CHAPTER 6
RECOMMENDED PEDESTRIAN PROJECTS

This chapter discusses capital project recommendations for Berkeley’s pedestrian\(^1\) network. These infrastructure improvements are intended to enhance pedestrian access and circulation as well as help pedestrians feel more comfortable when walking in Berkeley. This chapter focuses on engineering and infrastructure. Chapter 7 discusses programs and other non-infrastructure improvements to enhance the walking environment in Berkeley.

6.1. PROJECT SELECTION AND PRIORITIZATION

Identification and development of the recommended infrastructure projects in this chapter was a multi-part process that involved extensive public input, technical review of numerous intersections and crosswalk locations by the project team, and development of a detailed analysis tool to prioritize and rank project locations. Beginning in March 2006 with the Pedestrian Master Plan Public Workshop, the project team began collecting information from Berkeley residents on locations they would like to see improved. The team continued collecting information over the course of the project through the project website and email links. At the same time public input was being received, the project team was conducting a citywide inventory of pedestrian facilities, including sidewalks, crosswalks, and curb ramps, adding to the existing database of pedestrian signal locations, signage and other pedestrian features. With this extensive data, both from the public input process and from the inventory, the team could then begin to look at the most likely locations for improvements. Over 300 individual locations were studied for potential improvements as part of the initial planning process.

In order to compare the relative importance of these locations for improvements, a ranking system was developed that used a variety of readily available data factors.

- **Community Access:** Is the project located near key pedestrian generators or attractors?  
  Measurements: Civic buildings, neighborhood commercial centers, parks, senior centers, schools, density of surrounding land uses

- **Transit Connectivity:** Is the project located near key transit access points?  
  Measurements: BART and Amtrak connections, AC Transit trunk lines, AC Transit local lines

- **Usage and Demand:** How many people are walking in the project area?  
  Measurements: Census journey to work data, Space Syntax forecasted volumes

- **Safety:** Will the project improve safety?  
  Measurements: Collisions, pedestrian exposure, traffic volumes and speeds

- **Support and Need:** Is there an identified need for the project?  
  Measurement: Project is identified in an existing plan, public comment received

\(^1\) The term “pedestrian” refers to a person moving from place to place, on foot and/or with the use of an assistive mobility device (when that person has a disability and/or medical condition). “Walking” or “to walk” are the terms used to describe this movement of a pedestrian.
A list of the top 100 ranked intersections is provided in Appendix A. This list provides the City with an overall guide of the relative priority of various project locations, based on the technical factors above. This approach to ranking was intended to eliminate the case-by-case approach that has often been taken with pedestrian projects in the past.

Because pedestrian improvements are so localized, it can be challenging to develop a cohesive citywide master plan that is more than simply a list of dozens of location-specific improvements. As such, a number of project categories were identified that grouped projects of similar type together to be implemented on a corridor or citywide scale. These project categories are:

- Infill of Sidewalk Gaps
- Installation of Audible Signals Along Corridors
- Installation of Truncated Domes
- High Visibility Crosswalk Installation
- Installation of Perpendicular Curb Ramps
- Standard Crosswalk and Advance Warning Signage
- Priority Intersections for Signal Timing Adjustments
- Parking Restrictions (Red Curbs) Adjacent to Intersections
- Locations for Installing Countdown Signal Heads
- Speed Feedback Sign Installation
- Safe Routes to School Priorities
- Pathway and Stairway Improvements
- Multi-Use Path Projects
- Improvements to Signalized Intersections with High Pedestrian Collision Rates

As part of the project description, specific recommendations are made for prioritizing these improvements, so that the City can implement them in a logical manner based on the areas of greatest need first.

In addition to the broader citywide projects, a number of stand-alone intersection, corridor and crossing projects were identified over the course of the project. These were projects that involved more specific improvements than could fit into the overall citywide project categories. These 34 projects are presented in detail at the end of this chapter.

All of these projects will have impacts in terms of funding and drainage and may impact street pavement. Specific projects may also affect specific street rehabilitation projects. Implementation of these projects will necessitate coordination with the various capital improvement programs.

Cost estimates and detailed project lists are shown in Appendix A.

6.2. CITYWIDE INFRASTRUCTURE PROJECTS

6.2.1. INFILL OF SIDEWALK GAPS

Sidewalk gaps are areas in Berkeley where there are no sidewalks, or the sidewalk ends abruptly, resulting in a discontinuous network. Areas without sidewalks may force pedestrians to walk along the edge of
the roadway, or may cause pedestrians to cross at undesignated crossing locations. Providing a continuous pedestrian sidewalk along all of Berkeley’s roadways is recommended. As discussed in Chapter 4, a complete citywide inventory of sidewalk segments and gaps was conducted as part of this plan. The locations of these major sidewalk gaps are shown in Figures 4-1 through 4-4.

With the exception of some parts of the Berkeley Hills, the sidewalk network of Berkeley is mostly complete. The largest area of missing sidewalks is located between Cedar and Gilman, west of San Pablo Avenue. Parts of this area have historically been more industrial in nature and as such some of the street network was not built with sidewalks. The major sidewalk gaps are listed in Appendix A.

The Berkeley Hills contain the largest area of missing sidewalks in the City. While sidewalks are present along the major streets such as Spruce, Euclid and Marin, much of the network of narrow and curving residential streets lacks sidewalks. Retrofitting all of these roadways with sidewalks is not likely to be feasible, given the topography and narrow streets constrained in many cases by private properties built up to the edge of or in some cases encroaching on the public right-of-way. Furthermore, the pathway/stairs network provides pedestrian access to many of the hills areas, and improving these pathways is considered a higher priority than extensive new sidewalk development in the hills.

**RECOMMENDATION:** As a first priority, Berkeley should fill sidewalk gaps located in the flat central and western part of the City, particularly those between Cedar and Gilman west of San Pablo Avenue. Note that infilling gaps will increase impervious area which is subject to National Pollutant Discharge Elimination System (NPDES) stormwater permit requirements. Drainage issues must be considered with new construction. As a second priority, Berkeley should continue to work with residents of the hills where new sidewalk segments are requested. Due to topographical constraints, it is likely that sidewalks may not be feasible in many areas of the hills. Appendix A shows a list of the key sidewalk gap segments outside of the hills areas, and the estimated costs for installing these sidewalk segments.

### 6.2.2. ADA IMPROVEMENTS

**6.2.2.1. PERPENDICULAR CURB RAMP RETROFIT**

Perpendicular curb ramps are designed so two ramps are included at intersection corners. Perpendicular ramps allow pedestrians and people in wheelchairs to enter into the crosswalk directly in their line of travel. Perpendicular ramps have been the preferred design for the City of Berkeley in the past and are required on all newly constructed streets. However, on many major streets diagonal ramps are present. Perpendicular ramps do require more space to install than a single diagonal ramp, are more costly, and sometimes cannot be accommodated due to utilities or other obstructions at the corner. Further, because of Berkeley’s southwest drainage pattern, all southwest corner curb ramps must be reviewed for drainage. Accounting for these special considerations, it is recommended that perpendicular curb ramps be installed where feasible, especially at major intersections in high pedestrian activity zones.

**RECOMMENDATION:** As a first priority, Berkeley should identify opportunities to install perpendicular curb ramps at all arterial/arterial intersections and then establish a schedule for constructing them where feasible. See Appendix A for a list of these locations. Curb ramps at arterial/collector intersections should be evaluated on a case-by-case basis when the City is undertaking construction, maintenance or repair projects that affect the public right of way.
6.2.2.2. TRUNCATED DOMES

Truncated domes provide a cue to visually-impaired pedestrians that they are entering a street or intersection. Since 2002, Americans with Disabilities Act (ADA) Guidelines have called for truncated domes on curb ramps. Most of Berkeley’s curb ramps lack truncated domes, because they were constructed prior to 2002. Should adequate funding be available, truncated domes should be installed on streets that have been constructed or re-paved since 2002. Otherwise, all future installations or reconstruction of curb ramps should include truncated domes as required by law.

Although it is not required for Berkeley to install truncated domes at existing curb ramps that were built prior to 2002, the City may wish to install these devices at high priority pedestrian locations. Truncated domes are a very visible improvement, and they are relatively inexpensive to install. The preferred option for retrofitting truncated domes requires saw-cutting out a 3x4 space in the ramp in order to embed the truncated dome panel flush with the surface. While more expensive than simply epoxying the retrofit panel to an existing ramp, the saw-cutting ensures that the domes will not become detached and pose a tripping hazard.

RECOMMENDATION: Berkeley should consider retrofitting truncated domes at all arterial/arterial intersections where they are currently lacking. In some cases, these would be considered temporary installations until the time that the roadway is resurfaced and the curb ramps are reconstructed to new ADA standards. See Appendix A for a list of these locations. As required by law, Berkeley will also continue to install truncated domes when re-paving streets and improving existing curb ramps.

6.3. SIGNALIZED INTERSECTION ENHANCEMENTS

6.3.1. SIGNAGE AND STRIPING

A controlled intersection provides the greatest level of traffic control for both motor vehicles and pedestrians. However, even with traffic controls, there may be conflicts between vehicles and pedestrians due to vehicles stopping partially in the crosswalk, failing to yield to pedestrians when turning, or making a right turn on red movement while pedestrians are crossing. Although these conflicts are primarily due to motorist behavior (generally failing to yield), making signage and striping improvements can help to increase motorist awareness of their vehicle placement at intersections and need to yield.

RECOMMENDATION: At intersections with a history of high vehicle/pedestrian conflicts (based on SWITRS data or the pedestrian exposure analysis), the City should consider: 1) installing Stop Lines five feet in advance of the crosswalks, to help position motorists back of the crosswalk when stopped; 2) install “Turning Traffic Must Yield to Pedestrians” (MUTCD R10-15) signage; and 3) if pedestrian conflicts appear to be related to right turn on red, consider prohibiting right turn on red at that location. The City’s default advance stop bar setback is four feet unless conditions for a five foot setback have been met. A five foot stop bar setback should be used only where it does not exacerbate existing sightline issues caused by vegetation or buildings located close to the intersection. A list of the signalized intersections with the highest rate of pedestrian collisions is provided in Appendix A.

6.3.2. SIGNAL TIMING ADJUSTMENT

Signal timing controls the amount of time each phase of a signal is allotted for vehicles and bicycles to pass through or pedestrians to cross the street. Per the MUTCD, standard traffic engineering design assumes that pedestrians travel at 4.0 feet per second, which together with the width of the street is used to determine the amount of time to assign to the pedestrian clearance interval. For slower pedestrians,
such as the elderly and children, this assumed walking speed may result in them not being able to fully
cross the street before the light changes. By adjusting the signal timing to reflect a slower walking rate,
slower pedestrians will have more time to cross the street.

**RECOMMENDATION:** As a first priority, Berkeley should consider adjusting signal timing at the 15
arterial/arterial signals adjacent to senior centers and 10 locations adjacent to elementary schools to allow
for a pedestrian walking speed of 2.8 to 3.5 feet per second. This slower walking speed is consistent with
MUTCD recommendations for walking rates for slower pedestrians. Consideration of signal operation
and signal coordination by the Department of Public Works traffic engineers and signal technicians is
necessary for this recommendation. As a next priority, consider implementing this signal timing walking
speed for all high pedestrian demand locations in the City. Appendix A identifies the top priority signal
locations.

### 6.3.3. COUNTDOWN SIGNALS

Countdown pedestrian signals provide information on the amount of time remaining in the pedestrian
clearance interval, which can assist pedestrians in making safe crossing judgments. Guidance on the use
of these devices is now included in the California MUTCD. The City of Berkeley has a program in place
to install countdowns on all new signal installations, or when signals are upgraded.

**RECOMMENDATION:** Berkeley should continue to install countdowns on all new signal
installations and when signals are upgraded. In addition, the City should plan to upgrade all signals to
pedestrian countdown signals. A list of locations that need countdown signals is provided in
Appendix A.

### 6.3.4. AUDIBLE SIGNALS

Audible signals emit sounds to guide visually-impaired pedestrians indicating when it is safe to cross.
Different audible signals are usually used to also indicate crossing direction. Sounds are activated by the
pedestrian push-button. The MUTCD states that installation of audible signals should be based on an
engineering study that considers:

- Potential demand for accessible pedestrian signals
- A request for accessible pedestrian signals
- Traffic volumes during times when pedestrians might be present, including periods of low
  traffic volumes or high turn-on-red volumes
- The complexity of traffic signal phasing
- The complexity of intersection geometry

The City of Berkeley currently has audible pedestrian signals installed at 25 intersections, primarily
concentrated along the Shattuck corridor downtown, along University, along Telegraph, and along
6th/7th streets in West Berkeley.

**RECOMMENDATION:** Berkeley should consider installing audible signals at all signalized
intersections. Signalized intersections near the homes of people who are visually impaired, focusing on
arterial/arterial installations, should be a first priority. Locations near senior centers should also be high
priorities. The City has developed a list of prioritized intersection locations for audible pedestrian signal
6. Recommended Pedestrian Projects

installation. This list is based on residences of people with visual impairments and land uses. Appendix A lists locations recommended for audible signal installation.

6.4. UNCONTROLLED CROSSWALK IMPROVEMENTS

Infrastructure improvements at uncontrolled crosswalk locations can help increase the visibility of pedestrians to motorists and improve pedestrians’ walking experience. These improvements are for both unmarked and marked crosswalks at intersections. Improvements to uncontrolled crosswalks are discussed in Appendix B – Pedestrian Design Guidelines.

6.4.1. HIGH-VISIBILITY CROSSWALK MARKINGS

There are a variety of different striping styles for crosswalks. The City of Berkeley utilizes two different marking styles for pedestrian crosswalks: the standard “transverse” style, consisting of two parallel lines; and the “ladder” style consisting of the two parallel lines with perpendicular ladder bars striped across the width of the crosswalk. Ladder style crosswalks are used in locations where heightened pedestrian visibility is important.

RECOMMENDATION: The following roadways have been determined by the City to be high priority corridors that warrant the installation of ladder crosswalk markings at all uncontrolled marked crosswalk locations. Appendix A shows a detailed breakdown of the number of uncontrolled marked crosswalks along each of these corridors with a cost breakdown.

- San Pablo Ave.
- University Ave.
- Sacramento St.
- Ashby Ave.
- Adeline St.
- Martin Luther King Jr. Way
- Telegraph Ave.
- Gilman St.
- Shattuck Ave.
- Milvia St. between Blake St. & University Ave.
- Bancroft Way from Oxford St. to Piedmont Ave.
- Durant Ave. from Oxford St. to Piedmont Ave. (completed)
- Channing Way from Oxford St. to Piedmont Ave.
- Claremont Ave., south of Ashby Ave. (completed)
- College Ave.
- Cedar St. from Walnut St. to Martin Luther King, Jr. Way
- Hopkins St. from San Pablo Ave. to Peralta Ave.
- Solano Ave.

6.4.2. FLASHING BEACONS

Where the visibility of pedestrians in a crosswalk may be poor, or where warranted by other safety considerations, yellow flashing beacons can be installed to alert motorists to expect pedestrians in a crosswalk. The City has installed several pedestrian actuated flashing beacons. The installation of flashing beacons is preferred by Public Works over the actuated in-pavement crosswalk flashing lights due to maintenance issues. The City should continue to monitor existing in-pavement crosswalk lights, and replace them with flashing beacons if necessary. Flashing beacons should be installed on a case-by-case basis in accordance with the City’s crosswalk hierarchy, discussed in the Design Guidelines. All
push-button activated flashing beacon locations should have “Cross with Caution” signs (R62-E) at every push button location.

6.4.3. BULBOUTS
Bulbouts are engineering improvements intended to reduce pedestrian crossing distance and increase visibility. In addition to shortening the crosswalk distance, bulbouts serve to increase pedestrian visibility by allowing pedestrians to safely step out to the edge of the parking lane where they can see into the street, making them more visible to oncoming drivers. Despite their advantages, bulbouts can require major re-engineering of the street, can be very costly and are not appropriate for all situations.

Several items should be considered when planning bulbouts. Bulbouts should be designed so that they allow transit buses to complete turning movements and load and unload passengers safely. Bulbout geometry should allow mechanical street sweepers to clean the transitions from parking lane curb to extended curb. Bulbouts may impact drainage and require re-engineering that could entail expensive and extensive pavement re-grading and/or storm drain modifications. The cost of bulbouts should be compared to the safety benefit when determining where bulbouts should be installed.

RECOMMENDATION: Berkeley should consider the feasibility of installing bulbouts at uncontrolled crosswalk locations on a case-by-case basis where appropriate.

6.5. SIGNAGE IMPROVEMENTS
The City of Berkeley’s current pedestrian-related signage consists of a mix of current (California MUTCD) and older (California Traffic Manual) signs, in both standard yellow and high-visibility fluorescent yellow-green. In accordance with the MUTCD sign update schedule, the City of Berkeley has developed a program to bring signs up to current MUTCD standards. As policy, when the City replaces signs near schools and senior centers, they upgrade to fluorescent yellow-green signs. The City is also converting to new MUTCD signage for pedestrian warning signs. Pedestrian warning signs are being replaced as part of regular on-going sign maintenance.

RECOMMENDATION: Continue to upgrade pedestrian warning signs and signs near schools and senior centers to fluorescent yellow-green signage. A summary of the total signs that need to be upgraded by corridor is presented in Appendix A.

6.6. PARKING RESTRICTIONS
Implementing parking restrictions adjacent to crosswalks is a low-cost method of maintaining pedestrian visibility. The California MUTCD recommends that at signalized intersections, parking be restricted for a minimum of two car-stall lengths on the near side and one car length on the far side. At all other intersections, the California MUTCD recommends that parking be restricted on all corners at least one stall length from the crosswalk or curb return. Minimum parking stall length is 20 feet, with 24 feet the preferred length. (Section 3B.18 Parking Space Markings) Design guidance regarding parking restrictions is provided in Appendix B.

RECOMMENDATION: Parking restrictions (red curb) should be installed one parking-stall length (20 to 24 feet) adjacent to both sides of all marked crosswalks. Disabled parking (blue curb) may also be suitable for such areas and should be considered where appropriate. Appendix A provides a list by corridor of the number of crosswalks and a cost for installing red paint at these locations.
6.7. CORRIDOR IMPROVEMENTS

6.7.1. SPEED FEEDBACK SIGNS

Speed feedback signs are permanent speed radar signs that display approaching vehicle speeds and speed limits on roadways. The unit is a fixed speed limit sign with a built-in radar display unit. The City already has speed feedback signs installed along several major roads and is working on criteria to select other locations for speed feedback signs.

RECOMMENDATION: The City should expand its program to install speed feedback signs on high priority corridors. Appendix A provides a list of locations and priorities for speed feedback sign installation.

6.7.2. BULBOUTS

Bulbouts are described in section 6.4.3.

RECOMMENDATION: As part of any major streetscape enhancement or overlay project, the City should conduct a feasibility study of installing bulbouts at selected locations along the corridor. The City should also look at enhancing existing bulbouts, such as those along Sacramento Avenue, to reduce the turn radius and provide parallel curb ramps that lead directly out into crosswalks. Installing bulbouts on a corridor basis would be similar to the project the City undertook along Dwight Way, in which a number of new bulbouts were installed. Bulbout designs should be standardized with input from the Fire Department and locations should be reviewed with the Fire Department to ensure bulbouts will not impact emergency vehicle access.

6.7.3. STREETSCAPE ENHANCEMENTS

The City of Berkeley has a number of existing detailed area plans that contain streetscape improvement recommendations. These plans are discussed in detail in Chapter 3. Table 6-1 identifies these improvements. This Pedestrian Master Plan defers to the specific streetscape and pedestrian improvement recommendations contained in those detailed area plans. Note that costs for these improvements are not included in the Pedestrian Master Plan.

<table>
<thead>
<tr>
<th>Street</th>
<th>From</th>
<th>To</th>
<th>Specific Improvement</th>
<th>Streetscape Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bancroft</td>
<td>Bowditch</td>
<td></td>
<td>Redesign intersections for better safety</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>Bancroft</td>
<td>Dana</td>
<td></td>
<td>Redesign Intersections for better safety</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>Bancroft</td>
<td>College</td>
<td></td>
<td>Redesign Intersections for better safety</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>Hearst</td>
<td>California</td>
<td>Shattuck</td>
<td>Improve lighting</td>
<td>Bicycle Master Plan</td>
</tr>
<tr>
<td>Heinz</td>
<td>9th</td>
<td>San Pablo</td>
<td>Improve lighting</td>
<td>Bicycle Master Plan</td>
</tr>
<tr>
<td>Aquatic Park</td>
<td>Channing</td>
<td>Park</td>
<td>Bike/Ped bridge across lagoon</td>
<td>Aquatic Park Master Plan</td>
</tr>
<tr>
<td>Milvia</td>
<td>Allston</td>
<td>Dwight</td>
<td>Remove free right turn at Allston</td>
<td>Bicycle Master Plan</td>
</tr>
<tr>
<td>Russell</td>
<td>San Pablo</td>
<td>Claremont</td>
<td>Improve lighting</td>
<td>Bicycle Master Plan</td>
</tr>
</tbody>
</table>
### 6. Recommended Pedestrian Projects

<table>
<thead>
<tr>
<th>Street</th>
<th>From</th>
<th>To</th>
<th>Specific Improvement</th>
<th>Streetscape Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Pablo</td>
<td>Heinz</td>
<td>Russell</td>
<td>Improve lighting</td>
<td>Bicycle Master Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Haskell</td>
<td>Harrison</td>
<td>Accessible curb ramps</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Haskell</td>
<td>Harrison</td>
<td>Refuges at narrow and wide center medians</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Haskell</td>
<td>Harrison</td>
<td>Painted crosswalk markings at unsignalized intersections</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Haskell</td>
<td>Harrison</td>
<td>Standard crosswalk markings at signalized intersections</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Haskell</td>
<td>Harrison</td>
<td>Pedestrian-scale in-pavement light fixtures</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Dwight</td>
<td></td>
<td>Install colored concrete paver crosswalks</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>University</td>
<td></td>
<td>Install colored concrete paver crosswalks</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Cedar</td>
<td></td>
<td>Install colored concrete paver crosswalks</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>San Pablo</td>
<td>Gillman</td>
<td></td>
<td>Install colored concrete paver crosswalks</td>
<td>San Pablo Avenue Improvement Plan</td>
</tr>
<tr>
<td>Shattuck</td>
<td>Hearst</td>
<td>Rose</td>
<td>Bulbouts on NE and SW corners of major intersections</td>
<td>Draft North Shattuck Urban Design and Circulation</td>
</tr>
<tr>
<td>Shattuck</td>
<td>Hearst</td>
<td>Rose</td>
<td>Pedestrian-scaled street lights every 30 ft.</td>
<td>Draft North Shattuck Urban Design and Circulation</td>
</tr>
<tr>
<td>Shattuck</td>
<td>Hearst</td>
<td>Rose</td>
<td>Bike racks</td>
<td>Draft North Shattuck Urban Design and Circulation</td>
</tr>
<tr>
<td>Shattuck</td>
<td>Hearst</td>
<td>Rose</td>
<td>Bus shelters at: Hearst (2), Cedar (3), Vine (2), and Rose (2)</td>
<td>Draft North Shattuck Urban Design and Circulation</td>
</tr>
<tr>
<td>Shattuck</td>
<td>Hearst</td>
<td>Rose</td>
<td>Ped-mounted newsracks</td>
<td>Draft North Shattuck Urban Design and Circulation</td>
</tr>
<tr>
<td>Telegraph</td>
<td>Hearst</td>
<td>Rose</td>
<td>Improve sidewalks</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>Telegraph</td>
<td>Durant</td>
<td></td>
<td>Redesign intersections for better safety</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>Telegraph</td>
<td>Bancroft</td>
<td></td>
<td>Redesign intersections for better safety</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>Telegraph</td>
<td>Dwight</td>
<td></td>
<td>Redesign intersections for better safety</td>
<td>Draft Southside Area Plan</td>
</tr>
<tr>
<td>University</td>
<td>I 80</td>
<td>Oxford</td>
<td>Festival lighting along median</td>
<td>University Ave Strategic Plan</td>
</tr>
<tr>
<td>University</td>
<td>I 80</td>
<td>Oxford</td>
<td>Plant trees in parking lanes</td>
<td>University Ave Strategic Plan</td>
</tr>
<tr>
<td>University</td>
<td>I 80</td>
<td>Oxford</td>
<td>Install street furniture and safety telephones</td>
<td>University Ave Strategic Plan</td>
</tr>
<tr>
<td>University</td>
<td>I 80</td>
<td>Oxford</td>
<td>Install median irrigation system</td>
<td>University Ave Strategic Plan</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

**RECOMMENDATION:** Where feasible, Berkeley should implement the specific streetscape enhancements developed as part of specific area plans. Consideration should be given to placement of structures such as news racks or bike racks that may obstruct fire hydrants or access to buildings from the street.

6.8. SAFE ROUTES TO SCHOOL

Proximity to schools was one of the primary factors in ranking and prioritizing the projects. Many of the corridor-wide improvements identified above would involve pedestrian enhancements near school areas. Improvements at these locations could benefit school-aged children walking to and from school, in addition to improving conditions for all pedestrians in the neighborhood. In addition, a Safe Routes to School project near Jefferson Elementary is identified in the stand-alone projects list below. Finally, a variety of Safe Routes to School related non-infrastructure programs are discussed in Chapter 7.

**RECOMMENDATION:** Berkeley should continue to implement Safe Routes to School projects as part of their effort to improve pedestrian safety in school areas. The City should actively pursue SR2S grants for any needed pedestrian improvements located near school zones. Appendix A shows a list of prioritized locations for Safe Routes to School improvements; these are located at intersections with at least three schools within 0.25 miles of the intersections and are in the top 100 ranked intersections.

6.9. PATHS AND STAIRS PROJECTS

6.9.1. HISTORIC BERKELEY HILLS PATHWAYS AND STAIRS

A unique network of over 130 historic pedestrian pathways and stairways exists in the Berkeley Hills. The pathways offer quiet resting places, panoramic viewpoints and critical pedestrian routes down from the hills neighborhoods, linking narrow and winding streets. The Department of Public Works has a detailed database of public pathways and publicly dedicated rights-of-way that was developed during the City of Berkeley’s General Plan process. The Berkeley Path Wanderers Association, a non-profit community group, has created a map of these pathways and works to improve them by installing simple wooden steps with volunteer labor. Some of the dedicated path alignments are currently unbuilt, impassable, steep, and not ADA-compliant. The City of Berkeley should seek to improve the remaining unbuilt pathways, and continue to cooperate with the Path Wanderers Association on this effort. Note that pathway improvements may impact existing drainage patterns and may require additional construction. The City should ensure that existing pathways are well maintained, kept clear of vegetation and well-signed so that residents can access them. In the event of an emergency, these pathways could serve as critical evacuation routes for large numbers of pedestrians in the hill area.

**RECOMMENDATION:** The City of Berkeley should work with the Berkeley Path Wanderers Association to improve the historic network of pathways and stairs in the hills. Priorities and cost estimates for pathway improvements are listed in Appendix A.

6.9.2. SHARED-USE BICYCLE/PEDESTRIAN PATH PROJECTS

A number of shared-use bicycle/pedestrian path projects are planned in Berkeley. These projects serve pedestrians as well as other non-motorized users such as bicyclists and roller bladers, and may be used by both recreational users and commuters. Most of these projects are shown on the 2005 Bicycle Master Plan Update map.

---

2 City of Berkeley General Plan, Transportation Element
**6. Recommended Pedestrian Projects**

**RECOMMENDATION**: The City of Berkeley should implement the proposed bicycle/pedestrian path segments shown on the 2005 Bicycle Master Plan Update. Those projects are carried forward into this Pedestrian Master Plan. **Appendix A** shows the key proposed bicycle and pedestrian shared-use path projects segments and costs for construction.

### 6.10. PEDESTRIAN PLAZA AND OPEN SPACE PROJECTS

The City of Berkeley has a number of adopted plans and conceptual projects which would construct public plazas as a pedestrian amenity. The goals of such projects vary. They include providing improved pedestrian access to transit, increasing open and green space in “urbanized” areas, and increasing social and commercial opportunities such as window shopping or café type outdoor seating. Following are three examples of such projects, although there are many more citywide. It is critical to note that these example projects exist at the conceptual level and require further study, design, environmental analysis, and public outreach before they can be implemented.

#### 6.10.1. DOWNTOWN BERKELEY BART PLAZA

The City of Berkeley received an MTC Transportation for Livable Communities Planning Grant and, in partnership with BART and AC Transit, carried out a community-based urban design and transportation planning process to develop a concept plan for the larger downtown Berkeley BART plaza area, completed in late 2006. It defines both near-term and long-term improvements for the area with the near-term improvements allowing for a range of future long-term options. The near-term improvements defined in the plan include modifications to the BART entries to provide weather protection over stairs and escalators, as well as enhancements to the sidewalk along the plaza creating opportunities for café and restaurant seating to activate the area. A proposed custom bus canopy structure will provide shelter from the elements and create a centralized bus waiting area.

The City subsequently developed a Project Study Report Equivalent (PSRe) that contains a description of the proposed site design and near-term improvements, along with an analysis of alternatives, detailed project cost estimate, funding analysis, project schedule, and a Preliminary Environmental Analysis Report (PEAR). In 2010, the City will continue Design Development.

**RECOMMENDATION**: As the City of Berkeley continues Design Development of the Downtown Berkeley BART Plaza, the City should ensure that the project is consistent with the recommendations of this Plan as well as thoroughly coordinated with partner agencies such as transit providers BART and AC Transit.

#### 6.10.2. CENTER STREET PLAZA

The City of Berkeley Planning Department is developing a Downtown Streets and Open Space Improvement Plan (SOSIP), funded by a MTC/ABAG Station Area Planning Program Cycle Two Grant. The plan focuses on major street and open space opportunity “subareas” in the Downtown Area. One such subarea is Center Street between Shattuck and Oxford, where a pedestrian plaza with limited vehicle access may be developed. The SOSIP will also propose area-wide improvements at a conceptual level for all subareas (including Center Street), and will make recommendations relating to new street trees and furnishings, lighting, wayfinding signage, public art, and use of public right-of-way by vendors, festivals and special events. The SOSIP will be accompanied by a "financing plan" to estimate the capacity of appropriate funding sources and prioritize projects so that project and maintenance costs fit within that capacity. Because interest in the Center Street Plaza project has been
extremely high, public engagement and design development for the Center Street Plaza will likely go beyond the scope of the SOSIP.

**RECOMMENDATION:** As the City of Berkeley continues to develop the SOSIP and individual subarea projects, such as the Center Street Pedestrian Plaza, the City should ensure appropriate coordination among City departments and between partner agencies, as well as a thorough public outreach process when making critical decisions and before such projects are implemented.

### 6.10.3. NORTH SHATTUCK PEDESTRIAN PLAZA

The need for transit access and pedestrian improvements along North Shattuck was identified in the North Shattuck Urban Design and Circulation Report (2001)\(^3\)\(^4\). This report presents a conceptual plan for a North Shattuck Pedestrian Plaza which includes a transit hub that consolidates area bus stops, as well as new transit shelters, new public seating and bicycle parking.

**RECOMMENDATION:** As the City of Berkeley continues to develop improvements from the North Shattuck Report, the City should ensure appropriate coordination among City departments and outreach to partner agencies and the public before such projects are implemented. Because the project would involve a substantial redesign of the existing streetscape, a thorough public process is recommended.

### 6.11. PROJECT SHEETS

The remainder of this chapter provides specific project improvement sheets for stand-alone intersection, crosswalk or corridor projects throughout Berkeley. These projects involve unique improvements, or had more specific improvements than could fit into the overall citywide project categories described above. This subset of projects was selected from the overall citywide project ranking list based on a number of factors including: 1) the project’s rank in the overall citywide list; 2) a unique location with improvements that could not be accomplished through one of the citywide infrastructure project categories; 3) providing for a range of different project types (intersection, corridor, crosswalk, transit access, school access); and 4) providing for geographic balance of project locations throughout Berkeley.

The projects are listed here in relative order of their ranking in the overall citywide project ranking list. This is not to imply that project implementation will occur in this exact order, consecutively from 1 to 34. Rather, project implementation is likely to be a flexible process that will be based on factors such as funding opportunities, schedules for street overlays and other larger street improvements, and development or redevelopment activities. This list provides the city with a guide for implementation, to be used in conjunction with the citywide infrastructure project lists described above. City staff and the Pedestrian Subcommittee should review these project lists at least on an annual basis to update them based on projects that have been implemented, re-adjust priorities as needed and to consider any opportunities for incorporating these projects into upcoming development or street improvement activities, as well as any upcoming grant funding cycles that could be targeted.

The list of project locations below is in order of highest to lowest priority based on the citywide ranking.

---

\(^3\) Approved by Berkeley City Council on January 16, 2001; Resolution No. 60,911-N.S.

\(^4\) “Resolution Declaring the City Council’s Support for the North Shattuck Plaza Project” approved on May 16, 2006; Resolution No. 63,297-N.S.
### Table 6-2

**Pedestrian Project List**

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University from San Pablo to 6th Street</td>
</tr>
<tr>
<td>2</td>
<td>University and Shattuck</td>
</tr>
<tr>
<td>3</td>
<td>Ashby BART Station Improvements</td>
</tr>
<tr>
<td>4</td>
<td>Sacramento from University to Addison</td>
</tr>
<tr>
<td>5</td>
<td>Acton from Addison to University</td>
</tr>
<tr>
<td>6</td>
<td>Martin Luther King Jr. Way from Allston to University</td>
</tr>
<tr>
<td>7</td>
<td>University and Milvia</td>
</tr>
<tr>
<td>8</td>
<td>Ashby from California to San Pablo</td>
</tr>
<tr>
<td>9</td>
<td>Alcatraz and Adeline</td>
</tr>
<tr>
<td>10</td>
<td>Shattuck between Vine and Hearst</td>
</tr>
<tr>
<td>11</td>
<td>Shattuck from Russell to Ward</td>
</tr>
<tr>
<td>12</td>
<td>San Pablo from Addison to Bancroft</td>
</tr>
<tr>
<td>13</td>
<td>Bancroft at Oxford</td>
</tr>
<tr>
<td>14</td>
<td>Solano from Colusa to The Alameda</td>
</tr>
<tr>
<td>15</td>
<td>San Pablo and Delaware</td>
</tr>
<tr>
<td>16</td>
<td>Shattuck at Berkeley Way</td>
</tr>
<tr>
<td>17</td>
<td>University and Grant</td>
</tr>
<tr>
<td>18</td>
<td>College from Ashby to Russell</td>
</tr>
<tr>
<td>19</td>
<td>The Alameda/MLK and Hopkins</td>
</tr>
<tr>
<td>20</td>
<td>Shattuck and Woolsey</td>
</tr>
<tr>
<td>21</td>
<td>University and McGee</td>
</tr>
<tr>
<td>22</td>
<td>Dwight at Alta Bates</td>
</tr>
<tr>
<td>23</td>
<td>Alcatraz and California</td>
</tr>
<tr>
<td>24</td>
<td>North Berkeley BART Station</td>
</tr>
<tr>
<td>25</td>
<td>San Pablo and Cedar</td>
</tr>
<tr>
<td>26</td>
<td>Telegraph and Ashby</td>
</tr>
<tr>
<td>27</td>
<td>Telegraph and Parker</td>
</tr>
<tr>
<td>28</td>
<td>Rose and Sacramento</td>
</tr>
<tr>
<td>29</td>
<td>Gilman and Santa Fe</td>
</tr>
<tr>
<td>30</td>
<td>Addison and Jefferson</td>
</tr>
<tr>
<td>31</td>
<td>Sacramento and Oregon</td>
</tr>
<tr>
<td>32</td>
<td>Hearst Campus Sidewalk</td>
</tr>
<tr>
<td>33</td>
<td>Hearst and Gayley</td>
</tr>
<tr>
<td>34</td>
<td>Gilman Street and Curtis Street and the Ohlone Greenway</td>
</tr>
</tbody>
</table>
Figure 6-1: Map of High-Priority Projects and Top 100 Ranked Intersections
This page intentionally left blank.
**CORRIDOR IMPROVEMENT:**
**1. UNIVERSITY AVENUE FROM SAN PABLO AVENUE TO 6TH STREET**

### Study Area Description

University Avenue serves as the major route between downtown Berkeley, the University of California campus, and Interstate 80 through West Berkeley. The section between San Pablo Avenue and 10th Street is a “choke point” for vehicles traveling along University Avenue and an important node of pedestrian activities in West Berkeley. University Avenue is a major street that provides east-west connections between the Marina, the I-80 freeway, West Berkeley, Downtown, and the University of California campus. San Pablo Avenue and University Avenue have raised, landscaped medians, two travel lanes in each direction and exclusive single left turn lanes at most intersections.

6th, 7th, 8th, 9th and 10th Streets are local roadways providing north-south connections to the local neighborhoods in West Berkeley. University Avenue has a raised, landscaped median, two travel lanes in each direction and exclusive single left turn lanes at 8th eastbound and westbound, and 9th eastbound. The intersections of 7th, 8th, and 10th Street with University Avenue are stop-controlled on minor approaches. The intersection of University and 9th Street is signalized. All of these minor streets are residential in character, away from the University Avenue corridor and have one travel lane in each direction. A variety of commercial and retail establishments front University Avenue; there is metered parallel parking along University and metered parallel parking generally along the first half block of the side streets in each direction. Pedestrian crosswalks are provided at all legs of all intersections. The crosswalks of University at 7th, 8th, and 10th are uncontrolled; the crosswalks at 9th are signalized.

### Issues

- Vehicle queues on University Ave frequently extend along the San Pablo to 6th Street corridor; queues are particularly heavy between 9th and 10th eastbound (vehicles waiting at the San Pablo intersection); and between 7th and 8th westbound (vehicles waiting at the 6th Street intersection). “KEEP CLEAR” pavement markings are present across the side street intersections in both directions, but vehicles were frequently observed blocking the crosswalks at these intersections.
- Long pedestrian crossing distances across all legs of San Pablo/University, and across the University legs of the other intersections.
- Large volume of pedestrians crossing at San Pablo/University due to retail activities and bus route transfers.
- Pedestrian crossings along corridor include children traveling to James Kenney Park north of University.
- Vehicles on all legs often stop in the crosswalk on red.
- No audible pedestrian signal actuation at University/San Pablo and University/9th.
- Observed southbound truck turning right onto University Avenue having trouble making the turn without going into eastbound left turn lane.
- Parked vehicles on University Avenue are too close to crosswalks and obscure presence of pedestrians.
- No truncated domes on curb ramps.
- This portion of University Avenue is scheduled for rehabilitation in summer 2008 as a Federal STP project. The grant funding is insufficient for the paving itself requiring that the street program make up the deficit.
### Proposed Improvements

- Install curb ramps with truncated domes.
- Create ADA-compliant pedestrian refuges.
- Mark ladder-style crosswalks on 7th, 8th, 9th Streets.
- Increase lighting.
- Increase enforcement.

**San Pablo Avenue:**
- Perpendicular curb ramps with truncated domes should be installed. $20,000
- Drainage grates exist at the northeast and southeast corners.
- Create pedestrian refuges on San Pablo Avenue at the medians by constructing median nose. $30,000
- Install pedestrian-actuated audible signal on all legs. $4,000

**7th, 8th, 9th, and 10th Street Intersections:**
- Directional curb ramps with truncated domes should be installed. $80,000
- Drainage grates exist at several corners.
- Create ADA compliant pedestrian median refuges on University Avenue. Median refuges may impact drainage and require re-engineering that could entail expensive and extensive regrading and/or storm drain modifications. $240,000
- Install ladder style crosswalks and warning signage at uncontrolled locations across University Avenue (all except 9th). $8,400
- Increase lighting for pedestrians across University Avenue or install overhead pedestrian-activated flashing lights. Installation of increased lighting may require trenching for conduit that would impact street paving. $200,000 (2 locations only)
- Increase enforcement of vehicles blocking intersections. (No capital cost)

**6th and 9th Street Intersections:**
- Explore signal timing options at San Pablo Avenue, 6th Street and 9th Street to decrease vehicle queuing. (No capital cost)

### Cost
- **$552,000** ($116,000 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:  
2. UNIVERSITY AVENUE AND SHATTUCK AVENUE

Study Area Description

The signalized intersection where northbound Shattuck splits from southbound Shattuck at University Avenue lies at the north end of the downtown district of Berkeley. University Avenue is the major east/west street and Shattuck Avenue is the major north/south street in Berkeley and their intersection is very complex, a result of the historic layout of the city as developed around the earlier streetcar system. Shattuck Avenue is split into a north/south couplet that is three lanes in either direction for several blocks between University Avenue and Center Street to the south. This intersection lies at the north end of the couplet, where it is resolved by the northbound Shattuck alignment being incorporated into University Avenue for a short block westward until it turns northward and reunites with southbound Shattuck to become bi-directional. This short block of University Avenue is three lanes wide with the far right lane being a right turn only lane, the middle lane allowing right turns and through movement, and the left lane allowing left turns and through movement. Shattuck Avenue southbound is three lanes in width. Eastbound University Avenue has two lanes for through movement, and both left and right hand pocket lanes, while southbound Shattuck, north of University Avenue, has two through lanes and a right-hand pocket lane.

Issues

▲ The Shattuck and University corridors are two of the most heavily congested corridors in Berkeley.
▲ This intersection is the site of the most auto/pedestrian collisions during a recent eight-year period.
▲ There are two right turn lanes proceeding northward from westbound University onto northbound Shattuck.
▲ Left turns are allowed from University onto Shattuck, although there is no dedicated lane from westbound University onto southbound University.
Proposed Improvements

- If sufficient right-of-way exists, install perpendicular curb ramps with truncated domes at all corners so that ramps face directly into crosswalk. $20,000
- Install advance stop bars on University to discourage encroachment of stopped vehicles into crosswalk and in right-turn-on-red situations. $1,800
- Consider utilization of a “leading pedestrian signal phase” to give pedestrians a “head start” to cross the street before motor vehicles start. (No capital cost)
- Repaint crosswalk striping at each crossing. $2,000
- Consider restricting right turn on red from westbound University traffic to northbound Shattuck in conjunction with improving intersection operations through signal timing modifications and/or signage. $200
- Install “No U-Turn” sign on west leg of intersection. $200

Cost

- $24,200 ($21,000 is accounted for in Citywide projects)
SAFE ROUTES TO TRANSIT PROJECT:
3. ASHBY BART STATION AREA IMPROVEMENTS

Study Area Description
The Ashby BART station is situated on a triangular site, bordered by three major streets with heavy traffic volumes: Ashby Avenue on the north, Martin Luther King Jr. Drive on the west, and Adeline Street on the east. Uncontrolled crosswalks exist on both Adeline and Martin Luther King Jr streets in front of the BART station. These crosswalks experience high pedestrian volumes from people walking to the station from the surrounding residential areas. Pedestrians also cross Ashby at the unmarked crosswalk at Otis Street. In addition to the BART station, the parking lot of the station hosts a flea market on weekends that draws many local residents. In-pavement flashing lights have been installed across Martin Luther King Jr. Drive at Prince Street.

This area is undergoing changes as part of the Ed Roberts Campus Plan.

Issues
- High pedestrian volumes, combined with heavy traffic on surrounding streets, and many vehicles entering/exiting BART station parking lot.
- BART station driveways on MLK Jr. Drive.
- Free right turn lane at southwest corner of Ashby/Adeline promotes higher speed vehicle turns near a major entrance to the station.
- Pedestrian/Auto conflicts have been noted by local residents, specifically related to vehicles not stopping at the STOP sign on the northbound right turn movement out of the BART driveway on the west side of the station.
- Length of crossings on Adeline, particularly Adeline/Ashby.
6. Recommended Pedestrian Projects

Proposed Improvements

- Install in-roadway yield to pedestrian signs in medians at uncontrolled marked crosswalks along BART frontage as noted. $1,200
- Install advance stop line at intersections of Ashby/MLK and Ashby/Adeline to ensure vehicles stop far enough back from crosswalk, and refresh crosswalk paint. $6,400
- Consider tightening up “free” right turn radii at northwest corner of Ashby/Adeline using paint or vertical treatments. Take into account turning radii of trucks, buses, and other large vehicles. $100,000
- Work with BART to narrow widths of driveways from BART station onto MLK. In the long-term, these driveways should be realigned to 90-degrees to MLK. These driveways are on BART property and changes would need to be coordinated with BART. $51,200
- Consider constructing a bulbout on south side of Ashby between Harper and MLK, to provide a shorter crossing at the Ashby/MLK intersection. Ashby Avenue is State of California right-of-way and any work would need to be approved by the State. $80,000
- Change free right turn slip lane at southwest corner of Ashby and Adeline to stop controlled. $200
- Improve the crossing at Otis and Ashby by striping a high visibility crosswalk across the west leg of the intersection, constructing a median refuge, installing in-pavement flashers and constructing a bulbout on the south side of Ashby. Install “Cross with Caution” sign. $206,600
- Consider a study of pedestrian safety improvements along the Adeline Corridor. (No capital cost)
- Additional improvements include those planned as part of the Ed Roberts Campus Project. Improvements included in the project moving the existing middle of block crosswalk south and adding signage and in-pavement flashers. (No cost)

Cost

- $445,600 ($2,400 is accounted for in Citywide projects)
### Project Description

This improvement corridor extends along Sacramento between Addison Street and University Avenue. The intersection of Sacramento Street with University Avenue is signalized. Sacramento Street is a north-south major road with two travel lanes each direction, a raised landscaped median, and on-street parallel parking. University Avenue is an east-west major road with two travel lanes in each direction, a raised median, and on-street parallel parking. Addison Street is a local roadway providing east-west connections to the Andronico's Market parking lot and neighborhoods in West and Central Berkeley. Addison Street has one travel lane in each direction, with on-street parallel parking. This segment of Addison Street carries a large volume of vehicles and trucks for a neighborhood street due to Andronico's Market. The intersection skews to the west slightly on Sacramento Street, south of Addison Street. Vehicles on Addison Street are able to cross Sacramento Street in two stages, since the median is wide enough to store one car in each direction. Both intersections have marked crosswalks on all legs. Due to the width of the median on Sacramento, pedestrians are effectively crossing the roadway in two stages; when in the median area, pedestrians walk in a paved area along the edge of the median that is delineated with high-visibility ladder striping. (The remaining portions of the crosswalks are transverse striped).

### Issues

**Sacramento/University**
- Long pedestrian crossing distances across all intersection legs.
- Large turning radii at corners and wide outer lane widths (about 20 feet) encourage right turning vehicles to speed through turning movement, especially at the northwest corner.
- A number of right-turning vehicles are not stopping on red if there is no opposing traffic, neglecting to look for pedestrians in crosswalk.
- Utility boxes and poles block or obscure pedestrians on sidewalk waiting to cross.
- Vehicles often stop in the crosswalk on red signal phase.
- No audible pedestrian signal actuation.
- No truncated domes on curb ramps.

**Sacramento/Addison**
- Long pedestrian crossing distances across Sacramento Street.
- Southbound vehicles tend to speed through this intersection.
- Parked vehicles on southwest side of Sacramento Street are too close to crosswalk and obscure presence of pedestrians.
- Raised median on southern leg of Sacramento Street sticks into crosswalk creating an obstacle for the disabled.
- No truncated domes on curb ramps.
- Numerous eastbound vehicles on Addison do not stop at crosswalk due to site distance problem created by intersection skewing and parked vehicles on Sacramento Street.
- Lowered curb instead of curb ramp on southwest corner.

### Proposed Improvements

**Sacramento/Addison**
- Construct bulbouts at all corners to increase pedestrian visibility, restrict parking close to the intersection, reduce vehicle speeds, and decrease pedestrian crossing distances across Sacramento Street. Directional curb ramps with truncated domes should be installed. Bulbouts would require relocation of four catch basins and pipes (1 at northwest corner, 1 at southeast corner, 2 at northeast corner. $250,000
- Install ladder style crosswalks across Sacramento Street increase pedestrian visibility. Re-stripe crosswalk across southern leg of Sacramento so that the raised median does not intrude into the crosswalk. $3,000

**Sacramento/University**
- Construct bulbouts at all corners of the intersection to reduce the width of the outermost lane to a maximum of 12 feet, increase pedestrian visibility, decrease the pedestrian crossing distances and tighten the turning radius for right turning vehicles. Directional curb ramps with truncated domes should be installed. Adequate lane...
width should be retained to serve as a bus pullout for the existing bus stops. Drainage grates exist at the northeast and southeast corners. Bulbouts would require relocation of four catch basins and pipes (1 at northwest corner, 1 at southeast corner, 2 at northeast corner.) $250,000

- Create ADA compliant pedestrian refuges at all medians. $120,000
- Install pedestrian-actuated audible signal on all legs. $4,000
- Improve visibility of crosswalks and pedestrians by installing advance stop bars on all approaches and ladder style crosswalks on all legs. $8,400

**Cost**

- $634,800 (14,800 is accounted for in Citywide projects)
### CORRIDOR IMPROVEMENT PROJECT:
#### 5. ACTON STREET BETWEEN ADDISON AND UNIVERSITY

**Project Description**

This corridor includes Acton Street between Addison and University. Acton Street is a north-south local roadway with one lane in each direction, and with metered, parallel parking to the north, loading zone parking on the east side, and no parking on the west side. University Avenue is a major street with two travel lanes in each direction, a raised center median and on-street parallel parking. Addison Street is a local east-west roadway. The intersection of Acton/University is signalized and adjacent to residential and neighborhood retail establishments, including Andronico's Market on the southeast corner. Pedestrian signal actuation is on all corners and on the University Avenue medians. The intersection of Acton Street with Addison Street is four-way, stop-controlled. The northwest corner contains a 28-foot long bulbout that sticks about 6 feet into the Acton Street roadway and contains a tree. The intersection is adjacent Andronico's Market loading area on the northeast corner and residences on the other corners. Trucks generally approach Andronico's Market loading area using Addison Street. The Strawberry Creek Lodge Senior Housing is located on Addison Street west of this intersection. Addison Street between Acton and Sacramento carries a large volume of vehicles for a neighborhood street due to Andronico's Market.

**Issues**

<table>
<thead>
<tr>
<th>Acton/University</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Long pedestrian crossing distances across University Avenue.</td>
</tr>
<tr>
<td>▶ Metered parking space on northwestern side of University Avenue is too close to crosswalk.</td>
</tr>
<tr>
<td>▶ University Avenue vehicles often stop in the crosswalk.</td>
</tr>
<tr>
<td>▶ Raised median on eastern leg sticks 2.5 feet into crosswalk, creating an obstacle for the disabled.</td>
</tr>
<tr>
<td>▶ Raised medians do not serve as pedestrian refuges because they do not extend into the crosswalks or have curb ramps.</td>
</tr>
<tr>
<td>▶ No audible pedestrian signal or audible actuation.</td>
</tr>
<tr>
<td>▶ Truncated domes on southwest curb ramp only.</td>
</tr>
<tr>
<td>▶ Curb ramp on northeast corner facing western direction only.</td>
</tr>
<tr>
<td>▶ Curb ramp on the southeast side of Acton Street not facing crosswalk.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acton/Addison</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Loading zone activity close to the intersection creates a vehicle bottleneck at the northern leg of Addison Street causes driver frustration and reckless turning movements.</td>
</tr>
<tr>
<td>▶ Trucks must sometimes double park on Addison Street to wait for space in loading dock or on Acton Street.</td>
</tr>
<tr>
<td>▶ Andronico's employees park in loading dock after morning deliveries, occasionally blocking the sidewalk and forcing delivery trucks to park on street.</td>
</tr>
<tr>
<td>▶ New senior living facility one block away. Many seniors walk through this intersection to access Andronico's and other retail and community services.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

**Acton/University**
- Construct bulbouts at northeast, northwest and southeast corners to reduce the width of the outermost lane to a maximum of 12 feet, increase pedestrian visibility, and decrease the pedestrian crossing distances across University Avenue. Directional curb ramps with truncated domes should be installed. Adequate lane width should be retained to serve as a bus pullout for the existing bus stops. Drainage grates exist at the northeast and southeast corners. **$200,000**
- Create pedestrian refuges at the medians on University Avenue that are ADA compliant. This may require drainage inlets. **$60,000**
- Install audible pedestrian actuation and audible signal on all legs. **$4,000**
- Remove curb ramp on southeast side of Acton Street that does not lead into crosswalk. (see image) **$1,000**

**Cost**
- **$265,000** ($4,000 is accounted for in Citywide projects)
6. Recommended Pedestrian Projects

CORRIDOR IMPROVEMENT PROJECT:
6. MARTIN LUTHER KING, JR. WAY FROM ALLSTON WAY TO UNIVERSITY AVENUE

Study Area Description
This project encompasses a corridor along Martin Luther King Jr. Way including Allston Way, Center Street, Addison Street and University Avenue. This area is at the heart of the city’s civic area, and is fronted by the Berkeley Unified School District Offices, the Berkeley Public Safety Building, the Berkeley/Albany Municipal Court, and Martin Luther King Jr. Park and Plaza. Berkeley High School is located on the southeast corner of MLK/Allston Way. A farmer’s market is held on Center Street on Saturdays. The MLK corridor marks the western edge of downtown Berkeley; to the east are civic, office and commercial uses of downtown, to the west are residential neighborhoods. Martin Luther King Jr. Way is a major north-south roadway, and carries two lanes of traffic in each direction plus on-street parking. Allston, Center, and Addison are effectively local roads with one travel lane in each direction plus parking, but carry very heavy volumes to the east of MLK due to the downtown land uses. University Avenue is a major east-west street with two travel lanes each direction plus on-street parking. Allston Way at MLK is signalized, Center Street is a signalized T-intersection that extends east off MLK, Addison Street is stop-controlled on the minor approaches, and University Avenue is signalized. Pedestrian volumes are primarily east-west across this corridor; marked crosswalks are present at all legs of all intersections, with those at Addison being uncontrolled and the remaining signal controlled. Audible pedestrian signals are installed at Center street and University Avenue intersections.

Issues
▲ Heavy pedestrian volumes related to proximity of civic uses, MLK Jr Park, and Berkeley High School.
▲ Heavy traffic volumes through corridor.
▲ On-street parking along MLK not consistent; dropped at intersections to accommodate left turn lanes.
▲ Uncontrolled crossing at Addison Street.
6. Recommended Pedestrian Projects

Proposed Improvements

- Consider installing bulbouts at west side of Center Street intersection, at south side of Addison Street intersection and at all corners of University Avenue intersection. Bulbouts at Center Street may require drainage considerations to Strawberry Creek Culvert. Other bulbouts may require drainage improvements. $500,000 (with University Avenue bulbouts) $250,000 (without University Avenue bulbouts)
- Install pedestrian actuated beacon for crossing at Addison Street. $100,000
- Install audible pedestrian signals at Allston Way intersection. $4,000
- If sufficient right-of-way exists, install perpendicular curb ramps with truncated domes at all corners of University/MLK. $20,000
- Install advance warning signage and truncated domes for uncontrolled crosswalk across Addison at McKinley. $2000

MLK JR WAY: ALLSTON WAY TO UNIVERSITY AVE

Cost

- $376,000 (without University Avenue bulbouts)
- 626,000 (with University Avenue bulbouts)
($26,000 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
7. UNIVERSITY AVENUE AND MILVIA STREET

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The signalized intersection of Milvia and University is within the city’s busy downtown area. Milvia is offset as it crosses University, so the intersection jogs to the east when heading northbound. The crosswalks however, are perpendicular; they are just set away from the corners on the southeast and northwest sides to provide a right angled crossing. Milvia is a north-south local road with one travel lane in each direction, plus on-street parallel parking; there is a left turn lane in the northbound direction on Milvia at University. University Avenue is an east-west major road with two lanes in each direction, with a raised center median and on-street parking. Commercial/retail uses front both sides of University in this area, and on the southwest corner is an auto service establishment with a parking lot that comprises much of the corner, including driveways on both University and Milvia.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Crossing distances across University.</td>
</tr>
<tr>
<td>▲ Left turning vehicles may be focused on approaching traffic and fail to yield to pedestrians.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Consider bulbout on the southeast corner to provide additional visibility for pedestrians and shorten crossing distance. Bulbou may require regrading of the southeast quadrant of the intersection. $100,000
- Consider a separate northbound and southbound phases for Milvia St., to eliminate left turn conflicts at the offset intersection. (No capital cost)

Cost

- $100,000 ($0 is accounted for in Citywide projects)
CORRIDOR IMPROVEMENT:
8. ASHBY AVENUE BETWEEN CALIFORNIA AVENUE AND SAN PABLO AVENUE

Study Area Description
This segment of Ashby Avenue is bordered by homes, with retail at Sacramento and San Pablo Corridors. It provides a major access route for motor vehicles to the I-80 freeway, and is heavily traveled. The road is four lanes, with the outside lanes used for parking during off-peak hours. The intersection of Ashby and San Pablo is a transfer point for AC Transit. The posted speed limit is 25 mph. Along the corridor, Sacramento Street, Mabel Street and San Pablo Avenue are signalized, while the remaining intersections are two-way stop-controlled. California Street is a bicycle boulevard. Between 2000 and 2007, pedestrian-vehicle collisions have occurred at California Street (3 collisions), Sacramento Avenue (1 collision), Mabel Street (1 collision), midway between Mabel and San Pablo Avenue (1 collision), and at San Pablo Avenue (6 collisions). Ashby Avenue and San Pablo Avenue are both California State Highways, and are under Caltrans jurisdiction. Improvements at San Pablo Avenue and Ashby Avenue are considered in the San Pablo Avenue Public Improvements Plan (SPPIP) and are included here.

Issues
- Heavy motor vehicle volumes.
- Speeding along corridor.
- Narrow sidewalks, lack of street trees and elimination of parking buffer during peak hours create an unpleasant walking environment.
- Limited easy crossing opportunities between Sacramento and Mabel.
- High rate of pedestrian-motor vehicle collisions at San Pablo/Ashby intersection.
- Bicycle Boulevard crossing at California Street does not have special treatments.
- Uncontrolled crossing at Acton does not have special treatments.
- Crosswalks are not striped on minor intersecting streets.
6. Recommended Pedestrian Projects

### Proposed Improvements

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>California and Ashby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stripe high-visibility crosswalk across Ashby</td>
<td>$2,400</td>
<td></td>
</tr>
<tr>
<td>- Consider pedestrian-activated flashing beacon</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>Sacramento and Ashby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stripe stop bars four feet back from crosswalk at all legs</td>
<td>$2,400</td>
<td></td>
</tr>
<tr>
<td>- Install right-turn must yield to pedestrians signage</td>
<td>$800</td>
<td></td>
</tr>
<tr>
<td>Stanton and Ashby and Dohr and Ashby Intersection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stripe transverse crosswalk across north and south legs of Stanton</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>- Stripe transverse crosswalk across north and south legs of Dohr</td>
<td>$1,000</td>
<td></td>
</tr>
<tr>
<td>Acton and Ashby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stripe high-visibility crosswalk across Ashby</td>
<td>$1,200</td>
<td></td>
</tr>
<tr>
<td>- Install pedestrian warning signs</td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td>- Consider pedestrian-activated flashing beacon</td>
<td>$100,000</td>
<td></td>
</tr>
<tr>
<td>- Consider bulbouts on northeast and southwest corners of Acton. Accommodate existing drainage</td>
<td>$150,000</td>
<td></td>
</tr>
<tr>
<td>Mabel and Ashby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stripe stop bars four feet back from crosswalk at all legs</td>
<td>$1,200</td>
<td></td>
</tr>
<tr>
<td>San Pablo and Ashby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Install bus shelter on southwest corner on Ashby Avenue</td>
<td>$40,000</td>
<td></td>
</tr>
<tr>
<td>- Install right turn must yield to pedestrians sign and consider restricting right turns on red</td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td>- Construct median nose with in-pavement luminaires to provide pedestrian refuge. (Per SPPIP)</td>
<td>$13,800</td>
<td></td>
</tr>
<tr>
<td>- Pave crosswalks with textured pavers that will withstand heavy vehicle volumes. (Per SPPIP)(Cost not included)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Install pedestrian-scale lighting on existing cobra head street lights. (Per SPPIP)</td>
<td>$6,100</td>
<td></td>
</tr>
</tbody>
</table>

### Cost

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>- $420,700 ($7,600 is accounted for in Citywide projects)</td>
<td></td>
</tr>
</tbody>
</table>

Final Draft Berkeley Pedestrian Master Plan
January 2010
INTERSECTION IMPROVEMENT PROJECT:
9. ALCATRAZ AVENUE AND ADELINE STREET

Study Area Description

The intersection of Adeline Street with Alcatraz Avenue is in the Lorin District in South Berkeley near the border with Oakland. Adeline Street is a major street that runs diagonally from southwest to northeast connecting other major streets such as Shattuck Avenue, Martin Luther King Jr. Way and Stanford Avenue. Alcatraz Avenue is an important collector street that provides east-west connections between Claremont Avenue and the Elmwood district in the east to Adeline Street, Sacramento Avenue and San Pablo Avenue in the west. Alcatraz Avenue has one travel lane in each direction and has width to accommodate two vehicles side-by-side at the intersection approaches. Adeline Street has six travel lanes (three in each direction) plus a single exclusive left turn lane in each direction at intersections. The intersection is adjacent to neighborhood retail establishments on two corners, while the southeastern corner is the transition point for BART's underground tunnel section as it travels north through Berkeley on the Richmond line. On-street parking is prohibited on all approaches immediately adjacent to the intersection, leaving adequate lines-of-sight for drivers and pedestrians alike. Angled parking on Adeline Street is provided in parking bays located roughly 100 feet from the intersection on the east and west sides of Adeline Street north of the intersection and on the west side of Adeline Street south of the intersection.

This intersection will be addressed when planning for the Ed Roberts Campus.

Issues:

- Long crossing distances across Adeline Street.
- Pedestrian islands on Adeline Street too narrow to serve as refuge.
- Very wide southbound lane on far side of intersection (35’ 9”) increases speeds of eastbound right turning vehicles from Alcatraz Avenue to Adeline Street.
- Due in part to the very wide southbound lane described above, there is a large turning radius for eastbound right turning vehicles from Alcatraz Avenue to Adeline Street.
Proposed Improvements

- Widen pedestrian refuge islands on Adeline Street to a minimum of 6 feet to shorten the pedestrian crossing distances across this major street. $62,000
- Construct a bulbout on the southwestern corner of the intersection to reduce the width of the outermost lane to a maximum of 12 feet and to decrease the pedestrian crossing distance across Adeline Avenue and “tighten” the turning radius for eastbound right turning vehicles from Alcatraz Avenue onto Adeline Street. Align crosswalk with bulbout. Design bulbout to serve as a bus pullout for the existing bus stop at this location. The bulbout should be designed with a turning radius that allows large vehicles to negotiate the corner. $80,000
- Widening of refuge islands and installation of raised medians will affect drainage, requiring re-engineering that could entail expensive and extensive pavement re-grading and/or storm drain modifications. The proposed bulbout at the southwest corner may not require drainage improvements. A detailed survey is required to make this determination.

Cost:

- $142,000 ($0 is accounted for in Citywide projects)
CORRIDOR IMPROVEMENT:  
10. SHATTUCK AVENUE BETWEEN VINE STREET AND HEARST AVENUE

**Study Area Description**

This segment of Shattuck Avenue is located in the “Gourmet Ghetto,” a commercial area with high pedestrian and motor vehicle volumes. Signalized intersections along the corridor include Vine and Cedar. All other intersections are stop-controlled on the streets perpendicular to Shattuck Avenue. Shattuck Avenue is four lanes with on-street parking, a median and turn lanes at most intersections. The posted speed limit is 25 mph. A school is located on Virginia Street, and crosswalks at Virginia and Lincoln are yellow. Virginia Avenue is also a bicycle boulevard. Between 2000 and 2007, there have been 18 pedestrian-motor-vehicle collisions along the corridor (4 at Vine, 5 at Cedar, 4 at Virginia, 2 at Delaware, and 3 at Hearst). In all cases except for one, the driver or bicyclist was at fault.

**Issues**

- History of pedestrian collisions.
- Heavy motor vehicle volumes.
- Bicycle Boulevard on Virginia Street crosses at unsignalized intersection.
- School adjacent to corridor.
- School area signage on Shattuck is not up-to-date.
6. Recommended Pedestrian Projects

Proposed Improvements

SHATTUCK AVENUE BETWEEN VINE STREET AND HEARST AVENUE

Vine and Shattuck
- Paint stop bars four feet back from crosswalks on all four legs. $1,800
- Install “turning cars must yield to pedestrians” signs. $800

Cedar and Shattuck
- Install “turning cars must yield to pedestrians” signs. $800
- Restrict right turns on red for motor vehicles on Cedar Street. $400

Lincoln and Shattuck
- Consider bulbouts on north leg of Shattuck. $150,000
- Install MUTCD Assembly B School Pedestrian warning signage. $400

Virginia and Shattuck
- Consider bulbouts on north and south legs of Shattuck. Accommodate bus stops on south leg. $250,000
- Install MUTCD Assembly B School Pedestrian warning signage. $400
- Install pedestrian activated flasher that can be activated from all four corners. $100,000
- Consider intersection for signalization. (Per Berkeley Bicycle Plan)

Francisco and Shattuck
- Consider bulbout on west leg of crosswalk. $100,000
- Restripe existing transverse crosswalk across Shattuck as high-visibility crosswalk. $1,200
- Construct median nose on south leg of intersection. $3,000

Delaware and Shattuck
- Restripe existing transverse crosswalks across Shattuck as high-visibility crosswalks. $2,400
- Construct median nose on north leg of intersection. $3,000
- Install pedestrian warning signage. $400

Cost
- $640,400 ($32,400 is accounted for in Citywide projects)
6. Recommended Pedestrian Projects

**CORRIDOR IMPROVEMENT:**

11. **SHATTUCK AVENUE BETWEEN RUSSELL STREET AND WARD STREET**

### Study Area Description

This corridor extends along Shattuck Avenue between Russell Street and Ward Street. This corridor marks the area where Shattuck merges into Adeline, transitioning from one travel lane in each direction south of Ward to a wide major road with raised median north of Ward. This corridor is characterized by heavy volumes of vehicles, pedestrians, and bicyclists, and typically has heavy traffic congestion associated with the Berkeley Bowl market and other retail uses along the corridor. Russell Street is an east-west bicycle boulevard that intersects Shattuck and is stop-controlled on the minor approach. Shattuck/Ward/Adeline is a signalized intersection. Traffic along this corridor is also affected by nearby traffic signals at Ashby to the south. Heavy pedestrian crossings of Shattuck occur at this intersection and high-visibility ladder crosswalks are striped across Shattuck. The crosswalks at Oregon/Shattuck have actuated pole-mounted beacon for pedestrian crossings, as well as painted bulbouts at the corners.

### Issues

- Heavy volumes of pedestrians, bicyclists, and motor vehicles along entire Shattuck corridor.
- Heavy pedestrian crossing volumes across Shattuck, particularly at Russell and Oregon.
- Berkeley Bowl marketplace vehicle traffic, with limited parking in parking lot many vehicles circle around Shattuck, Russell, and Adeline to find on-street parking.
- High on-street parallel parking turnover, resulting in many vehicles pulling in and out of spaces along a congested corridor.
- Left turning vehicles on Shattuck northbound at Oregon (to enter Berkeley Bowl driveway) have no dedicated left turn lane, and cause through traffic to veer to right hand side of road over painted bulbout at the crosswalk.
- Traffic queues on Shattuck southbound at Ashby back up toward the Russell Street intersection, creating visibility issues for pedestrians crossing.
- Southbound traffic on Shattuck merges from two lanes to one lane at Ward.
Proposed Improvements

- Consider installing bulbouts at Shattuck Avenue and Ward Street and Shattuck Avenue and Stuart Street. Bulbouts would impact drainage requiring re-engineering that could entail expensive and extensive pavement re-grading and/or storm drain modifications. Design must not inhibit access to bus stops at Stuart Street.
  - Ward $150,000  Stuart $250,000
- Install pedestrian warning signage at Stuart Street. $400
- Install in-pavement yield to pedestrian signs at Russell Street and Shattuck Avenue. $400
- Consider bulbouts on south leg of Russell Street. $150,000
- Restrict parking 20 feet to either side of Russell Street on Shattuck Avenue. $80

Cost

- $550,880 ($480 is accounted for in Citywide projects)
CORRIDOR IMPROVEMENT:  
12. SAN PABLO AVENUE FROM ADDISON STREET TO BANCROFT WAY

**Study Area Description**

This section of San Pablo Avenue is bordered by many amenities, including a Post Office, several restaurants, convenience stores and other small stores. Businesses toward the south end of the corridor are more car-oriented than businesses to the north end. Addison Street and Allston Street are signalized, while Bancroft Way and Cowper Street are unsignalized. All intersections are striped with white transverse crosswalks. There is an uncontrolled mid-block crossing north of Addison Street. Addison Street crosses San Pablo Avenue in two segments, and has seen 7 pedestrian-motor vehicle collisions between 2000 and 2007. The driver was at fault in all collisions. During the same time frame, Allston saw 1 collision and Bancroft saw 2 collisions. San Pablo Avenue Public Improvements Plan recommends several improvements to this intersection, which have been included here. San Pablo Avenue is a California State Highway, and is under Caltrans jurisdiction.

**Issues**

- Uncontrolled mid-block crossing north of Addison Street with standard transverse crosswalks.
- High collision rate at Addison Street.
- Potential for pedestrian-motor vehicle collisions at T-intersection at Addison Street.
- Left turn lanes at most intersections reduce the size of available pedestrian refuges.
6. Recommended Pedestrian Projects

Proposed Improvements

Addison and San Pablo
- Install “Turning Traffic Must Yield to Pedestrians” signage for eastbound traffic on south leg of Addison Street.  
  ($200)
- Retime signal at Addison to give pedestrians leading pedestrian interval.  (No capital costs)
- Construct median nose to provide pedestrian refuge.  (Per SPPIP) $3,000

Uncontrolled Crossing North of Addison
- Stripe high visibility crosswalk.  (Per SPPIP) $1,200
- Construct bulbout on west leg of crosswalk.  (Per SPPIP) $50,000

Allston and Cowper
- Stripe high-visibility crosswalks.  (Per SPPIP) $2,400

Allston and Bancroft
- Construct median nose on both sides to provide pedestrian refuge.  (Per SPPIP) $5,600
- Install pedestrian warning signage at south and north legs.  $400
- Consider bulbouts into San Pablo at southwest and southeast corners.  $150,000

Corridor-wide recommendations:
- Install pedestrian-scale lighting on existing cobra head street lights.  (Per SPPIP) (Not included in cost)

Cost
- $214,200 ($4,000 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
13. BANCROFT WAY AT OXFORD/FULTON STREETS

Study Area Description

The signalized intersection of Bancroft and Fulton is located at the southwest corner of the University of California campus. Bancroft is an east-west roadway that is situated along the southern boundary of the campus. Bancroft is one-way in the westbound direction, with three westbound travel lanes and parallel parking on both sides of the street. Fulton is a north-south roadway that is situated along the western boundary of campus. Fulton has two travel lanes in each direction, with on-street parallel parking and a bicycle lane on each side, and a raised center median. The Bancroft/Fulton intersection is configured with a free right turn lane in the westbound direction; approaching Fulton the rightmost lane becomes a dedicated right turn lane, which becomes a channelized slip lane at the intersection. This slip lane becomes the second travel lane on northbound Fulton. Heavy pedestrian volumes exist at this intersection as pedestrians walk between campus and downtown Berkeley. Crosswalks are striped at all legs of the intersection; the slip lane and the northern leg across Fulton are striped with high-visibility ladder markings.

Issues

- Heavy pedestrian volumes through intersection at campus boundary.
- Relatively high vehicle speeds coming westbound on one-way Bancroft.
- Free right turn slip lane on Bancroft becomes its own travel lane on Fulton; no slowing for merge necessary.
6. Recommended Pedestrian Projects

Proposed Improvements

- Install warning signage indicating that motorists and bicyclists should yield to pedestrians. $400
- Consider converting the existing free right turn lane to a stop or signal controlled lane, with a phase requiring all vehicles to stop for pedestrians. $200,000 (signal) $200 (stop sign)
- Install countdown signals for all crossing legs. $6,400

Design Details

- $206,800 (signal option)
- $7,000 (stop sign option)

($6,400 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:
14. SOLANO AVENUE FROM COLUSA TO THE ALAMEDA

Study Area Description

The Solano Avenue shopping district, which straddles the Berkeley-Albany border, is an important neighborhood and citywide shopping attraction. A large share of the district's pedestrian traffic is concentrated at the eastern end of Solano Avenue, within the boundaries of this project between Colusa Avenue and The Alameda. The Thousand Oaks Elementary School is on Colusa Avenue, one block north of Solano Avenue. The intersection of The Alameda & Solano Avenue serves as the eastern gateway to the Solano Avenue shopping district with each street serving as a conduit bringing traffic into and out of the area. Colusa Avenue provides access to Solano Avenue from the north to Kensington, Albany and El Cerrito, and from the south to central Berkeley. Colusa Avenue meets Solano Avenue at an “offset”: its southern leg meets Solano Avenue roughly 125 feet to the east of its northern leg’s intersection. The southern leg’s intersection is stop controlled for vehicles northbound on Colusa Avenue and uncontrolled for the Solano Avenue approaches. The northern leg’s intersection is signalized. This section of Solano Avenue also has several marked crosswalks that are uncontrolled for vehicles on Solano Avenue. While the visibility of these crosswalks has recently been increased with the installation of “ladder” crosswalk paint markers and pedestrian right-of-way signs installed on the centerline of Solano Avenue and a bulbout on the north side of the Colusa/Solano intersection, there are additional improvements that could further enhance safety.

Issues

- Colusa Avenue offset intersection serves a traffic calming purpose by discouraging drivers from using this path to reach points north, but at a cost to pedestrians and bicyclists since drivers are frequently distracted as they negotiate traffic.
- Pedestrian conflicts with northbound left-turning vehicles from Colusa Avenue onto Solano Avenue.
- Pedestrian visibility and crossing distances across Solano Avenue at Fresno Avenue and Colusa Avenue (both legs) intersections.
- Large turning radius for turn from westbound Solano Avenue onto northbound Colusa Avenue.
- Northbound vehicles encroaching on east-west crosswalk when turning onto Solano Avenue from Colusa Avenue.
- Poor visibility of oncoming traffic along east-west crosswalk when turning onto Solano Avenue from Colusa Avenue (S. leg).
- Large turning radius for eastbound right and westbound right turning vehicles at The Alameda & Solano Avenue.
- Long pedestrian crossing distances at The Alameda & Solano Avenue for north, south and east legs.
- Stopped vehicles encroach into crosswalks at intersections.
6. Recommended Pedestrian Projects

Proposed Improvements

- Bulbouts for the following crosswalk locations:
  - Colusa Avenue (N.) & Solano Avenue: north and south sides of west leg. North side has no apparent drainage issues, south side will require regrading to ensure flow around bulbout. $150,000
  - Colusa Avenue (S.) & Solano Avenue: north side of southeast corner; east side of southwest corner. May require regrading intersection or relocating or installing new catch basins. $150,000
  - Fresno Avenue & Solano Avenue: North and south sides of east leg. $150,000
  - The Alameda & Solano Avenue: northeast and southwest corners. $150,000

- Install advanced stop bar at the following intersection approaches: $1,500
  - Westbound approach to Colusa Avenue (N.) from Solano Avenue.
  - All approaches to the intersection of The Alameda & Solano Avenue.

- Prohibit or restrict on-street parking to improve pedestrian visibility at the following locations: $400
  - S. leg of Colusa Avenue & Solano Avenue: increase pedestrian visibility for northbound vehicles turning on to Solano Avenue by removing one or two parallel parking spaces on the south side of the west leg of the intersection. This would also improve the visibility of pedestrians for eastbound right turning vehicles from Solano Avenue onto the S. leg of Colusa Avenue.
  - Fresno Avenue & Solano Avenue: increase pedestrian visibility for eastbound vehicles on Solano Avenue by removing one or two angled parking spaces on the south side of Solano Avenue just to the west of the crosswalk.

- Note: Any underground work at Solano and Colusa may be complicated by the presence of EBMUD’s Wildcat Aqueduct (a 48-inch diameter potable water transmission line.) Additionally, bulbouts may impact existing drainage and could require additional construction and costs.

- Note: These improvements may be eligible for Safe Routes to School funding as they are located near Thousand Oaks Elementary School.

Cost

- $601,900 ($1,900 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
15. SAN PABLO AVENUE AND DELAWARE STREET

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The intersection of San Pablo Avenue and Delaware Street is signalized. Delaware Street is a two-lane roadway with bicycle lanes, San Pablo Avenue is a four-lane roadway with a median and left turn lanes. Left turns from San Pablo are protected. White transverse crosswalks are striped on all four legs of the intersection. Bus stops are located on both sides of San Pablo Avenue north of the intersection. Between 2000 and 2007, five pedestrian-motor vehicle collisions occurred here, injuring 4 pedestrians. The driver of the vehicle was at fault in 3 of the collisions, and all collisions occurred within a crosswalk. San Pablo Avenue Public Improvements Plan recommends several improvements to this intersection, which have been included here. San Pablo Avenue is a California State Highway, and is under Caltrans jurisdiction.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅ High collision rate.</td>
</tr>
<tr>
<td>✅ Bus stops located on north leg of intersection.</td>
</tr>
<tr>
<td>✅ Left turn lanes prevent pedestrians from using the median as a refuge if they cannot cross San Pablo in one light cycle.</td>
</tr>
<tr>
<td>✅ Pedestrians may improperly cross during protected left turn phase.</td>
</tr>
<tr>
<td>✅ Drainage at northeast corner.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Consider bulbouts into San Pablo Avenue at northeast and southwest corners. Existing drainage grate will need to be accommodated. Consider painting bulbouts at this location if constructing bulbouts is not feasible. $150,000
- Install R10-2a "Cross on (Ped Symbol) Signal" for pedestrians crossing Delaware Street. $200
- Consider shifting protected left turn phase to after through phase to allow pedestrians to complete crossing before left turn phase starts. (No capital cost)
- Construct the following items per the San Pablo Public Improvements Plan
  - Construct median noses to provide pedestrian refuge. $2,800
  - Install pedestrian-scale luminaries at both median noses. $4,100
  - Install pedestrian-scale lighting on existing cobra head street lights. $6,100
  - Plant street trees on west and east legs of Delaware Street. $3,200

Cost

- $168,000 ($0 is accounted for in Citywide projects)
UNCONTROLLED CROSSING IMPROVEMENT:
16. SHATTUCK AVENUE AT BERKELEY WAY

Study Area Description
The intersection of Shattuck Avenue and Berkeley Way is stop-controlled on the minor approaches. Shattuck is a major north south roadway that has two travel lanes in each direction with on-street parallel parking on both sides. South of Berkeley Way Shattuck has three lanes in the southbound direction. Berkeley Way is a local east-west street with one travel lane each direction, and on-street parallel parking on both sides. The Shattuck corridor is fronted by a variety of retail and commercial uses, and there is very heavy pedestrian activity in this area, including the uncontrolled crossings of Shattuck. Standard transverse crosswalks are striped on all legs. Berkeley Way is slightly offset on the east and west sides of Shattuck, and so the crosswalks are skewed across Shattuck, resulting in a longer crossing distance.

Issues
- Offset intersection creates long crossing distance for pedestrians at uncontrolled locations and challenges for persons who are visually impaired.
- Heavy pedestrian volumes at uncontrolled location across major roadway.
6. Recommended Pedestrian Projects

Proposed Improvements
- Stripe high-visibility crosswalks
- Construct bulbouts
- Install MUTCD pedestrian warning signage

Cost
- $253,200 ($3,200 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:
17. UNIVERSITY AVENUE AND GRANT STREET

Study Area Description

University Avenue is an important east-west major road that runs from the western edge of the University of California campus to I-80 and the Berkeley Marina. As such, it carries large vehicular traffic volumes and bus riders during the peak periods for commuters and students accessing the University and downtown Berkeley. Grant Street is a local street that runs north-south through largely residential neighborhoods in central Berkeley. Located one block west of Martin Luther King (MLK) Jr. Way, an important north-south Berkeley major road, Grant Street carries some of the pedestrian and bicycle traffic from MLK. University Avenue also has specialty retail and restaurant uses along most of its length – uses that generate significant pedestrian activities at the Grant Street intersection as well. Grant Street has one lane in each direction. University Avenue has four travel lanes (two in each direction), plus a raised median island. The intersection of Grant Street with University Avenue is unsignalized, with stop controls on the Grant Street approaches and uncontrolled approaches on University Avenue. At Grant Street, University Avenue has a left-turn pocket for westbound vehicles but does not have one for eastbound vehicles.

Issues

- Heavy traffic volumes, high speeds and no stop controls for vehicles along University Avenue combine to produce unsafe crossing conditions for pedestrians.
- On-street parking at the southwestern corner on University Avenue and at the southeastern corner on Grant Street prevents motorists from seeing pedestrians as they start to cross the intersection.
6. Recommended Pedestrian Projects

Proposed Improvements

- Increase pedestrian visibility and decrease crossing distances by building bulbouts on the northwest, southeast and southwest corners. The Fire Department should approve bulbout designs at this location. Bulbouts may affect existing drainage and could require additional construction and costs. $200,000
- Prohibit or restrict on-street parking in spaces immediately adjacent to southwestern corner on University Avenue and the southeastern corner on Grant Street.
- Install in-pavement flashers or overhead beacons for crosswalks across University Avenue. $75,000 in-pavement or $100,000 overhead beacon.
- Install “Turning Traffic Must Yield to Pedestrians” for East bound traffic on University Avenue. $200

Cost

- $300,200 (with overhead beacon option)
- $275,200 (with in-pavement flasher option)

($0 is accounted for in Citywide projects)
CORRIDOR IMPROVEMENT PROJECT:
18. COLLEGE AVENUE BETWEEN RUSSELL STREET AND ASHBY AVENUE

Study Area Description

The intersection of College Avenue & Ashby Avenue is at the heart of the Elmwood shopping district and each of these streets serve as important major street connectors within Berkeley and to points beyond. College Avenue provides north-south access from Oakland to the University of California campus, and carries several heavily patronized AC Transit bus lines. Ashby Avenue (State Route 13) provides east-west regional connections for vehicles to I-80 to the west and S.R. 24 in the east. Both of these streets, College Avenue and Ashby Avenue, are frequently overburdened with vehicular traffic.

Russell Street crosses College Avenue one block north of Ashby Avenue. In this block, vehicles are restricted to one lane of travel in each direction and they are often slowed by vehicles engaging in parallel parking maneuvers and by pedestrians at the mid-block crossing half-way between Russell Street and Ashby Avenue. The intersection of College Avenue & Russell Street is stop-controlled on all four approaches. Russell Street is blocked by a traffic barrier approximately 100 feet west of the intersection and serves mainly as an access point to parking and service entries behind the shops that line College Avenue.

Issues

- Stopped vehicle encroachment into pedestrian crosswalks at College Avenue & Ashby Avenue.
- Protected left turn phase for southbound traffic at the Ashby and College signal only is confusing for pedestrians crossing Ashby Avenue on the east leg crosswalk. Pedestrians often start to cross when the protected phase begins (despite the “Don’t Walk” signal), anticipating a “walk” signal.
- No streetlights on northwest corner of College Avenue & Ashby Avenue and both west corners of College Avenue & Russell Street factors into 3 reported nighttime-conditions collisions.
- Of the six reported pedestrian collisions at College Avenue & Ashby Avenue (between 2000 and 2004), five involved a vehicle making a turning movement. This suggests that despite the left turn restrictions on Ashby Avenue during the peak hours, there are significant unresolved conflicts between vehicles and pedestrians.
- Due to the large traffic volumes and congested conditions on Ashby and College Avenues, there are few opportunities to increase pedestrian visibility or decrease pedestrian crossing times at this intersection without restricting right-turn-on-red movements and seriously degrading auto LOS.
- Presence of Berkeley Fire Department station just east of College Avenue on Russell Street means that the effects of any alterations to area intersections on emergency response times must be considered, particularly with any changes to east side of College Avenue at Russell Street.
6. Recommended Pedestrian Projects

Proposed Improvements

- **Install additional pedestrian-scale street lights to improve pedestrian visibility at the following locations.**
  - The northwestern corner of College Avenue & Ashby Avenue.
  - The northwestern and southwestern corners of College Avenue & Russell Street.

- **Install advanced stop bars all approaches at College Avenue & Ashby Avenue to reduce vehicle intrusion into crosswalks.** $1,200

- **Provided sufficient right-of-way exists, install new perpendicular pedestrian ramps on all four corners at College and Ashby Avenues. Any work on Ashby Avenue requires State approval as it is a State of California right-of-way.** $20,000

Ashby/College
- **Consider moving the protected left-turn phase for the south bound Ashby traffic after the through traffic phase.** (No capital cost)

Cost
- **$111,200 ($21,200 is accounted for in Citywide projects)**
INTERSECTION IMPROVEMENT PROJECT:
19. THE ALAMEDA / MARTIN LUTHER KING JR. WAY AND HOPKINS STREET

Study Area Description
The signalized intersection of The Alameda/Martin Luther King (MLK) Jr. Way and Hopkins Street in North Berkeley is a large intersection with four lanes on The Alameda/MLK (two in each direction) and two very wide lanes on Hopkins Street (plus bicycle lanes). Hopkins Street is roughly 60 feet wide on both of its approaches to the intersection, leaving more than sixteen feet for each travel lane once parking and bicycle lanes are accounted for. Due to the lack of median “refuge” islands pedestrians must brave a very long crossing distance to traverse this intersection. Just south of this intersection, MLK Way narrows from a four-lane to a two-lane facility. The North Berkeley Branch of the Berkeley Public Library sits on the northwestern corner of this intersection. Since this facility sits on a relatively small triangle-shaped block without any designated parking area dedicated for its visitors, library visitors will occasionally park on nearby streets and cross the intersection. Other complications for pedestrians arise from the Chevron Station located on the southeastern corner, which has four driveway curb cuts. These numerous driveways at a close distance to the intersection bring many opportunities for auto/pedestrian conflicts.

Issues
- Long pedestrian crossing distances across all intersection legs.
- Large turning radii for all right turn movements.
- Pedestrian/Auto conflicts for left-turning vehicles from The Alameda/MLK to Hopkins Street.
6. Recommended Pedestrian Projects

Proposed Improvements

- Build pedestrian refuge (i.e., raised) median islands on both Hopkins Street intersection approach legs to shorten pedestrian crossing distances. Islands should be a minimum of six feet in width. $60,000
- Construct bulbouts on The Alameda/MLK-facing sides of all corners to shorten pedestrian crossing distances, increase pedestrian visibility, and tighten turning radii for right-turning vehicles. The size of these bulbouts should be determined by further study of the intersection’s operations to find out if removing the unmarked right turn pockets on these approaches will affect levels of service for autos or turning capability of large vehicles. Additionally, bulbouts and pedestrian refuge may require modifications to existing drainage and utilities. The EBMUD Wildcat Aqueduct, a 49-inch diameter potable transmission line runs under the intersection and may limit options for relocating underground drainage systems. $250,000
- Study the opportunities to install protected left turn lanes and signal phases for The Alameda/MLK left-turning traffic to reduce auto/pedestrian conflicts.
- Install pedestrian push-buttons with new actuated signal controller system. $20,000
- Work with Chevron station owners and managers to either consolidate driveways or clearly mark entry and exit points for refueling area. Entry driveways should be those closest to the intersection, while exit points should be those furthest from the intersection.

Cost

- $330,000 ($0 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
20. SHATTUCK AVENUE AND WOOLSEY STREET

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woolsey Street is stop-controlled at Shattuck Avenue. High-visibility ladder crosswalks are striped across Shattuck, and transverse crosswalks are striped across Woolsey. Bus stops are located at the southeast and northwest corners, and Woolsey provides access to the Ashby BART station from residential neighborhoods to the east of Shattuck. At this intersection, Shattuck Avenue is two lanes and has posted speed limit of 25 mph. Between 2000 and 2007, there were three pedestrian-motor vehicle collisions at this intersection in which five pedestrians were severely injured. In two of the collisions, the driver of the motor vehicle was at fault. The pedestrian was at fault in the remaining collision.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>High collision rate.</td>
</tr>
<tr>
<td>Bus stops located on southeast and northwest corners.</td>
</tr>
<tr>
<td>Drainage grates located on all corners except for northwest corner.</td>
</tr>
</tbody>
</table>
**Proposed Improvements**

- Consider installing bulbouts at the northeast and northwest corners into Shattuck Avenue. Drainage grate and hydrant will need to be accommodated at northeast corner. $150,000
- Install pedestrian-actuated flashing beacon that can be actuated for north and south legs of intersection. Flashing beacon should include signage indicating to pedestrians that motor vehicles may not stop. $100,000
- Install pedestrian warning signage at crosswalk. $400
- Consider moving bus stop on southwest corner either back from intersection to provide better sight lines or to the far side of the intersection. (Cost not provided)

**Cost**

- $250,400 ($400 is accounted for in Citywide projects)
UNCONTROLLED CROSSWALK IMPROVEMENT:
21. UNIVERSITY AVENUE AND MCGEE AVENUE

Study Area Description
The intersection of University Avenue and McGee Avenue in North Berkeley is stop-controlled on the McGee approaches. University Avenue is a major east-west road that has two travel lanes in each direction, a raised center median, and on-street parallel parking. A single left turn lane is present in the eastbound direction on University at this location. McGee Avenue is a local street, with one travel lane in each direction and on-street parallel parking. Land uses are commercial and retail along University Avenue, becoming residential along McGee away from the major street corridor. The Ohlone Greenway linear park is located two blocks north of University, and residents on the south side of University utilize the various crossings along this corridor including the uncontrolled crossing at McGee. Crosswalks are marked on all legs of the intersection, with the legs across University striped with a high-visibility ladder pattern.

Issues
- Uncontrolled crosswalks across University.
- Heavy traffic volumes along University Avenue.
- No truncated domes at corners.
6. Recommended Pedestrian Projects

Proposed Improvements

- Consider installing bulbouts at all four corners of intersection, to improve pedestrian visibility and shorten crossing distance. This would potentially require removing one parking space on both the northeastern and northwestern corners. Would also require consideration for bus stop location near southwestern corner. No storm drain currently exists at this intersection. Recommend extending the storm drain system from Addison and McGee north to serve University and McGee. (storm drain extension not included in cost) $250,000
- Install new curb ramps with truncated domes at all corners. (cost included in above estimate)
- Install in-pavement yield to pedestrian signs in median on both legs across University Avenue. $400

Cost

- $250,400 ($20,000 is accounted for in Citywide projects)
### MID-BLOCK CROSSWALK IMPROVEMENT PROJECT:
#### 22. DWIGHT WAY AT ALTA BATES HOSPITAL

<table>
<thead>
<tr>
<th><strong>Study Area Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A mid-block crosswalk is located on Dwight Way between Milvia and Shattuck, in front of the Alta Bates hospital. This crosswalk feeds directly into the hospital entrance and provides a crossing for those who are parked on-street or in parking lots on the south side of Dwight Way. The crosswalk is striped with a high-visibility ladder pattern. This segment of Dwight is one-way in the eastbound direction, with two lanes of traffic and parallel parking on both sides. At the south crosswalk landing, a driveway is present to the west side of the crosswalk, and two metered parking spaces are present to the east side of the crosswalk. On the north landing, an area of red curb is striped to the west of the crosswalk, and metered parking is present to the east of the crosswalk.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Issues</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>➤ Relatively high traffic volumes on Dwight, and one-way configuration may lead to higher vehicle speeds.</td>
</tr>
<tr>
<td>➤ Visibility for crossing may be an issue if vehicles are encroaching into red curb zone on north side of roadway.</td>
</tr>
<tr>
<td>➤ Crosswalk warning signage is not located at crosswalk.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Construct bulbouts
- Relocate crosswalk warning signage to crosswalk
- Consider eliminating one metered parking space on south side of Dwight

Proposed Improvements at Dwight Way at Alta Bates Hospital

- Install bulbouts on both side of crosswalk to provide greater visibility for pedestrians and reduce crossing distance. Bulbouts may require additional drainage improvements. $1,500,000
- Relocate crosswalk warning signage to be at crosswalk. $400
- Consider eliminating one of the two metered parking spaces on the south side of the street, to provide a larger area for bulbouts to reduce potential for parked vehicles to encroach into crosswalk. $20

Cost

- $1,504,200 ($400 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:
23. ALCATRAZ AVENUE AND CALIFORNIA STREET

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The intersection of Alcatraz Avenue and California Street is stop-controlled on the California approaches. Alcatraz Avenue is a major east-west road with one travel lane in each direction and on-street parallel parking. Although it is a major road and carries heavy traffic volumes, Alcatraz is fronted by residential land uses. California Street is a local north-south road and a bicycle boulevard. A half-street traffic diverter is in place on the north side of California at Alcatraz -- northbound traffic cannot enter here, but southbound traffic can exit onto Alcatraz from California. A convenience store is located at the northeast corner, making this a heavily used crossing location for residents on the south side of Alcatraz. Standard transverse crosswalks are present on all legs of the intersection.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Heavy traffic volumes on Alcatraz.</td>
</tr>
<tr>
<td>▲ High number of pedestrian crossings associated with convenience store on NE corner.</td>
</tr>
<tr>
<td>▲ Uncontrolled crosswalks across Alcatraz.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Stripe high-visibility ladder crosswalks on both legs across Alcatraz. $2,400
- Consider installing bulbouts on all corners. Bulbouts on northeast and southeast corners will require relocating inlets. Bulbouts on southwest corner will likely require regrading the southwest quadrant of the intersection to maintain drainage. The northwest corner does not appear to require work for storm drainage. Installation of curb ramps on east corners will need to account for bus stops in this location. $250,000
- Study installation of pedestrian actuated flashing beacons, particularly for the eastern leg which has the bus stop and convenience store. $100,000

Cost

- $354,400 ($2,400 is accounted for in Citywide projects)
SAFE ROUTES TO TRANSIT PROJECT:
24. NORTH BERKELEY BART STATION AREA

Study Area Description

The North Berkeley BART station and its surrounding park-and-ride lots are bounded by Sacramento Street on the east, Delaware Street on the south, Acton Street on the west and Virginia Street on the north. Due to its location in a largely residential neighborhood, the station attracts large numbers of pedestrians from all directions. Its location next to a major Berkeley north-south roadway, Sacramento Street, and its large park-and-ride lots ensures that it attracts large numbers of vehicle trips as well. Autos and AC Transit buses accessing the station generally approach along Sacramento Street, turning onto Virginia or Delaware Streets and then turning into the station lot driveways. As a result, the Virginia Street and Delaware Street intersections with Sacramento Street are critical points of conflict between autos and pedestrians.

The T-intersection of Sacramento Street with Delaware Street is at the southeastern corner of the station’s parking lot. Delaware Street is a collector that provides east-west connections to the North Berkeley BART station parking lots, Ohlone Park, and residential neighborhoods. Sacramento Street has two travel lanes in each direction, an exclusive single left turn lane on the southern leg and an exclusive right turn lane on the northern leg at the intersection. Delaware Street terminates at Sacramento Street and has one exclusive left turn lane and one exclusive right turn lane. The intersection is signalized. Bicyclists traveling eastbound can continue straight to the Ohlone Greenway. On-street parking is prohibited on all approaches immediately adjacent to the intersection, leaving adequate lines-of-sight for drivers and pedestrians. Pedestrian signals are automatic.

The intersection of Sacramento Street and Virginia Street is stop-controlled on Virginia Street. Virginia Street is a local roadway that is also a Bicycle Boulevard. At this intersection, Sacramento Street has a raised median on both legs, two travel lanes in each direction and an exclusive single left turn lane for northbound vehicles. Virginia Street has one travel lane in each direction and an exclusive right turn lane on the western leg of the intersection that doubles as a drop-off zone for the AM peak-hour. On-street parking is prohibited on all approaches immediately adjacent to the intersection but parallel parking on both roadways is allowed. The southwestern corner has a bulbout that protrudes out into Sacramento Street. Pedestrian crossing signs are located on Sacramento Street in the median approaching the intersection.

Issues

Significant pedestrian volumes crossing Sacramento Street at both key intersections as well as at the intersection of Francisco Street & Sacramento Street, half-way between Delaware Street and Virginia Street

- Raised medians on Sacramento Street do not serve as refuges for pedestrians because they do not extend into the crosswalks or have curb ramps.
- No truncated domes on curb ramps.
- Delaware Street Intersection:
  - Curb-delineated median on northern leg sticks 2 feet into crosswalk, creating an obstacle for the disabled crossing the intersection.
  - Large turning radius at northwest corner and exclusive right turn lane encourage southbound right turning vehicles to speed through movement.
  - Eastbound right-turning vehicles often stop in the crosswalk on red light phase.
  - No audible pedestrian signal.
- Virginia Street Intersection:
  - Lack of visibility of pedestrians waiting to cross Sacramento Street.
  - Left turning eastbound vehicles sometimes ignore pedestrians crossing the northern leg.
  - Long pedestrian crossing distance across Sacramento, especially southern leg.
6. Recommended Pedestrian Projects

Proposed Improvements

- Construct bulbouts to increase pedestrian visibility, decrease the pedestrian crossing distances and tighten the turning radius for right turning vehicles at corners of the following intersection locations:
  - Sacramento Street/Delaware Street Intersection:
    - Northwest and southwest corners. Directional curb ramps with truncated domes and actuation on all legs should be installed. $150,000
  - Sacramento Street/Virginia Street Intersection:
    - Construct bulbouts on northwest, northeast (drain grate on Virginia Street), and southeast corners of the intersection. Directional curb ramps with truncated domes should be installed and lane width should be retained to serve as a bus pullout for the existing bus stop. $200,000
    - Extend bulbout at southwest corner to increase pedestrian visibility at this skewed intersection and decrease pedestrian crossing distance to Sacramento Street median to 36 feet. Drainage modifications may be necessary and could contribute to construction costs. $100,000
  - Create pedestrian refuges at the medians on Sacramento Street that are ADA compliant. Drainage modifications may be necessary and could contribute to construction costs. $90,000
  - Install ladder style crosswalks at Virginia across Sacramento Street to improve pedestrian visibility. $2,400
  - At the Virginia Street intersection, increase lighting for pedestrians across Sacramento Street or install flashing, pedestrian-activated lights. $75,000
  - Install advance stop bars on all approaches to Delaware Street intersection. $900
  - Conduct a study to evaluate the possibility to reduce the speed limit on Sacramento to 25 mph.

Cost

- $550,800 ($3,300 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:
25. SAN PABLO AVENUE AND CEDAR STREET

Study Area Description
The signalized intersection of San Pablo Avenue (State Route 123) and Cedar Street in northwest Berkeley has a number of popular attractions such as Café Fanny and Acme Bread Company that bring large numbers of pedestrians to cross both streets. The SP Gas Station and the parking lots for the Golden Bear Motel and Café Fanny and Acme Bread on the southwest and southeast corners ensure a steady flow of vehicles as well. San Pablo Avenue has four travel lanes (two in each direction) plus a raised median island that accommodates a left-turn pocket for cross-streets. Cedar Street has two travel lanes (one in each direction). Just east of the intersection, Hopkins Street and Cedar Street converge (at a “fork” in the road), with Hopkins Street approaching from the northeast. The San Pablo Plan recommends special paving at Cedar Street and constructing bulbouts along San Pablo side streets, but not within San Pablo right-of-way.

Issues
- Raised island on east leg of Cedar Street does not meet crosswalk. Painted median covers the last ~25 feet between raised median and the crosswalk, encouraging westbound vehicles to make u-turns prior to the intersection within the crosswalk zone.
- Large turning radius for westbound right turning vehicles onto San Pablo Avenue from Cedar Street.
- Stopped vehicles eastbound and westbound on Cedar Street intrude into crosswalks.
- Pedestrian-vehicle conflicts in crosswalks during permitted signal phases on San Pablo Avenue as southbound left and northbound left-turning vehicles traverse the east and west leg crosswalks.
6. Recommended Pedestrian Projects

**Proposed Improvements**

- Increase pedestrian visibility and decrease crossing distances by building bulbouts on the following corners:
  - Northwestern corner: south side.
  - Southeastern corner: north side.
- Bulboult design should take into consideration turning movements by buses, trucks, and other large vehicles.
- Study the feasibility of protected turn phasing for left-turning vehicles from San Pablo Avenue on to Cedar Street to reduce pedestrian/auto conflicts.
- As State of California right-of-way, any work on San Pablo would require the Caltrans approval.

**Cost**

- $150,000 ($0 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:
26. TELEGRAPH AVENUE AND ASHBY AVENUE

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The signalized intersection of Telegraph Avenue and Ashby Avenue (State Route 13) in south Berkeley has heavy vehicular traffic volumes. At this location Telegraph Avenue is a four-lane north-south major road with two lanes of travel in each direction with a center-left turn lane. Ashby Avenue has four lanes, with parking allowed in the outside lane except during peak hours. Signal phasing for this intersection allows permitted movements for each direction of travel and a protected phase for southbound movements. High vehicular traffic volumes at this intersection are matched by high levels of pedestrian activity caused by nearby trip generating land uses such as Whole Foods Market on the southwestern corner and the main campus of Alta Bates Hospital located one block east of the intersection on Ashby Avenue. Pedestrian-auto conflicts are increased by the Chevron gas station located on the northwestern corner, which has driveway curb cuts located directly adjacent to where the crosswalks meet the curb. While now vacant, the driveways for the Union 76 station on the southeastern corner have a similar design that would exacerbate pedestrian/auto conflicts should this lot be developed in the future and the current driveways retained.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Long pedestrian crossing distances across Telegraph Avenue and Ashby Avenue.</td>
</tr>
<tr>
<td>▲ Driveway curb cuts close to intersection crosswalks on northwestern and southeastern corners create pedestrian/auto conflicts.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Study the possibility of installing protected left turn phases for vehicles turning from Telegraph Avenue to Ashby Avenue and removing permitted left turns from the signal phasing for these movements. This would reduce the number of pedestrian/auto conflicts in crosswalks across Ashby Avenue.
- Work with Caltrans and Chevron station owners and managers to either consolidate driveways or clearly mark entry and exit points for refueling area. Entry driveways should be those closest to the intersection, while exit points should be those furthest from the intersection. Driveways on Ashby Avenue are within State of California right-of-way.
- Install count-down signal heads. $6,400

Cost

- $6,400 ($0 is accounted for in City-wide projects)
INTERSECTION IMPROVEMENT PROJECT:
27. TELEGRAPH AVENUE AND PARKER STREET

**Study Area Description**

Telegraph Avenue and Parker Street is an unsignalized intersection in South Berkeley. Telegraph Avenue is a five-lane north-south major roadway with two lanes of travel in each direction and a center-left turn lane. Parker Street is an east-west local street serving as access primarily to residential neighborhoods on the south side of the University of California Campus. Pedestrian volumes on Parker Street and at this intersection are generally high due to its proximity to the UC campus and the Telegraph Avenue shopping district. University students and faculty as well as Telegraph Avenue shopping patrons will often park in the surrounding residential neighborhoods and will use Parker Street to walk to Telegraph Avenue and points beyond. At the Telegraph Avenue intersection, both Parker Street approaches are stop-controlled. Telegraph Avenue is a major street that stretches from downtown Oakland to the south side of the University of California campus. Telegraph Avenue has two travel lanes in each direction at Parker Street and bicycle lanes in each direction as well. At the Parker Street intersection, the Telegraph Avenue approaches do not have stop controls. While the north and south legs of Telegraph Avenue at Parker Street have painted median islands, their widths (roughly 3 feet) and the fact that they do not have raised curbs make them inadequate to serve as pedestrian refuges. The recent installation of in-pavement, pedestrian-activated crosswalk flashers on the north leg of the intersection has improved pedestrian visibility and safety. Land uses adjacent to the intersection include restaurants, a convenience store with a small parking lot on the southeastern corner, an automobile repair business on the southwestern corner and specialty retail store fronts along Telegraph Avenue.

**Issues**

- Long pedestrian crossing distances across Telegraph Avenue.
- Driveway curb cuts close to intersection crosswalks on southwestern and southeastern corners create pedestrian/auto conflicts.
- Collision records over 5-year period show 3 out of 5 pedestrian collisions occurred in or near the south leg crosswalk during dusk or dark lighting conditions.
- Inadequate street lighting on northwestern and southeastern corners.
6. Recommended Pedestrian Projects

Proposed Improvements

- Remove driveway closest to south leg crosswalk on the southwestern corner of the intersection to reduce automobile/pedestrian conflicts. Pending negotiation with owner - $5,000
- Install in-pavement pedestrian actuated flashing lights on north side of intersection. $20,000 (Note: completed)

Cost

- $25,000 ($0 is accounted for in Citywide projects)
SAFE ROUTES TO SCHOOL PROJECT:
28. SACRAMENTO STREET AND ROSE STREET

**Study Area Description**
The signalized intersection of Rose and Sacramento in north Berkeley is the point at which the Sacramento Street right-of-way narrows significantly. North of Rose Street, Sacramento has two lanes northbound and one lane southbound. South of Rose, Sacramento widens to two lanes in each direction with a wide landscaped center median. At the northbound leg of Sacramento at Rose, this additional width is used for a separate right turn lane, separated from the two northbound through-lanes by a triangular island. The northbound traffic lanes are controlled by the traffic signal. The separated right turn lane is controlled by a STOP sign. In order to cross the southern leg of Sacramento, pedestrians must cross the STOP controlled right turn lane, then wait on the island for the traffic signal to cross the remaining through traffic lanes. A number of potential pedestrian conflicts and motorists failing to stop at the northbound right turn lane have been noted by local residents. This may be due in part to the unique design of the intersection, which may appear to motorists to be a “free right” turn lane (even though it is STOP controlled).

**Issues**
- Separate right turn lane on northbound Sacramento is STOP controlled, while other northbound traffic lanes are Signal-controlled.
- Right turn lane on northbound Sacramento is configured similar to many “free right” turn lanes, separated from through traffic by a small island.
- Pedestrian/Auto conflicts have been noted by local residents, specifically related to vehicles not stopping at the STOP sign on the northbound right turn movement.
Eliminate existing separated right turn lane by extending the existing southeast corner out to connect with the island. In order to facilitate right turns from the reconfigured corner, the corner radius of the existing island would need to be widened, and the traffic signal moved to the east. No underground storm drainage system exists at this intersection; all drainage is provided by surface flow. The bulbout would require regrading the intersection. Access to two residential driveways that are currently within this separated right turn lane would need to be maintained. $190,000

- If sufficient right-of-way exists, install perpendicular curb ramps with truncated domes at all corners so that ramps face directly into crosswalk. $20,000
- Install countdown signals for all crossing legs. 1,000
- Install stop bars at all legs of the intersection to discourage encroachment of stopped vehicles into crosswalk and in right-turn-on-red situations. $1,200

Cost

- $212,200 ($22,200 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT PROJECT:
29. GILMAN STREET AND SANTA FE AVENUE

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The intersection of Santa Fe Avenue/Masonic Avenue with Gilman Street is a focal point for vehicular and non-vehicular access to the Westbrae neighborhood shopping area in northwest Berkeley. The intersection is adjacent to well-known retail attractions such as Berkeley Bagels, Toot Sweets, and other specialty retail establishments along a two-block section of Gilman Street. Gilman Street is an important east-west link for vehicular traffic in Berkeley, and both Santa Fe and Masonic Avenues provide convenient access to Albany and El Cerrito for local traffic. The Ohlone Greenway trail passes through this neighborhood as well, one block east of the intersection in question, carrying substantial bicycle and pedestrian traffic through the neighborhood.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Pedestrian conflicts with westbound right turning vehicles from Gilman Street onto Santa Fe Avenue.</td>
</tr>
<tr>
<td>▲ “Porkchop” island at Santa Fe Avenue &amp; Gilman Street has confusing design for drivers and pedestrians.</td>
</tr>
<tr>
<td>▲ Long crossing distance across Masonic Avenue at Santa Fe Avenue.</td>
</tr>
<tr>
<td>▲ Pedestrian visibility for drivers eastbound on Masonic Avenue turning right onto Santa Fe Avenue and for left-turning vehicles from Santa Fe Avenue onto Masonic Avenue.</td>
</tr>
<tr>
<td>▲ Oblique turning radius at southwestern corner of Santa Fe Avenue &amp; Masonic Avenue.</td>
</tr>
<tr>
<td>▲ Inadequate curb ramp at southeastern corner of Santa Fe Avenue &amp; Gilman Street.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Construct “porkchop” island and stop-controlled right-turn slip lane at Gilman Street and Santa Fe Avenue. Drainage and utility issues must be considered. Existing Berkeley Survey monument is in existing island and must be preserved as per State law. $100,000
- Using striping or vertical improvements, “straighten” and “neck-down” intersection of Masonic Avenue with Santa Fe Avenue so that Masonic Avenue meets Santa Fe Avenue at a 90-degree angle. This will shorten crossing distance for pedestrians across Masonic Avenue and will increase visibility of pedestrians crossing the intersection for motorists. $5,000
- Install crosswalk for pedestrians crossing northern leg (across Santa Fe Avenue) of Santa Fe Avenue & Masonic Avenue. Prohibit parking on north side of new crosswalk on west side of Santa Fe to improve pedestrian visibility to motorists. Consider installation of overhead pedestrian flashing lights for this new crosswalk. $1,200 (lights not included)
- Install bulbout on the northwest corner of Santa Fe Avenue & Gilman Street. Bulbouts would require regrading intersection and installation of valley gutter from northeast to northwest corners. $100,000

Cost

- $206,200 ($0 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
30. ADDISON STREET AND JEFFERSON AVENUE

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The intersection of Addison and Jefferson in central Berkeley is an intersection of two local streets one block south of University Avenue. Addison is an east-west local street with one lane in each direction and on-street parallel parking. Jefferson has a narrow right-of-way with a sidewalk and on-street parking only on the west side of the roadway. Jefferson is discontinuous at Addison; although the roadway continues to the south, it is completely blocked from motor vehicle through traffic with a sidewalk/landscaping, making the intersection of Addison/Jefferson at T-intersection in the southbound direction, and a cul-de-sac in the northbound direction. The intersection is also offset at this point, with the southern segment shifted slightly west of the northern segment. Surrounding land uses are primarily residential, with St. Josephs Church and Elementary School the most dominant use, located on the southeast side of the intersection. The heaviest pedestrian and vehicle volumes at this intersection are related to church and school activities. A yellow transverse school crosswalk is striped from the northeast corner to the south side of the T-intersection; due to the offset nature of this intersection, the crosswalk is skewed to align with the sidewalk continuing to the south.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues and Proposed Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Lack of sidewalks along Jefferson north of Addison.</td>
</tr>
<tr>
<td>▲ Skewed pedestrian crosswalk across Addison.</td>
</tr>
<tr>
<td>▲ Crosswalk lands on NE corner of Jefferson; no sidewalk on this block to the north.</td>
</tr>
<tr>
<td>▲ Church/school loading area affects potential landing area for crosswalk.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

**Proposed Improvements**

- Restripe crosswalk to west leg of intersection across Addison so that crosswalk is on same side as sidewalk. Align crosswalk perpendicular to roadway. Stripe high-visibility school ladder style. $1,200 for crosswalk and $2,000 for new ramp.
- Upgrade signage to install advance pedestrian warning signs and MUTCD Assembly B pedestrian signage at crosswalk. $800

**Cost**
- $4,000 ($4,000 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
31. SACRAMENTO STREET AND OREGON STREET

Study Area Description

The intersection of Sacramento Street and Oregon Street is stop-controlled on the Oregon approaches. Sacramento is a major north-south street with two travel lanes in each direction, a wide center landscaped median, and on-street parallel parking. Oregon is an east-west local roadway that provides access to residential neighborhoods and has one travel lane in each direction with on-street parking. A community garden is located on the southwest corner of the intersection, and a convenience store is on the northwest corner. The convenience store and garden attract pedestrians from the neighborhood to the east of Sacramento, and the crossing experiences relatively high volumes. There are marked crosswalks on all legs of the intersection, and both legs across Sacramento are striped with a high-visibility ladder crosswalk. In addition, the northern leg has in-pavement flashing lights installed in the crosswalk, which are actuated via pole-mounted push-buttons on either side. Although Sacramento has a wide landscaped median that functions as a pedestrian refuge in many locations, at this intersection there is no median on the south leg due to a left turn lane, and the median on the north leg is tapered to a narrow point and does not function as a true refuge.

Issues

- Long crossing distances across Sacramento, without a full refuge at either crosswalk across Sacramento.
- Existing bulbouts on north side of intersection are rounded and provide a wide turning radius, and do not orient pedestrians 90-degrees to crosswalks.
- Pedestrian volumes related to convenience store.
- Senior and children pedestrians who are utilizing the community garden.
- In-pavement crosswalk lights may be difficult to see during daytime.
## Proposed Improvements

- Widen the median at the north leg of the intersection to a full ADA-compliant refuge island. Because there is no left turn area in this location, the refuge area should be the full median width, and contain a median nose if feasible. Median widening could impact drainage requiring re-engineering that could entail expensive and extensive pavement re-grading and/or storm drain modifications. $30,000

### Cost

- $30,000 ($0 is accounted for in Citywide projects)
SIDEWALK IMPROVEMENT PROJECT
32. HEARST AVENUE BETWEEN LE CONTE AVENUE AND EUCLID AVENUE

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearst Avenue serves as the northern boundary of the UC Berkeley campus. A sidewalk is present along the entire north (non-campus) side of Hearst between Oxford and Euclid. On the south side, a sidewalk is present from Oxford to LeConte. At LeConte, pedestrians must utilize an uncontrolled crosswalk to the north side of the street, to continue east toward Euclid. The intersection of Hearst/Euclid is the North Gate to campus, the major campus pedestrian entryway on the north side. East of Oxford, Hearst has two lanes of traffic in each direction, and on-street parallel parking. Between LeConte and Euclid, the roadway is divided with a grade change between the eastbound and westbound traffic. The eastbound side of the road contains on-street metered parallel parking that is primarily used by students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Lack of sidewalk on south side of Hearst forces pedestrians to cross at uncontrolled crossing at LeConte, and then cross back to campus at Euclid.</td>
</tr>
<tr>
<td>▲ High vehicle speeds, especially in westbound direction coming downhill.</td>
</tr>
<tr>
<td>▲ Parking demand along campus boundary.</td>
</tr>
<tr>
<td>▲ Topography/grade issues of installing a sidewalk through the area between LeConte and Euclid; no additional right of way along south side of roadway.</td>
</tr>
</tbody>
</table>
6. Recommended Pedestrian Projects

Proposed Improvements

- Study installation of sidewalk on south side of Hearst between Le Conte and Euclid. This may require parking removals along this segment, given the constrained right of way. Work with University regarding parking demand along this segment. Provide smooth flowline transitions at both ends of sidewalk for drainage. New sidewalk. $54,000
- Install curb and gutter along proposed sidewalk. $36,225
- Install pedestrian-scale lighting along proposed sidewalk. $258,750
- Plant street trees along proposed sidewalk. $25,600
- Work with the City to evaluate impact of parking lane on eastbound travel flows, and ability to accommodate additional travel flows during peak hours.

Cost
- $374,575 ($0 is accounted for in Citywide projects)
### INTERSECTION IMPROVEMENT:
#### 33. HEARST AVENUE AND GAYLEY ROAD / LA LOMA AVENUE

#### Study Area Description

| The signalized intersection of Hearst Avenue and Gayley Road / La Loma Avenue forms the northeast corner of the main campus area. Hearst Avenue is an east-west major collector with one lane in each direction that forms the northern boundary of campus. Gayley Road is a north south local campus road that provides access to the eastern campus area, the athletic fields, the Greek Theater, and the Memorial Stadium. North of Hearst, Gayley becomes La Loma, a local residential street that extends up into the Berkeley hills. Land uses surrounding the intersection include campus housing on the northeast and southeast corners, a parking garage on the northwest corner, and campus buildings on the southwest corner. Three of the four corners (northwest, south west, and southeast) have free right turn slip lanes. The NE corner is configured with a relatively wide curb return. Heavy pedestrian crossings exist at this location. Marked crosswalks are present across all legs; all crosswalks are striped with a high-visibility ladder pattern. |

#### Issues

- Heavy pedestrian volumes utilize intersection traveling between residential areas to north of Hearst and campus.
- Free right turn slip lanes at NW, SW, and SE corners, allow vehicles to make turns at relatively high speeds.
- Parking garage exit on La Loma near NW corner.
- Intersection is identified as having significant impacts in the Environmental Impact Report for the Lawrence Berkeley National Laboratory’s proposed expansion. Additional lanes on several approaches will likely be required to accommodate additional motor vehicle traffic.
6. Recommended Pedestrian Projects

**Proposed Improvements**

- Consider modifying east, west and south right slip turns to be yield or stop controlled. $600
- As intersection is modified to accommodate the Lawrence Berkeley National Laboratory’s expansion and other UC Berkeley development plans, modify pedestrian crossing at right turn lanes to be signal-controlled. $300,000
- South side of Hearst Avenue and Gayley Avenue are UC Berkeley property and changes must be coordinated with University

**Cost**

- $300,600 ($0 is accounted for in Citywide projects)
INTERSECTION IMPROVEMENT:
34. GILMAN STREET AND CURTIS STREET AND THE OHLONE GREENWAY

<table>
<thead>
<tr>
<th>Study Area Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>This all-way STOP controlled intersection is located in a small retail district in northern Berkeley that is otherwise surrounded by primarily single family homes. Gilman Street, 40 feet curb-to-curb, is a north-south major collector street with one lane in each direction and Curtis Street, 30 feet curb-to-curb, is a minor, quiet east-west residential street. The BART system’s aerial structure goes directly over the center of this intersection in a southwesterly to northeasterly direction. The Ohlone Greenway, a well used multi-use pathway established on the BART property under the aerial structure, enters the intersection in the same southwestern to northeastern corners. The streets are relatively narrow already with parking permitted on both sides. There are four marked crosswalks, one on each approach, and all are the high visibility “ladder” style.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲ Relatively heavy neighborhood and Ohlone Greenway pedestrian and bicycle traffic may create potential conflicts with motor vehicles.</td>
</tr>
<tr>
<td>▲ Three of the pedestrian ramps are not ADA compliant.</td>
</tr>
<tr>
<td>▲ The sidewalk on the southwest corner of Curtis and Gilman Streets is a narrow.</td>
</tr>
</tbody>
</table>
Proposed Improvements

- Consider installing four bulbouts on Gilman Street – at all four corners to further shorten the crossing distance and encourage a more pedestrian-friendly environment. These improvements should be designed to maintain right turn movements. $250,000
- Consider realigning Greenway to connect to Curtis south and north of intersection with Gilman
- Install signs directing bicyclists to cross Gilman on Curtis St. via potential realigned pathway. $400
- Work with BART to improve the lighting under the elevated rail tracks. $12,500

Cost

- $262,900 ($0 is accounted for in Citywide projects)
This page intentionally left blank.
CHAPTER 7
RECOMMENDED PEDESTRIAN PROGRAMS

Public awareness and education programs are important complements to the proposed pedestrian improvements of this Plan. In addition to programs merely promoting walking, an educational effort should be made to cover pedestrian and motorist laws. For example, many people do not understand that motorists must yield to pedestrians crossing at intersections, regardless of whether there is a marked crosswalk in place or not. Others may be confused as to when crossing a street mid-block constitutes jaywalking. Of course, all of these elements promise to be most effective when accompanied by a robust campaign of enforcement of the existing laws that protect pedestrians.

7.1. PEDESTRIAN AWARENESS PROGRAMS

A public awareness campaign that promotes walking as a means of transportation and emphasizes safe behavior will contribute to helping people make healthier lifestyle choices. Berkeley’s population covers a wide spectrum that can benefit from walking, including an active senior community, students, families, and employees. In a time of escalating obesity and diabetes rates, encouraging people to walk can provide the invitation necessary to start a lifestyle change.

7.1.1. “Everybody Walks in Berkeley” Campaign

Since 2003, the City of Berkeley, in partnership with Berkeley Unified School District, BEST, Walk & Roll Berkeley, and the Berkeley Residents, conducts an “Everybody Walks in Berkeley!” Campaign. This campaign promotes walking for physical activity by encouraging Berkeley residents to walk the first Wednesday of every month. It is recommended that the City should continue its “Everybody Walks in Berkeley!” campaign, and consider expanding it to serve as a broad pedestrian awareness/encouragement campaign, including promotional materials and other media. Bumper stickers, posters, window signs, and brochures would feature the slogan “Everybody Walks in Berkeley!” and, depending on the type of media, could include the following information:

- Easy ways to incorporate walking into daily activity
- Rules of the road for motorists and pedestrians
- Health benefits of walking
- Website/telephone number for more information

To offset the cost to the City of Berkeley of design and printing, sponsors could be secured. Sponsors’ logos can be added at the bottom of the materials. The brochures, maps and bumper stickers could be distributed in and around Berkeley at civic buildings, libraries, schools, local businesses and merchants’ associations, and community groups.

The City could also expand the current “Everybody Walks in Berkeley!” website to include downloadable files, order forms for posters and signs, and expanded information on current walking events and activities in the city.

---

1 The term “pedestrian” refers to a person moving from place to place, on foot and/or with the use of an assistive mobility device (when that person has a disability and/or medical condition). “Walking” or “to walk” are the terms used to describe this movement of a pedestrian.
City of Berkeley staff or a consultant can produce and arrange the distribution of printed materials and identify sponsors and funding sources to offset the costs associated with the printed material. All activities can be done under the supervision of the Transportation Division.

### 7.1.2. “Bear Crossing” University Focused Safety Campaign

The University environment creates special transportation needs due to the high levels of pedestrians in concentrated areas along the city/campus interface. At all roadways bordering the campus, and especially at the main campus entrance nodes of Bancroft/Telegraph, Oxford/Center and Hearst/Euclid, heavy volumes of pedestrians are crossing the local streets throughout most of the day. Along Telegraph, these heavy pedestrian volumes continue down the commercial corridor toward Dwight Way. This plan’s pedestrian exposure analysis found that the area immediately south of campus had a relatively high rate of pedestrian collisions per vehicular volumes, which indicates increased pedestrian risk in this area. The City should work with UC Berkeley to develop a jointly sponsored safety campaign focused on pedestrian safety and awareness for UC students. The campaign should have a catchy title such as “Bear Crossing,” and use a variety of media (signs, bumper stickers, news media spotlights) to promote more awareness by motorists of slowing down in areas around campus and yielding to pedestrians in crosswalks. The campaign should also educate students on crossing safety. An example of a successful university campaign is the University of North Carolina’s “Yield to Heels” campaign sponsored by UNC and the City of Chapel Hill.

### 7.1.3. “Walk Bikes on Sidewalk, Ride Bikes on Street” Campaign

Although aimed at bicyclists, this existing pilot program promotes pedestrian safety by reminding cyclists in downtown Berkeley to dismount and walk their bikes when using the sidewalk areas. Particularly around the BART station, both pedestrian and bicycle volumes are extremely heavy, and bicyclists illegally riding on the sidewalk present a safety conflict to those walking. The program was developed by the Office of Transportation in conjunction with the Berkeley Police Department, the Bicycle and Pedestrian subcommittees of the Transportation Commission, and the Commission on Aging and Disability. The City of Berkeley should continue its Walk Bikes on Sidewalk campaign in the downtown area, and consider expanding to other high-pedestrian-use areas of the city such as on University Avenue between Sacramento and 6th Streets.

### 7.1.4. Public Service Announcements

A cost-effective way for the City of Berkeley to promote walking as an effective and enjoyable way to travel is to use existing television public service announcements (PSAs) made available through the National Highway Traffic Safety Administration (NHTSA), Safe Kids Coalition, and the California Office of Traffic Safety (OTS). These agencies provide existing award-winning television public service announcements on the following topics:

- Pedestrian education for seniors
- Pedestrian education for the general public
- Pedestrian education for children and their families
- Driver education on pedestrians
- Drivers running red lights

The City of Berkeley can tag each of the television public service announcements with the “Everybody Walks in Berkeley!” message, with the website and phone number for more information. Production of the tags could be accomplished by the City’s cable station.
In addition to running the PSAs on local television, the City of Berkeley could provide local movie theatres with the public service announcements to be included as trailers on-screen. Several theatres use slides for community announcements.

Finally, to further utilize television and radio media to promote walking, the City could solicit the interest of local television and radio public service directors to interview a Berkeley spokesperson, such as the City’s Bicycle and Pedestrian Planner, to discuss the campaign and the importance of walking as an alternative mode of transportation in Berkeley. The production, arrangement and distribution of public service announcements can be done by either City of Berkeley staff or consultants. In addition, costs associated with production and promotional activities can be offset by sponsors and other funding sources. All activities can be conducted under the supervision of the Transportation Division’s Transportation Demand Modeling staff.

7.1.5. Walking Maps and Guides

One of the most effective ways of encouraging people to walk is through the use of maps and guides to show that the walking infrastructure exists, to demonstrate how easy it is to access different parts of the city on foot, and to highlight unique areas or routes such as the Berkeley hills pathways. Several excellent maps are already available that highlight different places to walk in Berkeley. These include:

- Berkeley! Biking and Walking Map -- This map shows the entire cities of Berkeley, Albany, Emeryville, and El Cerrito, as well as North Oakland and South Richmond. The map includes detailed information on many destinations including schools, parks, civic buildings, libraries, key grocery stores and markets, restaurants, and other popular places to walk. Street grades are color-coded so that pedestrians and bicyclists know how steep the streets are.
- Berkeley Pathways Map -- Produced by the Berkeley Path Wanderers Association, this map shows the locations and names of all Berkeley’s pathways and stairways. It is an excellent guide for those wanting to explore this unique network of pedestrian facilities in the Berkeley hills.
- East Bay Regional Parks Maps -- the East Bay Regional Parks District produces a variety of maps on local trails within their park system, including maps for Tilden Regional Park.

Related to walking maps and guides are organized walks, which could be based around a specific theme or neighborhood. These types of activities would normally be led by a local non-profit group. For instance, the Berkeley Path Wanderers Group offers guided First Wednesday Walks and Saturday Walks that offer a chance for people to explore a different pathway or walkway of the city, and learn about history, art, etc. Walks can also be self-guided: a local public radio station KQED describes a self-guided walk through Berkeley on their website, the “Julia Morgan Walking Tour,” which introduces participants to a variety of buildings designed by architect Julia Morgan. Uniquely themed “walk sheets” could be developed that illustrate sites and routes along specific Berkeley walking routes.

7.1.6. Other Promotions

A variety of other promotions or programs could be implemented to promote walking as an effective, fun and economical way to travel in Berkeley.

A. Commuter of the Month

Implement a contest for residents and employers to nominate a person who walks and/or uses transit to get around Berkeley. Entry forms available at employer sites, retail sites, churches, and
recreation and community centers could promote the contest. Monthly winners could receive prizes that may include gift certificates to dinner, retail stores and merchandise.

B. Murals

Murals have successfully been used to promote ideals and inform the community of important issues. The mural program could solicit help from local volunteers, artists, children, seniors, and other community members. Costs for the production of the murals could be generated by grants through public art foundations or as part of the Berkeley Public Art program.

C. Walk Exhibit

Berkeley could produce a traveling mobile exhibit promoting walking and bicycling. The exhibit could feature the following elements:

- Photo displays of new facilities
- Photos of residents and employees walking
- Walking Maps and Guides

This exhibit could be featured at all community events including the How Berkeley Can You Be? Festival, Juneteenth Festival, Earth Day, Bike to Work Week, and other events. The exhibit could be built to allow assembly and attendance to be done by one person.

D. Event Producers’ Obligation

Berkeley could require all community events to promote walking (and bicycling) in all event literature, advertisements and other collateral materials as a mode of transportation to their event. The City could include this requirement as part of the permit process for events.

E. Monthly Events

First Wednesday Walks - The existing Everybody Walks in Berkeley campaign designates the first Wednesday of every month as Everybody Walks day.

Sidewalk Strolls - Organized walks could be implemented for seniors at local centers. The goal of these events could be to generate interest in recreational walking for health reasons with the ultimate goal of promoting walking as a form of transportation.

The production, coordination and implementation of all promotional activities can be done by either City of Berkeley staff or local volunteers. In addition, costs associated with the promotional activities can be offset by sponsors and other funding sources. All activities can be conducted under the supervision of the Transportation Division.

7.2. PEDESTRIAN EDUCATION PROGRAMS

Education can make pedestrians and motorists more aware of potentially hazardous environments and teach them the skills needed to make walking a more effective and enjoyable way to travel. A number of broad-based educational subjects address particular issues, with individual programs that can be tailored around a specific theme or themes.
7.2.1. Safety Education Campaign

A variety of safety education campaigns could be undertaken by the City in order to educate motorists on the rights of pedestrians, and to educate pedestrians on safe behavior. The campaign could include messages on street signage related to speeding, yielding to pedestrians in crosswalks, stopping at stop signs, red light running, or jaywalking. Particular emphasis should be given to the safety of children, seniors and people with disabilities.

Sample messages might include:

- “Save A Life – Your Own. Don’t Jaywalk.”
- “STOP! It could be someone you love in the crosswalk.”
- “Use the other pedal and slow down.”
- “Slow Down! It could be someone you love.”
- “Want to meet cops? Don’t stop for pedestrians in the crosswalk.”

Elements of a successful pedestrian education program would include:

Media Coverage and Events, including statements of support from City officials, support of the Berkeley Police Department and development of a press kit outlining the program to get media coverage.

Print Campaign, incorporating the promotional themes in maps, posters, bumper stickers, guides, and television public service announcements.

Street Banners that display a safety message such as “SLOW DOWN” and “Everybody Walks in Berkeley!” Rotating the banner to different neighborhoods on a regular basis can keep the message fresh and reach new audiences.

7.2.2. Enforcement Education

The Office of Transportation should continue to cooperate with the Berkeley Police Department on ways to educate motorists during enforcement of pedestrian violations. This could include distributing materials to motorists on pedestrian rights, benefits of walking, and pedestrian-related traffic code commonly violated, such as coming to a complete stop before making a right turn. Bicycle patrol officers are in a particularly good position to educate pedestrians on safe and proper behavior as part of their routine activities. City staff and the Police Department should coordinate on ongoing programs to encourage pedestrian activity.

7.2.3. Senior Citizen and Disabled Pedestrian Education

This program could include instructors and guest speakers to provide information specific to the needs of the seniors and disabled. Presentations would be conducted by an instructor, either City of Berkeley staff or a consultant, at community centers, churches, clubs, senior citizen centers, physician offices, and hospitals. The presentation could address the sensitive issues of physical limitations of many seniors and the crucial need for them to reach their destinations (e.g. medical appointments, food shopping, etc.).

In addition, presentations can include guest speakers including officials from Berkeley, transit providers, retailers, physicians, and officers from the Police Department. City of Berkeley staff or a consultant can
coordinate the participation of guest speakers and identify sponsors and funding sources to offset the costs associated with the presentations.

7.2.4. Teen & Adult Pedestrian Education Video

The program could produce a video and encourage teens and adults to walk for commuting, improved health, and fun. The City could coordinate with the school district to have the video produced as a school project by the Berkeley High School video production class. The video could be made available to employers, recreational centers, libraries, community groups, and Neighborhood Watch organizations. In addition, the video could be made accessible to the general public via the City’s website. Existing technology could allow the production of this interactive video to be cost effective and a valuable source of on-going education.

7.2.5. State Parking Cash-Out Education

California State law requires certain employers who provide subsidized automobile parking for their employees to offer a cash allowance in lieu of a subsidized parking space. The purpose of this law is to encourage employees to get to work by alternative modes. However, many employees who use employer subsidized auto parking do not know about this “Cash-Out” program. All employees eligible for subsidized auto parking should be notified of this program. Brochures about this program could be included in employee new-hire packets and distributed at relevant events such as Earth Day or Bike to Work Day.

7.3. SAFE ROUTES TO SCHOOL PROGRAM

Safe Routes to School (SR2S) refers to a variety of multi-disciplinary programs aimed at promoting walking and bicycling to school, and improving traffic safety around school areas through education, incentives, increased law enforcement, and engineering measures. Safe Routes to School programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies. SR2S efforts in Berkeley can serve as an important component of the Pedestrian Plan, as they help facilitate the implementation and funding for specific improvements that will help meet the Plan goals of making walking an integral mode of transportation in Berkeley.

Comprehensive Safe Routes to School programs are developed using four complementary strategies, referred to as the “Four Es”:

**Engineering** – Design, implementation and maintenance of signing, striping and infrastructure improvements designed to improve the safety of pedestrians, bicyclists and motorists along school commute routes.

**Enforcement** – Strategies to deter the unsafe behavior of drivers, bicyclists and pedestrians and encourage all road users to obey traffic laws and share the road.

**Encouragement** – Special events, clubs, contests, and ongoing activities that encourage more walking, bicycling or carpooling through fun and incentives.

**Education** – Educational programs that teach students bicycle, pedestrian and traffic safety skills, and teach drivers how to share the road safely.
A fifth “E”, Evaluation, is sometimes included in Safe Routes to School programs. Evaluating the success of a program helps to determine which programs are most effective and helps to identify ways to improve programs.

Although most children in the United States walked or biked to school pre-1980s, since then, the number of children walking or bicycling to school has sharply declined. This decline is due to a number of factors, including urban growth patterns, increased traffic, parental concerns about safety, and particularly in Berkeley, the fact that students can attend any school in the city. The situation is self-perpetuating: as more parents drive their children to school, there is increased traffic at the school site, resulting in more parents become concerned about traffic and driving their children to school.

According to a 2005 survey by the Center for Disease Control, parents whose children did not walk or bike to school cited the following barriers:

- Distance to school: 61.5 percent
- Traffic-related danger: 30.4 percent
- Weather: 18.6 percent
- Crime danger: 11.7 percent
- Opposing school policy: 6.0 percent
- Other reasons (not identified): 15.0 percent

A comprehensive Safe Routes to School program addresses the reasons for reductions in biking and walking through a multi-pronged approach that uses education, encouragement, engineering and enforcement efforts to develop attitudes, behaviors and physical infrastructure that improve the walking and biking environment.

### 7.3.1. Benefits of a Safe Routes to School Program

Safe Routes to School programs directly benefit school children, parents and teachers by creating a safer travel environment near schools and by reducing motor vehicle congestion at school drop-off and pick-up zones. Students who choose to bike or walk to school are rewarded with the health benefits of a more active lifestyle and the responsibility and independence that comes from being in charge of the way they travel, and they learn at an early age that biking and walking can be safe, enjoyable and good for the environment. Safe Routes to School programs offer ancillary benefits to neighborhoods by helping to slow traffic and provide suitable facilities for walking by all age groups. Identifying and improving routes for children to safely walk and bicycle to school is also one of the most cost-effective means of reducing weekday morning traffic congestion and can help reduce auto-related pollution.

In addition to safety and traffic improvements, a SR2S program helps integrate physical activity into the everyday routine of school children. Health concerns related to sedentary lifestyles have become the focus of statewide and national efforts to reduce health risks associated with being overweight. Children

---

who bike or walk to school have an overall higher activity level than those who are driven to school, even though the journey to school makes only a small contribution to activity levels. ³

Core strategies of a Safe Routes to School Program are its educational and encouragement programs. Educational programs serve to identify safe behaviors and encouragement programs can serve to encourage people to bike, walk and drive safely.

7.3.2. Educational Measures

Educational programs can teach pedestrians, bicyclists and drivers safe behaviors and can create awareness of the benefits and goals of a Safe Routes to School program. In developing an educational strategy, each school’s stakeholder group should consider who the audience is, when the education should be delivered, what information should be shared, and how the message should be conveyed. A summary is provided in Table 7-1, Safe Routes to School Education Strategies.

<table>
<thead>
<tr>
<th>Strategic Question</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who should receive the message?</td>
<td>Parents, students, teachers, neighbors. All key drivers near the school. Some groups may need special consideration, including families with English as a second language, and visually and hearing impaired people.</td>
</tr>
<tr>
<td>When should the education be delivered?</td>
<td>Timing depends on the specific issues noted at each school. Children should receive bicycle and pedestrian safety education before other types of education. If children are already walking or biking in unsafe places, immediate educational efforts may be needed to address the issues.</td>
</tr>
<tr>
<td>What message should be delivered? How should the message be conveyed?</td>
<td>The message that should be delivered and the way in which it should be conveyed differs for each group that is being educated. For children, a key message is safety, followed by the benefits of biking and walking to school. Children can be educated through school-based programs such as assemblies, in-classroom instruction and skills practice. Parental involvement is important in educating children. For parents, key messages include the fact that they are role models and teachers of safe behavior, and that they are drivers near the school. Parents can be reached through print materials, school website, media stories, enforcement strategies, and in some cases, training on how to teach bicycle safety to their children. For all drivers near the school and neighbors, key messages include</td>
</tr>
</tbody>
</table>

Curriculum programs implemented in schools can teach children the basics regarding pedestrian and bicycle safety. Classroom educational materials should be presented in a variety of formats (safety videos, printed materials and classroom activities) and should continually be updated to make use of the most recent educational tools available. Classroom education programs should also be expanded to promote the health and environmental benefits of bicycling and walking. Outside schools, educational materials should be developed for different audiences, including elected officials (describing the benefits of and need for a SR2S program), parents (proper school drop-off procedures, obeying speed limits near school, yielding to bicyclists and pedestrians, and safety for their children) and neighbors (keeping pedestrian ways clear, obeying speed limits, yielding to bicyclists and pedestrians). Educational programs should be linked with events and incentive programs when appropriate, and students should be included in task force activities, such as mapping locations for improvements. Instruction may include:

**Pedestrian Safety Topics**

- Crossing the street with an adult
- Crossing around school buses
- Driveways and cars backing up
- Understanding traffic signals
- Walking where no sidewalks exist
- Crossing at intersections and crosswalks
- Walking at night
- Using sidewalks
- Crossing around parked cars

**Bicycle Safety Topics**

- On-bike skills training
- Night riding (clothes, lights)
- Riding on sidewalks
- Riding defensively
- Importance of wearing helmets
- How to adjust and maintain a bicycle
- Rules of the road
- How to negotiate intersections
- Use of hand signals
- Common crash causes

The City may want to consider working with local pedestrian groups (e.g. School Traffic Safety Committees), as well as the school district, to develop a standard safety handbook and make it available to each school in a digital format for customization. Each school should develop a school area pick-up/drop-off circulation map of the campus and immediate environs to include in the handbooks, clearly showing the preferred pick-up, drop-off and parking patterns and explaining in text the reason behind the recommendations. This circulation map should also be a permanent feature in all school newsletters and can be based on maps already created by the city’s Traffic Engineering division. More ideas for classroom activities and lessons, including lessons tailored to specific subject areas, can be found through the National Highway Traffic Safety Administration’s (NHTSA) website.
7. Recommended Pedestrian Programs

7.3.3. Encouragement Measures and Incentives

Encouragement strategies are meant to be fun and are intended to generate excitement and enthusiasm about biking and walking. Encouragement activities can be quick and easy to start and relatively inexpensive. Programs include special events, such as International Walk and Bike to School Day, contests such as a mileage club, and ongoing activities such as a walking school bus. Several encouragement programs are described below. Additional programs can be found in the on-line Safe Routes to School Guide published by National Highway Traffic Safety Administration. (www.saferoutesinfo.org/guide/)

International Walk to School Day is held annually in October. The purpose is to promote health, safety, physical activity, and concern for the environment for students of all ages. The event began in 1997 in the United States and has seen increases in participation since. In 2006, six of Berkley’s elementary schools participated in the program. This event can serve as a kick-off event to generate awareness and enthusiasm for the Safe Routes to School program. Schools may find additional information and register for the event at www.walktoschool.org. Schools may also designate additional days or weeks during the school year as special “Walk and Roll to School Days,” or may piggyback on an existing day such as Earth Day or Bike to Work Week.

Mileage clubs and contests can be established to encourage children to increase their levels of activity in general, and to walk to school specifically. Children are asked to keep a record of the number of miles they bike or walk. Contests are generally established as an individual child monitoring their progress, as a classroom tracking their combined progress, or as schools competing against each other. Winners are rewarded with gift certificates or prizes. Some programs set up a “Walk Across America” program where children keep track of how far they walk, with the ultimate goal of walking enough distance to walk across America. Other contests and event ideas to encourage bicycling and walking to school include: competitions in which classrooms compete for the highest proportion of students walking or biking to school, themed or seasonal events, and keeping classroom logs of the number of miles biked and walked by children and plotting these distances on a map of California or the US.

Ongoing activities are used to promote biking and walking on a daily or weekly basis. They include programs such as a Walking School Bus, which involves parents taking turns walking (or bicycling in a “Bike Train”) with groups of children to school. In areas where students cannot easily or safely walk or bike to school, programs such as “Park and Walk,” which ask parents to park at a designated spot and walk their children the rest of the way to school, allow all students to participate. Park and Walk programs also can reduce traffic congestion at schools.

Events related to bicycling and walking should be incorporated into existing curricula when practical. Involving local celebrities or publishing the names of student participants in events can be an effective means of encouraging student involvement. Another key to successful events is promotion. Ensuring that parents are aware of events, whether classroom-specific or district-wide, is key to gaining maximum student participation.

7.4. ENFORCEMENT OF PEDESTRIAN LAWS AND TRAFFIC MOTOR VEHICLE CODE

Targeted enforcement of pedestrian laws should be focused in those areas with high pedestrian volumes or where pedestrians are especially vulnerable. Law enforcement efforts should be scheduled during periods and at locations where motorists and the general public can become aware of pedestrian laws.
and their penalties. It is recommended that such targeted enforcement occur at least four times per year and last one week. Focused enforcement should also take place at the start of the school year at selected schools near their primary access points for children walking. The Berkeley Police should also be surveyed for input on appropriate educational material, advisory and warning signs, and other tools to help them accomplish their mission. Furthermore, the Berkeley Police Department should continue to produce and distribute informational flyers regarding blocking sidewalks. It is also recommended that double fines be considered for failure to stop at red lights and stop signs. Finally, it is recommended that in the event of a pedestrian fatality or injury, the Police Department and eventually the District Attorney vigorously pursue legal action against the responsible motorist.

Pedestrians are protected in the public right-of-way by the California Vehicle Code, as enforced by the Berkeley Police Department.

7.4.1. Targeted Enforcement

Law enforcement agencies can increase the presence of police near schools, senior centers, social service agency sites, or high-conflict areas in order to curb unlawful behavior. People tend to slow down and improve their driving behavior if they expect law enforcement to be present. These targeted enforcement activities can be effective but are labor intensive in that they require dedication of police officer resources in a single location. In addition, once the targeted enforcement period has ended and motorists realize that the police presence is gone, they may revert to speeding or driving unsafely. Grant funding is available for these types of programs through the California Office of Traffic Safety (http://www.ots.ca.gov).

7.4.2. Crosswalk Enforcement Operation

In a crosswalk enforcement operation, the local police department targets motorists who fail to yield to pedestrians in school crosswalks. A plain-clothes “decoy” police officer ventures into a crosswalk or crossing guard-monitored location, and motorists who do not yield are given a citation by a second officer stationed nearby. Typically, a motorcycle officer issues the citations. The police department or school district may alert the media to the crosswalk enforcement operation to increase public awareness of the issue of crosswalk safety, and news cameras may accompany the police officers to report on the operation.

7.4.3. Radar Trailer

Speed Radar Trailers can be used to reduce speeds and enforce speed limit violations in known speeding problem areas. In areas with speeding problems, police set up an unmanned trailer that displays the speed of approaching motorists along with a speed limit sign. The trailer can be used as both an educational and enforcement tool. By itself, the unmanned trailer serves as effective education to motorists about their current speed in relation to the speed limit. As an alternative enforcement measure, the police department may choose to station an officer near the trailer to issue citations to motorists exceeding the speed limit. Because they can be easily moved, radar trailers are often brought to streets where local residents have complained about speeding problems. If frequently left in the same location without officer presence, motorists may learn that speeding in that location will not result in a citation and increase their speeds.

7.4.4. Neighborhood Speed Watch

In areas where potential speeding problems have been identified by residents, a Neighborhood Speed Watch can be used to warn motorists that they are exceeding the speed limit. A radar unit is loaned out
to a designated neighborhood representative to record speed information about vehicles. The person operating the radar unit must record information, such as make, model and license number of offending vehicles. This information is sent to the local law enforcement agency having jurisdiction at the location of the violations, and the department then sends a letter to the registered vehicle owner, informing them that the vehicle was seen on a specific street exceeding the legal speed limit. Letters are typically sent out to those driving at least 5 mph over the speed limit. Although not a formal citation, the letter explains that local residents are concerned about safety for their families and encourages the motorist to drive within the speed limit.
CHAPTER 8
ACCESSIBILITY RECOMMENDATIONS

The City of Berkeley has always been at the forefront of working to improve access for persons with disabilities. Berkeley was the first city in the nation to provide curb ramps for wheelchairs, over 30 years ago. The City has a Commission on Disability, and a long-standing Disability Compliance Program within Public Works that is charged with the implementation of the necessary infrastructure to provide access to the disabled and ensure the City is in compliance with the mandates of the Americans with Disabilities Act (ADA). As a result of its ongoing efforts, the City of Berkeley was recently named the “Most Accessible City in the Nation” by a panel of disability advocates and experts.

Yet as standards have evolved over time, some of the earlier accessible facilities, including curb ramps, are in need of retrofitting or replacement. It is this replacement process and the process of ensuring that the remaining areas without facilities are addressed that is the focus of this chapter.

8.1. EXISTING PROGRAMS

8.1.1. CURB RAMP INSTALLATION AND RETROFIT

The City of Berkeley has dedicated approximately $250,000 annually to specifically address curb ramp installation and the retrofitting of ramps that are no longer compliant with ADA design standards. (Current ADA standards for curb ramps – including slopes, landing dimensions and tactile surface requirements – are discussed in Appendix B: Pedestrian Design Guidelines.) At current design and construction costs, this funding allows for the installation of approximately 100 curb ramps annually. Many of the City’s newer existing ramps were installed when the requirement for the placement of truncated domes on ramp surfaces was temporarily suspended by the ADA Access Board, a suspension which expired in 2001. Consequently, while ramps are generally up to current code requirements for slopes and landing dimensions, required tactile domes are now being added as a component of overall right-of-way improvement projects.

In future years, the process for choosing which ramp locations are retrofitted to achieve current ADA standards is likely to shift away from a process of selecting stand-alone projects, and toward one which folds ramp retrofitting into larger scale public works projects focusing on maintenance and upgrades to street infrastructure and pedestrian facilities. While not driven solely by the need for improving access for the disabled, this process has the advantage of incrementally adding the curb ramp improvement into the cost of projects already being undertaken by the Berkeley Public Works Department and therefore being more cost effective than constructing stand-alone ramp improvements.

In fiscal year 1986-87, the City started a long range Spiral Sidewalk Replacement Program, which is designed to implement sidewalk repairs in a spiral pattern outward from the City Hall to the City limits. Repairs are performed annually within areas specified by the program. Outside of the areas scheduled under the Spiral Sidewalk program are many severely damaged sidewalks which cannot be effectively addressed by patching the sidewalk area with asphalt concrete. Starting in fiscal year 1989-90, additional funding was provided on an annual basis for such repair work under the Emergency Sidewalk Project.

The City of Berkeley has adopted a policy by which the City repairs (at the City’s expense) sidewalks and driveways damaged by the growth of street-tree roots. Damages due to other causes remain the abutting property owner’s responsibility to repair, in accordance with the California Streets and Highways Code.
8.1.2. TRANSIT ACCESSIBILITY

AC Transit maintains a bus fleet equipped with accessible features in accordance with ADA requirements. Persons with disabilities and seniors citizens in Berkeley also have access to four supplementary paratransit services for increased mobility opportunities:

- East Bay Paratransit/ATC Tickets are offered in limited numbers to residents certified by East Bay Paratransit as meeting ADA criteria
- The Wheelchair/Van program provides a limited number of free van vouchers and/or free taxi scrip to wheelchair users needing wheelchair-accessible van service for rides that are unavailable in the current range of services provided by East Bay Paratransit/ATC. These services are available to those needing wheelchair lift accommodations and certified by East Bay Paratransit.
- The Taxi Scrip Program offers a limited amount of free scrip to pay for rides on conventional taxicabs, wheelchair-accessible taxicabs, vans, and other selected vehicles. Service is limited to those who meet both the criteria of being 70 years of age and are living on an income that is 30 percent or less than Area Median Average
- Medical Return Transportation Improvement Program (Mr. Trip) provides limited subsidies for taxicab or van rides to those returning from a health related appointment and is available to participants of the Wheelchair/Van Program and the Taxi Scrip Program

8.1.3. BERKELEY DISABILITY COMPLIANCE PROGRAM

The Berkeley Disability Compliance Program (BDCP) was initially established in the 1980s to implement the federal accessibility requirements of Section 504 of the Rehabilitation Act of 1973, a predecessor to the ADA. The BDCP is administered through the City’s Public Works Department. When issues pertaining to disability access are brought forward to council members or others working for the City of Berkeley, they can refer the concern directly to the BDCP to be addressed. Once an issue has been brought forth, it is entered into the City’s internal tracking database. This system of reporting and tracking helps ensure that issues are followed through to their completion. Unfortunately, the database lacks the capability to identify problems by type and to afterwards programmatically track trends.

8.2. POLICIES

8.2.1. RIGHT OF WAY ENCROACHMENT

In addition to those policies that form the basis for establishment of the programs previously noted, the City of Berkeley Municipal Code Section 16.18, Right of Way Encroachments and Encroachment Permits, regulates public rights of way. This policy seeks to maintain pathways clear of encumbrances and mandates that those responsible for the placement of barriers in the public right of way remove them. This policy is applicable to both public and private entities, including utility agencies, which are one of the primary users of the public right of way both above ground and underground.

In many cases problems result simply from lack of care or maintenance by private residents – garbage bins blocking the sidewalk and overgrown landscaping are amongst the major pedestrian and ADA barriers generated by the private sector. Despite periodic notices sent out to Berkeley residents reminding them of proper placement of garbage and recycling containers, the overall enforcement of maintaining and increasing accessibility with this method generally does not happen due to lack of assigned resources. Given other enforcement priorities, the City is generally passive in its enforcement
of this policy and is dependent upon an active citizenry to respond to and report infractions. Accordingly, easily remedied situations often go uncorrected until complaints are registered. Enforcement typically comes as a result of complaints filed with the BDCP directly or reported to the various City departments or City Council and then forwarded to BDCP. Infractions to the public right-of-way can be reported to the Office of Transportation at 510-981-7010.

**8.2.2. PROJECT DEVELOPMENT OVERSIGHT**

City of Berkeley policy requires major projects of all types to pass through the BDCP office as part of the overall project development review process. The BDCP office is empowered to approve the project as compliant with ADA mandates or to suggest project revisions. In many cases this is the only opportunity for BDCP staff to review a project prior to implementation, with the next opportunity for input generally occurring at the time of project walk-through or site inspection. This has sometimes resulted in the need to retrofit a nearly-complete project if originally suggested conformance revisions were not implemented or if changes made to the project after BDCP review result in non-compliance with ADA.

**8.3. CONDITIONS**

Not including the Berkeley Hills, ADA accessibility on Berkeley streets is over 90 percent compliant with only small pockets remaining to be brought up to ADA standards. These areas include: Bateman Street, Virginia Gardens and portions of the area bounded by San Pablo Avenue, Cedar Street, Sixth Street, and Gilman Avenue. The Berkeley Hills have a large area of non-compliance due to topography, discussed below.

**8.3.1. NON-COMPLIANT AREAS**

Virginia Gardens, near the North Berkeley BART Station, and Bateman Street, near Alta Bates Hospital, are both very narrow streets with three foot wide sidewalks. These sidewalks provide access to those living along the streets, but otherwise do not serve as connectors in the larger street network. Upgrading these small streets to ADA standards given the current street right of way is not likely without the residents providing an easement solely for that purpose, and at present there is no foreseen resolution to bringing these small, one-block segments into compliance. Several areas in the section bounded by San Pablo Avenue, Cedar Street, Sixth Street, and Gilman Avenue have no sidewalks whatsoever, a vestige of a previous era when this was primarily an industrial area. Plans are currently being developed by the Public Works Department to install ADA compliant pedestrian facilities in this area.

**8.3.2. BERKELEY HILLS**

The northeast Berkeley Hills, particularly the area east of Grizzly Peak and between Shasta and La Loma east of Euclid Street, is the largest geographic area in Berkeley that lacks pedestrian and ADA facilities. The steep topography and the narrow winding streets built before ADA requirements provide limited opportunity to construct standard curbs, gutters and sidewalks with curb ramps on many segments. The City has installed sidewalks and ADA curb ramps along most of the major roadways in the hills, including Spruce, Euclid and Marin. Many of the local roads adjacent to these streets have sidewalks, as well. However, for many of the minor side streets in the eastern parts of the hills, full sidewalk and curb ramp upgrades are not feasible.

One important note regarding the Berkeley Hills is the presence of the historic pathway and step network, which provides routes of direct pedestrian access down from the hills to the flatlands. These pathways serve as important pedestrian access facilities, and are acknowledged to be important
emergency evacuation routes from the hills. However, most of these historic pathways are wood or concrete staircases that are not ADA compliant and it would be infeasible to make them ADA compliant. For persons with disabilities, it is important that other means of access to the hills are available, including transit/paratransit, and that large-scale Berkeley Hills emergency evacuation plans include provisions to provide transportation for those with disabilities or who are otherwise unable to use the pathway network.

8.4. RECOMMENDATIONS

8.4.1. THE BERKELEY PEDESTRIAN MASTER PLAN PROJECTS

This document, the Berkeley Pedestrian Master Plan, has a number of high-priority, site-specific projects designed to increase the safety of pedestrians traversing Berkeley City streets, discussed in Chapter 6. In addition to these specific projects, this Master Plan identifies accessibility and safety deficiencies at intersections on all the City’s major streets as part of a comprehensive program to improve conditions along these thoroughfares. Specific, consistently applied elements of this program include:

- ADA compliant curb ramps
- Truncated tactile domes and advance stop bars at all regulated intersections
- Countdown pedestrian signals at signalized intersection
- High visibility crosswalks and warning signage at uncontrolled intersections
- Bulbouts to reduce crossing distances and serve as traffic calming measures
- Installation and standardization of Accessible Pedestrian Signals (APS)

The implementation of the High Priority Projects at these major pedestrian activity sites, comprising the vast majority of such sites within Berkeley, will result in an enhanced pedestrian environment for all Berkeley residents, including persons with disabilities.

8.4.2. BERKELEY PUBLIC WORKS AND PLANNING STAFF ADA TRAINING

As the department responsible for the implementation of all infrastructure, including accessibility measures, the Berkeley Public Works Department is a critical player in ensuring that the City of Berkeley is moving towards full compliance with ADA requirements. The Planning Department plays an equally important role in ADA compliance in terms of development review and municipal code compliance. In order to ensure that Public Works and Planning staff are fully versed in ADA compliance, it is recommended that all engineers and planners with duties that include public rights of way infrastructure, plan review and code compliance, undergo ADA facilities training. A training session to familiarize staff with key issues and concerns of access for the disabled community would go a long way towards proactively identifying barriers, and assist staff in the field with identifying these barriers. This would include but not be limited to, specific infractions of the City of Berkeley Municipal Code Section 16.18, Right of Way Encroachments and Encroachment Permits. The assessment portion of this program would be minimal in terms of time requirements after initial training, as it would only necessitate that staff be observant of barriers while in the field, recording and passing on that information to the Berkeley Disability Compliance Program for resolution.
8.4.3. TRACKING PROGRAM

An important tool that could help shape future programs and policies aimed at providing greater access for the disabled community within Berkeley would be a tracking system to monitor ongoing compliance efforts, issues resolution and other trends. Several options are possible for developing such a tracking system.

- An independent tracking system administered through the Berkeley Disability Compliance Program. This system would assist in a detailed programmatic approach to addressing issues such as installation of upgraded facilities, as well as items that are encroaching onto the sidewalk through-zone. Similarly, this program could monitor problematic infrastructure installation by utilities or City agencies to ensure that all new and replacement infrastructure is conducive to and enhances accessibility.
- Modification of the current internal city tracking system to enable type- and issue-specific categorization and searches.
- Adding to the functionality of the system to allow ongoing tracking of trends. The added benefit of this recommendation is that similar tracking opportunities would be available to other City of Berkeley departments and programs.
- A combination of the above options which would feed more robust data into a tracking system managed by the Berkeley Disability Compliance Program.

8.4.4. EXPANDED BDCP PROJECT OVERSIGHT

The project oversight function performed by the Berkeley Disability Compliance Program is critical to ensure that projects are compliant with ADA requirements. In order to improve this oversight, it is recommended that specific guidelines be developed for thresholds of project review triggered by specific type and size of projects. Furthermore, additional review of projects when revisions are recommended by the Berkeley Disability Compliance Program would ensure that revisions are followed appropriately, and allow re-review if changes are made to an originally approved project.

8.4.5. BERKELEY HILLS ACCESS PROGRAM

The Berkeley Hills would benefit from an expansion of the Berkeley Paratransit Services for Senior Citizens and Persons with Disabilities. Providing eligible residents of the Berkeley Hills area with a greater level of service would potentially offer mitigation to the current ADA deficits in the Berkeley Hills area and would, in all probability, be more cost effective and less contentious than building sidewalks along all roadways. Alternatively, a hybrid solution that would provide enhanced paratransit services while also upgrading several key corridors within the Berkeley Hills to ADA standards would provide greater mobility options for all Berkeley Hills residents.
8. Accessibility Recommendations

This Page Left Intentionally Blank.
CHAPTER 9
ZONING AND DESIGN REVIEW RECOMMENDATIONS

The amount of walking in any city is related primarily to its mix and density of land uses, along with urban design features within the public right-of-way. In Berkeley, as in other cities, land use and urban design is guided by the General Plan and related documents such as the Zoning Ordinance. A community’s land use and development code can be structured to ensure the creation of an excellent pedestrian environment. An efficient policy and code system can help reduce reliance on the automobile, encourage alternative modes of transportation, improve the pedestrian environment and increase safety. Ensuring a pedestrian friendly, compact, walkable community requires a dense mix of land uses, ample access to services and good transit opportunities.

This chapter provides an overview of Berkeley’s existing Zoning Code and Design Review Guidelines and recommends potential amendments to these documents that would increase the pedestrian-focus of new developments and existing developments that are being modified. As the City of Berkeley continues to build and enhance its pedestrian environment, specific zoning solutions to enhance the pedestrian environment should be included in updates and revisions to the land use element, circulation element, zoning code, engineering standards, and design guidelines and applied at the site design review level to new development, redevelopment and capital improvements.

9.1. REVIEW OF EXISTING ZONING

Berkeley’s zoning code has many of the elements needed to produce a pedestrian-friendly environment. Title 23 contains the Zoning Ordinance within the Municipal Code and includes several requirements affecting new development and the pedestrian environment:

- Zoning Code 23E.08.010 Establishes a design review for all non-residential uses to “Encourage excellence in design and to ensure that new construction and alterations to existing buildings are compatible with the best elements of the existing character of the area, in order to provide a pleasing urban environment for Berkeley residents, pedestrians and building occupants”

- The Zoning Code contains designations for several Zoning Districts that support pedestrian use, including a mix of uses, multi-family residential, and commercial zoning districts for Shattuck Avenue, Telegraph Avenue, Solano Avenue, West Berkeley, and Central Berkeley. Certain non-residential neighborhood amenities are allowed in residential areas (e.g. parks, libraries, schools, community centers) with increased uses allowed in higher residential zones.

- Zoning Code 23E.28.140 allows reductions in off-street parking requirements for commercial and manufacturing uses located near transit or a public parking lot, for neighborhood-serving commercial and for locations where there is sufficient on-street parking.

---

1 The term “pedestrian” refers to a person moving from place to place, on foot and/or with the use of an assistive mobility device (when that person has a disability and/or medical condition). “Walking” or “to walk” are the terms used to describe this movement of a pedestrian.
- Zoning Code 23E.24 outlines requirements for issuance of an Authorized Use Permit for Sidewalk Café Seating. Sidewalk Café Seating is not permitted unless an AUP is issued. Sidewalk seating should allow a 6-foot minimum horizontal clear space.

- Zoning Code 23E.26 outlines requirements for placement of sidewalk benches and planters, including the requirement to maintain a 6-foot minimum horizontal clear space.

9.2. DESIGN REVIEW

All projects in non-residential districts in the City of Berkeley and commercial and mixed-use projects within the R-4 District are required to undergo Design Review before permits can be issued. Design review for projects that affect historic landmarks is conducted by the Landmarks Preservation Committee and design review for other projects is conducted by the Design Review Committee. The intention of Design Review is to encourage design excellence, ensure that new development and alterations are in character with an area, and to provide a pleasing environment for residents, pedestrians, and building occupants. The Design Review process does not focus on land use issues, but rather design issues.

Design Review Guidelines include requirements for building and parking siting, street facades, landscaping and open space, and circulation. Pedestrian-related elements of the Design Review Guidelines are listed in Table 9-1, Pedestrian-Related Design Review Guidelines.

Table 9-1
Pedestrian-Related Design Review Guidelines

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Number</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Building and Parking Siting</strong></td>
<td>A.1.b.</td>
<td>For usual lot shapes and locations, the building footprint should allow for corners and spaces that can be used by pedestrians.</td>
</tr>
<tr>
<td></td>
<td>A.1.c.</td>
<td>Whenever possible parking should be behind buildings, underground, or in a central court.</td>
</tr>
<tr>
<td></td>
<td>A.3.</td>
<td>Conflict with pedestrian circulation should be prevented by the proper location and design of auto entrances.</td>
</tr>
<tr>
<td><strong>B. Street Facades</strong></td>
<td>B.2.</td>
<td>Street facades in general and the ground floor level in particular should include elements of pedestrian scale and three-dimensional interest.</td>
</tr>
<tr>
<td></td>
<td>4.b.</td>
<td>Secondary building accessories such as garbage receptacles, utility meters and mechanical and electrical equipment should be screened from the view of pedestrians.</td>
</tr>
<tr>
<td></td>
<td>B.7.</td>
<td>Large, unarticulated expanses of any particular wall material that deaden the pedestrian environment should be avoided. The use of clear windows for ground floor retail project is encouraged. Walls designed to allow sitting areas for pedestrians or space for landscaping and artwork are encouraged, especially in areas of heavy pedestrian use. Landscaping and/or artwork should be maximized if large expanses of wall must be left devoid of openings.</td>
</tr>
<tr>
<td><strong>C. Landscaping and Open Space</strong></td>
<td>C.2.</td>
<td>The provision of planters, trees, ground covers, and shrubs with automatic watering systems is encouraged where they do not impede pedestrian movement and where the building owner and/or tenant will provide continuing</td>
</tr>
</tbody>
</table>
### 9. Zoning and Design Review Recommendations

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Number</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.3</td>
<td>Sidewalk areas should include landscaping that is coordinated with the neighborhood design. The consistent use of one species of tree along a street or block is encouraged. Paving materials may be varied but must create a pattern that is sensible in terms of cues for people who have visual impairments.</td>
<td></td>
</tr>
<tr>
<td>C.4</td>
<td>If parking is not placed underground, behind buildings, or in interior courts, it should incorporate adequate landscaping or artwork for visual screening. Screening should not interfere with pedestrian safety. When adjacent to public sidewalks, parking areas should include walls, beaming, artwork, or shrubbery that is at least three feet, but no more than four feet, in height between the sidewalk and the first row of parked cars. Parking areas should include setbacks for landscaping and/or artwork to minimize visibility of parked cars, especially from the street.</td>
<td></td>
</tr>
<tr>
<td>C.5</td>
<td>The inclusion of public open spaces is encouraged as a means of providing places for people to come together for community interaction and enlivening the pedestrian environment. These spaces should be wheelchair accessible and the entrances should be visible from the street. Such amenities as artwork, patios with benches, fountains with nearby sitting areas, and interior courtyards are encouraged. These open space areas should be located to take advantage of winter and afternoon sunlight, and to protect from prevailing winds. Roof plazas and gardens are encouraged.</td>
<td></td>
</tr>
</tbody>
</table>

**D. Circulation**

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Number</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.1</td>
<td>Shared parking facilities are encouraged whenever possible to minimize the number of curb cuts. Driveways should be designed to have minimum interference with pedestrian traffic flow.</td>
<td></td>
</tr>
<tr>
<td>D.2</td>
<td>Pedestrian paths and arcades interior to the block that join different parts of buildings as well as different streets are encouraged. These paths should be lighted, should not contain blind corners, and should be marked for a clear understanding of direction and destination points. Entry points to the pathways and arcades should be defined by architectural elements such as gateways, change in paving materials, signage, and artwork.</td>
<td></td>
</tr>
<tr>
<td>D.3</td>
<td>Entrance points should be clearly defined and easily identifiable by pedestrians via appropriate locations and elements such as awnings, signage, artwork, or changes in paving material to define the entry point. Buildings on corner lots are encouraged to incorporate a cut away entrance to improve visibility and pedestrian circulation.</td>
<td></td>
</tr>
<tr>
<td>D.4</td>
<td>Where appropriate, remodeling of adjacent transit loading points may be desirable. Transit loading points should be designed to provide protection for transit users in inclement weather. Adequate room should be provided for transit loading so that pedestrian traffic is not interrupted.</td>
<td></td>
</tr>
<tr>
<td>D. 5</td>
<td>All pedestrian drop-off zones should have curb ramps in association with the zone to allow a person using a wheelchair access to the sidewalk from the street as required by code.</td>
<td></td>
</tr>
</tbody>
</table>

### 9.3. COMPARISON WITH OTHER CITIES

Land use patterns in Berkeley are the result of a combination of history, geography, and past planning efforts. Berkeley’s pedestrian-oriented structure developed during the streetcar era, and the preservation of its pedestrian-friendly structure is largely the result of specific planning and urban design efforts by the City to preserve and enhance the pedestrian environment. Berkeley’s zoning code compares favorably with other pedestrian-oriented codes, such as Portland, Oregon, and San Diego. Portland completed one of the first and most comprehensive pedestrian plans in the late 1990s. San Diego completed a pedestrian guideline plan in 2001.
9. Zoning and Design Review Recommendations

Portland suggests limiting the provision of parking to support alternative transportation and efficient use of land, while San Diego offers reductions in parking requirements if bicycle parking is provided. Portland allows for a reduction in parking for transit-proximate land uses. Berkeley includes parking reductions for projects located near transit, residential projects for seniors, and for certain neighborhood-serving retail uses.

Portland provides incentives for and regulations of sidewalk activities such as cafes and vendors. Berkeley allows sidewalk activities such as sidewalk sales and cafe seating. Berkeley’s zoning code requires that cafe seating be authorized by an Administrative Use Permit (AUP) that it would not interfere with pedestrian traffic or with public employee access to street hardware. An AUP may be denied if sidewalk seating would not leave a minimum horizontal clearance of six feet. Berkeley should provide incentives for sidewalk seating, or expedited review for certain zoning districts.

Portland has regulations that allow for special setbacks to increase visibility and safety of pedestrians and motorists, improve the appearance of the corridor and reduce visual clutter. Berkeley’s setbacks are specific to each Zoning District and range between 10 to 20 feet. Berkeley should include exceptions to these setbacks as Portland has done.

9.4. REQUIREMENTS AND INCENTIVES

As part of the General Plan update process, the city should include new incentives and requirements to help ensure that new development or redevelopment projects include pedestrian features and design elements identified in the Pedestrian Master Plan. For example, the City may allow reduced parking requirements for specific development types or in areas in exchange for contributions to pedestrian improvements both on and adjacent to the development site. The City should continue to review potential impacts to pedestrians as part of the development review and CEQA process, and ensure that adequate provisions and mitigations are provided that are consistent with the city’s goals and policies.

9.5. POTENTIAL ZONING ENHANCEMENTS

The above excerpts from Berkeley’s Zoning Code and Design Guidelines highlight some of the ways pedestrian amenities are currently provided. Table 9-3, Potential Zoning and Design Guideline Enhancements, provides recommendations for improving Berkeley’s Zoning Code and Design Guidelines. The following concepts are drawn from a variety of published sources and represent elements that help make a new development project pedestrian-friendly. The recommendations are intended to supplement, not replace, Berkeley’s existing Zoning Ordinance and Design Guidelines.

Table 9-2 Comparison of Pedestrian Zoning Elements provides a comparison between pedestrian-related zoning elements in Berkeley, Portland and San Diego.
### Table 9-2
Comparison of Pedestrian Zoning Elements

<table>
<thead>
<tr>
<th>Pedestrian Zoning Elements</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Berkeley</td>
</tr>
<tr>
<td>Blocks</td>
<td>Block size is not addressed by the zoning code.</td>
</tr>
<tr>
<td></td>
<td>Requirements regulate the amount and location of open areas and walkways on large commercial sites where streets have been vacated. The intent is to promote a pleasant and convenient walkway and open area system on the superblock that links to the adjacent buildings, to the public circulation system and to any available public transit. The requirements also promote the maintenance of light, air and access that could be lost due to development on the vacated street.</td>
</tr>
<tr>
<td>Streets</td>
<td>Street design is not addressed by the zoning code.</td>
</tr>
<tr>
<td></td>
<td>Code contains design suggestions that aim to promote vehicle areas that are safe and attractive for motorists and pedestrians.</td>
</tr>
<tr>
<td>Parking</td>
<td>In residential areas, a 75 percent off-street parking reduction is permitted for senior group housing. Parking reductions are permitted for commercial and manufacturing uses that are proximate to transit stops, near a publicly owned parking lot, for neighborhood-serving commercial, or if sufficient on-street parking is available during business hours. Additionally, the parking reduction must either support alternative transportation or Code suggests limiting the number of parking spaces allowed to promote efficient use of land, enhance urban form and encourage use of alternative modes of transportation, which provides for better pedestrian movement, and protects air and water quality. Code offers incentives for reduced parking in exchange for pedestrian and transit supportive amenities or increased bicycle parking. Code also addresses shared parking requirements,</td>
</tr>
<tr>
<td></td>
<td>Requirements include allowing bicycle parking in lieu of automobile spaces and requiring businesses to provide shower facilities for employees who choose to commute via bicycle. Code also addresses extended no-parking zones for pedestrian visibility and strict requirements for parking lot pedestrian paths, landscaping and screening.</td>
</tr>
</tbody>
</table>
### 9. Zoning and Design Review Recommendations

<table>
<thead>
<tr>
<th>Pedestrian Zoning Elements</th>
<th>Berkeley</th>
<th>Portland</th>
<th>San Diego</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zoning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>be complemented by a transportation demand management strategy. Parking reductions require the issuance of an AUP. Payment of an in-lieu parking fee is permitted for areas with a public parking fund.</td>
<td>short and long-term bicycle parking facility design, construction, and security.</td>
<td></td>
</tr>
<tr>
<td><strong>Transit</strong></td>
<td>In commercial and manufacturing districts, minimum off-street parking requirements can be reduced for uses located within 1/3 mile of a transit stop.</td>
<td>Requirements waive minimum off-street parking requirements for areas proximate to transit to promote pedestrian activity. Requirements address designated transit lanes.</td>
<td>Code suggests basic radii between transit stations.</td>
</tr>
<tr>
<td><strong>Sidewalks</strong></td>
<td>Includes regulations for allowing sidewalk café seating and sidewalk sales. A 6-foot minimum horizontal clearance is required. Sidewalk design is not addressed by the zoning code.</td>
<td>Includes regulations for allowing sidewalk cafes and sidewalk vendors (kiosks).</td>
<td>Requirements regulate basic widths of pedestrian walkways and include details for ADA compliant sidewalks.</td>
</tr>
<tr>
<td><strong>Building Site Design</strong></td>
<td>Minimum building setbacks, minimum lot sizes, and required yard frontages are designated by District. Accessory dwelling units are permitted by right, and must be authorized by a use permit. The zoning code restricts fencing height and type, (varies between 4’-6; depending on district). Height restrictions vary by district from 2 stories in single-family residential to 6 stories in the downtown area. Most height restrictions are 3 stories. Higher stories are required to have a larger setback from the street. Berkeley’s zoning code has a provision for design review to ensure that new construction and alterations to existing buildings “provide a pleasing urban environment for Berkeley pedestrians”</td>
<td>Regulations allow for special street setbacks that aim to increase visibility and safety for pedestrians and drivers, provide a pleasant pedestrian environment and human scale, improve the appearance of the corridor and reduce visual clutter, maintain adequate space for the growth of large street trees, and maintain adequate light and air.</td>
<td>Requirements regulate maximum setbacks and minimum street frontages for all zoning designations.</td>
</tr>
</tbody>
</table>
### Table 9-3
**Potential Zoning and Design Guideline Enhancements**

<table>
<thead>
<tr>
<th>Zoning and Site Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Requirements: The impact assessment of any new project should include an assessment of pedestrian trip generation, an assessment of proportional financial responsibility for pedestrian improvements identified in the Pedestrian Master Plan both within and adjacent to the community, and linkages to transit.</td>
</tr>
<tr>
<td>- Zero Lot Lines: New buildings should be located directly on sidewalks (zero front lot line) in the downtown and higher density commercial zones.</td>
</tr>
<tr>
<td>- Building Entrances: Main entries should be located on the major abutting street rather than a parking area.</td>
</tr>
<tr>
<td>- Landscaping: Proposed landscaping should be designed so as not to uproot sidewalks or obscure visibility especially at driveways and intersections. Trees of heights and patterns complimentary to pedestrians—including providing shade and adequate vertical clearance—should be used.</td>
</tr>
<tr>
<td>- Sight Lines: Ensure unimpeded pedestrian and motorist sight lines by enforcing the maintenance and appropriate placement of shrubbery and other visual obstacles.</td>
</tr>
<tr>
<td>- Amenities: Larger projects with pedestrian areas should provide benches, seating areas, access to restrooms, strategically located garbage receptacles, and fully screened garbage bins.</td>
</tr>
<tr>
<td>- Vertical Expansion: Encourage vertical expansion to increase floor area and provide opportunities for large retailers.</td>
</tr>
<tr>
<td>- Pedestrian Lighting: For new developments, pedestrian-scale lighting should be provided adjacent to the project and within the parking area.</td>
</tr>
<tr>
<td>- Special Pedestrian Zones: In pedestrian activity zones including Downtown but also transit nodes and other locations, provide special paving to alert and guide people, enhanced protection at busy crossing locations, expanded drop-off and transit zones, special signing to guide and inform visitors, street names engraved into the sidewalk, and the use of special events and street closures.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Circulation and Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Continuous Walkways: All new development projects should provide continuous passages for pedestrians wherever possible and needed.</td>
</tr>
<tr>
<td>- Public Buildings: All new and rehabilitated public buildings in Berkeley, including schools, should include adequate pedestrian access and internal circulation, and proportional contribution to pedestrian improvements on immediate access routes.</td>
</tr>
<tr>
<td>- Parking Lots and Pedestrian Access: Pedestrian access should be provided through parking lots on delineated walkways, providing a direct connection to public streets and transit stops. Orient parking aisles towards the main building entrance so pedestrians do not need to cross multiple aisles. Provide raised crosswalks in larger parking lots to help slow traffic and alert motorists. Provide adequate lighting and drainage.</td>
</tr>
<tr>
<td>- Barriers: Ensure there are no physical barriers to pedestrian circulation or access.</td>
</tr>
<tr>
<td>- Site Access and Driveways: Driveways should be located away from existing intersections to provide sufficient visibility for and of pedestrians. Plan reviews should include traffic calming at commercial driveways.</td>
</tr>
<tr>
<td>- Parking Queues: Ensure that parking lots and garages provide sufficient queuing area and an adequate operating system to minimize vehicles stopping on sidewalks, and adequate sight distance for vehicles leaving these facilities.</td>
</tr>
<tr>
<td>- Parking Location: Parking should be located on the side or behind new buildings, not in front of them. Structured parking should be located below grade if possible, or provide ground floor retail or other uses.</td>
</tr>
<tr>
<td>- Loading Docks: Freight access to a building should be located away from pedestrian walkways.</td>
</tr>
<tr>
<td>- Drop-off Zones: Provide adequate pedestrian drop-off (No Parking) zones directly in front of a building’s main entrance, including curb ramps that allow wheelchair access to the sidewalk as required by City code.</td>
</tr>
</tbody>
</table>
This Page Intentionally Left Blank
CHAPTER 10
IMPLEMENTATION AND FUNDING

This chapter focuses on implementation and funding for the Pedestrian Master Plan\(^1\). This plan sets out an ambitious list of projects to be implemented over the next 20 years.

10.1. ROLE OF PEDESTRIAN MASTER PLAN

The Pedestrian Master Plan and future updates should serve as the primary guide in the allocation of capital, maintenance, administrative, and matching funds. The Plan is also designed to provide staff and the public with flexibility as opportunities and needs arise.

The Pedestrian Master Plan will be updated every five years as needed to reflect changes in needs and conditions. As part of this update, information on cost, feasibility, need, and other items should be included in the analysis of priorities and identification of projects.

10.2. CAPITAL IMPROVEMENT PROGRAM

Pedestrian projects and enhancements identified in this Pedestrian Master Plan and in future revisions should be included in the City’s Capital Improvement Program. This may be accomplished by a combination of funding capital and maintenance efforts, providing matching monies for competitive grants, and/or integrating pedestrian features into larger public projects. The City’s Bicycle and Pedestrian Planner should continue to evaluate pedestrian complaints and make recommendations for improvements.

The City will actively seek competitive grant sources and allocate adequate matching monies to implement pedestrian projects. In particular, funding sources outside of the Street Rehabilitation Program should be secured.

10.2.1. COST ELEMENTS

A summary of projected cost estimates is presented in the following tables. Each of the major programs is presented in a separate table, along with an estimate of the capital or annual cost. All cost estimates are capital costs at a planning level and the amounts are subject to further refinement once feasibility and engineering work has been completed, or as budget conditions change within the City.

Pedestrian unit costs are presented in Table 10-1. These costs are the basis for the planning-level cost estimates used in the following tables. Cost estimates are in 2007 dollars.

---

\(^1\) The term “pedestrian” refers to a person moving from place to place, on foot and/or with the use of an assistive mobility device (when that person has a disability and/or medical condition). “Walking” or “to walk” are the terms used to describe this movement of a pedestrian.
## 10. Implementation and Funding

### Table 10-1
**Pedestrian Improvement Basic Unit Costs**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add Striping</td>
<td>LF</td>
<td>$2</td>
</tr>
<tr>
<td>Bench</td>
<td>EA</td>
<td>$2,000</td>
</tr>
<tr>
<td>Bulbout - Additional installments at intersection</td>
<td>EA</td>
<td>$50,000</td>
</tr>
<tr>
<td>Bulbouit - First installment at intersection</td>
<td>EA</td>
<td>$100,000</td>
</tr>
<tr>
<td>Bus Stop (Shelter, Bench, Curb Cut, Bus Pad)</td>
<td>EA</td>
<td>$40,000</td>
</tr>
<tr>
<td>Class I Path Construction</td>
<td>LF</td>
<td>$100</td>
</tr>
<tr>
<td>Concrete Planter Bollards</td>
<td>EA</td>
<td>$200</td>
</tr>
<tr>
<td>Concrete Sidewalk/Island</td>
<td>SF</td>
<td>$9</td>
</tr>
<tr>
<td>Countdown Signal Heads</td>
<td>EA</td>
<td>$800</td>
</tr>
<tr>
<td>Crosswalk - High Visibility</td>
<td>EA</td>
<td>$1,200</td>
</tr>
<tr>
<td>Crosswalk – In-Pavement Flashing Lights</td>
<td>EA</td>
<td>$75,000</td>
</tr>
<tr>
<td>Crosswalk - Transverse</td>
<td>EA</td>
<td>$500</td>
</tr>
<tr>
<td>Curb &amp; Gutter</td>
<td>LF</td>
<td>$35</td>
</tr>
<tr>
<td>Curb Ramp Retrofit (diagonal, per corner)</td>
<td>EA</td>
<td>$2,000</td>
</tr>
<tr>
<td>Curb Ramp Retrofit (perpendicular, per corner)</td>
<td>EA</td>
<td>$5,000</td>
</tr>
<tr>
<td>Lighting, In-pavement luminaires (includes electric service)</td>
<td>EA</td>
<td>$2,050</td>
</tr>
<tr>
<td>Lighting, Pedestrian-scale lighting mounted on existing cobra head (includes electric service)</td>
<td>EA</td>
<td>$1,528</td>
</tr>
<tr>
<td>Median Nose Addition</td>
<td>EA</td>
<td>$1,400</td>
</tr>
<tr>
<td>Median Nose Reduction</td>
<td>EA</td>
<td>$2,000</td>
</tr>
<tr>
<td>Mid-block crossing barrier</td>
<td>LF</td>
<td>$30</td>
</tr>
<tr>
<td>Move Traffic Signal</td>
<td>EA</td>
<td>$200,000</td>
</tr>
<tr>
<td>Parking Restrictions -- Red Curb</td>
<td>EA</td>
<td>$20</td>
</tr>
<tr>
<td>Ped Push Button</td>
<td>EA</td>
<td>$800</td>
</tr>
<tr>
<td>Ped Signal, Audible</td>
<td>PER CORNER</td>
<td>$1,000</td>
</tr>
<tr>
<td>Pedestrian Median Refuge Island</td>
<td>EA</td>
<td>$30,000</td>
</tr>
<tr>
<td>Pedestrian Scramble</td>
<td>EA</td>
<td>$50,000</td>
</tr>
<tr>
<td>Pedestrian-scale Lighting</td>
<td>LF</td>
<td>$250</td>
</tr>
<tr>
<td>Reduce Curb Radii – Additional installments</td>
<td>EA</td>
<td>$30,000</td>
</tr>
<tr>
<td>Reduce Curb Radii – First installment</td>
<td>EA</td>
<td>$80,000</td>
</tr>
<tr>
<td>Remove Curb</td>
<td>LF</td>
<td>$4</td>
</tr>
<tr>
<td>Remove Striping</td>
<td>LF</td>
<td>$1</td>
</tr>
<tr>
<td>Resurface Sidewalk - 5' Wide</td>
<td>LF</td>
<td>$40</td>
</tr>
<tr>
<td>Sidewalk - 10' Wide</td>
<td>LF</td>
<td>$90</td>
</tr>
<tr>
<td>Sidewalk - 5' Wide</td>
<td>LF</td>
<td>$45</td>
</tr>
<tr>
<td>Sidewalk Widening</td>
<td>LF</td>
<td>$46</td>
</tr>
<tr>
<td>Signs, In-Pavement Yield to Pedestrian Signs</td>
<td>EA</td>
<td>$200</td>
</tr>
<tr>
<td>Signs, Overhead Beacon</td>
<td>EA</td>
<td>$50,000</td>
</tr>
<tr>
<td>Signs, Speed Feedback</td>
<td>EA</td>
<td>$10,000</td>
</tr>
</tbody>
</table>
10. Implementation and Funding

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signs, Warning</td>
<td>EA</td>
<td>$200</td>
</tr>
<tr>
<td>Stop Limit Bars/ Yield Teeth (per lane)</td>
<td>EA</td>
<td>$300</td>
</tr>
<tr>
<td>Trash Receptacle</td>
<td>EA</td>
<td>$1,200</td>
</tr>
<tr>
<td>Trees</td>
<td>EA</td>
<td>$800</td>
</tr>
<tr>
<td>Truncated Domes (retrofit plastic)</td>
<td>EA</td>
<td>$800</td>
</tr>
</tbody>
</table>

10.2.2. CITYWIDE PROJECT COSTS

Costs for the citywide projects are shown in Table 10-2. Costs are shown for the total improvements recommended in the plan, and then an average cost over 20 years is shown. Some of the lower cost improvements such as signage and crosswalk restriping would likely be done in a phased corridor approach in less than 20 years. The total cost for the citywide projects is estimated at approximately $5.6 million, with the high costs attributed to the Perpendicular Curb Ramp projects, Truncated Dome Retrofit projects, Class I Multi-Use Trail projects, and Sidewalk Infill projects.

Table 10-2
Citywide Project Costs

<table>
<thead>
<tr>
<th>Project Category Name</th>
<th>Total Cost</th>
<th>Average Annual Cost over 20 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidewalk Gap Infill</td>
<td>$1,660,968</td>
<td>$83,048</td>
</tr>
<tr>
<td>Perpendicular Curb Ramp Retrofit</td>
<td>$895,000</td>
<td>$45,000</td>
</tr>
<tr>
<td>ADA Truncated Domes Retrofit</td>
<td>$639,200</td>
<td>$32,000</td>
</tr>
<tr>
<td>Crosswalk and Warning Signage Improvements</td>
<td>$39,000</td>
<td>$1,950</td>
</tr>
<tr>
<td>Signal Timing Adjustments</td>
<td>No Capital Cost</td>
<td>N/A</td>
</tr>
<tr>
<td>Countdown Signal Installation</td>
<td>$97,600</td>
<td>$4,880</td>
</tr>
<tr>
<td>Audible Signal Installations</td>
<td>$63,000</td>
<td>$3,100</td>
</tr>
<tr>
<td>High Visibility Crosswalk Markings</td>
<td>$199,200</td>
<td>$9,960</td>
</tr>
<tr>
<td>Parking Restrictions (Red Curbs)</td>
<td>$109,440</td>
<td>$5,472</td>
</tr>
<tr>
<td>Speed Feedback Signs</td>
<td>$70,000</td>
<td>$3,500</td>
</tr>
<tr>
<td>Historic Pathway Projects</td>
<td>$232,000</td>
<td>$11,600</td>
</tr>
<tr>
<td>Class I Multi-Use Path Projects</td>
<td>$1,575,000</td>
<td>$78,800</td>
</tr>
<tr>
<td>Stop Bars at Signalized Intersections</td>
<td>$104,400</td>
<td>$5,220</td>
</tr>
<tr>
<td><strong>TOTAL COST CITYWIDE PROJECTS</strong></td>
<td><strong>$5,684,808</strong></td>
<td><strong>$284,530</strong></td>
</tr>
</tbody>
</table>

10.2.3. PRIORITY INTERSECTION, CROSSWALK AND CORRIDOR PROJECT COSTS

Costs for the intersection, corridor and standalone projects are presented in Table 10-3. The total cost for these improvements is estimated at $9 million. The costs for these major projects may vary considerably depending on a variety of conditions and assumptions. Further feasibility and design work are required to refine these estimates.
Table 10-3
Priority Intersection and Corridor Project Costs

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Location</th>
<th>Project Type</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University from San Pablo to 6th Street</td>
<td>Corridor Improvement</td>
<td>$552,000</td>
</tr>
<tr>
<td>2</td>
<td>University and Shattuck</td>
<td>Intersection Improvement</td>
<td>$24,200</td>
</tr>
<tr>
<td>3</td>
<td>Ashby BART Station Improvements</td>
<td>Safe Routes to Transit</td>
<td>$445,600</td>
</tr>
<tr>
<td>4</td>
<td>Sacramento from University to Addison</td>
<td>Corridor Improvement</td>
<td>$634,800</td>
</tr>
<tr>
<td>5</td>
<td>Acton from Addison to University</td>
<td>Corridor Improvement</td>
<td>$265,000</td>
</tr>
<tr>
<td>6</td>
<td>Martin Luther King Jr. Way from Allston to</td>
<td>Corridor Improvement</td>
<td>$626,000</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>University and Milvia</td>
<td>Intersection Improvement</td>
<td>$100,000</td>
</tr>
<tr>
<td>8</td>
<td>Ashby from California to San Pablo</td>
<td>Corridor Improvement</td>
<td>$420,700</td>
</tr>
<tr>
<td>9</td>
<td>Alcatraz and Adeline</td>
<td>Intersection Improvement</td>
<td>$142,000</td>
</tr>
<tr>
<td>10</td>
<td>Shattuck between Vine and Hearst</td>
<td>Corridor Improvement</td>
<td>$640,400</td>
</tr>
<tr>
<td>11</td>
<td>Shattuck from Russell to Ward</td>
<td>Corridor Improvement</td>
<td>$550,880</td>
</tr>
<tr>
<td>12</td>
<td>San Pablo from Addison to Bancroft</td>
<td>Corridor Improvement</td>
<td>$214,200</td>
</tr>
<tr>
<td>13</td>
<td>Bancroft at Oxford</td>
<td>Intersection Improvement</td>
<td>$16,400</td>
</tr>
<tr>
<td>14</td>
<td>Solano from Colusa to The Alameda</td>
<td>Corridor Improvement</td>
<td>$601,900</td>
</tr>
<tr>
<td>15</td>
<td>San Pablo and Delaware</td>
<td>Intersection Improvement</td>
<td>$168,000</td>
</tr>
<tr>
<td>16</td>
<td>Shattuck at Berkeley Way</td>
<td>Intersection Improvement</td>
<td>$253,200</td>
</tr>
<tr>
<td>17</td>
<td>University and Grant</td>
<td>Intersection Improvement</td>
<td>$300,200</td>
</tr>
<tr>
<td>18</td>
<td>College from Ashby to Russell</td>
<td>Corridor Improvement</td>
<td>$111,200</td>
</tr>
<tr>
<td>19</td>
<td>The Alameda/MLK and Hopkins</td>
<td>Intersection Improvement</td>
<td>$330,000</td>
</tr>
<tr>
<td>20</td>
<td>Shattuck and Woolsey</td>
<td>Intersection Improvement</td>
<td>$250,400</td>
</tr>
<tr>
<td>21</td>
<td>University and McGee</td>
<td>Intersection Improvement</td>
<td>$120,000</td>
</tr>
<tr>
<td>22</td>
<td>Dwight at Alta Bates</td>
<td>Mid-Block Crosswalk</td>
<td>$150,420</td>
</tr>
<tr>
<td></td>
<td>Improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Alcatraz and California</td>
<td>Intersection Improvement</td>
<td>$352,400</td>
</tr>
<tr>
<td>24</td>
<td>North Berkeley BART Station</td>
<td>Safe Routes to Transit</td>
<td>$550,800</td>
</tr>
<tr>
<td>25</td>
<td>San Pablo and Cedar</td>
<td>Intersection Improvement</td>
<td>$150,000</td>
</tr>
<tr>
<td>26</td>
<td>Telegraph and Ashby</td>
<td>Intersection Improvement</td>
<td>$6,400</td>
</tr>
<tr>
<td>27</td>
<td>Telegraph and Parker</td>
<td>Intersection Improvement</td>
<td>$25,000</td>
</tr>
<tr>
<td>28</td>
<td>Rose and Sacramento</td>
<td>Safe Routes to School</td>
<td>$212,200</td>
</tr>
<tr>
<td>29</td>
<td>Gilman and Santa Fe</td>
<td>Intersection Improvement</td>
<td>$206,200</td>
</tr>
<tr>
<td>30</td>
<td>Addison and Jefferson</td>
<td>Intersection Improvement</td>
<td>$4,000</td>
</tr>
<tr>
<td>31</td>
<td>Sacramento and Oregon</td>
<td>Intersection Improvement</td>
<td>$30,000</td>
</tr>
<tr>
<td>32</td>
<td>Hearst Campus Sidewalk</td>
<td>Sidewalk Improvement</td>
<td>$374,575</td>
</tr>
<tr>
<td>33</td>
<td>Hearst and Gayley</td>
<td>Intersection Improvement</td>
<td>$300,600</td>
</tr>
</tbody>
</table>
10. Implementation and Funding

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Location</th>
<th>Project Type</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Gilman Street and Curtis Street and the Ohlone Greenway</td>
<td>Intersection Improvement</td>
<td>$262,900</td>
</tr>
<tr>
<td></td>
<td>TOTAL COST</td>
<td></td>
<td>$9,392,575</td>
</tr>
</tbody>
</table>

*Note: $276,880 of this total cost is already accounted for in Citywide Projects identified in Chapter 6 and Appendix A.*

10.2.4. PROGRAM COSTS

Recommended ongoing and program costs are shown in Table 10-4. Since a significant amount of curb ramp and sidewalk improvements are included in the intersection, corridor projects, and neighborhood partnership program, these program budgets are expected to be reduced somewhat from current levels. Also, the costs for promotion, enforcement, maintenance, and landscaping may already be covered fully or in part by existing City budgets in various departments. Some City policies shift maintenance responsibility to the public. For example, traffic calming devices installed as part of the Traffic Calming Program are landscaped and maintained by neighbors, not by the City. The budgets for recommended programs, while annualized in the table, are likely to vary considerably from year to year and are subject to grant awards and budget conditions. This table does not include the costs of existing programs, such as the Spiral Sidewalk and ADA Curb Ramp programs.

**Table 10-4**
Costs of Programs Recommended in the Plan

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Annual Cost</th>
<th>Average Annual Cost over 20 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance (See note.)</td>
<td>$100,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Promotional Efforts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printed material (posters, brochures, maps)</td>
<td>$20,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Public Service Announcements</td>
<td>$2,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Website</td>
<td>$2,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Annual Events</td>
<td>$50,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Presentations</td>
<td>$5,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Enforcement</td>
<td>$10,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>TOTAL COST PROGRAMS</td>
<td>$189,000</td>
<td>$3,780,000</td>
</tr>
</tbody>
</table>

*Note: Maintenance for new facilities recommended in plan. This estimate does not include costs to alleviate the spiral sidewalk repair backlog or emergency repairs.*
10.3. FINANCIAL PLAN

The total pedestrian capital and program costs and expected revenue for the next twenty years are presented in Table 10-5. The long-term costs are based on very broad assumptions about needs in the City, and will be refined as the Pedestrian Master Plan is updated.

The total 20-year cost of the pedestrian improvements and programs in Berkeley is estimated to be $31 million, or $1.5 million per year.

The City currently provides $375,000 annually for existing Sidewalk Repair and ADA Curb Ramp programs, which would total $7.5 million over 20 years. In addition, the City anticipates receiving $155,000 annually, or $3.1 million over the next 20 years, from Berkeley’s allocation of ACTIA Measure B Bicycle/Pedestrian and Transportation Development Act Article 3 funds.

This leaves a shortfall of $20 million over 20 years, or $1 million annually. The draft Pedestrian Plan estimates that 70% of the total capital project costs could come from competitive grants. This would result in $10.3 million in grants over 20 years, and would leave just a $10 million shortfall, or approximately $500,000 per year.
### Table 10-5  City of Berkeley Pedestrian Plan 20-Year Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>20-year</th>
<th>Annual</th>
<th>20 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Priority Projects Recommended in Plan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (minus $276,880 accounted for in Citywide Projects, below)</td>
<td>$9,115,495</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Citywide Projects Recommended in Plan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Sidewalk Gaps</td>
<td>$1,660,968</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curb Ramps</td>
<td>$895,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truncated Domes</td>
<td>$639,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crosswalk and Warning Signage Improvements</td>
<td>$39,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal Timing Adjustments</td>
<td>$-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countdown Signal Heads</td>
<td>$97,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audible Signals</td>
<td>$63,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Visibility Crosswalks</td>
<td>$199,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Restrictions (Red Curbs)</td>
<td>$109,440</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed Feedback Signs</td>
<td>$70,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historic Pathway Projects</td>
<td>$232,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I Multi-Use Path Projects</td>
<td>$1,575,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop Bars at Signalized Intersection</td>
<td>$104,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$5,684,808</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Programs Recommended in Plan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance (of new facilities)</td>
<td>$100,000</td>
<td>$2,000,000</td>
<td></td>
</tr>
<tr>
<td>Promotion</td>
<td>$79,000</td>
<td>$1,580,000</td>
<td></td>
</tr>
<tr>
<td>Enforcement</td>
<td>$10,000</td>
<td>$200,000</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>$189,000</td>
<td>$3,780,000</td>
<td></td>
</tr>
<tr>
<td><strong>Soft Costs (incl. Personnel)</strong></td>
<td>$242,000</td>
<td></td>
<td>$4,840,000</td>
</tr>
<tr>
<td><strong>Summary of Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Priority Projects</td>
<td>$455,775</td>
<td>$9,115,495</td>
<td></td>
</tr>
<tr>
<td>Citywide Projects</td>
<td>$284,240</td>
<td>$5,684,808</td>
<td></td>
</tr>
<tr>
<td>Program Costs</td>
<td>$189,000</td>
<td>$3,780,000</td>
<td></td>
</tr>
<tr>
<td>Soft Costs (Personnel)</td>
<td>$242,000</td>
<td>$4,840,000</td>
<td></td>
</tr>
<tr>
<td>Existing Programs (Spiral Sidewalks &amp; ADA Curb Ramp)</td>
<td>$375,000</td>
<td>$7,500,000</td>
<td></td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>$1,546,015</td>
<td>$30,920,303</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure B Ped (est. $125K annual)</td>
<td>$2,500,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDA3 (est. $30K annual)</td>
<td>$600,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiral Sidewalk ($200K) &amp; ADA Curb Ramp Program ($175K)</td>
<td>$7,500,000</td>
<td>$10,600,000</td>
<td></td>
</tr>
<tr>
<td><strong>20-year Funding Gap</strong></td>
<td>$20,320,303</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Competitive Grant Revenue (70% of Capital)</td>
<td>$10,360,212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Total 20-Year Shortfall</td>
<td>$9,960,091</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Total Shortfall</td>
<td>$498,005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
10.4. FUNDING

This chapter covers federal, state, regional, and local sources of pedestrian funding, as well as some non-traditional funding sources that have been used by local agencies to fund pedestrian infrastructure and programs. A matrix summarizing funding sources is provided at the end of the chapter.

10.4.1. FEDERAL FUNDING SOURCES

The primary federal source of surface transportation funding—including pedestrian facilities—is SAFETEA-LU, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. SAFETEA-LU is the fourth in a series of Federal transportation funding bills. The $286.5 billion SAFETEA-LU bill, passed in 2005, authorizes federal surface transportation programs for the five-year period between 2005 and 2009.

SAFETEA-LU funding is administered through the State (Caltrans and Resources Agency) and regional planning agencies. Most, but not all, of these funding programs are oriented toward transportation rather than recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Specific funding programs under SAFETEA-LU include:

**Congestion Mitigation and Air Quality (CMAQ)** — Funds projects that are likely to contribute to the attainment of national ambient air quality standards. Funds are available for projects and programs in areas that have been designated in non-attainment or maintenance for ozone, carbon monoxide or particulate matter. Since the Bay Area is in attainment of national air quality standards for all pollutants except ozone, future Bay Area eligibility for CMAQ allocations is currently being determined.

**Recreational Trails Program** — $370 million nationally through 2009 for non-motorized trail projects.

**Safe Routes to School Program** — A new program with $612 million nationally through 2009.

**Transportation, Community and System Preservation Program** — $270 million nationally over five years (2006-2011) reserved for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers.

**Federal Lands Highway Funds** — Federal Lands Highway funds may be used to build pedestrian facilities in conjunction with roads and parkways at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO. Approximately $1 billion is available nationally for Federal Lands Highway Projects through 2009.


Walkinginfo.org - A listing of project types and corresponding potential funding sources is available from the Pedestrian and Bicycle Information Center. The listing includes 35 different types of pedestrian and bicycle projects and identifies the federal funds that are most appropriate for each type of project.

10.4.2. STATEWIDE FUNDING SOURCES

The State of California uses both federal sources (such as the Recreational Trails Program) and its own budget to fund pedestrian projects and programs. In some cases, such as Safe Routes to School, Office of Traffic Safety, and Environmental Justice grants, project sponsors apply directly to the State for funding. In others, such as Bay Trail grants, sponsors apply to a regional agency.

10.4.2.1. RECREATIONAL TRAILS PROGRAM (RTP)

In California, RTP funds are administered by the California State Parks Department. Recreational Trails Program funds may be used for the following:

- Maintenance and restoration of existing trails;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails;
- Acquisition of easements or property for trails; and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

$3.3 million statewide was available in fiscal year 2006.

Federal Highway Administration, RTP Program
www.fhwa.dot.gov/environment/rectrails/index.htm

California State Parks, RTP Guide

10.4.2.2. LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund is a federal program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the California State Parks Department and has been reauthorized until 2015.

Cities, counties and districts authorized to acquire, develop, operate, and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project, and will be reimbursed for 50 percent of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use. The grant process for local agencies is competitive, and forty percent of grants are reserved for Northern California.

In 2006, approximately $480,000 was available for projects in Northern California.

California State Parks Department, Land and Water Conservation Fund Guide
www.parks.ca.gov/?page_id=21360

10.4.2.3. FEDERAL SAFE ROUTES TO SCHOOL (SRTS) AND CALIFORNIA SAFE ROUTES TO SCHOOL (SR2S)

Caltrans administers funding for Safe Routes to School projects through two separate and distinct programs: the state-legislated Program (SR2S) and the federally-legislated Program (SRTS). Both programs competitively award reimbursement grants with the goal of increasing the number of children who walk or bicycle to school. The programs differ in some important respects.
The California Safe Routes to School Program expires January 1, 2013, requires a 10% local match, is eligible to cities and counties, and targets children in grades K-12. The fund is primarily for construction, but up to 10% of the program funds can be used for education, encouragement, enforcement, and evaluation activities. Fifty-two million dollars were available for Cycle 7 (FY 06/07 and 07/08).

The Federal Safe Routes to School Program expires September 30, 2009; reimburses 100%; is eligible for cities, counties, school districts, non-profits, and tribal organizations; and targets children in grades K-8. Program funds can be used for construction or for education, encouragement, enforcement and evaluation activities. Construction must be within 2 miles of a grade school or middle school. Forty-six million dollars is available for Cycle 2 (FY 08/09 and 09/10).

Caltrans, SR2S and SRTS Programs
http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

10.4.2.4. ENVIRONMENTAL JUSTICE: CONTEXT SENSITIVE PLANNING GRANTS

The Caltrans-administered Environmental Justice: Context Sensitive Planning Grants Program funds planning activities that assist low-income, minority and Native American communities in becoming active participants in transportation planning and project development. Grants are available to transit districts, cities, counties, and tribal governments. This grant is funded by the State Highway Account at $1.5 million annually statewide. Grants are capped at $250,000.

Caltrans, Environmental Justice Program
www.dot.ca.gov/hq/tpp/offices/opar/titleVIand%20EJ.htm

10.4.2.5. OFFICE OF TRAFFIC SAFETY (OTS) GRANTS

The California Office of Traffic Safety distributes federal funding apportioned to California under the National Highway Safety Act and SAFETEA-LU. Grants are used to establish new traffic safety programs and to expand ongoing programs to address deficiencies in current programs. Pedestrian safety is included in the list of traffic safety priority areas. Eligible grantees include governmental agencies, state colleges and state universities, local city and county government agencies, school districts, fire departments, and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants. OTS had $56 million in funding available statewide for FY 2006/07.

California Office of Traffic Safety, Grants Program
www.ots.ca.gov/grants/default.asp

10.4.2.6. CALIFORNIA CENTER FOR PHYSICAL ACTIVITY GRANT PROGRAM

The California Center for Physical Activity runs several programs related to walking and offers small grants to public health departments. Grants are in the amount of $4,999 dollars or less and are offered intermittently.

California Center for Physical Activity
10.4.3. REGIONAL FUNDING SOURCES

Regional pedestrian grant programs come from a variety of sources, including SAFETEA-LU, the State budget, vehicle registration fees, and bridge tolls. Although most regional funds are allocated by regional agencies such as the Metropolitan Transportation Commission (MTC), the Bay Area Air Quality Management District (BAAQMD) and the Association of Bay Area Governments (ABAG), some (such as a portion of the regional Bicycle and Pedestrian Program) flow to county congestion management agencies, such as the Alameda County Congestion Management Agency (ACCMA), which allocate funds to project sponsors.

10.4.3.1. SAFE ROUTES TO TRANSIT (SR2T)

Regional Measure 2 (RM2), approved in March 2004, raised the toll on seven state-owned Bay Area bridges by one dollar for 20 years. This fee increase funds various operational improvements and capital projects that reduce congestion or improve travel in the toll bridge corridors.

Twenty million dollars of RM2 funding is allocated to the Safe Routes to Transit Program, which provides competitive grant funding for capital and planning projects that improve bicycle and pedestrian access to transit facilities. Eligible projects must be shown to reduce congestion on one or more of the Bay Area’s toll bridges. The competitive grant process is administered by the Transportation and Land Use Coalition and the East Bay Bicycle Coalition. Competitive funding is awarded in five $4 million grant cycles. The first round of funding was awarded in December 2005. Future funding cycles will be in 2007, 2009, 2011 and 2013.

Transportation and Land Use Coalition, SR2T Program
www.transcoalition.org/c/bikeped/bikeped_saferoutes.html

10.4.3.2. TRANSPORTATION FUND FOR CLEAN AIR PROGRAM (TFCA)

TFCA funds are generated by a four-dollar surcharge on automobile registration fees in the nine-county Bay Area. Approximately $20 million is collected annually, which funds two programs; 60 percent of the TFCA monies go to the Regional Fund and 40 percent go to the County Program Manager Fund. In Alameda County, 70 percent of the Program Manager Funds are distributed to cities based on population. The remaining 30 percent are competitive funds available to transit agencies.

The Regional Fund is administered by the Bay Area Air Quality Management District (BAAQMD). In Alameda County, the Program Manager Fund is administered by the ACCMA. Pedestrian infrastructure improvements are eligible for TFCA funds through the Smart Growth funding category.

BAAQMD, TFCA Program
www.baaqmd.gov/pln/grants_and_incentives/tfca/

10.4.3.3. REGIONAL BICYCLE AND PEDESTRIAN PROGRAM (RBPP)

The RBPP was created in 2003 as part of the long range Transportation 2030 Plan developed by the Bay Area Metropolitan Transportation Commission. The program—currently funded with Congestion Mitigation and Air Quality funds—funds regionally significant bicycle and pedestrian projects, and bicycle and pedestrian projects serving schools or transit. $200 million is committed to this program over
the 25-year period. Seventy-five percent of the total funds are allocated to the county congestion management agencies based on population. The remaining 25 percent of funds is regionally competitive, with the county congestion management agencies recommending the projects to be submitted to MTC for funding consideration.

Metropolitan Transportation Commission, RBPP Program
www.mtc.ca.gov/planning/bicyclespedestrians/regional.htm#bikepedprog

10.4.3.4. TRANSPORTATION FOR LIVABLE COMMUNITIES (TLC)

MTC offers two kinds of assistance through the TLC program: capital and planning. TLC funds small-scale transportation improvements that are designed to make a big difference in a community’s vitality. Eligible projects include streetscape improvements, and transit/pedestrian-oriented developments. Successful projects bring new vibrancy to downtown areas, commercial cores, and neighborhoods, making them places where people want to live, work and visit. Within the TLC funds is the Housing Incentive Program (HIP), these funds are allocated to capital transportation projects that support increasing the housing supply in the Bay Area where there is existing infrastructure, locating new housing near non-automotive transportation options, and establishing residential density near public transportation to support the service.

$27 million is the annual allocation to the TLC Program.

Metropolitan Transportation Commission, TLC Grant Program
www.mtc.ca.gov/planning/smart_growth/tlc_grants.htm

10.4.3.5. THE BAY TRAIL PROJECT

The Bay Trail Grant program offers competitive grants to local governments, special districts and qualified nonprofit groups to build or design new Bay Trail segments. The program is structured to speed Bay Trail construction by targeting high-priority, ready to build sections and closing critical gaps; leveraging state dollars with significant matching funds and in-kind contributions; fostering partnership by encouraging cooperative partnerships and creative design solutions; and employing the California Conservation Corps for construction, landscaping and maintenance where possible. The amount of available funding varies, depending on State bonds and grants to the Bay Trail Project.

Bay Trail Project Grant Program

10.4.4. LOCAL FUNDING SOURCES

10.4.4.1. TDA ARTICLE 3

Transportation Development Act (TDA) Article 3 funds are available for transit, bicycle and pedestrian projects in California. According to the Act, pedestrian and bicycle projects are allocated two percent of the revenue from a ¼ cent of the general state sales tax, which is dedicated to local transportation. These funds are collected by the State, returned to each county based on sales tax revenues, and typically apportioned to areas within the county based on population. Eligible pedestrian projects include construction and engineering for capital projects and development of comprehensive pedestrian facilities plans. A city or county is allowed to apply for funding for pedestrian plans not more than once every five years. These funds may be used to meet local match requirements for federal funding sources.
$1.4 million of TDA Article 3 funds were allocated in Alameda County in 2006/07.

Metropolitan Transportation Commission, TDA Funding Program
www.mtc.ca.gov/funding/STA-TDA/index.htm

10.4.4.2. ACTIA BICYCLE AND PEDESTRIAN MEASURE B FUNDING

Measure B is a sales tax measure reauthorized by Alameda County voters in 2000. It allows the collection of a ½-cent sales tax devoted to transportation projects and programs, to be collected from 2002 through 2022. The portion of Measure B funding devoted to bicycle and pedestrian improvements totals approximately $100 million, or five percent of all Measure B funding. Of this amount, 75 percent is “pass-through” funding distributed to the cities and the County according to population, and may be used for locally prioritized bicycle or pedestrian projects, programs and plans. The remaining 25 percent is available for capital projects, programs and plans of countywide significance, most of which are distributed based on a competitive grant process. In fiscal year 2007/08, Berkeley received about $277,000 in Measure B bicycle and pedestrian pass-through funds and the City is expected to receive a total of $4.1 million dollars through 2022.

ACTIA Measure B Bicycle and Pedestrian Program

10.4.4.3. LOCAL TRAFFIC CALMING FUND

The Berkeley City Council has made an annual allocation from the General Fund of $50,000 which is utilized by the Department of Public Works to respond to residents’ traffic calming requests. Periodically, the Council has made special one-time allocations of funding to supplement this program; for example, in 2008 an additional $200,000 was programmed for traffic calming requests. These funds have been applied toward traffic circles, curb bulbouts and speed feedback signs. It is likely that this fund will be continued at a minimum level of $50,000 and may be increased.

10.4.5. NON-TRADITIONAL FUNDING SOURCES

10.4.5.1. INTEGRATION INTO LARGER PROJECTS

The State of California’s “routine accommodation” policy requires Caltrans to design, construct, operate, and maintain transportation facilities using best practices for pedestrians. Local jurisdictions can begin to expect that some portion of pedestrian project costs, when they are built as part of larger transportation projects, will be covered in project construction budgets. This applies to Caltrans and other transportation facilities, such as new BART stations and Bus Rapid Transit stops.

10.4.5.2. COMMUNITY DEVELOPMENT BLOCK GRANTS

The Community Development Block Grants program (CDBG) provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal Community Development Block Grant Grantees may use CDBG funds for activities that include (but are not limited to) acquiring real property; building public facilities and improvements, such as streets, sidewalks and recreational facilities; and planning and administrative expenses, such as costs related to developing a
10. Implementation and Funding

consolidated Plan and managing CDBG funds. In Oakland, CDBG funds have also been used to find crossing guards, called “Safe Walk to School Monitors.”

$526 million in CDBG funds were distributed statewide in 2004/05.

CDBG program
www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

10.4.5.3. REQUIREMENTS FOR NEW DEVELOPMENT

With the increasing support for “routine accommodation” and “complete streets,” requirements for new development, road widening, and new commercial development provide opportunities to efficiently construct pedestrian facilities.

10.4.5.4. IMPACT FEES

One potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may attempt to reduce the number of trips (and hence impacts and cost) by paying for on- and off-site pedestrian improvements designed to encourage residents, employees and visitors to the new development to walk rather than drive. Establishing a clear nexus or connection between the impact fee and the project’s impacts is critical for avoiding a potential lawsuit.

10.4.5.5. MELLO-ROOS COMMUNITY FACILITIES ACT

The Mello-Roos Community Facilities Act was passed by the Legislature in 1982 in response to reduced funding opportunities brought about by the passage of Proposition 13. The Mello-Roos Act allows any county, city, special district, school district, or joint powers of authority to establish a Community Facility Districts (CFD) for the purpose of selling tax-exempt bonds to fund public improvements within that district. CFDs must be approved by a two-thirds margin of qualified voters in the district. Property owners within the district are responsible for paying back the bonds. Pedestrian facilities are eligible for funding under CFD bonds.

Mello-Roos Fact Sheet

10.4.6. MATRIX OF FUNDING SOURCES

The matrix on the next page provides detailed information for the funding sources listed in the preceding section. Beside each source is the corresponding application deadline, the allocating agency, the amount available, matching requirements, eligible applicants, eligible projects, and comments, including agency contact information.
Table 10-6
Funding Sources

<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Application Deadline</th>
<th>Agency</th>
<th>Program Funds Available</th>
<th>Matching Requirement</th>
<th>Eligible Applicants</th>
<th>Commute</th>
<th>Recreation</th>
<th>Safety/Education</th>
<th>Comments/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congestion Mitigation and Air Quality (CMAQ)</td>
<td></td>
<td>FHWA</td>
<td>$8.6 billion nationwide under SAFETEA-LU (2005-2009)</td>
<td>20% local match</td>
<td>State DOTs, MPOs, transit agencies</td>
<td>X</td>
<td>X</td>
<td></td>
<td>MTC requires that the project sponsor adopt and submit a resolution of local support through its respective congestion management agency. MTC Contact: Craig Goldblatt, 510.817.5837, <a href="mailto:cgoldblatt@mtc.ca.gov">cgoldblatt@mtc.ca.gov</a></td>
</tr>
<tr>
<td>Federal Lands Highway Funds</td>
<td></td>
<td>FHWA</td>
<td>$1 billion total nationwide through 2009</td>
<td>None</td>
<td>State</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Project must appear in STIP. Contact California Division, FHWA <a href="http://www.fhwa.dot.gov/cadiv/directory.htm">http://www.fhwa.dot.gov/cadiv/directory.htm</a></td>
</tr>
</tbody>
</table>
## 10. Implementation and Funding

<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Application Deadline</th>
<th>Agency</th>
<th>Program Funds Available</th>
<th>Matching Requirement</th>
<th>Eligible Applicants</th>
<th>Commute</th>
<th>Recreation</th>
<th>Safety/Education</th>
<th>Comments/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational Trails Program (RTP)</td>
<td>October 1</td>
<td>FHWA</td>
<td>($5.5 to California)</td>
<td>At least 12%</td>
<td>State, local, regional agencies, and nonprofit organizations</td>
<td></td>
<td></td>
<td>X</td>
<td>Administered by California State Parks: Jean Lacher, Manager, Office of Grants and Local Services 1416 Ninth St, Room 918 Sacramento CA 94814 Mail: PO Box 942896 Sacramento CA 94296-0001 916-653-6160; Fax 916-653-6511</td>
</tr>
<tr>
<td>Transportation and Community and System Preservation Program (TCSP)</td>
<td>Varies</td>
<td>FHWA</td>
<td>$61.25 million annually nationwide through 2008/09</td>
<td>20% local match</td>
<td>state, local, MPOs</td>
<td>--</td>
<td></td>
<td>--</td>
<td>Projects that improve system efficiency, reduce environmental impacts of transportation, etc. Contact Kenneth Petty TCSP Program Officer, Office of Planning phone: (202) 366-6654 <a href="http://www.fhwa.dot.gov/tcsp/pi_tcsp.html">http://www.fhwa.dot.gov/tcsp/pi_tcsp.html</a></td>
</tr>
</tbody>
</table>

### State Funding

<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Ongoing</th>
<th>Department</th>
<th>Up to $4,999 per grantee</th>
<th>None</th>
<th>Public Health Departments</th>
<th>X</th>
<th>For pedestrian encouragement programs Contact: Lisa Cirill, Acting Chief <a href="mailto:lcirill@dhs.ca.gov">lcirill@dhs.ca.gov</a> 916.552-9943</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Conservancy Non-Profit Grants Program</td>
<td>Ongoing</td>
<td>Coastal Conservancy</td>
<td>Grants range from $10,000 to several million</td>
<td>Not required but favored</td>
<td>California non-profit 501 (c) 3 organizations</td>
<td>X</td>
<td>Funds for trail planning and construction and restoration of coastal urban waterfronts. Contact Janet Diehl <a href="mailto:jdiehl@scc.ca.gov">jdiehl@scc.ca.gov</a></td>
</tr>
<tr>
<td>Grant Source</td>
<td>Application Deadline</td>
<td>Agency</td>
<td>Program Funds Available</td>
<td>Matching Requirement</td>
<td>Eligible Applicants</td>
<td>Comments/Contact Information</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------</td>
<td>--------</td>
<td>-------------------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>------------------------------</td>
<td></td>
</tr>
<tr>
<td>Environmental Enhancement and Mitigation Program (EEMP)</td>
<td>Currently suspended (as of mid-2006)</td>
<td>State Resources Agency, Caltrans</td>
<td>$10 million statewide</td>
<td>Not required but favored</td>
<td>local, state and federal government non-profit agencies</td>
<td>Projects that mitigate environmental impacts of planned transportation projects; can include acquisition or development of roadside recreational facilities. Contact Carolyn Dudley, State Resources Agency, (916) 653-5656</td>
<td></td>
</tr>
<tr>
<td>Environmental Justice Grants: Context Sensitive Planning</td>
<td>October 14</td>
<td>Caltrans</td>
<td>$1.5 million statewide</td>
<td>10% local</td>
<td>MPA, RPTA, city, county, tribal govms, transit districts</td>
<td>Funds activities that include low-income and minority communities in transportation planning and project development. Contact Norman Dong at <a href="mailto:norman_dong@dot.ca.gov">norman_dong@dot.ca.gov</a> or (916) 651-6889.</td>
<td></td>
</tr>
<tr>
<td>Land &amp; Water Conservation Fund (LCWF)</td>
<td>May 1</td>
<td>California DPR</td>
<td>$480,000 in Northern California (2006)</td>
<td>50% match</td>
<td>Cities, counties, park districts</td>
<td>Recreational trails are eligible for funding. Applicants must fund the entire project, and will be reimbursed for 50% of costs.</td>
<td></td>
</tr>
<tr>
<td>Office of Traffic Safety Grants</td>
<td>Jan. 31</td>
<td>Office of Traffic Safety</td>
<td>$56 million statewide (FY 2006/07)</td>
<td>None</td>
<td>Governmental agencies, state colleges, and universities, local city and county government agencies, school districts, fire depts, and public emergency services providers</td>
<td>Grants are used to mitigate traffic safety program deficiencies, expand ongoing activity, or develop a new program. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Contact OTS Regional Coordinator Lisa Dixon at, (916) 262-0978 or <a href="mailto:ldixon@ots.ca.gov">ldixon@ots.ca.gov</a></td>
<td></td>
</tr>
</tbody>
</table>
### 10. Implementation and Funding

<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Application Deadline</th>
<th>Agency</th>
<th>Program Funds Available</th>
<th>Matching Requirement</th>
<th>Eligible Applicants</th>
<th>Comments/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational Trails Program (RTP)</td>
<td>Oct. 1</td>
<td>State DPR</td>
<td>$3.3 million statewide (FY 2006)</td>
<td>20% match</td>
<td>Jurisdictions special districts, non profits with management responsibilities over land</td>
<td>For recreational trails to benefit bicyclists, pedestrians, and other users; contact State Dept. of Parks &amp; Rec, Statewide Trails Coordinator, (916) 653-8803</td>
</tr>
<tr>
<td>Federal Safe Routes to Schools Program (SRTS)</td>
<td>February</td>
<td>Caltrans</td>
<td>$46 million in Cycle 2 (FY'09/10)</td>
<td>None</td>
<td>State, local, regional agencies; cities and counties; non-profit organizations; school districts; &amp; federally-recognized Native American Tribes</td>
<td><a href="http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm">http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm</a></td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>May 31</td>
<td>Caltrans</td>
<td>$52 million in Cycle 7 (FY'06/07 and 07/08)</td>
<td>10%</td>
<td>City, county</td>
<td><a href="http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm">http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm</a></td>
</tr>
</tbody>
</table>

**Regional Funding**

<p>| The San Francisco Bay Trail Project        | Varies               | The San Francisco Bay Trail Project/ABAG | Total available varies from year to year | Public Agencies, Land Trusts, Non-profits | X       | X                                         | Funds trail planning and construction projects to complete gaps in the Bay Trail. Contact Lee Huo <a href="mailto:leeh@abag.ca.gov">leeh@abag.ca.gov</a> |</p>
<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Application Deadline</th>
<th>Agency</th>
<th>Program Funds Available</th>
<th>Matching Requirement</th>
<th>Eligible Applicants</th>
<th>Comments/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Bicycle and Pedestrian Program (RBPP) – Local Pass-Through</td>
<td>Varies</td>
<td>ACCMA, MTC</td>
<td>$6 million annually region-wide</td>
<td>11.5%</td>
<td>Cities, school districts, transit districts</td>
<td>Constructing regionally significant pedestrian projects and bicycle/pedestrian projects serving schools or transit.</td>
</tr>
<tr>
<td>Regional Bicycle and Pedestrian Program (RBPP)</td>
<td>Varies</td>
<td>ACCMA, MTC</td>
<td>$2 million annually region-wide</td>
<td>11.5%</td>
<td>Cities, school districts, transit districts</td>
<td>Constructing regionally significant pedestrian projects and bicycle/pedestrian projects serving schools or transit.</td>
</tr>
<tr>
<td>Safe Routes to Transit</td>
<td>Varies</td>
<td>MTC, Administered by TALC</td>
<td>$4 million annually region-wide</td>
<td>None required, but scoring preference given to projects with outside match</td>
<td>Public agencies in all 9 Bay Area counties. Non-profits must partner with a public agency</td>
<td>Applications must demonstrate bridge congestion reduction on at least one state-owned Bay Area bridge. Contact the Transportation and Land Use Coalition or Dave Campbell (East Bay Bicycle Coalition) <a href="mailto:sr2t@transcoalition.org">sr2t@transcoalition.org</a> <a href="mailto:dcampbel@lmi.net">dcampbel@lmi.net</a></td>
</tr>
<tr>
<td>Transportation Fund for Clean Air (TFCA), Program Manager Fund</td>
<td>January in Alameda County, varies in other counties</td>
<td>ACCMA, BAAQMD</td>
<td>Approx. $8 million annually region-wide</td>
<td>None</td>
<td>Cities, counties, school districts, transit districts</td>
<td>Smart growth projects: Physical improvements that support development projects and/or calm traffic, resulting in the achievement of motor vehicle emission reductions.</td>
</tr>
</tbody>
</table>
10. Implementation and Funding

<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Application Deadline</th>
<th>Agency</th>
<th>Program Funds Available</th>
<th>Matching Requirement</th>
<th>Eligible Applicants</th>
<th>Commute</th>
<th>Recreation</th>
<th>Safety/Education</th>
<th>Comments/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Fund for Clean Air (TFCA), Regional Fund</td>
<td>May 1st</td>
<td>BAAQMD, ACCMA</td>
<td>Approx. $10 million annually region-wide</td>
<td>10% for requests greater than $150,000</td>
<td>Cities, counties, schools, and transit districts</td>
<td>X</td>
<td></td>
<td></td>
<td>Smart growth projects: Physical improvements that support development projects and/or calm traffic, resulting in the achievement of motor vehicle emission reductions. <a href="http://www.baaqmd.gov/pln/grants_and_incentives/tfca/regional_fund.htm">www.baaqmd.gov/pln/grants_and_incentives/tfca/regional_fund.htm</a></td>
</tr>
<tr>
<td>Transportation for Livable Communities Program</td>
<td>June</td>
<td>MTC</td>
<td>$27 million annually region-wide</td>
<td>Local match of 11.5% is required</td>
<td>Public Agencies. Non-profits and other CBOs may partner with public agencies</td>
<td>X</td>
<td>x</td>
<td></td>
<td>Funds for transportation projects that revitalize downtown areas, commercial cores, neighborhoods, and transit corridors. <a href="http://www.mtc.ca.gov/planning/smart_growth/tlc_grants.htm">www.mtc.ca.gov/planning/smart_growth/tlc_grants.htm</a></td>
</tr>
</tbody>
</table>

**Local Funding**

| ACTIA Bicycle and Pedestrian Measure B Funding | Varies | ACTIA | $4 million county-wide (FY 08/09) | No match is required; however projects with a match will score better. | Any public agency that operates in Alameda County. | X | X | X | All projects must demonstrate countywide significance. Contact Rochelle Wheeler rwheeler@actia2022.com |
| Transportation Development Act (TDA) Article 3 | January | MTC/Alameda County PWA | $1.4 million in Alameda County (2006/07) | -- | Alameda County | X | | X | Contact Ruben Izen rubeni@acpwa.org |
## Nontraditional Sources

<table>
<thead>
<tr>
<th>Grant Source</th>
<th>Application Deadline</th>
<th>Agency</th>
<th>Program Funds Available</th>
<th>Matching Requirement</th>
<th>Eligible Applicants</th>
<th>Commute</th>
<th>Recreation</th>
<th>Safety/Education</th>
<th>Comments/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Development Block Grants</td>
<td>Varies</td>
<td>HUD</td>
<td>$526 million statewide (2004/05)</td>
<td>None, but may be used as evaluation criteria</td>
<td>Public entities and 501(c)(3) non-profits and tax-exempt faith-based religious orgs</td>
<td></td>
<td></td>
<td></td>
<td>Primarily for community revitalization, but may be used to fund streetscape improvements, to eliminate slum and blight in low- and moderate-income areas.</td>
</tr>
<tr>
<td>Mello-Roos Community Facilities Act</td>
<td>None</td>
<td>Various Public Agencies</td>
<td>Varies</td>
<td>None</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Primarily used to fund public services such as libraries and fire depts., but may fund pedestrian infrastructure.</td>
</tr>
</tbody>
</table>
This page intentionally left blank.