6 Streetscape Character

The Streetscape Character chapter provides an overview of the public process and policy background for streetscape improvement recommendations, an outline of the streetscape vision for the Plan Area, and streetscape improvement recommendations for the Plan Area's key streets.

6.1 Background

Safe and attractive sidewalks that encourage pedestrian activity, slower traffic, a contiguous bicycling network, and strong links to local destinations and adjacent districts are the basic objectives of the Streetscape Character recommendations. Participants in the Subarea Planning Workshops and in Community Stakeholders Group (CSG) meetings have been clear in establishing these objectives as essential for enhancing livability and encouraging investment in the Plan Area. Recent studies, including the *Revive Chinatown Community Transportation Plan* (2004) and the *Lake Merritt BART Station Plan* (2006) focused on the same issues, and this Streetscape Character chapter incorporates many recommendations from these previous efforts; these include sidewalk widening and pedestrian amenities, lane reductions, and possible conversion of streets from one-way to two-way travel.

The City of Oakland *Pedestrian Master Plan* (2004) and *Bicycle Master Plan* (2009) designate specific streets and portions of streets within the Plan Area for improvements, as part of the city's overall multimodal travel network. Franklin, Webster 14th, 9th, and 8th Streets are designated for Class II (striped lane) and/or Class IIIa (shared lane) bicycle routes. Webster, Jackson, Oak, 14th, 8th, and 9th Streets are designated "Primary Pedestrian Routes," a high priority for streetscape improvements.

State and Federal agencies require that street improvement projects receiving grant funding address multimodal access, particularly pedestrian and bicycle accommodation. Applicable policies include Caltrans Deputy Directive 64 and the Federal MUTCD California supplements. Grant applications submitted to the Metropolitan Transportation Commission (MTC) for capital improvements funding must complete a "Complete Streets Checklist" that encourages provision of bicycle ways with signs, signals and pavement markings, reduced pedestrian street crossing distances, high-visibility crosswalks, pedestrian signals and pedestrian-level lighting, shade trees, planters/buffer strips, and many other features consistent with local community preferences and the recommendations of the Plan.

6.2 Vision Framework

The Lake Merritt Station Area Plan will guide development and capital improvements for the next 25 years, and streetscape improvements are fundamental to the Plan's strategy to support commercial revitalization and transit-oriented infill development in the area. Though individual improvements are important in and of themselves, they will be most effective if they promote a vision for the growth and evolution of the district. In a district that could be easily walkable end-to-end in 10 minutes, using streetscape improvements to link destinations within and adjacent to the Plan Area is a fundamental ingredient. Figure 6.1, the "Streetscape Vision" diagram illustrates the major concepts that underlie streetscape improvement recommendations. These concepts dovetail with the Plan's land use and development policies and circulation improvement strategies:

- ***Improve and Expand the Core of Chinatown.*** Support the pedestrian-oriented commercial focus of Webster, 8th, and 9th Streets with sidewalk widening, streetscape amenities, lighting, and street crossing improvements, and extend Chinatown's character east along 8th and 9th to BART and Laney College.
- ***Connect Chinatown to the BART Station and Laney College.*** Establish an active, pedestrian-oriented, well-lit connection between Chinatown and the Lake Merritt BART Station/Laney College.
- ***Connect Chinatown to Jack London Square and the Jack London District.*** Eliminate the dark, unsafe character of streets and sidewalks that extend beneath I-880 with new lighting, enhanced pedestrian crossings, and attractive parking area screen walls.
- ***Concentrate Multimodal Access at the BART Station.*** Surround the Lake Merritt BART station blocks with pedestrian-oriented street and sidewalk improvements, bicycle routes, and enhanced bus transfer and kiss-and-ride areas.
- ***Improve Lighting, Pedestrian Crossings, and Street Trees Incrementally on All Streets.*** Sidewalk lighting and street crossing safety are the highest community priorities; shade trees add to property values and reduce urban heat island effects.
- ***Upgrade Oak Street as a Spine between Lake Merritt and the Waterfront.*** Improve walking and bicycling connections between Lake and Waterfront recreation and commercial destinations with lighting, widened sidewalks, street trees, a striped bikeway, and improved street crossings.
- ***Establish 10th Street as a "Green" connection to the Lake Merritt Channel Linear Park and Trail.*** 10th Street links the center of the Plan Area, including Pacific Renaissance Plaza, Lincoln Recreation Center, and Lincoln Elementary School, plus the Oakland Museum and Kaiser Auditorium to the Lake Merritt Channel park and trail improvements currently underway as part of Measure DD. Rain gardens and other sustainable development features should be used to extend a green corridor into the heart of the neighborhood.
- ***Highlight 14th Street as the Civic Link to Lake Merritt.*** Special lighting should be installed to highlight the link between the Downtown civic center and newly

reconfigured Lakeside Drive, the new 12th Street Bridge, and the Lakeview District; continuing the Lake's "necklace of lights" between new fixtures along 14th Street is one option that should be considered. Street crossing improvements and infill street trees are also recommended.

- ***Add Unique Wayfinding Signage.*** A system of wayfinding signage should be designed and installed to highlight regional destinations (the Oakland Museum, the Chinatown commercial core, the Main Public Library, among others) and support pedestrian movement between from the Lake Merritt BART station and throughout the neighborhood. Signage should be consistent with existing signs and be fully bilingual.

Many of the improvements needed to pursue these concepts would be difficult to implement without roadway lane reductions, which are discussed in more detail in Chapter 7, "Circulation, Access, and Parking." As the Circulation discussion makes clear, existing roadways in the Plan Area have significant excess traffic capacity, so much so that practically every street in the Plan Area can have a lane removed and still accommodate projected build-out traffic levels; some streets could have two lanes removed.

In addition to lane reductions, previous planning studies have recommended that some or all one-way streets within the Plan Area be considered for conversion to two-way streets. Two-way street conversions were also recommended by a number of Community Workshop participants and by some of the members of the CSG. In the description of recommendations for Key Streets below, those streets deemed not to have likely impacts on surrounding area—i.e., those not part of a traffic couplet—are recommended for possible conversion from one-way to two-way; these streets are Harrison, 9th, and 10th streets.

Couplet streets include Franklin, Webster, 7th and 8th streets, and an analysis of the effects of converting these and other network streets to two-way traffic is not within the scope of this Area Plan and the accompanying EIR. However, conversion of more streets to two-way traffic in the future is a distinct possibility, and it is important that Streetscape Character improvement recommendations, if implemented, not eliminate this potential.

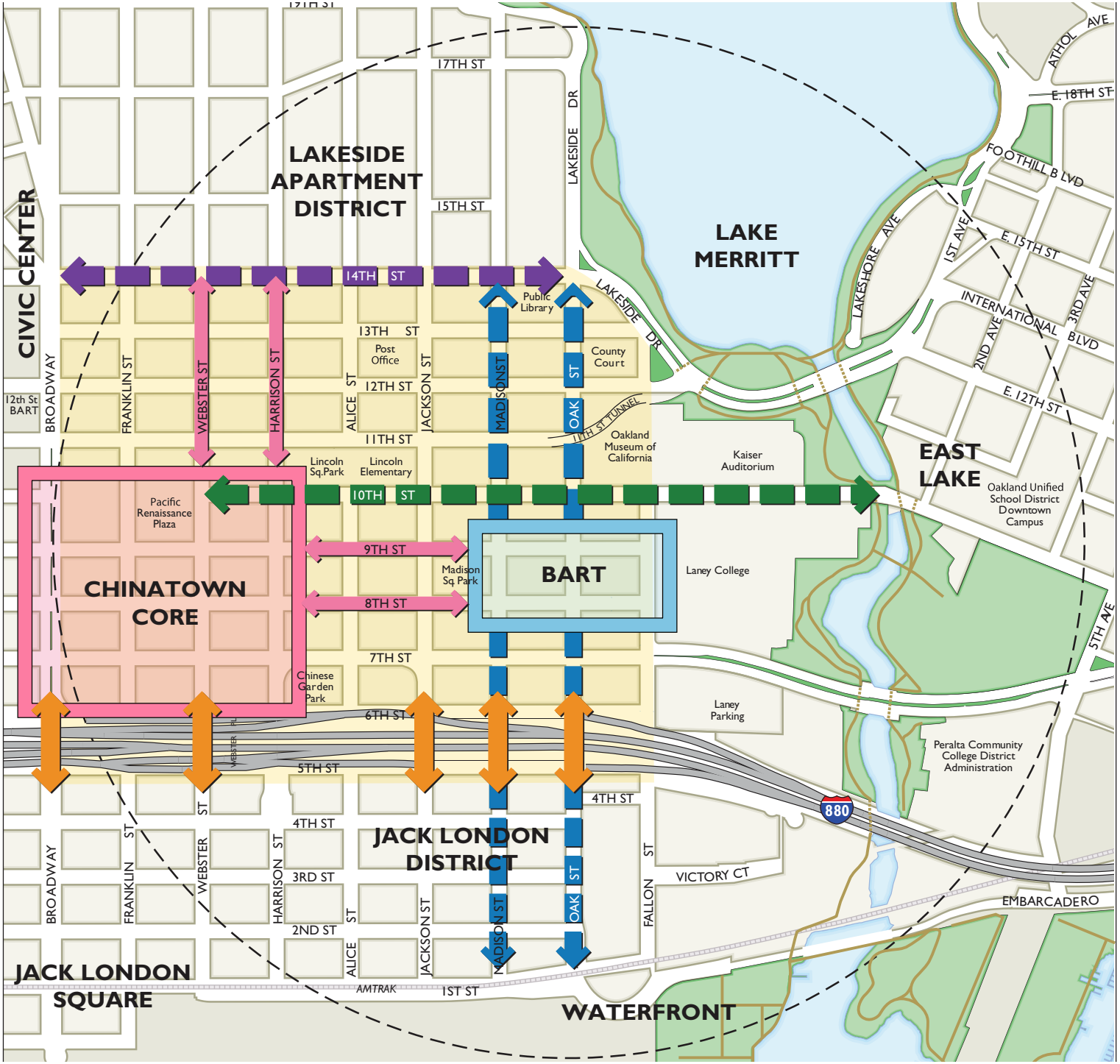


Figure 6.1: STREETSCAPE VISION

- 14th Street - Civic Link to Lake Merritt
- 10th Street - Green Connection to Estuary Trail
- Connect Chinatown to Jack London Square and the Loft District
- Chinatown Core - Improve Pedestrian-Oriented Commercial Streets
- Key Pedestrian-Oriented Commercial Street Connections
- Lake Merritt BART - Improve Multimodal Access
- Oak Street - Spine between Lake Merritt and the Waterfront
- Improve Lighting, Pedestrian Crossings, and Street Trees
- Planning Area - 1/2 mile radius

6.3 Streetscape Phasing Concept

Given the studies and construction costs associated with streetscape improvement projects, it is desirable for improvements to proceed in a phased manner that allows less expensive traffic calming and pedestrian safety improvements to proceed in the near term, with more costly lighting and sidewalk widening efforts proceeding later. The "Street Improvements Phasing" sketches (Figure 6.2) on the following pages depict a scenario in which lane reductions and interim streetscape improvements can occur, while accommodating an ultimate configuration that has either one-way or two-way traffic.

1. Existing Condition – A typical four-lane one-way street is shown.

2. Lane Reduction with Striping Only – Paint striping is used to reduce the street from four lanes to three, with the extra space allocated to a wider curbside parking zone and painted corner bulb-out areas.

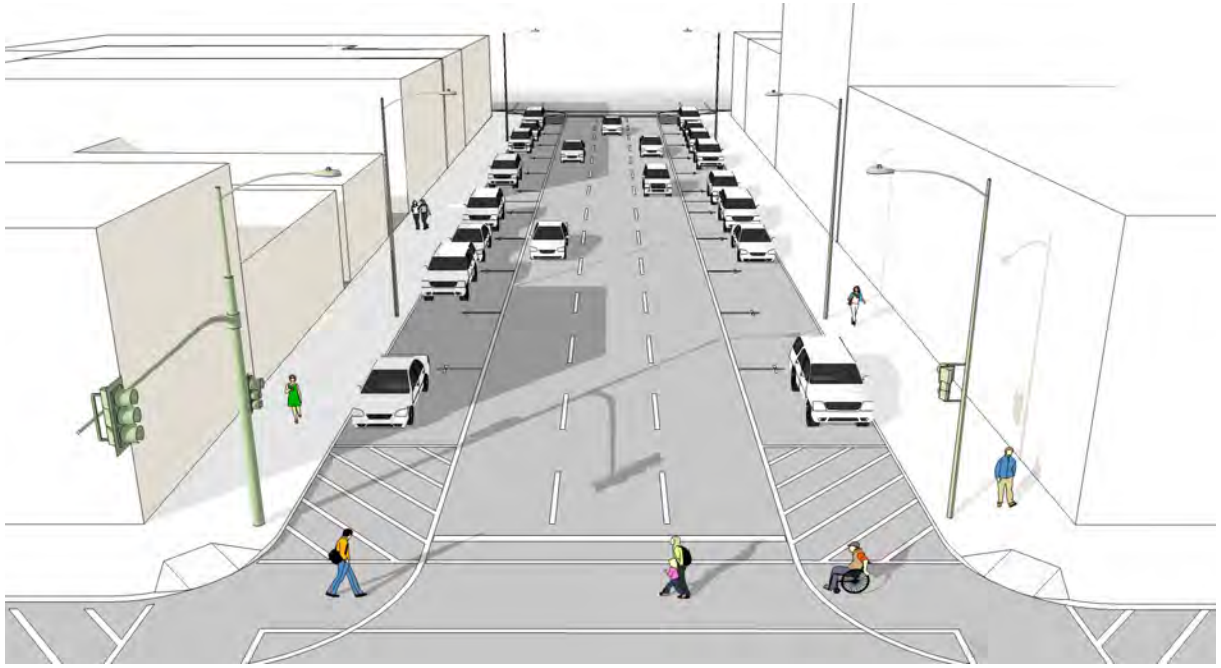
3. Improved Pedestrian Crossings – Corner bulb-outs, shortened crosswalks, upgraded traffic signals, and pedestrian-oriented lighting are installed as funding becomes available.

4a. Sidewalk Widening and Amenities/One-Way – Sidewalk widening, street trees, pedestrian-oriented lighting, and other mid-block streetscape amenities installed as funding becomes available.

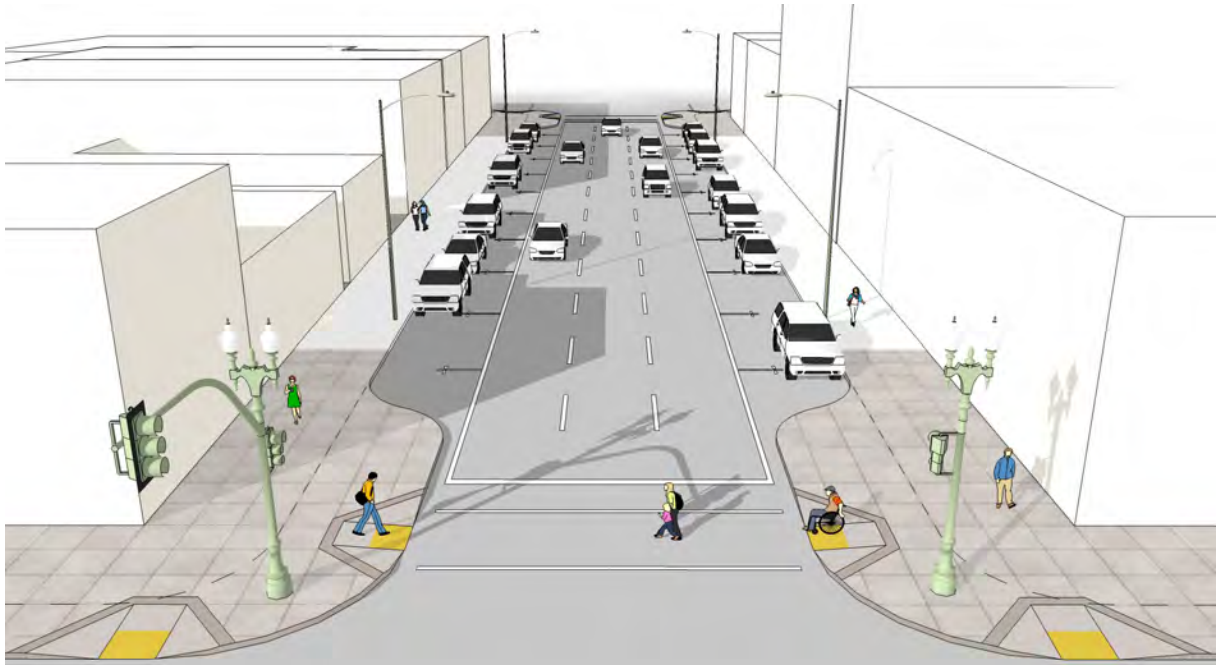
4b. Sidewalk Widening and Amenities/Two-Way – The street is converted from one-way to two-way, with new traffic signals, sidewalk widening, street trees, pedestrian-oriented lighting, and other mid-block streetscape amenities installed as funding becomes available.

Figure 6.2:
STREETSCAPE PHASING

Existing Condition



Phase 1: Striping Lane Reduction



Phase 2: Bulb-Outs

Figure 6.2 Continued:
STREETSCAPE PHASING

Existing Condition

Phase 3 (Option A): Sidewalk Widening with Lane Reduction

Phase 3 (Option B): Two-Way Conversion

6.4 Recommendations for Key Streets

Streetscape improvement recommendations for key streets reflect the basic vision framework for the district described above, as well as current City of Oakland policies, recent study recommendations, and specific input from community members and CSG participants. Multiple improvement options are identified for a number of streets, generally those where excess roadway capacity allows for removal of more than one travel lane and/or conversion from one-way to two-way traffic without affecting adjacent streets in the roadway network.

Improvements are described first for key east/west streets, proceeding from north to south, then for north/south streets, proceeding from west to east. Recommended improvements reflect the "Circulation Improvement Strategies" map in Chapter 7, and are illustrated with existing and proposed conditions sketches on following pages (Figure 6.3).

EAST / WEST STREETS

14th Street

14th Street is an east-west connector, linking Downtown to East Lake, and beyond. The initial concept for 14th Street includes corner bulb-outs, sharrow bikeway, sidewalk amenities including pedestrian-oriented lighting and street trees where subterranean basements and utility vaults allow; where subterranean conditions constrain in-ground planting, consider above-grade planter(s) with small trees or underground tree vaults. Consider distinctive lighting feature(s), such as the "necklace of lights", to create a strong link between the Downtown Civic Center and Lake Merritt.

10th Street (West of Madison)

10th Street runs between Webster Street and East Oakland, changing from a one-way to two-way street at Madison Street. 10th Street has been identified as an important street for a range of pedestrian improvements, and also identified as a street with capacity for a two-way conversion or lane reduction. Several initial concepts were developed, including:

- Option A: Lane reduction from four lanes to three lanes and conversion from one-way to two-way (including left turn lane where needed); widened sidewalks, corner bulb-outs, sidewalk amenities including pedestrian-oriented lighting and street trees.
- Option B: Lane reduction from four lanes one-way to two lanes one-way; angle parking, sidewalk widening, and "green street" rain gardens and other features along north side; corner bulb-outs, sidewalk amenities including pedestrian-oriented lighting and street trees.
- Option C: Lane reduction from four lanes one-way to two lanes two-way; angle parking, sidewalk widening, and "green street" rain gardens and other features along north side; widened sidewalks, corner bulb-outs, sidewalk amenities including pedestrian-oriented lighting and street trees.
- Option D: Lane reduction from four lanes one-way to two lanes one-way; Class II bike lane; sidewalk widening, and "green street" rain gardens and other features

along north side; corner bulb-outs, sidewalk amenities including pedestrian-oriented lighting and street trees.

10th Street (East of Madison)

10th Street East of Madison is a two-way low-volume street. The initial concept for 10th Street east of Madison Street includes class II bike lane; sidewalk widening, and "green street" rain gardens and other features along north side; corner bulb-outs, sidewalk amenities including pedestrian-oriented lighting and street trees.

9th Street Chinatown Core/West of Harrison

9th Street is an important connecting street between the Chinatown commercial center and the Lake Merritt BART Station and was identified as a priority pedestrian connection by the community. These improvements seek to meet the goals of a shared street where all modes of travel are accommodated, improved pedestrian safety and comfort, room for bicyclists, and slower moving traffic. The initial concepts for 9th Street Chinatown Core/West of Harrison include:

- Option A: Street conversion from three lanes one-way to three lanes two-way (including left turn lane where needed); corner bulb-outs, enhanced pedestrian crosswalks, a bicycle sharrow, and sidewalk amenities including pedestrian-oriented lighting and street trees.
- Option B: Lane reduction from three lanes one-way to two lanes one-way; sidewalk widening, corner bulb-outs, enhanced pedestrian crosswalks, a bicycle sharrow, and sidewalk amenities including pedestrian-oriented lighting and street trees.

9th Street East of Harrison

These improvements seek to meet the goals of a shared street where all modes of travel are accommodated, improved pedestrian safety and comfort, room for bicyclists, and slower moving traffic. The initial concepts for 9th Street east of Harrison include:

- Option A: Street conversion from three lanes one-way to three lanes two-way (including left turn lane where needed); Class II bike lane, corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.
- Option B: Lane reduction from three lanes one-way to two lanes one-way; Class II bike lane, sidewalk widening, corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.

8th Street Chinatown Core/West of Harrison

8th Street is an important connecting street between the Chinatown commercial center and the Lake Merritt BART Station and was identified as priority pedestrian connection by the community. The initial concept for 8th Street Chinatown Core/west of Harrison includes a lane reduction from four lanes one-way to three lanes one-way; sidewalk widening, corner bulb-outs, enhanced pedestrian crosswalks, a bicycle sharrow, and sidewalk amenities includ-

ing pedestrian-oriented lighting and street trees. These improvements seek to meet the goals of a shared street where all modes of travel are accommodated, improved pedestrian safety and comfort, room for bicyclists, and slower moving traffic.

8th Street East of Harrison

The initial concept for 8th Street east of Harrison includes a lane reduction from four lanes one-way to three lanes one-way; Class II bike lanes; corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees. These improvements seek to meet the goals of a shared street where all modes of travel are accommodated, improved pedestrian safety and comfort, room for bicyclists, and slower moving traffic.

7th Street West of Fallon

7th Street is an important citywide east-west connector. 7th Street west of Fallon is one way eastbound. The initial concept for 7th Street west of Fallon includes corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.

7th Street East of Fallon

7th Street is an important citywide east-west connector. 7th Street east of Fallon is a six-lane two way street that separates Laney Campus from the Laney Parking lot. The initial concept for 7th Street east of Fallon includes a reduction of three right-turn lanes to two right-turn lanes at Fallon Street intersection; expanded median island to create pedestrian crossing refuge; signalized mid-block crosswalk connecting central portion of Laney College campus and parking area; corner bulb-outs, enhanced pedestrian crosswalks.

NORTH / SOUTH STREETS

Webster Street

Webster Street is a major north-south corridor and pedestrian street, running through the core of Chinatown and connecting to the Jack London District and the waterfront as well as the City of Alameda via the Webster Tube. The initial concept for Webster Street includes a lane reduction from four lanes one-way to three lanes one-way; sidewalk widening; corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees. Webster Street from 7th to 5th (including the freeway undercrossing) should have pedestrian-oriented improvements, including directional signage, to improve access to the Jack London District.

Harrison Street

Harrison Street is a major north-south corridor and pedestrian street, connecting to the Posey Tube and the City of Alameda. The initial concept for Harrison Street includes conversion from four lanes one-way to four lanes two-way between 10th and 8th Streets; corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.

Alice Street

Alice Street is a local street that has been identified as a key street for lighting improvements. The initial concept for Alice Street includes corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.

Madison Street

Madison Street is a regional north/south connector, providing access to the Lake Merritt BART Station. The initial concept for Madison Street includes a lane reduction from three lanes one-way to two lanes one-way; Class II bike lane, corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.

Oak Street

Oak Street is a regional north/south connector, providing access to the Lake Merritt BART Station. The initial concept for Oak Street includes a lane reduction from four lanes one-way to three lanes one-way; Class II bike lane; sidewalk widening north side; corner bulb-outs, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees.

Fallon Street (8th to 10th Streets)

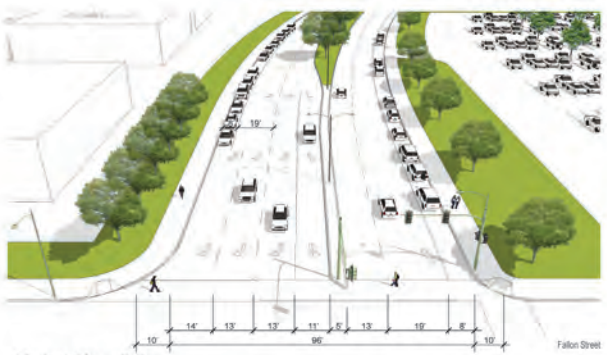
Fallon Street is a local two-way street that connects the BART Station and the entrance to Laney College. The initial concept for Fallon Street includes a street width reduction; a "festival street" treatment between Laney College main entrance and BART parking redevelopment site that uses traffic calming and unique streetscape features to create a street that can easily be converted to public use on weekends or special events; sidewalk widening; corner bulb-outs; enhanced pedestrian crosswalks; and sidewalk amenities including pedestrian-oriented lighting and street trees.

I-880 Undercrossings – Broadway, Webster, Jackson, Madison, Oak Streets

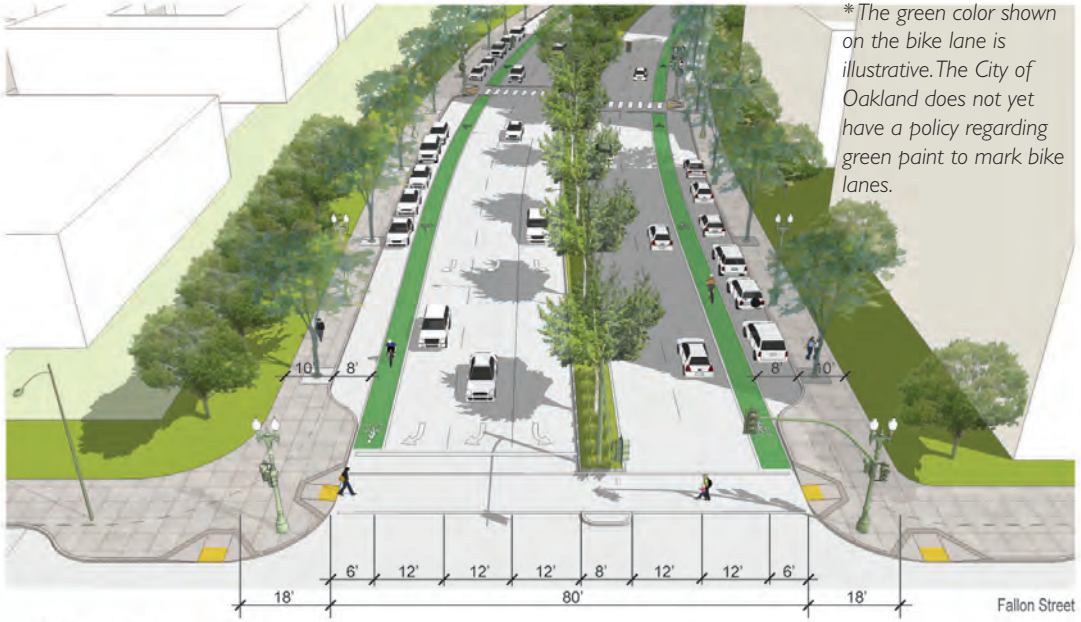
Improving the I-880 under-crossings is essential for connecting the Planning Area – including Chinatown, Laney, and the BART Station – to the Jack London District and waterfront areas. The initial concept for improving the under-crossings include an ornamental screen wall along sidewalk with integral lighting; corner bulb-outs, enhanced pedestrian crosswalks, pedestrian-oriented lighting at adjacent street corners. Additional design improvements could include murals and ornamental paving. The under-crossings would be further improved with the addition of active uses, including mobile food or retail. Maintenance will also be a key issue for undercrossing improvements.

Figure 6.3:
STREETSCAPE CONCEPTS

Note: The green color shown on the bike lane is only illustrative. The City of Oakland does not yet have a policy regarding green paint in bike lanes.



7th Street at Laney College
Existing Looking East - 6 Lanes Two-Way



** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

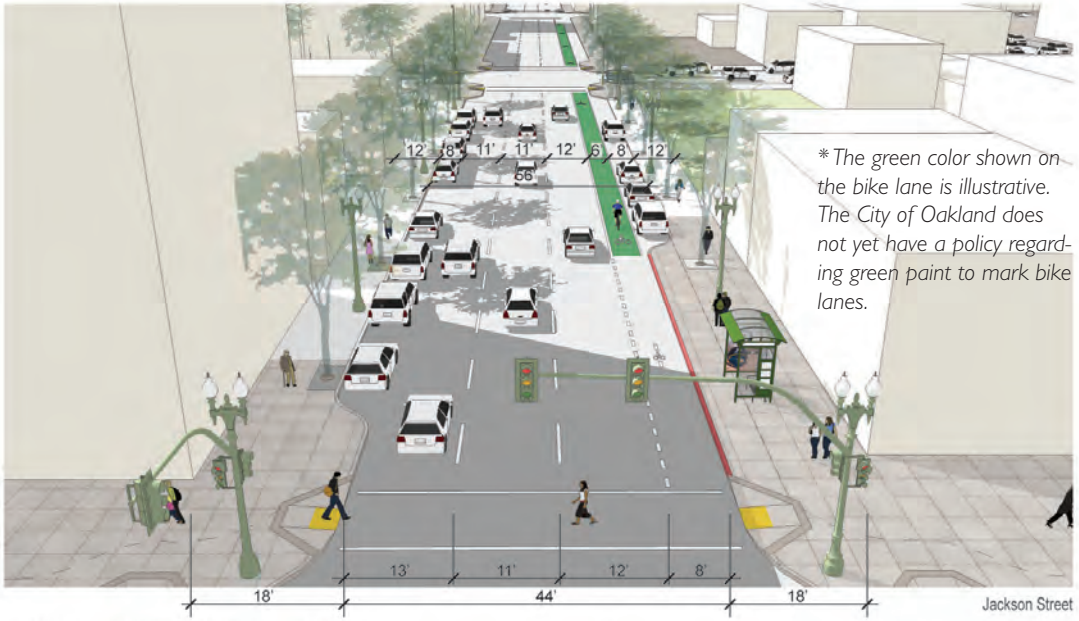
7th Street at Laney College
Westbound 4/3 Lane Reduction, Eastbound Narrowed Lane, Widened Median, Bike Lanes, Additional Pedestrian Crossing

Figure 6.3 Continued:
STREETSCAPE CONCEPTS

8th Street Chinatown Core
Existing Looking West - 4 Lanes One-Way

8th Street Chinatown Core
4/3 Lane Reduction, Widened Sidewalks

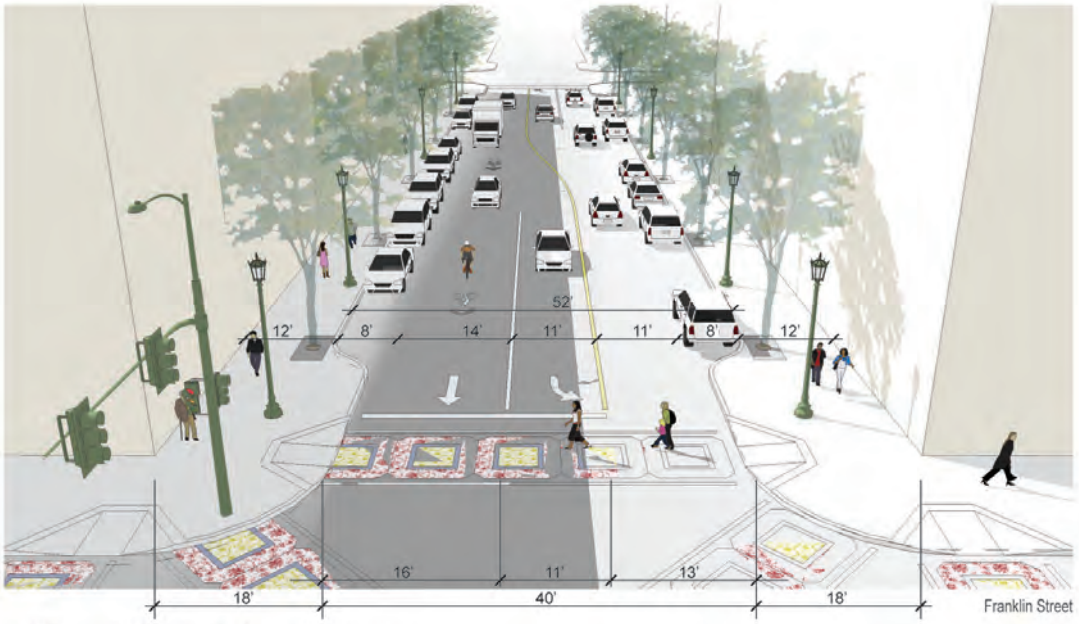
8th Street East of Chinatown Core
Existing Looking West - 4 Lanes One-Way



** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

8th Street East of Chinatown Core
4/3 Lane Reduction, Bike Lane

Figure 6.3 Continued:
STREETSCAPE CONCEPTS

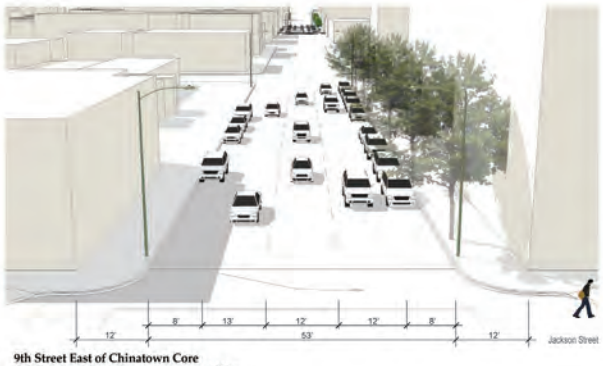


9th Street Chinatown Core - Option A
Convert to Two-Way

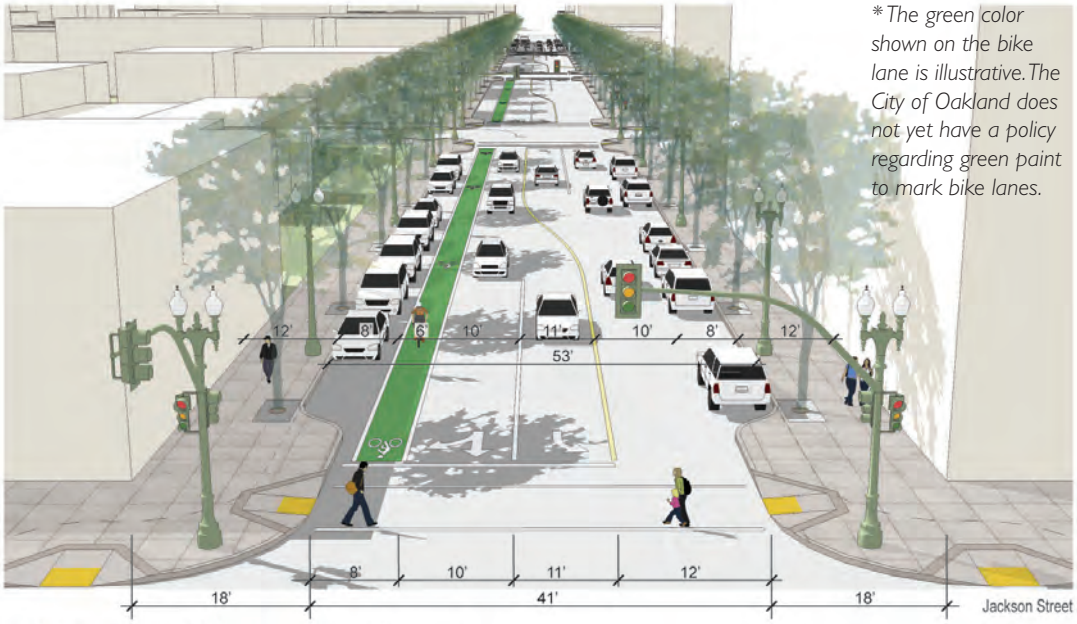
9th Street Chinatown Core - Option B
3/2 Lane Reduction, Widened Sidewalks

9th Street Chinatown Core
Existing Looking West - 3 Lanes One-Way

Figure 6.3 Continued:
STREETSCAPE CONCEPTS

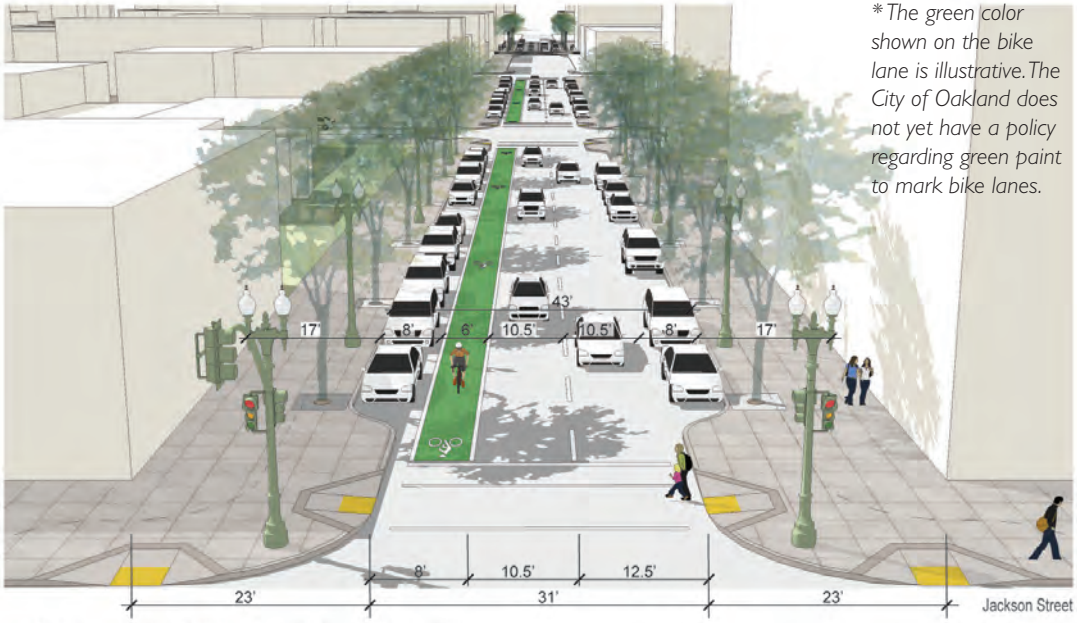


9th Street East of Chinatown Core
Existing Looking West - 3 Lanes One-Way



9th Street East of Chinatown Core - Option A
Convert to Two-Way, Bike Lane

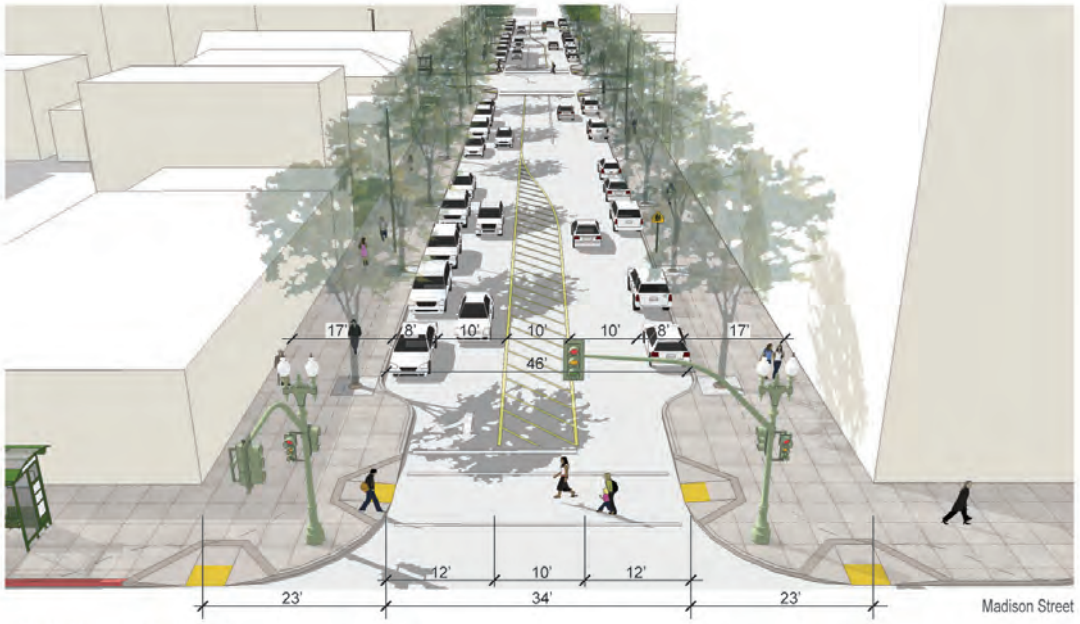
** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*



9th Street East of Chinatown Core - Option B
3/2 Lane Reduction, Widened Sidewalks, Bike Lane

** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

Figure 6.3 Continued:
STREETSCAPE CONCEPTS



10th Street - Option A
Convert to Two-Way, 4/3 Lane Reduction, Widened Sidewalks

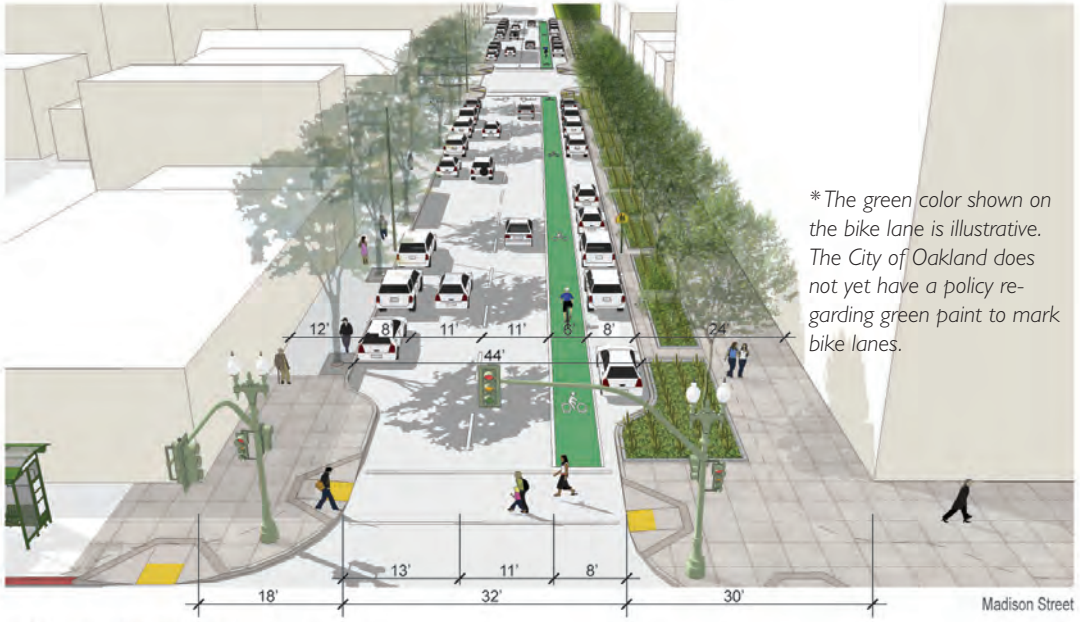
10th Street - Option B
4/2 Lane Reduction, Widened Sidewalks, Angle Parking, "Green Street"

10th Street East of Fallon Street
Existing Looking West - 2 Lanes Two-Way

Figure 6.3 Continued:
STREETSCAPE CONCEPTS

10th Street East of Fallon Street
Existing Looking West - 2 Lanes Two-Way

10th Street - Option C
Convert to Two-Way, 4/2 Lane Reduction, Widened Sidewalks, Angle Parking, "Green Street"

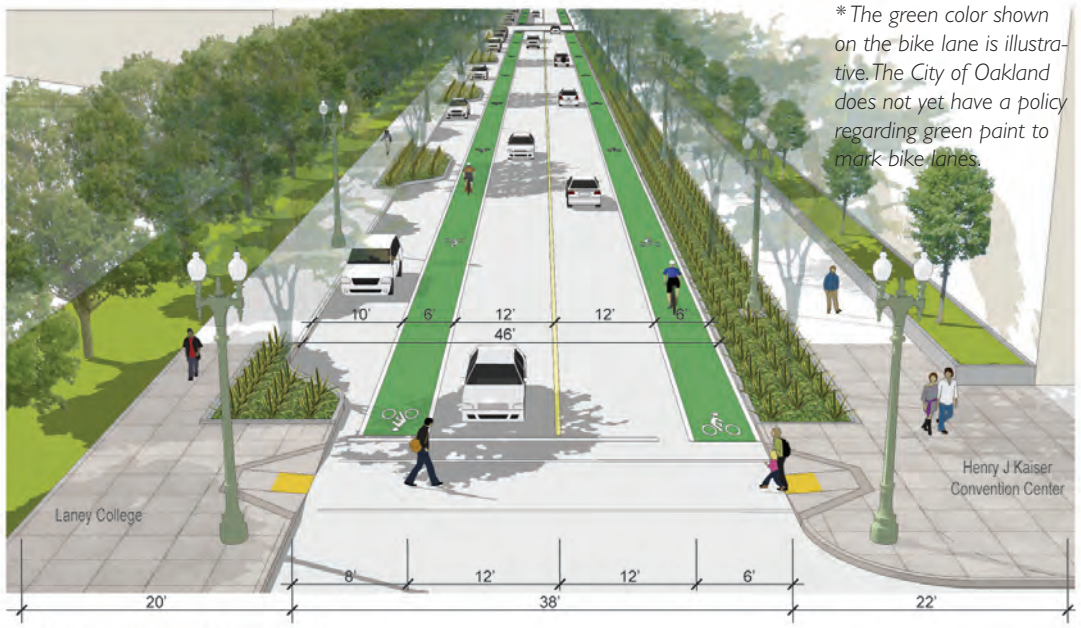


** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

10th Street - Option D
4/2 Lane Reduction, Widened Sidewalk (north side only), Parallel Parking, Bike Lane, "Green Street"

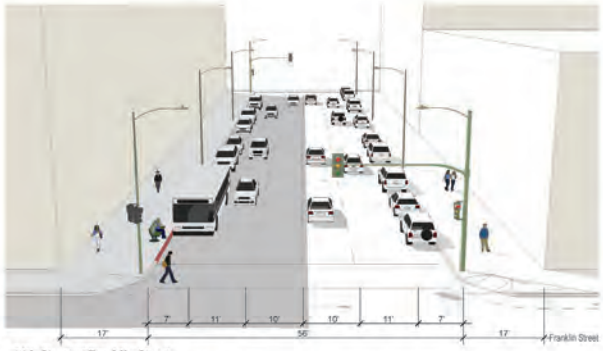
Figure 6.3 Continued:
STREETSCAPE CONCEPTS

10th Street East of Fallon Street
Existing Looking West - 2 Lanes Two-Way



** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

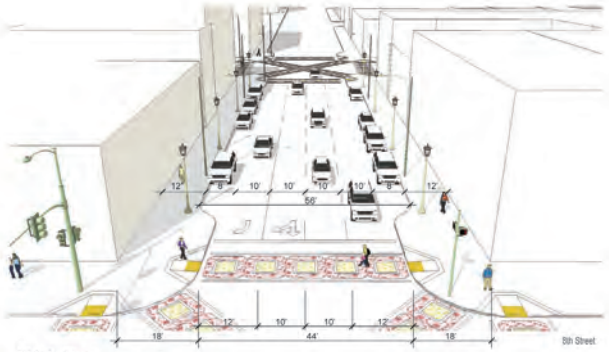
10th Street East of Fallon Street
Narrowed Lanes, Widened Sidewalk, Bike Lanes, "Green Street" Improvements



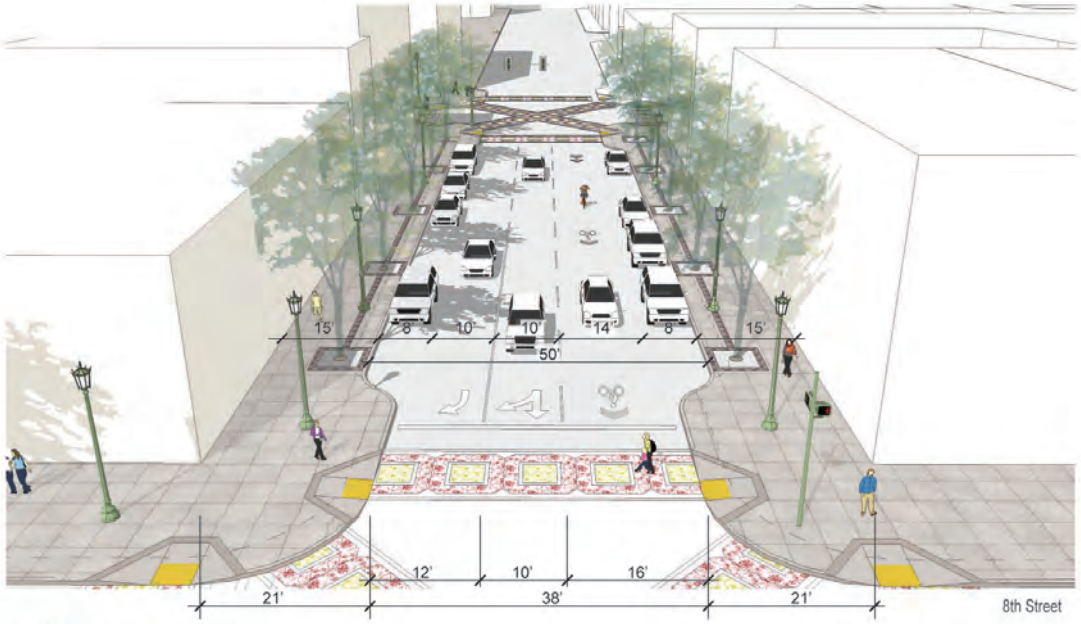
14th Street at Franklin Street
Existing Looking West - 4 Lanes Two-Way

14th Street at Franklin Street
Sidewalk Improvements, Distinctive Lighting

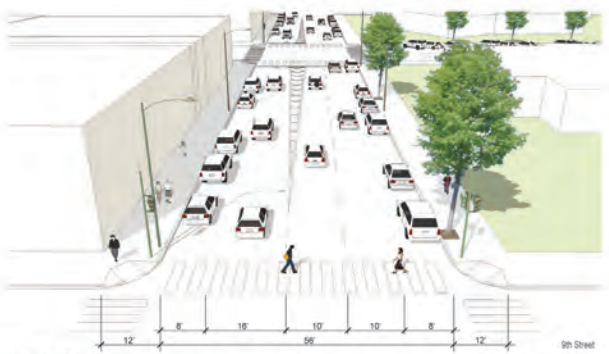
Figure 6.3 Continued:
STREETSCAPE CONCEPTS



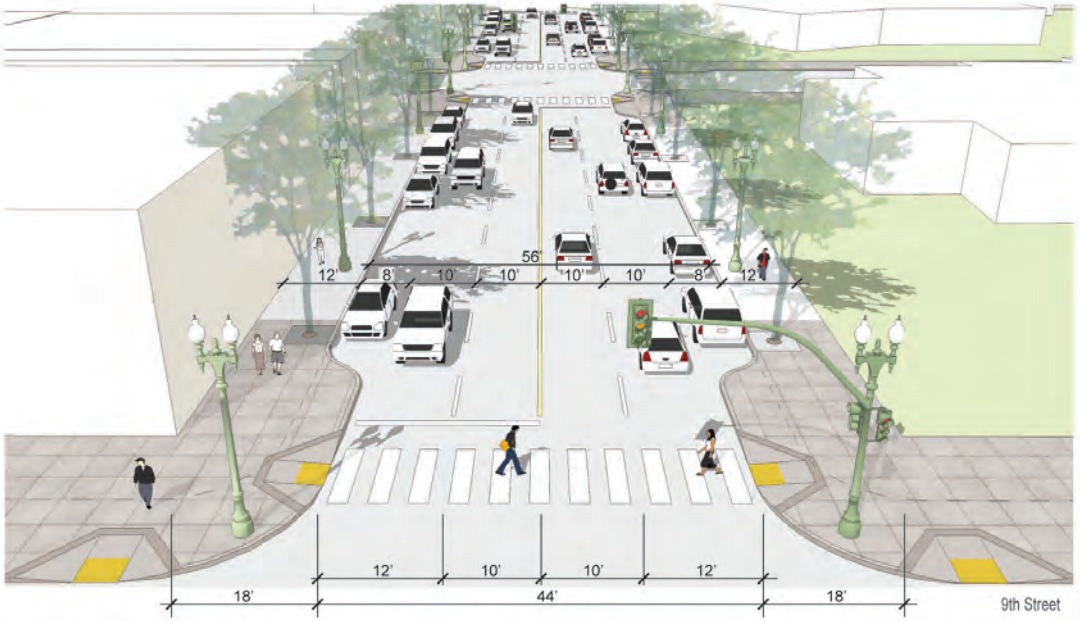
Webster Street
Existing Looking North - 4 Lanes One-Way



Webster Street
4/3 Lane Reduction, Widened Sidewalks

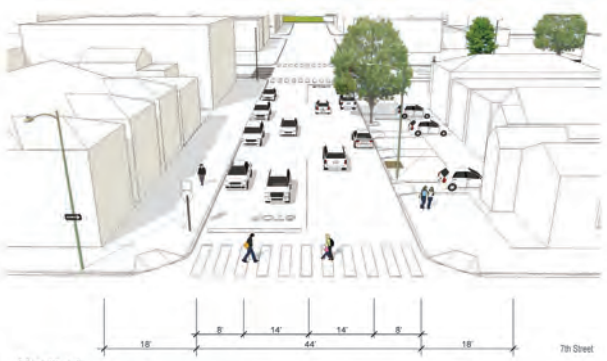


Harrison Street
Existing Looking North - 3 Lanes One-Way



Harrison Street
Convert to Two-Way, 3/4 Lane Addition

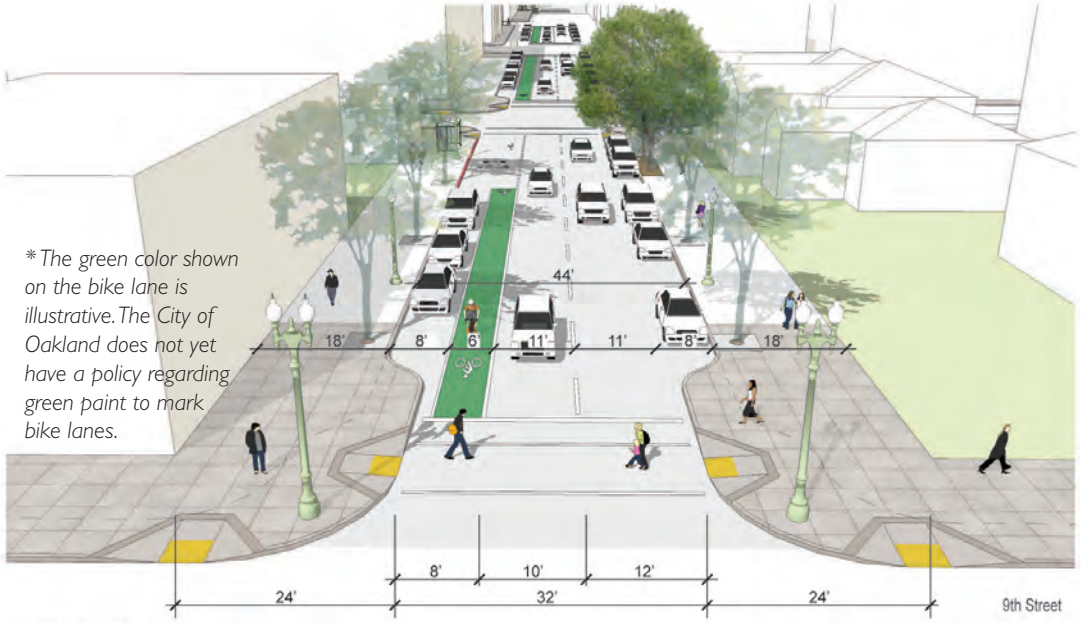
Figure 6.3 Continued:
STREETSCAPE CONCEPTS



Alice Street
Existing Looking North - 2 Lanes Two-Way

Alice Street
Sidewalk Improvements and Lighting

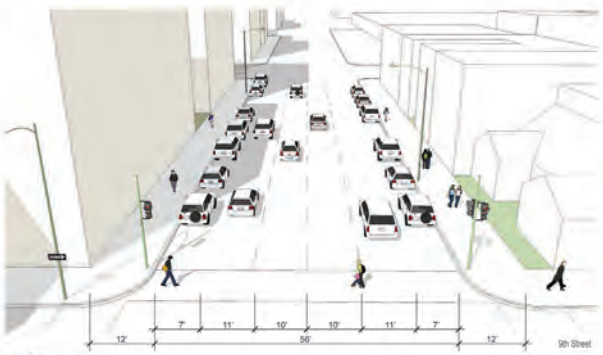
Madison Street
Existing Looking North - 3 Lanes One-Way



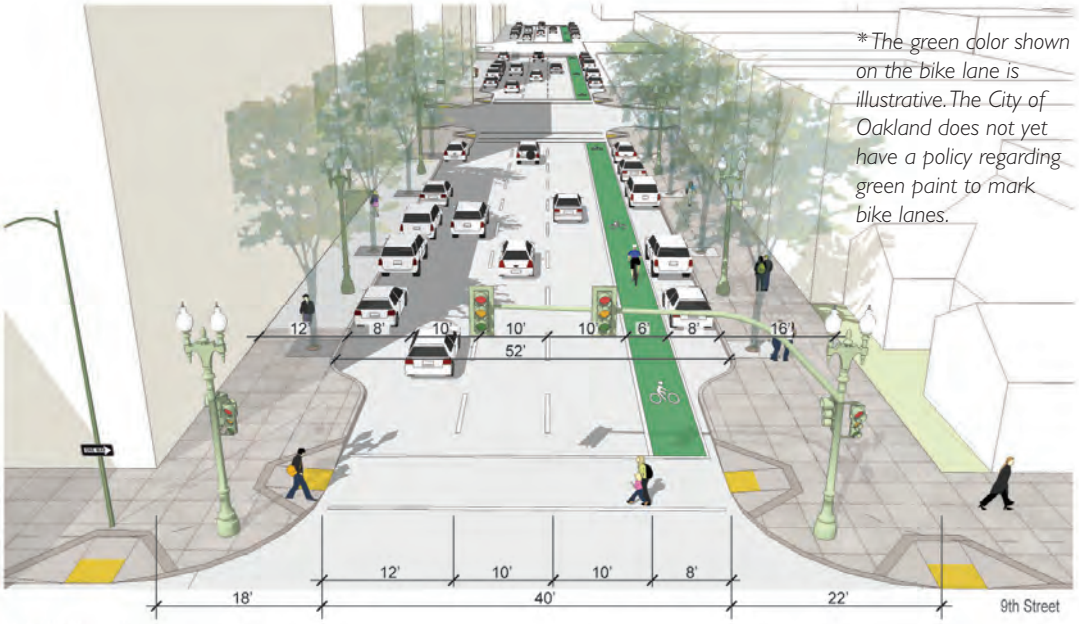
Madison Street
3/2 Lane Reduction, Bike Lane

** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

Figure 6.3 Continued:
STREETSCAPE CONCEPTS



Oak Street
Existing Looking North - 4 Lanes One-Way



** The green color shown on the bike lane is illustrative. The City of Oakland does not yet have a policy regarding green paint to mark bike lanes.*

Oak Street
4/3 Lane Reduction, Bike Lane, Widened Sidewalk (east side only)

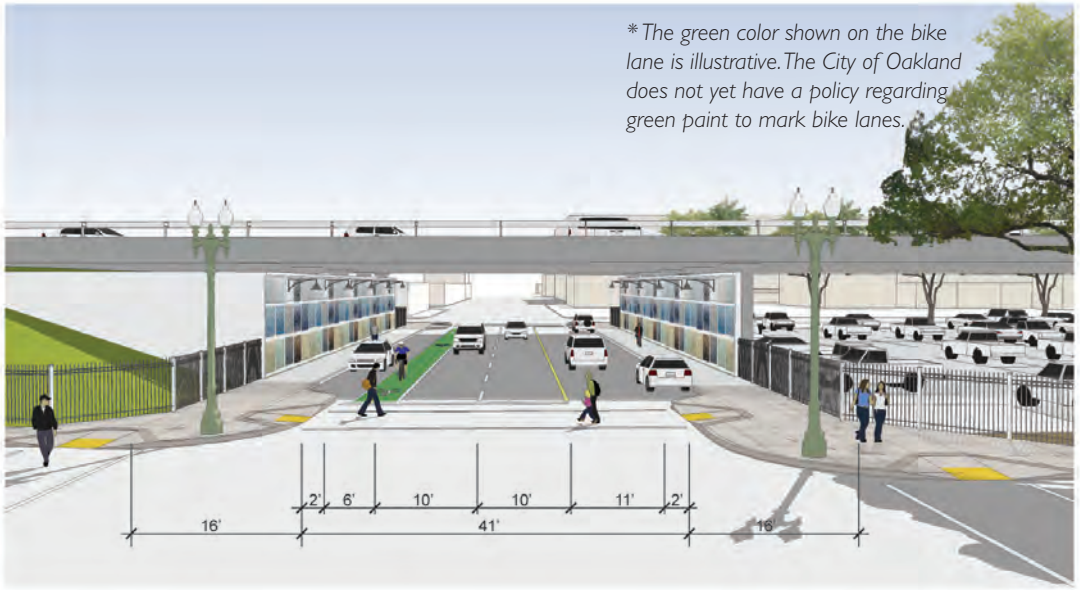
Fallon Street 8th to 10th
Existing Looking South - 2 Lanes Two-Way

Fallon Street 8th to 10th - Option B
Plaza with Narrowed Lanes, Widened Sidewalks, Street Amenities at Frontage

Figure 6.3 Continued:
STREETSCAPE CONCEPTS

Oak Street Underpass
Existing Looking South - 3 Lanes Two-Way

Webster Street Underpass
Existing Looking South - 1 Lane One-Way



Oak Street Underpass
Lighting, Ornamental Wall and Fencing, Bulb-Outs, Bike Lane

Webster Street Underpass
Lighting, Ornamental Wall and Fencing, Bulb-Outs

6.5 Transit Hub

A Transit Hub on Oak Street is one possible option for improving access at the Lake Merritt BART Station. A more in-depth discussion of access strategies is included in Chapter 7. This discussion explores one or more possible approaches.

Primary access to the Lake Merritt BART station for automobiles and eastbound buses is provided along Oak Street. The block between 8th and 9th Streets could be improved as an on-street "transit hub", with improved bus bays, kiss-and-ride drop-off area, and enhanced pedestrian and bicycle access and support facilities. BART patrons traveling on westbound buses could get off on 8th Street at Oak. An illustrative sketch shown in Figure 6-4 shows removal of existing on-street parking along the easterly frontage to create a bus-only transfer area, and on-street parking along the westerly frontage re-programmed to create a "kiss-and-ride" drop-off and pick-up area during peak commute hours. Corner bulb-outs could shorten pedestrian crossing distances and help define the transit hub as a special street segment. In this block, the bike lane planned north and south would continue through with dashed striping. Other configuration for the Transit Hub will also be explored, such as reducing or eliminating the proposed corner bulb outs to allow for more efficient bus operations, and locating the "kiss-and-ride" drop-off and pick-up area on the south side of 9th Street between Oak and Fallon Streets to eliminate the need for auto passengers to enter or exit cars adjacent to a traffic lane.

The illustrative Transit Hub sketch also depicts general improvements to plaza areas on adjacent re-development sites. On the west side of Oak Street, planting areas are reconfigured to provide more visibility and pedestrian circulation adjacent to BART station escalator entries. On the east, the large existing concrete shelter structure is replaced with smaller, more contemporary architectural glass structures to allow more space for pedestrian circulation and provides a landmark for the transit hub area as a whole. A key card-accessed bicycle corral is depicted near planned new development on the adjacent BART parking site at 9th Street. More open, corner café-oriented spaces are depicted adjacent to the proposed retail corners at 8th and 9th Streets.

Figure 6.4:
OAK STREET TRANSIT HUB

Oak Street at BART Station
Existing Looking South - 4 Lanes One-Way

Oak Street at BART Station
4/3 Lane Reduction, Bikeway, Bus Transfer Area, Kiss-and-Ride Drop-Off, Plaza Renovations

Note: This is only one of many possible access design solutions for the BART Station Area. Additional discussion of access strategies is include in Chapter 7.

7 Circulation, Access, and Parking

The Lake Merritt Station Planning Area provides local residents, employers and employees, students, and visitors access to a broad range of transportation options, including BART, AC Transit, local shuttles, regional freeways, and local streets. The primary circulation goal of the Lake Merritt Station Area Plan should be to provide enhanced linkages within the Plan Area and better connectivity to the surrounding area. Pedestrian, bicycle, transit, and vehicular connections should be enhanced through roadway reconfigurations and redevelopment to maximize the accessibility of open space, mixed use amenities, and transit.

The existing grid of small blocks is ideal to reconfigure the existing roadway network into a system of pedestrian- and bicycle-scale streets, connecting the Lake Merritt BART station to the area‘s amenities, including Oakland Chinatown, Laney College, and the government office buildings. The circulation system within the Planning Area should minimize the need for auto travel, and promote walking and bicycling, particularly connecting non-vehicular modes of travel to the BART station. Improved connectivity both within the Planning Area and to the surrounding neighborhoods and downtown will enhance the area‘s accessibility and role as a citywide destination.

The circulation strategies are designed to minimize the need for auto travel and promote the use of walking, bicycling, and transit as the primary mode of travel in the Planning Area. The circulation strategies also closely correlate with the proposed land use plan, concentrating higher density uses near the BART station and providing enhanced pedestrian and bicycle connections. Additionally, the linkages to the surrounding neighborhoods and downtown will be enhanced, reducing the need for employees, students, and visitors of the area to use automobiles to access the area. The overall circulation improvement strategy is shown in Figure 7.1. All streets identified would include streetscape improvements, as shown in Chapter 6.

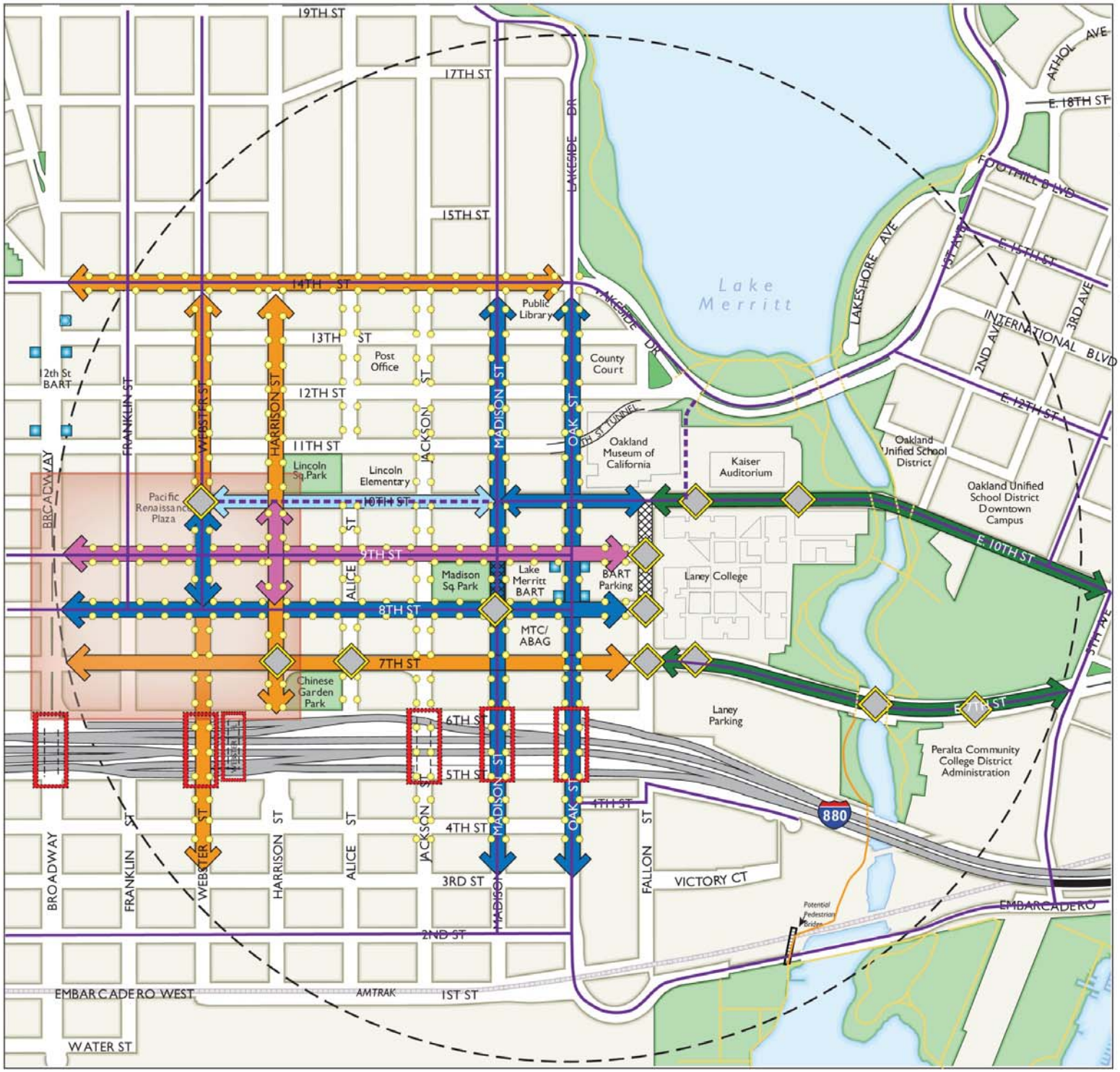


Figure 7.1: CIRCULATION IMPROVEMENT STRATEGY

- Key Streetscape Corridors
- Potential for Lane Reduction
- Potential for Lane Reduction OR Two-Way Conversion
- Potential for Lane Reduction AND Two-Way Conversion
- Potential for Narrowed Travel Lanes and "Green Street" Amenities
- Existing or Planned On-Street Bicycle Connection
- Potential Additional On-Street Bicycle Connection
- Modify Street (Pedestrian/Vehicle Plaza)
- Chinatown Commercial Core Area
- Priority Locations for Intersection/Pedestrian Crossing Improvement
- BART Station Entrance
- Priority Lighting Corridor
- Improved Freeway Undercrossing
- Planning Area - 1/2 Mile Radius
- Existing and Under Construction Paths
- Potential Additional Paths

Note: All streets identified for lane reduction and/or two-way conversion and/or "green street" amenities would also include streetscape improvements, outlined in Chapter 6.

0 100 500 1000 FEET

7.1 BICYCLE AND PEDESTRIAN IMPROVEMENTS

A major improvement to bicycle and pedestrian access is already underway with the Measure DD improvements around Lake Merritt and the Lake Merritt Channel. One additional connection between the Kaiser Convention Center and the Oakland Museum of California is also recommended as part of the Preferred Plan. These improvements represent a major asset in terms of access as well as public open space. The improvements are shown in Figure 7-2.

INTERSECTION AND PEDESTRIAN CROSSINGS

Numerous intersections and pedestrian crossings have been identified by the community as priority locations for pedestrian crossing improvements, including:

- Two locations along 10th Street east of Fallon Street between Laney College and Kaiser Auditorium;
- 7th Street and Fallon Street;
- Three locations along 7th Street between Fallon Street and 5th Avenue;
- 9th Street and Fallon Street;
- 8th Street and Madison Street;
- 8th Street and Fallon Street;
- 7th Street and Harrison Street; and
- 7th Street and Alice Street.

7th Street and Fallon Street Improvements

This report looks in greater detail at the 7th and Fallon streets intersection because it is a city-wide connector that carries substantial traffic. 7th Street represents a challenge for the Planning Area. Several intersections along 7th Street are identified for intersection improvements. The intersection of 7th Street and Fallon Street represents a key intersection in terms of connections to Laney College, the Laney Parking lot, and the BART Station. Improvements at this intersection also provide an opportunity to reduce traffic on 8th Street (which is identified as a key connector for bicycles and pedestrians) between Fallon and Oak streets. While several intersections on 7th will be addressed in the Plan this intersection is described in greater detail as the improvements will impact the roadway configuration and circulation on adjacent blocks.

Currently, 7th & Fallon is a signalized intersection. On the westbound (WB) 7th Street approach to the intersection, there are three right turn lanes to serve traffic headed for the BART station, Laney College or Downtown Oakland, and one left turn lane to serve a small amount of development on Fallon south of 7th. No AC Transit routes use this intersection.

The *Laney College Facilities Master Plan* (2009) includes discussion of improvements around the campus, including the 7th/Fallon intersection. In particular, it recommends a poss-

ible entry feature and lighting and landscaping improvements at the 7th/Fallon intersection to emphasize it as a gateway to the campus.

The intersection currently operates at LOS C in both the AM and PM peak hours (*Lake Merritt BART*, 2006). Given the relatively good level of service and wide cross section of 7th Street, a number of alternative improvements should be possible without degrading the level of service below the City's standard:

- Removing one of the right turn lanes on 7th Street WB turning onto Fallon Street, so there are two right turn lanes. This could reduce the crossing distance (depending on the improvement), and would allow other changes within the right of way. That could include extending street parking (to gain three to five on street parking spaces—but not reducing the pedestrian crossing distance), or widening the median island present now to provide a larger pedestrian refuge area, and adding corner bulb outs to the intersection. Bulb outs would reduce the effective crossing distance.
- Making 7th Street two-way between Fallon and Oak Streets, so as to allow 7th Street WB traffic to turn right on Oak Street is another option to consider. Today, the large volume of right turning traffic (that presumably influenced the decision to provide triple right turn lanes) is due to traffic having to turn right on Fallon and left on 8th Street in order to turn right onto Oak Street northbound. This "dogleg" movement could be eliminated if WB traffic on 7th Street could proceed all the way to Oak Street, and make a right turn there.

PEDESTRIAN IMPROVEMENTS AND TRAFFIC CALMING

The following pedestrian improvements and traffic calming projects are recommended. Many of the improvement strategies would be applied to all streets and intersections throughout the Planning Area. They include:

- Addition of pedestrian scaled lighting on key streets as shown in 7.1, and enhanced lighting around the BART Station.
- Install four-way crosswalks, or scramble systems at key intersections as outlined in Revive Chinatown:
  - 8th Street and Franklin Street.
  - 9th Street and Franklin Street.
  - 9th Street and Webster Street.
  - 10th Street and Webster Street.
- Paint/re-paint vehicle "stop lines" at least five (5) feet back from crosswalks, to reduce vehicle intrusions into pedestrian crossing areas.
- Restripe vehicle travel lanes to 10- to 11-foot widths (rather than 12 feet, as is typically found today), to help reduce vehicle speeds and pedestrian crossing times.
- Provide corner "bulb outs" and curb extensions.

- Reduce the number of through travel lanes, as described in Chapter 6 and below, to reduce pedestrian crossing distances.
- Add pedestrian "refuge islands" in the center of streets two-way, where width allows and where consistent with traffic operations and safety needs. Refuge islands are not used on one-way streets, because of the danger of vehicles hitting them.
- Coordinate traffic signals and timing to calm traffic and improve the pedestrian experience:
  - Provide pedestrian "count down" timers, where not already installed (the City already has a policy to install them gradually).
  - Increase the pedestrian crossing times at intersections, to provide additional crossing times as required in *2010 California Manual of Uniform Traffic Control Devices*. Within 600 feet of senior centers, daycare and recreation centers, provide "press and hold" pushbuttons at signals that allow pedestrians to request a longer crossing time (this would require new traffic signal control equipment and programming).
  - Coordinate traffic signals so vehicle speeds are 25 mph or less.
  - Keep signal cycle lengths—the time needed to repeat a series of green/yellow/red signals—as short as possible, in order to minimize waiting times for signals and minimizes crossing against the red.
  - Provide a leading "WALK" interval prior to the display of a green light to vehicles, so that pedestrians may safely begin crossing a street before vehicles start making turning movements.
- Use part-time turn prohibitions where there are significant pedestrian/vehicle conflicts due to turning movements. For example, right turns on red could be prohibited during school hours, or when there are significant numbers of shoppers, such as in the afternoon, or Saturdays.
- Add new traffic signals, where warranted, to slow traffic and provide safe crossings of streets, e.g., at 7th and Alice Streets.
- Ensure sidewalks include a minimum of five (5) feet clear for pedestrian access. Eliminate sidewalk obstructions, such as parking meters, unneeded street furniture, etc., to increase the effective sidewalk width. See Section 7.5 for more detail on sidewalk displays.
- Provide enhanced pedestrian signage and lighting under I-880 to better connect the BART station and the AMTRAK Jack London station at 2nd and Alice Streets.
- Bicycle parking at the BART station is discussed below in the Transit section.

Several of these streetscape and circulation proposals have been found in research literature to be associated with health and health-related outcomes. Transportation improvements in the Preferred Plan with health benefits include:

- Pedestrian improvements such as corner bulb-outs, enhanced pedestrian crosswalks, pedestrian-oriented lighting and street trees. These improvements are likely to im-

prove visibility and safety of pedestrians and improve the overall quality of the pedestrian environment.

- Lane reductions and/or roadway narrowing. These improvements would likely lead to slower vehicle speeds and improve pedestrian and bicycle safety. Lane reduction has been found to reduce pedestrian collisions.

BICYCLE NETWORK IMPROVEMENTS

Figure 7-3 shows the bicycle and pedestrian improvements proposed. Bikeway classifications are as follows:

- **Bicycle Paths** (Class 1) are paved rights-of-way completely separated from streets. Bicycle paths are often located along waterfronts, creeks, railroad rights-of-way or freeways with a limited number of cross streets and driveways. These paths are typically shared with pedestrians and often called mixed-use paths.
- **Bicycle Lanes** (Class 2) give bicyclists striped lanes on streets, designated with specific signage and stencils. Bicycle lanes are the preferred treatment for all arterial and collector streets on the bikeway network. Bicycle lanes should not be installed on low-volume, low-speed residential streets. Because of driveways on those streets, bicyclists are safer riding in the middle of the travel lane.
- **Bicycle Routes** (Class 3) designate preferred streets for bicycle travel using lanes shared with motor vehicles; the only required treatment is signage. There are two types of Class 3 bicycle routes:
  - **Arterial Bicycle Routes** (Class 3A): On some arterial streets, bicycle lanes are not feasible, and parallel streets do not provide adequate connectivity. These streets may be designed to promote shared use with lower posted speed limits, shared lane bicycle stencils (also known as ―sharrows"), wide curb lanes, and signage.
  - **Bicycle Boulevards** (Class 3B): Bicycle boulevards are bicycle routes on low traffic volume residential streets that prioritize through trips for bicyclists and reduce delay. Traffic calming should be introduced as needed to discourage drivers from using the boulevard as a through route. Oakland's Bicycle Boulevards will be marked with shared lane bicycle stencils (also known as ―sharrows") and signage.

The City of Oakland's *Bicycle Master Plan* (2007) is the governing planning document for new bicycle facilities in the City. The plan identifies 8th and 9th Streets; Franklin and Webster Streets; and Madison/Oak Streets and Lakeside Drive, as streets with future Class II painted bike lanes. Tenth Street is proposed for bike lanes east of Madison Street. In addition, 14th Street is shown as a signed bike route (Class III), but with no physical lane reserved for cyclists. In addition, one of the four proposed concepts for 10th Street, illustrated in Chapter 6 includes extending the 10th Street bike lanes to the west, as far as Webster Street. The Emerging Plan also modifies the bike plan by proposing ―sharrows" rather than bike lanes in within the Chinatown commercial core.

Figure 7.2:
MEASURE DD PLANNED IMPROVEMENTS

Potential additional bicycle connection

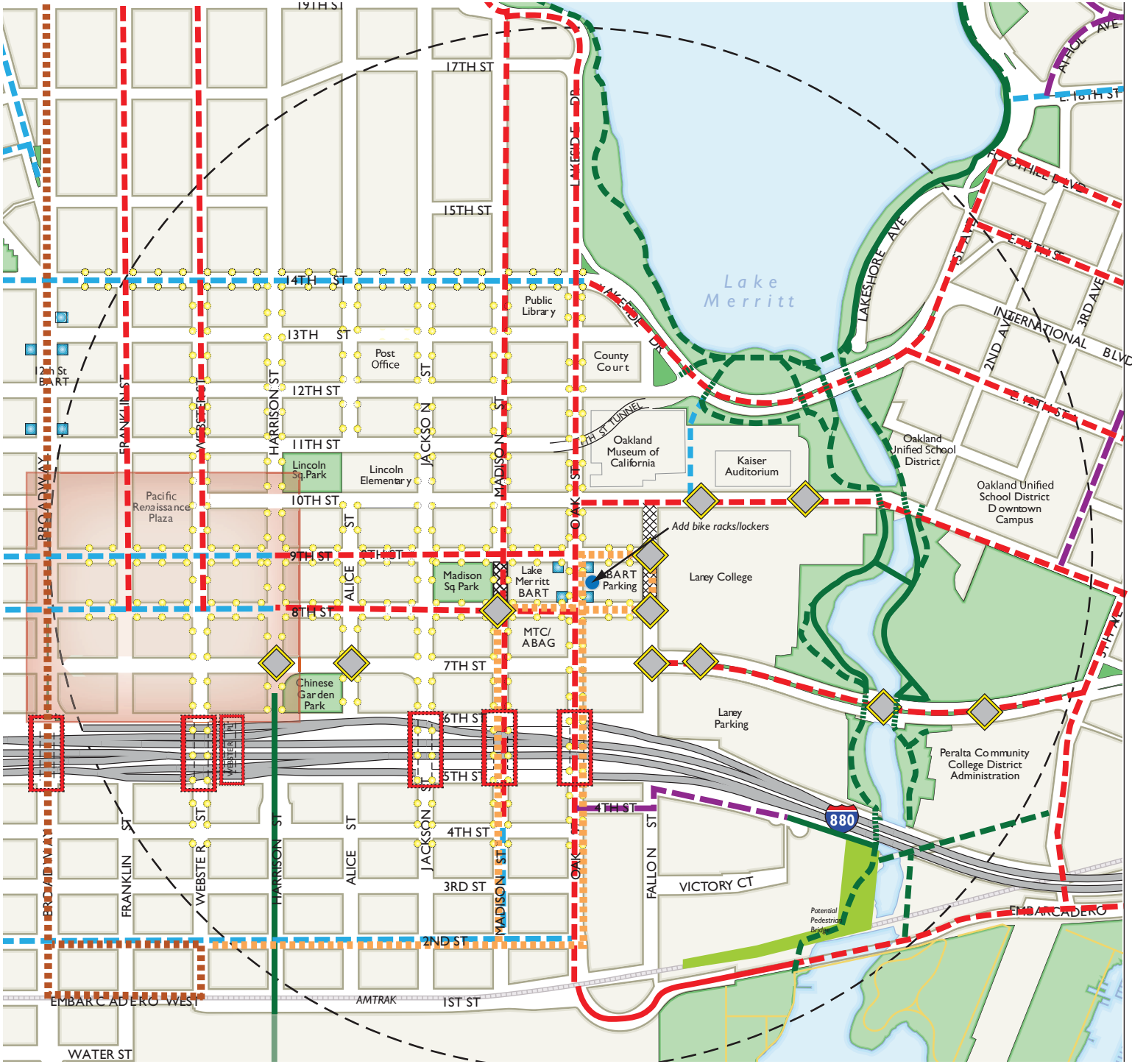


Figure 7.3: PRIORITY PEDESTRIAN, BICYCLE, AND SHUTTLE IMPROVEMENTS

7.2 Station Access Improvements

Increasing transit use and improving transit access are essential elements of the Preferred Plan. Between BART, AC Transit, and various private shuttles, the Station Area is one of the transit richest locations in Oakland. BART service connects the Station Area to the larger Bay Area region. The Lake Merritt BART Station in particular is an important station for bicyclists as it is the only station in Downtown Oakland that allows bicycles on during commute hours. AC Transit connects the area by trunk bus lines to Fruitvale, East Oakland, Pill Hill, Kaiser Center, Rockridge, Temescal, Emeryville, Berkeley, and Alameda, among other destinations. Direct service is also available to Grand Avenue, West Oakland, and the Macarthur Corridor.

The existing BART station forms the natural focus of transit improvements and intermodal transfers in the area. Although the Lake Merritt station is not expected to have any capacity constraints related to the station itself in the future, new development in the area is expected to increase its use by new residents and workers. Based on a survey of downtown employees (Dowling Associates, 2003), 23 percent of new employees in the area can be expected to use BART to commute to their job, and at least seven percent would use AC Transit. The survey found that approximately five percent of the workers in the area walked to work, and two percent bicycled.[1]

This strategy looks at short and long term access solutions for multiple modes of access. The short term improvements are those that can be taken in a six to 24 month time frame, are exempt from CEQA or require minimal review, and require minimal inter-agency coordination. Long term improvements are actions that are likely to take more than 24 months to complete, may require CEQA review, and/or require significant inter-agency coordination.

A variety of design solutions may meet the various multimodal access needs. The Oak Street Transit Hub depicted in Chapter 6, section 6.5 is only one possible concept for addressing access. There could be a few different lay-out options for the shuttle, bus, taxi, and kiss & ride areas. For example, kiss & ride areas could also be located on 9th Street (as opposed to Oak Street where is it shown in the Oak Street Transit Hub). All long-term improvements will be coordinated with future roadway reconfigurations, as discussed in the next section.

CURB MANAGEMENT

One of the guiding strategies for station access improvements is to allocate curb space to reflect the greatest benefit to the greatest number of users, irrespective of mode. This strategy emphasizes the principles of ‗curb management,' which is defined as proactively managing curb space to maximize the benefits of scarce curb space, typically by restrictions on uses/users, time of day or duration of parking, and/or pricing.

[1] This mode share represents the Chinatown/Metro Center and the County Center areas, which is somewhat lower than the Downtown average.

Short Term Actions

- Repainting curbs and relocating metered parking. To the extent feasible, lost parking meters will be relocated within the Planning Area. This could be achieved through inclusion of diagonal parking on some streets where there is no conflict with bicycle access. One one-way streets diagonal parking could be located on the opposite side of the street from a bike lane.
- Re-stripe five metered auto parking spaces on for "kiss-and-ride" loading zones and one designated taxi waiting spaces. As an alternative, curb passenger loading zones could be restricted to occupied vehicles during peak commute hours, such as 7-9 AM and 4-6 PM, and be available for short-term parking during the rest of the day. This reduces the congestion caused by vehicles double-parking and blocking moving traffic lanes, and also enhances the safety of passengers. This could be located either on Oak Street (west side, before 9th Street) per the Oak Street Transit Hub, or in some other location, such as on the south side of 9th Street between Oak and Fallon Street.
- Removing parking along east side of Oak Street between 8th Street and 9th Street and designating the block for three bus bays.
- Identify designated spaces for BART police and maintenance staff near the stairwells/elevator headhouse. There are currently two existing yellow zones that are perhaps underutilized (not in right location). Move BART police vehicle parking from the west side of Oak Street to the north side of 8th Street.
- Lane re-striping as part of re-surfacing project (may require CEQA review, especially if bike lanes are added).
- Enforce no parking zones.

Medium and Longer Term Actions

- Provide substitute parking under 880 freeway (owned by Caltrans, currently leased by ABAG/MTC).
- Could include developer-option to provide replacement parking in future buildings to be constructed on BART-owned property (existing surface lot or former BART headquarter site), as an optional element. Replacement parking on this site may be very expensive and contrary to other planning goals.
- Add a second taxi loading zone, if surveys indicate that there is demand after the first taxi zone is in place.
- Allow shared parking where land uses are complementary with respect to their parking demand.
- Create electric vehicle parking/recharging stations.
- Designate motorcycle/moped parking area.

PEDESTRIAN ACCESS

An improved pedestrian environment throughout Planning Area will also improve access to both the Lake Merritt and 12th Street stations. Pedestrian improvements for the Planning Area are outlined above, and include a network of safe walking routes between the station and surrounding neighborhoods (e.g., Oak/Madison Street and 8th/9th Streets) and improved pedestrian scaled lighting and traffic calming. These strategies will improve pedestrian access to the station by improving the safety and vibrancy of streets. Additional improvements to pedestrian access are outlined below.

Short Term Actions

- Provide directional wayfinding signage on street to key destinations, using City of Oakland standard signage. Signs should be multi-lingual and highlight the multiple attractions and destinations in the Planning Area. Signs in neighborhood should also guide travelers to the Lake Merritt station, as well as away from it.
- Improve lighting for pedestrians at the station, including bus waiting areas on Oak Street.
- Improve lighting on key streets accessing the station, such as on 8th and 9th streets and in the Oak Street undercrossing of I-880.
- Provide security improvements at the station;

Medium and Longer Term Actions

- Improve sidewalks south of 880 (Jack London District) to provide better access to Amtrak station.
- Provide corner bulbouts where they do not conflict with bus operations.

BICYCLE ACCESS

An improved bicycle network throughout Planning Area will improve access to the Lake Merritt and 12th Street stations, for example by providing bike lanes on 8th, 9th, Oak, and Madison streets. The Lake Merritt BART Station is the only downtown Oakland Station allowing bikes during all hours (12th Street and 19th Street stations restrict bicycles from the station during the peak hours), further emphasizing the importance of bike access to the Station.

Short Term Actions

- Provide bike corral in plaza (near as possible to station entrances) where the former BART headquarter building was. Based on the 8 percent bicycle mode share from the 2008 BART Passenger Profile survey for the Lake Merritt Station, and assuming that approximately 40 percent of those riding to the station park at the station (rather than taking their bikes on BART), it is estimated that approximately 112 bike spaces (in addition to the 53 existing spaces) would be needed to meet existing demand. Allowing 30 to 40 percent growth at the station, this would indicate an ultimate need

for 130 or 140 bicycle parking spaces by 2035. This total goal may be met over time. This total may be met through short, medium, and long-term actions.

- Add bicycle lockers.

Medium and Longer Term Actions

- Provide additional bike station/lockers as part of new development on BART property.
- Provide shared bike parking with Laney College.
- Add bike lanes as noted in *Emerging Plan* section 7.1 (pp. 7-1 thru 7-6).

TRANSIT

Short Term Actions

- Improve on-street bus area by removing parking along east side of Oak Street between 8th Street and 9th Street and designating the curb edge for buses only.
- Provide NextBus arrival screen at transit passenger waiting area; include Alameda shuttle if possible.
- Provide transit kiosk with detailed information on transit options at the hub. All information should be bilingual.
- Increase bus loading areas as described in the curb-management section above, and increase bus layover/parking areas to accommodate at least three buses (or two buses and a shuttle).
- Ensure that pedestrian improvements, such as corner bulb-outs, do not conflict with bus operations.
- Provide bilingual instructional signs for BART ticket and change machines.
- Improve bus waiting area comfort and safety.
- Move bus stops to the far side where possible to improve visibility and operations.
- Maintain 11-foot travel lanes where AC Transit bus routes exist.
- Where bus layovers exist, parking lanes must be at least 10 feet wide to allow the buses to layover outside of the bike lane.

Shuttles

Currently there are several shuttle services in the Planning area, including non-profit services shuttles, Alameda County shuttle, Executive Inn & Suites Shuttle, Alameda County Medical Center Shuttle, Highland Hospital Shuttle, and a new shuttle to College of Alameda. The service needs of the various shuttle services will be considered in allocating shuttle loading and layover spaces. Currently shuttles are loading in shared AC Transit stops or in the BART parking lot. Loading and layover zones for shuttles should be identified.

Over the long term, the existing "B on Broadway" shuttle bus service, or a future streetcar replacement of this bus service, may be extended to serve the Lake Merritt BART station. Existing service currently runs from Embarcadero West (Jack London Square) along Embarcadero to Webster to provide access to the Amtrak Station, then back along 2nd Street to Broadway, and then north on Broadway to Grand Avenue, where it loops back south on Broadway. On weekends the route extends farther north to the Uptown area. An extension could run via 2nd Street to Oak Street, to a turnaround near the BART station and return on Madison Street to 2nd Street or 3rd Street as a route back to Broadway. This would provide improved connection between Laney College, the Lake Merritt BART station, Jack London Square, the Amtrak station, and the BART stations on Broadway (12th and 19th Street). Shuttle service currently runs at 10- to 15-minute intervals on weekdays between 7 AM and 7 PM. It is likely that an additional shuttle would be required to maintain the existing intervals between shuttles. Additional shuttle routes or extensions that serve the Chinatown commercial core should also be considered, as outlined in Revive Chinatown.

7.3 Roadway Network

The major priorities for the roadway network are to enhance the pedestrian environment by adding pedestrian-scaled lighting, widen sidewalks, and add curb bulb-outs at intersections to reduce the pedestrian crossing distances and improve visibility. Roadway reconfiguration is also a priority with lane reductions where feasible based upon future traffic volumes or two-way street conversions. Bike lanes consistent with those proposed in the City's Bicycle Master Plan and street trees have also been identified as priorities.

7th Street is an east-west arterial that travels one-way eastbound between Broadway and Fallon Street with four travel land and two-way east of Fallon Street with two lanes in each direction. Preliminary future traffic volumes warrant the need for four eastbound travel lanes between Broadway and Fallon Street. This segment of 7th Street has been designated as a streetscape corridor. East of Fallon Street to 5th Avenue, a striped bike lane will be added by narrowing the travel lanes. This segment is also proposed to be a "green street" to tie into the Channel and may include rain gardens, bio-filtration, or other green amenities.

8th Street is a one way westbound arterial with four travel lanes. Preliminary future traffic volumes demonstrate that this segment has the potential for a lane reduction, removing a travel lane to accommodate additional non-vehicular amenities. 8th Street has been identified in the City's Master Bicycle Plan to provide an on street bicycle lane. This plan proposes to also widen sidewalks to provide an enhanced pedestrian environment. In addition, 8th Street has been identified as a priority lighting corridor, connecting the BART station to Chinatown and Laney College. This plan supports the City's Bicycle Plan by including an on-street bicycle lane on 8th Street east of Harrison, and including a sharrow (shared auto/bicycle lane) through Chinatown (between Harrison and Broadway). These improvements seek to meet the goals of a shared street where all modes of travel are accommodated, improved pedestrian safety and comfort, room for bicyclists, and slower moving traffic.

9th Street is a one-way eastbound collector street with three travel lanes. Preliminary future traffic volumes demonstrate that this segment has the potential for a lane reduction or a con-

version to two-way with one travel lane in each direction and a two-way left turn lane. 9th Street has also been identified as a priority lighting corridor, connecting the BART station to Chinatown and Laney College. The City's Master Bicycle Plan also proposes on street bike lanes. This plan supports the City's Bicycle Plan by including an on-street bicycle lane on 9th Street east of Harrison, and including a sharrow (shared auto/bicycle lane) through Chinatown (between Harrison and Broadway). These improvements seek to meet the goals of a shared street where all modes of travel are accommodated, improved pedestrian safety and comfort, room for bicyclists, and slower moving traffic.

10th Street is an east-west collector that is one way westbound with three to four travel lanes between Webster Street and Madison Street. East of Madison Street, 10th Street is two-way with two travel lanes in each direction between Madison Street and Oak Street and one wide travel lane between Oak Street and 5th Avenue, except for a temporary section of diagonal parking. Preliminary traffic analysis indicates that 10th Street could operate at acceptable levels with two travel lanes. Continuous bike lanes are proposed from Madison Street to 5th Avenue in the City Bicycle Master Plan. The segment is also proposed to be a "green street" to tie into the Channel and may include rain gardens, biofiltration, or other green amenities. The additional roadway width from removing two travel lanes could be used to modify the parallel on street parking to angled parking to provide additional parking spaces in the area. On street bicycle lanes could also be included to extend the bike network from Madison Street to Webster Street.

14th Street is an east-west arterial with two travel lanes in each direction. While a lane reduction is not option, this corridor has been identified as a key streetscape corridor and a priority lighting corridor. Bicycle lanes have also been proposed along this segment in the City's Bicycle Master Plan.

Fallon Street is north-south local roadway that fronts the Laney College campus with one travel lane in each direction, except between 7th Street and 8th Street where it is one way with three northbound travel lanes. A "festival street" treatment is proposed between 8th Street and 9th Streets with widened sidewalks on both sides of the street to provide better pedestrian access between the BART station and the college with one travel lane in each direction.

Oak Street is a one way, north-south arterial roadway with four northbound travel lanes north of I-880. Future preliminary traffic volumes demonstrate that this segment would operate at acceptable levels with three travel lanes; therefore, a lane reduction is proposed. Oak Street has been identified as a priority lighting corridor, and bike lanes are proposed in the City's Master Bicycle Plan. The eastside sidewalk is also proposed to be widened and additional street trees provided. The Oak Street undercrossing at I-880 has been identified as a priority improved freeway undercrossing to provide better connectivity to the Jack London District.

Madison Street is a one way, north-south arterial roadway with three southbound travel lanes north of I-880. Future preliminary traffic volumes demonstrate that the segment north of 8th Street would operate at acceptable levels with two travel lanes; therefore, a lane reduction is proposed. Oak Street has been identified as a priority lighting corridor, and bike lanes are proposed in the City's Master Bicycle Plan. Additional pedestrian amenities are proposed between 8th Street and 9th Street to improve the connections between the BART station and

Madison Square Park. The Madison Street undercrossing at I-880 has also been identified as needing an improved freeway undercrossing to provide better connectivity to the Jack London District.

Harrison Street is a north-south collector roadway that provides access to Oakland from the City of Alameda through the Posey Tube. Between 7th Street and 10th Street, Harrison Street is one-way northbound with three to four travel lanes. North of 10th Street, Harrison is two-way with two travel lanes in each direction. Harrison Street has been identified as a key streetscape corridor and a priority lighting corridor. Previous studies have identified the segment between 8th Street and 10th Street as a viable candidate for a two-way street conversion.

Webster Street is a north-south collector roadway that also provides access to the City of Alameda through the Webster Street Tube. Webster Street is one-way southbound with four travel lanes and has been identified as a key streetscape corridor and a priority lighting corridor. The City's Master Bike Plan proposed bicycle lanes north of 8th Street. The Webster Street undercrossing at I-880 has been identified as a priority improved freeway undercrossing to provide better connectivity to Jack London Square. Webster Street from 7th to 5th (including the freeway undercrossing) should have pedestrian-oriented improvements, including directional signage, to improve access to the Jack London District.

Jackson Street and ***Alice Street*** have been identified as priority lighting corridors within the Planning Area. The Jackson Street undercrossing at I-880 has also been identified as needing an improved freeway undercrossing to provide better connectivity to the Jack London District.

Franklin Street is proposed to provide bicycle lanes north of 8th Street in the Master Bicycle Plan.

Broadway has been identified as needing an improved undercrossing at I-880 both to provide better connectivity to the Jack London District, and to create a better sense of entry into the Downtown from the south.

All of the I-880 undercrossings, including Broadway, Webster Street, Webster Place, Jackson Street, Madison Street, and Oak Street, have been identified as priorities for pedestrian improvements including lighting.

ROADWAY RECONFIGURATION PHASING STRATEGY

(See the similar section in Chapter 6.)

A major priority of this Plan is to reconfigure the roadways, either through lane reductions or two-way street conversion. Given the studies and construction costs associated with streetscape improvement projects – for instance, two-way street conversions require complicated traffic studies beyond the scope of this project – it is desirable for improvements to proceed in a phased manner that allows less expensive traffic calming and pedestrian safety improvements to proceed in the near term, with more costly lighting and sidewalk widening efforts proceeding later. The "Street Improvements Phasing" sketches in Chapter 6 depict a scenario

in which lane reductions and interim streetscape improvements can occur, while accommodating an ultimate configuration that has either one-way or two-way traffic. Each phase is also described here, detailing the benefits of each phase.

Phase 1 would reduce the travel lanes along roadways where feasible using roadway striping. This is a low cost improvement that will have an immediate effect on the roadway network, taking over-capacity travel lanes and reallocating to other uses, such as bike lanes, wider curbside parking zone, painted corner bulb-out areas, or angled parking. The City of Oakland will be repaving several roadways in the Planning Area in the next five years, including Madison Street, Oak Street, 8th Street, and 9th Street, and the travel lanes can be restriped at that time.

Phase 2 would improve pedestrian crossings by constructing bulbouts and shortening crosswalks. The intersection modifications can be constructed at intersections with roadways that keep the current number of travel lanes or reduce a travel lane. This phase could also include upgraded traffic signals and pedestrian-oriented lighting as funding becomes available. This phase could be implemented before Phase 1 where appropriate, and may be available for grant funding.

Phase 3a would widen sidewalks along roadway segments where feasible to enhance the pedestrian environment, including installing street trees, pedestrian-oriented lighting, and other mid-block streetscape amenities as funding becomes available. This phase could be implemented before Phase 1 where appropriate, and may be available for grant funding.

Phase 3b would analyze roadways for conversion from one-way travel to two-way travel, with new traffic signals, possibly sidewalk widening, street trees, pedestrian-oriented lighting, and other mid-block streetscape amenities installed as funding becomes available. While outside of the scope for this project, this phase would require additional funding to evaluate the impacts of converting roadways to two-way travel on the roadway network.

COORDINATION WITH THE CITY OF OAKLAND'S FIVE-YEAR PAVING PLAN

The City of Oakland's Five-Year Paving Plan (to be implemented in the next 7-12 years) includes many Station Area Plan streets. As possible, the Station Area plan will seek to incorporate the Paving Plan into the implementation strategy for street improvements. To the extent feasible, the Station Area Plan EIR will include technical studies that will allow for implementation of bikeway improvements which can be easily incorporated into the paving projects. Bikeways identified in the Preferred Plan with potential for coordination with the Paving Plan include:

- Madison Street (between 2nd and 17th Streets)
- Oak Street (between 2nd and 14th Streets)
- 8th and 9th Streets (between Fallon and Harrison Streets)

ONE-WAY TO TWO-WAY CONVERSION

Many urban areas across the nation have a desire to convert their one-way street system to two-way. Pairs of one-way streets (couplets) were popular in the 1950‘s and 60‘s to improve automobile traffic flow and reduce conflicts at intersections. The most common reasons for converting back to two-way include:

- One-way streets create a circuitous and confusing circulation pattern, particularly for visitors.
- Narrower two-way streets have slower traffic.
- Two-way streets improve pedestrian and bicycle safety (ostensibly from slowing automobile traffic or by reducing the number of automobiles circulating in the area).
- Two-way streets result in less use of fuel, fewer miles traveled, and less automobile emissions from circulating around downtown.
- Two-way streets eliminate wrong way travel.

However, the conversion of one-way streets to two-way is often fraught with controversy. Proponents of one-way streets claim they are safer for pedestrians and result in less automobile congestion. Proponents of two-way streets claim they are safer, and create a more intuitive circulation system. Both one-way and two-way street systems have a number of technical advantages and disadvantages. Both systems can be made to work and be safe for all modes of travel. Any decision to convert one-way streets back to two-way is a local decision based on the community‘s values.

Table 7-1: Overview of Advantages and Disadvantages of Two-Way Versus One-Way Streets

Two-Way Streets	
Advantages	*Disadvantages*
▪ Two-way streets create less confusing circulation pattern which is more intuitive to all users. ▪ Eliminate indirect routes, which reduces travel time, fuel consumption and emission. ▪ Provide more direct routes to destinations. ▪ Creates direct emergency vehicle access to and from area. ▪ Create slower traffic speeds due to fewer lanes in each direction, parking maneuvers, and an increase in congestion. ▪ Improve pedestrian perception of the street as less of a barrier. ▪ Increase access to adjacent properties served by driveways. ▪ Two-way streets with bike lanes or routes are preferable to bicyclists for wayfinding.	▪ Generally increase traffic congestion at intersections. ▪ May require left turn lanes at intersections which may eliminate on-street parking adjacent to intersection. ▪ Two-way streets increase the number of potential conflict points at intersections, and may increase certain types of crashes (i.e., broadside). ▪ Reduce opportunity to increase traffic capacity if ever needed. ▪ Narrower two-way streets may be difficult for large vehicles and fire apparatus to negotiate and may require longer red zones and loss of parking at some intersections. ▪ With only one lane each direction, traffic control may be required during emergencies. ▪ Two-way streets that eliminate turning movements at some intersections will divert turning vehicles to other intersections.
One-Way Streets	
Advantages	*Disadvantages*
▪ Fewer automobile and pedestrian conflict points at intersections and pedestrians need only watch for traffic in one direction. ▪ Some right turn on red movements eliminated, thus eliminating a potential auto/ pedestrian conflict. ▪ Left turns into the street from driveways have fewer conflicts. ▪ One-way streets generally provide more vehicular capacity and long lines of turning vehicles don't block through lanes. ▪ One-way streets have more simplified traffic signal operations reducing delay for individual drivers. ▪ One-way streets can accommodate more on-street parking since parking does not need to be removed to accommodate left turn lanes. Drivers have option to park on both sides of the street. ▪ One-way streets can provide better traffic signal synchronization set to the slower speeds expected in urban areas.	▪ One-way street systems without uniform patterns are confusing, especially to visitors. ▪ One-way streets can increase certain types of pedestrian accidents. ▪ Higher speeds on one-way streets can increase crash severity, and one-way streets have the potential for wrong way, head-on collisions. ▪ One-way streets can create circuitous emergency response routes, and circuitous truck routes. ▪ One-way streets that eliminate turning movements at some intersections will increase them at others. ▪ Increased out-of-direction travel adds to air pollution. ▪ Can be confusing and unfriendly to bus passengers. ▪ Encourages unsafe bicycle travel against traffic or on sidewalks.

7.4 Transportation Demand Management (TDM)

Transportation Demand Management (TDM) strategies aim to reduce automobile use by shifting vehicle trips to non-auto travel modes. Many of the strategies focus on reducing vehicle trips to and from the Planning Area, which in turn reduces the parking demand for area residents, employees, and visitors while increasing the amount of non-vehicle trips. Many of the TDM strategies complement each other and are most effective when implemented in tandem. Some TDM strategies may include:

- Car sharing, a short-term vehicle rental service available to members that may eliminate the need to own a vehicle;
- Shuttle service connecting the Lake Merritt BART station to local employment centers or major destinations, such as Chinatown or Jack London Square;
- Identify a TDM coordinator, who would distribute information to local employees and residents to promote TDM programs;
- Carpool and vanpool ride-matching services;
- Guaranteed Ride Home Program, which allows transit users and car/vanpoolers access to free or reduced taxi service to get home in case of an emergency;
- Subsidized transit passes for area employees and residents; and
- Bicycle parking, both short and long term, located in appropriate places.

These TDM strategies have the potential to reduce vehicle trips to and from the area.

7.5 Transportation and Transit Analysis

The intention of this preliminary assessment is to review and compare the transportation characteristics of the proposed land use plans. An environmental review will also be conducted to quantify the impacts of the Station Area Plan, which will include an in-depth analysis of the transportation system, including intersection analyses for existing and future scenarios. Impacts caused by this Plan will be identified and reasonable mitigation measures will be developed and analyzed.

TRIP GENERATION

This section describes the methodology and analysis used to calculate the vehicle trips and transit trips generated by the Low Residential and High Residential redevelopment alternatives. The same methodology has been applied to the existing land uses proposed for redevelopment to calculate the net new vehicle and transit trips generated. It is important to note that this analysis looks only at trip generation for sites expected to redevelop, or opportunity sites (described in Chapter 3). The existing redeveloped sites, which are primarily vacant, parking lots, and sites with minimal development, currently generate very few trips. As these sites are redeveloped as part of a high density, transit oriented development, the number of trips will increase. Note that trip generation from existing uses that are not identified opportunity sites are not included in this analysis.

Vehicle Trip Generation

The amount of trips generated by each development alternative was estimated by applying appropriate trip rates from the Institute of Transportation Engineers (ITE) to the amount of building floor area or number of dwelling units for each land use type (residential, office, and retail). Reductions were applied to the gross trip generation to account for pass-by traffic (traffic already traveling adjacent to the site) for the retail uses. Due to the proximity of the Planning Area to the Lake Merritt BART station and downtown Oakland, a transit, walk, and bike reduction has also been applied. Per the City of Oakland's *Transportation Impact Study Guidelines* (Transportation Services Division, March, 2007), recent mode splits of up to 83 percent vehicle trips have been approved for environmental documents within the downtown area; therefore, a 17 percent reduction has been applied to the gross trip generation to account for transit, walk, and bike trips to all proposed land uses.

The same methodology has been applied to the existing land uses on opportunity sites in order to obtain a "net new external" vehicle trips generated by the proposed project, which equals the total trip generation within the Planning Area with build out of the proposed land uses minus the trip generation of the existing uses.

The "net new" trip generation estimates have been calculated for the Emerging Plan Low Residential and High Residential alternatives, which are illustrated in Table 7-2. The existing redeveloped uses currently generate 6,599 daily, 468 AM peak hour, and 595 PM peak hour vehicle trips. The net new external vehicle trips for the High Residential alternative will generate 48,577 daily trips with 4,238 trips during the AM peak hour and 4,905 trips during the PM peak hour. The net new external vehicle trips for the Low Residential alternative will

generate 39,324 daily trips with 3,528 trips during the AM peak hour and 4,043 trips during the PM peak hour. Detailed trip generation calculations for the existing and two alternatives have been included in the Appendix.

Table 7-2: Net New Trip Generation – City Standards[1]

Scenario[1]	*Daily*	*AM Peak Hour*			*PM Peak Hour*		
		In	*Out*	***Total***	*In*	*Out*	***Total***
Low Residential Alternative Net New External Trip Generation	39,324	1,962	1,566	**3,528**	1,712	2,331	**4,043**
High Residential Alternative Net New External Trip Generation	48,577	2,104	2,134	**4,238**	2,272	2,633	**4,905**

[1] This table reflects the development potential identified in the Emerging Plan (September 2011). Revisions incorporated into the Preferred Plan have resulted in slightly different development potential (particularly related to Scenario 2 for the BART), as outlined in Chapter 3. This analysis provides a general sense of Preferred Plan impacts; more detailed analysis will be completed for the Draft Plan.

Source: Kimley Horn, 2011.

Based on the transit-oriented development nature of the proposed developments, the transit/walk/bike trip reduction is quite low compared to existing commute patterns in the Planning Area. Commute patterns in the Planning Area are more representative of alternative modes of transportation, with 25.1 percent of residents using public transportation and 25.8 percent of residents walking or biking to work.[2] Therefore, the trip generation has been updated to create a realistic calculation of the vehicle trips generated by the new transit-oriented development using a 50.9 percent reduction in vehicle trips for the proposed residential uses. This same reduction has been applied to the existing residential uses in the Planning Area. The updated net new trip generation estimates have been calculated for the Low Residential and High Residential project alternatives and are illustrated in Table 7-3.

The existing redeveloped uses – which are primarily vacant sites, parking lots, or sites with minimal development – with the 50.9 percent residential reduction, currently generate 6,509 daily, 461 AM peak hour, and 586 PM peak vehicle trips. The net new external vehicle trips for the Low Residential alternative will generate 30,987 daily trips with 2,889 trips during the AM peak hour and 3,266 trips during the PM peak hour. The net new external vehicle trips for the High Residential alternative will generate 36,461 daily trips with 3,309 trips during the AM peak hour and 3,776 trips during the PM peak hour. Detailed trip generation calculations for the existing and two alternatives have been included in the Appendix.

[2] Claritas Inc., 2009; Dyett & Bhatia, 2009.

Table 7-3: Net New Trip Generation – Additional Reductions[1]

Scenario[1]	*Daily*	*AM Peak Hour*			*PM Peak Hour*		
		In	*Out*	***Total***	*In*	*Out*	***Total***
Low Residential Alternative Net New External Trip Generation	30,987	1,888	1,001	**2,889**	1,206	2,060	**3,266**
High Residential Alternative Net New External Trip Generation	36,461	1,972	1,337	**3,309**	1,537	2,239	**3,776**

[1] This table reflects the development potential identified in the Emerging Plan (September 2011). Revisions incorporated into the Preferred Plan have resulted in slightly different development potential (particularly related to Scenario 2 for the BART), as outlined in Chapter 3. This analysis provides a general sense of Preferred Plan impacts; more detailed analysis will be completed for the Draft Plan.

Source: Kimley Horn, 2011.

As previously stated, an environmental review will be conducted that will analyze the traffic impacts at the local intersections. Currently, most of the intersections in the Planning Area operate at acceptable levels per City of Oakland standards during weekday AM and PM peak hours. Several intersections, particularly near the I-880 interchanges, operate at or over the City's standards. It is expected that the additional vehicle trips generated by either of the alternatives may cause significant impacts at several intersections in the Planning Area. Therefore, as previously discussed, this Plan will focus on reducing the amount of vehicle trips by implementing TDM measures to increase transit, walk, and bike trips.

Transit Trip Generation

Due to the proximity of the Planning Area to the Lake Merritt BART station and numerous AC Transit routes, it is anticipated that the Emerging Plan will generate transit trips. As discussed in the vehicle trip generation, the City trip generation standard allows a 17 percent reduction to the gross trip generation to account for transit, walk, and bike trips. Assuming that five percent of the trips generated will be walk and bike trips results in twelve percent using transit, shown in Table 7-4.

It is estimated that the existing land uses that would be redeveloped under the Emerging Plan would generate 901 daily, 63 AM peak hour, and 85 PM peak hour transit trips. With the higher density land uses proposed, the High Residential alternative is predicted to generate 7,129 daily, 619 AM peak hour, and 721 PM peak hour net new transit trips. The Low Residential alternative is predicted to generate 5,791 daily, 516 AM peak hour, and 596 PM peak hour net new trips. Both alternatives result in a higher percentage of transit trips in the Planning Area because of the increased densities and land uses that are more conducive to transit use.

Table 7-4: Net New Transit Trip Generation – City Standard[1]

Scenario[1]	*Daily*	*AM Peak Hour*			*PM Peak Hour*		
		In	*Out*	***Total***	*In*	*Out*	***Total***
Low Residential Alternative Net New Transit Trip Generation	5,791	294	222	**516**	254	342	**596**
High Residential Alternative Net New External Trip Generation	7,129	315	304	**619**	335	386	**721**

[1] This table reflects the development potential identified in the Emerging Plan (September 2011). Revisions incorporated into the Preferred Plan have resulted in slightly different development potential (particularly related to Scenario 2 for the BART), as outlined in Chapter 3. This analysis provides a general sense of Preferred Plan impacts; more detailed analysis will be completed for the Draft Plan.

Source: Kimley Horn, 2011.

Based on the Transit-Oriented Development nature of the proposed developments, the proximity to the Lake Merritt BART station, and the existing commute patterns in the Planning Area, the transit trip generation has been updated to create a realistic calculation of the transit trips generated. Existing commute patterns in the Planning Area indicate that 25.1 percent of residents use public transportation. Transit trip generation applying this higher rate is shown in Table 7-5.

Using the higher transit trip generation, the existing land uses proposed for redevelopment generate 936 daily, 66 AM peak hour, and 88 PM peak hour transit trips. With the higher density land uses proposed, the High Residential alternative is predicted to generate 11,811 daily, 977 AM peak hour, and 1,157 PM peak hour net new transit trips. The Low Residential alternative is predicted to generate 9,013 daily, 763 AM peak hour, and 897 PM peak hour net new trips.

Table 7-5: Net New Transit Trip Generation – Additional Reductions[1]

Scenario	*Daily*	*AM Peak Hour*			*PM Peak Hour*		
		In	*Out*	***Total***	*In*	*Out*	***Total***
Low Residential Alternative Net New Transit Trip Generation	9,013	344	419	**763**	449	448	**897**
High Residential Alternative Net New External Trip Generation	11,811	387	591	**977**	618	539	**1,157**

[1] This table reflects the development potential identified in the Emerging Plan (September 2011). Revisions incorporated into the Preferred Plan have resulted in slightly different development potential (particularly related to Scenario 2 for the BART), as outlined in Chapter 3. This analysis provides a general sense of Preferred Plan impacts; more detailed analysis will be completed for the Draft Plan.

Source: Kimley Horn, 2011.

PRELIMINARY ROADWAY SEGMENT CAPACITY ANALYSIS

This preliminary traffic analysis evaluated the roadway segments within the study area to determine if the roadways are projected to be under or over capacity in the future using methodology from the *2000 Highway Capacity Manual* (HCM). The Florida Department of Transportation (FDOT) has developed a methodology consistent with the 2000 HCM that defines a roadway segments' capacity based on traffic density and/or average speed. The FDOT roadway segment classifications are based on several criteria, including area setting, type of roadway, number of signalized intersections, and number of lanes.

Each roadway segment in the Planning Area has been classified as Class IV due to the amount of signalized intersections along the segments. To conduct a conservative analysis, the peak hour volumes have also been adjusted from the FDOT values to account for left turn and right turn lanes and one-way streets. The City's standard for this area is to meet level of service E or better, which correlates to a roadway segment's volume being under the capacity of the roadway.

Future peak hour roadway segment volumes have been obtained from projected peak hour intersection data from other sources, including *Oak to Ninth Avenue Draft EIR* (volumes projected to 2025), *I-880/Broadway-Jackson Interchange Project Study Report* (volumes projected to 2030), and *Central District Urban Renewal Plan Draft EIR* (volumes projected to 2035). The intersection projections were used to derive peak hour volumes on the adjacent roadway segments. These volumes were then compared to the calculated capacity of the roadway to determine if the roadway is projected to be under or over capacity in the future. If a roadway segment was determined to be under capacity in the future, the roadway segment was evaluated assuming one less travel lane. If the segment was still under capacity with one less lane, it was determined that a lane reduction was feasible along that roadway segment. Results of the roadway segment analysis area illustrated in Table 7-6.

Table 7-6: Roadway Segment Analysis

Roadway Segment	*Projected Peak Hour Volume*	*Current Lane Configuration*			*Remove One Travel Lane*		
		# of Lanes	*Capacity*	*Under/ Over Capacity*	*# of Lanes*	*Capacity*	*Under/ Over Capacity*
7th Street – East of Broadway	3,373	4	2,795	Over	-	-	-
8th Street – East of Broadway	1,714	4	2,795	Under	3	2,082	Under
10th Street – West of Fallon Street	845	4	2,093	Under	2	972	Under
14th Street – West of Oak Street	1,570	4	2,093	Under	2	972	Over
Oak Street – North of 7th Street	1,283	4	2,795	Under	3	2,082	Under
Madison Street – North of 8th Street	1,376	3	2,082	Under	2	1,377	Under
Harrison Street – North of 7th Street	2,485	4	2,795	Under	3	2,082	Over
Webster Street – North of 7th Street	2,134	4	2,795	Under	3	2,082	Over

As the segment analysis results illustrate, 8th Street, 10th Street, Oak Street, and Madison Street are projected to be under capacity in the future with the removal of one travel lane. Therefore, lane reductions are proposed along these roadways and the roadway width be real-located to other uses, such as bike lanes, widened sidewalks, or angled parking.

Future peak hour traffic projections for 9th Street through the study area were not readily available. Existing traffic volumes traveling through the three-lane corridor peak at 475 ve-hicles during the PM peak hour. The three-lane roadway capacity for this facility type is 2,082 vehicles per hour and the two-lane roadway capacity is 1,377 vehicles per hour. Future

peak hour volumes would have to nearly triple for the roadway to be over capacity with two travel lanes. Therefore, 9th Street is a candidate for a lane reduction, with the additional roadway width reallocated to other uses, such as a bike lane and widened sidewalks.

7.6 Parking

Parking is a critical component of mixed-use and transit-oriented development. While pedestrian, bicycle and transit modes of transportation are supported and encouraged through this plan, considerations must also be made for residents, employees, students, and visitors who use automobiles to travel to the area. Parking is already a key concern in certain areas of the Planning Area, particularly in Chinatown, and parking demand will undoubtedly increase with new development and redevelopment in the area. The methodology used to calculate the parking requirement based on the City's Planning Code and the projected parking demand based on the MTC parking methodology are presented below. Loading is addressed in Section 7.7.

EXISTING PARKING IN PLANNING AREA

BART Parking

Two BART parking areas serve the Lake Merritt BART station – a surface lot between the BART headquarters and the Laney College entrance and a surface lot behind the Metro Center – that provide 206 off-street parking spaces. These parking areas are typically filled to capacity each morning. The Lake Merritt BART station is the only station in proximity to downtown that provides off-street parking. Other BART stations within central business districts, such as the nearby 12th Street/Oakland City Center and 19th Street stations in Oakland and the Embarcadero and Montgomery Street stations in San Francisco do not provide parking. The Preferred Plan recommends that the BART parking lot not be replaced since this is an urban station and access to the station will be improved for all travel modes, including pick up/drop off, transit, shuttles, pedestrians, bicyclists, and taxis. One strategy for maintaining access to the Station for riders that drive and park is to improve linkages to other parking areas in the Station Area, such as under I-880.

On-Street Parking

Currently, most streets provide metered on-street parking within the Planning Area; however, there are some streets that have non-metered parking. A majority of the available on-street parking is parallel parking, with the exception of 10th Street between Alice Street and Harrison Street adjacent to Lincoln Park, which provides angled parking along the north side of the street. Future street design will consider addition of diagonal parking where it does not conflict with bicycles.

Other Parking Lots

Laney College provides a 900 space surface parking lot on 7th Street east of Fallon Street exclusively for students. Parking permits or decals are required in addition to a paid parking receipt. Parking fees are $2 per day, and the lot is usually full during peak student hours. A key strategy for accommodating the access needs of Laney Students and mitigating the park-

ing demand in the area students is to increase the use of transit by students accessing the college, particularly given that full-time Laney students have AC Transit EasyPasses and the proximity of the Lake Merritt BART Station. This will include improving the safety of transit access, particularly at night, and working with transit service providers to ensure that routes and schedules serving Laney College meet student needs.

Surface parking is currently available under I-880 through the planning area. The parking areas near Chinatown are available to the public with parking rates ranging up to approximately $5 per day. The parking area under the freeway near the Lake Merritt BART station is currently private parking and not available for the public. Better coordination with these lots, for instance by improving connectivity to the I-880 lots to the Chinatown commercial core and to the BART Station, is one possible way to ensure public parking access.

There are also several public parking areas scattered throughout the Planning Area. Public parking is available at the Oakland Museum of California at Oak Street and 10th Street. There are also surface and structured parking available near the County government buildings along Jackson Street at 14th Street and 13th Street. Public parking is also available at a two-story parking garage at Webster Street and 14th Street and several smaller surface lots in the planning area. Several of these large parking areas are potential opportunity sites; the Preferred Plan recommends that existing public parking lots or garages that are redeveloped be required to receive incentives to include structured public parking as part of the redevelopment plan.

PARKING REQUIREMENT

The City of Oakland‘s current parking requirements outlined in Chapter 17.116 were utilized to calculate the off-street parking supply that may be required for any new development or redevelopment. It is important to note that parking requirements may change as part of new regulations developed specifically for the Planning Area. The current parking requirements outlined in Chapter 17.116 provide parking rates for various land uses based on the zone of the development. A majority of the Planning Area is currently zoned as CBD (central business district) and consists of parking rates reduced when compared to other zones within the City.

Multifamily residential uses are proposed throughout the Planning Area and current parking regulations require one space per unit. Office uses are proposed in the current CBD-P, C, or X zones, and do not require any off-street parking. The retail areas are proposed in several zones, including the current CBD-P, C, or X zones, and do not require any off street parking. Also the S-2 and C-40 zones in the East Lake area, which require up to 2.5 spaces per 1,000.

Based on the two alternative development plans and using the parking rates in the current Zoning Code, the proposed developments in the Planning Area require 3,882 off-street parking spaces for the Low Residential Alternative and 5,558 off-street parking spaces for the High Residential Alternative.

PARKING DEMAND

The Metropolitan Transportation Commission (MTC) has published a report for planning and implementing parking policies and programs that are supportive of smart growth and transit

oriented development, *Toolbox/Handbook: Parking Best Practices and Strategies for Supporting Transit Oriented Development in the San Francisco Bay Area*. This document developed a parking demand model based on numerous case studies throughout the Bay Area that takes into account the characteristics of an area such as transit availability, walkability, auto ownership, and the types and densities of land uses. The model organizes communities into one of five major area types and provides a range of parking rates for each area type.

The Lake Merritt BART station Planning Area is categorized as a City Center/Urban Neighborhood based on its location adjacent to downtown Oakland, the availability of high-quality transit, and the density and types of existing and proposed land uses. These parking rates are designed to support the proposed mixed-use and transit oriented concept of this Plan and avoid the development of significant excess parking. This strategy encourages the "park once" mentality where visitors would park in one location and visit several destinations within a walkable distance. The MTC model provides two sets of parking rates, a low rate and a high rate, which have been developed based on case study results and from other parking information collected as part of the Toolbox/Handbook. Parking rates range from 0.50 to 1.25 per residential unit, 0.25 to 1.25 per 1,000 square feet of office space, and 1.00 to 2.00 per 1,000 square feet of retail space. Using these rates, parking demand can be calculated for the two residential alternatives. The Low Residential alternative would require 2,628 to 7,466 off street parking spaces and the High Residential alternative would require 3,466 to 9,561 off street parking spaces.

Table 7-7 provides a summary of the required parking and the projected parking demand for both the Low Residential and High Residential Emerging Plan alternatives. As shown in Table 7-7, the City Code requirement, ranging from 3,882 (low) to 5,558 (high), is a realistic set of numbers to use, given the history of parking in Downtown Oakland and current City requirements. The requirement is greater than the MTC Low Rates, but much lower than the MTC High Rates, indicating that the existing standards are likely reasonable for the Planning Area. However, these standards could be further refined by establishing a parking maximum or by reducing auto parking requirements in exchange for increased bicycle parking and/or transit passes.

Table 7-7: Parking Demand Comparison[1]

Alternative	*City Code Requirement*	*MTC Parking Rates Low Rates*	*MTC Parking Rates High Rates*
Low Residential	3,882	2,628	7,466
High Residential	5,558	3,466	9,561

[1] This table reflects the development potential identified in the Emerging Plan (September 2011). Revisions incorporated into the Preferred Plan have resulted in slightly different development potential (particularly related to Scenario 2 for the BART), as outlined in Chapter 3. This analysis provides a general sense of Preferred Plan impacts; more detailed analysis will be completed for the Draft Plan.

Source: MTC Rates from Toolbox/Handbook: Parking Best Practices and Strategies for Supporting Transit Oriented Development in the San Francisco Bay Area

PARKING STRATEGIES

Implementing parking management strategies would reduce the overall need for additional parking supply and increase the effectiveness of parking throughout the Planning Area. Initial strategies follow; additional strategies will continue to be developed and strategies outlined here will be refined in the Draft Plan.

Provide Unbundled Residential Parking

Typically, parking is bundled into the purchase or lease of a residential unit. This strategy would provide reserved parking spaces for sale or lease separately from the cost of housing. Reserved parking would still be available for residents who wish to pay a fee. Overall parking supply for residential uses would be reduced as fewer residents may opt to not own a car or park in other locations. The parking spaces that are not purchased or leased with the residential unit would then be available for other parkers.

Implement Transportation Demand Management (TDM) Programs

TDM strategies are designed to reduce vehicular trips generated by area residents and employees, such as providing car sharing, carpool/vanpool matching, guaranteed ride home, and transit subsidies (such as the AC Transit EasyPass). This would lead to fewer people using automobiles to access the area and potentially result in reduced parking demand.

Implement Transportation Strategies from the Emerging Plan

The transportation strategies recommended as part of this Emerging Plan are designed to reduce automobile trips within the area, promote transit, and provide an enhanced pedestrian and bicycle environment for all users. Priority lighting corridors and wider sidewalks improve the pedestrian environment, promoting more walking between the BART station and destinations. On street bicycle facilities connecting to the BART station provide another option for residents, visitors, students, and employees to access transit. In addition, converting excess travel lanes to diagonal parking will increase the on street parking supply and offer automobiles more parking options.

Parking Enforcement Program

According to the City of Oakland Parking Division, there is a dedicated parking enforcement officer for the core of Chinatown (the area bounded by 8th, 9th, Webster, Franklin Street) from 7:30 to 3:30 pm. After that, there are roving parking enforcement officers. However, double parking consistently occurs, particularly in the Chinatown core area. Many times the double-parkers are delivery vehicles unloading merchandise (street loading is discussed further below). Increased parking enforcement, including the issuance of multiple tickets for vehicles parking in the same spot for long periods, could help alleviate some of the congestion caused by the double-parking vehicles.

Provide Additional Bicycle Parking Facilities

In addition to on street bicycle facilities, bicycle parking should be provided at all new developments and additional secured bicycle parking should be provided at the BART station. The City of Oakland requires bicycle parking in its City Code for any new or re-development. At

the BART station, bicycle racks and parking meters around the station have been observed as fully occupied, in addition to bicycles locked to street trees. Additional secure bicycle parking would encourage more biking to and from the station and potentially reduce the parking demand in the area.

Parking Maximums

Excessive parking supply can be discouraged by establishing maximum parking ratios in addition to the minimum parking ratios required for development. Maximum parking ratios would place an upper limit of parking, or a cap, that could be provided for new developments or within an area. Maximum parking ratios limit the number of parking spaces, and promote more efficient use of land and use of alternative modes of travel, such as transit. Since a majority of the required parking for the Lake Merritt planning area is for the residential uses, parking maximums would limit the number of available parking spaces per unit. Developers or individual tenants could secure additional parking spaces at off-site locations, if desired.

Shared Parking

Shared parking is a concept of using a parking space to serve two or more land uses without conflict. Conventional regulations require that each development, or land use type, provide enough parking to serve its own peak demand, leaving unused parking spaces during the off-peak periods. Shared parking allows multiple complementary land uses, whose peak parking demands do not coincide, to share the same pool of parking spaces, resulting in a more efficient use of those spaces. Typically mixed-use developments lend themselves to shared parking as the peak parking demand for various uses occurs at different times of the day. The use of shared parking is an effective way to efficiently use existing parking resources and reduce the costs of constructing excess parking facilities in the future. Since the parking requirement for the redevelopment west of the Lake Merritt Channel is entirely for the proposed residential uses, shared parking can only be implemented in the proposed redevelopment in the Lakeside neighborhood. The proposed retail and residential mixed use developments in this area should explore this strategy to determine an appropriate number of required parking spaces.

Parking Pricing

This strategy charges vehicles for using a parking facility, typically for parking in an off street facility such as a parking lot or garage, or parking on street using parking meters. Setting reasonable parking rates for short-term parkers and higher rates for long-term parkers can discourage employees from driving to work and encourage the use of alternative modes of travel, such as transit or biking. This will also reserve spaces for the short term needs of visitors and customers. Higher rates and shorter pricing periods should be implemented at the more convenient parking spaces, such as on-street spaces and parking near building entrances, to increase turnover and favor higher-priority uses. On street parking should also have a higher hourly rate than the rate in off street public lots or garages to encourage parking turnover of on-street spaces. This also creates additional revenue for the City of Oakland, which could then be used to implement other improvements in the planning area.

Provide Additional On Street Parking

The Preferred Plan is recommending the removal of travel lanes along roadways that are projected to have excess capacity in the future and reallocating that space to other uses. One option is to modify the on street parking from parallel parking to angled parking. The City recently made modifications along the north side of 10th Street between Alice Street and Harrison Street adjacent to Lincoln Park, altering the parallel parking to angles parking, creating additional public parking spaces. This strategy could be explored in the future and implemented along several other streets within the planning area, such as other segments of 10th Street, Franklin Street, or Webster Street, creating additional public parking areas near Chinatown. This modification has the potential to double the amount of on street parking within a block. With most streets being one-way in the planning area, motorists have to parallel park along the left side of the street, a less practiced parking maneuver. One possibility is to modify the on street parking along the left side of a one-way street to angled parking. This would also benefit bicyclists by decreasing the number of potential conflicts since bike lanes or shared travel lanes are typically located along the right side of a one-way street. Truck loading could still take place during the permitted loading times in these spaces.

7.7 Street Loading

Street loading and double parking is an issue not only in Oakland Chinatown, but in high-density retail areas around the Bay Area and the county. As discussed in the *Revive Chinatown Community Transportation Plan*, double parking is a major problem in the Chinatown core area. Commercial and non-commercial vehicles, both of which have been observed to double park, impede traffic flow along the roadway and can pose a safety hazard to drivers, pedestrians, and delivery people. The California Vehicle Code allows commercial vehicles to double park for active delivery if no yellow zones (delivery) are available, however there are several blocks within the core that do not have on-street delivery parking spaces marked.

Double parking by commercial vehicles typically occurs throughout the day but is generally highest during weekday morning hours, typically between 8:00 AM and 9:30 AM. During weekends, few commercial vehicles were observed double parking; however, due to vehicles frequently parking for long periods of time in the on-street parking spaces, double parking by non-commercial vehicles is exacerbated.

The Plan identified the following areas with heavy double parking, either due to a lack of delivery parking areas or a concentration of retail land uses:

- The east side of Webster Street between 9th Street and 10th Street;
- The south side of 9th Street between Webster Street and Harrison Street;
- The north side of 7th Street between Webster Street and Harrison Street;
- The south side of 10th Street between Webster Street and Harrison Street;
- The north side of 8th Street between Franklin Street and Webster Street; and
- The west side of Webster Street between 7th Street and 8th Street.

LOADING STRATEGIES

This Plan builds upon the recommendations from the Revive Chinatown Plan, which developed an on-street loading/parking program in the Chinatown core area to reduce double parking in travel lanes:

- Create metered truck loading zones for active truck loading only with 30-minute time limits;
- Designate the great majority of the on-street loading/parking spaces for truck loading only during the morning peak hours and short-term parking thereafter, with some spaces designated on-street loading throughout the day, depending on the needs of each individual block.
- Increase effectiveness of parking enforcement by using walking beats to give violations and give multiple tickets for vehicles parked in the same space for long periods.

It is proposed that each block within the Chinatown core area provide metered truck loading zones with 30-minute time limits between 7:30 AM and 10:00 AM. After 10:00 AM, the on-street parking should metered and limited to 30 to 60 minutes with certain high-loading blocks maintaining loading spaces throughout the day.

In addition, enhanced pedestrian corridors should be provided to local off-street parking areas, particularly the parking areas under I-880. Webster Street and Harrison Street are identified in this Plan as priority lighting corridors and the Webster Street underpass at I-880 is identified as a priority improved freeway undercrossing. 8th Street and 9th Street have also identified as priority lighting corridors and providing bike lanes will create better non-vehicular connections to the Lake Merritt BART station.

7.8 Sidewalk Vendor Displays

The Chinatown commercial center is a vibrant neighborhood, with active streets characterized in many locations with merchant displays on sidewalks. Vendor displays occur generally in front of grocery and produce markets. These stores are mostly concentrated along 8th Street from Franklin to Harrison Streets and Webster Street from 7th to 9th streets. While sidewalk vending adds vitality to the street and promotes local economic development, it can also conflict with pedestrian access in some locations. Some vendor displays occupy approximately 25 percent of the sidewalk width, while others occupy up to 75 percent of the sidewalk width, leaving an effective width of only two (2) feet for pedestrian movement. Some storeowners also use on-street parking spaces for temporary storage of boxes and pallets, causing pedestrian, parking, and traffic circulation impacts.[3] The Emerging Plan seeks to encourage sidewalk vending to enhance the commercial core, but also to regulate displays in order to ensure a consistent and comfortable pedestrian environment. The Emerging Plan recommendations build on Revive Chinatown, including:

[3] City of Oakland, Revive Chinatown Community Transportation Plan, September 2004.

- Reduce sidewalk obstacles by replacing parking meters with central pay booths and consolidating newsstands in the core area. This project would reduce the number of sidewalk obstacles and increase effective sidewalk widths, facilitating pedestrian movement.
- Ensure that sidewalk vendor stands do not block sidewalks (minimum five-foot clear zone). A minimum width of five feet must be maintained along sidewalks, clear of any obstacles, to allow smooth pedestrian movement, especially on heavily traveled sidewalks in the core.
- Promote merchant education and provide city enforcement
- Consider additional guidelines, such as:
  - The finish materials used for display merchandise must be smooth, nonabsorbent and cleanable.
  - Merchants must be responsible for making sure that all activities on the sidewalk stay within the approved area and maintenance of the storefront, exterior walls, sidewalk and gutter in a clean condition at all times. Sidewalks shall be washed daily at locations with food displays and as needed at others.
  - All movable display stands shall be promptly removed from the sidewalk in accordance with approved time of operation every day.

Currently, merchants are required to pay a yearly permit fee for using the public right of way for their business. This permit fee is meant to pay for enforcement of the clearance requirements, However, the yearly fee has been described as a financial and logistical burden for business owners. The Station Area Plan could include some recommendations for balancing the needs of merchants and the need to provide some enforcement – such as amending Oakland Municipal Code Section 12.04.090 to allow the use of the sidewalk right-of-way in front of businesses in the Plan Area without the need for a yearly permit fee; provided, however, that there is maintained, at all times, a clear space along such sidewalk of not less than five (5) four feet in width for the use of pedestrians.

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