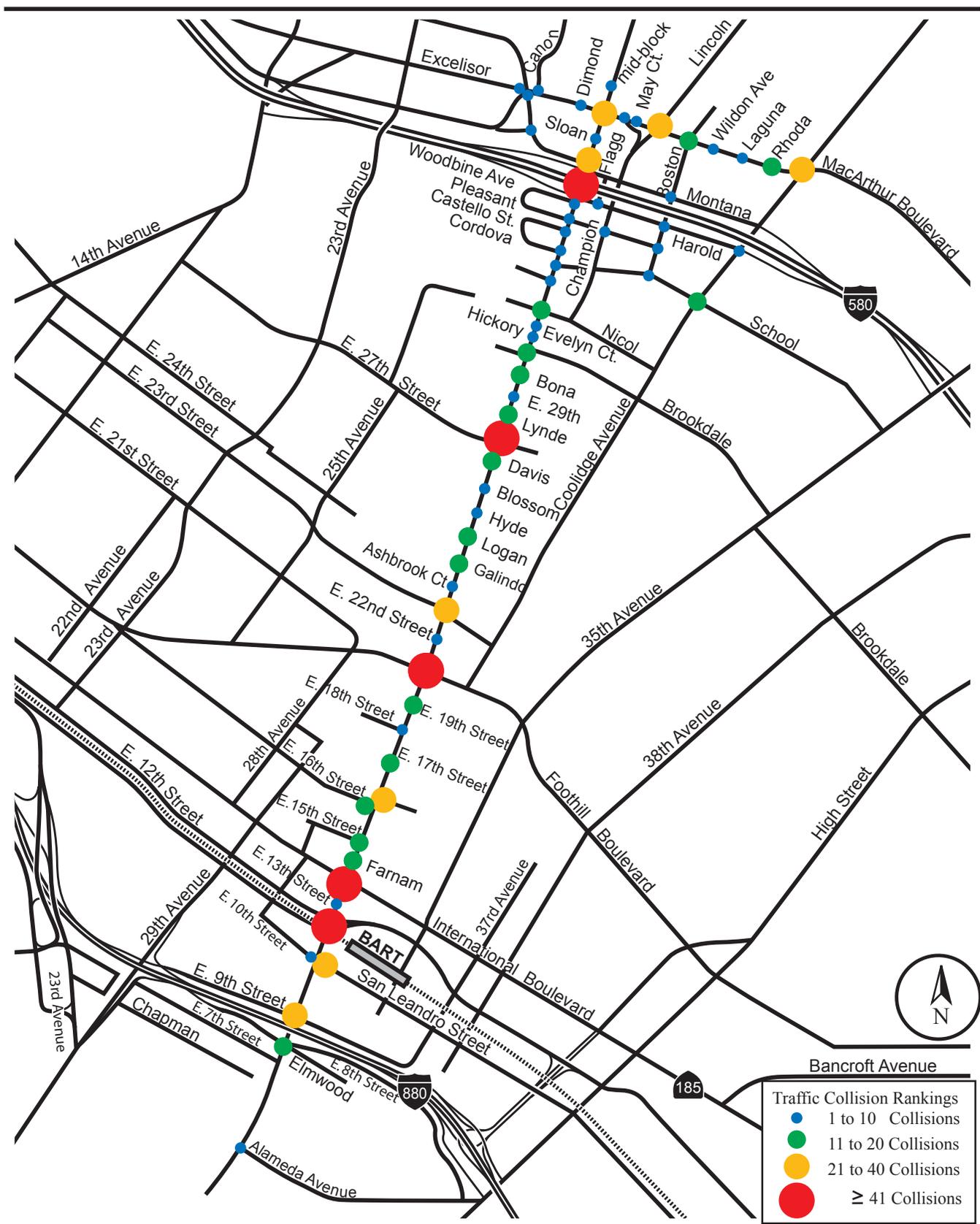
The SWITRS database classifies collisions into the following major categories:

- Rear-End,
- Head-On,
- Broadside,
- Sideswipe,
- Pedestrian, and
- Bicycle.

Rear-end collisions are the most common type of collisions at signalized intersections. The cause of rear-end collision is often recorded as vehicles following too closely or traveling at unsafe speed. In-depth field reviews are needed in order to determine why drivers fail to maintain safe distance, as well as to determine appropriate mitigation. Head-on, broadside, and sideswipe collisions are typically a result of right-of-way violations.

² Collision data presented in this report is taken from the SWITRS database for the period of time from January 1998 through December 2003.





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Figure 10
Traffic Collisions 1998-2003

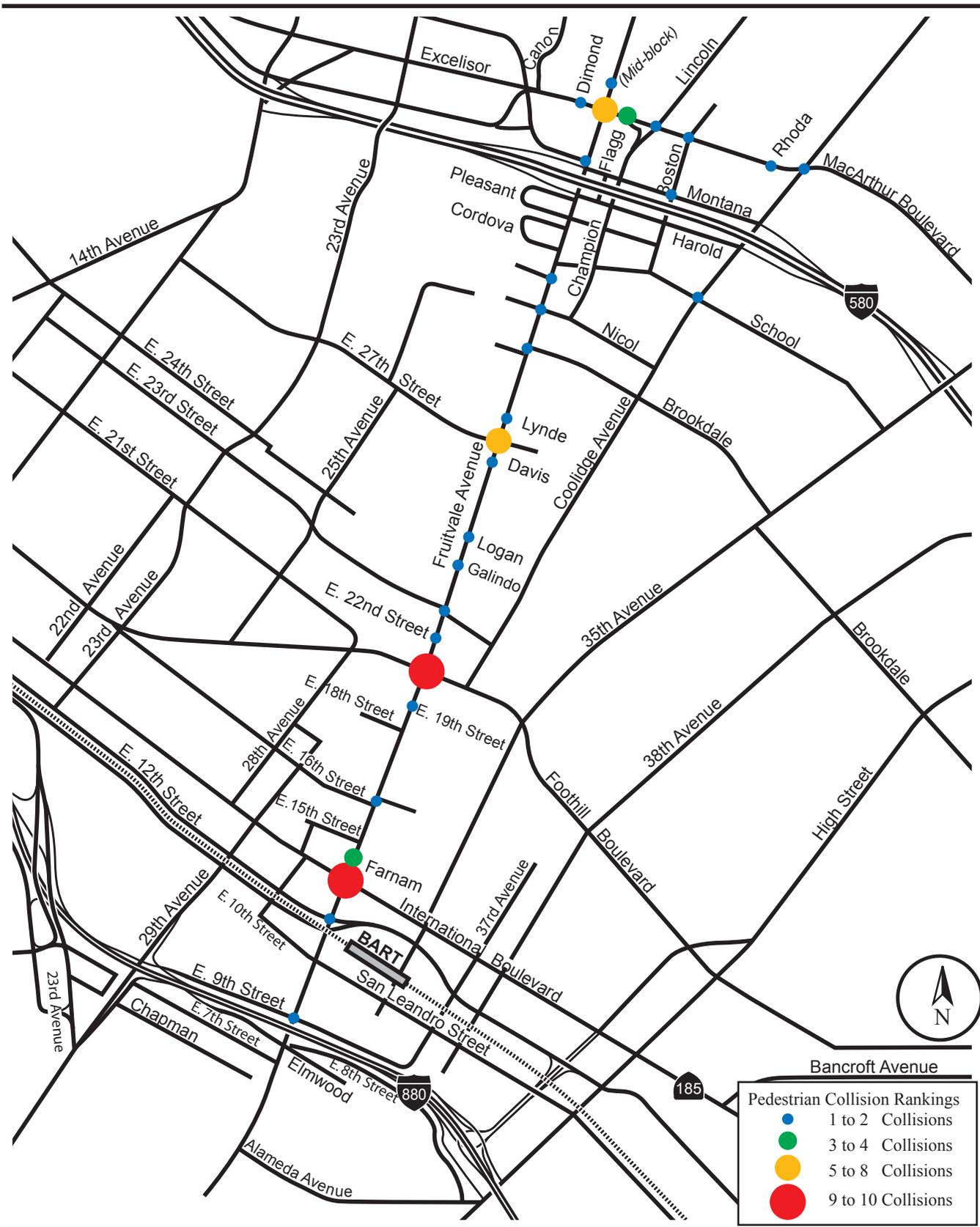


Figure 11
Pedestrian Collisions 1998-2003

3.4.1 Pedestrian Collision Data

Table 7 also presents the intersections with a high degree of incidence of pedestrian collisions. The intersections with a high number of pedestrian collisions are:

- Fruitvale Avenue/International Boulevard (ten collisions from 1998 – 2000);
- Fruitvale Avenue/Foothill Boulevard (nine collisions from 1998 – 2000);
- Fruitvale Avenue/MacArthur Boulevard (six collisions from 1998 – 2000); and
- Fruitvale Avenue/East 27th Street (five collisions from 1998 – 2000).

Table 8 – Traffic Collisions from 1998 – 2003

Intersection	Collision Rate (total approach volumes/million entry vehicles)	Number of Collisions	Number of Pedestrian Collisions
Fruitvale Ave./International Blvd.	1.42	80	10
Fruitvale Ave./Foothill Blvd.	1.12	76	9
Fruitvale Ave./E 12 th St. (NS)	1.04	48	1
Fruitvale Ave./E 27 th St.	1.03	47	5
Fruitvale Ave./Harold St.	0.96	50	0
Fruitvale Ave./E. 9 th St.	0.83	31	2
MacArthur Blvd./Lincoln Ave.	0.82	31	1
Fruitvale Ave./MacArthur Blvd.	0.78	32	6
Fruitvale Ave./San Leandro St.	0.68	37	0
Fruitvale Ave./E. 23 rd St.	0.61	23	1
Fruitvale Ave./Montana St.	0.53	24	1
Fruitvale Ave./E 15 th St.	0.48	19	0
Fruitvale Ave./E 16 th St.	0.45	18	1

Source: California Statewide Integrated Traffic Records System (SWITR), January 1998 through December 2003

3.4.2 Traffic and Pedestrian Safety Issues

This section presents a summary of traffic and pedestrian safety issues for the transportation-related “Hot Spots.”

Fruitvale Avenue & San Leandro Street. This intersection has vehicle detectors and pedestrian push buttons. There is a significant offset between the eastbound and westbound approaches to Fruitvale Avenue. Traffic approaching from the east (East 10th Street) has a flashing yellow signal and must



yield to the traffic making left turns from San Leandro Street. The unusual geometry and signal control significantly reduce the intersection capacity and increase the potential for collision.

The key vehicular/pedestrian/bicycle conflicts occur at the east side of the intersection. Pedestrian volumes at this intersection are very low and crossing is controlled by pedestrian push buttons. Bicycle volumes at this intersection are also generally low, but mostly are concentrated during peak commute hours. While the northbound bicycle lane ends at East 12th Street, the preferred route for the bicyclists from the south to access the BART station is Fruitvale Avenue northbound, then San Leandro Street eastbound and the short loop street from the Fruitvale BART Station for both inbound and outbound directions. Pedestrian and bicycle crossing at the northeast corner of the Fruitvale Avenue/San Leandro Street intersection is a concern to commuting bicyclists.

This intersection had the ninth highest collision rates (0.68 collisions/MEV) and the sixth highest number of collisions from 1998 – 2003 in the entire corridor (37). Most of the collisions at this intersection were rear-end (43%) and sideswipe (22%) incidents. There was one fatality, but no pedestrian-related collisions at this intersection during the five-year period. Pedestrian crossing at this intersection is low. Further review is required to determine if the unusual geometry is a contributing factor to the high collision rates.

Fruitvale Avenue & East 12th Street. There is a wide median separating the eastbound and westbound roadways west of this intersection. The eastbound lanes have another 90-foot-long median separating the two right-turn lanes from the two through/left-turn lanes at their approaches. There are an exclusive left-turn lane and a through/left-turn lane in the northbound approach, but there is no left-turn lane in the southbound approach.

This intersection had the third highest collision rate (1.04 collisions/MEV) and the fourth highest number of collisions (48) in the corridor from 1998 – 2003. Most of the collisions at this intersection were sideswipe (33%), broadside (27%), and rear-end (15%) incidents. A significant number of the collisions involved two vehicles both making a turn in the same direction. This is unusual and possibly a consequence of the unusual geometry and the double turn lanes in the eastbound and northbound directions. Only one pedestrian collision was reported at this intersection.

Fruitvale Avenue & International Boulevard. This intersection does not have vehicle detectors, but has pedestrian push buttons on the north and south crosswalks. The signal operates with two phases and a 65-second cycle. Fruitvale Avenue northbound has two approach lanes, but southbound has only a single lane. The International Boulevard approaches have a left-turn lane and two through lanes in each direction. No protected left-turn phase is provided.

This intersection had the *highest* collision rate (1.42 collisions/MEV) and the *highest* number of collisions (80) from 1998 – 2003 in the corridor, though there were no fatalities. The majority of the collisions were rear-end (over 30%) and broadside (25%) incidents. Vehicular speeds at this intersection do not appear to be excessive; however, pedestrian volumes are relatively high, and this intersection also had the highest number of pedestrian collisions (ten) in the study area.

La Clinica de la Raza. La Clinica de la Raza is located in two buildings, one each on the northwest corners of Fruitvale Avenue/East 15th Street and Fruitvale Avenue/East 16th Street, and it is within a short walking distance of Josie de la Cruz Park (at East 16th Street) and Hawthorne Elementary



School (at East 18th Street). The East 15th Street intersection is signal-controlled with vehicle and pedestrian actuation for the east-west movements. There are two crosswalks on Fruitvale Avenue at East 15th Street. The SWITRS data show that this intersection had 19 collisions from 1998 – 2003, mostly caused by rear-end (58%) and sideswipe (21%) incidents. Nearly all the rear-end collisions involved vehicles in the southbound direction. There were no pedestrian-related collisions.

Josie de la Cruz Park. This park, with playgrounds, sports fields, a recreation center, and a stage, is located on the west side of Fruitvale Avenue just across from East 16th Street. The East 16th Street approaches are controlled by stop signs. The SWITRS data show that this intersection had 18 collisions from 1998 – 2003, mostly caused by rear-end (44%) and sideswipe (44%) incidents. As with the East 15th Street intersection, almost all vehicles involved in rear-end collisions were traveling in the southbound direction. There was one collision involving a pedestrian during this time period. This collision occurred at night and the vehicle involved was traveling in the northbound direction. There is one crosswalk on the north side of East 16th Street; this intersection has an adult crossing guard in attendance in the mornings and afternoons before and after school. The crosswalk has sidewalk bulbouts on both sides of Fruitvale Avenue.

Hawthorne Elementary School. Hawthorne Elementary School, with approximately 875 students, is bounded by Fruitvale Avenue, 28th Avenue, East 17th Street, and East 18th Street. The intersection of Fruitvale Avenue/East 18th Street is signalized with vehicle detectors and pedestrian push buttons. The SWITRS data for the intersection indicate that there were ten collisions from 1998 – 2003, mostly involving rear-end (80%) and head-on (20%) collisions. There were no pedestrian or bike-related collisions. The data also show that there were 14 collisions at the intersection of Fruitvale Avenue/East 17th Street from 1998 – 2003, mostly caused by broadside collisions (36%), with sideswipe, rear-end, and head-on collisions accounting for 21 percent, 14 percent and 28 percent of the collisions, respectively. There was one pedestrian-related collision at this location.

The intersection of Fruitvale Avenue/East 18th Street is one of the major entrances to Hawthorne Elementary School. On typical school days, there are over 100 students and 50 adults crossing both Fruitvale Avenue and East 18th Street in the morning and afternoon. There is one adult crossing guard at this location and occasionally this appears to be insufficient to manage pedestrian crossings at both crosswalks. Field observation indicates that students occasionally violate the crossing protocol by trying to rush through the intersection. It was also observed that adults with children cross at the East 17th Street intersection, which has no crosswalk. This observation was confirmed by the adult crossing guard who indicated that due to the fact that a significant proportion of the student population is Hispanic and the students' parents are not all fluent in English, it is difficult for the guard to communicate with some parents.

Fruitvale Avenue & Foothill Boulevard. This intersection does not have vehicle detectors, but does have pedestrian push buttons. The Fruitvale Avenue approaches are controlled by a single signal phase, but the Foothill Boulevard approaches include a separate (protected) left-turn phase. Pedestrian signals with countdown displays are provided for all directions. At the Fruitvale Avenue approach, “No Left Turn (4:00 – 6:00 PM)” signs are posted.

This intersection had the second highest collision rate (1.12 collisions/MEV) and the second-highest number of collisions (76) in the corridor, though there were no fatalities. The majority of the collisions were broadside collisions (28%), followed by sideswipe (24%) and rear-end (21%)



collisions. A significant number of the collisions, including 50 percent of the broadside collisions, occurred at night. Further analysis is required and should include a review of visibility and signal timing.

The intersection also had a relatively high incidence of pedestrian collisions (nine), the majority of which involved vehicles making turns. Changes were recently made at this intersection in an attempt to improve pedestrian safety. A protected left turn phase was added to the westbound and eastbound lanes. This change had led to increased vehicle queues on Foothill Boulevard in both directions.

Fruitvale Avenue & East 27th Street. This intersection has pre-time controlled signals and a single lane in each approach. The northbound approach has a left-turn lane and a protected signal phase for the left turns. The westbound approach is a one-way street. Severe congestion was observed during the AM peak period. The southbound queue was occasionally observed to extend to I-580 (approximately 12 blocks). The signal cycle length is short (48 seconds) during the AM peak hour, thus less efficient traffic signal design. In addition, the capacity of the southbound lane is lower than that of the northbound because the amount of time allocated to the northbound left turns.

This intersection had the fourth highest collision rate (1.03 collision/MEV) and the fifth highest number of collisions (47) in the corridor. Traffic volume on East 27th Street is generally low. Most of the collisions at this intersection were sideswipe (34%) and rear end (34%), while broadside collisions also accounted for a portion (19%) of the total. The high incidence of rear-end collisions may be caused by high travel speeds at this location. The large number of sideswipe collisions is unusual particularly because both directions of Fruitvale have only a single through lane. There were five pedestrian collisions, of which three involved northbound left-turning vehicles.

Neighborhood representatives reported a high incidence of illegal turns to the one-way section of East 27th Street. While no official data were available, additional signage was proposed to improve the current situation. Neighborhood representatives also complained about truck double-parking in the area.

Eden Manor. Eden Manor is located on the west side of Fruitvale Avenue, just south of School Street. There is only one crosswalk on Fruitvale Avenue (on the north side). Field observations indicated that there is little pedestrian crossing activity at this location, and no pedestrian safety problems were observed. The SWITRS data indicate that between 1998 and 2003 there were ten collisions in the intersection, and they were rear-end (30%), sideswipe (30%), and broadside (20%) collisions. It also shows that there was a pedestrian-related collision mid-block between East and West School Streets, at a location without a crosswalk.

Fruitvale Avenue & Pleasant Street. This is a stop sign-controlled intersection on Pleasant Street, and crossing activity is primarily related to St. Jarlath's Elementary School. Pedestrian crossing activity at this location is generally low and no pedestrian safety problems were observed. The SWITRS data indicate that between 1998 and 2003 there were six collisions at this intersection; the vast majority of these incidents were rear-end (83%) collisions, with one sideswipe collision.

Fruitvale Elementary School. Fruitvale Elementary School has approximately 720 students, from pre-kindergarten to fifth grade, and 66 faculty and staff. School hours are from 8:30 AM to 2:45 PM, although kindergarten classes end at 3:05 PM. Information received from representatives of the



school indicates that approximately one-third of the students are driven to school while two-thirds of the students walk to school. Approximately 75 percent of the students live south of the school. School Street is a major street for students walking to the school. According to a school representative³, the school is primarily concerned about the following intersections:

- Boston Avenue/Pleasant Street;
- Boston Avenue/School Street;
- Coolidge Avenue/School Street (with adult guard); and
- Harold Street/Boston Avenue (sight distance and speed issues).

The following are the key issues expressed by the school representative and verified by field observation:

- Parents were observed making U-turns after pick-up and drop-off activities, which interferes with traffic flows on both Boston Avenue and School Street.
- Crossing Guards – Students begin arriving at the campus around 8:00 AM. The crossing guards, who are sixth grade students, are positioned at the intersections of Boston Avenue/Pleasant Street and Boston Avenue/School Street but are only on duty from 8:25 to 8:35 AM. Between 8:00 and 8:25 AM, students were observed playing on the sidewalk on the south side of School Street. While traffic is generally low before 8:25 AM, these students, some of whom were very young, were seen playing in the street. Also at the intersection of Coolidge Avenue/School Street there is only one adult crossing guard; it was observed that one person is insufficient to ensure that students safely cross Coolidge Avenue on both the north and south sidewalks at the same time.
- Unsafe crossings – Parents were observed taking young students across School Street at intersections without crosswalks.
- Lack of traffic and parking management – On-street parking along Boston Avenue in front of the school is signed “No parking between 8:00 AM and 4:00 PM.” However, the curb spaces are occupied by vehicles just before school begins and ends, some of which belong to parents who wish to escort their young children to and from the school. There is no designated drop-off zone (e.g. white zone) in front of the school on Boston and School Street for drop-off activities to occur safely. Lack of a drop-off zone means that the drop-off activity must occur in the moving lane, and as a result there are traffic congestion problems during peak activity times.

The SWITRS data show that the intersections along Boston Avenue experience few collisions (Harold Street—two; Pleasant Street—zero; and School Street—four). However, the data do indicate that the intersections along Coolidge Avenue have relatively high numbers of collisions (Harold Street—13 and School Street—20). There was one collision involving a pedestrian and one collision involving a bicyclist at the intersection of Coolidge Avenue/School Street between 1998 and 2003.

Pleasant & Champion Streets. This intersection, which is controlled by an all-way stop sign, is located in the middle of a residential area. The crossing activity in this intersection is primarily associated with St. Jarlath’s Elementary School. During non-school hours, pedestrian crossing at this

³ Telephone conversation with Mr. Steuart Richardson, 21st Century Program Coordinator, on October 25, 2004

location is very low and no pedestrian safety problems were observed. The SWITRS data indicate there were only 2 collisions in this intersection from 1998 – 2003.

Champion & Harold Streets. This intersection is controlled by an all-way stop sign. Again, crossing activity is related primarily to activities at St. Jarlath's Elementary School. Pedestrian crossing activity at this location is low and no pedestrian safety problems were observed. The SWITRS data indicate that between 1998 and 2003 there were seven collisions at this intersection, most of which were broadside (43%) and rear-end (43%) collisions.

I-580 Undercrossings (at Fruitvale Avenue, Flagg Avenue, Champion Street, and Boston Avenue). Due to the I-580 structure, there are currently very few pedestrian crossings. (The key issue is related to student crossing to and from St Jarlath's Elementary School student crossing).

St Jarlath's Elementary School. St. Jarlath's Elementary School has approximately 200 students and 15 faculty members. According to a representative of the school⁴ and confirmed by field observation conducted both in the morning before school began and in the afternoon after school had ended, the great majority of the students are dropped off inside the school playground. Vehicles enter from Pleasant Street and exit to Harold Street. There are also student crossing guards at the intersections of Fruitvale Avenue/Pleasant Street, Champion/Harold Streets, and Champion/Pleasant. According to the crossing guards and confirmed by field observations, the student crossing activity at these three locations involves approximately four to six students at each intersection both in the morning and in the afternoon.

Harold Street & Flag Avenue. St. Jarlath's Elementary School has a gate onto Harold Street, directly opposite Flag Avenue. After picking up or dropping off children, drivers exit to Harold Street. There is no pedestrian crosswalk at this location, but there is an adult guard who directs vehicles to safely exit to Harold Street. The crossing guard is aware of the potential for traffic to back up on Harold Street to Fruitvale Avenue and, through effective management, is able to avert problems before they occur. Field observations confirm that the operation is smooth and effective without noticeable difficulties.

I-580 Overcrossing at Boston. Boston Avenue crosses over I-580 and intersects with Montana and Harold Streets, two frontage roads that border I-580. Boston Avenue is also a main roadway providing access to Fruitvale Elementary School. Field observations indicate that both Montana and Harold Streets have relatively high-speed, high-volume traffic. SWITRS data indicate that during the period between 1998 and 2003, there were ten collisions at the intersection of Boston Avenue/Montana Street, mostly caused by rear end (30%) and broadside (30%) collisions, and two collisions at the intersection of Boston Avenue/Harold Street, both of them rear-end collisions.

I-580 Undercrossing at Champion. Champion Street passes underneath I-580 and intersects with Montana and Harold Streets, the two frontage roads that border both sides of I-580. Champion Street is also a main route to St. Jarlath's Elementary School. Field observations indicate that both Montana and Harold Streets have relatively high-speed, high-volume traffic. SWITRS data show that between 1998 and 2003, there were seven collisions at the intersection of Champion/Harold and that most of them were caused by rear end (43%) and broadside (43%) collisions.

⁴ Phone conversation with Mrs. Della Fitzgerald on October 25, 2004

Fruitvale Avenue & Harold Street/I-580 EB Off-Ramp. This is a signalized intersection with fixed time signal controls. The traffic signal cycle length is fixed at 70 seconds all day, but green intervals vary depending on the time of the day. There are no vehicle detectors or pedestrian push buttons. Southbound left turns are provided with a short protected signal interval, followed by a green interval during which left turns can be made after yielding to the northbound through traffic. Three of the four approaches at the intersections have crosswalks, (the south approach does not have a crosswalk). Curb ramps are substandard. Between 1998 and 2003, there were 50 collisions at this intersection. Ninety percent of the collisions resulted in property damage only and there were no fatalities. More than forty percent of the collisions were broadside collisions involving vehicles coming off the freeway. It is unusual for there to be more broadside than rear-end collisions at a signalized intersection. It is possible that traffic coming off of I-580, which is traveling at high speed, may be a contributing factor to this situation. No pedestrian collisions were reported at this intersection.

Dimond Library. The Dimond Library is located directly across from a driveway that serves a Safeway supermarket. There is a marked mid-block crosswalk near the library allowing pedestrians to cross Fruitvale Avenue. However, neighborhood residents suggested that, in addition to this crosswalk, a previous crosswalk near Ly Luck restaurant should also be restored in order to accommodate pedestrian crossings in the area. SWITRS data show only one vehicle collision (broadside) and no pedestrian-related collisions at or near this crosswalk between 1998 and 2003. Field observations further indicate that the current crosswalk is utilized by pedestrians crossing Fruitvale Avenue and AC Transit bus passengers more so than the old crosswalk previously located near Ly Luck restaurant.

Fruitvale Avenue & MacArthur Boulevard. This is a signalized intersection with a pre-timed traffic signal; there are no vehicle detectors or pedestrian push buttons. Cycle length is constant at 70 seconds throughout the day, but the green intervals vary by time of day. Between 1998 and 2003, there were 32 collisions at this intersection, including sideswipe (31%), rear end (22%), and broadside (15%) collisions. “Improper turn” was reported as the primary cause of the sideswipe collisions. All approaches at this intersection are adjacent to long no-parking zones, allowing vehicles to use the curb lanes as right-turn lanes. This may contribute to the high frequency of sideswipe collisions.

Pedestrian-related incidents at this intersection accounted for 19 percent of the intersection’s collisions. This intersection also had the third highest number of pedestrian collisions along Fruitvale Avenue. All of the pedestrian collisions involved vehicles making a turn, and most of the turns were left turns.

3.5 Existing Parking Conditions

This study does not include parking counts. Instead, parking occupancy conditions were observed in the field. In general, on-street parking spaces near the commercial areas along Fruitvale Avenue are either metered or have one- or two-hour time limits. On-street parking spaces along the other segments of Fruitvale Avenue are unrestricted. Figure 12 shows the general location of various types of on-street parking spaces. On-street parking spaces in the commercial areas are generally occupied, while on-street parking spaces in the non-commercial areas are usually available. There are also off-street parking lots dispersed sporadically around the study area. With the exception of the parking spaces located underneath the I-580 structure, all of these off-street parking spaces are

provided by the adjacent businesses. Off-street parking occupancy varies, depending on the businesses and time of the day.

3.6 Existing Pedestrian Conditions

Existing pedestrian volumes in the study area are generally low except at major intersections. These locations have a larger amount of pedestrian activity and moderate levels of pedestrian crowding. Sample pedestrian volume counts were collected at four major intersections along Fruitvale Avenue. Also, field observations were conducted at several locations for which the community expressed concerns about pedestrian/vehicle conflicts. Pedestrian-related collision data are presented in Section 3.4.1.

3.6.1 Major Pedestrian Activity Nodes

The *Pedestrian Master Plan* designates Fruitvale Avenue as a Priority Project Street for pedestrian and crosswalk improvements. The major pedestrian activity nodes along Fruitvale Avenue include activity centers such as schools, churches, senior centers, major retail centers, and community centers. Some of these pedestrian activity nodes attract moderate to high volumes of pedestrians throughout the day, while others, such as schools and churches, attract moderate to high volumes only at specific times during the day. In addition, several street corners, especially where two major arterial roads intersect, are also major pedestrian activity nodes.

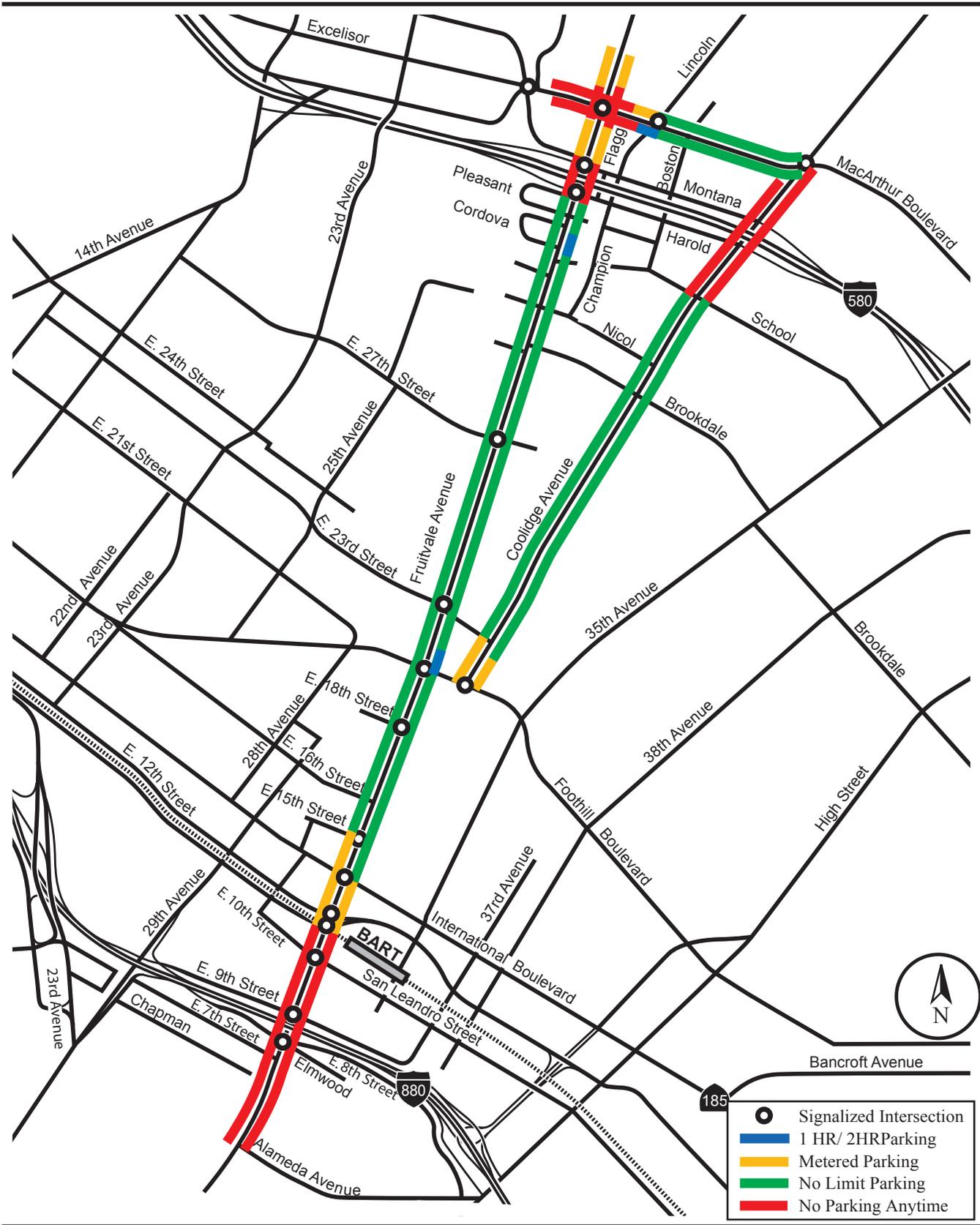
3.6.2 Pedestrian Facilities

Pedestrian related facilities include sidewalks, crosswalks, crosswalk markings, and traffic control devices such as (pedestrian signal heads, countdown devices, push buttons). These facilities ensure safe pedestrian crossings and are required to be in compliance with the American for Disability Act (ADA) requirements.

Sidewalks

Fruitvale and the major intersecting streets in the study area all have paved sidewalks, except for the west side of Fruitvale between Alameda and East 9th Street. The sidewalks are approximately 12 – 14 feet wide along the commercial sections of Fruitvale Avenue and approximately ten feet wide along the residential sections. Sidewalk width along the commercial sections meet the minimum requirement established by the *Pedestrian Master Plan* (12 feet minimum as presented in Chapter 2.2). Sidewalks along MacArthur Boulevard and Fruitvale Avenue in the Dimond District are approximately ten feet wide. These dimensions are narrower than the sidewalk width guidelines proposed in the *Pedestrian Master Plan*. In general, sidewalk width along Fruitvale Avenue does not present obstacles to pedestrian circulation; however, there are several pieces of street furniture that have been installed in the pedestrian circulation space and that create a potential obstacle for pedestrian movement.

There are several sidewalk vendors along Fruitvale Avenue. Vendor stands are positive elements of the sidewalk and the neighborhood because they add to the street life and neighborhood character. On the other hand, they also occupy sidewalk space, and therefore limit the room available for pedestrian circulation. Because pedestrian volumes are relatively low to moderate in the vicinity of these vendor stands, the stands do not appear to be an obstacle at the present time.



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Figure 12
On-Street Parking Spaces by Type Along Fruitvale

Crosswalks

In general, pedestrian crosswalks exist at the major intersections in the study area. There are two basic types of pedestrian crosswalk markings along Fruitvale Avenue: standard striping and ladder striping. However, the markings vary considerably by location. Crosswalks marked in yellow indicate that a crossing is in a school zone. The City of Oakland recently developed a draft crosswalk policy to streamline crosswalk markings.

There are several striped mid-block crosswalks and intersections where no pedestrian crosswalks are provided. Figure 13 shows the 16 locations where there are marked crosswalks at non-signalized intersections. Pedestrian volumes crossing Fruitvale Avenue are generally low except at the major east-west arterial roads. Field surveys were conducted at four major intersections along Fruitvale Avenue. Table 8 presents the AM and PM peak hour pedestrian volumes for each of the crosswalks at these four intersections. No level of service analysis was undertaken as part of this study because all of the crosswalks would function at LOS A. There are no apparent capacity deficiencies associated with these crosswalks. Pedestrian collision information is included in Table 7.

Table 9 – Crosswalk Pedestrian Volumes During AM and PM Peak Hours

Intersection	AM Peak Hour				PM Peak Hour			
	North Crossing	South Crossing	East Crossing	West Crossing	North Crossing	South Crossing	East Crossing	West Crossing
Fruitvale/MacArthur	102	19	49	24	98	23	52	31
Fruitvale/27 th	4	61	35	45	5	65	32	53
Fruitvale/Foothill	180	119	118	70	171	134	123	81
Fruitvale/International	114	154	165	105	134	161	178	104

Source: CHS Consulting Group.

Street Corners

Street corners along Fruitvale Avenue generally have no capacity deficiencies. The corners at the intersections of Fruitvale Avenue/International Boulevard and Fruitvale Avenue/Foothill Boulevard have relatively high volumes of pedestrians, but this seems to occur in part because people gather at these corners to socialize. There is one intersection, Fruitvale Avenue and East 16th Street, which has a corner bulbout.

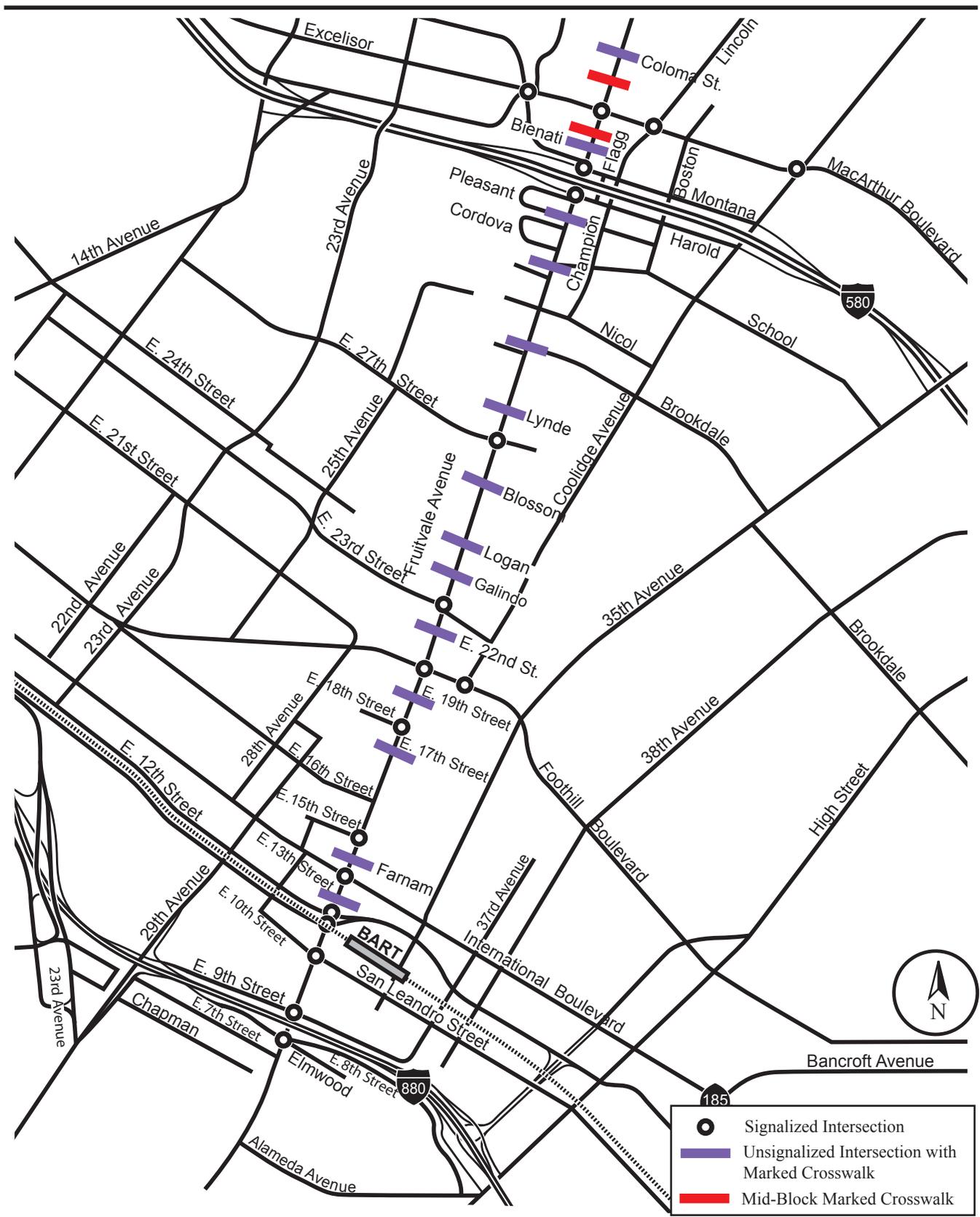
Pedestrian Crossing Devices

There are three types of pedestrian crossing devices along Fruitvale Avenue/MacArthur Boulevard:

- Pedestrian signal heads,
- Countdown timers, and
- Pushbuttons

Pedestrian Signal Heads. Figure 14 indicates the locations of pedestrian signal heads, pedestrian countdown timers, and pedestrian pushbutton signals. All of the 15 signalized intersections in the study area have pedestrian signal heads, of which three have missing signal heads at one or more corners.

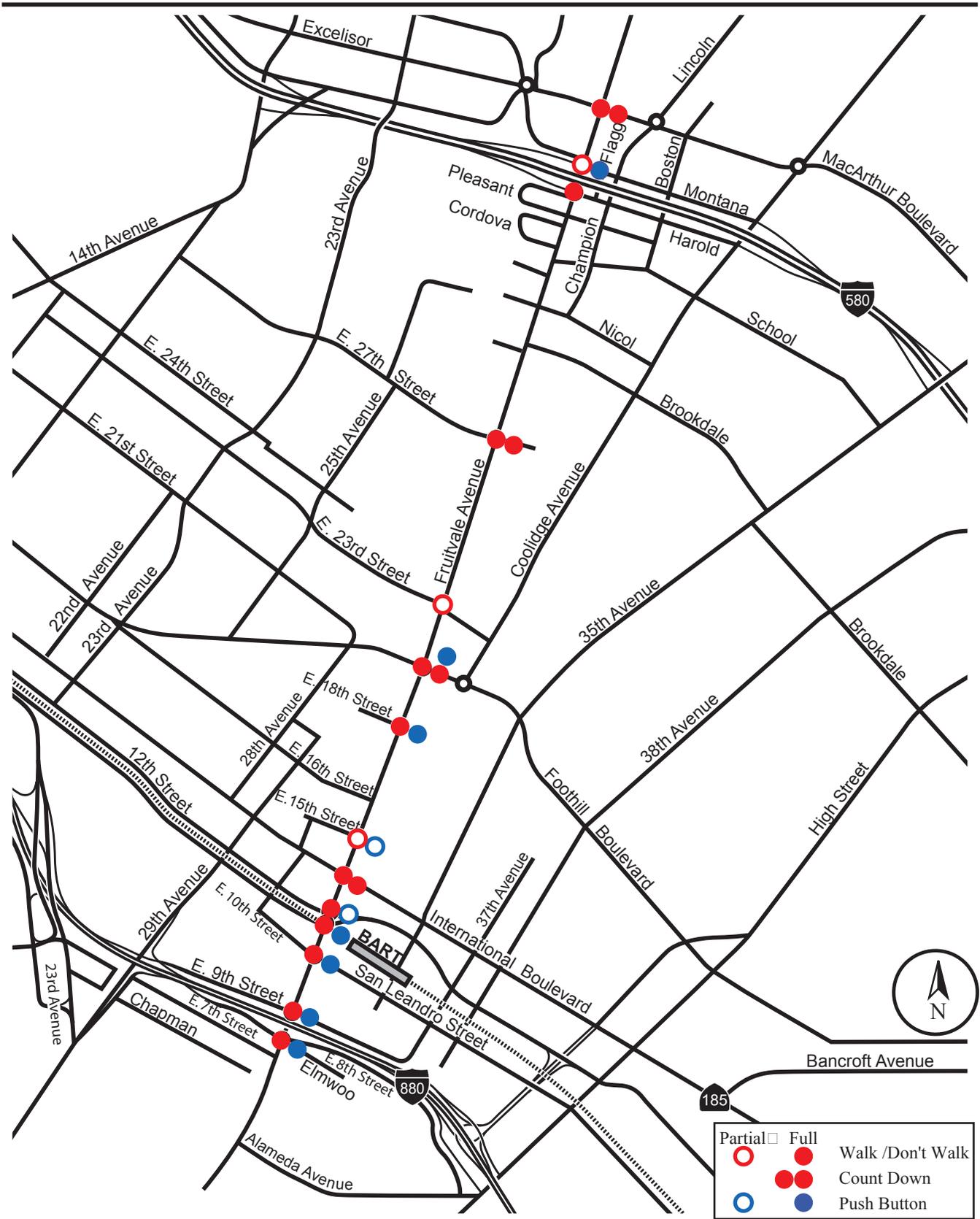




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Figure 13
Pedestrian Crosswalks At Un-Signalized Intersections and Mid-Blocks



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Figure 14
Pedestrian Signal Heads Along Fruitvale

Pedestrian Countdown Timers. Four intersections along Fruitvale Avenue have pedestrian countdown timers: Fruitvale Avenue at Foothill Boulevard, East 27th Street, MacArthur Boulevard, and International Boulevard. These are also the four intersections in the study area with the highest number of pedestrian collisions (Table 7).

Pedestrian Pushbuttons. Pedestrian pushbuttons are usually installed at intersections with light pedestrian crossing volumes and at which traffic signals are actuated. Eleven intersections along Fruitvale Avenue employ pedestrian push buttons (partial or full) at either some or all of the crossings.

ADA Compliant Pedestrian Curb Ramps

Curb ramps exist at all of the intersections in the study area, but most of them are not compliant with the Americans with Disabilities Act (ADA). According to ADA regulations, all curb ramps should be oriented to direct pedestrians to the opposite corner and to provide a direct connection between the sidewalks through the crosswalk. Upgrading these ramps is desirable at all locations.

3.7 Existing Bicycle System and Ridership

The project study area includes a portion of the Bay Trail, which is a popular cycling route, as well as the Fruitvale BART Bike Station. Both of these features encourage the use of bicycles in the area for both recreational and utilitarian cycling. During public meetings, community stakeholders and cyclists suggested that bicycle lanes be installed along Fruitvale Avenue and/or Coolidge Avenue. Fruitvale is the primary arterial in the area connecting the Dimond, Fruitvale neighborhoods, and the City of Alameda to the Fruitvale BART Station.

A Class II bicycle lane is striped on the east side of Fruitvale Avenue, south of East 12th Street, and on the west side of Fruitvale Avenue, south of San Leandro Street. This bicycle lane provides access from the Fruitvale BART Station to the Estuary and the Bay Trail. Portions of the striping of the bicycle lane are significantly faded.

Current bicycle usage along Fruitvale Avenue is generally low to moderate in volume. Table 9 presents the results of the field survey of bicycle volumes at four major intersections along Fruitvale Avenue. Due to the lack of a bicycle lane and relatively high traffic volumes along Fruitvale Avenue and the east-west major arterial roads, most of these bicyclists use sidewalks instead of street rights-of-way. Field observations on weekends indicate that there are low to moderate numbers of bicyclists using the Fruitvale Avenue sidewalk for casual bicycling.

In order to encourage and facilitate bicycle use in the project area, the City of Oakland collaborated with BART, Caltrans, and the Unity Council to install a “bike station” at the Fruitvale BART Station in November 2004. The Fruitvale Bike Station features free attended bicycle parking for over 200 bicycle racks near the entrance to the station and a full-service bicycle repair shop. These services are available Monday through Friday, 6:00 AM to 8:00 PM.

Table 10 – Bicycle Volumes along Fruitvale Avenue during AM and PM Peak Hours

Intersection	AM Peak Hour				PM Peak Hour			
	North	South	East	West	North	South	East	West
Fruitvale/MacArthur	4	2	1	0	5	2	1	3
Fruitvale/E. 27 th	0	1	1	2	2	1	4	2
Fruitvale/Foothill	8	5	3	3	11	8	3	4
Fruitvale/International	12	19	4	3	14	21	3	5

Source: CHS Consulting Group.

3.8 Public Transportation

Both the Alameda-Contra Costa Transit (AC Transit) and the Bay Area Rapid Transit (BART) systems provide access to the Fruitvale area. As noted above, Figure 6 shows the location of AC Transit bus routes and bus stops in the vicinity of Fruitvale Avenue, as well as the location of the Fruitvale BART Station.

3.8.1 AC Transit

Fruitvale Avenue has extensive AC Transit bus service. Table 10 presents AC Transit bus routes in the study area, the routes’ peak hour frequencies, and the key destinations that these routes serve. There are 19 AC Transit bus routes that operate on Fruitvale Avenue, 14 of which are local routes and five of which are Transbay routes. The local routes provide services along both east/west and north/south directions, as far as Berkeley and Hayward. Boardings and alightings at most AC Transit bus stops along Fruitvale Avenue were generally light, except at locations where two major arterial roads intersect. Bus boardings and alightings are moderate to high along the three major arterial roads (International Boulevard, Foothill Boulevard, and MacArthur Boulevard).

There are 19 bus stops in the northbound direction and 16 in the southbound direction along Fruitvale Avenue between International Boulevard and the Dimond Library. Average bus stop spacing along Fruitvale Avenue is approximately 500 feet, although some are spaced as close as 330 feet. This distance is substantially shorter than the typical bus stop spacing standards used by AC Transit. While AC Transit bus shelters do exist at three locations (Fruitvale Avenue/Montana Street, Fruitvale Avenue/International Boulevard, and Fruitvale Avenue/East 16th Street), most of the stops do not have bus shelters.

MacArthur Boulevard within the study area has five “Transbay” AC Transit bus lines (N, NL, NX, NX1, and NX2) and two local bus lines (11 and 57; line 58 was recently eliminated). The Transbay lines take passengers across the Bay Bridge into San Francisco and passengers have to pay a Transbay fare. The Dimond neighborhood does not feel that service is adequate, and they protested upon the elimination of Bus Route 58.

Foothill has three local bus lines and International Boulevard has two local bus lines. In addition, AC Transit is currently assessing the feasibility of operating bus rapid transit (BRT) service along International Boulevard.

Table 11 – AC Transit Bus Line Frequencies

Route	Bus Service Area	Peak Hour Frequency
11-Harrison	Piedmont/Oakland downtown	20 minutes
14-East 18 th Street	MacArthur BART/Downtown Oakland	15 minutes
19-Hollis	N. Berkeley/Emeryville/W Oakland/ Downtown Oakland/Alameda/Fruitvale BART	30 minutes
40/40L-Telegraph	UC Berkeley/Downtown Oakland/Bay Fair BART	5 to 10 minutes
43-Shuttuck	UC Berkeley/Downtown Oakland/Eastmont Transit Center	15 minutes
47- Maxwell Park	Fruitvale BART	30 minutes
48-High Street	Fruitvale BART/High Street_ MacArthur Blvd	30 minutes
50-Hegenberger	Fruitvale BART/Alameda/Oakland Airport/Coliseum BART/Eastmont Transit Center/Bayfair BART	15 minutes
53-Fruitvale	Dimond/Fruitvale Avenue/Fruitvale BART	15 minutes
54-35 th Avenue	Fruitvale BART/Merritt College	10-15 minutes
57-40 th Street	Emeryville Amtrak Station/MacArthur BART/ MacArthur Boulevard/Eastmont Transit Center	12 minutes
62-San Antonio	West Oakland BART/Downtown Oakland/ Highland Hospital/Fruitvale BART	20 minutes
63-Alameda Point	Downtown Oakland/Alameda Point/Alameda/Fruitvale BART	30 minutes
82/82L- International	Downtown Oakland/International Boulevard/Fruitvale BART/Hayward BART	5 to 7 minutes
N/NL/NX1/NX2/ NX3/NX4- MacArthur	Transbay Terminal	15 to 30 minutes

Source: AC Transit

3.9 Bay Area Rapid Transit (BART)

BART provides high speed, high capacity transit services from the Fruitvale station to the Dublin/Pleasanton, Fremont, Richmond, and Daly City Lines. Connections to the Pittsburg/Baypoint and Millbrae/SFO lines require transfers. The frequency of BART service for the three lines serving the station is approximately fifteen minutes during day, so the average frequency of service is approximately five minutes.

The Fruitvale BART Station is located in the center of the Fruitvale Transit Village. Parking structures with 1,234 parking spaces are located on both sides of the station. Ten AC Transit lines provide service to this station, and eight of these lines provide a direct connection into the station. As noted above, the City of Oakland collaborated with BART, Caltrans, and the Unity Council to install a bike station at the Fruitvale BART Station in November 2004. On weekdays, the station provides free parking space for more than 200 bicycles, and a full-service repair station is located on-site. The station also has 14 bicycle lockers, located on the east side of BART entry gates.



4.0 FUTURE CONDITIONS

An analysis of intersection LOS during future year (2025) conditions was performed. Year 2025 projected traffic volumes were based on the data obtained from the Alameda County Travel Forecasting Model (Alameda Model). The Alameda Model provides roadway link volumes for year 2005 and 2025 conditions.

The year 2025 traffic volumes were forecasted based on the forecasted increase in population and employment in the Bay Area. Alameda Model 2025 link volumes were not directly used to perform LOS analysis. Instead, growth rates from the Alameda Model outputs between 2005 and 2025 were calculated and then applied to the existing traffic volumes to obtain the 2025 traffic volume for the traffic LOS analysis. The calculated 2025 traffic volumes were then put into the FURNESS model to estimate intersection turning movement volumes. The Alameda Model shows that growth rates vary by roadway segments.

Tables 11 and 12 present a comparison of the existing, existing with signal timing changes, and future (year 2025) conditions. These two tables show that future LOS would deteriorate.

Table 12 – Existing and Future LOS and Delay, AM Peak Hour

Intersection	Existing Volume and Existing Conditions		Existing Volume with Recommended Changes		Future Volume with Recommended Changes	
	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS
Fruitvale Ave/MacArthur Blvd.	18.4	B	16.3	B	24.7	C
Fruitvale Ave./Montana St.	22.6	C	23.8	C	33.8	C
Fruitvale Ave./Harold St.	29.9	C	21.1	C	20.9	C
Fruitvale Ave./E 27 TH St.	158.3	F	60.7	E	97.2	F
Fruitvale Ave./E 23 RD St.	20.7	C	20.7	C	23.9	C
Fruitvale Ave./Foothill Blvd.	72.5	E	26.7	C	51.0	D
Fruitvale Ave./E 15 TH St.	10.3	B	6.5	A	5.4	A
Fruitvale Ave./International Blvd	21.6	C	31.7	C	55.4	E
Fruitvale Ave./E 12 TH St. (N)	16.7	B	15.9	B	17.6	B
Fruitvale Ave./E 12 TH St. (S)	14.6	B	3.6	A	3.7	A
Fruitvale Ave./San Leandro St.	25.5	C	21.8	C	28.0	C
Fruitvale Ave./E. 9 TH St.	48.1	D	20.2	C	40.9	D
Fruitvale Ave./Elmwood	39.1	D	20.2	C	21.8	C
MacArthur Blvd./E. 38 TH St.	35.9	D	20.2	C	24.9	C
MacArthur Blvd./Lincoln Ave.	44.3	D	30.1	C	59.6	E
Macarthur Blvd/Coolidge Ave	16.6	B	10.3	B	17.8	B
Foothill Blvd/Coolidge Ave	14.6	B	22.8	C	23.2	C

Source: CHS Consulting Group.



Table 13 – Existing and Future LOS and Delay, PM Peak Hour

Intersection	Existing Volume and Existing Conditions		Existing Volume with Recommended Changes		Future Volume with Recommended Changes	
	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS
Fruitvale Ave/MacArthur Blvd.	16.7	B	19.1	B	27.9	C
Fruitvale Ave./Montana St.	18.5	B	20.0	C	20.4	C
Fruitvale Ave./Harold St.	30.8	C	22.1	C	23.3	C
Fruitvale Ave./E 27 TH St.	40.0	D	22.8	C	26.2	C
Fruitvale Ave./E 23 RD St.	28.5	C	10.0	A	11.2	B
Fruitvale Ave./Foothill Blvd.	128	F	36.2	D	37.0	D
Fruitvale Ave./E 15 TH St.	15.1	B	8.3	A	8.1	A
Fruitvale Ave./International Blvd	17.6	B	25.3	C	33.4	C
Fruitvale Ave./E 12 TH St. (N)	32.5	C	24.6	C	37.6	D
Fruitvale Ave./E 12 TH St. (S)	16.3	B	7.3	A	10.5	B
Fruitvale Ave./San Leandro St.	65.2	E	45.2	D	94.3	F
Fruitvale Ave./E. 9 th St.	37.3	D	24.1	C	28.1	C
Fruitvale Ave./Elmwood	57.4	E	23.3	C	31.0	D
MacArthur Blvd./E. 38 th St.	25.4	C	16.4	B	16.1	B
MacArthur Blvd./Lincoln Ave.	15.5	B	11.6	B	13.1	B
MacArthur Blvd./Coolidge Ave	13.2	B	14.9	B	16.9	B
Foothill Blvd/Coolidge Ave	32.3	C	21.8	C	42.1	D

Source: CHS Consulting Group.

Intersection LOS would worsen over time because of the forecasted increase in traffic volumes in the study area. Most intersections in the study area would continue to operate at acceptable level, but the intersections of Fruitvale Avenue/East 27th Street, Fruitvale Avenue/International Boulevard, and MacArthur Boulevard/Lincoln Avenue would operate under congested conditions during the AM peak hour and Fruitvale Avenue/San Leandro Street would operate under congested conditions during the PM peak hour.

The future LOS analysis assumes optimal signal progression as recommended in this report, but it does not include any additional travel lanes or other changes in lane geometry on study area roadways or intersections. The study area is almost fully built out, except in the southern section of Fruitvale Avenue. While the community involved in this project wishes to reduce traffic congestion in the study area, pedestrian and bicycle safety and access are currently identified as higher priority issues than traffic congestion. Therefore, additional improvements related solely to traffic congestion are not recommended in this report. Instead, the study recommends that the City of Oakland work with the community to monitor the growth in traffic volumes at congested locations and to increase the use of transportation modes such as mass transit, cycling, and walking as strategies to reduce traffic volumes and traffic congestion.



5.0 RECOMMENDED CORRIDOR-WIDE IMPROVEMENTS

Project recommendations for this study are divided into corridor-wide improvements and localized improvements. Corridor-wide improvements are intended to create a strong image for the area and to achieve broader and stronger improvements for the study area. Localized improvements are intended to address the specific issue at a particular location.

5.1 Enhance Pedestrian Crosswalks

Fruitvale Avenue has a significant number of marked pedestrian crosswalks at mid-block locations and at non-signalized intersections. Crosswalk markings vary by location and not all of them have advanced pedestrian crossing signs. In order to enhance pedestrian crossings and consistently alert motorists of upcoming pedestrian crossings, CHS recommends that pedestrian crosswalks within the study area have consistent treatments, including:

- Continental style markings or highly visible markings, such as were used in the recently implemented streetscape project along East 12th Street in the Eastlake District, for all approaches at each Fruitvale Avenue intersection;
- In-pavement marking “PED XING” in advance of the crosswalk for northbound and southbound approaches at Fruitvale Avenue intersections;
- Pedestrian countdown timers at all approaches of all signalized intersections (eight per intersection, except at the “T” intersections, where only six countdown timers would be needed);
- Reflective pedestrian crossing signs indicating the downstream pedestrian crosswalks for northbound and southbound approaches at unsignalized crosswalks on Fruitvale Avenue; and
- In-pavement markers for northbound and southbound approaches at unsignalized crosswalks on Fruitvale Avenue.



These improvements, if applied in the entire study area, would significantly increase motorists' awareness of pedestrian crossings. It would also create an identity for Fruitvale Avenue, MacArthur Boulevard, and Lincoln Avenue as pedestrian-friendly streets. Advance limit lines (those implemented along East 12th Street in the Eastlake District) should be considered to provide additional protection to pedestrian crossing safety.

5.2 Add Pedestrian Bulbouts

Pedestrian bulbouts should be implemented to the extent possible at all marked crosswalks at unsignalized intersections and mid-block crossings. Pedestrian bulbouts would reduce pedestrian walking distances and increase the visibility of pedestrians waiting to cross an intersection. In combination with pedestrian crossing signs and in-pavement reflective markers, bulbouts would significantly enhance motorists' awareness of pedestrian crossings. The following locations are recommended for pedestrian bulbouts:



- Fruitvale Avenue/Coloma Street;
- Mid-block between Coloma Street and MacArthur Boulevard;
- Mid-block between MacArthur Boulevard and Sloan Street;
- Fruitvale Avenue/Sloan Street;
- Fruitvale Avenue/Pleasant Street;
- Fruitvale Avenue/School Street;
- Fruitvale Avenue /Brookdale Avenue;
- Fruitvale Avenue/Lynde Street;
- Fruitvale Avenue/Blossom Street;
- Fruitvale Avenue/Logan Street;
- Fruitvale Avenue/Galindo Street;
- Fruitvale Avenue/East 22nd Street;
- Fruitvale Avenue/East 19th Street;
- Fruitvale Avenue/East 17th Street;
- Fruitvale Avenue/East 16th Street (both east and west of Fruitvale);
- Fruitvale Avenue/East 15th Street;
- Fruitvale Avenue/Farnam Street; and
- Fruitvale Avenue/East 13th Street.



5.3 Improve Signal Coordination

Traffic congestion occurs at several locations along Fruitvale. The key issues include:

- *Traffic Signal.* As presented in Chapter 3, while the majority of the signals along Fruitvale Avenue are equipped with actuated systems, they do not necessarily operate as actuated signals. In addition, the signals along Fruitvale are grouped into four subgroups, with each subgroup containing a maximum of three adjacent signals, and each subgroup operating with a different cycle length. Therefore, synchronization works only within the subgroup and is not effective along the entire corridor.
- *Traffic Pattern.* Due to the absence of an I-880 southbound ramp connection between 10th Avenue and High Street, significant amount of traffic is concentrated along East 12th Street, on the block of Fruitvale Avenue between East 12th Street and San Leandro Street, and on San Leandro Street. A significant number of vehicles make right turns from East 12th Street onto Fruitvale Avenue southbound and then make right turns onto San Leandro Street to access I-880. There are also a high number of vehicles making the reverse movement. This movement causes significant delay in the area and conflicts with pedestrian and bicycle traffic.

CHS tested various signal cycle length options along Fruitvale Avenue. CHS determined that an 80-second cycle would be the optimal cycle length to accomplish efficient traffic operations in the corridor, and recommends that this length of cycle be implemented at all signals. It should be noted that this recommendation is inconsistent with a concurrent effort that is being managed by the Metropolitan Transportation Commission (MTC) at the request of the City of Oakland. The MTC study focuses only on the lower Fruitvale Avenue area (International Boulevard to Alameda Avenue), while this study evaluates the entire corridor. The City of Oakland Public Works Agency should evaluate both proposals and determine how the recommendations would be integrated. A potential option would be to implement MTC's recommendation for the short term and then implement the recommendations from this study at a later point, because the recommendations from this study would require additional funding for geometric changes.

CHS also recommends modifying traffic signals along the corridor so that they are all actuated signals and they all function as actuated signals, and that all actuated traffic signals have bicycle-sensitive detectors at the minor approaches. An actuated signal allows changes in signal timing based on the real-time traffic volumes approaching an intersection. Thus more green signal time is provided to approaches with higher traffic volumes.



5.4 Enhance Traffic Enforcement

5.4.1 Solar-Powered LED Speed Detectors

Table 3, Traffic Speed Along Fruitvale Avenue, indicated that average travel speeds are higher than the speed limit along Fruitvale Avenue between International Boulevard and Lynde Street (the posted speed limit is 25 mph, while the actual speed is between 30.8 and 32.2 mph). Also, a significant percentage (20%) of the collisions along Fruitvale Avenue are related to rear-end collisions, which are usually the result of motorists driving at high speeds or vehicles following each other too close in congested areas. The use of solar-powered LED speed detectors would alert motorists who drive in excess of speed limits. This device does not require electrical connections and could be moved from time to time to increase its effectiveness.



5.4.2 Enforcement of Traffic Laws

In addition to the use of solar-powered LED speed detectors, the Oakland Police Department should implement frequent spot enforcement along the corridor, especially with regard to speeding. Police presence would have a significant effect on motorists' compliance with traffic regulations.

Specifically, this study recommends focused enforcement at the following key locations, where high collision rates for both vehicles and pedestrians and a high number of speed violations have been recorded:

- Fruitvale Avenue/International Boulevard;
- Fruitvale Avenue/Foothill Boulevard;
- Fruitvale Avenue/East 27th Street;
- Fruitvale Avenue/MacArthur Boulevard;
- Along Fruitvale Avenue; and
- Along Coolidge Avenue.

5.4.3 Red Light Camera

While there are no current records showing that there have been a significant number of red light violations in the study area, the high broadside collision rates at several intersections reported in Section 3.4 suggest that the City of Oakland should conduct further investigation to identify whether red light violations are a problem in this area.

Numerous cities in the U.S. have used red light cameras as an effective tool to reduce the number of red light violations and related collisions. In order for the City of Oakland to install red light cameras, the Oakland City Council must adopt a resolution authorizing the use of red light cameras. The City should consider the use of red light cameras only if it determines that red light violations are a critical issue in this area. It should be noted that the revenue collected from

red light violations could potentially be used as a funding source for pedestrian safety improvements, as the City of San Francisco has done.

5.5 Initiate Traffic Education Program

Since most of the motorists traveling along Fruitvale Avenue are people who live in the study area, traffic education could be an effective tool to improve traffic conditions. Conversations with several community representatives also confirm that traffic education is needed in the study area, especially in the lower Fruitvale Avenue area. Traffic education should be focused on the following groups:

- *Students and parents.* Work with the Oakland Pedestrian Safety Program to enhance the “Safe Routes to School” program, and with the Oakland City Department of Human Services to enhance the “Safe Walk to School” program. This could include regularly scheduled student/parent orientation program with multi-lingual handouts.
- *Community organizations.* The City of Oakland Public Works Agency and Police Department should work with community organizations such as churches, the library, and health institutions to develop an effective educational program to increase motorists’ awareness of traffic rules and regulations. Potential ideas include:
 - Use the mass media (newspaper, radio, and TV) to regularly introduce current problems and solutions;
 - Prepare multi-lingual handouts on traffic-related issues and solutions and make them available at the community organizations;
 - Use trained community volunteers to guide pedestrians crossing at key intersections during weekend midday hours.

5.6 Improve Transit Services

5.6.1 AC Bus Stops

The placement of bus stops plays an important role in transit operations. AC Transit design guidelines state that bus stops should be located on the far side of the intersection, and that they should be spaced approximately 800 feet apart. These guidelines provide reasonable walking distance for bus patrons and allow buses to travel at a reasonable speed. It is recommended that all extra or unnecessary bus stops be eliminated.

Locating bus stops on the far side of intersections allows buses to take advantage of signal timing if they are equipped with a signal priority system. Locating bus stops on the far side of intersections also facilitates safer pedestrian crossings, since off-boarding pedestrians are not as likely to cross directly in front of the bus, and are therefore more likely to be visible to oncoming traffic. It is recommended that all bus stops in the area eventually be relocated as necessary to be on the far side of each approach.

The following bus stops are proposed for elimination. Figure 15 shows the locations of the recommended changes.

Bus Stop Elimination

- Northbound mid-block stop between MacArthur Boulevard and Montana Street;

- Northbound far-side at East 29th Street; and
- Northbound nearside stop at Fruitvale Avenue/MacArthur Boulevard.

Bus Stop Relocation

The following intersections are candidates for bus stop relocation. Any bus stop relocation(s) will require the permission of the property owner whose land is adjacent to the proposed new location.

- Fruitvale Avenue/MacArthur Boulevard;
- Fruitvale Avenue/Nicol Avenue;
- Fruitvale Avenue/Brookdale Avenue;
- Fruitvale Avenue/Lynde Street;
- Fruitvale Avenue/Blossom Street; and
- Fruitvale Avenue/International Boulevard.

5.6.2 AC Transit Bus Shelters

The installation of AC Transit bus shelters in the City of Oakland is managed by the City of Oakland Public Works Agency. Funding for the shelters is provided by the advertising agency. There is an agreement between the City of Oakland and ClearChannel/Adshel to install 500 bus shelters. There are currently 120 installed. The advertising agency agreement and a location's level of visibility to the public are the primary factors that determine bus shelter locations. Typically, priority is given to locations with high ridership. It is suggested that the City of Oakland Public Works Agency include bus shelters at the following intersections:

- Fruitvale Avenue/International Boulevard;
- Fruitvale Avenue/Foothill Boulevard; and
- Fruitvale Avenue/MacArthur Boulevard.

5.7 Bicycle Lanes

Significant interest in the installation of bicycle lanes on Fruitvale Avenue and Coolidge Avenue was expressed at the public meetings.

Unfortunately, existing lane geometry and road width do not presently allow for the designation of new Class II bicycle lanes on Coolidge Avenue and Fruitvale Avenue north of Foothill Boulevard. A Class II bicycle lane must be at least five feet wide, unless a lane of traffic is removed, neither of these streets have ten feet of extra width to accommodate a set of bicycle lanes.





LEGEND

- Existing Bus Stop
- - - Removed Bus Stop
- Candidate Intersection

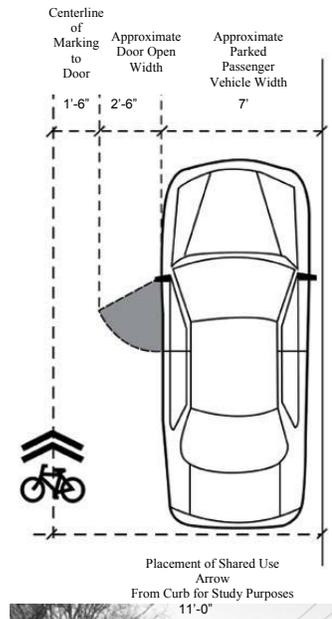


Fruitvale Avenue currently has a Class II bike lane on the east side of the street, south of East 12th Street, and on the west side of the street south of San Leandro Street. There are no bike lanes north of East 12th Street. Fruitvale Avenue has two travel lanes in each direction between San Leandro Street and International Boulevard, and has one travel lane in the southbound direction and two travel lanes in the northbound direction between International Boulevard and Foothill Boulevard. Removing one travel lane in each of these segments and converting the width to Class II bike lanes would cause significant motor vehicle congestion along Fruitvale Avenue because current traffic volumes along this section of Fruitvale Avenue cannot be accommodated with just one travel lane.

The recommendation of this report, therefore, is to implement Class III bicycle routes along Fruitvale Avenue with the use of a Shared Lane Bicycle Pavement Marking, also known as a “Sharrow” or a “bike-and-chevron” (see right). The Sharrow is a relatively new concept that has been implemented in other local jurisdictions, including San Francisco. Legislation is currently being reviewed at the State Legislature to change the Manual for Traffic Control Devices, California Supplement to make the Sharrow an official marking for Class III bicycle lanes in California. While the implementation of Class III bike routes with the Sharrow would slightly improve the cycling situation on Fruitvale Avenue, additional community input and further studies are needed to establish a long-term vision and direction for potential Class II bicycle lanes along Fruitvale Avenue.

Coolidge Avenue is a two-lane road without bicycle lanes. The travel lanes are relatively narrow (11 feet wide), traffic volumes are moderately high, and there is parking on both sides of the street. The City of Oakland *Bicycle Master Plan* proposes Class III Bicycle routes on Coolidge Avenue in the project study area. This report, however, does not recommend Class III bicycle lanes for Coolidge Avenue. Implementing the Sharrow or other route signage on Coolidge Avenue would not provide sufficient protection to bicyclists. Due to the narrow street width, Class II bike lanes could only be implemented if parking were removed, which is likewise not recommended in this residential neighborhood.

Although it is outside of the scope of this project, bicycle lanes on MacArthur Boulevard have been the topic of intense bicyclist, resident, and merchant discussion, and should form an important part of any discussion of MacArthur Boulevard streetscape design.



6.0 RECOMMENDED LOCALIZED IMPROVEMENTS

This section presents the recommended improvements for the 22 study locations.

6.1 Fruitvale District

6.1.1 Pedestrian Access to Kennedy Tract

Residents living in the Kennedy Tract are concerned about pedestrian access from this area to the Fruitvale BART Station. Recommendations for this issue are included in Chapter 7.

6.1.2 Fruitvale Avenue & San Leandro Street

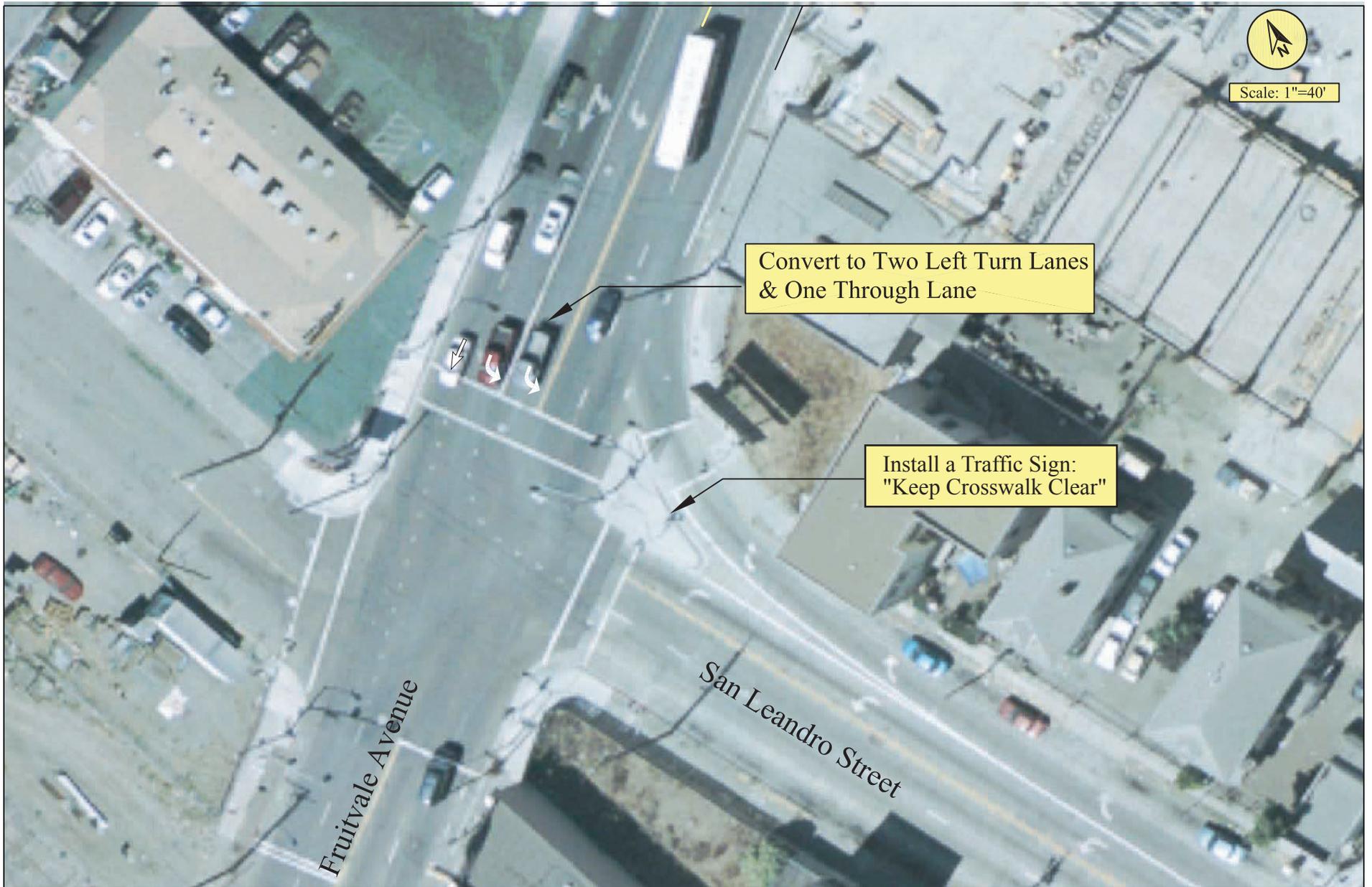
Figure 16 illustrates the proposed improvements for this intersection. There are significant competing needs among trucks, traffic, bicyclists, and pedestrians at this location. This intersection is currently congested during the PM peak hour (LOS F) and has high volumes of large trucks. It is also the main gateway intersection for bicyclists from the south seeking access to the Fruitvale BART Station. The existing competing needs are difficult to resolve because the traffic and truck problems require a solution that is much larger than the scope of this project. The recommendations for this intersection, therefore, include a temporary set of measures to respond to the current situation and a strong recommendation that a study be done to address the I-880 access issue:

- Re-stripe the southbound lanes to two left-turn lanes and one through lane (current configuration is one designated left-turn lane, one left/through lane, and one through/right-turn lane). This recommendation would create additional capacity for the left turn movement, thus reducing traffic congestion in the southbound direction.
- In order to ensure that the short pedestrian crosswalk from the northeast corner to the median island on San Leandro Street is kept clear of vehicles and that no vehicle and pedestrian crossing conflicts exist at this location, add the following traffic control measures:
 - a. Install a traffic sign before the pedestrian crosswalk that reads “Keep Crosswalk Clear.”
 - b. Instead of using a red color bulb on the signal head for the right turn movement during the phases that they should stop, use a red arrow bulb. Under the State of California *Vehicle Code*, vehicles can turn on a red light after they make a full stop. If the signal is changed to a right-turn arrow, no turn on red is permitted.

The recommended improvements above would reduce vehicle/pedestrian conflicts at this location and ensure the pedestrian crosswalk would be clear of vehicles.

- The City of Oakland should work with Caltrans to conduct a study for improving access from Oakland to I-880 southbound between East 10th and High Streets. Without the addition of a southbound ramp in this three-mile-long (approximate) section of I-880, traffic volumes at this intersection will not be reduced. In the meantime, since there are a high number of large trucks using this intersection, the intersection must maintain a lane configuration that is able to accommodate the truck’s turning movement.





6.1.3 Fruitvale Avenue & East 12th Street

Figure 17 illustrates the proposed improvements. These recommendations include:

- Eliminate the northbound right turn lane. This improvement would not have any negative traffic impact on Fruitvale Avenue due to the relatively low volumes of cars at the approach, but would make the area more pedestrian-friendly. The added surface area could be used for landscaping or to extend the bicycle lane into the Fruitvale BART Station.
- Re-stripe the northbound approach to two left-turn lanes, one through lane, and one through/right-turn lane. This change would reduce traffic congestion and the number of right-of-way related collisions.
- Reconfigure the eastbound right-turn lanes to increase the turning radius for trucks. This recommendation would reduce sideswipe collisions as shown in Section 3.4. It would also address traffic congestion and reduce the number of right-of-way-related collisions.

6.1.4 Fruitvale Avenue & International Boulevard

This intersection has a tight intersection geometry and thus, limited opportunity for engineering improvements. A significant number of recommended improvements are included in Chapter 5, Recommended Corridor-wide Improvements, such as enhanced pedestrian crossing markings, traffic education, and target enforcement. This intersection already has pedestrian countdown timers. The additional recommendations include the following (Figure 18):

- Add corner bulbouts to reduce pedestrian crossing distance and time. Figure 18 shows no change in the existing bus stop locations. During the design phase, consider locating all bus stops and associated pedestrian bulbouts on the far side of each approach.
- Provide protected left-turn signal phases for the eastbound and westbound movements. This would protect pedestrian right-of-way and reduce broadside vehicular collisions.
- Install “Yield to Pedestrians” traffic signs.
- Adjust the clearance interval to enable vehicles to clear the intersection safely and reduce the likelihood of a broadside collision.

6.1.5 La Clinica de la Raza (Fruitvale Avenue between East 16th and East 15th Streets)

Chapter 3 notes that collisions near La Clinica de la Raza are rear-end (58%) and sideswipe (21%) collisions, all in the southbound direction. However, no pedestrian-related collisions were reported. No additional improvements are recommended except for the corridor-wide traffic operation improvements presented above and the corridor-wide improvements presented in Chapter 5.

6.1.6 Josie de la Cruz Park (Fruitvale Avenue between East 16th and East 15th Streets)

Chapter 3 notes that collisions in the vicinity of Josie de la Cruz Park are split between rear-end (44%) and sideswipe (44%) collisions. No pedestrian-related collisions were reported. Therefore, no additional improvements are recommended except for the corridor-wide traffic operation improvements presented above and the corridor-wide improvements presented in Chapter 5.





Fruitvale Alive! Master Transportation Plan



Figure 18
Fruitvale Avenue and International Boulevard Proposed Improvements

6.1.7 Hawthorne Elementary School (Fruitvale Avenue & East 18th Street)

In addition to the recommended corridor-wide pedestrian crosswalk improvements in Chapter 5, it is recommended that a corner bulbout be created on the west side of Fruitvale Avenue at this intersection to reduce the pedestrian crossing distances and to increase the amount of pedestrian refuge area. (A bulbout already exists on the east side at this location.) It is also suggested that consideration be given to adding an additional crossing guard.

6.1.8 Fruitvale Avenue & Foothill Boulevard

There are competing goals to be achieved at this location. This intersection has the second highest number of pedestrian collisions in the corridor. However, there are also severe traffic congestion problems, especially in the westbound direction. Traffic operations at this intersection significantly affect the intersection of Foothill Boulevard and Coolidge Avenue, since vehicle queuing along Foothill Boulevard from the Foothill Boulevard/Fruitvale Avenue intersection extends east beyond Coolidge Avenue and blocks Coolidge southbound traffic from entering Foothill Boulevard.

A number of the corridor-wide improvements from Chapter 5, Recommended Corridor-wide Improvements, such as enhanced pedestrian crossing markings, traffic education, and target enforcement, apply to this intersection.

This location has tight intersection geometry and thus limited opportunity for additional engineering improvements, but the following items are suggested (see Figure 19):

- Add pedestrian corner bulbouts at three corners. This improvement would reduce pedestrian crossing distance and time.
- Modify street striping. Modify the westbound striping at the approach to the Fruitvale intersection to add one right turn only lane during the PM peak period (4:00 – 6:00 PM) only. This would reduce vehicle queuing along Foothill Boulevard westbound direction, and thus allow southbound traffic along Coolidge Avenue to access Foothill Boulevard. “No Parking 4:00 – 6:00 PM” signs should be installed on the north side of Foothill Boulevard between 33rd Avenue and Fruitvale Avenue. This restriction should be enforced as necessary.

Another issue at this intersection is the insufficient length of the westbound far side bus stop. AC Transit articulated buses oftentimes block the west crosswalk at this intersection. The bus stop is currently only 60 feet long. AC Transit’s *Transit Facilities Standards Manual* suggests that the length of a far-side bus stop should range from 80 – 100 feet for a standard 40-foot bus, and that the length should be adjusted for longer articulated buses. It is recommended that the Foothill westbound bus stop be extended west so that it is at least 80 feet long. This change would block a portion of the driveway into the adjacent parking lot. Although bus stops are legally allowed to block privately-owned driveways, the City and AC Transit should work with the property owner to ensure that no new traffic issues are caused by the bus stop extension.



6.1.9 Fruitvale Avenue between International Boulevard and Foothill Boulevard

This section of Fruitvale Avenue is part of the core of the Fruitvale District. The area contains a mix of uses, including several major institutional uses such as a school, a major clinic, several churches, and a major park. Current pedestrian activities in this area are relatively moderate. However, the land uses present along the stretch give it high potential for increased pedestrian use if conditions improve, and there is strong community interest in making this area more pedestrian friendly and less oriented toward cars.

This section of Fruitvale Avenue has three traffic lanes—two in the northbound direction and one in the southbound direction. North of Foothill Boulevard it becomes a two-lane road, but south of International Boulevard it is a four-lane road with two lanes in each direction.

As discussed above in Section 5.7, although it is geometrically possible to remove one travel lane and convert the width to two bicycle lanes, one in each direction, traffic analysis shows that, with existing traffic volumes (approximately 1,100 – 1,200 vehicles in the northbound direction), bike lanes would cause a significant traffic congestion problem. In a typical urban setting, one travel lane can only handle approximately 800 vehicles in an urban setting.

Additional community input is needed to establish a long-term vision and direction for this segment. It is a classic situation in which multiple community objectives are in conflict. Consensus regarding this issue was not established during the planning process for this study. In the meantime, this report recommends that Class III bicycle routes be implemented along Fruitvale Avenue with the use of the Sharrow marking.

Another option raised at one of the community meetings was to eliminate one travel lane and instead have a two-way turn lane in the center of Fruitvale Avenue. This option was rejected because it offers no benefits to pedestrians and would cause significant traffic congestion problems.

6.1.10 Foothill Boulevard & Coolidge Avenue

The key issue at this intersection is the difficulty for vehicle drivers to access Foothill Boulevard from the Coolidge Avenue southbound direction and accessing Coolidge Avenue from the Foothill Boulevard eastbound direction. As discussed in Section 6.1.8, the southbound access issue is closely tied to the operation of the intersection of Fruitvale and Foothill.

Figure 20 illustrates the proposed improvements for Foothill Boulevard and Coolidge Avenue. They include the following:





Figure 19
Fruitvale Avenue and Foothill Boulevard Proposed Improvements



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- Add a southbound lane and stripe the southbound approach for one right-turn lane and one left-turn lane. This improvement would allow vehicles turning left to exit the intersection even though the vehicles turning right are blocked by the queue along Foothill Boulevard.
- Provide a protected signal phase for the eastbound vehicles turning left, so that there is a set amount of time provided for this movement.

6.1.11 Fruitvale Avenue at Logan and Nicol Streets

At the November 18th Community Workshop, it was mentioned that left turns onto Fruitvale Avenue are difficult from side streets, in particular Logan and Nicol Streets. No traffic count data were available for these two intersections. Field observations show that traffic volumes from these side streets probably would not be high enough to warrant signal installation. The following two improvements are recommended for potential consideration by the City of Oakland Public Works Agency:

- Remove several on-street parking spaces to create a “Two Way Left Turn Lane” at both approaches to these two intersections. This change would make the left turns from the minor streets easier because the driver would have this added lane for transition.
- Increase the length of the red zones on both approaches of this street to improve visibility.

6.2 Fruitvale Gateway District

6.2.1 Fruitvale Avenue & East 27th Street

Figure 21 illustrates the proposed improvements for this intersection. In addition to the corridor-wide operation improvements, the following additional improvement is recommended:

- Actuate the signal to help relieve congestion. Although the signal at this intersection is designated as actuated, it does not operate as an actuated signal.
- Provide a southbound right-turn lane to reduce traffic delay and potentially reduce rear-end and sideswipe collisions.
- Install a set of bollards or a large planter box in the southern half of the East 27th Street right-of-way. In addition, add two additional guide signs, a “No Left Turn” sign at the southbound far-side corner and a “No Right Turn” at the northbound nearside corner. Since there is no record of the extent of illegal entry, this location should be monitored to better understand the problem. Change the northbound left-turn signal phase from the lead to the lag phase. This would reduce or eliminate conflicts between the northbound vehicles turning left and pedestrians crossing the west side of the intersection. This design would allow pedestrians to begin crossing the north-south crosswalk concurrent with the north-south traffic, and then stop when the northbound left-turn phase begins.





A concern was raised by the community that the proposed southbound right-turn lane would impede bicycle flow. CHS examined both and found that the LOS and delay with the right-turn lane were distinctly lower than those without the right-turn lane. Although relieving vehicle congestion is not the only goal of this project, the difference in delay for this case was extreme (for the southbound through traffic during AM peak hours, analysis showed 77 seconds/vehicle delay without the right-turn lane versus 39.5 seconds/vehicle delay with the right-turn lane), and this report does recommend the addition of the southbound right-turn lane.

6.2.2 Eden Manor (between East and West School Streets on the west side of Fruitvale Avenue)

As described in Chapter 3, pedestrian crossing volumes at this location are very low. There was one pedestrian-related collision mid-block between East and West School Streets (at a location without pedestrian crosswalks). There were ten vehicle-related collisions mostly related to unsafe speed and right-of-way violations. There are no additional improvements recommended for this intersection except for the overall traffic operation improvements along Fruitvale Avenue and corridor-wide crosswalk improvements suggested in Chapter 5.

6.2.3 St. Jarlath's Elementary School and I-580 Undercrossings

As discussed in Chapter 3, pedestrian crossings at these locations are low and St. Jarlath's Elementary School has effectively managed pedestrian crossings for its students at the following four intersections:

- Harold Street/Flagg Avenue;
- Fruitvale Avenue/Pleasant Street;
- Harold/Champion Streets; and
- Pleasant/Champion Streets.

There are no additional improvements recommended for these intersections other than the corridor-wide recommendations from Chapter 5, such as advanced pedestrian warning signs, continental style pedestrian crosswalks, in-pavement markings for pedestrian crossings, and in-pavement pedestrian markers.

6.2.4 Fruitvale Avenue & Harold Street

This intersection has the fifth highest collision rate in the study area. Rear-end collisions occur primarily in the northbound direction and broadside collisions occur primarily in the eastbound direction, with both northbound and southbound vehicles. In addition to the corridor-wide improvements, a mast arm with signal head should be implemented for each lane in the eastbound direction, to increase visibility of the eastbound traffic.

6.3 Coolidge Avenue

6.3.1 Fruitvale Elementary School

Recommendations for the Fruitvale Elementary School include the following:

- Add additional crossing guards. Crossing guards are needed from 8:00 to 8:30 AM during the morning school commute and from 2:45 to 3:30 PM during the afternoon school commute at three intersections (Boston/Pleasant Streets, Boston Avenue/School Street, and School Street/Coolidge Avenue). There should be an adult at the first two locations to accompany the student crossing guards. There needs to be an extra adult crossing guard at the third location.
- The current parking signs “No parking between 8:00 AM and 4:00 PM” should be changed to “School Passenger Drop-off Only, 7:30 – 8:30 AM and 2:45 – 3:45 PM.”
- The City of Oakland Parking Enforcement Division should have enforcement personnel on duty from 7:30 to 8:30 AM and from 2:45 to 3:45 PM to ensure that the on-street curb spaces are available for drop-off and pick-up activities only.
- The school should have a comprehensive “Safe Route to School” education program in place during the school year. This program should target both students and parents.

6.4 Dimond District

6.4.1 MacArthur Boulevard & Excelsior Avenue & East 38th Street & Canon Avenue & Adell Court

Four alternatives were presented to the community and no preferred alternative was selected. The community desires to continue its deliberation and selection of a preferred alternative. Therefore, no recommendation is made at this time.

Figures 22 – 25 illustrate the four alternatives for this intersection. Each one has distinctive pros and cons. Alternative 1 involves the creation of a roundabout (Figure 22) and Alternatives 2, 3, and 4 involve striping changes that would provide more clarity to this intersection (Figures 23 – 25).

Alternative 1 – Roundabout Option

The minimum roundabout requirements are as follows:

- The diameter of the roundabout must be a minimum of 100 feet to in order to accommodate truck (WB-50) movements.
- Pedestrian crosswalks must be located approximately one vehicle length (25 feet) away from the yield line at each vehicle entry point into the roundabout.

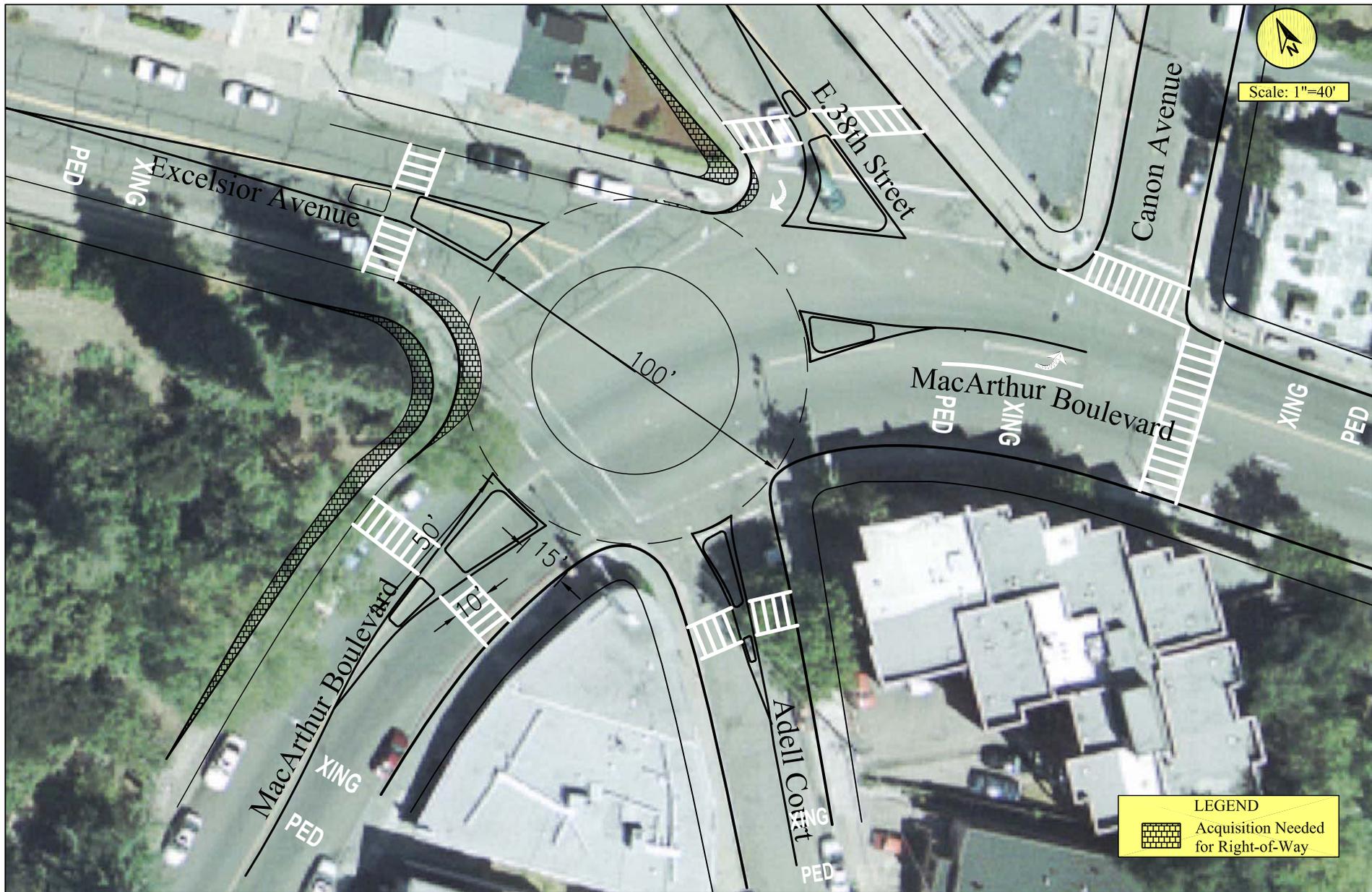
Advantages:

A roundabout would allow smoother flow of traffic at this intersection.

- A roundabout would reduce left turn conflicts, potentially reduce vehicle-to-vehicle collision by approximately 39 percent, and potentially reduce injury crashes by approximately 76 percent⁵.
- A roundabout would create a space within the circular roadway that could be used for landscaping treatment and/or a landmark to indicate an entry into the Dimond District.

⁵ Source: Insurance Institute For Highway Safety – www.highwaysafety.org





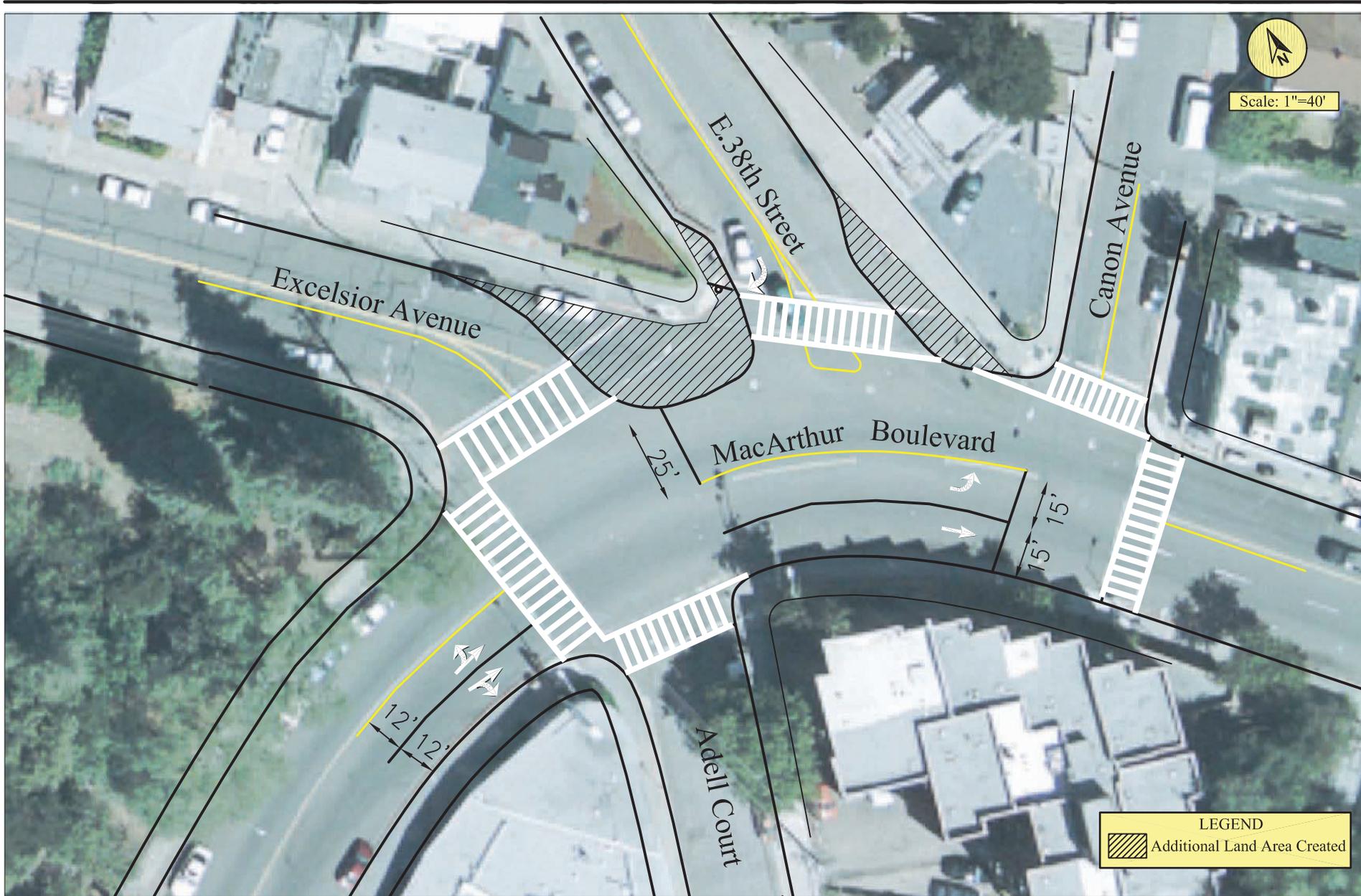


Figure 23
MacArthur/ Boulevard/Excelsior Avenue/38th Street/Canon Avenue/Adell Court
Proposed Channelization Option 1



Figure 24
 MACArthur Boulevard/Excelsior Avenue/38th Street/Canon Avenue/Adell Court
 Proposed Channelization Option 2

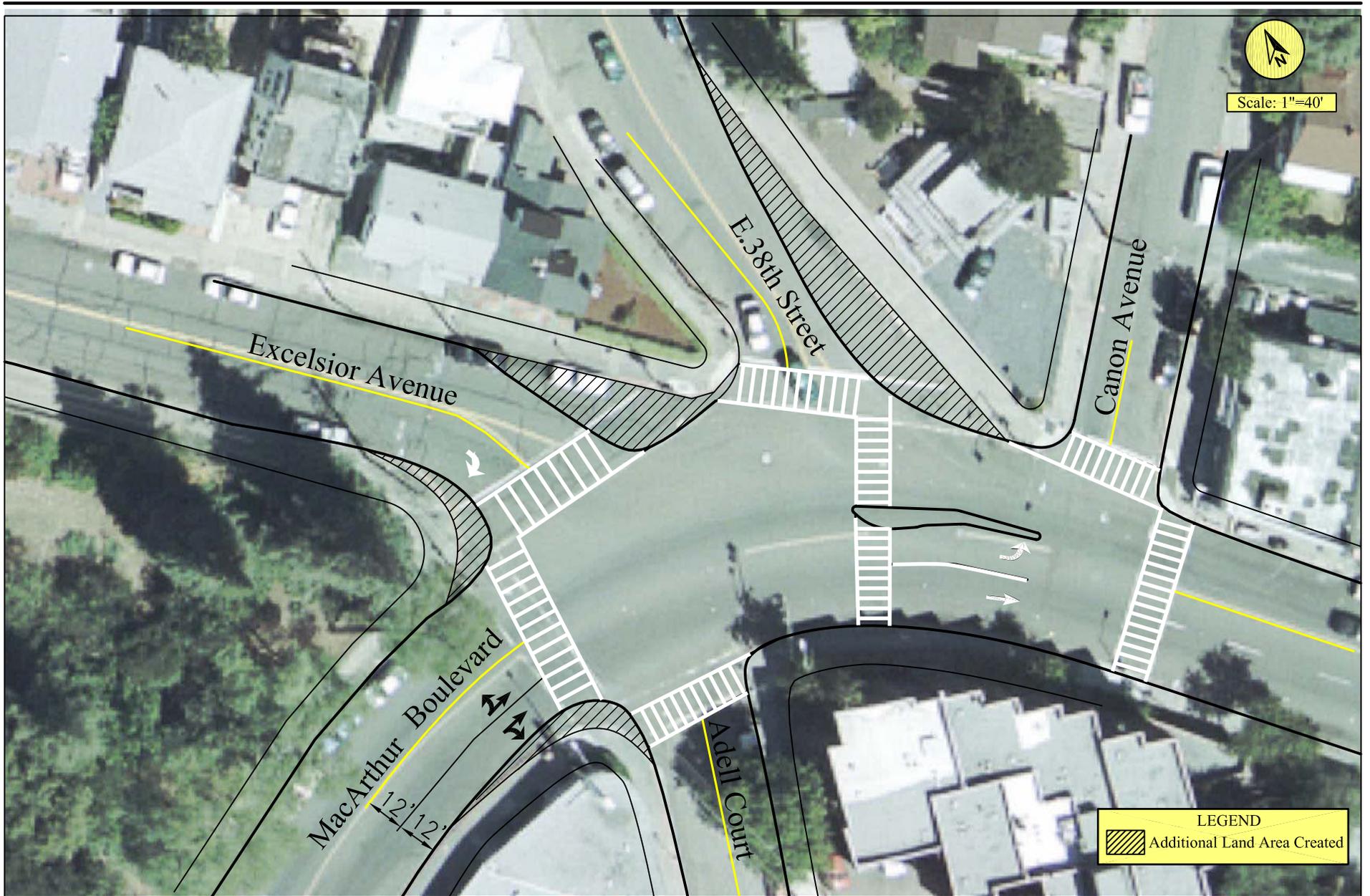


Figure 25
 MacArthur Boulevard/Excelsior Avenue/38th Street/Canon Avenue/Adell Court
 Proposed Channelization Option 3

Disadvantages:

- Pedestrian crosswalks would be located in such a way as to increase crossing distances, compared with a standard intersection. This is of particular concern in this area, since construction is currently underway nearby for the 160-unit Altenheim retirement home.
- Conflicts between bicycles and cars at the intersection would increase.
- For people with visual impairments, roundabouts do not provide as reliable of cues as do regular intersections.

Alternatives 2, 3, and 4 – Channelization Options

There are three variations of intersection channelization options (Figures 23, 24, and 25, respectively). The purpose of the proposed modifications to the intersection geometry is to create two separate but integrated intersections instead of one large confusing intersection. Each option would provide additional pedestrian areas at the intersections with East 38th Street and/or Excelsior Avenue. No property taking would be required with any of the alternatives. Alternative 2 would not involve any restrictions of traffic movement from the side streets, while Alternatives 3 and 4 would restrict conflicting traffic movements.

- Alternative 2 – This option would require Adell Street and Excelsior Avenue to operate with a right-in/right-out movement only. Left turns to and from both of these streets would be prohibited.
- Alternative 3 – This option would require Adell Street and Excelsior Avenue to operate with a right-in/right-out movement only. Left turns to and from both of these streets would be prohibited.
- Alternative 4 – This option would require Adell and East 38th Streets to operate with a right-in/right-out movement only. Left turns to and from both of these streets would be prohibited.

6.4.2 Fruitvale Avenue & MacArthur Boulevard

This intersection has the eighth highest collision rate and the third highest pedestrian collision rate in the study area. This is also one of the four intersections in the study that has pedestrian countdown timers.

In addition to corridor-wide improvements such as changing the signal timing and changing crosswalk markings to continental style pedestrian crosswalk markings, additional recommended improvements include the following (Figure 26):

- Create left-turn pockets at the MacArthur Boulevard approaches. This change would require re-striping the eastbound approach from two through lanes to one left only lane and one through/right turn lane as well as the removal of three or four on-street parking spaces in the westbound approach. This change would potentially reduce the conflicts between vehicles turning left and pedestrians crossing the street.
- Modify AC Transit bus stop locations. The proposed bus stop changes would require further AC Transit review and meetings with the adjacent merchants. The changes could include:



- Elimination of the northbound near side bus stop. This action would eliminate the need for AC Transit bus route #53 to stop at both the near side and far side of this intersection, improving bus travel time.
- Relocate the eastbound AC Transit bus stop from the near side to the far side of the intersection. This relocation would only be possible with the recommended changes for the MacArthur/Champion intersection. It would also allow an increase of approximately four to five meter parking spaces at the current bus stop.

6.4.3 MacArthur Boulevard & Champion Street Intersection (Wells Fargo Parking Lot Access)

Pedestrian safety was the main concern reported by the Dimond neighborhood for this intersection. The key issue is the conflict between pedestrians crossing on the south side of the intersection and vehicles making a right turn at this intersection from the MacArthur Boulevard eastbound movement onto Champion Street.

Figure 27 illustrates the recommendations for this intersection. The recommended changes involve the realignment of Champion Street and MacArthur Boulevard to meet at approximately 90 degrees. The realignment of Champion Street at MacArthur Boulevard would require changes in the circulation pattern and the layout of the Wells Fargo parking lot. The number of parking spaces in the Wells Fargo parking lot would potentially increase from 25 to 29. It would also increase the sidewalk area and provide an opportunity for additional landscaping at the intersection of MacArthur Boulevard and Champion Street.

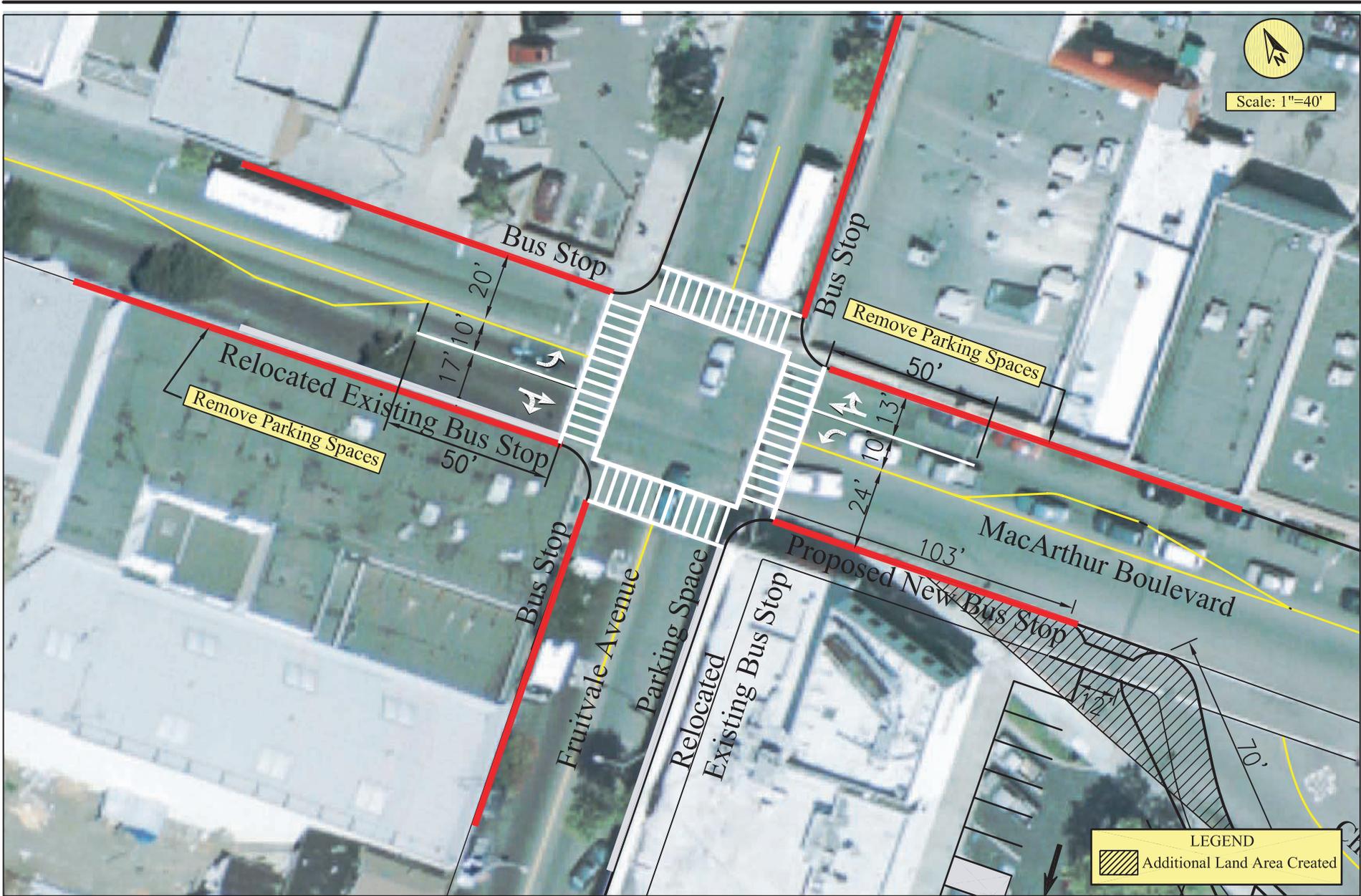
The benefits of the recommended improvements are:

- Reduced pedestrian crossing distance, from 104 feet to 48 feet.
- Reduced speed of vehicles turning from MacArthur Boulevard to Champion Street.
- Reduced potential vehicle-to-vehicle conflicts between vehicles exiting from the parking lot onto Champion Street and the vehicles turning onto Champion Street from MacArthur Boulevard.
- Improved pedestrian safety because of the reduced pedestrian crossing distance, the reduced vehicle speeds, and the lower potential for vehicle-to-vehicle conflicts between vehicles exiting from the parking lot and turning onto Champion Street.

6.4.4 MacArthur Boulevard & May Court

May Court is an alleyway that terminates at the Safeway parking lot and carries very low traffic volumes. Currently, traffic congestion at the intersection of Fruitvale Avenue and MacArthur Boulevard causes vehicle queuing to extend past May Court, especially during the peak commuter hours. Traffic backup makes access to May Court difficult.

The recommendation calls for “KEEP CLEAR” to be painted in the roadway pavement on MacArthur Boulevard for the width of May Court. This would ensure that May Court access is not blocked by vehicle queuing on MacArthur Boulevard (Figure 28).



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Figure 26
Fruitvale Avenue/MacArthur Boulevard Proposed Improvements

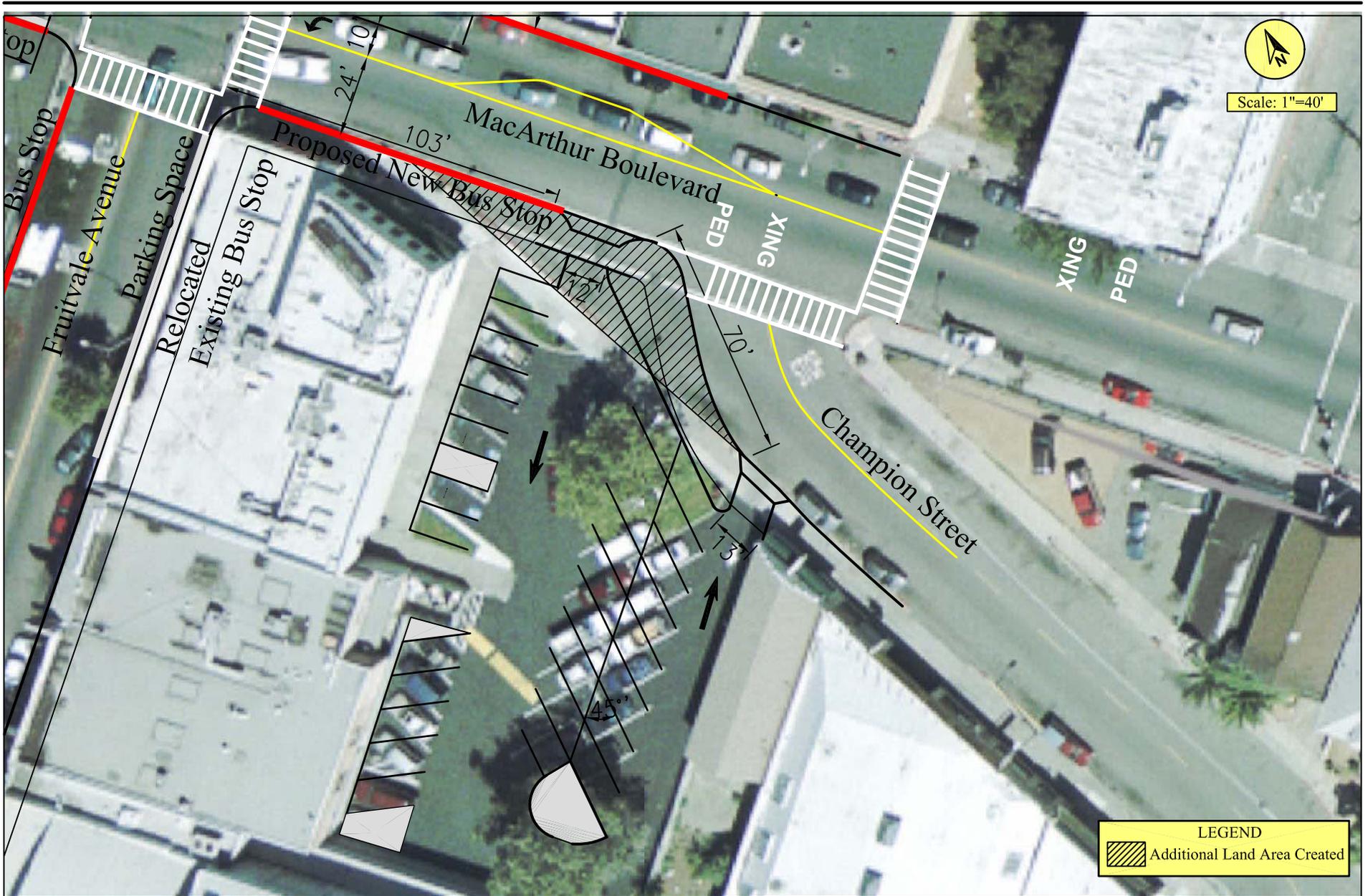
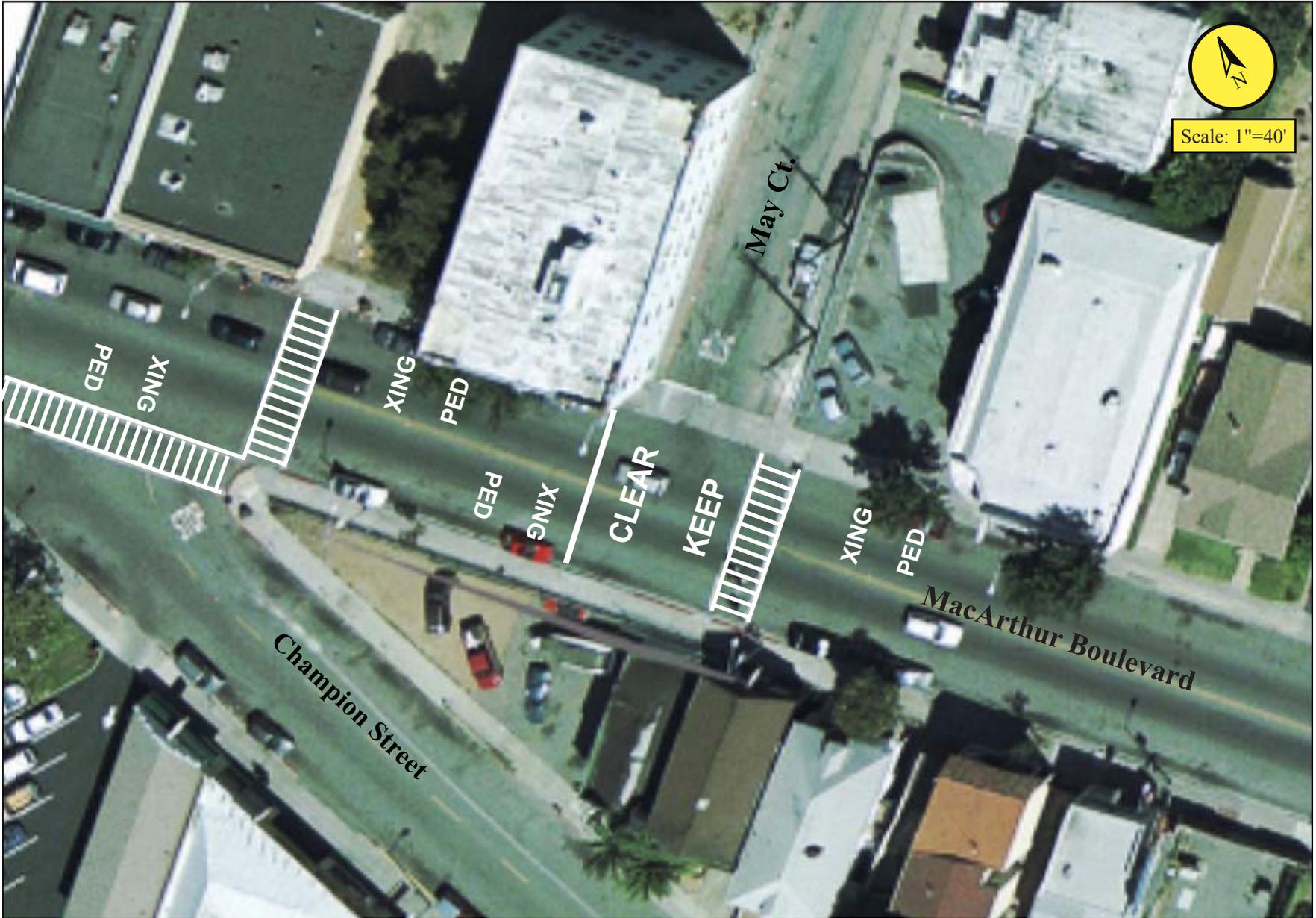


Figure 27
 MacArthur Boulevard/Champion Street Proposed Improvements



Scale: 1"=40'



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Figure 28
MacArthur Boulevard/May Court Recommended Improvements

6.4.5 MacArthur Boulevard & Lincoln Avenue Intersection

The key concern raised by the community regarding this intersection was pedestrian safety, especially for residents of the Lincoln Court senior housing project currently under construction at the northeast corner of MacArthur Boulevard and Lincoln Avenue (formally the Hillcrest Motel site). The community also suggested adding a right turn lane on Lincoln Avenue approaching MacArthur Boulevard.

The following suggestions are recommended (Figure 29):

- Install pedestrian push buttons at this intersection and increase pedestrian crossing time to account for the additional crossing time required by senior citizens once the senior citizen housing project is completed.
- Install pedestrian signal heads and countdown timers.
- Add corner bulbouts at this intersection, except the west side of Lincoln Avenue north of MacArthur Boulevard.

No additional southbound right turn lane is recommended because changes in the southbound lane striping along Lincoln Avenue would cause westbound right turn vehicles to encroach upon the southbound lanes.

6.4.6 MacArthur Boulevard & Coolidge Avenue

Due to the curvature of MacArthur Boulevard and the placement of crosswalk markings, this intersection appears to be very large. The concern is primarily safe crossing for pedestrians, especially for students at Bret Harte Middle School. The key constraints at this intersection are the long, continuous curb cuts at the southeast corner of the intersection and the alignment of Hopkins Place, a short connector street between MacArthur Boulevard and Coolidge Avenue on the northeast side of the intersection. Additionally, the community reported that vehicles occasionally make U-turns in this general vicinity to go back east on MacArthur Boulevard. U-turns at this location are perceived to be unsafe by the community.

Until the land use and curb access design are changed on the southeast corner of this intersection, it will be difficult to make substantive change at this location. The proposed change is a quick fix approach to improve the current condition (Figure 30). It involves the following elements:

- Reconfigure the intersection with bulbouts and re-striping of the crosswalks.
- Change the crosswalk marking to continental style.
- Add pedestrian crossing signs at all four approaches to the intersection.

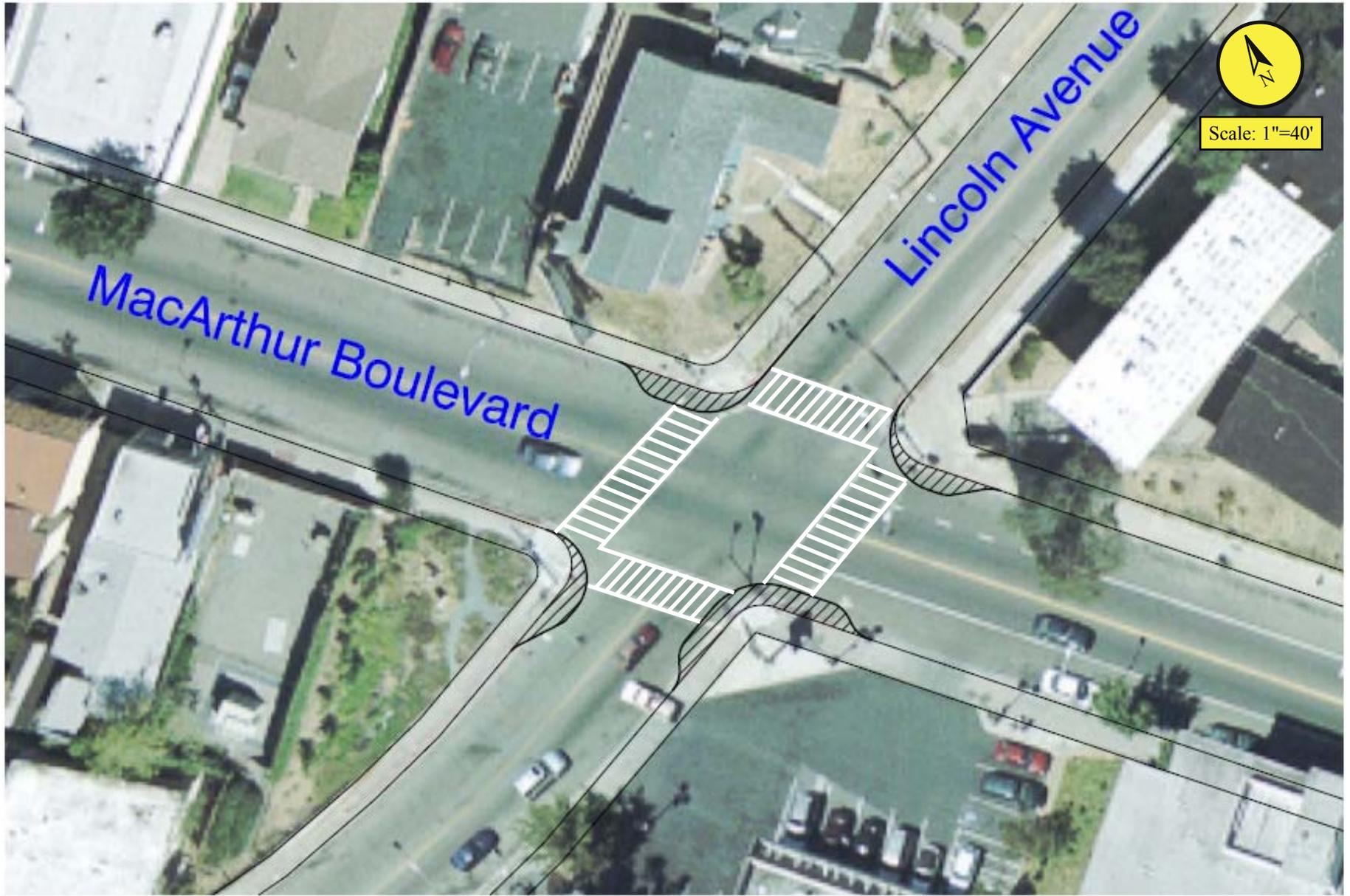
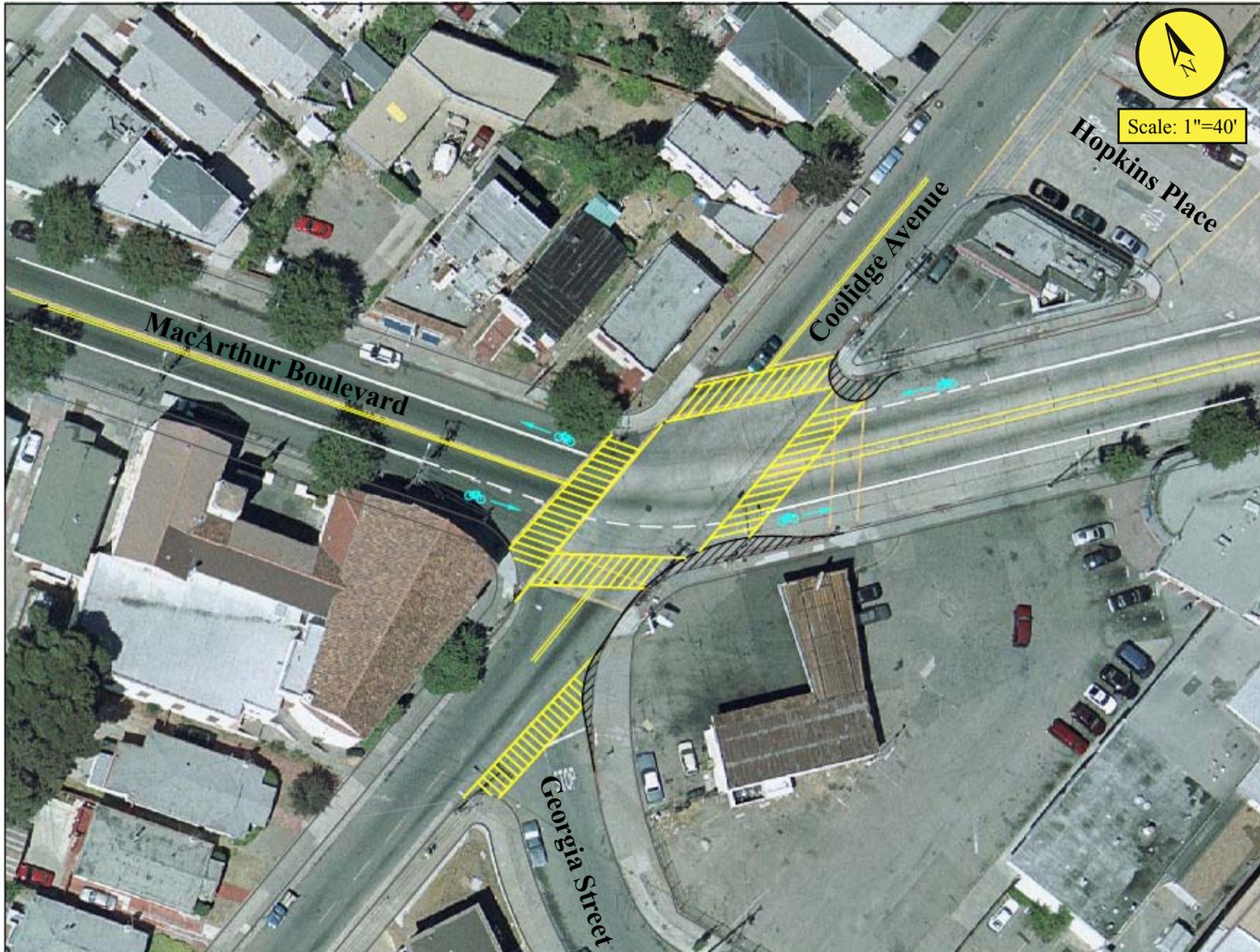


Figure 29
MacArthur Boulevard/Lincoln Avenue Proposed Improvements



Since the MacArthur Boulevard/Hopkins Place intersection and U-turn problems are outside the scope of this study, no traffic data are available. However, observations were made to analyze the causes of the problem. A quick review of the intersection's geometry determined that it is a rather complex situation and that an engineering study is warranted before any recommendation can be made. It is recommended that the City of Oakland Public Works Agency Transportation Services Division staff conduct an engineering analysis of this problem. Potential strategies could involve the following:

- Vacate Hopkins Street to reduce unnecessary turns at this location.
- Block off the western side of Hopkins Place with bollards or other barriers so that the short roadway becomes a safe and legal location for vehicles to execute U-turns.

6.4.7 Marked Pedestrian Crosswalk Near Dimond Library

Pedestrian safety was cited as the main concern near Dimond Library and the Dimond neighborhood suggested reinstating an old crosswalk that had been removed. The old crosswalk was located south of the existing crosswalk, connecting Making Ends Meet with the St. Louis Veterinary Clinic.

Investigation found that the relocation of the old crosswalk to the current location was the result of an installation of a southbound AC Transit bus stop in front of Dimond Library. The recommendation is to keep the crosswalk at its present location for the following reasons:

- The current crosswalk is heavily used, especially by Dimond Library patrons. A significant number of people crossing at this crosswalk come from the north side of the Dimond Library.
- The current crosswalk is located behind both northbound and southbound bus stops, which requires pedestrians to cross behind AC Transit buses, instead of in front of buses. This is a safer design for a crosswalk.
- The demand for an additional mid-block crosswalk at the old location is minimum. There is no obvious demand to be served, so adding another crosswalk would not provide substantial benefits.



7.0 STREETScape IMPROVEMENTS

One of the objectives for this project is to “enhance the connection between the Fruitvale and Dimond Districts.” The two districts are already physically connected by roadways and sidewalks, but they lack visual connectivity, especially due to the presence of the I-580 and I-880 overhead structures, which constitutes major visual barriers for their respective segments. Streetscape design is a tool that is often used to accomplish visual connectivity, visual quality, comfort, and safety. Typical streetscape elements include street trees, lighting fixtures, color, street furniture, and special elements that identify an area.

The design recommendations in this report focus almost exclusively on the public pedestrian realm of the street, between the back of the curb and the property line. In some instances, modest design improvements are suggested within the parking lane of the roadway, but only when the physical constraints of the sidewalk preclude streetscape enhancements.

With the input received from the community, this study recognizes that Fruitvale Avenue has six distinct segments (Figure 31). Each segment contains its own distinctive land uses and neighborhood characteristics. Each segment also presents unique challenges and opportunities for streetscape improvements. The six segments are:

- Alameda Avenue to East 12th Street (The City of Alameda border to the Fruitvale Transit Village);
- East 12th Street to Foothill Boulevard;
- Foothill Boulevard to Blossom Street;
- Blossom Street to Lynde Street (The Fruitvale Gateway);
- Lynde Street to I-580 (The Lower Dimond); and
- I-580 to Coloma Street (The Dimond Business District).

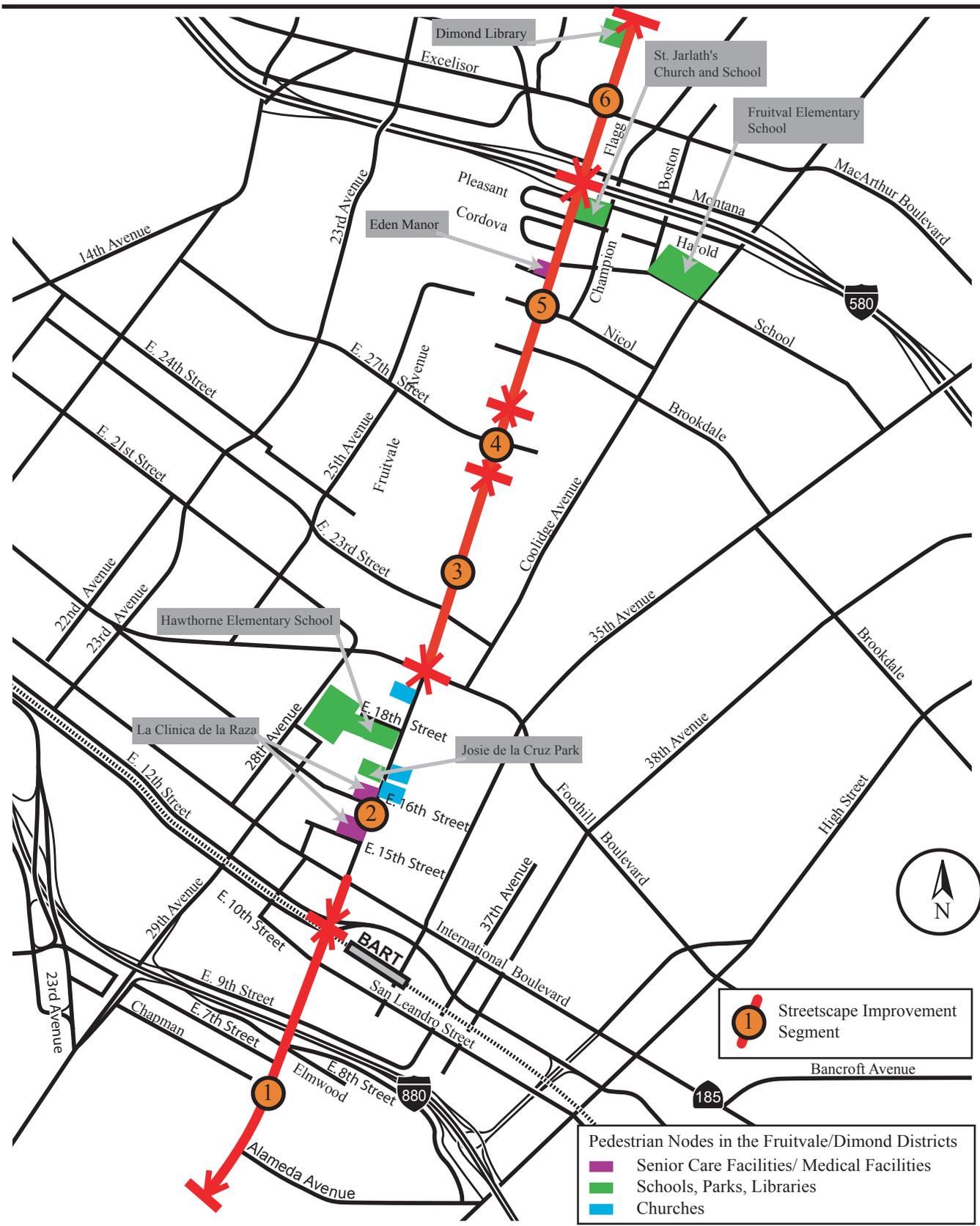
Streetscaping Goals

The streetscape recommendations for Fruitvale Avenue are intended to facilitate all modes of mobility along the right-of-way. They attempt to create a streetscape that is safe and comfortable for pedestrians, bicyclists, transit riders, and motorists. The recommendations are intended in particular to create an environment that gives people a compelling alternative to driving motor vehicles. The intended end result is less motorist traffic and more pedestrian traffic.

Three primary goals were put forth to help direct the streetscape design:

- Create a stronger visual connection between neighborhoods (e.g. Alameda to Fruitvale, Fruitvale to Fruitvale Gateway, and Lower Dimond to the Dimond Business District).
- Create a stronger visual connection between distinct nodes of activity.
- Strengthen the identity of Fruitvale and Dimond.

The streetscape goals listed above apply to the entire 2.5-mile length of Fruitvale Avenue. Each of the six segments of the street will have additional goals that are unique to that particular area.



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Figure 31
Streetscape Improvement Segments

7.1 Segments Analysis

The following sections present each of the six street segments listed above. They include each segment's unique characteristics, opportunities and constraints, goals unique to that segment, and design recommendations.

7.1.1 Segment 1 – Alameda Avenue to East 12th Street

7.1.1.1 Settings

Segment 1 is a half-mile-long stretch of Fruitvale Avenue from Alameda Avenue (at the Estuary) to the Fruitvale Transit Village at East 12th Street. This segment serves as the main connector between the City of Alameda, the Estuary, the Kennedy Tract, and the Fruitvale BART Station. It serves as an unofficial gateway into the Fruitvale District from Alameda and the south.

Segment 1 predominantly contains industrial uses, except for the commercial shopping center and the residential Kennedy Tract. This segment currently has a blighted landscape that is uncomfortable for pedestrians. Another challenge in this segment is to reduce the barrier created by the I-880 Overpass. It is an unattractive and dominant feature within the segment. It not only forms a visual barrier, but it also gives an insecure and unsafe feeling for pedestrians. Key factors include:



- A significant portion of the sidewalk on the west side of this segment is unpaved and abutted with chain-link fences topped with barbed wires, separating it from an unused railroad track.
- The paved sidewalk on the east side, while continuous, is narrow (5.5 feet) at some places.



- Because this segment lacks active land uses, it contains few pedestrians.
- Several vacant buildings, some without windows, have blank walls along Fruitvale Avenue. Pedestrians tend to feel insecure or unsafe, especially at night.
- There are no streetscape amenities, and all street lighting is provided by standard cobra-head fixtures, which are designed for vehicles.

- Segment 1 is the only segment that has Class II bicycle lanes on both sides of Fruitvale Avenue. However, the bicycling environment is unfriendly due to high-speed traffic, faded lane markings, poor lighting for cyclists, and the lack of streetscape treatment.

7.1.1.2 Design Recommendations

The goals for Segment 1 include:

- Develop an inviting gateway into the Fruitvale District from the City of Alameda;
- Increase mobility choices for pedestrians and bicyclists;
- Reduce the unattractiveness of the space underneath the I-580 structure; and
- Create more comfortable conditions for pedestrians and bicyclists.

7.1.1.2.1 General Segment 1 Improvements

The greatest opportunity for streetscape improvement is along the west side of Fruitvale Avenue. The west side generally has a very wide pedestrian realm, and the section south of East 8th Street does not have paved sidewalk. There exists sufficient room between the back of the curb and the chain-link fencing (the assumed property line) for strong pedestrian amenities such as trees, lighting, benches, and bus shelters, especially on the section between Alameda Avenue and East 8th Street.

Phase One Recommendations:

- **Construct a sidewalk, with a minimum width of five feet, using a City Standard mix and finish of concrete, on the west side of Fruitvale between Alameda Avenue and East 8th Street.** This improvement would make a continuous sidewalk from the City of Alameda to the Fruitvale BART Station. Although five feet is the minimum width required for a sidewalk, the width recommended by this report is six feet, with a four-foot-wide utility zone separating it from the curb.
- **Install pedestrian-scaled light fixtures, from the City of Oakland’s standard palette, between Alameda Avenue and East 12th Street.** The recommended light fixture along Fruitvale is the standard fixture that is used along East 12th Street at the Fruitvale Transit Village. These lights should be spaced no farther than 50 feet apart, and should be approximately 11 – 13 feet in height. The purpose of the addition of lighting is to create a safer streetscape for pedestrians and bicyclists during the evening hours.



- **Install a bus shelter at the entrance to Kennedy Tract.** This bus shelter would function to accent the proposed improvements and to serve the residents who live on the Kennedy Tract. Modest landscaping should be installed around the bus shelter to encourage use.

Phase Two Recommendations:

- **Plant a double row of large, broad-canopied trees on the west side of the sidewalk.** Trees should be spaced close together, with a maximum spacing not to exceed 35 feet apart and a minimum spacing of ten feet. Plantings do not have to be of one species. Acceptable trees include London Plane (*Platanus x acerifolia*), Scarlet Oak (*Quercus coccinea*), Evergreen Ash (*Fraxinus uhdei*), Honey Locust (*Gleditsia triacanthos*), or any other suitable trees that match the canopy height and spread of those listed above, that meet City of Oakland standards, and that would thrive in this particular location.



- **Install evergreen hedges of moderate height along the existing chain-link fencing. Also install a drought-tolerant, shade-tolerant ground cover under the double row of street trees.** These landscaping enhancements should soften the harsh, blighted conditions along the west side of the street, transforming this side of the street into a more comfortable environment for bicyclists as well as pedestrians.

Long-Term Recommendations:

As the properties along the east side of Fruitvale Avenue undergo redevelopment, the City should consider requiring property owners to widen the existing sidewalk to a minimum of ten feet wide, as room exists. This would allow for the placement of light standards and street trees along the back of the curb, and thus create a character similar to that proposed for the west side of the street.

7.1.1.2.2 Recommendations for the I-880 Overpass

Considerable attention needs to be given to the area under and around the I-880 overpass. The dark and noisy conditions under the overpass create a sense of vulnerability for the pedestrian, and the structure is a significant visual barrier.

Phase one recommendations would create an immediate face-lifting effect with relatively low costs.

Phase One Recommendations:

- **Paint.** Paint the support columns, structural walls and, if budget permits, the overhead ceiling with a highly reflective light-colored paint, such as semi-gloss white.
- **Improve lighting.** Mounting decorative luminaries to the columns would supplement the existing lighting. This improvement would improve the sense of safety and security for pedestrians and improve visual continuity for this segment.
- **Landscape.** Use plants that thrive in deeply shaded environments. Examples include Kaffir lily (*Clivia miniata*), Sweet Osmanthus (*Osmanthus fragrans*), and Big-blue Lily Turf (*Liriope muscari*). This improvement would provide visual connectivity this segment.
- **Create a gateway feel.** Add accents, signage, and graphics to establish a gateway into the Dimond Business District.

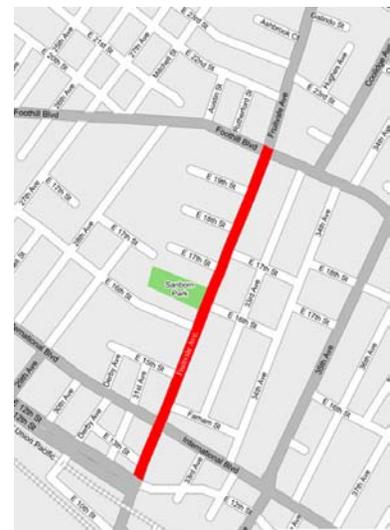
7.1.2 Segment 2 – East 12th Street to Foothill Boulevard

7.1.2.1 Settings

Segment 2 is a half-mile-long stretch of Fruitvale Avenue between the Fruitvale Transit Village at East 12th Street and the commercial district at Foothill Boulevard.

This segment is considered by local residents and businesses to be part of the core of the Fruitvale District. It is very vibrant and has a number of very unique characteristics, such as the following:

- This segment includes the nationally known and award-winning transit village project Fruitvale Transit Village and the Fruitvale BART Station.
- There are two very active retail nodes—International Boulevard/Fruitvale Avenue and Foothill Boulevard/Fruitvale Avenue. Both of these nodes include active storefronts and sidewalk vendors.
- This segment has a concentration of institutional and community uses, including several churches, Hawthorne Elementary School, La Clinica de la Raza, Josie de la Cruz Park, and the Unity Council’s office.
- Many buildings in the area have unique Hispanic characteristics, such as pastel colors, stucco finish, a Spanish motif, and tile roofs.
- Streetscape improvements implemented along the three blocks of International Boulevard east of Fruitvale Avenue provide a visual linkage to the “gateway” of the Fruitvale Transit Village.



While this segment has relatively high pedestrian use and portions of the segment have been nicely scaled and detailed, other parts of the segment need more attention, giving a sense of disconnect between major pedestrian destinations. Constraints to comfortable streetscape in the area include an

excessive number of curb cuts (driveways), overhead utility wires along the east side of Fruitvale Avenue, and utility boxes that are stationed at the back of the curb.

This segment also has several single-family owner-occupied and multi-family residential units. While the presence of single-family homes provides for some interesting and attractive visual character, the streetscape along the multi-residential properties and the aesthetic of the buildings themselves tends to be fairly bleak.

7.1.2.2 Design Recommendations

The goals for Segment 2 include:

- Strengthen the identity of the Fruitvale neighborhood with culturally-relevant materials, motifs, and colors, increasing property values and stimulating economic interest among potential merchants and homebuyers;
- Create a stronger visual connection between the two activity nodes at International Boulevard/Fruitvale Avenue and Foothill Boulevard/Fruitvale Avenue, and
- Create a more comfortable and inviting streetscape for all modes of transportation.

The east side of Fruitvale Avenue along Segment 2 is more in need of streetscape improvement than the west side, since the west side of the street is more appealing due to the abundance of landscaping and street trees. Both sides of Fruitvale Avenue along this segment lack quality lighting, and the east side lacks sufficient street trees, presumably because of the overhead utility wires.

Phase One Recommendations:

- **Supplement existing cobra-head lighting with pedestrian-scaled light fixtures.** The purpose of the pedestrian-scale lighting is to illuminate the pedestrian realm and enhance the feeling of security for pedestrians and bicyclists at night. The recommended lighting fixture and poles are those that are already implemented along International Boulevard and East 12th Street at the Fruitvale Transit Village. These light standards should be spaced no farther than 50 feet apart (no closer than ten feet), should be approximately 11 – 13 feet in height, and should be installed on *both* sides of the street.
- **Plant large, broad-canopied street trees.** Ideally, street trees should not be planted more than 50 feet apart, through this general standard may be difficult to maintain due to the constraints of bus stops, sign posts, curb cuts, utility boxes, and utility poles. The recommended street trees are London Plane (*Platanus x acerifolia*) and Evergreen Ash (*Fraxinus uhdei*), or similar trees that meet the City of Oakland’s requirements. These two species of trees are already present along International Boulevard and inside the Fruitvale Transit Village.



Phase Two Recommendations:

- **Carry design elements from International Boulevard and the Fruitvale Transit Village into the Fruitvale Avenue streetscape.** Materials, colors, and motifs that possess architectural value and that have been widely used can strengthen the neighborhood’s identity.

International Boulevard and the Fruitvale Transit Village have established an identity for this segment. The key elements include colorful Spanish style pastel paints, stucco, tile, ornamental ironwork, bollards, street trees, and pedestrian-scaled lighting. It is recommended that these successful elements be extended along Fruitvale Avenue. The goal is to visually connect the mix of uses along Fruitvale Avenue to the vibrant retail along International Boulevard.



The bollards that are in place on the medians within International Boulevard could also be used along Fruitvale Avenue. They could be placed at the corners of the intersection, helping to demarcate the pedestrian realm from the vehicular realm. Another possible location would be the northeast corner of the intersection of Fruitvale Avenue and Foothill Boulevard.



Planters with a colorful tile mosaic, similar to the one found outside the Unity Council at 1900 Fruitvale, could also be implemented along Fruitvale Avenue.

Finally, enriched paving with colorful tile accents could strengthen identity along Fruitvale while providing a walking surface that is engaging for pedestrians.

7.1.3 Segment 3 – Foothill Boulevard to Blossom Street

7.1.3.1 Settings

Segment 3 is a one-half-mile length of Fruitvale Avenue from the retail node at Foothill Boulevard to Blossom Street, just south of the Fruitvale Gateway neighborhood. This segment connects the Fruitvale District to Fruitvale Gateway.

Residential buildings are the predominant use in this segment, with retail uses located sporadically throughout. The segment experiences relatively low pedestrian activity, and the streetscape is not particularly well detailed or well scaled. The landscape is



particularly bleak along the property lines of multi-unit residential structures.

Streetscape in this segment is poorly implemented. The key issues include the following:

- There are more than ten different species of trees along this street and they have different shapes, sizes, and height. Fortunately most street trees are Evergreen Ash (*Fraxinus uhdei*). A significant number of these trees are planted in the private realm, but immediately adjacent to the sidewalk.
- Street lighting exists only on the east side of Fruitvale Avenue. Street width along Fruitvale Avenue is narrower north of Foothill Boulevard (one lane in each direction), and there is a noticeable difference in illumination in this segment.
- This segment includes an excessive number of curb cuts for driveways, which is a constraint for installing large streetscape improvements such as trees and lighting.
- There is a highly visible overhead power line along the east side of Fruitvale Avenue, which is part of the reason that there is large difference in the number of trees between the east and west side of the street.



7.1.3.2 Design Recommendations

The streetscape goals for this segment include:

- Focus on adding more greenery along the east side of the street, and on street lighting improvements.

Phase One Recommendations:

- **Supplement existing cobra-head lighting with pedestrian-scaled light fixtures.** The purpose of the pedestrian-scale lighting is to increase the illumination on the sidewalks at night and to enhance the feeling of security for pedestrians and bicyclists at night. The recommendation for street lighting poles and fixtures is the same as for the other segments.
- **Plant large, broad-canopied street trees on both sides of the street.** Tree planting should be focused on the east side of the street. Some infill may be necessary on the west side. The



recommended street tree would be Evergreen Ash (*Fraxinus uhdei*), the predominant species planted by the City of Oakland in this segment of Fruitvale Avenue.

Phase Two Recommendations:

- **Eliminate a small number of on-street parking spaces.** Because of the limited opportunities along the street for adequate tree pits and light standards, it may be necessary to eliminate an occasional on-street parking space and construct tree pits between the gutter and the travel lane.
- **Encourage private property owners to invest in modest landscape improvements.** Trees provide the best value. This should be an on-going endeavor by the City of Oakland and the community.



7.1.4 Segment 4 – Blossom Street to Lynde Street

7.1.4.1 Settings

Segment 4 is a three-block-long length of Fruitvale Avenue from Blossom Street to Lynde Street, commonly known as the Fruitvale Gateway area. The Fruitvale Gateway is a relatively smaller-scale commercial core. Retail uses predominant this segment. The segment experiences moderate pedestrian activity, and the streetscape is not particularly well detailed or well scaled.



Streetscape treatment in this segment is very similar to Segments 3 and 5 with overhead utility wires and streetlights along the east side of the street.



7.1.4.2 Design Recommendations

The goals for this segment include creating an identity for the Fruitvale Gateway as a vibrant commercial district to serve the area's residential neighborhoods.



Portions of the sidewalks have adequate space along both the east and west sides of the street for the installation of identity markers, as recommended for Segment 6 (see below).

Phase One Recommendations:

- **Supplement existing cobra-head lighting with pedestrian-scaled light fixtures.** The purpose of the pedestrian-scale lighting is to increase the illumination on the sidewalks at night and to enhance the feeling of security for pedestrians and bicyclists at night. The recommendation for street lighting poles and fixtures is the same as for the other segments.
- **Plant large, broad-canopied street trees on both sides of the street.** Tree planting would be focused on the east side of the street. Some infill may be necessary on the west side. The recommended street tree would be Evergreen Ash (*Fraxinus uhdei*), the predominant species planted by the City of Oakland in this segment of Fruitvale Avenue.
- **Install banners.** Banners should be installed on the light fixtures along Segment 4 to help strengthen the identity of the segment as a commercial district and set it apart from the adjacent neighborhoods.



Phase Two Recommendations:

- **Encourage private property owners to invest in modest landscape improvements.** Trees provide the best value. This should be an on-going endeavor by the City of Oakland and the community.

7.1.5 Segment 5 – Lynde Street to I-580

7.1.5.1 Settings

Segment 5 is a one-half-mile length of Fruitvale Avenue, commonly known as Lower Dimond area, that connects the Fruitvale Gateway area to the Dimond District.

The Lower Dimond area is composed primarily of residential uses. Streetscape along this segment is somewhat similar to that of Segment 3. The area has relatively low to moderate pedestrian activity. Segment 5 terminates at I-580, and the presence of this freeway's overpass has a substantial negative affect on the segment's streetscape at the northern end. The sidewalks that lead up to and under the overpass are particularly unfriendly and uncomfortable for pedestrians.



As with Segments 2, 3, and 4, this segment has a large number of curb cuts and overhead utility wires along the east side of the street.

7.1.5.2 Design Recommendations

The goals for this segment include strengthening the visual connection between Fruitvale Gateway and the Dimond Business District. Existing streetscape in this segment is generally quite similar to Segment 3, but also with a highly visible power line located on the east side of the street. However, the number of curb cuts and the number of tree species inside the private realm is not as excessive as in Segment 3.



Portion of the sidewalks have adequate space along both the east and west sides of the street for the installation of identity markers, as recommended for Segment 6 (see below). Also, the medians located between Woodbine Avenue and I-580 could be available for more extensive streetscaping treatment to buffer the I-580 overpass.

Phase One Recommendations:

- **Supplement existing cobra-head lighting with pedestrian-scaled light fixtures.** The purpose of the pedestrian-scale lighting is to increase illumination on the sidewalks and enhance the feeling of security for pedestrians and bicyclists at night. The recommendation for street lighting poles and fixtures is the same as for the other segments.



- **Plant large, broad-canopied street trees on both sides of the street.** Tree planting should be focused on the east side of the street, though some infill may be necessary on the west side. The recommended street tree would be Evergreen Ash (*Fraxinus uhdei*), the predominant species planted by the City of Oakland in this segment of Fruitvale Avenue.

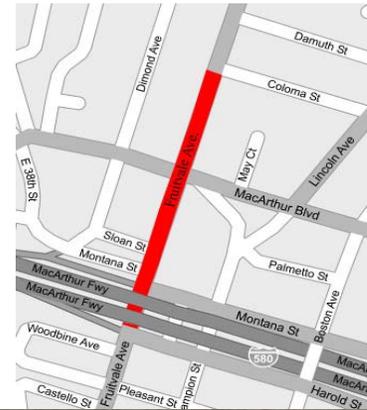
- **Install banners.** Banners should be installed on the light fixtures along Segment 5 to help strengthen the identity of the Lower Dimond neighborhood and set it apart from the Fruitvale neighborhood that lies immediately to the south.
- **Develop identity markers and begin to locate a few key points where the markers can be installed.** Identity markers are a unique feature recommended primarily for Segment 5 (see below), but this feature could also be extended to Segments 3 and 4 as funding allows. One potential location for installation is at Eden Manor.



7.1.6 Segment 6 – I-580 to Coloma Street

7.1.6.1 Settings

Segment 6 is a one-half-mile length of Fruitvale Avenue that stretches through the Dimond Business District. This segment comprises the heart of the Dimond community. It includes almost exclusively commercial uses, the bulk of which is small-scale retail establishments. This segment of Fruitvale Avenue has active commercial businesses and relatively high pedestrian volumes. Current streetscape along this segment includes moderately dense trees, planters, banners, and awnings, and buildings have small-scale storefronts.



The biggest challenge in this segment is to reduce the visual barrier created by the I-580 overpass. It is an unattractive and dominant feature within the segment. It not only forms a visual barrier between this segment and Segment 5, but it also gives an insecure and unsafe feeling for pedestrians.



Another challenge in this segment is to integrate the lower section of this segment (between I-580 and Sloan Street) with the core of the Dimond Business District. The lower section includes a gas station on the west side of Fruitvale Avenue and a surface parking lot on the east side with retail stores set back from the street.

While the Dimond has many unique characteristics related to topography, history, demographics, and environmental features (such as Sausal Creek), the neighborhood as a whole lacks a strong visible identity. “Identity Markers” could be one of the streetscape elements that provides effective and attractive educational tool for raising the awareness of Dimond’s unique attributes. Emphasizing Sausal Creek has been mentioned as a possible way to create an identity.

7.1.6.2 Design Recommendations

Specific streetscape goals for Segment 6 include:

- Significantly reduce the unattractiveness of the space underneath the I-580 structure;
- Strengthen the visual connection between Lower Dimond and the Dimond Business District; and
- Create an identity for the Dimond neighborhood.

7.1.6.2.1 Recommendations for the I-580 Overpass:

Considerable attention needs to be given to the area under and around the I-580 overpass. The dark and noisy conditions under the overpass create a sense of vulnerability for the pedestrian. The massiveness of the structure (its length, width, and depth) is a significant visual barrier between Upper Fruitvale/Fruitvale Gateway and the Dimond Business District.

Phase one recommendations have been chosen to create an immediate face-lifting effect with relatively low costs.

Phase One Recommendations:

- **Paint.** Paint the support columns, structural walls and, the overhead ceiling with a highly reflective light-colored paint, such as semi-gloss white. This improvement would significantly lower the oppressive feeling of the I-580 overhead structure.
- **Improve lighting.** Electrical infrastructure and lighting already exist under the overpass structure. Mounting decorative luminaries to the columns and support walls would supplement the existing lighting. This improvement would improve the sense of safety and security for pedestrians and improve visual continuity between this segment and Segment 5.
- **Landscape.** Use plants that thrive in deeply shaded environments. Examples include Kaffir lily (*Clivia miniata*), Sweet Osmanthus (*Osmanthus fragrans*), and



Big-blue Lily Turf (*Liriope muscari*). This improvement would provide visual connectivity between this segment and Segment 5.

- **Create a gateway feel.** Add accents, signage, and graphics to establish a gateway into the Dimond Business District.

Phase two recommendations would include additional elements to further enhance the image of the area. If sufficient funds can be obtained, both phases could be implemented at the same time to achieve greater benefits.

Phase Two Recommendations:

- **Replace standard concrete paving with enriched paving.** Examples would include colored and stamped concrete, interlocking concrete pavers, or terrazzo.



- **Replace fencing.** On the east side of the street, replace existing chain-link fencing with an ornamental, steel picket fence.

7.1.6.2.2 Recommendations for Dimond Business District and MacArthur Boulevard

Phase One Recommendations:

- **Supplement existing cobra-head lighting with pedestrian-scaled light fixtures.** The purpose of the pedestrian-scale lighting is to increase illumination on the sidewalks and enhance the feeling of security for pedestrians and bicyclists at night. The exact style of the lighting fixtures is not identified in this Plan. The style should be selected by the community during the design phase. It should be selected from the City’s existing catalogue. The pedestrian scaled lighting fixtures should be spaced at no longer than 50 feet apart, generally at 11 – 13 feet in height, and installed on *both* sides of the street.
- **Plant large, broad-canopied street trees on both sides of the street.** Tree planting in this segment would mostly be infill as necessary. The recommended street tree would be Evergreen Ash (*Fraxinus uhdei*), the chosen species by the City of Oakland for Fruitvale Avenue.
- **Add identity markers.** Develop identity markers and begin to locate a few key points where markers can be installed. The proposed identity markers would stand approximately six to ten feet tall, and would be fashioned after universally-recognizable obelisks, symbols that

direct focus and denote points of interest. The markers would be internally illuminated so that they would be visible at night. Each marker would present a unique event, person, or place within the Dimond community. Sausal Creek has been mentioned by the Dimond neighborhood as a possible topic. The locations and topics for the markers would be decided upon by the community.



Phase Two Recommendations:

- **Landscaping near the I-580 overpass.** Infill the underutilized land adjacent to the I-580 overpass and its associated off-ramps with trees and other landscape improvements.
- **Replace paving.** Replace existing, standard-finish concrete between Montana Street and Sloan Street with a more decorative paving. Examples include brick or concrete pavers, or stamped concrete.
- **Construct a decorative wall.** Construct a decorative wall to help screen the Longs parking lot. A decorative wall also provides a buffer between the pedestrian and the lot's vehicular zone, increasing the pedestrian sense of safety. The wall could be used to introduce more signage and graphics for the Business District, and to provide an opportunity for more pedestrian-scaled lighting.



8.0 PROJECT COST ESTIMATES

Table 13 presents the preliminary cost estimates for each of the proposed improvements within the study area. The cost estimates are order of magnitude estimates only that are subject to refinement during the design phase. The total cost for all improvements is approximately \$15 million.



Table 14 – Fruitvale Study Project Cost Estimates

Project Component	Estimated Cost
<i>-Corridor-wide Improvements</i>	
Enhance pedestrian crosswalks along Fruitvale	\$669,735
Add pedestrian bulbouts at marked crosswalks at unsignalized intersections	\$912,000
Improve signal coordination along Fruitvale	-
Traffic enforcement along Fruitvale and Coolidge	-
Initiate traffic education program	\$20,000-\$50,000
Improve transit services (Bus Stop Relocation)	\$12,600
<i>-Localized Improvements¹—Fruitvale District</i>	
Fruitvale Avenue and San Leandro Street	\$14,187
Fruitvale Avenue and East 12 th Street	\$50,430
Fruitvale Avenue and International Boulevard	\$7,600
Hawthorne Elementary School	\$0
Fruitvale Avenue and Foothill Boulevard	\$35,420
Foothill Boulevard and Coolidge Avenue	\$12,701
Fruitvale Avenue at Logan Street and Nicol Street	\$960
<i>-Localized Improvements¹—Lower Dimond District</i>	
Fruitvale Avenue and East 27 th Street	\$16,412
Fruitvale Avenue and Harold Street	\$18,000
<i>-Localized Improvements¹—Coolidge Avenue</i>	
Fruitvale Elementary School	\$3,600
<i>-Localized Improvements¹—Dimond District</i>	
MacArthur Boulevard/Excelsior Avenue/East 38 th Street/Canon Avenue/Adell Court ²	
-Roundabout Option	\$1,109,511
-Option 1	\$145,103
-Option 2	\$117,407
-Option 3	\$206,956
Fruitvale Avenue and MacArthur Boulevard	\$176,135
MacArthur Boulevard and Champion Street	\$218,044
MacArthur Boulevard and May Court	\$500
MacArthur Boulevard and Lincoln Avenue	\$170,491



MacArthur Boulevard and Coolidge Avenue	\$149,553
<i>-Urban Design Treatment</i>	
Alameda Avenue to East 12 th Street	\$2,442,068
East 12 th Street to Foothill Boulevard	\$2,664,058
Foothill Boulevard to Blossom Street	\$1,884,902
Blossom Street to Lynde Street	\$631,411
Lynde Street to I-580	\$2,348,352
I-580 to Coloma Street	\$1,390,349
TOTAL	\$14,959,019-\$14,989,019

- Notes:
1. Costs for localized improvements do not include items already included in the systemwide cost sheet.
 2. The cost estimate for MacArthur/Excelsior/E. 38th/Canon/Adell is for the roundabout option only.



9.0 PROJECT IMPLEMENTATION, PHASING AND POTENTIAL FUNDING

9.1 Project Implementation

In order to implement the recommendations in this report, the City of Oakland will need to obtain funding and follow certain processes. This discussion below is intended to provide a general guidance to the members of the public who wish to follow and give input regarding the implementation of the recommendations in the future. Depending on the size and complexity of the proposed recommendation, the length of time and the extent of the design and review processes required would vary.

The recommendations in this report include physical changes to the existing roadways and sidewalks, operational modifications, and enforcement strategies. Operational changes and the implementation of enforcement strategies typically would not follow the process outlined below. They are at the discretion of the City agencies and the key constraint is the availability of funding and other resources.

Recommendations that involve modifications to the physical configuration of a street or sidewalk would follow the process outlined below. Funding would be required to accomplish each step.

- **Prepare a plan.** This step has been completed. The recommendations in this report represent a plan for the study area.
- **Prepare an environmental document.** An environmental document would be required for a project that may cause environmental impacts. The document is intended to analyze potential impacts on a wide ranges of issues, including land use, air quality, noise and vibration, transportation, hazardous materials, utilities, and construction. Some projects, such as the placement of street trees, the addition of signs along bicycle routes, and the relocation of bus stops could be exempted from environmental review. The typical timeframe for an environmental document is three to six months for a project without significant negative environmental impacts (Negative Declaration) and the typical time frame for an environmental impact report (EIR) is about nine to 18 months.
- **Prepare engineering drawings.** Once a project clears the environmental process and funding is obtained, it will proceed to the engineering design phase. This phase would typically be prepared in three steps, 30%, 60%, and final design. It will include final construction cost estimates and specifications. During this phase, plans shown in this report may be revised or refined with actual survey data. During the 30 percent design phase, there is an opportunity for public input to finalize the preliminary design plan. During this phase, plans shown in this report may be revised or refined with actual survey data.
- **Project construction.** Once the project design phase is completed, the City would issue an invitation to bid and select a contractor to begin construction of the project

The following is a list of contact information for each step outlined above:

- **Environmental document** – Community and Economic Development Agency.



Contact person: Claudia Cappio, Director of Planning, 510-238-2229.

- **Engineering design and construction** – Public Works Agency.
Contact person: Michael Neary, Assistant Director for Design and Construction, 510- 238-6659
- **Traffic enforcement and school crossing** – Oakland Police Department.
Contact person: Lieutenant David Kozicki, Traffic Enforcement Division, 510-238-7237.
- **Study area general issues** – Community and Economic Development Agency.
Contact person #1: Wendy Simon, Project Manager for the Fruitvale Alive! Project, 510-238-6430, for projects within Fruitvale Alive project area.
Contact person #2: Theresa Navarro-Lopez, Manager, Central City East Redevelopment Project Area, 510-238-6250, for projects from the Estuary to Fruitvale Gateway.
Contact person #3: Stephanie Floyd-Johnson, Manager, Neighborhood Commercial Revitalization Unit, 510-238-3699, for projects in the Fruitvale Gateway and Dimond areas.
- **Bus route and stop changes** – AC Transit
Contact person: Cesar Pujol, 510-891-4839

9.2 Project Phasing

This report includes recommendations that can be implemented in the short term as well as recommendations that will take longer time to implement. Table 14 presents the project phasing plan. The following criteria were used to determine project phasing:

- Level of community support – In order for the City to allocate limited available funding or to seek funding from regional and statewide sources, a high level of community support is always a key criterion. Without a strong community consensus, ability to obtain these funds will be limited and will potentially take longer.
- Potential for significant improvements – Projects that would cause significant benefits to a large portion of the population should be given high priority for implementation, while projects that would produce nominal benefits or only benefit a small group of population should be given lower priority for implementation.
- Readiness for implementation – Projects that do not require a long approval process, such as permits and reviews from the City or an environmental impact report, would be easier to implement. Thus they should be given high priority for implementation.
- Cost – Cost is an overlay criterion to potential benefits. Some of the funds that have been available annually from the Metropolitan Transportation Commission (MTC), such as the Transportation for Livable Community (TLC) grants, have a \$2 – 3 million general funding cap. Projects requiring larger amount of funding would take longer to fund completely. Thus they should be categorized as longer-term project.

9.3 Project Funding

Phasing recommendations are important because they establish priorities and directions for the City of Oakland to apply for future funding for implementation. Potential funding sources for project implementation include the following. While obtaining funding from any of the potential funding sources is competitive, this list provides general guidance on these possibilities.



- Transportation for Livability Community (TLC) – The TLC grant is administered by the MTC. A typical grant is in the \$2 – 3 million range. The recommended projects in this report are well suited for this type of funding. The City of Oakland has had high success rate in obtaining this funding.
- Capital Improvement Program (CIP) – Funding for this program is programmed by the Oakland Public Works Agency and usually includes projects of a similar type and scale as those recommended in this report.
- Regional Transportation Improvement Projects – MTC has a series of potential funding sources for improving traffic operations.
- Measure B funding – Measure B has \$80 million of funding for bicycle and pedestrian safety improvements. 75 percent of the funding goes directly to local cities and the remaining 25 percent is reserved for projects of countywide significance.
- Redevelopment Agency funds – The Oakland Redevelopment Agency has funds for urban renewal, especially within parts of the Central City East Redevelopment Project Area such as the Fruitvale District.
- Public Health Department funds – Public Health Departments have been increasingly interested in pedestrian safety-related improvements, especially those focused on education.
- Safe Routes to Transit Program – Safe Routes to Transit is a program that was approved and funded by Regional Measure 2. The Program solicits applications from projects that improve safety and convenience for bicyclists and pedestrians wishing to access transit options that relieve traffic on California’s toll bridges.



Table 15 – Project Component/Recommendation Phasing

Project Component/Recommendation	Short Term (2-3 years)	Mid-Term (3-5 years)	Long Term (5+ years)
<i>-Corridor-wide Improvements</i>			
Enhance pedestrian crosswalks along Fruitvale			
• Add continental style or other highly visible markings	X		
• Add in-pavement PED XING markings at all unsignalized crosswalks	X		
• Add pedestrian countdown timers at all signalized approaches	X		
• Place reflective pedestrian crossing signs and in-pavement markers at all unsignalized crosswalks	X		
Add pedestrian bulbouts at marked crosswalks at unsignalized intersections	X		
Improve signal coordination along Fruitvale			
• Change signal timing to 80 seconds		X	
• Change signals to actuated signals that function as actuated signals			X
Traffic enforcement along Fruitvale and Coolidge			
• Targeted enforcement	X		
• Install traffic speed monitors		X	
• Red Light Camera			X
Initiate traffic education program	X		
Improve transit services			
• Consolidate/eliminate unnecessary bus stops		X	
• Install bus shelters		X	
<i>-Localized Improvements—Fruitvale District</i>			
Fruitvale Avenue and San Leandro Street			
• Re-stripe the southbound lanes	X		
• Install traffic sign	X		
• Install new signal with red arrow and yellow flashing light phases	X		
• Work with Caltrans to conduct study for improving access between Oakland and I-880			X
Fruitvale Avenue and East 12th Street			
• Eliminate northbound right turn lane and re-stripe the northbound approach		X	
• Reconfigure the eastbound right-turn lanes		X	
Fruitvale Avenue and International Boulevard			
• Add pedestrian corner bulbouts	X		
• Provide protected left-turn signal phases	X		
• Install traffic signs	X		
• Adjust the clearance interval	X		
Hawthorne Elementary School			
• Create corner bulbouts		X	
• Add additional crossing guard	X		



Project Component/Recommendation	Short Term (2-3 years)	Mid-Term (3-5 years)	Long Term (5+ years)
Fruitvale Avenue and Foothill Boulevard			
• Add pedestrian corner bulbouts		X	
• Modify street striping	X		
Foothill Boulevard and Coolidge Avenue			
• Add a southbound lane and re-stripe southbound approach		X	
• Provide a protected left-turn signal phase for eastbound vehicles		X	
Fruitvale Avenue at Logan Street and Nicol Street			
• Increase the length of the red zones on both approaches for each street		X	
<i>-Localized Improvements—Lower Dimond District</i>			
Fruitvale Avenue and East 27th Street			
• Actuate the signal and change the northbound left turn signal phase	X		
• Provide southbound right-turn lane	X		
• Add signs and enforcement to reduce illegal entry to the one-way street	X		
Fruitvale Avenue and Harold Street			
• Add a mast arm with signal head for each lane in the eastbound direction		X	
<i>-Localized Improvements—Coolidge Avenue</i>			
Fruitvale Elementary School			
• Add crossing guards	X		
• Change parking signs	X		
• Increase parking enforcement	X		
• Implement “Safe Route to School” program	X		
<i>-Localized Improvements—Dimond District</i>			
MacArthur Boulevard/Excelsior Avenue/East 38th Street/Canon Avenue/Adell Court			
• Conduct further study and public discourse to select a preferred alternative	X		
Fruitvale Avenue and MacArthur Boulevard			
• Create left-turn pockets	X		
• Modify bus stop locations		X	
MacArthur Boulevard and Champion Street			
• Realign the intersection, modify geometry, and change the Wells Fargo parking lot		X	
MacArthur Boulevard and May Court			
• Paint “KEEP CLEAR” signs on the pavement	X		
MacArthur Boulevard and Lincoln Avenue			
• Install pedestrian push buttons, signal heads, and count-down timers, and increase pedestrian crossing time		X	
• Install in-pavement pedestrian crossing markers		X	



Project Component/Recommendation	Short Term (2-3 years)	Mid-Term (3-5 years)	Long Term (5+ years)
<ul style="list-style-type: none"> • Add corner bulbouts 		X	
MacArthur Boulevard and Coolidge Avenue			
<ul style="list-style-type: none"> • Reconfigure intersection, using bulbouts and re-striping crosswalks 		X	
<ul style="list-style-type: none"> • Change crosswalk marking to continental style 		X	
<ul style="list-style-type: none"> • Add pedestrian crossing signs 		X	
<i>-Urban Design Treatment</i>			
Alameda Avenue to East 12th Street			
<ul style="list-style-type: none"> • Construct sidewalk 		X	
<ul style="list-style-type: none"> • Install light fixtures 		X	
<ul style="list-style-type: none"> • Install bus shelter 		X	
<ul style="list-style-type: none"> • Plant trees 			X
<ul style="list-style-type: none"> • Install landscaping 			X
East 12th Street to Foothill Boulevard			
<ul style="list-style-type: none"> • Install lighting 		X	
<ul style="list-style-type: none"> • Plant trees 		X	
<ul style="list-style-type: none"> • Incorporate characteristic design elements 			X
Foothill Boulevard to Blossom Street			
<ul style="list-style-type: none"> • Install lighting 		X	
<ul style="list-style-type: none"> • Plant trees 			X
<ul style="list-style-type: none"> • Eliminate parking spaces and create tree pits 			X
<ul style="list-style-type: none"> • Encourage private property owners to install landscaping 			X
Blossom Street to Lynde Street			
<ul style="list-style-type: none"> • Install lighting 		X	
<ul style="list-style-type: none"> • Plant trees 			X
<ul style="list-style-type: none"> • Install banners 			X
<ul style="list-style-type: none"> • Encourage private property owners to install landscaping 			X
Lynde Street to I-580			
<ul style="list-style-type: none"> • Install lighting 		X	
<ul style="list-style-type: none"> • Plant trees 		X	
<ul style="list-style-type: none"> • Install banners 		X	
<ul style="list-style-type: none"> • Develop and install identity markers 		X	
I-580 to Coloma Street (under the overpass)			
<ul style="list-style-type: none"> • Paint 		X	
<ul style="list-style-type: none"> • Improve lighting 		X	
<ul style="list-style-type: none"> • Install landscaping 		X	
<ul style="list-style-type: none"> • Create a gateway feel 		X	
<ul style="list-style-type: none"> • Install enriched paving 			X
<ul style="list-style-type: none"> • Replace fencing 			X
I-580 to Coloma Street (Dimond Business District and MacArthur Boulevard)			



Project Component/Recommendation	Short Term (2-3 years)	Mid-Term (3-5 years)	Long Term (5+ years)
• Install lighting		X	
• Plant trees		X	
• Develop and install identity markers		X	
• Landscaping near the I-580 overpass		X	
• Install enriched paving		X	
• Construct a decorative wall at the Longs parking lot			X



ACKNOWLEDGEMENTS

City of Oakland Elected Officials

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Councilmember Jean Quan

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Jenny Kassar, Spanish Speaking Unity Council
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