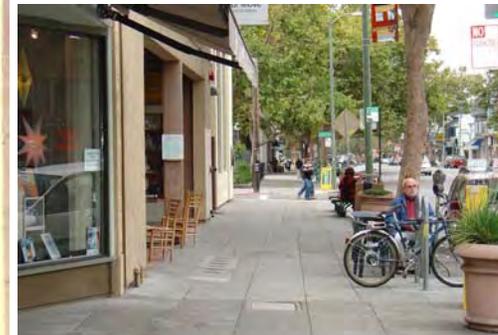
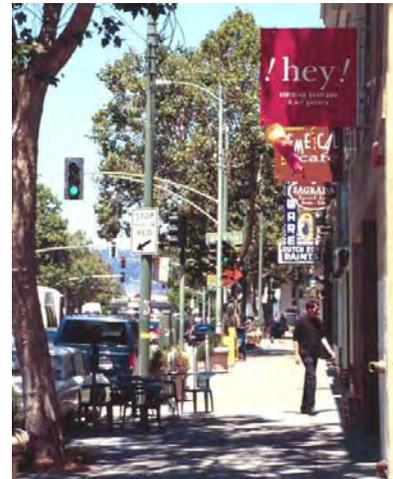


July 2005

CITY OF OAKLAND

TELEGRAPH AVENUE

PEDESTRIAN STREETSCAPE IMPROVEMENTS PROJECT



*Prepared by the City of Oakland
with assistance from
Bottomley Associates Urban Design & City Planning
Korve Engineering*

July 2005

TELEGRAPH AVENUE PEDESTRIAN STREETScape IMPROVEMENT PROJECT

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July 2005

TELEGRAPH AVENUE PEDESTRIAN STREETSCAPE IMPROVEMENT PROJECT

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I. Introduction

Background

Telegraph Avenue is a major East Bay thoroughfare, linking Downtown Oakland to North Oakland neighborhoods, Berkeley, and the University of California. Because it is an important intercity transportation route, different public agencies have sought to influence the design and function of the street. In the years since World War II, Telegraph Avenue and its major cross streets have been widened incrementally to accommodate the growth in automobile use. Most recently, Telegraph was selected as the preferred route for AC Transit's Bus Rapid Transit (BRT) lines serving the San Leandro/Oakland/Berkeley corridor. Telegraph Avenue is a designated regional bicycle route, and is identified as a cross-county bicycle corridor in the Metropolitan Transportation Commission (MTC) Regional Bicycle Plan.

Telegraph Avenue is not just a thoroughfare for vehicles, however. It is a pedestrian and commercial corridor that includes the hub of the Temescal neighborhood and the fast-growing Koreatown district. Ongoing, mixed-use infill development is creating a residential community focused on Telegraph Avenue as well. Recent development includes the Old Sears Lofts, Telegraph Gateway, and Temescal Place projects, and the proposed MacArthur BART Transit Village project.

Telegraph Avenue is the focus of a number of planning and community development efforts. In addition to the BRT and MacArthur Transit Village projects, these include programs associated with two City of Oakland redevelopment project areas – the "Central District," extending from Downtown north along Telegraph Avenue to 27th Street, and "Broadway/MacArthur/San Pablo," extending from 27th Street to 42nd Street. In early 2005, local merchants and property owners formed the Temescal Business Improvement District. Recent planning studies that address corridor conditions include the Telegraph-Northgate Plan and the Downtown Streetscape Improvement Plan.



The Pedestrian environment on Telegraph ranges from "utilitarian" (just north of Grand Avenue, top) to a multi-use public space (Temescal District, below).

For the most part, however, these various efforts have occurred as separate initiatives with limited coordination between them. Yet, to ensure that objectives for transportation and district revitalization are both addressed, competing demands for Telegraph Avenue's limited right-of-way require close coordination, ideally as part of an overall corridor vision.

The Telegraph Avenue Pedestrian Streetscape Improvement Project was funded jointly by the Central District and Broadway/MacArthur/San Pablo redevelopment project areas. The project reflects the importance of pedestrian circulation to Telegraph Avenue's evolution as a denser, more transit-oriented corridor. The project incorporates and augments the plans and capital improvement programs noted above, and implements many of the policies and specific design recommendations of the City of Oakland Pedestrian Master Plan (2002), a component of the City's General Plan Land Use and Transportation Element.

The Telegraph Avenue Pedestrian Streetscape Improvement Project addresses a two-mile segment of Telegraph Avenue, from 20th Street on the south to the SR 24/55th Street on the north. The scope of improvements recommended for such a large area are extensive, the associated costs are significant, and recommended improvements are not anticipated to be implemented at one time as part of a single project. Though specific, near and medium term improvements are identified, the Pedestrian Streetscape Project functions primarily as a guide to an ongoing process of streetscape improvement that will extend over a number of years, reflecting funding capabilities and local community priorities. As capital improvements based on the Pedestrian Streetscape Project are pursued, design and engineering elements are likely to be refined.

Streetscape Project Objectives

The *Pedestrian Streetscape Project* outlines a strategy for capital improvements that encourage pedestrian activity throughout the corridor. There are three basic objectives, with related improvements that reflect different capital facilities and types of pedestrian streetscape use.



Pedestrians steer clear of the street edge where there are no curbside trees, furnishings, or parking stalls to buffer roadway traffic (top). Though unattractive as clutter, parking meters and newsracks define a pedestrian space (middle). Street trees define a consistent sidewalk space (below).



Crosswalks on Telegraph are long and exposed to traffic. Motorists often stop within crosswalk areas (below).

1. **Upgrade Safety & Image** - Related improvement efforts address basic streetscape facilities and maintenance. They focus on bringing the streetscape to a consistent minimum level of appearance and pedestrian orientation, primarily to encourage pedestrian movement. In general, they are the least costly and most needed types of efforts. These efforts include:

- Clean, repair, and/or patch damaged and uneven sidewalks.
- Paint “high-visibility” crosswalks at key locations and repaint crosswalks bars where needed.
- Install new, ADA-compliant sidewalk ramps at all pedestrian crossings; align new ramps with crosswalks.
- Mark and enhance unsignalized crossings with pedestrian refuge islands and/or in-pavement signs.
- Straighten, paint and/or replace damaged and rusted parking meters.

2. **Enhance the Pedestrian Environment** - Related improvement efforts promote an increase in pedestrian use by making the streetscape a more attractive public place. They focus on amenities that encourage people to come to the street to patronize its businesses, take advantage of increases in transit service, and invest in infill development. These efforts include:

- Install pedestrian-oriented street lights; remove “cobra-head” highway lights.
- Install street trees to provide a minimum consistent appearance throughout the corridor; maintain clearance from street lights as needed for sidewalk illumination.
- Construct corner curb bulb-outs at high-use pedestrian crossings, as feasible given bus stop and right turn lanes.
- Construct special, expanded bulbouts that create space for additional benches, café seating, and/or special amenities in high-use pedestrian areas.
- Install coordinated street furnishings – e.g., benches, trash receptacles, newsracks, bike hoops, planters – in existing and planned high-use areas.



There are a variety of frontage conditions along the street, from storefront commercial (above) to blank walls (below).

- Maintain a consistent maximum spacing for pedestrian crossings to promote cross-street activity and minimize jaywalking.
- 3. Strengthen District Character and Improve Street Function -** Related improvement efforts add to the distinct identity of a particular area, improve the storefront commercial environment, and/or have a pedestrian benefit but primarily address another issue. These efforts include:
- Differentiate lighting, street trees, and/or furnishings in neighborhood commercial district areas from other areas in the corridor.

- Provide district gateways/landmark signs to highlight entrances to neighborhoods and/or commercial areas.
- Incorporate district-specific amenities that relate to local history or culture - e.g., public art/artisan furnishings, lighting, banners, landscape materials.
- Relocate bus stops to the far side of intersections, consistent with general AC Transit policies; construct bus bulb-outs if appropriate per AC Transit policies.
- Remove parking meters and install ticket kiosks to eliminate sidewalk clutter and associated maintenance issues.
- Eliminate redundant red curb/no-parking areas at offset intersections and inactive bus stops; add on-street parking and/or bulb-outs at these locations as feasible.

Given budget constraints, recommended streetscape improvements generally focus on Objectives 1 and 2. However, district character and street function improvements associated with Objective 3 are identified and may also be funded by future grants and/or local financing initiatives.

A number of the improvement efforts identified under different objectives overlap and could and should be implemented in a single project; for example, high visibility crosswalk striping, pedestrian refuge islands, and curb bulb-outs could all be installed at a location where a red curb is eliminated.

The Planning Process

A total of seven community outreach meetings were held between August 2004 and March 2005. These included three planning area-wide community meetings, one meeting with Korea Town property owners, one meeting with the Northgate Neighborhood Crime Prevention Council, and two meetings with the Temescal Merchants Association.

Based on the community input received, analyses of streetscape conditions and improvement recommendations were developed by a consultant design team and reviewed by a Technical Advisory Committee (TAC) consisting of City of Oakland and AC Transit staff. Key TAC issues were pedestrian crosswalk locations, bulb-out clearances relative to AC Transit Rapid Bus and BRT service requirements, street tree and lighting placement, and construction implications and cost assumptions.

The focus and content of the community outreach meetings are summarized below. Comments recorded at the three community-wide meetings are compiled in Appendix B. Outreach for the community-wide meetings was completed by City staff. Over 800 flyers were mailed for each community-wide meeting using address lists provided by the offices of District 3 Councilperson Nancy Nadel and District 1 Vice Mayor Jane Brunner. In addition, information about the meetings were posted on email lists for active community organizations and advertised in community newsletters.

Northgate Neighborhood Crime Prevention Council – August 19, 2004 - The basic work scope, objectives, and study area for the project were reviewed and discussed. The meeting attendees recommended that the project focus on improvements that would help reduce incidents of crime in the area such as pedestrian street lights. In addition, attendees mentioned that additional trashcans were needed near the fast food restaurants in this district.

Korea Town Property Owners Meeting – August 25, 2004 –This meeting was held by the Korea Town property owners who are contemplating forming a Business Improvement District in this area. The basic work scope, objectives, and study area for the project were reviewed and discussed. Key improvements desired by the property owners included increased pedestrian street lighting, additional trash cans, and upgrades to the existing bus stops. A realignment of the bus stops at 24th Street and Telegraph was also requested to prevent traffic back-ups at that intersection.

Temescal Merchants Association - September 8, 2004 - The basic work scope, objectives, and study area for the project were reviewed and discussed. It was recommended that the project area boundary be extended north from Claremont Avenue to the SR 24 overpass, which was incorporated in the project work scope. Attendees voiced concerns regarding the general difficulty crossing Telegraph Avenue, and the tendency for pedestrians to patronize businesses on only one side of the street. Of particular concern was the signal and crosswalk at 50th Street; i.e., it was noted that motorists do not tend to see the signal, posing a hazard for pedestrians.

Community Meeting #1 - October 27, 2004 - Attendees were welcomed by Councilperson Nancy Nadel and Vice Mayor Jane Brunner. City staff and the design team then presented an overview of project objectives and project area conditions, including subareas,



Workshop participants commented directly on the streetscape analysis and improvement recommendation sheets

traffic levels and important pedestrian crossings, and street and sidewalk conditions. This was followed by a presentation of a basic streetscape improvement concept with initial recommendations for “Boulevard” and “Neighborhood Commercial District” areas. Community comments were largely positive, with additional “needs improvement” recommendations related to traffic signals, more street trees, and unsignalized pedestrian crossings. Concerns relating to potential bike lanes and general bicycle circulation were also noted.

Community Meeting #2 - December 8, 2004 - The design team reviewed the content and community input from Meeting #2, then presented specific recommendations for major cross-street intersections, the Koreatown and Temescal commercial districts, pedestrian refuge islands, and photo images of typical improvements, including pedestrian-oriented street lights, upgraded crosswalks, and furnishings. Community comments were positive, with additional “needs improvement” recommendations focused on additional intersections also perceived to need pedestrian improvements.

Temescal Merchants Association - January 12, 2005 - Content and comments from Community Meeting #2 were reviewed. The merchants association was generally strongly supportive of the initial improvement plans. Among the recommendations made were the following: a second crosswalk should be considered for the southerly side of the 50th Street intersection to heighten the visibility of the intersection for motorists and to expand access for pedestrians, and a no-stopping “box” should be painted between east and west 49th Street to discourage motorists from blocking east 49th. “Right-in/right-out only” should be considered at the 50th/Temescal Plaza intersection to reduce traffic and pedestrian conflicts.

Community Meeting #3 - February 16, 2005 - The design team reviewed the content and community input from Community Meeting #2, then presented revisions and a “menu” of pedestrian-oriented streetscape improvements and costs for community review and prioritization. Meeting participants were given 3 dots each to place on the improvement graphics to identify their highest priorities. Participants ranked street trees, special bulbouts, and “zebra” painted crosswalks #1, #2, and #3 respectively.

In addition to the seven community meetings described above, Vice Mayor Jane Brunner’s Office held two additional meetings specifically on plan prioritization at the Temescal Neighborhood Crime Prevention Council and Temescal Merchants meeting in March 2005. At these meetings, the attendees were requested to prioritize which improvements to implement with the \$150,000 of Council PayGo funds that Vice Mayor Jane Brunner pledged towards the implementation of this project in the Temescal area. The top priority for the attendees of both these meetings was street trees. The second highest priority was the construction of a special bulb-out that could serve as an outdoor plaza area in the heart of the Temescal commercial district.

Project Implementation

Funding has not yet been identified for the implementation of this design plan. It is anticipated that the project will be completed in discrete phases as funding becomes available. Sources of funding that may be available in the future to implement this project include, but are not limited to, redevelopment tax increment revenues, streetscape/transportation grant funds, and Measure “B” Pedestrian Streetscape Safety Elements Funds. In addition, this plan is intended to serve as a guide for all future projects that will effect the configuration of Telegraph Avenue such as the implementation of AC Transit’s Rapid Bus or Bus Rapid Transit projects. Wherever possible, the improvements suggested by this plan should be included as part of any future reconfiguration of the street that is required by these projects.

Overview of this Document

This document contains four chapters:

- I. Introduction** - provides a background, an overview of project issues, context, basic project objectives, and the planning process.
- II. Existing Conditions** - describes project area subdistricts, vehicular traffic and pedestrian activity levels, and basic physical street and sidewalk conditions.
- III. Streetscape Improvement Concept** - describes the general distribution and intent of recommended improvements, and provides conceptual designs for individual streetscape design elements.
- IV. Recommendations for Specific Locations** - describes near term and long term improvement recommendations for major cross street intersections and for the Koreatown and Temescal commercial districts.

Appendices - Contain layout plans for near term capital improvements, concept-level cost estimates, and transcriptions of comments from Community Meetings #1, #2, and #3.

II. Existing Conditions

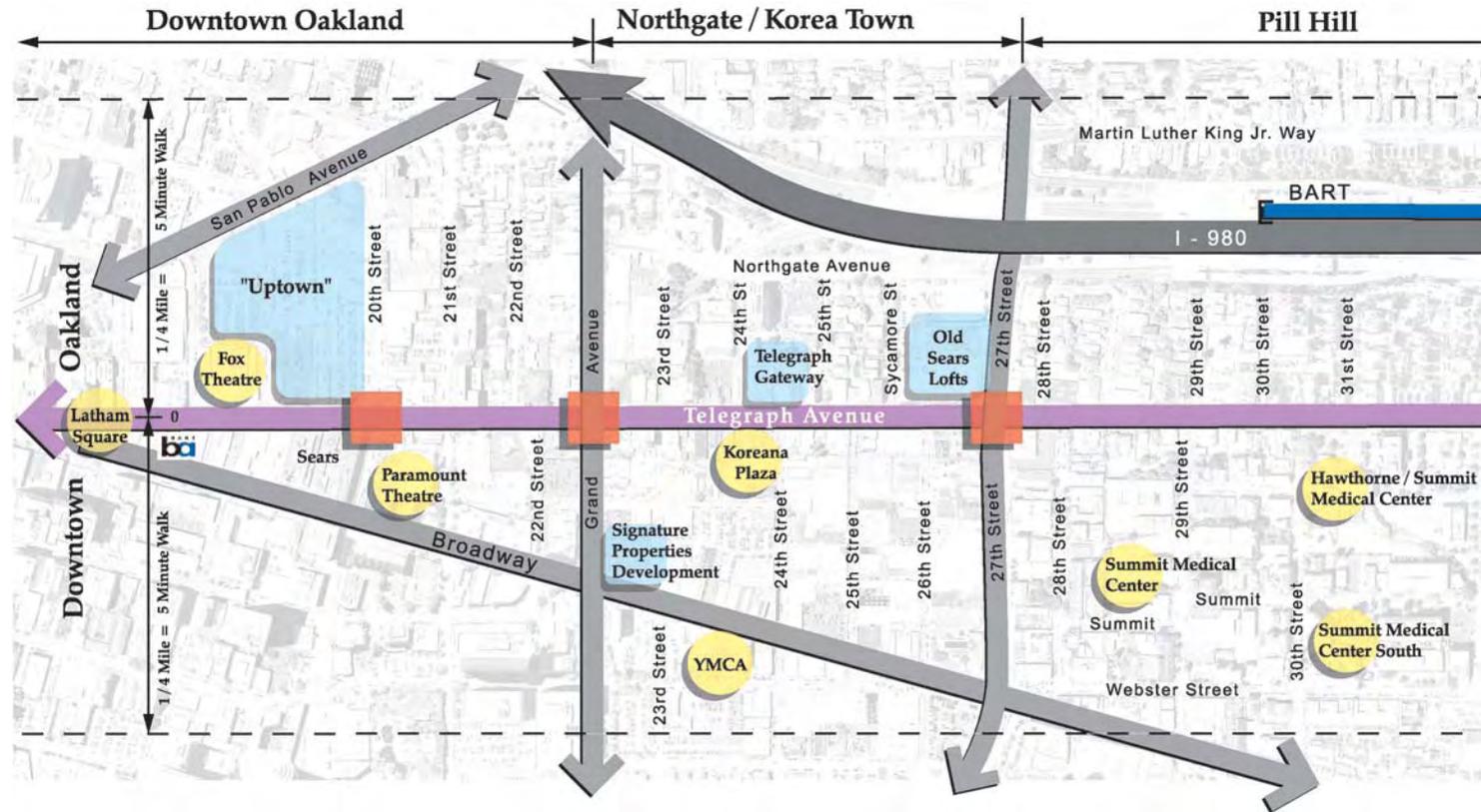
The Context map to the right shows of the project area and the Telegraph Avenue corridor's major destinations, cross streets, and subdistricts. The map indicates basic walking distances and the 1/4 mile "walking shed" served by AC Transit's Oakland/Berkeley bus routes.

As the map also shows, the I-980/SR 24 freeway creates a barrier to pedestrian mobility along the west side of the project area. BART stations are located just south of the project area at 19th Street and just to the west between West MacArthur Boulevard and 40th Street.

Subareas

The project area encompasses five relatively distinct subareas. These are Downtown Oakland, Northgate/Koreatown, Pill Hill, MacArthur Transit Village, and the Temescal District. Though street and sidewalk widths are relatively constant, each subarea has different frontage land use and development conditions. Subareas are described below:

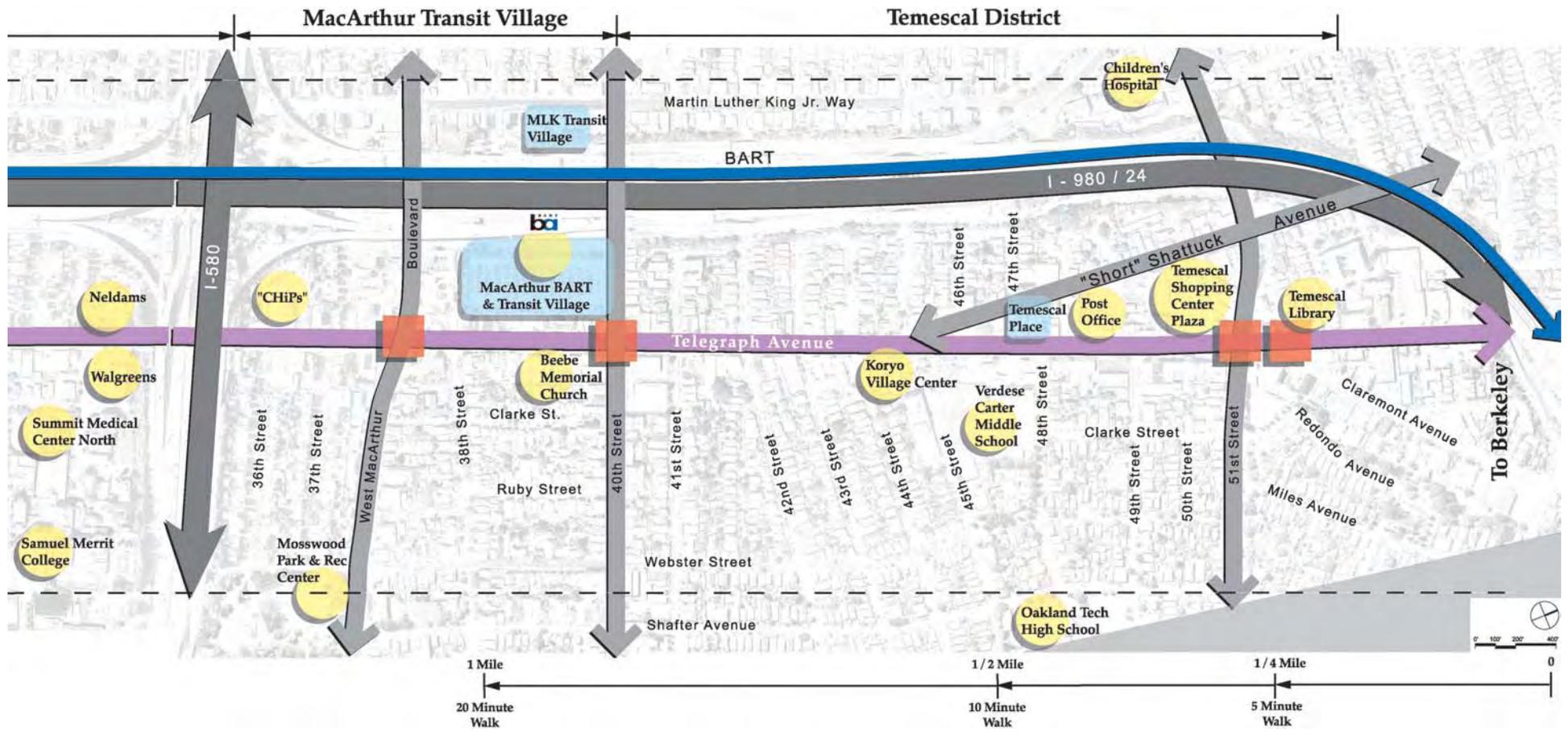
Downtown Oakland - A small portion of Downtown is included in the plan area, extending from 20th Street north to Grand Avenue; South from 20th Street to Broadway, Telegraph is planned for a major streetscape renovation in conjunction with development plans for the Uptown Project, the Fox Theater renovation, and the Latham Square redesign. Key issues in the Downtown subarea are the lack



Context Map

of sidewalk amenities, such as pedestrian-oriented lighting, street trees, and furnishings, minimal markings for pedestrian crossings, and the general lack of a Downtown district image.

Northgate/Koreatown - This area extends between two busy crosstown arterials, Grand Avenue on the south and 27th Street on the north. It is one of the corridor's two distinct storefront commercial districts, the other being Temescal located north of 40th Street. Though the area has a history of crime, low levels of building maintenance, and general disinvestment, significant new development and business has recently come to the area. New development includes the Old Sears Lofts, a renovated architectural



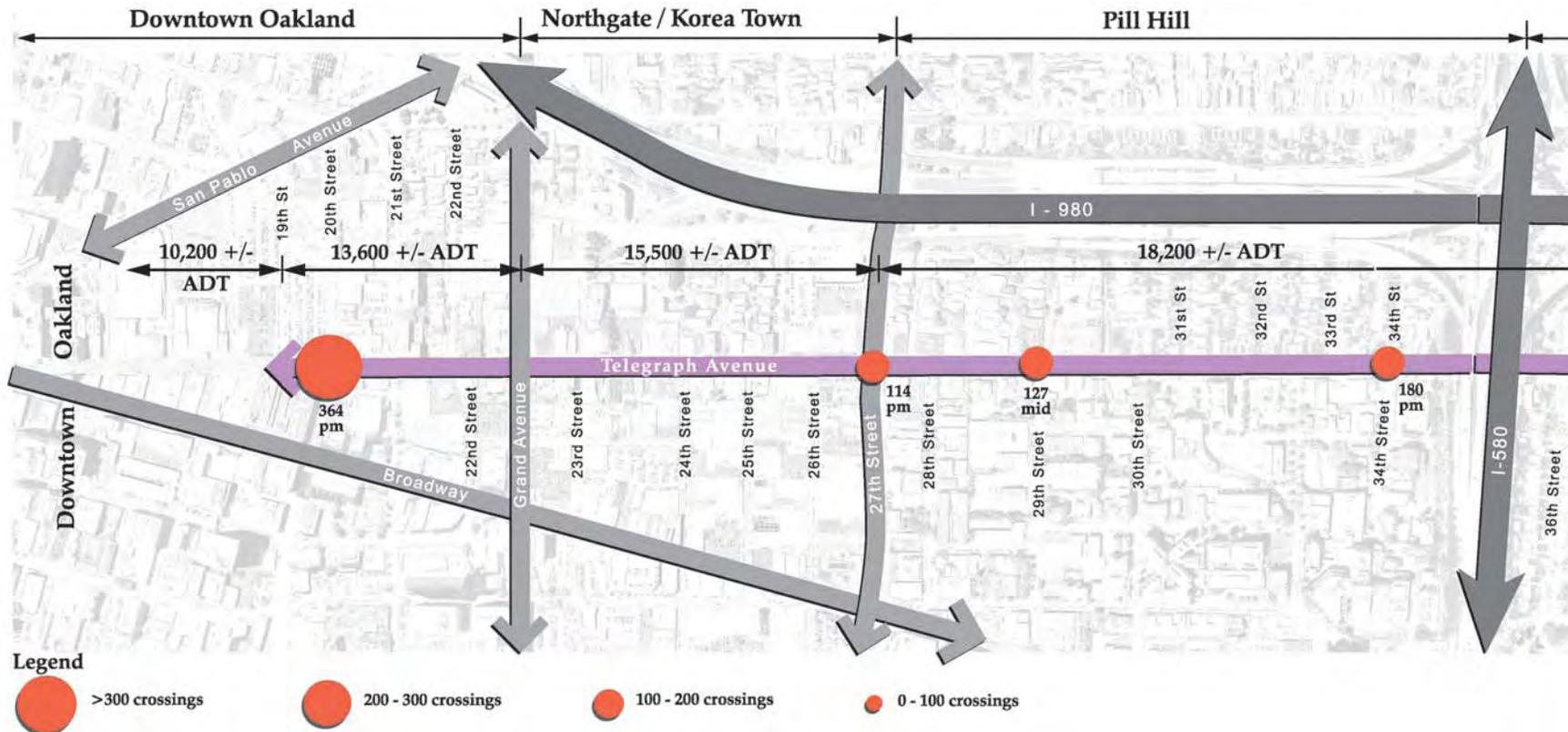
landmark, and the new Telegraph Gateway apartment project. Approximately 30 new businesses are reported to have opened in Koreatown since 2003.

Pill Hill - This subarea extends from 27th Avenue north to the I-580 overpass. Telegraph Avenue is the westerly boundary of the area, which includes the facilities of Summit Medical Center, Samuel Merritt College, and a concentration of related medical office buildings. A number of Telegraph Avenue businesses cater to nearby medical professionals, including Neldam's Bakery, Walgreens, and the Courthouse Athletic Club. However, the health of the local commercial environment is lower than could be expected given the number of nearby health care workers and visitors.

MacArthur Transit Village - The "Transit Village" area extends from the I-580 overpass north to 40th Street. The focus of the area is the planned MacArthur BART mixed-use development project with housing and neighborhood serving retail, to be located above the existing BART surface parking lot. This subarea also includes Beebe Memorial Church, an important neighborhood focus, and a California Highway Patrol substation. Due to the BART station, pedestrian street crossings are the highest in the project area.

Temescal District - The Temescal neighborhood commercial district is the focus of a large residential area, extending from as far as Broadway on the east to I-980/SR 24 on the west. To the south, the area extends as far as I-580. To the north, however, pedestrian access

(ADT) decreases from north to south through the Project Area, with



Average Daily Traffic / Pedestrian Crossings

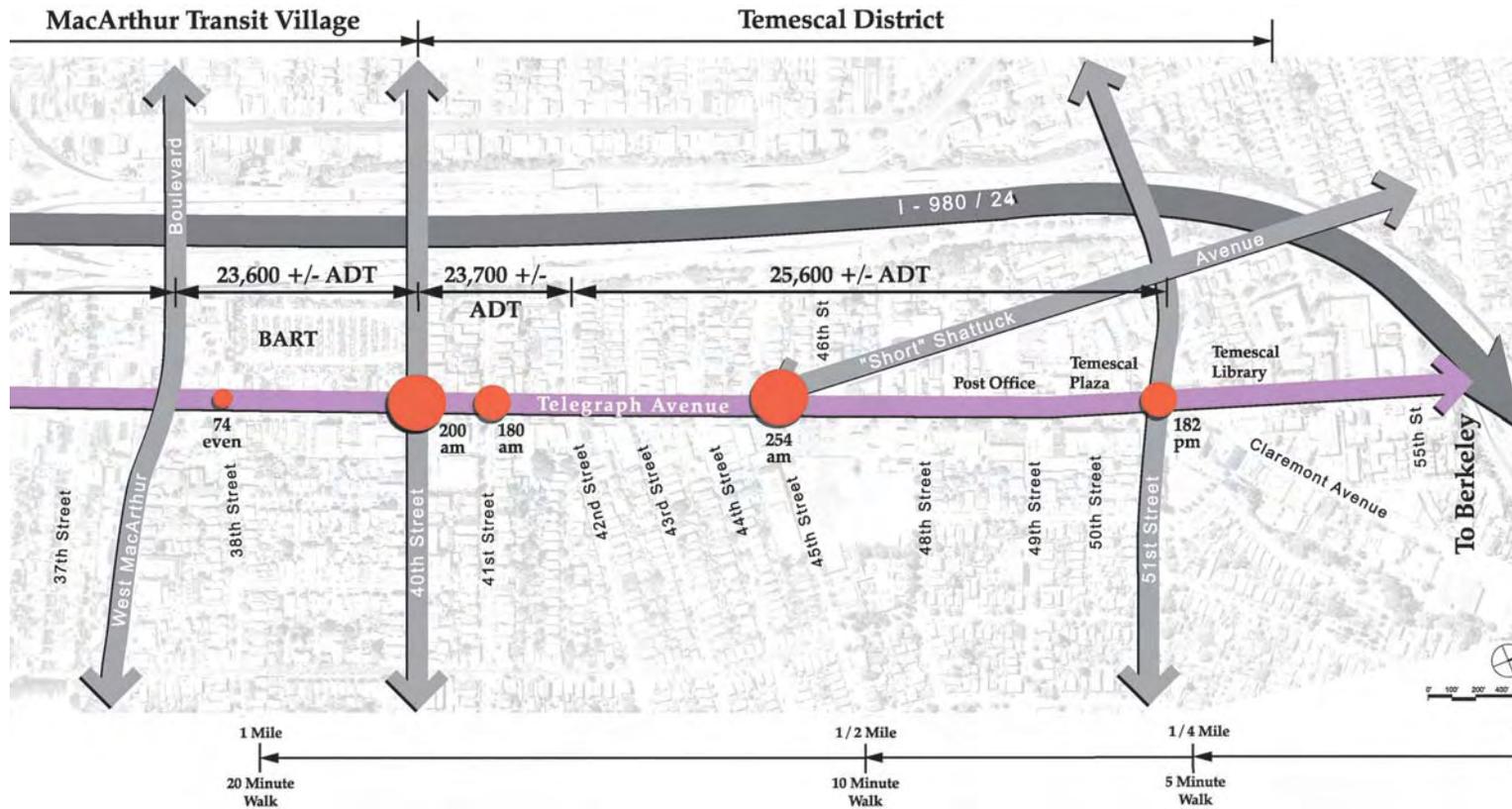
to the area is limited by heavy traffic on both 51st Street and Claremont Avenue, and the associated intersections are perceived as significant deterrents to pedestrian movement. Recent development in the area includes the commercial center at the northwest corner of Telegraph and 51st, the Temescal Plaza shopping center, and the 25-unit Temescal Place condominium and retail project.

Traffic and Pedestrian Activity

The “Average Daily Traffic/Pedestrian Crossings” map illustrates patterns of traffic and pedestrian activity in the Project Area (Kimley-Horn and Associates Inc., 2003). In general, Average Daily Traffic

the highest traffic levels, approximately 25,600 ADT, between 42nd and 51st Streets in the Temescal District. A key concern voiced during community meetings is that this traffic is a barrier to pedestrian activity in the Temescal District, limiting the frequency of street crossings and business patronage. Traffic levels decline significantly south of West MacArthur Boulevard. The lowest traffic levels, approximately 10,200 ADT, are found south of 19th Street.

Pedestrian street crossings are highlighted for key intersections; the total of all intersection crossings during the busiest peak hour, am or pm, is indicated. Crossings generally reflect BART-related commute trips. For example, the highest number of crossings is at the 40th / 41st



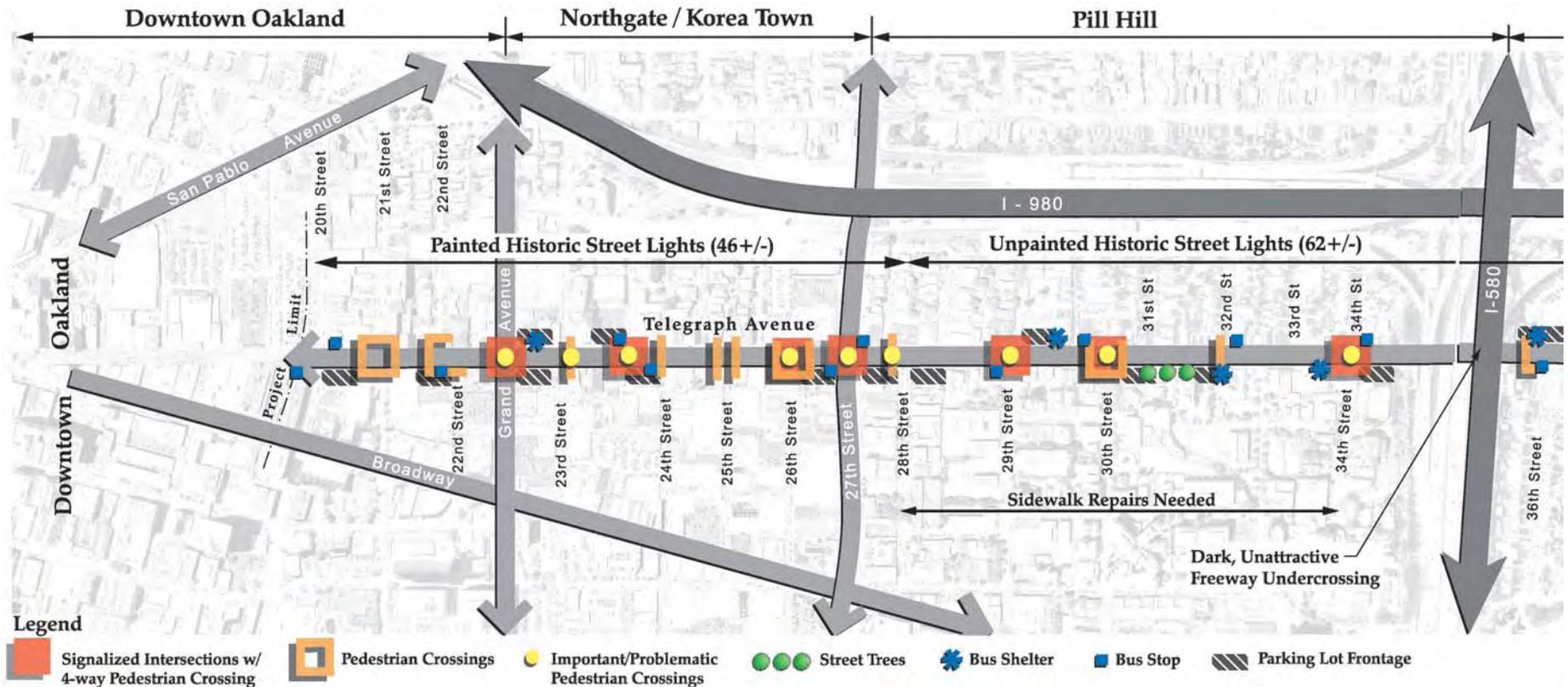
Street intersections adjacent to MacArthur BART, with 380 crossings during the am peak hour. Second is 20th Street, adjacent to the 19th Street BART Station, with 364 crossings during the pm peak hour. A notably busy non-BART intersection is 45th Street, with Carter Middle School, McDonald's, and Jack-in-the-Box at three of the intersection's five corners; 254 crossings were counted during the am peak hour.

Street and Sidewalk Conditions

The "Street and Sidewalk Conditions" map highlights pedestrian-related conditions in the Project Area. These include signalized and unsignalized crossings, important and/or problematic crossings (i.e.,

crossings that should be improved), street trees, and existing bus stops and bus shelters. Also indicated are locations where sidewalks are bordered by a surface parking lot, bracketing pedestrians between vehicles and creating gaps in an otherwise consistent building frontage.

Concrete sidewalks are continuous and typically 15 feet in width, generous compared to typical city standards. Walks are in generally good condition with limited areas that need repair. These include the area between 28th Street and 34th Street, where there are scattered sections of damaged concrete, and frontages between 40th and 45th Streets, with asphalt paving at the back of the walk that expands the



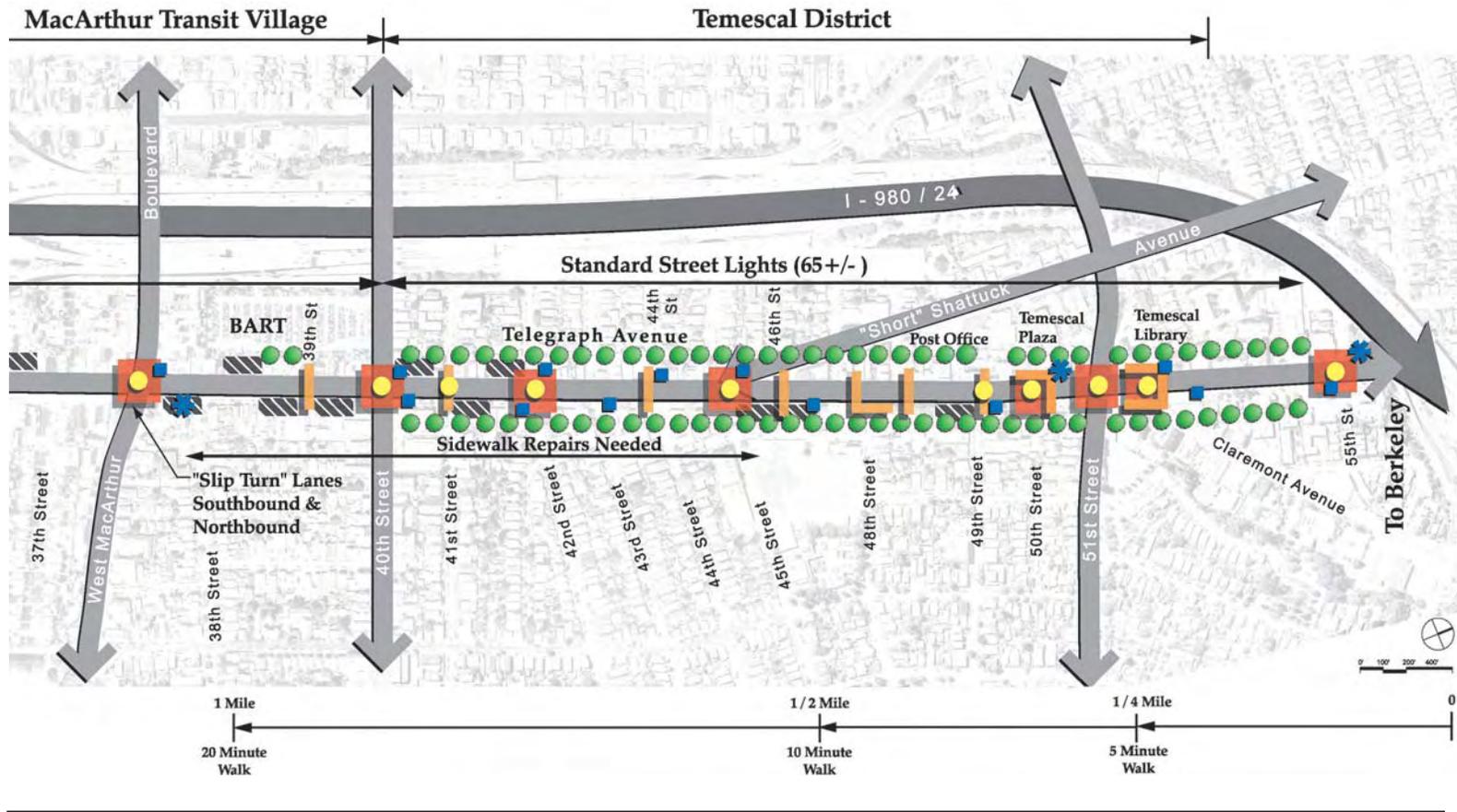
Street and Sidewalk Conditions

width from 10 feet to 15 feet. The “Existing Conditions & Issues” sketch is a composite of sidewalk and street conditions that should be improved.

Also indicated by the map are traditional cast iron City of Oakland street light poles that exist north through the Project Area to 40th Street. North of 40th Street current City standard steel poles are installed. Highway-style “cobra-head” fixtures are mounted on both pole types. Poles between 20th and 27th Streets have recently been repainted. The City is planning to replace the cobra-head fixtures on cast iron poles with traditional double-head Oakland “candelabra” fixtures in 2006.

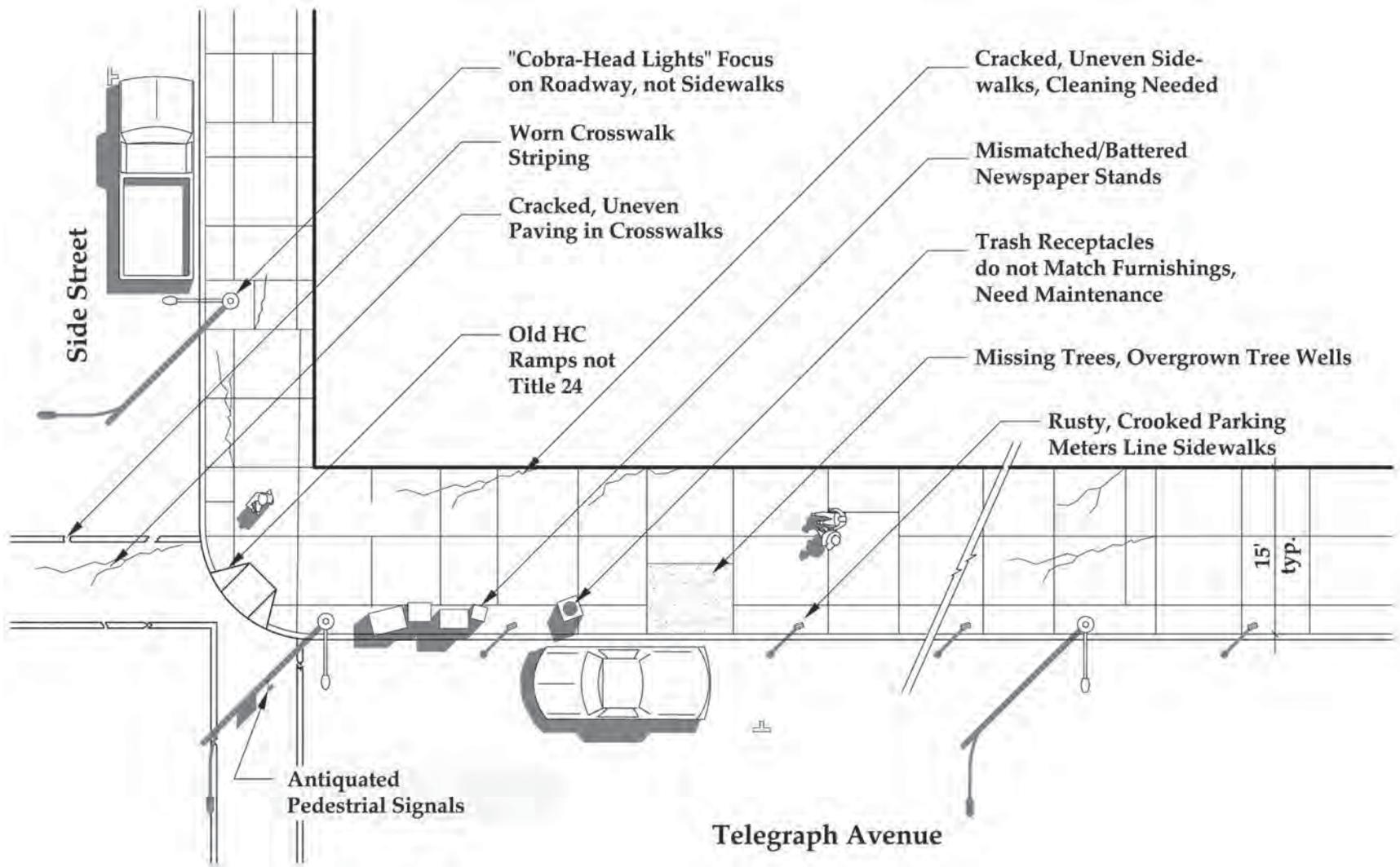
The Temescal District is the only area that has consistent street trees. Pedestrian crossings are generally concentrated in the Koreatown and Temescal commercial districts. “Special conditions” include dark and unattractive sidewalk areas beneath the I-580 overpass, and “slip turn” lanes – i.e., free right turn lanes that encourage free-flowing traffic across crosswalks – at the West MacArthur Boulevard and Claremont Avenue intersections.

Three bus routes serve Telegraph Avenue today. The 40L and 40 lines extend through the entire corridor, from Downtown Oakland to UC Berkeley and Downtown Berkeley. The 43 line branches from Telegraph to Shattuck Avenue at 45th Street. As noted previously, AC



Transit has planned both Rapid Bus and Bus Rapid Transit (BRT) service for the corridor. Existing local bus stops are likely to shift from present locations, and some local stops may be eliminated or consolidated with Rapid Bus and/or future BRT facilities.

Existing Conditions

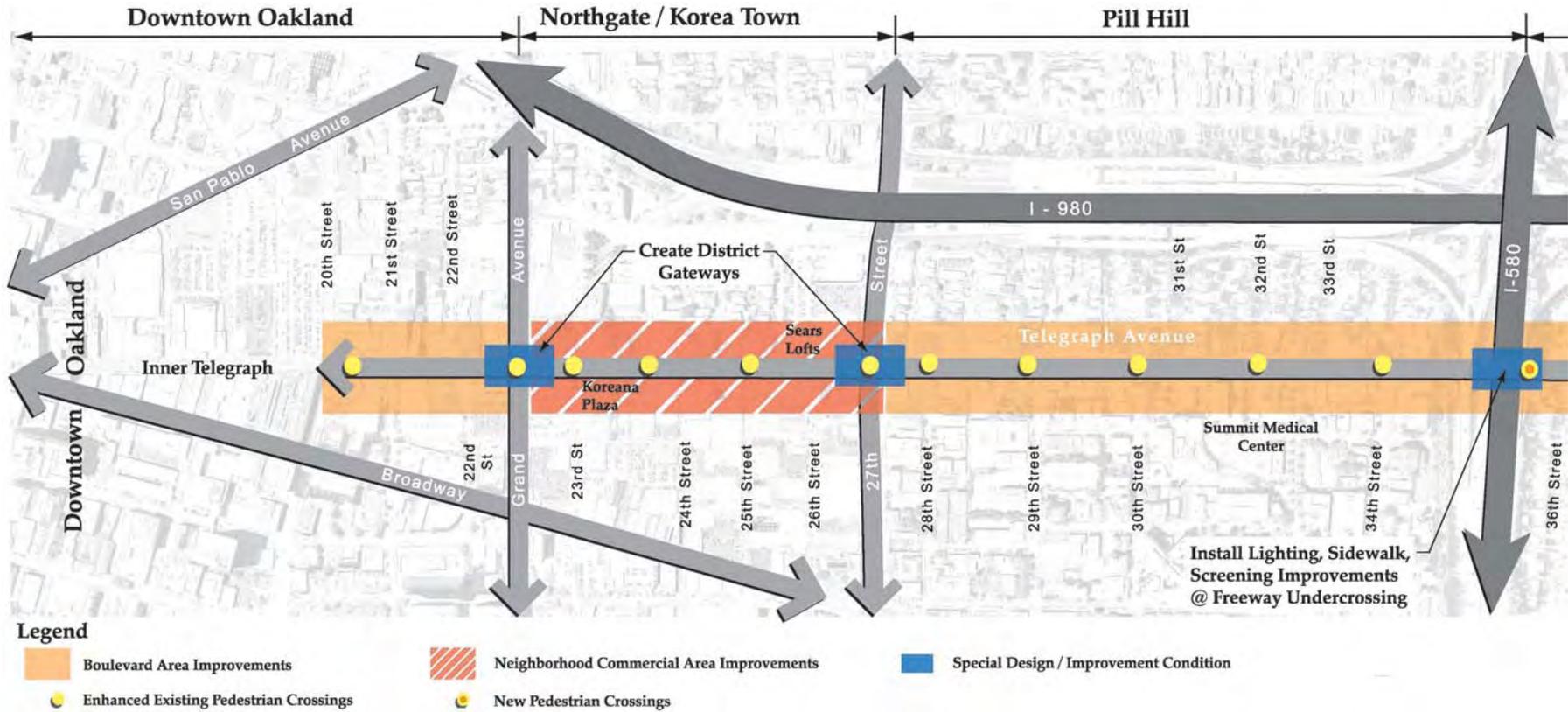




Existing Handicapp Ramps not Title 24 Compliant



Although newsracks provide a barrier between pedestrians and vehicles, current racks are mismatched and battered.



Streetscape Improvement Concept

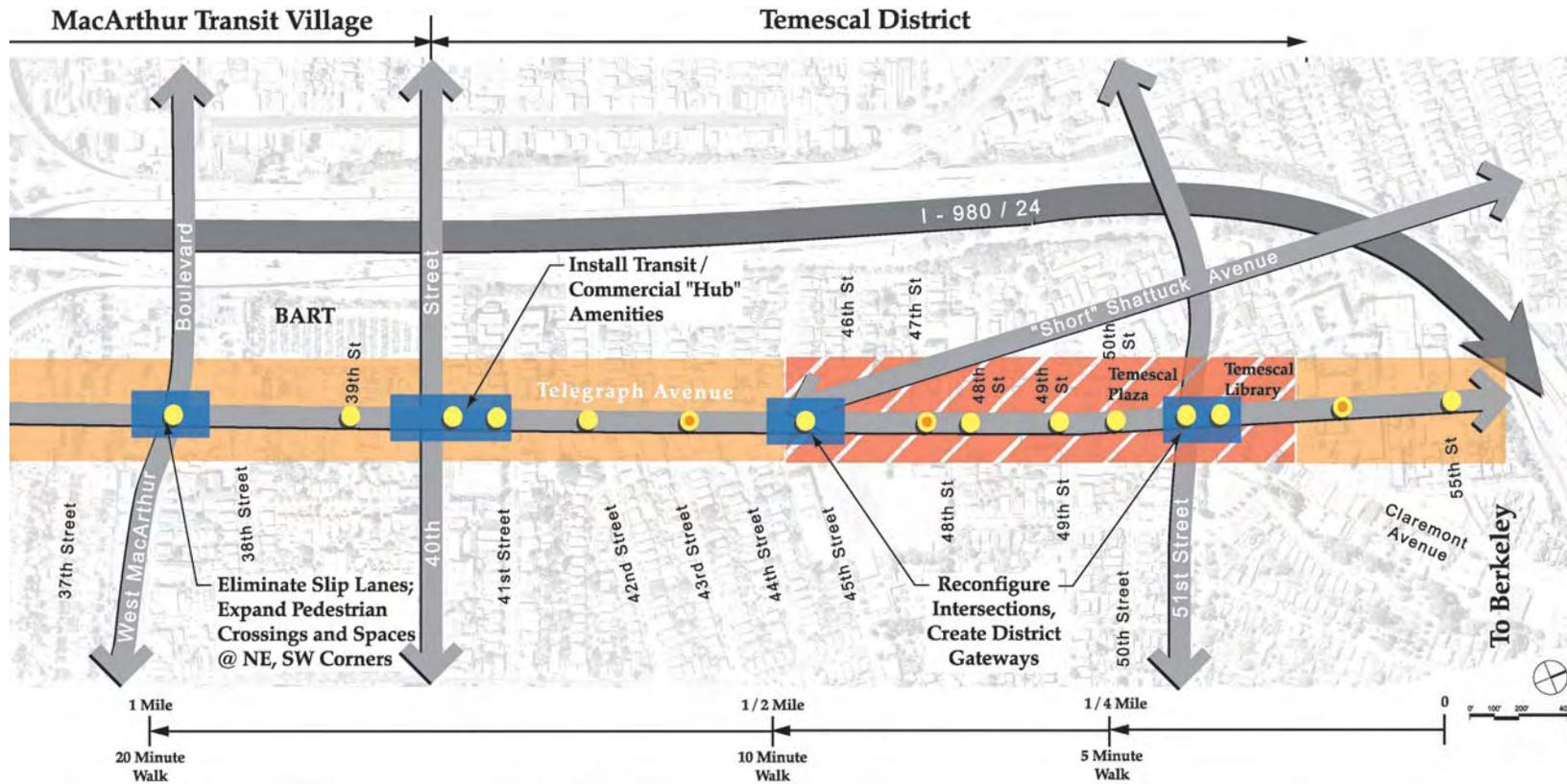
III. Streetscape Improvement Concept

Boulevard and Neighborhood Commercial Areas

The “Streetscape Improvement Concept” plan illustrates the recommended strategy for implementing pedestrian-oriented capital improvements. Two categories of improvements are identified, “Boulevard Area Improvements” for the majority of the corridor, and “Neighborhood Commercial Area Improvements” for the Koreatown and Temescal districts. Also noted are special intersection design/improvement conditions, intersections where existing

crosswalks should be improved, and intersections where new crossings are recommended. New crosswalks are recommended to maintain a maximum distance between crosswalks of approximately two blocks or approximately 600 - 700 feet (1/8 mile).

Recommended improvements for Boulevard and Neighborhood Commercial District areas are described below. More detailed descriptions of streetscape elements are provided in the following section of this chapter. More detailed recommendations for intersections are provided in Chapter IV, under “Pedestrian Crossing Improvements.”

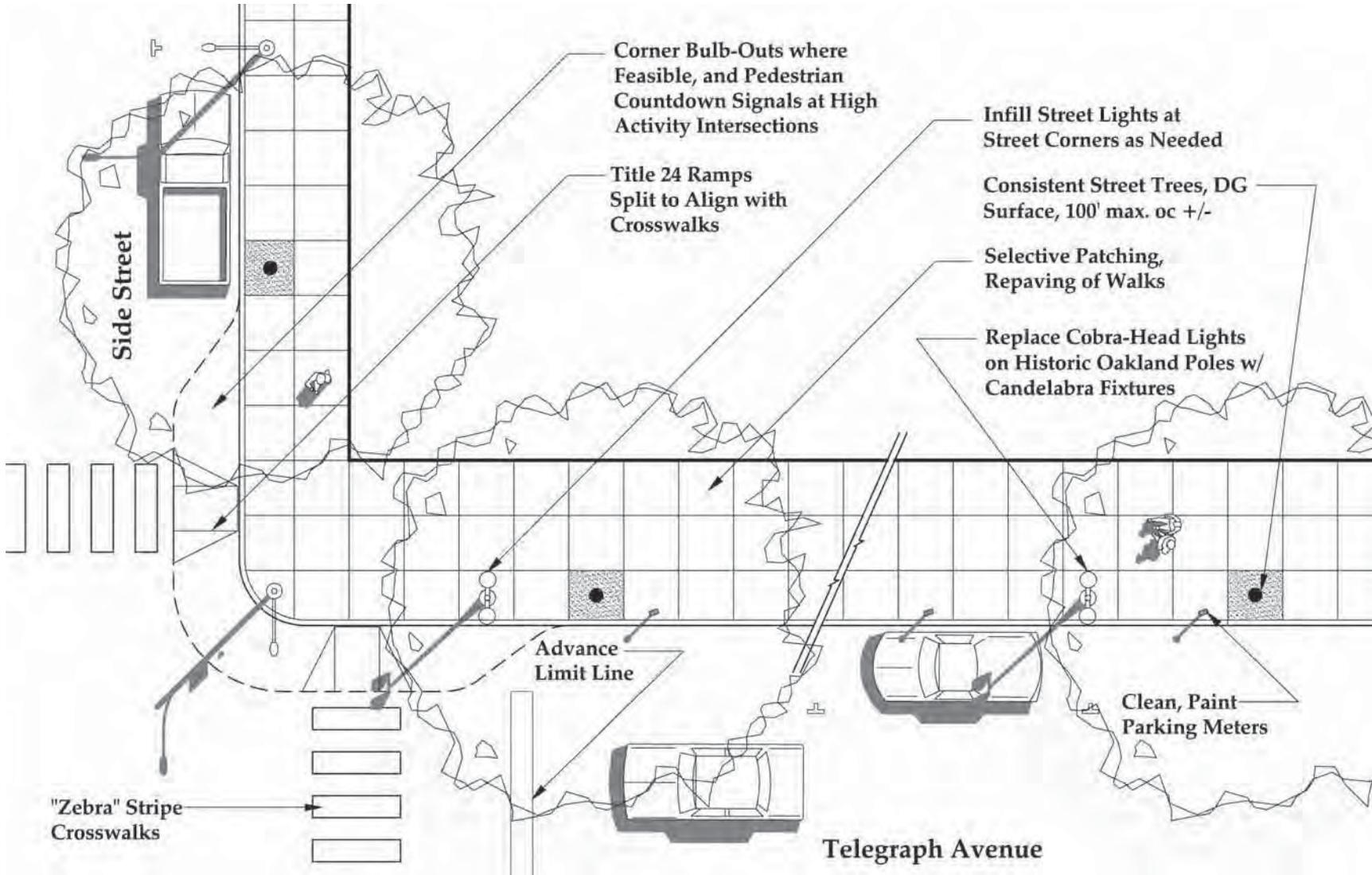


Boulevard Area Improvements - These are the basic improvements needed to raise the quality of the pedestrian environment to a baseline level, generally similar to what exists in the Temescal District today. As illustrated by the “Boulevard Area Improvements” sketch, these include the elements listed below.

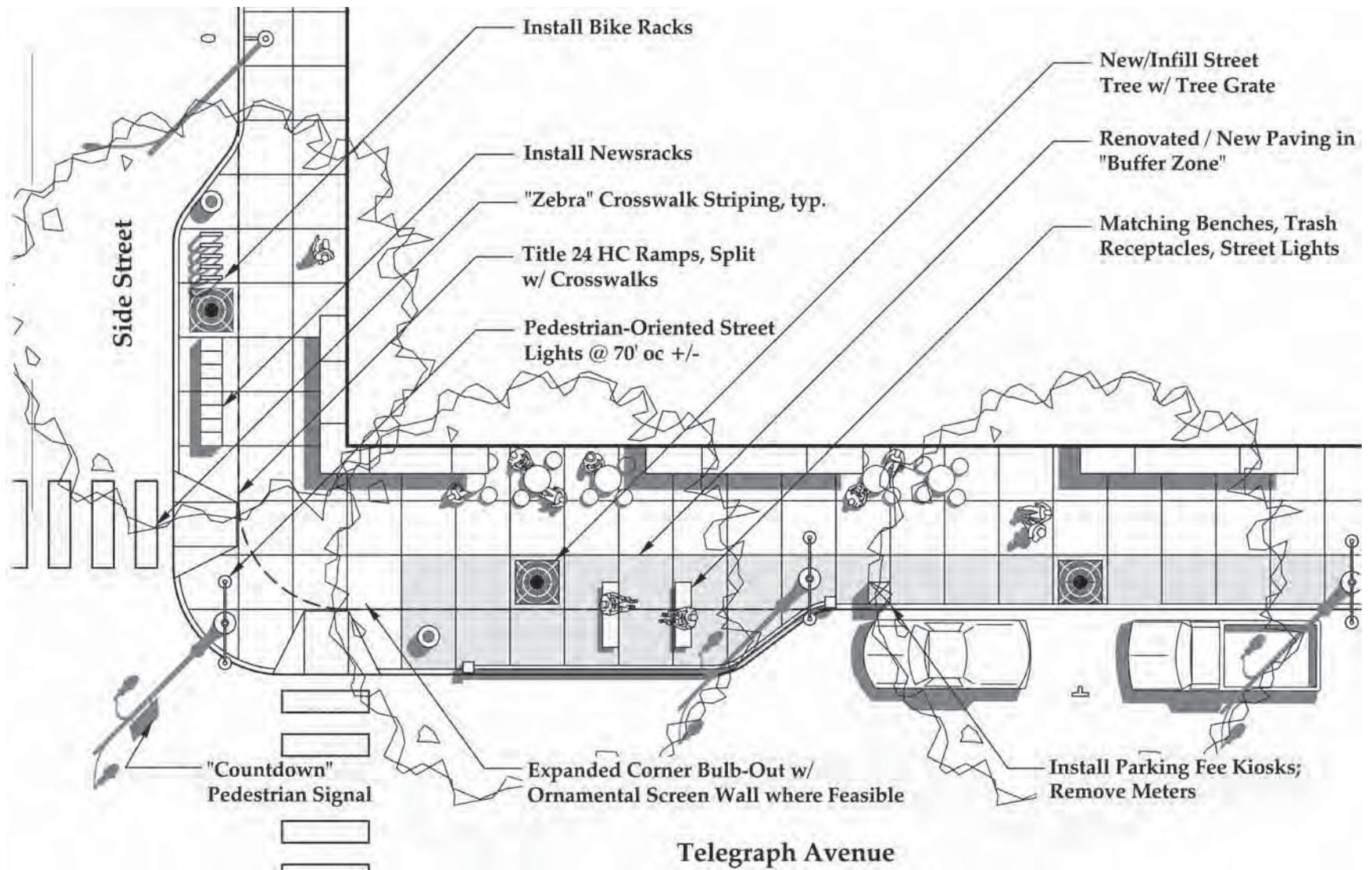
- “High-visibility” or “zebra” painted crosswalks and Title 24-compliant ramps installed at intersections; existing single ramps replaced with split ramps per current city standards.
- Corner curb bulb-outs at key intersections as traffic, transit, and funding conditions permit.

- Pedestrian countdown signals added at all signalized intersections.
- Cracked sidewalks patched and/or repaved as necessary; sidewalks should be cleaned on regular basis.
- Double-head “candelabra” lamps replace “cobra-head” lamps on traditional City of Oakland cast iron poles. Additional infill street lights should be installed to illuminate street corners as needed; e.g. where corners are mid-way between existing street lights.

Boulevard Area Improvements



Neighborhood Commercial Area Improvements



- Street trees planted at a recommended spacing of 50 feet on center, not to exceed a maximum of 100 feet on center. Decomposed granite surfacing should be used in tree wells.
- Rusty, tilting parking meters cleaned, repainted, straightened and/or replaced as needed.

Neighborhood Commercial Area Improvements - These areas are planned to be more pedestrian-intensive than Boulevard Areas, with concentrations of first floor retail and restaurant space as well as infill housing. As illustrated by the "Neighborhood Commercial Area Improvements" sketch, these include the elements listed below.

- "high-visibility" or "zebra" painted crosswalks and Title 24 compliant ramps installed at all intersections; existing single ramps replaced with split ramps per current city standards.
- Corner curb bulb-outs constructed at all intersections as traffic, transit, and funding conditions permit.
- Pedestrian countdown signals added at all signalized intersections.
- Cracked sidewalks should be patched and/or repaved as necessary, and sidewalks should be cleaned on regular basis.
- Double-head "candelabra" lamps replace "cobra-head" lamps on traditional City of Oakland cast iron poles in the Koreatown district; standard steel poles and cobra-head lights should be replaced with new luminaires in the Temescal district. Additional infill street lights should be installed to illuminate street corners as needed; e.g. where corners are mid-way between existing street lights.
- Street trees planted to maintain a consistent spacing of approximately 50 feet on center. Title 24-compliant tree grates installed in tree wells.

- Parking meters removed and replaced with parking fee kiosk machines that dispense receipts for windshield display, or other similar format.
- Complementary benches, trash receptacles, bicycle and newspaper racks installed at corner bulb-outs and mid-block locations, as sidewalk space and frontage building conditions permit.
- New and/or renovated decorative paving that creates a "furnishings zone" at curbside.
- Special "mini-plaza" bulb-outs, with additional space for benches, outdoor café seating, and/or other amenities, at high-activity locations. An ornamental screen wall or fence should be installed along the perimeter of these special bulb outs to buffer district patrons from adjacent traffic.

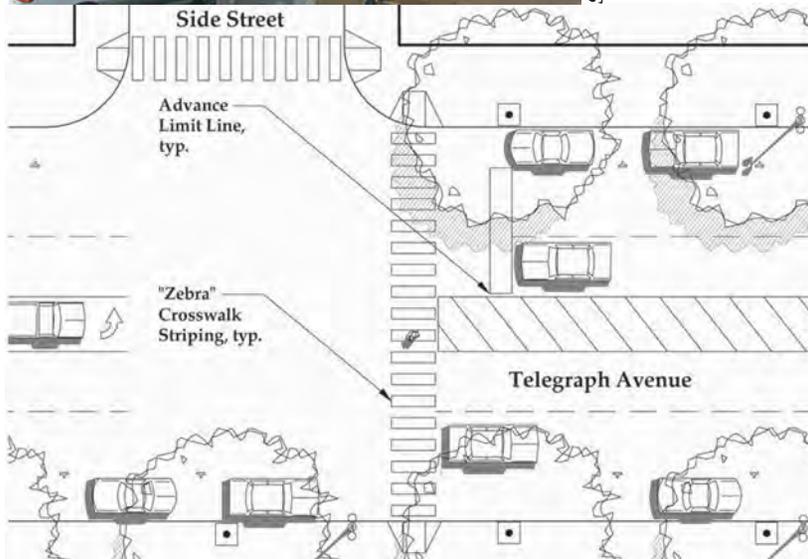
Pedestrian Streetscape Elements

Streetscape elements recommended for Boulevard and Neighborhood Commercial Areas are described below.

"High-visibility" or "Zebra" Crosswalks - These specially-painted, high-contrast crosswalks are more visible and alert motorists to high pedestrian activity areas more effectively than painted bars. They also help pedestrians with visual impairments to find and remain in crosswalk areas. As part of "high-visibility" or "zebra" crosswalk painting, "advance limit lines," are recommended to mark stop location for vehicles when pedestrians are in the crosswalk. High-visibility or zebra crosswalks shall be painted per City of Oakland standards. See Chapter IV for a discussion of crosswalk improvement policies.

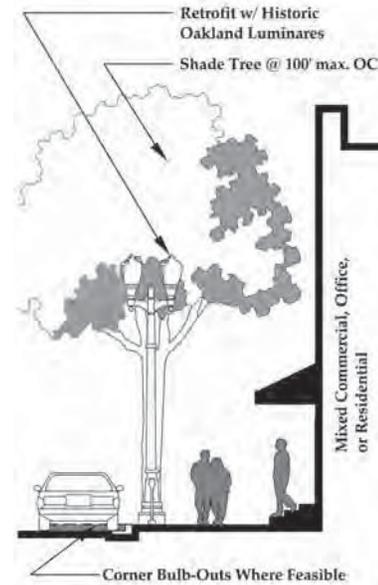


Source: Urban Advantage



"High-visibility" or "zebra" paint striping increases visibility of crosswalks.

Street Trees - Street trees are recommended to provide shade, buffer pedestrians from the roadway, and create a more attractive and inviting streetscape. A unified street tree planting is recommended for the corridor. Consistent with recommendations above, trees should be planted at intervals of 50' to 100' on center in "Boulevard" areas and consistently at a maximum of 50' on center in "Neighborhood Commercial" areas; infill trees are recommended for the Temescal District where mature trees currently exist. Trees should be planted at 36" box size to maximize aesthetic impact and minimize the effects of vandalism. An irrigation system is recommended for areas where funding allows for extensive and



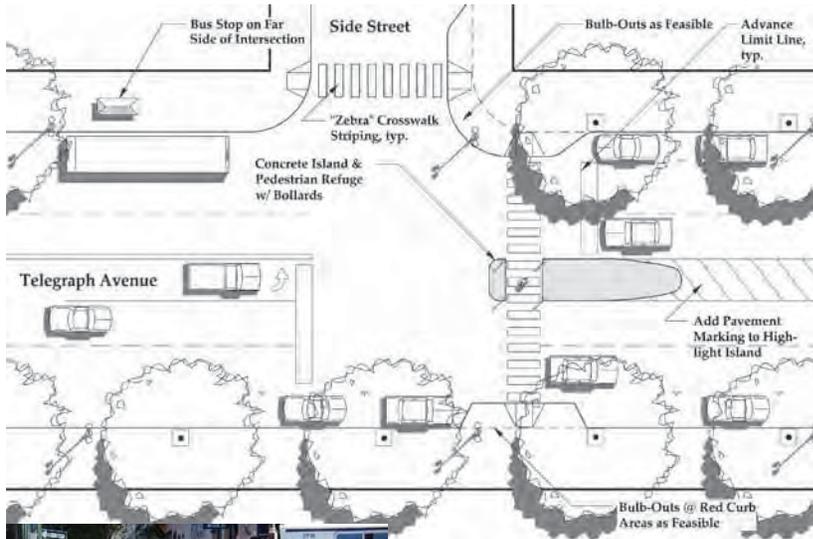
Consistent street trees greatly enhance the sidewalk environment.



consistent plantings. Irrigation systems are not efficient for areas where infill and/or smaller scale plantings are undertaken, and trees in these areas will need to be hand- and/or truck-watered.

Pedestrian Refuge Islands - Pedestrian refuge islands are recommended for crosswalks at major intersections where feasible given existing landscape median and/or painted median conditions. Refuge islands provide a safe waiting area for pedestrians, allowing them to cross only half the street to wait for the next crossing signal phase or gaps in traffic. Refuge islands are recommended for all "shadow" left turn lane areas on Telegraph Avenue in the Koreatown and Temescal commercial districts.

Bollards and low-height planter landscaping are recommended to increase the visibility and aesthetics of refuges. Given the uncertainty regarding the timing of BRT service in the corridor, AC Transit staff have supported installation of refuges on Telegraph Avenue with the understanding that they would need to be removed if and when BRT service is implemented.



Pedestrian refuge islands improve crosswalk visibility and safety.

Sidewalk Planters/Pots - Planter pots are recommended in Neighborhood Commercial areas to provide a buffer for pedestrians and enhance the sidewalk environment. Plant materials would need to be maintained by local merchants and/or property owners. Ideally, planters should be of the same or similar design to provide a consistent aesthetic for these areas.

Street Furnishings - New benches, trash receptacles, and newsracks are recommended for high pedestrian activity areas throughout the corridor. These include bus stops and selected locations in Neighborhood Commercial areas, particularly bulb-outs where new furnishings could be concentrated. Bike hoops have been installed by the City throughout the corridor, and additional bike hoops should be installed adjacent to furnishings where appropriate.



Coordinated furnishings will reduce visual clutter and help make sidewalks attractive public places.

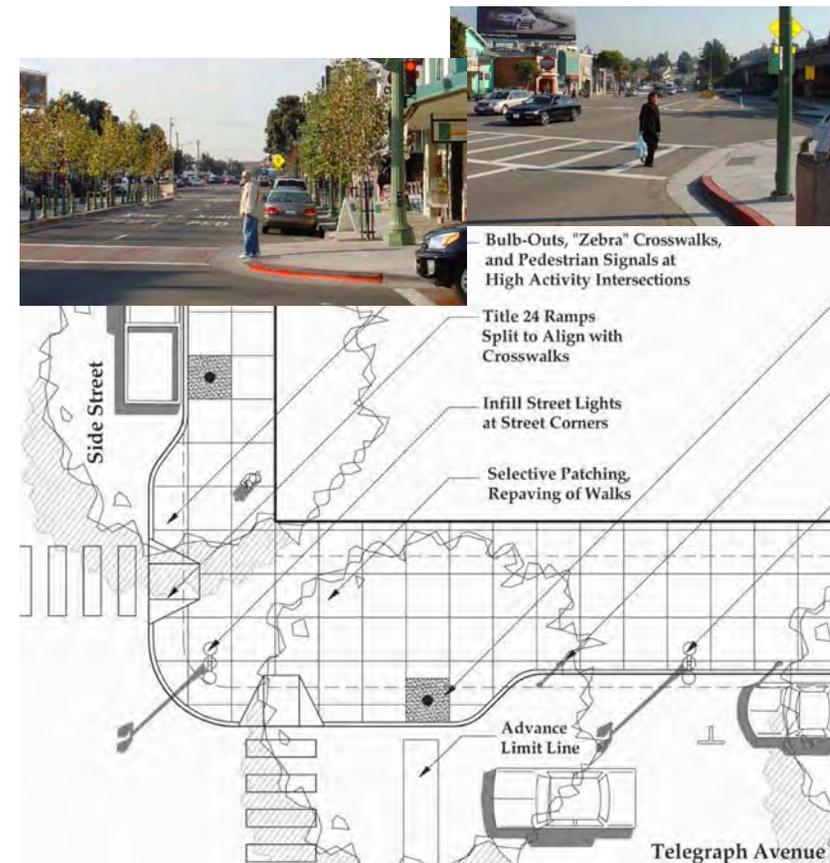
Renovated Historic Street Lights - Traditional cast-iron light poles with cobra-head mast arm lights exist on Telegraph Avenue from Broadway north to 40th Street. The cobra-head lights should be replaced with double-head acorn candelabra lamps in the Koreatown district. Standard steel poles and cobra-head lights should be replaced with new luminaires in the Temescal district. Additional infill street lights should be installed to illuminate street corner areas, where these areas are mid-way between existing street lights.

New Street Lights - Standard steel poles and cobra-head lights should be replaced with new luminaires north of 40th Street through the Temescal District to the SR 24 overpass. "High-low" lights that have a mast-arm light over the roadway and a lower, pedestrian-oriented light over the sidewalk are recommended. Additional infill street lights should be installed to illuminate street corner areas where these areas are mid-way between existing street lights.

Typical Bulb-Outs - Bulb-outs are recommended at selected street corners to shorten crossing distances, improve visibility, and provide additional sidewalk space for pedestrians and for furnishings. They



Candelabra fixtures (upper left) are recommended for historic cast iron poles. High-low luminaires (right side) are recommended in the Temescal District. Additional luminaires should be installed where needed at intersections.



Corner bulb-outs are used in high activity areas throughout the City of Oakland

are also a means to accommodate expanded, ADA-compatible ramps and to prevent illegal parking. Bulb-outs are especially effective at improving pedestrian safety and accommodation when combined with refuge islands. In general, bulb-outs should be constructed in existing no parking areas, and extend no more than 6 feet from existing curblines to maintain space for bicycle maneuvering at street corners. Corner curb radii should generally be 15 feet or larger, subject to City review, and internal radii should be 7 feet to accommodate street sweeping vehicles.

Special Bulb-Outs - Special “mini-plaza” bulb-outs with additional space for benches, outdoor café seating, and/or other amenities should be provided at high-activity locations within Neighborhood Commercial areas. These bulbouts would extend beyond existing no-parking areas, balancing the loss of a parking space with a significant increase in sidewalk amenity. An ornamental screen wall or fence should be installed along the perimeter of these special bulb-outs to buffer patrons from adjacent traffic. Special paving, public art, and/or other amenities should be considered consistent with overall district improvement plans.

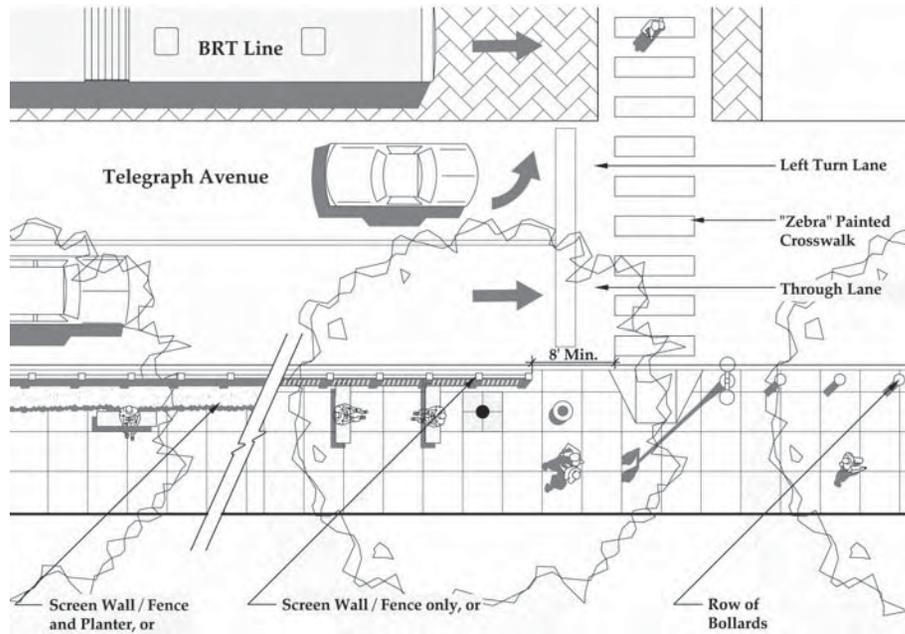


Screen walls and fences make bulb-outs in Downtown Palo Alto attractive public spaces.



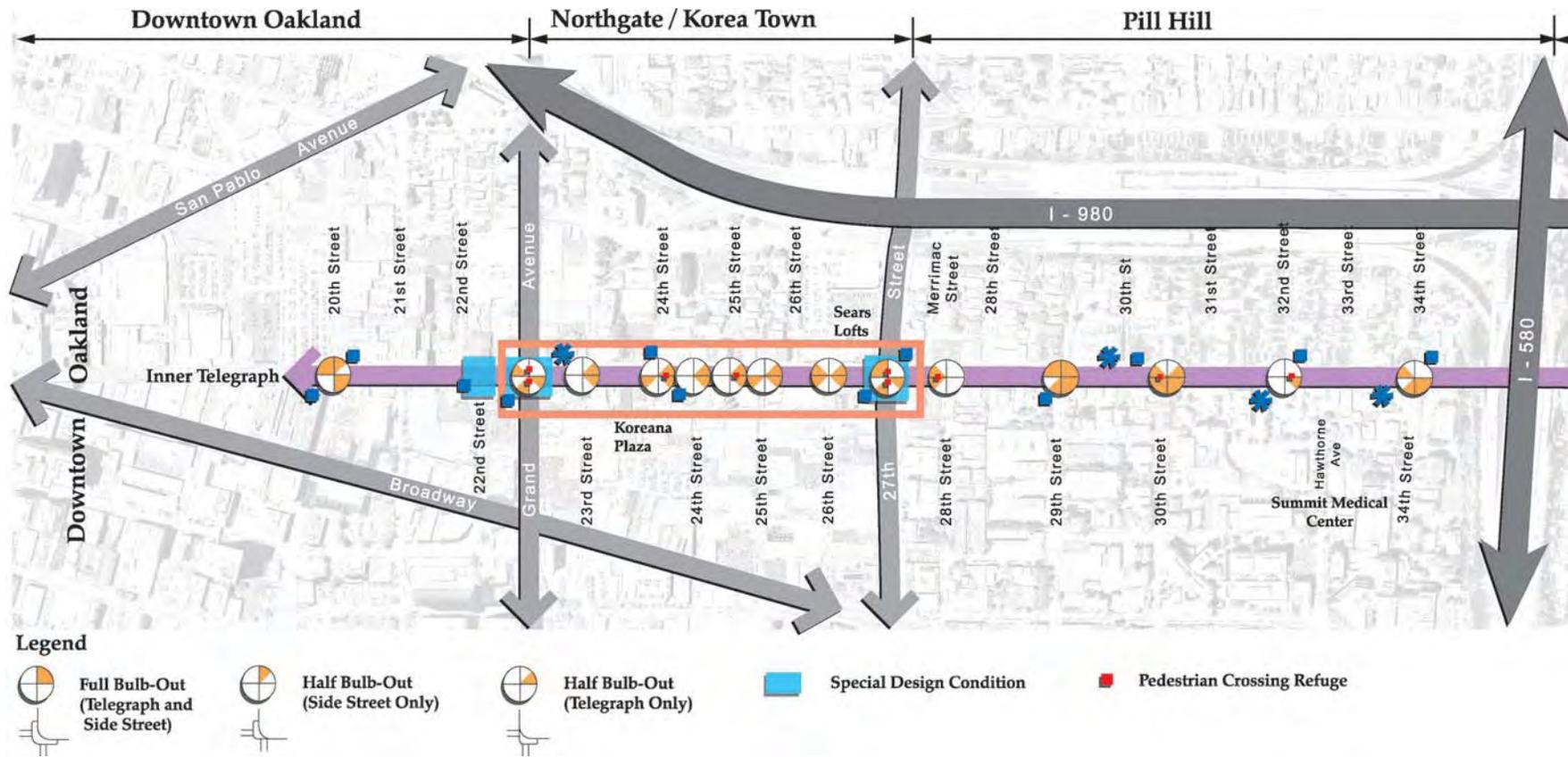
Bus bulb-outs may be considered as part of AC Transit service improvements.

Bus Stop Bulb-Outs - These bulb-outs are recommended where consistent with AC Transit plans for local, Rapid Bus, and/or BRT service. Bus stop bulb-outs provide additional space for bus shelters and increase pick-up and drop-off efficiency by obviating the need for buses to pull over to the curb from a travel lane. In general, bus bulb-outs should be located at the far corner of an intersection to minimize conflicts with auto right turn movements.



Pedestrians should be buffered from adjacent traffic where curbside parking is removed to accommodate BRT stations.

BRT Station Frontages - If BRT service is established in the corridor, it is likely that curbside parking will need to be removed at station areas and adjacent to left turn lanes at selected intersections. In these areas moving traffic will be located directly adjacent to the curb rather than buffered by curbside parking. Improvements that provide a physical and psychological barrier between moving traffic and pedestrians are recommended. As illustrated by the “Sidewalk Edge at BRT Stations” sketch, these could include a row of bollards, a screen wall/fence, and/or a linear landscaped planting area.



Enhanced Pedestrian Crossings

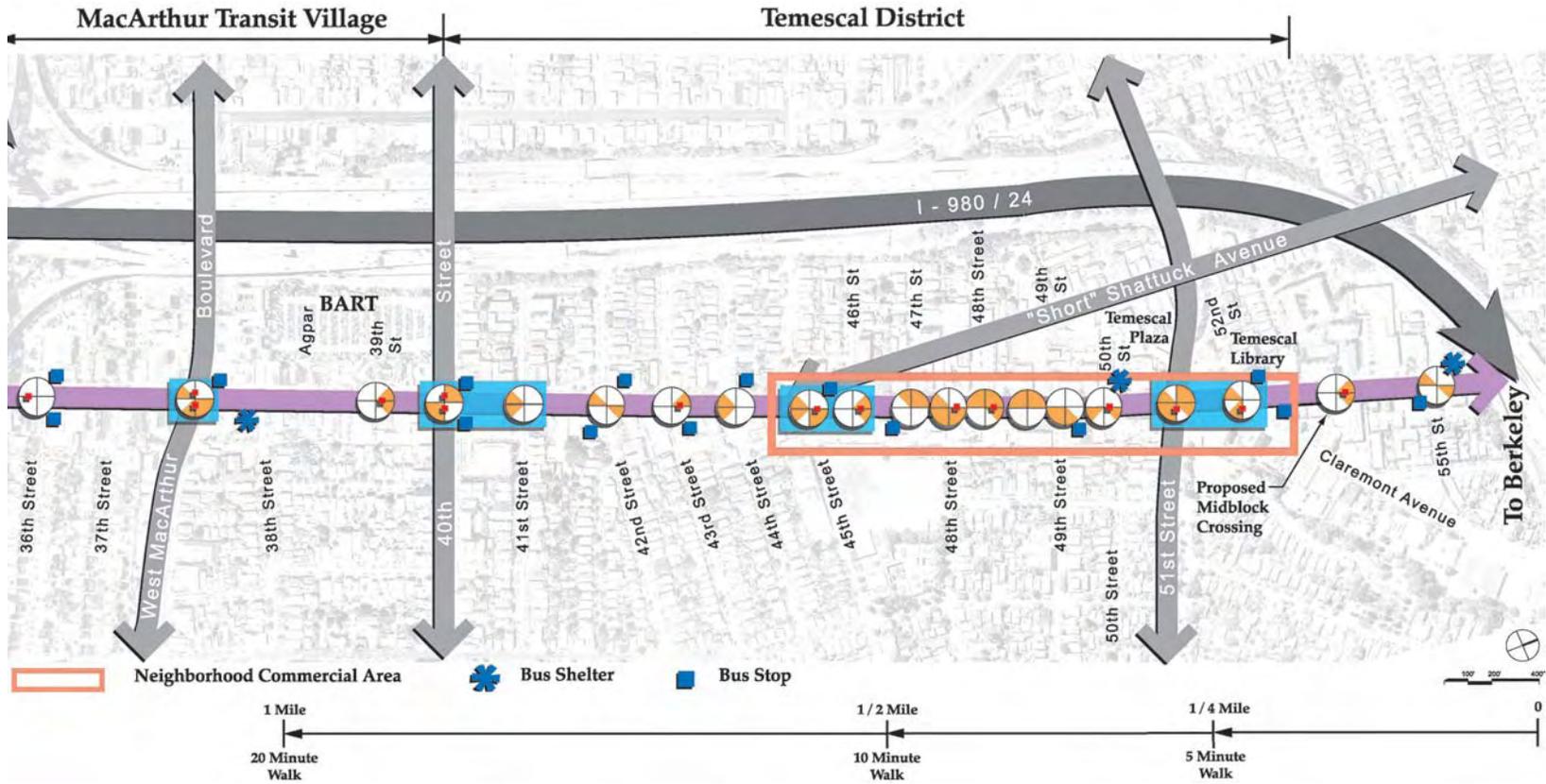
IV. Recommendations for Specific Locations

This chapter applies the pedestrian streetscape objectives and design concepts of Chapter III to specific locations. Initial design recommendations are recommended for pedestrian crossings and corner bulb-outs at major intersections and the Koreatown and Temescal commercial districts.

Recommendations for street trees, street lights, furnishings and other sidewalk-related improvements are generally unaffected by proposals related to the roadway, such as transit service, bike lanes,

curbside parking, etc. However, pedestrian refuges and bulb-outs at street crossings are affected, and due to their safety and pedestrian access benefits these are some of the most important improvements recommended by the project .

In particular, AC Transit’s potential BRT project would limit bulb-outs that extend into the Telegraph Avenue roadway to locations not adjacent to BRT stations, and/or to intersections that do not include a designated left turn lane. Pedestrian refuge islands installed in the interim would need to be removed as noted previously. The *Pedestrian Streetscape Project* focuses on improving pedestrian



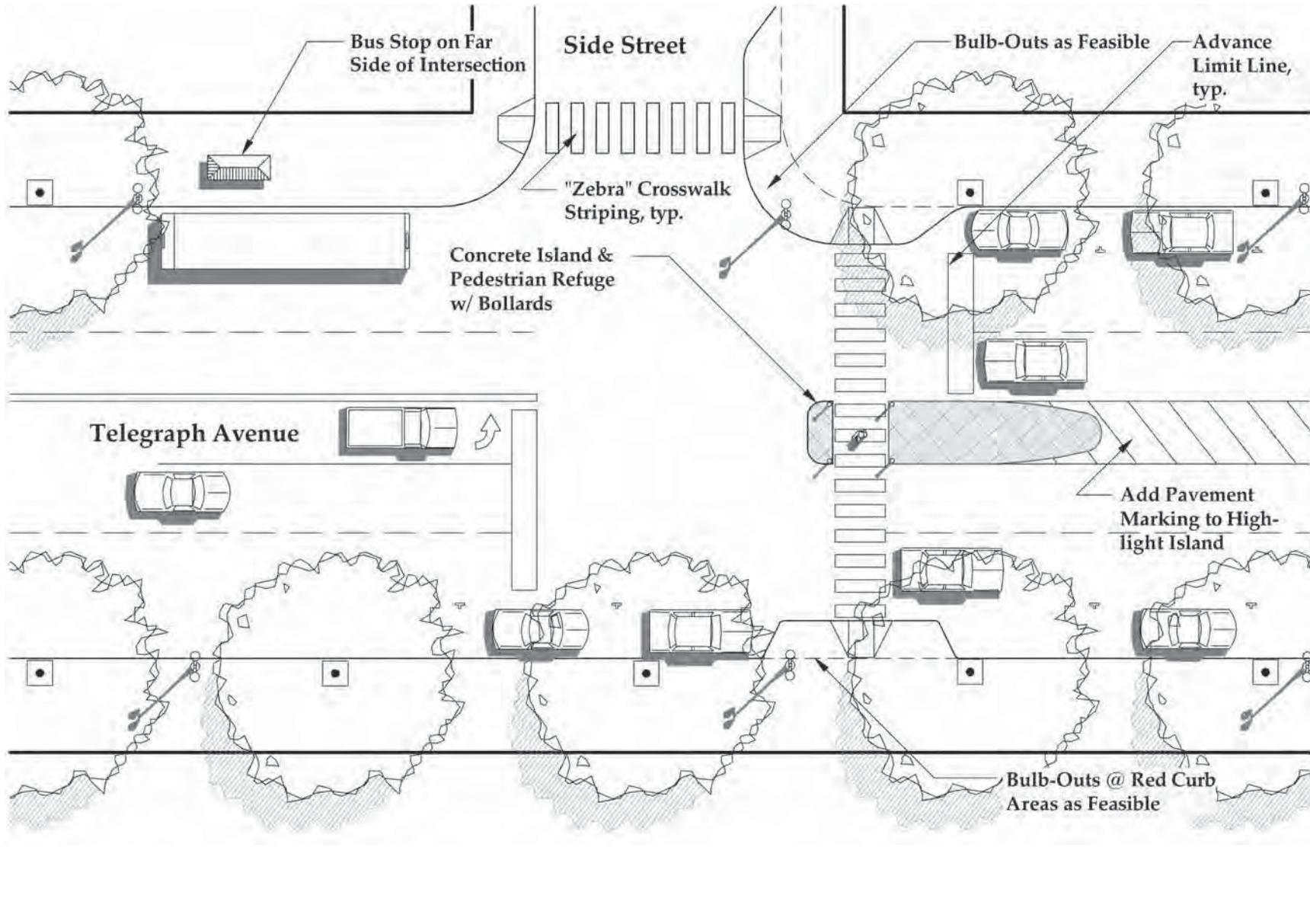
conditions on Telegraph Avenue to the maximum extent feasible. It therefore contains improvement recommendations for both “BRT” and “No BRT” conditions. The “No BRT” recommendations are more extensive because they are not constrained by BRT alignment and station area requirements.

Given the evolving nature of BRT design and planning, specific BRT-related streetscape improvements could change from those indicated in the Pedestrian Streetscape Project. However, the types and locations for recommended improvements are expected to be feasible regardless of the specifics of a finalized BRT design.

Pedestrian Crossing Improvements

The Pedestrian Crossing Improvements map above and the Pedestrian Crossing Improvements Matrix on the next page indicate specific improvements that should be considered for specific locations as the City moves forward with capital projects in coming years. The map indicates recommended bulb-out types and maximum “No BRT” scenario bulb-out locations. It also indicates recommended locations for pedestrian refuge islands, special design conditions at key cross streets, and existing bus stop and bus shelter locations.

Crossing Improvements



The matrix indicates both BRT and No BRT crossing improvements, as well as general prioritization improvements: 1 - for safety at major intersections; 2 - to improve access, and; 3 - to enhance the environment in neighborhood commercial district areas.

As the map illustrates, crossing improvements are concentrated in the Koreatown and Temescal areas, with bulb-outs at every corner and "high-visibility" or "zebra" crosswalks recommended at all crossings. In "Boulevard" areas outside these districts, crossing improvements are generally recommended for every other intersection, with "high-visibility" or "zebra" crosswalks recommended only on Telegraph Avenue. Refuge islands are recommended for left-turn lane "shadow" areas on Telegraph Avenue and for major side streets with medians or median striping that could be modified to incorporate a refuge.

Matrix assumptions for the With BRT scenario are least case in that AC Transit's "BRT Only" and "BRT with Local Bus" station options are accounted for as if they were cumulative; i.e., recommended crossing improvements are constrained by an assumption of transit stop redundancy that would not be likely to occur.

The City requires that installation and design of crosswalks be consistent with the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) and the California supplement to the MUTCD. Installation of marked crosswalks at unsignalized locations are of particular concern, and should be located where other pedestrian facility enhancements – such as raised medians, enhanced lighting, traffic-calming measures, curb extensions/bulb-outs – are also present. In addition, the City does not intend to adopt a blanket policy for installing "high-visibility" or "zebra" crosswalks at all crosswalk locations. Rather, this type of crosswalk should be installed only in areas that meet specific City criteria for analysis and specific objectives, such as those described in the Telegraph Avenue Pedestrian Streetscape Improvement Project, as well as MUTCD guidelines. In addition, new crosswalks should meet ADA standards.

At a certain point in the plan submittal process, truck turning templates should be shown on plans to indicate potential conflicts between pedestrian refuges, streets, and driveways. Any left turn lane that is considered for removal and replacement with a pedestrian refuge must have a traffic analysis to support the action. Sight distances should be displayed graphically on plans to indicate potential conflicts with new street trees and with relocated traffic signals and/or other facilities located on proposed corner bulb-outs. Eighty-fifth percentile approach speeds should be used for analysis.

Corner curb radii shall be analyzed using truck turning templates and shall be accompanied by an analysis of crossing distance. These parallel analyses are necessary to inform decision-making that affects both turning movements and pedestrian safety. For the crossing distance analysis, distances shall be measured from the center of connecting curb ramps. At each location, multiple corner radii should be analyzed to understand this trade-off between truck turning movements and pedestrian crossing distances.

In locations where existing corner driveways are impacted by proposed corner bulb-outs, negotiation should be undertaken with property owners to relocate or reduce driveways if feasible. For example, corner gas stations typically have two driveways on each side street, contributing to excess vehicle movements and congestion at intersections. Elimination of driveways adjacent to corners to accommodate bulb-outs would reduce these problems while enhancing pedestrian safety and access.

Pedestrian Crossing Improvements Matrix

Side Street	Bulb-Outs W/ BRT*				Bulb-Outs No BRT*				Pedestrian Refuge Island				Improvement Priority**	Signalized Intersection***	New Crossing	Notes
	Corner/ Approach:	NW	NE	SE	SW	NW	NE	SE	SW	N	E	S				
20 th Street	Half S	Full			Half S	Full		Full					2	X		South Corners Included in Inner Telegraph Project
22 nd Street													2			Special Design Condition – Expand Frontage Property, Narrow Street
Koreatown District																
West Grand		Half T	Half S	Half T		Half T	Half S	Half T		✓		✓	1	X		Special Design Condition – Korea Town Gateway
23 rd Street					Half T	Half T							3			
24 th Street (West Side)					Half T	Half T	Half T		✓				2	X		Koreana Plaza Crossing
24 th Street (East Side)		Half T			Half T	Half T							3	P		
25 th Street (West Side)	Half T	Half T			Half T	Half T			✓				3			
25 th Street (East Side)	Half T	Half T	Half T		Half T	Half T	Half T						3			
26 th Street (East Side)				Half T	Half T	Half T	Half T	Half T					3	X		
27 th Street			Half S	Half S		Half T	Half S	Full		✓		✓	1	X		Special Design Condition – Korea Town Gateway
28 th Street (East Side)							Half T	Half T				✓	2			
29 th Street	Half S	Half S	Half S	Full	Full	Full	Half S	Full					2	X		
30 th Street (West Side)														P		
30 th Street (East Side)		Half S	Half S		Half T	Full	Full	Half T				✓	2	X		
32 nd Street		Half T				Half T			✓				2	P		Move Ped Crossing from South Side to North Side of Intersection
Hawthorne (East Side)														P		
34 th Street		Half S	Half S			Full	Half S	Half T					2	X		
36 th Street												✓	2			
MacArthur Blvd		Full	Half S	Half T		Full	Half S	Half T		✓		✓	1	X		Special Design Condition—Eliminate "Slip Lanes" @ NW, SE Corners

* **Bulb-Outs:** Full – Bulb-Outs on Both Streets Half T – Half Bulb-Out on Telegraph Half S – Half Bulb-Out on Side Street

** **Improvement Priorities:** 1 – Major Intersections / Safety 2 – Improved Access only 3 – Commercial District Streetscape

*** **Signalized Intersections:** X – Existing Signal P – Proposed Signal

Side Street	Bulb-Outs W/ BRT*				Bulb-Outs No BRT*				Pedestrian Refuge Island				Improvement Priority**	Signalized Intersection***	New Crossing	Notes	
	Corner/ Approach:	NW	NE	SE	SW	NW	NE	SE	SW	N	E	S					W
39 th Street					Half T	Half T				✓				2			Move Crossing from South Side of Intersection to North Side
40 th Street	Half S		Half S		Full		Full				✓		✓	1	X		Special Design Condition –BART Station Link
41 st Street			Half T				Half T	Half T						1			Special Design Condition –BART Station Link
42 nd Street						Half T		Half T						2	X		
43 rd Street					Half T					✓				2		✓	
44 th Street			Half T				Half T	Half T						2			
Temescal District																	
45 th Street		Half S	Half T			Full	Half T	Half T		✓				1	X		Special Design Condition – Temescal Gateway
46 th Street	Half T				Half T	Half T				✓				3	X		
47 th Street	Half S			Half S	Full	Half T		Half S		✓				3		✓	
48 th Street (East Side)		Half S	Full	Half T		Full	Full	Half T				✓		3			
48 th Street (West Side)	Full	Half T		Half S	Full	Half T	Full			✓				3			
49 th Street (West Side)	Half S			Half S	Full			Full						3	X		
49 th Street (East Side)		Half S	Half S			Half S	Full							3	P		
50 th Street		Half T	Half T			Half T	Half T			✓				3	X		Streetscape Amenity, ped safety, consider add crossing @ south side
51 st Street	Half S		Full		Full	Half T	Full	Half T			✓			1	X		
52 nd / Claremont			Half S				Half S	Half T			✓			1	X	✓	Special Design Condition – Temescal Gateway
Between 52 nd & 55th	Half T	Half T			Half T	Half T				✓				2		✓	Exact Location TBD Relative to Buildings & Driveways
55 th Street						Half T		Half T						2	X		

* **Bulb-Outs:** Full – Bulb-Outs on Both Streets Half T – Half Bulb-Out on Telegraph Half S – Half Bulb-Out on Side Street

** **Improvement Priorities:** 1 – Major Intersections / Safety 2 – Improved Access only 3 – Commercial District Streetscape

*** **Signalized Intersections:** X – Existing Signal P – Proposed Signal

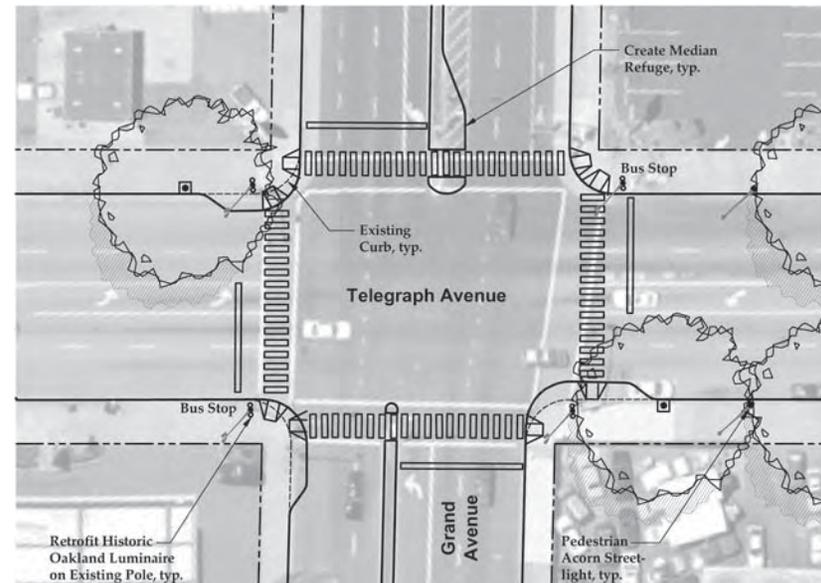
Special Intersection Improvements

A number of intersections in the project area have conditions that require more than simple program recommendations to assess cost and circulation implications of recommended improvements. These intersections are described below and recommended improvements are illustrated by sketch plans. The sketch plans show the maximum, No BRT improvements. Improvements not feasible in the "BRT" scenario are noted in the descriptions below.

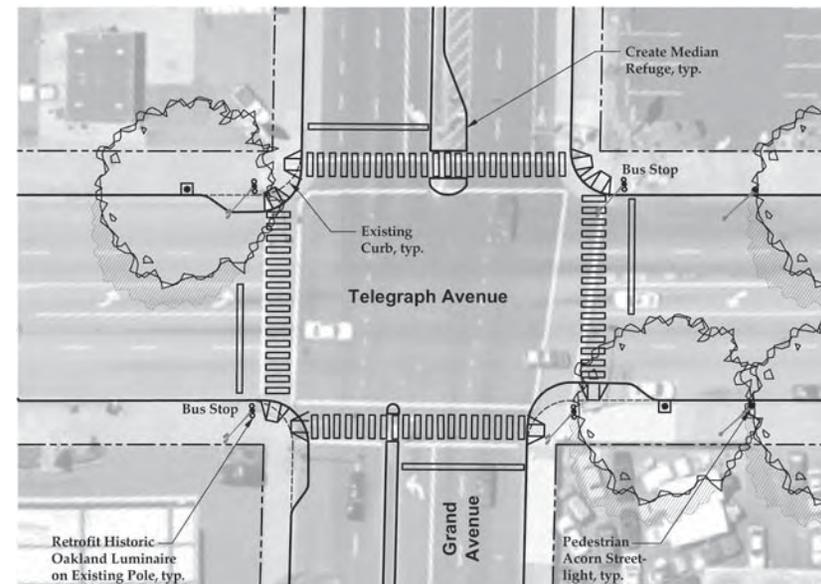
22nd Street - As the sketch plan illustrates, 22nd Street is over 80' wide at the Telegraph Avenue. This encourages higher speed turns than appropriate for a local street and exposes pedestrians to an overly long crossing. The southeast corner should be reconstructed to maintain a consistent street width. Options for the new land area created at the corner include a landscaped area/mini-park, sale to the adjacent property owner, or vacation of the excess right-of-way. Infill street trees and retrofitted candelabra street lights per current city plans for the area are recommended. These improvements could be feasible given either the current BRT or No BRT scenarios.

Grand Avenue - Grand Avenue is a major cross-street, linking Downtown Oakland to West Oakland, I-80, and San Francisco. It is also the southerly gateway to the Koreatown commercial district. Pedestrian refuge islands are recommended for Grand Avenue on both the east and west sides of the intersection. On the east side, the narrow existing concrete median would need to be modified with a protective nosing to create a refuge area. On the west, a new island should be constructed within the bounds of the existing median paint striping. This area could accommodate a substantial refuge.

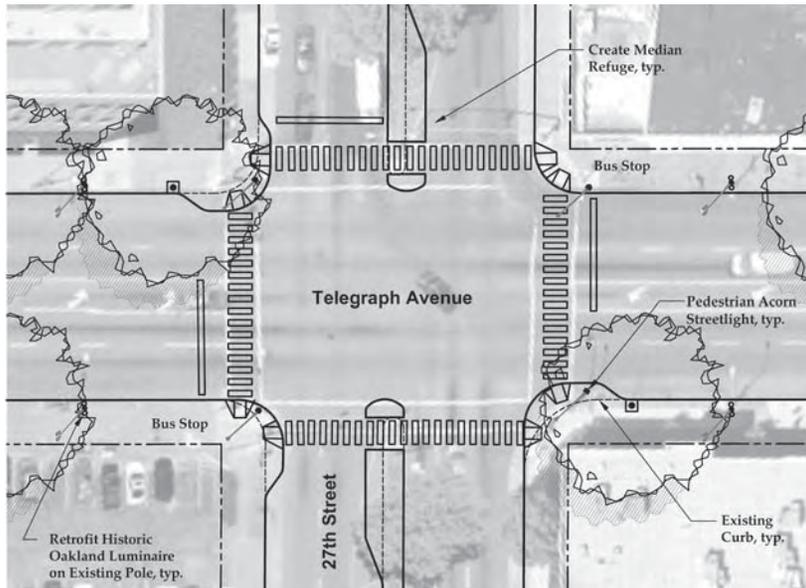
"High-visibility" or "zebra" crosswalks and advance limit lines should be painted at all intersection approaches. Bulb-outs are recommended for the southwest, southeast, and northeast corners. Given adjacent curbside parking, bus stop, and free right turn conditions, half bulb-outs extending into Telegraph Avenue could be constructed at the southwest and northeast corners and a half bulb-out extending into Grand Avenue could be constructed at the southeast corner. Infill



22nd Street



Grand Avenue



27th Street

street trees and retrofitted candelabra street lights per current city plans for the area are recommended. These improvements all could be feasible given either the current BRT or No BRT scenarios.

27th Street - 27th Street links upper Lake Merritt and Auto Row to Koreatown and West Oakland. Existing landscaped and painted median areas offer opportunities to create substantial refuges on 27th Street. Landscaped medians should be widened on both sides of the intersection to fill adjacent painted median areas, creating substantial refuge areas.

"High-visibility" or "zebra" crosswalks and advance limit lines should be painted at all intersection approaches. Bulb-outs are recommended for the southwest, southeast, and northeast corners. Given adjacent curbside parking, bus stop, and free right turn conditions, a full bulb-out could be constructed at the southwest corner, a half bulb-out extending into Telegraph Avenue could be constructed at the northeast corners and a half bulb-out extending into 27th Street could be constructed at the southeast corner. Street trees and retrofitted candelabra street lights are recommended per current city plans for the area. These improvements all could be feasible given either the BRT or No BRT scenarios.



The I-580 Undercrossing crates a distinct boundary between the "Pill Hill" and "Transit Village" subareas. It also creates a dark and imposing streetscape.

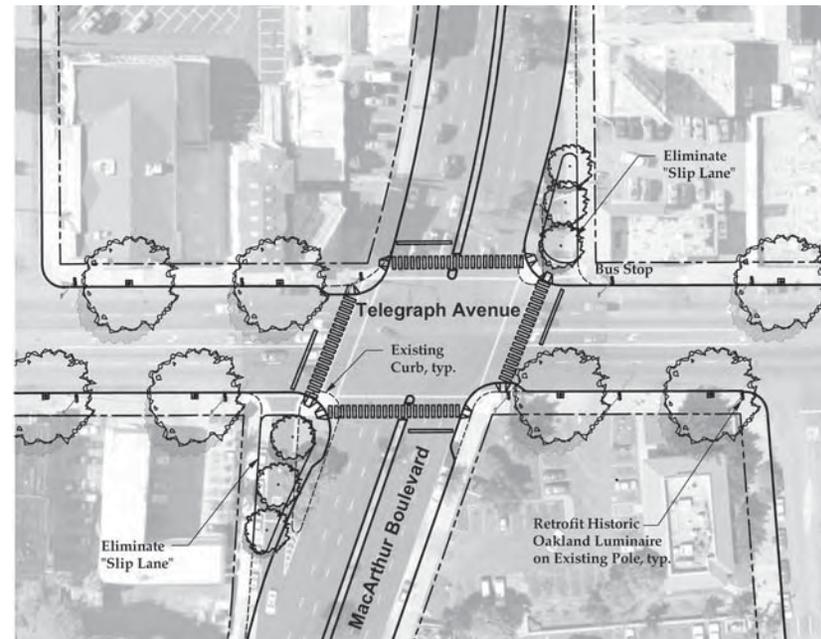
I-580 Freeway Undercrossing - The undercrossing area was noted by workshop participants as a significant deterrent to pedestrian circulation along the corridor. Approximately 350 feet in length, the area is dark, unattractive, unsupervised by adjacent development, and a magnet for litter. Curbside parking areas are reportedly used for "long term" and "sleep-in" vehicle parking. Recommended improvements include pedestrian-oriented "acorn" street lights, similar to those used on Broadway beneath I-880; aesthetic surfacing/treatment of abutment walls up to a height of 10 feet; screen fencing along the freeway embankment to reduce visibility of freeway-related trash; and replacement of curbside parking areas with planter/parkway strips. These improvements all could be feasible given either the BRT or No BRT scenarios.

West MacArthur Boulevard - Free right "slip turn" lanes exist at the northwest and southeast corners of the intersection. These encourage higher speed right turns than a typical intersection condition and add to the number of lanes pedestrians must cross. These corners should be reconstructed to eliminate the slip lanes, incorporating corner bulbouts as feasible. Similar to the recommendations for 22nd Street, options for the new land area created at the corners could include a landscaped area/mini-park, sale to the adjacent property owner, or vacation of the excess right-of-way.

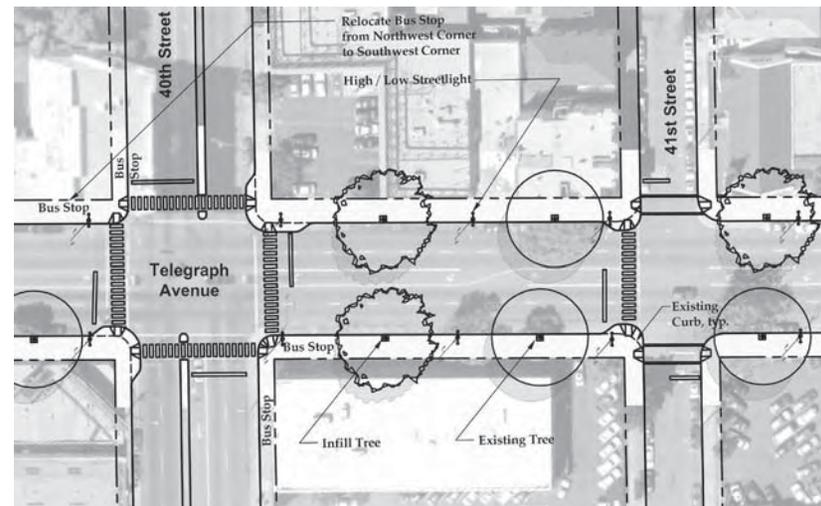
"High-visibility" or "zebra" crosswalks and advance limit lines should be painted at all intersection approaches. Bulb-outs are recommended for the southwest, southeast, and northeast corners, given adjacent curbside parking, bus stop, and free right turn conditions. A half bulb-out extending into Telegraph Avenue could be constructed at the southwest corner, a half bulb-out extending into MacArthur Boulevard could be constructed at the (new) southeast corner, and a full bulb-out could be constructed at the northeast corner. Street trees and retrofitted candelabra street lights should be installed, consistent with recommendations for Boulevard areas. The full bulb-out at the northeast corner would not be feasible with the BRT scenario; all other improvements could be feasible given either the current BRT or No BRT scenarios.

40th Street / 41st Streets - These two intersections are adjacent to MacArthur BART and they combine to have the highest number of pedestrian street crossings in the project area. At 40th Street, full bulb-outs are recommended for the northwest and southeast corners, given adjacent curbside parking, bus stop, free right turn, and side street width conditions. The existing AC Transit local bus stop located at the northwest corner should be shifted to the southwest corner to minimize driveway conflicts with the adjacent commercial center and to separate loitering associated with the commercial center from the bus stop.

"High-visibility" or "zebra" crosswalks and advance limit lines should be painted at all 40th Street intersection approaches and at the southern side of the 41st Street intersection. At 41st Street, half bulb-outs extending into Telegraph Avenue are recommended at the



West MacArthur Boulevard



40th Street / 41st Street

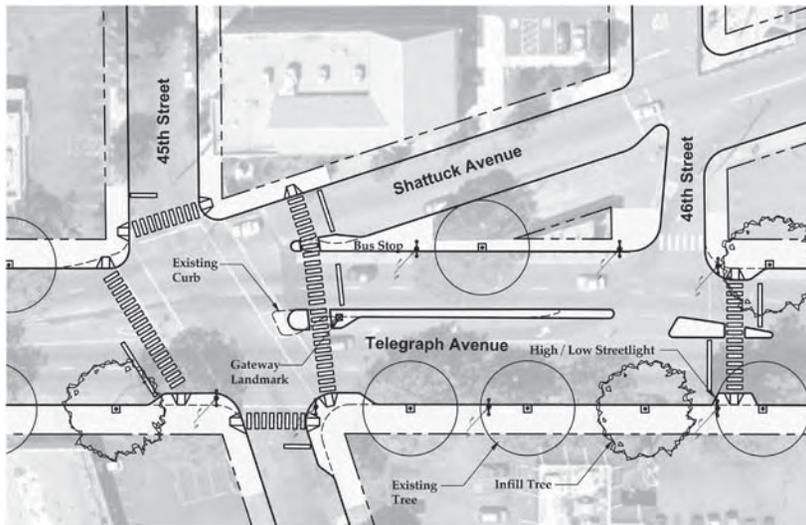
southwest and southeast corners. Only crosswalk striping and the bulbout recommended for the southwest corner of 41st Street and would be feasible with the current BRT scenario.

45th/ Shattuck - This intersection is the southern gateway to the Temescal commercial district. Carter Middle School and adjacent fast food franchises at two corners generate the third highest level of pedestrian crossings in the project area. The oblique alignment of Shattuck Avenue and the intersection's five legs complicate both pedestrian and vehicular movement.

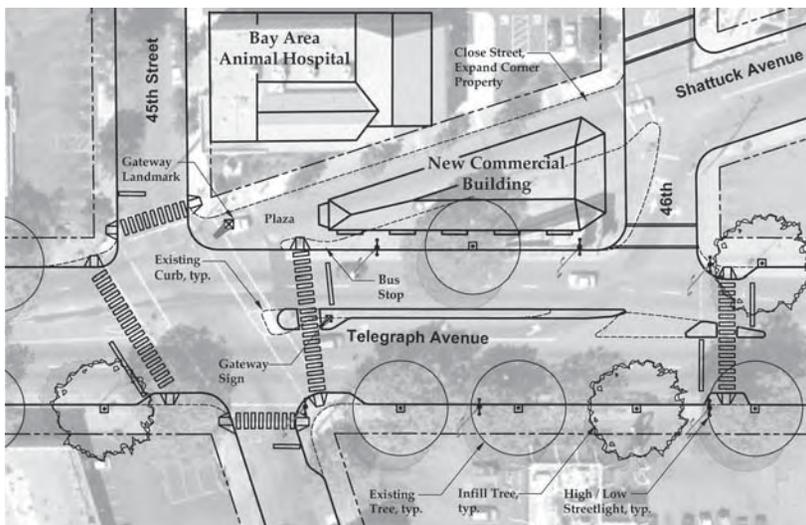
Two design alternatives were prepared for review by city staff and workshop participants. Option (A) retains the basics of the existing configuration, with one-way traffic southbound on Shattuck between 45th and 46th Streets and one-way traffic westbound between Telegraph and Shattuck. "High-visibility" or "zebra" crosswalks and advance limit lines should be painted at all intersection approaches. The north side crosswalk at 45th Street should be shifted north to create a two-leg crossing that shortens the exposed crossing distance for pedestrians; refuge areas should be constructed at the south of the existing median island and at the south of the triangular "Kasper's" site.

46th Street should be narrowed and the existing left turn lane on Telegraph should be extended to create a tighter, slower turn into 46th. Given adjacent curbside parking, bus stops, and free right turn conditions, half bulb-outs extending into Telegraph Avenue could be constructed at the southeast corner of 45th and the northwest corner of 46th; a full bulb-out could be constructed at the northeast corner of 45th. Street trees and new high/low street lights should be installed consistent with recommendations for the Temescal commercial district.

Option (B) vacates the portion of Shattuck Avenue between 45th and 46th and widens 46th Street to accommodate two-way street traffic between Telegraph and Shattuck. This eliminates the need for a pedestrian crossing at Shattuck and 45th and creates a larger triangle site for a potential new commercial building and gateway plaza at 45th Street. The route for AC Transit line #43 would need to be shifted from Shattuck Avenue to 46th Street. Crosswalk relocation in



45th Street / Shattuck Avenue (A)



45th Street / Shattuck Avenue (B)

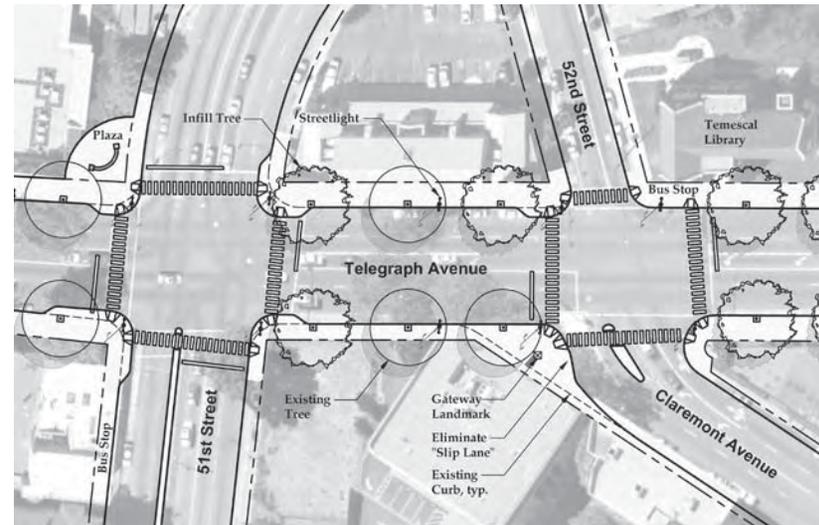
Telegraph Avenue, "high-visibility" or "zebra" stripes, and advance limit lines should be painted at all intersection approaches, similar to Option (A). Street trees and new high/low street lights should be installed consistent with recommendations for the Temescal commercial district.

Crosswalk striping and half bulb-outs at the northeast corner of 45th Street and the northwest corner of 46th Street would be feasible with the current BRT scenario; plans for vacating Shattuck Avenue per option (B) would not be affected by BRT. Both options include recommendations for a district gateway/landmark sign; in Option (A) it is shown on the center median island, in Option (B) it is shown in the plaza on the triangle site.

Note: Relocation of crosswalks and stop locations is likely to require relocation of existing traffic signals. Additional traffic study would be needed to determine the effects of these relocations on traffic operations.

51st / Claremont - These intersections create the northern gateway to the Temescal neighborhood commercial district. 51st Street has the highest traffic level of any cross street in the corridor due to nearby on and off-ramps for SR 24. Claremont Avenue is an oblique intersection with a northbound right turn slip lane at the southeast corner that increases crossing exposure for pedestrians.

"High-visibility" or "zebra" crosswalks and advance limit lines should be painted at all intersection approaches. Bulb-outs are recommended for all corners of 51st Street and at the southwest corner of 52nd Street. Given adjacent curbside parking, bus stop, and free right turn conditions, full bulb-outs could be constructed at the northwest and southeast corners of 51st. Half bulb-outs extending into Telegraph Avenue could be constructed at the northeast and southwest corners of 51st and at the southwest corner of 52nd. A pedestrian refuge should be created at the median on 51st Street. Providing a minimum 6' width for the refuge could require re-striping slightly narrower lanes on the adjacent roadway. A turning template analysis would be required to prove that vehicle movements will be accommodated satisfactorily.



51st Street / Claremont Avenue

The existing landscaped area at the southwest corner of 51st should be renovated as a corner mini-plaza, with existing fencing removed or reconfigured to provide a pedestrian-friendly space at what is currently a constricted, high-traffic crossing. Street trees and new high/low street lights should be installed consistent with recommendations for the Temescal commercial district.

The southeast corner of Claremont Avenue should be reconstructed to eliminate the slip lanes. Similar to recommendations for 22nd Street and MacArthur Boulevard, options for the new land area created at the corners could include a landscaped area/mini-plaza, sale to the adjacent property owner, or vacation of the excess right-of-way. A neighborhood gateway/landmark sign should be installed that complements the gateway/landmark at 45th Street.

Only crosswalk striping, a half bulb-out at the northeast corner of 51st, and a full bulb-out at the southeast corner of 51st would be feasible with the BRT scenario. Elimination of the slip lane at Claremont would not be affected by the BRT scenario.

Koreatown District Streetscape Concept

The plan diagrams on the following pages show “BRT” and “No BRT” improvements between Grand Avenue and 27th Street. The “BRT” plan could be regarded as a near term improvement plan, with “No BRT” improvements added over the long term if BRT service is not established for the corridor as currently envisioned. “High-visibility” or “zebra” crosswalks and bulbouts as feasible are recommended at all district intersections, consistent with objectives for Neighborhood Commercial areas. Pedestrian refuges are proposed on the north side of the 24th Street and 25th Street intersections; these would need to be removed if BRT service is established, as noted previously. Recommendations for specific intersections are indicated on the Pedestrian Crossings Improvements Matrix.

Special, large bulb-outs with furnishings and other amenities could be constructed at a number of locations in Koreatown. For the BRT scenario, locations could be the northeast corner of 24th Street, the southeast corner of 25th Street, and the mid-block crossing between 26th and 27th. For the No BRT scenario, possible special bulb-out locations include these as well as any other location indicated by the matrix. The No BRT diagram shows special bulb-outs generally alternating from one side of the street to the other on a block to block basis. Existing street lights to be renovated with candelabra lights are indicated, averaging three to four per block. New street trees are shown at a spacing of approximately 50’ on center.



Koreatown District



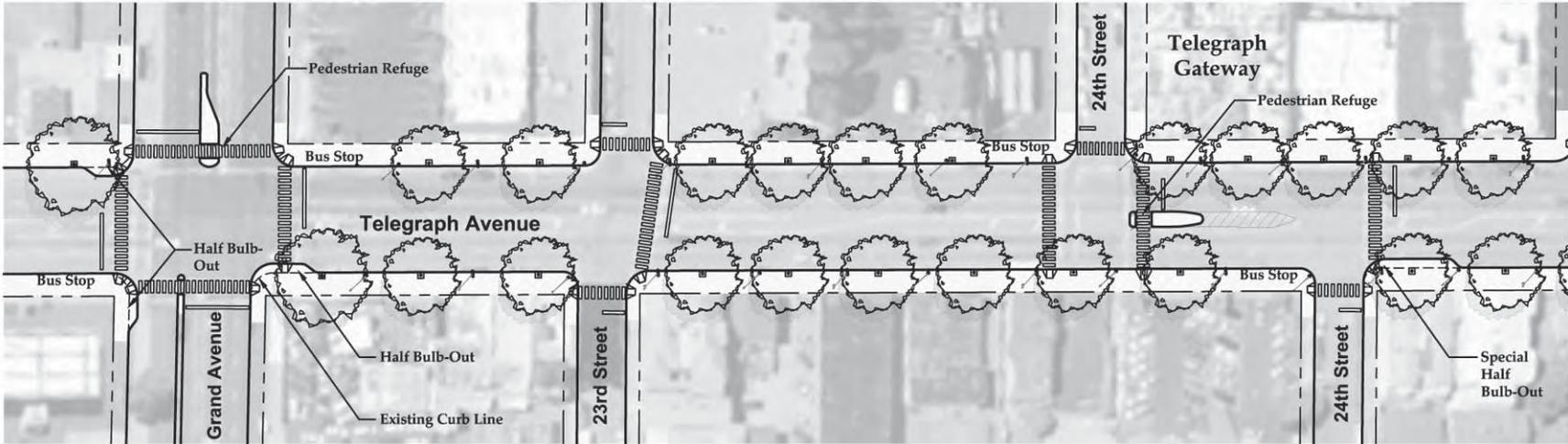
Temescal District

Temescal District Improvement Streetscape Concept

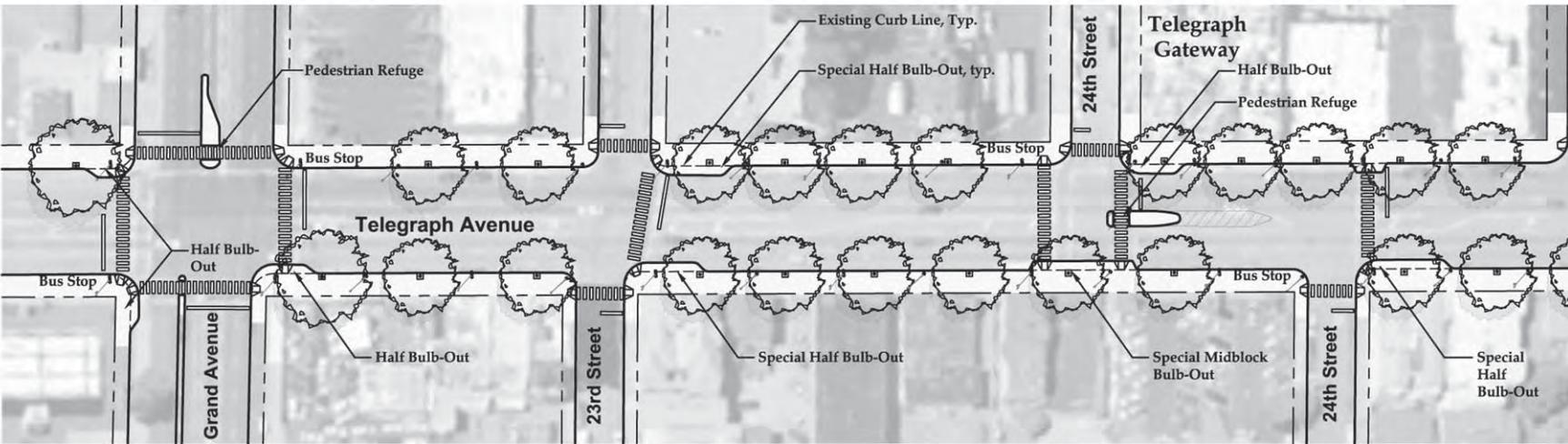
The plan diagrams on the following pages show “BRT” and “No BRT” improvements between 45th Street and Claremont Avenue. Similar to the plans for Koreatown, the “BRT” plan could be regarded as a near term plan, with “No BRT” improvements added over the long term if BRT service is not established for the corridor as currently envisioned. “High-visibility” or “zebra” crosswalks and bulbouts as feasible are recommended at all district intersections, consistent with objectives for Neighborhood Commercial areas. Pedestrian refuge islands are proposed south of east 48th Street, north of west 48th Street, and north of 50th Street. An additional crosswalk is proposed south of 50th Street. This new crosswalk should meet ADA standards. Should a bulb-out be expanded to accommodate this crosswalk, a crosswalk turning template analysis should be performed and prove satisfactory. Additional crosswalks and refuges could be added south of west 47th Street and south of west 49th Street if existing northbound left turn lanes were eliminated at these locations; a traffic analysis would be required to evaluate effects on traffic operations. Refuges would need to be removed if BRT service is established, as noted previously. Recommendations for specific intersections are indicated on the Pedestrian Crossings Improvements Matrix.

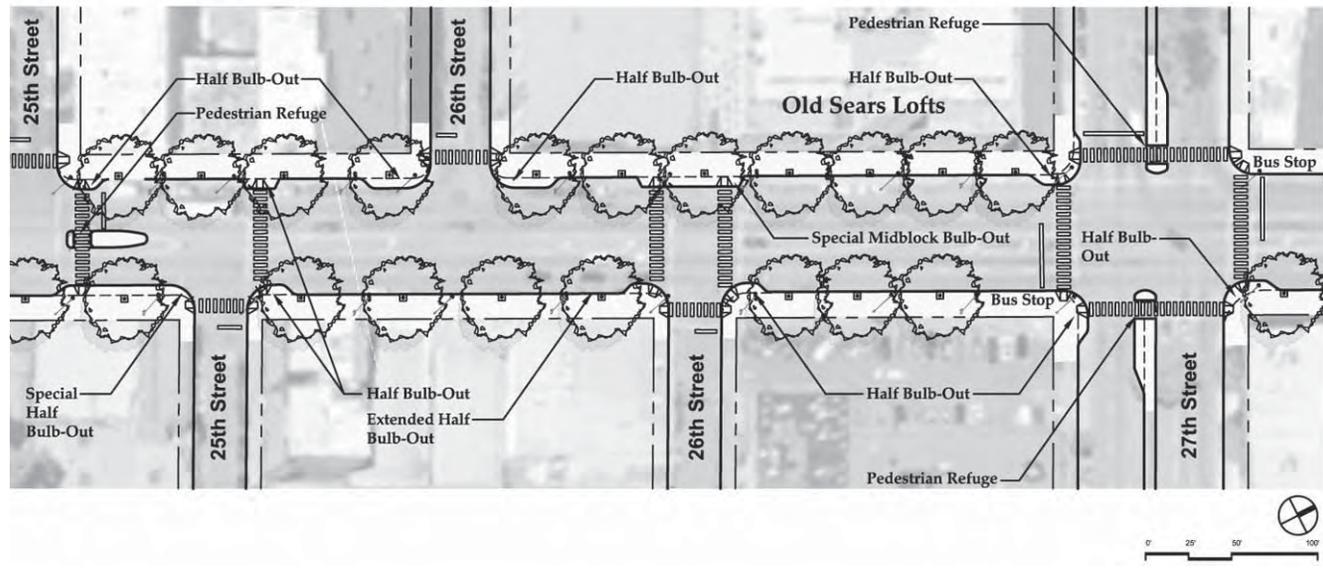
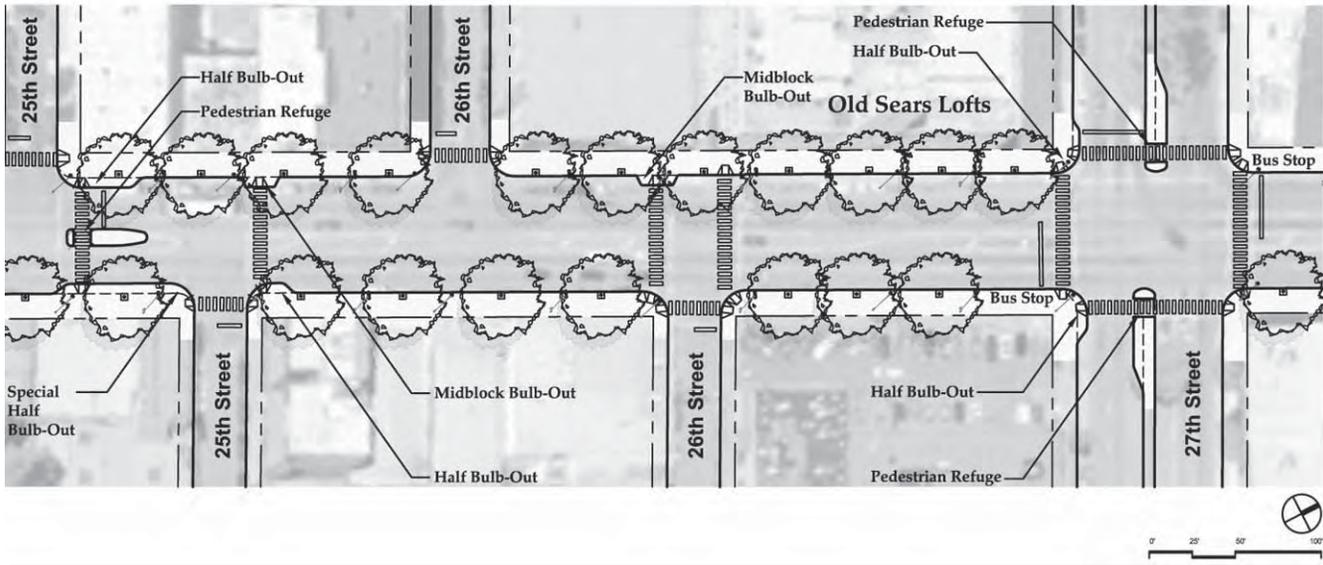
Special, large bulb-outs with furnishings and other amenities could be constructed at a number of locations in Temescal. For the BRT scenario, possible locations could be the northwest corner of 48th Street, the mid-block crossing at 50th Street, the southeast corner of 51st Street, and the reconstructed southeast corner of Claremont. In the No BRT scenario, possible special bulb-out locations include these as well as any other bulb-out location indicated by the matrix. The No BRT plan shows special bulb-outs generally alternating from one side of the street to the other on a block to block basis. Existing street lights to be replaced with high/low luminaires are indicated. Infill street trees are shown to provide a consistent tree spacing of approximately 50’ on center.

Koreatown District Improvements w/ BRT

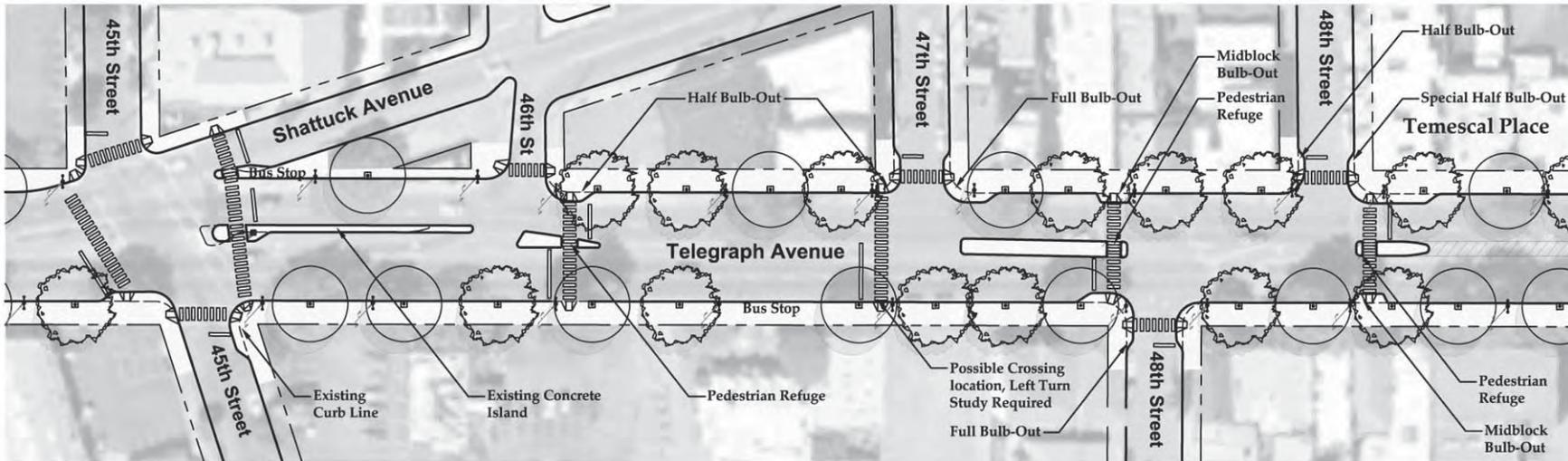


Koreatown District Improvements - No BRT

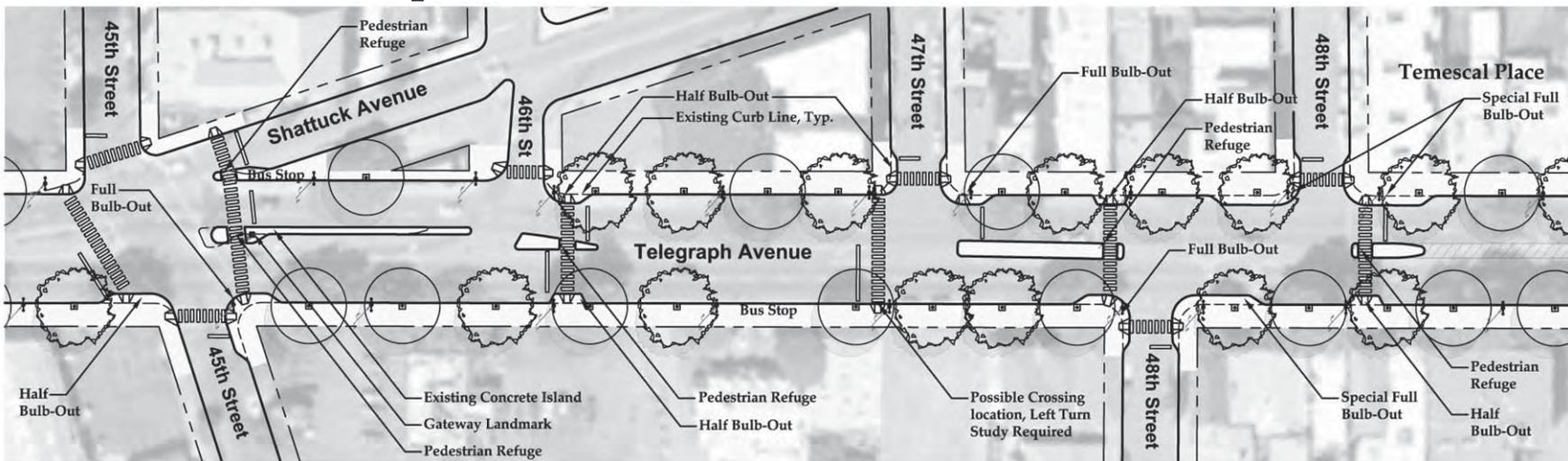


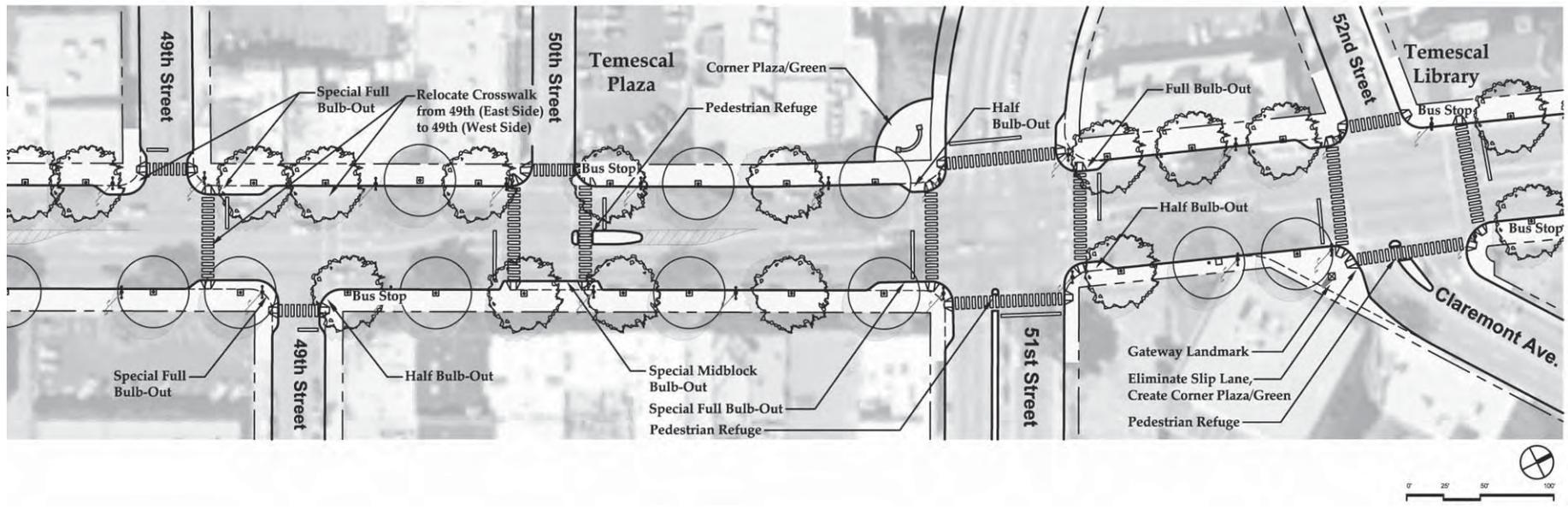
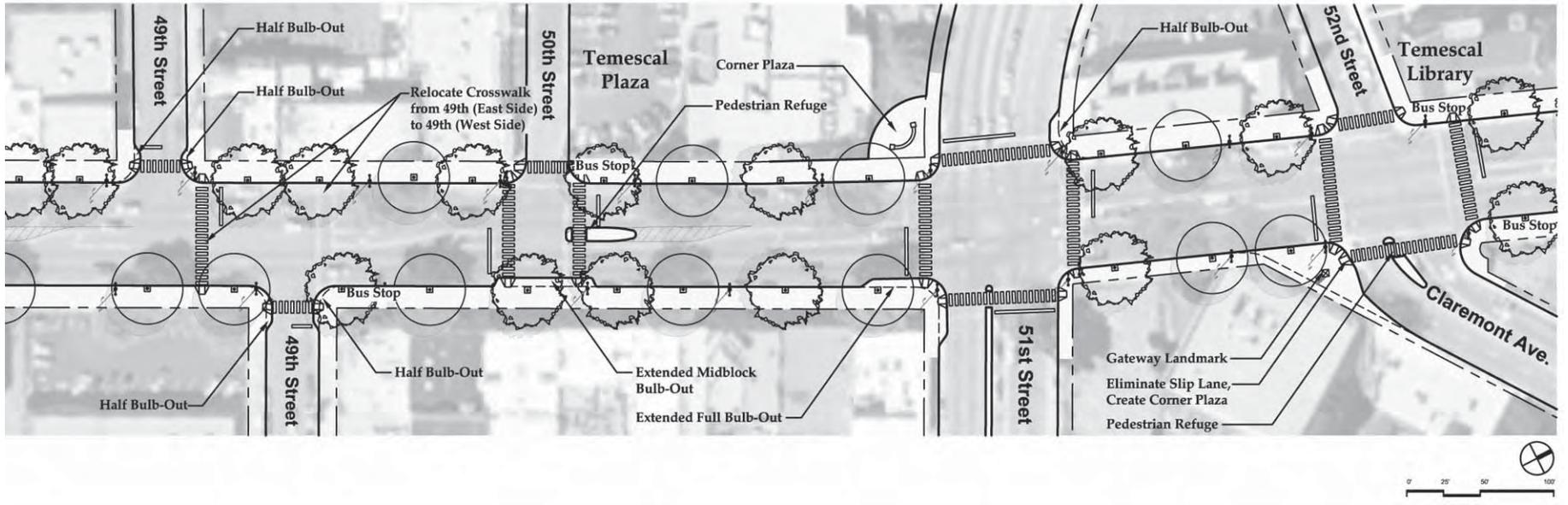


Temescal District Improvements w/ BRT



Temescal District Improvements - No BRT





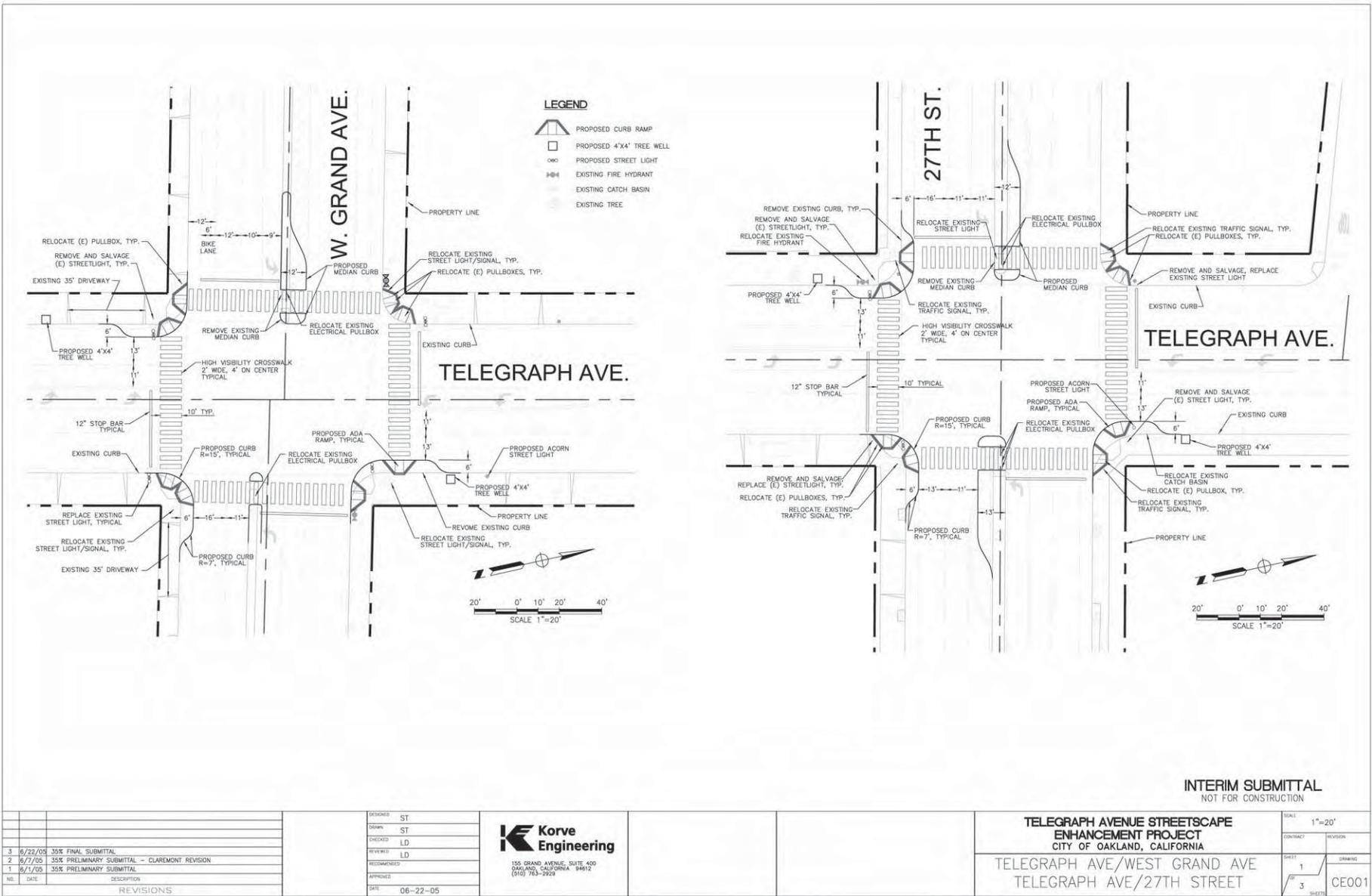
Appendices

A - 35% Design Plans for Near Term (with BRT) Improvements

B - Community Meeting Comments

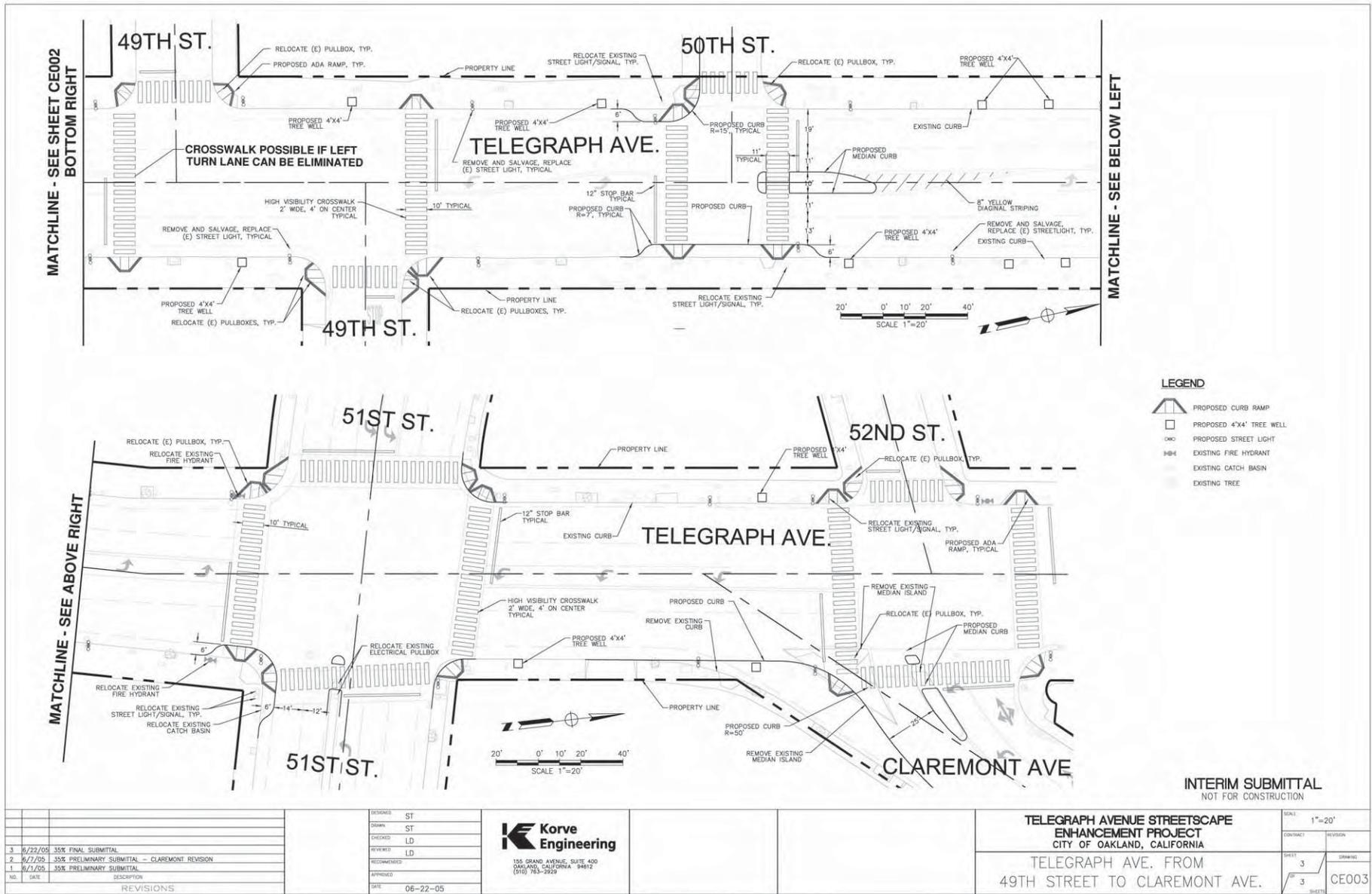
C - Cost Estimate

Appendix A - 35% Design Plans for Near Term (with BRT) Improvements



INTERIM SUBMITTAL
NOT FOR CONSTRUCTION

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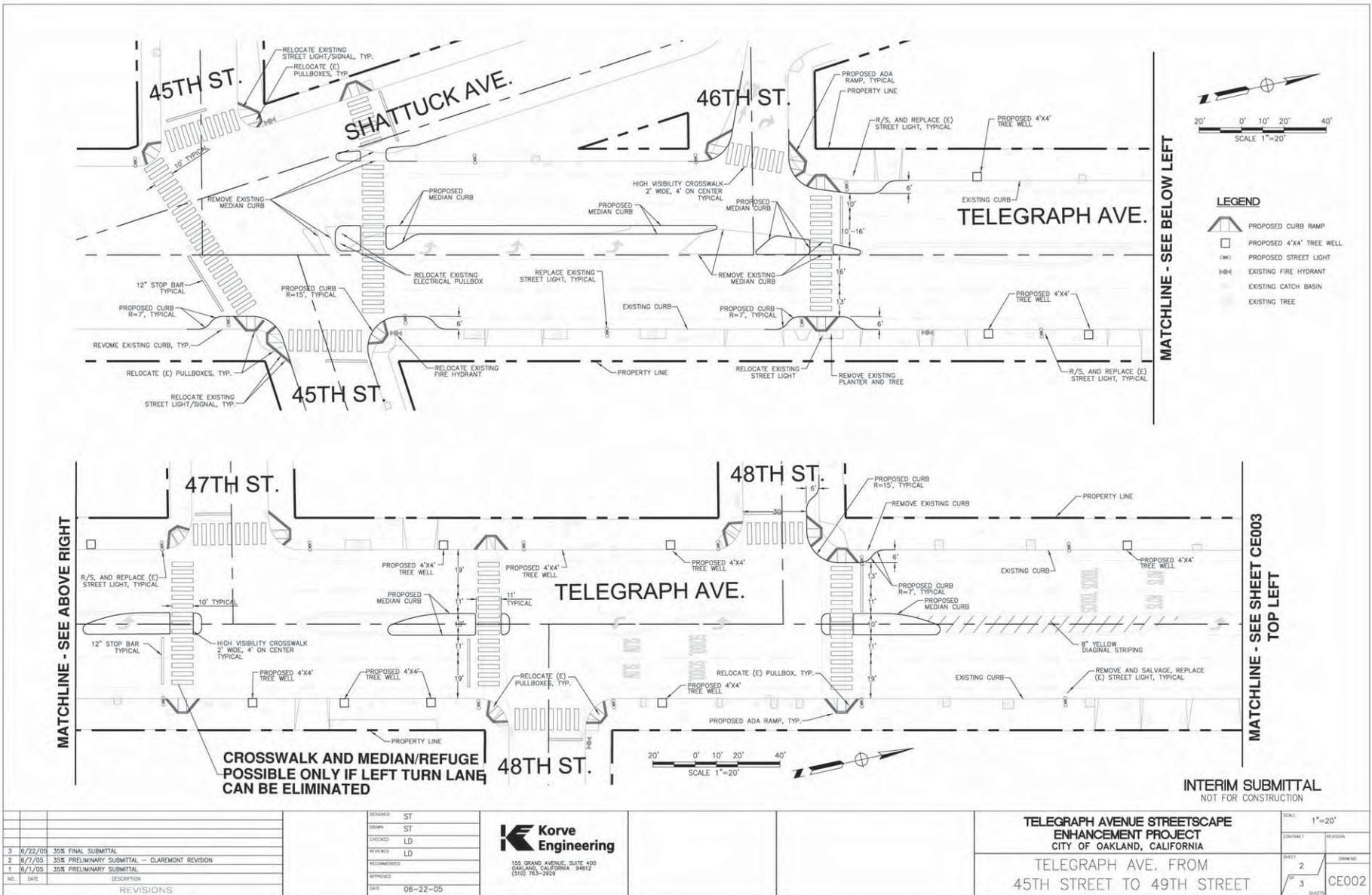
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2	8/17/05	35% PRELIMINARY SUBMITTAL - CLAREMONT REVISION
1	8/11/05	35% PRELIMINARY SUBMITTAL

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RECOMMENDED	
APPROVED	
DATE	06-22-05

Korve Engineering
 155 GRAND AVENUE, SUITE 400
 OAKLAND, CALIFORNIA 94612
 (916) 763-2929

TELEGRAPH AVENUE STREETSCAPE ENHANCEMENT PROJECT	
CITY OF OAKLAND, CALIFORNIA	
TELEGRAPH AVE. FROM 49TH STREET TO CLAREMONT AVE.	

SCALE	1"=20'
CONTRACT	REVISION
SHEET	3
DRAWING	CE003
SHEET	3



NO.	DATE	DESCRIPTION
3	6/22/05	35% FINAL SUBMITTAL
2	6/7/05	35% PRELIMINARY SUBMITTAL - CLAREMONT REVISION
1	6/1/05	35% PRELIMINARY SUBMITTAL

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DATE	06-22-05



TELEGRAPH AVENUE STREETSCAPE ENHANCEMENT PROJECT CITY OF OAKLAND, CALIFORNIA		SCALE
TELEGRAPH AVE. FROM 45TH STREET TO 49TH STREET		1"=20'
SHEET	DRAWING	
2	CE002	
3		

Appendix B - Community Meeting Comments

City of Oakland, Telegraph Avenue Pedestrian Streetscape Project Community Workshop - October 27, 2004 Community Post-it Comments

The notes below were transcribed from post-it note comments placed on drawings by workshop participants. Two colors of post-it notes were used, green to represent “like” comments and pink to signify “dislike” or “needs improvement” comments

Telegraph Avenue Context

The following are “needs improvement” comments (pink post-it notes):

- Improve access to BART from 38th Street entrance. Pedestrian gateway?
- 40th and Telegraph does not feel safe at night , increase lighting at this intersection
- It is difficult for cars to emerge from side streets at unsignalized intersections. More pedestrian activity will aggravate this situation. The heavy flow of traffic may call for more signals, or street architecture that lures pedestrians to cross at specific intersections.
- Intersections across the city need help. There is a conflict between right turns, pedestrian crossing, and light timing. I’m a regular pedestrian.

Average Daily Traffic / Pedestrian Crossings

The following are “needs improvement” comments (pink post-it notes):

- The Shattuck/45th Street/Telegraph intersection needs help
- The MacArthur/Telegraph intersection is a major oversight. It has heavy pedestrian traffic.

Existing Conditions Map

The following are “like” comments (green post-it notes):

- Hire a retail leasing expert to coordinate the retailers and their efficiency, just as in a mall.
- Highway patrol should contribute to a friendly entry to the underpass.
- Is it possible to use redevelopment funds and zoning changes to discourage parking lots that front on Telegraph?
- The more trees the better!
- I favor trees.
- Love the trees.
- Excellent to extend to Highway 24. This area is very ugly now.
- The MacArthur intersection has potential for triangular plazas at each corner by removing slip lanes. A good addition to the MacArthur Transit Village

The following are “needs improvement” comments (pink post-it notes):

- Traffic and parking issues at the popular Korean supermarket at 24th and Telegraph need to be dealt with.
- Improve access to BART from 38th Street entrance. Pedestrian gateway?
- Slip lanes are very dangerous (@ West MacArthur)

- Parks by the freeway crossing are seldom used and appear isolated and dangerous to the passerby. What can be done to make them friendly?
- Why (are there) standard street lights in Temescal?

Existing Conditions & Issues Plan Diagram

The following are "like" comments (green post-it notes):

- Business and building owners should be more responsible for sidewalk upkeep.
- Once sidewalks are cleaned how will they stay clean?

The following are "needs improvement" comments (pink post-it notes):

- Consolidating parking meters is fine in principle, but please keep in mind that they also serve as bike parking. Add bike racks to compensate!
- All these improvements won't help much without on-going sidewalk cleaning.

Streetscape Improvement Concept

The following are "like" comments (green post-it notes):

- Plaza or park facing Telegraph between 19th and 20th for Uptown Project
- Yes! Yes! 25' Theater District Piazza
- Will the "Korea Town" street signs have bilingual readouts, as in Chinatown? A good design motif.
- Good to concentrate improvements where there already exists a critical mass of development/density.
- Great ideas, well thought out.
- Old fashioned light standards are more conducive to retail.
- I like (the idea of) increasing lighting for pedestrians, but do not reduce lighting for cars.

- What did Telegraph look like at its height? What elements still exist and how can they be enhanced? Facade improvement funding (needed)
- Need public art and landscaping in dead areas
- The area between 40th Street and MacArthur should be considered for "Neighborhood Commercial Area" improvements in preparation for the transit village.
- MacArthur does not need slip lanes, already over capacity
- More trees in the Boulevard Areas. Flower stands at 40th like on Embarcadero/North Market in San Francisco.
- Consolidate bus stops, 4-8 stops at Telly and 40th are confusing; why not use parking lot or MacArthur BART?
- Enhancement of pedestrian crossings should include participation by local merchants and businesses to synergize the result into vital commercial areas.
- I like added crossings.
- Keep bike lanes on Webster + Telly + MLK + 40th + 51st. Bike lanes calm traffic and enhance pedestrian facilities.
- Bikes should be able to travel safely on Telegraph. Webster is a non-direct route for thru travelers and creates more problems at busy cross streets without signals.
- If better lighting drives away crime, it must be justified by the increased sales the retailers will experience and be taxed for.
- Countdown light at 51st Street and Telegraph ASAP
- Ditto on the countdown light at 51st

The following are "needs improvement" comments (pink post-it notes):

- Not a lot of housing near Grand Avenue Light industrial areas need to be "destinationized" to draw more pedestrians and get them out of cars.
- Poor lighting (today in Northgate/Korea Town area)
- I don't know how well street side tables will do in Korea

Town.

- No bike lanes on Telegraph.
- Improve 580 underpass with large-scale public art like on Claremont and Hudson.
- Cars under freeway encourage crime. Broken glass creates poor and unsafe environment.
- Fix up 40th Street. Total eyesore.
- I live on 44th. Cars don't stop for pedestrians at 44th, not sure how to fix without stop light.
- The corner of 37th and Telegraph needs a pedestrian crossing and a street light.
- Consider more pedestrian crossings for BART access in preparation for the transit village. Enforcement is an issue for pedestrians - cars go through red lights on a regular basis.
- Transit / commercial amenities should be extended to MacArthur.
- 42nd is an often-used signalized intersection and 41st is an often used unsignalized intersection.
- Higher level of improvements should connect from Temescal to BART.
- Improvements proposed for the Temescal neighborhood area should definitely be extended all the way to 40th and the MacArthur Transit Village to facilitate movement between BART and the commercial district, it's only a few blocks.
- No bike lanes on Telegraph, keep bikes on Webster.
- At 45th Street and Telegraph there are many students several times a day. The light is too long and they often have to j-walk. You have to push a button to walk. It should be automatic.
- No bike lanes on Telegraph!
- How about some tree/parking meter bulb-outs in between? (in the boulevard areas)

- How do you deal with undersized lanes on Telegraph and 51st where an extra parking spot was illegally added and reduced lane widths?

Boulevard Area Improvements

The following are "like" comments (green post-it notes):

- Well lit crossings very good
- As a pedestrian I love bulb-outs. As a cyclist I don't mind as long as they don't encroach into traffic lanes. I'm way more worried about getting (squished) by parked cars.
- More trees in the Boulevard areas, go for 50' O.C. minimum to have positive impact! Trees will have greater impact than special paving.

The following are "needs improvement" comments (pink post-it notes):

- Side street bulb-outs are not always necessary, they are small streets already
- Corner bulb-outs are hazardous to cyclists. They force bikers into traffic lanes causing conflict with cars
- Why put money towards cleaning parking meters? There are better uses of money.

Neighborhood Commercial Area Improvements Plan Diagram

The following are "like" comments (green post-it notes):

- Yes to trees
- Yay for trees, planting, and plaza-like seating
- More trees toward center of street, like Castro Street in Mountain View, to narrow feeling of street
- Trees and greenery are essential, Great!
- Like the (parking) fee kiosks

- Love sidewalk buffering and outdoor dining
- Unsignalized crosswalks: instead of a sign in the middle of the crosswalk, bring back the old time metal crossing guard signs that look like a person, gets motorists to take notice and slow down.
- Yes, yes to bulb-outs!
- I like bulb-outs
- Tucson Arizona has unique community designed street furniture - bike racks, paper stands, benches, bus stops. Local artists and kids design and fabricate.
- Like the low screen wall at bulb-outs
- Community gathering places = Yes!
- Bulb-outs keep cars out of the "red zone" and look nice too!
- Lets integrate public art (in general)!
- Align chair ramps, make sure bulb-outs are ramped all around instead of abrupt curb, dangerous for wheelchairs and bike to hit or fall off
- Bike racks and news stands are excellent barriers between pedestrians and traffic!
- Like bulb-outs!
- Include facade improvement program to complement sidewalk improvement and create overall improved and inviting appearance.
- Like having clusters of news racks instead of 5-6 individual boxes at corners, which is too cluttered.
- More bike racks, if parking meters are removed more bike racks are needed. Racks need to be in a high traffic and visible area to reduce theft.
- If parking meters are removed, need more bike racks. Good bike parking makes bikers pedestrians.
- Bike parking should be easy to view, move bike rack closer to Telegraph Street and move newspaper racks further away.
- Also could use permanent bollards, like on MLK near

Ashby BART, to create a very safe haven.

- Like coordinated furnishings and outdoor eating.

The following are "needs improvement" comments (pink post-it notes):

- Reverse (location of) newspaper stands and bike racks
- Don't like uniform news racks, like the chaos of all different racks
- Big news racks disrupt line of sight for pedestrians, autos, bikes, etc. and they are ugly

Sidewalk Cross Sections Diagram

The following are "like" comments (green post-it notes):

- Fantastic idea to retrofit historic light poles with historic light heads.
- Love the two-level lights (high-low light)
- Great light (high-low light)!

The following are "needs improvement" comments (pink post-it notes):

- Don't go too cutesy/faux old-time with lamps
- These lights (high-low) produce a lot of glare and do not create a warm feel that we need to encourage pedestrians.

Unsignalized Crossing Improvements

The following are "like" comments (green post-it notes):

- Zebra crosswalks are underrated, great idea.
- Like the bulb-out.
- I like the bulb-outs too.
- Advance limit line is a great idea!
- Pedestrian refuge good for crossing
- I like the pedestrian refuge, great idea!

- Highlighting crossings will help, but it won't stop speeders.
- Also could use permanent bollards, like on MLK near Ashby BART, to create a very safe haven.

The following are "needs improvement" comments (pink post-it notes):

- Besides visually improving the crosswalks so they stand out more, coordinate work with police to nail drivers who ignore crosswalks, lights, etc.
- Yellow pedestrian markers: if they are not concrete people can remove them. Flashers instead.

Streetscape Improvement Priorities

The following are "like" comments (green post-it notes):

- Trash receptacles should be high priority. Specially in the large stretches that don't have any!
- Like pedestrian-oriented street lighting.
- Love the idea of curbside café seating ala Center Street in Berkeley.

The following are "needs improvement" comments (pink post-it notes):

- Enforcement is an issue for pedestrians, cars go through red lights on a regular basis and bicyclists are on the sidewalks!
- Ensure (parking) ticket kiosks are manned or are in proper working order.

**City of Oakland, Telegraph Avenue Pedestrian Streetscape Project
Community Workshop - December 8, 2004
Community Post-it Comments**

The notes below were transcribed from post-it note comments placed on drawings by workshop participants. Two colors of post-it notes were used, green to represent "like" comments and pink to signify "dislike" or "needs improvement" comments

Special Intersection Improvement Concepts

22nd Street

- No comments

Grand Avenue

- No comments

27th Street

- No comments

MacArthur Boulevard

The following are "like" comments (green post-it notes):

- Great plan to eliminate "slip lanes" (MacArthur Blvd)
- Is there space for a refuge in the center of MacArthur?
There are 6 lanes and not much traffic.

The following are "needs improvement" comments (pink post-it notes):

- I ride a bike to work, but standardized cookie cutter 4-way stops are monotonous, keep these dedicated right turns (MacArthur Blvd). It helps car traffic flow too!

40th / 41st Streets

The following are "like" comments (green post-it notes):

- Moving bus stop (from near to far side of intersection at 40th & Telegraph) is a good idea. Lets people get on and off on same side as BART station entrance.
- Consider left turn signals at major entries to BART. 40th and MacArthur.

The following are "needs improvement" comments (pink post-it notes):

- Bad idea to move bus stop from near to far side of intersection at 40th & Telegraph.
- Need better signals to slow traffic at 40th & Telegraph

45th/ Shattuck (Option A)

- No comments

45th/Shattuck (Option B)

The following are "like" comments (green post-it notes):

- There is heavy traffic during morning and afternoon school commutes, but not much at other times
- Good idea to close Shattuck, two streets is a lot to cross
- Good plan
- Good "big picture" idea

- This would make a very awkward area much better! The plaza is a great idea.
- Small plazas should have public art, should be incorporated with Transit Village design. Consider kiosks to bring life to the corners.
- Changing the Shattuck interface is a great idea!
- Yes. Extend Temescal area to the transit village.

51st / Claremont

The following are "needs improvement" comments (pink post-it notes):

- Good idea for the intersection, but probably too far north for "entry" to Temescal. Consider 40th Street as gateway.
- Please keep quirky, unique street with character such as the end of Shattuck at Telegraph (like Option A). Don't eliminate this for a bigger commercial building. Put in a hot dog stand again or a flower stand.

The following are "needs improvement" comments (pink post-it notes):

- At 51st and Telegraph have crossing at Walgreen's to ofc. buildings
- I like turns that are behind a person waiting on a corner like an island. It is a pedestrian refuge too.

Temescal District Improvements Concept

The following are "like" comments (green post-it notes):

- Good (Pedestrian refuge and midblock bulb-out at 50th Street & Telegraph)
- Good (Corner Plaza/Green at 51st Street & Telegraph)
- Yes! Eliminate slip lanes! (Claremont Avenue)

- No general or specific comments, just extremely happy that this project is in the near future to beautify Oakland and make the streets more functional.
- Trees every 50 feet please, trees everywhere before higher density in commercial areas

The following are "needs improvement" comments (pink post-it notes):

- Only one here, it's essentially the same crossing (47th & Telegraph / 48th & Telegraph)

Korea Town/Northgate District Improvements Concept

- No Comments

Streetscape Improvement Concept

The following are "like" comments (green post-it notes):

- Flashing lights for pedestrians
- Yes, eliminate slip lanes! (MacArthur)
- Please plan for trash cans, much needed.
- West MacArthur and 40th Street should be uniform
- Keep the old lights with brighter bulbs
- Bulb-out at 41st Street could make pedestrians more visible and shortens the walking space to negotiate when crossing.
- Bulb-out at 41st Street could reduce turning space enough that motorists coming from cross streets no longer can make U-turns or think that they have time to dart out into on-coming traffic.
- Put a needle at 41st Street in middle of pedestrian crossing, it might get motorists out of the habit of thinking they have a through stretch until 49th Street.

The following are “needs improvement” comments (pink post-it notes):

- Need pedestrian crossing at 38th Street
- Brighter street lights at night, including at crosswalks without signals
- Should have better lighting on Telegraph at night
- Cars do not stop at the 39th & Telegraph crosswalk
- Better lights at 39th & Telegraph
- Relocating the bus stop at 40th Street will not discourage drug dealers. Dealers and pedestrians ignore each other. It will only create pedestrian congestion across the street, you may miss the bus stop because you have to wait for the light(s).
- Lighting is a good idea, but will city follow up on side streets where muggings and purse snatchings are persistent?

Conceptual Images/Photos

The following are “like” comments (green post-it notes):

- Priorities: (1) Street / Sidewalk Lighting, (2) Crosswalks, zebra first refuge later (3) trees
- Organized newsracks with planting good
- High/Low (Hegenberger Light) good
- Historic Oakland Luminaires good

The following are “needs improvement” comments (pink post-it notes):

- Need low level sidewalk lighting to create a welcoming ambience
- These lights (i.e., metal halide in downtown Oakland, Emeryville) are terrible, harsh, and cold

**City of Oakland, Telegraph Avenue Pedestrian Streetscape Project
Community Workshop - February 16, 2005**

Project Improvement Priorities:

The table below summarizes an exercise, in which community participants were presented a “menu” of project improvements. Each member was given several sticker dots, to place on the improvement drawings they felt were most important. As shown, the top priority improvements are Street Trees and Special Bulb-outs.

Project Improvement	Dots
Pedestrian Refuges	1
“Zebra” Crosswalks	8
Street Trees	15
Street Furnishings	2
Major Intersections	6
Renovated Street Lights	7
New Street Lights	7
Typical Bulb-Outs	5
Special Bulb-Outs	12

Appendix C - Cost Estimate

Telegraph Avenue Pedestrian Streetscape Project Street Improvements Concept Cost Estimate (11,600 lf)

13-Jan-05

	Unit	Quantity	Unit Price	Total	%Total
1 Boulevard Improvements 20th - Grand (860 lf)					
1 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	1	\$50,000.00	\$50,000	
2 Half Bulb-Outs w/Crosswalk	ea	1	\$14,200.00	\$170,400	
3 Sidewalk Renovation (est 10%)	sf	2,600	\$12.00	\$31,200	
4 Expanded Frontage Improvements (22nd)	allow	1	\$85,000.00	\$85,000	
5 Historic Oakland Luminaires Retrofit	ea	16	\$5,000.00	\$80,000	
6 Furnishings (Trash Recept)	ea	6	\$1,500.00	\$9,000	
7 Street Trees (36" box w/irrig, str soil)	ea	13	\$2,500.00	\$32,500	
Construction Subtotal				\$458,100	7.0%
2 Grand Avenue Intersection					
1 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	0	\$50,000.00	\$0	
2 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	3	\$37,000.00	\$111,000	
3 Pedestrian Refuge/Median (2)	allow	1	\$12,000.00	\$12,000	
Construction Subtotal				\$123,000	1.9%
3 Neighborhood Commercial Improvements Grand - 27th St / Koreatown (1,600 lf)					
1 Half Bulb-Outs w/Crosswalk	ea	8	\$14,200.00	\$113,600	
2 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	7	\$37,000.00	\$259,000	
3 Special Bulbout w/Amenities	ea	0	\$20,000.00	\$0	
4 Concrete Pedestrian Refuge Island	ea	2	\$12,500.00	\$25,000	
5 Sidewalk Renovation (est 10%)	sf	4,800	\$12.00	\$57,600	
6 Historic Oakland Luminaires Retrofit	ea	28	\$5,000.00	\$140,000	
7 Pedestrian Acorn Light	ea	14	\$8,000.00	\$112,000	
8 Furnishings (Benches/Trash Recept)	ea	10	\$1,500.00	\$15,000	
9 Street Trees (36" box w/irrig, str soil)	ea	49	\$2,500.00	\$122,500	
Construction Subtotal				\$844,700	12.9%

4 27th Street Intersection

1 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	1	\$50,000.00	\$50,000
2 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	2	\$37,000.00	\$74,000
3 Pedestrian Refuge/Median (2)	allow	2	\$20,000.00	\$40,000

Construction Subtotal \$164,000 2.5%

**5 Boulevard Improvements
Merrimac St - 39th St (4,830 lf)**

1 Full Bulb-Outs w/Crosswalk	ea	0	\$27,000.00	\$0
2 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	6	\$50,000.00	\$300,000
3 Half Bulb-Outs w/Crosswalk	ea	5	\$14,200.00	\$71,000
4 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	5	\$37,000.00	\$185,000
5 Sidewalk Renovation (est 10%)	sf	14,500	\$12.00	\$174,000
6 Concrete Pedestrian Refuge Island	ea	10	\$12,500.00	\$125,000
7 Historic Oakland Luminaires Retrofit	ea	46	\$5,000.00	\$230,000
8 Furnishings (Trash Recept)	ea	16	\$1,500.00	\$24,000
9 Street Trees (36" box w/irrig, str soil)	ea	36	\$2,500.00	\$90,000

Construction Subtotal \$1,199,000 18.4%

6 I-580 Undercrossing (350 lf)

1 Pedestrian-Oriented Acorn Street Lights	ea	12	\$7,000.00	\$84,000
2 Screen Fencing (embankment)	lf	150	\$150.00	\$22,500
3 Underpass Wall Treat and Prep (10' X 50%)	sf	22,500	\$10.00	\$225,000
4 Remove Parking Lane/Sidewalk Planter	sf	4,200	\$15.00	\$63,000

Construction Subtotal \$394,500 6.0%

7 MacArthur Boulevard Intersection

1 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	1	\$50,000.00	\$50,000
2 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	2	\$37,000.00	\$74,000
3 Expanded Frontage Improvements (2)	allow	1	\$170,000.00	\$170,000
4 Pedestrian Refuge/Median	ea	2	\$2,000.00	\$4,000

Construction Subtotal \$557,000 8.5%

8 40th Street Intersection

1 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	2	\$50,000.00	\$100,000	
2 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	0	\$37,000.00	\$0	
3 Pedestrian Refuge/Median	ea	2	\$2,000.00	\$4,000	
Construction Subtotal				\$193,004	3.0%

**9 Boulevard Improvements
40th St - 44th St (1,470 lf)**

1 Full Bulb-Outs w/Crosswalk	ea	0	\$27,000.00	\$0	
2 Half Bulb-Outs w/Crosswalk	ea	3	\$14,200.00	\$42,600	
3 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	4	\$37,000.00	\$148,000	
4 Sidewalk Renovation (est 10%)	sf	4,400	\$12.00	\$52,800	
5 Concrete Pedestrian Refuge Island	ea	2	\$12,500.00	\$25,000	
6 High / Low Streetlight	ea	30	\$10,000.00	\$300,000	
7 Furnishings (Trash Recept)	ea	10	\$1,500.00	\$15,000	
8 Street Trees (36" box w/irrig, str soil)	ea	36	\$2,500.00	\$90,000	
Construction Subtotal				\$673,400	10.3%

10 45th / Shattuck Street Intersection

1 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	1	\$50,000.00	\$50,000	
2 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	2	\$37,000.00	\$74,000	
3 Half Bulb-Outs w/Crosswalk	ea	2	\$14,200.00	\$28,400	
4 Pedestrian Refuge/Median/Corner (2)	allow	1	\$16,000.00	\$16,000	
Construction Subtotal				\$285,606	4.4%

**11 Neighborhood Commercial Area Improvements
45th St - Claremont / Temescal (2,000 lf)**

1 Full Bulb-Outs w/Crosswalk	ea	4	\$27,000.00	\$108,000
2 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	1	\$50,000.00	\$50,000
3 Half Bulb-Outs w/Crosswalk	ea	7	\$14,200.00	\$99,400
4 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	3	\$37,000.00	\$111,000
5 Special Bulbout w/Amenities	ea	0	\$20,000.00	\$0
6 Sidewalk Renovation (est 10%)	sf	6,000	\$12.00	\$72,000
7 Concrete Pedestrian Refuge Island	ea	9	\$12,500.00	\$112,500
8 High / Low Streetlight	ea	41	\$10,000.00	\$410,000
9 Furnishings (Benches/Trash Recept)	ea	8	\$1,500.00	\$12,000
10 Street Trees (36" box w/irrig, str soil)	ea	34	\$2,500.00	\$85,000

Construction Subtotal \$1,059,900 16.2%

12 51st Street / Claremont Avenue Intersections

1 Full Bulb-Outs w/Crosswalk	ea	0	\$27,000.00	\$0
2 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	2	\$50,000.00	\$100,000
3 Half Bulb-Outs w/Crosswalk	ea	0	\$14,200.00	\$0
4 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	4	\$37,000.00	\$148,000
5 Expanded Frontage Improvements	allow	1	\$84,000.00	\$84,000
6 Corner Plaza	allow	1	\$20,000.00	\$20,000
7 Pedestrian Refuge/Median Island	ea	1	\$12,500.00	\$12,500

Construction Subtotal \$609,209 9.3%

**13 Boulevard Improvements
North of Claremont (830 lf)**

1 Full Bulb-Outs w/Crosswalk	ea	0	\$27,000.00	\$0	
2 Full Bulb-Outs w/Crosswalk, Signal Reloc	ea	0	\$50,000.00	\$0	
3 Half Bulb-Outs w/Crosswalk	ea	2	\$14,200.00	\$28,400	
4 Half Bulb-Outs w/Crosswalk, Signal Reloc	ea	2	\$37,000.00	\$74,000	
5 Sidewalk Renovation (est 10%)	sf	2,500	\$12.00	\$30,000	
6 Concrete Pedestrian Refuge Island	ea	1	\$12,500.00	\$12,500	
7 Historic Oakland Streetlight to Replace	ea	14	\$10,000.00	\$140,000	
8 Furnishings (Trash Recept)	ea	4	\$1,500.00	\$6,000	
9 Street Trees (36" box w/irrig, str soil)	ea	14	\$2,500.00	\$35,000	
Construction Subtotal				\$325,900	5.0%

Construction Subtotal	\$6,532,360
Construction Contingency @ 25%	\$1,633,090
Total	\$8,165,449
Construction Engineering @ 10%	\$816,545
Preliminary Engineering/Design @ 15%	\$1,224,817
Right of Way Approvals/Permit Fees @ 1%	\$81,654
City Contract Compliance Fees @ 3%	\$183,723
City Public Art Surcharge @ 1.5%	\$122,482
Total Project Cost	\$10,594,671