

Appendix

Pedestrian Projects Prioritization

Prioritization of Capital Projects and Citywide Maintenance and Upgrades to Pedestrian Facilities

The proposed pedestrian projects, when fully implemented, will dramatically enhance the public realm in Richmond by improving safety and access for all pedestrians. However, due to limited resources, the proposed improvements need to be prioritized for implementation over the next XX years. The prioritization provided in this chapter is meant to serve as a guide to implementation. The City should pursue opportunities to implement projects through routine resurfacing or development projects as they arise, regardless of a project's place in the prioritization.

The methodology to prioritize capital projects, as well as ongoing citywide maintenance and upgrades to pedestrian facilities was developed specifically for the City of Richmond, but is similar to that used by other Bay Area agencies in their pedestrian plans. There are a total of 16 possible points based on four elements:

- Pedestrian Improvement Districts & Amenities
- Community Connectivity
- Safety
- Relative Ease of Implementation

The methodology used to score projects within each element is described below:

Pedestrian Improvement Districts & Amenities (five points):

The Richmond General Plan identifies three Pedestrian Improvement Districts: Downtown Richmond, the Ford Peninsula in Marina Bay and the Hilltop Mall area. These are the areas where the City anticipates its highest pedestrian volumes and demand over the course of its General Plan build-out. Pedestrian demand is also relatively higher in areas located within walking distance of “amenities” including but not limited to banks, places of worship, grocery stores, retailers, cleaners, beauty salons, laundromats, libraries, offices, parks, restaurants, schools, theaters, and community centers.

- 5 points: Projects within a ¼ mile of a Pedestrian Improvement District identified in the Circulation Element of the Richmond General Plan.
- 3 points: Projects beyond a ¼ radius of a Pedestrian Improvement District identified in the Circulation Element of the General Plan, but with five or more amenities located within a ¼ mile.
- 2 points: Projects beyond a ¼ radius of a Pedestrian Improvement District, but with between two and five amenities located within a ¼ mile.
- 1 point: Projects beyond a ¼ radius of a Pedestrian Improvement District with fewer than two amenities within a ¼ mile.

Community Connectivity (three points):

This criterion evaluates the ability of a pedestrian project to provide access across major streets, to provide safe connections between activity centers, and to link neighborhoods and/or overcome physical barriers between them. A more detailed description of how each proposed project is evaluated is shown below.

- A proposed pedestrian project receives a point for each of the following conditions it meets:
 - improves access on a major arterial
 - improves access across a freeway interchange or railroad tracks
 - improves access along a bus route

Safety (three points):

The proposed methodology for assessing the safety of pedestrian projects is based on the number of pedestrian collisions on the roadway over the past five years:

- 3 points: Projects that provide pedestrian improvements on a roadway with more than four collisions per mile over the past five years.
- 2 points: Projects that provide pedestrian improvements on a roadway with two to three collisions per mile over the past five years.
- 1 point: Projects that provide pedestrian improvements on a roadway with less than one collision per mile over the past five years.

Relative Ease of Implementation (five points):

The relative ease of project implementation may be determined through a review of existing plans, field review of the study area, and level of construction required for implementation. The proposed methodology for assessing ability to implement each project is as follows:

- 5 points: High implementation ability – projects that require minimal modification of existing street layout, do not require ROW acquisition, and/or converge with the City’s overall planning priorities.
- 3 points: Moderate implementation ability – projects that require moderate modifications to the existing layout.
- 1 point: Low implementation ability – projects that require major construction, ROW acquisition, or inter-jurisdictional coordination.

Capital Improvement Projects

Each of the 37 capital projects included in this Plan has short-, medium- and long-term/ opportunistic projects identified within them. Short-term improvements include basic upgrades such as crosswalk enhancements and narrowing travel lanes, and should be included in ongoing repaving projects and street improvements. Medium-term projects include more substantial changes to the existing street, such as a travel lane reduction, median construction and realigning the geometry of an intersection. Grants and redevelopment opportunities should be pursued to help fund this level of improvements. Long-term and opportunistic projects are ones that may require significant infrastructure or major funding, such as the Richmond Greenway connection at 23rd Street across the railroad tracks, or freeway ramp realignments. These projects are well suited for unique grant opportunities, as part of a seismic retrofit project, or as part of major redevelopment of an area.

The set of capital projects are then parceled into three tiers, defined by their prioritization score using the methodology described above. This list of prioritized projects is intended to be a starting point for the City to improve the pedestrian environment in central Richmond, and should be a flexible tool for the planning of new facilities. It is anticipated that as new opportunities emerge and community values shift, certain projects will become a higher priority.

Ongoing Citywide Improvements

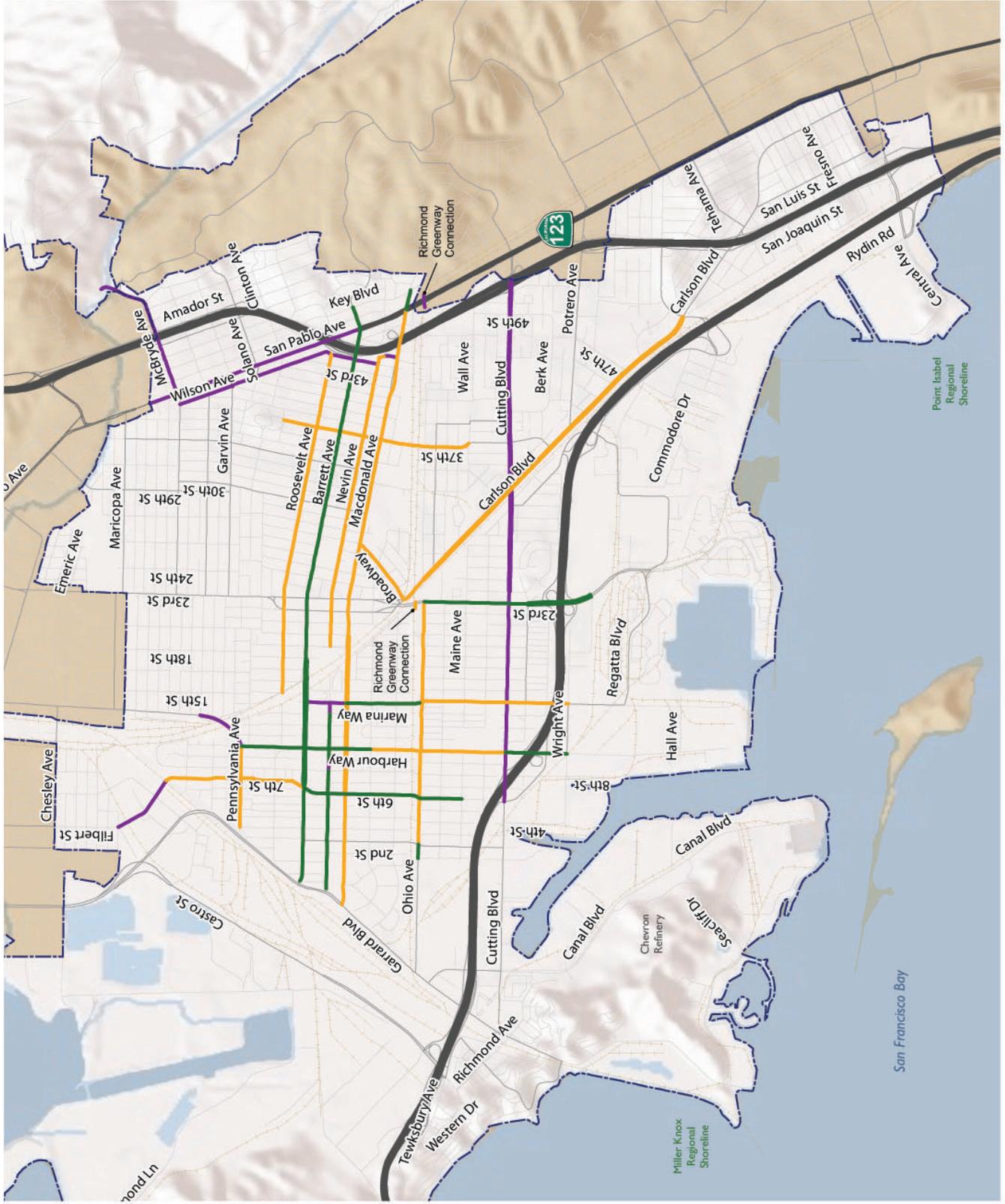
The Pedestrian Master Plan also identifies a series of ongoing maintenance and upgrade projects for the citywide pedestrian system, such as sidewalk gap closures and repair, crosswalk installation and upgrades to pedestrian traffic control devices. To assist the City in funding and implementing a citywide program, each street in the city was evaluated and assigned a score based on the prioritization criteria described in the section above. The following graphic illustrates the first, second and third tier locations identified for pedestrian upgrades. The City may use this as a guide to allocate CIP funds or other funding for projects on an annual basis.

PRIORITIZATION OF CAPITAL IMPROVEMENTS: TIER ONE PROJECTS								
	Name	From	To	Ped Districts/ Amenities	Connectivity	Safety	Relative Ease of Implementation	Prioritization Score
1	Marina Way	MacDonald Ave	Richmond Greenway	5	2	2	5	14
2	Nevin Avenue	13th St	9th St	5	1	2	5	13
3	Richmond Greenway	San Pablo Ave	Ohlone Greenway	4	2	2	5	13
4	South 23rd Street	Ohio Ave	Meeker Ave	4	2	1	5	13
5	Barrett Avenue	Key Blvd	Richmond Pkwy	4	2	1	5	13
6	6th Street	Maine Ave	Barrett Ave	5	1	1	5	12
7	Ohio Avenue	2nd St	1st St	5	1	1	5	12
8	Harbor Way	Macdonald Ave	Bissell	5	2	2	3	12
9	Harbor Way	Pennsylvania	Macdonald Ave	5	2	2	3	12
10	Nevin Avenue	8th St	Richmond Pkwy	4	1	1	5	12
11	Harbor Way South	Cutting Ave	Wright Ave	5	2	1	3	11
12	Harbor Way South	Bissell Ave	Cutting Ave	4	2	2	3	11

PRIORITIZATION OF CAPITAL IMPROVEMENTS: TIER TWO PROJECTS								
	Name	From	To	Ped Districts/ Amenities	Connectivity	Safety	Relative Ease of Implementation	Prioritization Score
13	Nevin Avenue	45th St	19th St	4	1	1	5	11
14	Macdonald Avenue	Richmond Pkwy	Key Blvd	4	2	2	3	11
15	Marina Way	Richmond Greenway	Wright Ave	5	2	1	3	11
16	Ohio Avenue	2nd St	23rd St	5	2	1	3	11
17	Pennsylvania Avenue	3rd St	13th St	3	2	1	5	10
18	Broadway Street	Carlson Blvd	Macdonald Ave	5	1	1	3	10
19	7th Street	Acacia Ave	Barrett Ave	5	1	1	3	10
20	Richmond Greenway Access	San Pablo Ave	1st St	5	1	1	3	10
21	37th Street	Cerrito Ave	Wall Ave	3	2	2	3	10
22	7th Street	RR track	Acacia Ave	4	1	2	3	10
23	Roosevelt Avenue	Wilson Ave	Portola Ave	4	1	1	3	9
24	Carlson Blvd	Broadway Street	Bayview Ave	3	2	1	3	9

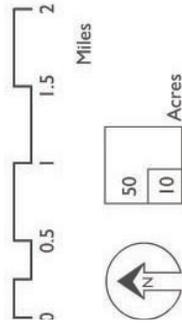
PRIORITIZATION OF CAPITAL IMPROVEMENTS: TIER THREE PROJECTS								
	Name	From	To	Ped Districts/ Amenities	Connectivity	Safety	Relative Ease of Implementation	Prioritization Score
27	Marina Way	Barrett Ave	MacDonald Ave	5	2	1		8
28	Richmond Greenway	23rd St	Carlson Blvd	3	3	1	1	8
29	Cutting Blvd	Marina Bay Pkwy	Hoffman Blvd	3	2	2	1	7
30	7th Street	Vernon Ave	RR track	2	1	1	3	7
31	Cutting Blvd	San Pablo Ave	Carlson Blvd	3	2	2	1	7
32	13th Street bridge	Pennsylvania Ave	Esmond Ave	3	2	1	1	7
33	Cutting Blvd	Carlson Blvd	Marina Bay Pkwy	2	2	1	1	7
34	McBryde Avenue	Alvarado Park	San Pablo Ave	2	2	1	1	6
35	44th Street	Wilson Ave	Nevin Ave	2	1	1	1	5
36	Nevin Avenue	Marina Way	13th St	0	0	0	3	3
37	Nevin Avenue	9th St	8th St	0	0	0	3	3

Central Richmond Prioritized Capital Improvement Projects



Pedestrian Prioritization

- 1st Tier Projects
- 2nd Tier Projects
- 3rd Tier Projects



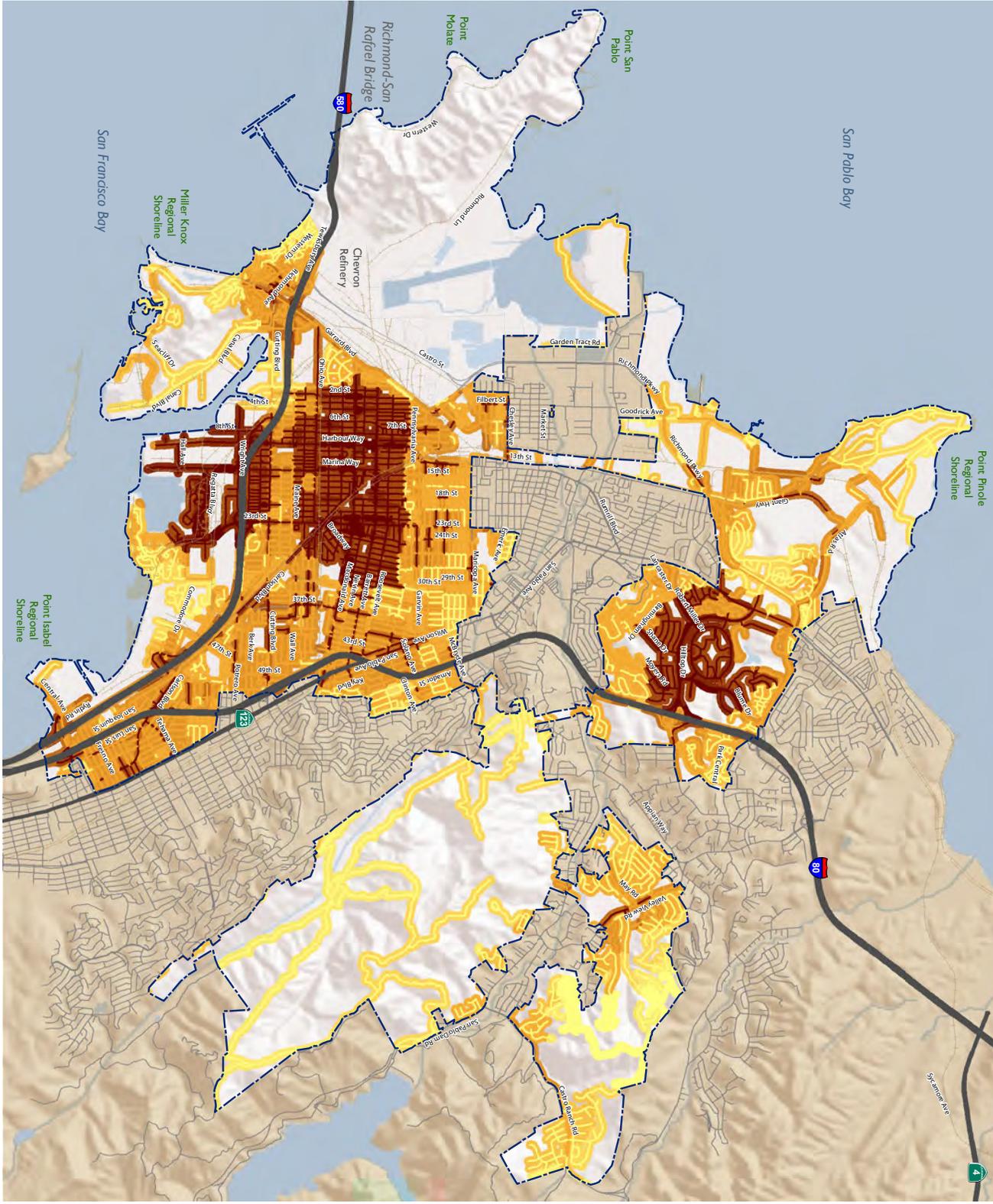
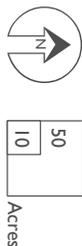
Prioritization for Ongoing Citywide Pedestrian Improvements

Pedestrian Projects

1st Tier Projects

2nd Tier Projects

3rd Tier Projects



Proposed Crosswalk Policy

This crosswalk policy includes a toolbox of elements to improve crosswalk visibility and safety. In addition to standard tools, the toolbox includes very promising devices, such as the HAWK Beacon and Rectangular Rapid Flashing Beacon (RRFB)⁷

This policy provides guidance about the type of treatments appropriate on various streets and under various conditions. The toolbox uses simple inputs from a field survey, such as number of lanes, posted speed, and average daily traffic, to provide a candidate crosswalk treatment at mid-block and uncontrolled locations. While these treatments represent best practice, engineering judgment should be exercised in all cases.

The main function of a crosswalk is to channelize pedestrians. Well-marked pedestrian crossings accomplish dual goals. They prepare drivers for the likelihood of encountering a pedestrian, and they create an atmosphere of walkability and accessibility for pedestrians. Marked crossings reinforce the location and legitimacy of a crossing. However, the California Vehicle Code requires vehicles to yield the right-of-way to pedestrians at any intersection where crossing is not prohibited (regardless of markings).⁸ Crossing between adjacent, signalized intersections or anywhere crossing is prohibited is considered jaywalking.

While pedestrians and drivers have a responsibility to behave in accordance with the vehicle code, municipalities also have a responsibility to provide for safe crossings. This policy focuses on crosswalk treatments that will improve pedestrian safety and, in doing so, enhance pedestrian accessibility and mobility for all users.

Background

The first step in identifying candidate crosswalk locations is to identify where the “pedestrian desire lines” are located. Pedestrian desire lines are affected by local land uses (homes, schools, parks, commercial establishments, etc.) and the location of transit stops. The identification of pedestrian desire lines serves as a basis for identifying pedestrian crossing improvement areas and prioritizing such improvements, thereby creating a convenient, connected, and continuous walking environment.

The second step is identifying the locations safest for people to cross. Of all road users, pedestrians have the highest risk because they are the least protected. National statistics indicate that pedestrians represent 14 percent of all traffic incident fatalities while walking accounts for only three percent of total trips. Pedestrian collisions occur most often when a pedestrian is attempting to cross the street at an intersection or mid-block location.⁹

⁷ As of November 2010, the HAWK Beacon was not yet included in the California Manual of Uniform Traffic Control Devices (CMUTCD) but was approved for use at the national level. Use of the RRFB requires permission to experiment from the FHWA and is not yet included in the California Manual of Uniform Traffic Control Devices (CMUTCD).

⁸ More information on the California Vehicle Code sections related to pedestrian right-of-way is available at <http://www.walksf.org/vehicleCodes.html>.

⁹ Pedestrian Crash Types, A 1990's Information Guide, FHWA; This paper analyzed 5,076 pedestrian crashes that occurred during the early 1990's. Crashes were evenly selected from small, medium, and large communities within six states: California, Florida, Maryland, Minnesota, North Carolina, and Utah. <http://drusilla.hsra.unc.edu/cms/downloads/PedCrash-Types1997.pdf>

Several major studies of pedestrian collision rates at marked and unmarked crosswalks have been conducted. In 2002, the Federal Highway Administration (FHWA) published a comprehensive report on the relative safety of marked and unmarked crossings.⁷ In 2006, another study was completed that further assists engineers and planners in selecting the right treatment for marked crosswalks based on studies of treatment effectiveness.⁸ With these studies as a backdrop, this policy presents a variety of treatment options to mitigate safety, visibility, or operational concerns at specific locations.

Crosswalks at Uncontrolled Locations

Marked Crosswalks

Charts 1 and 2 on the following pages describe the recommended selection process and feasibility analysis that should be followed when considering a marked crosswalk at uncontrolled and mid-block locations. In addition to providing marked crosswalks where desire lines exist, the charts illustrate that consideration must be given to ensure adequate sight distance is provided additional enhancements are installed where safety considerations require.

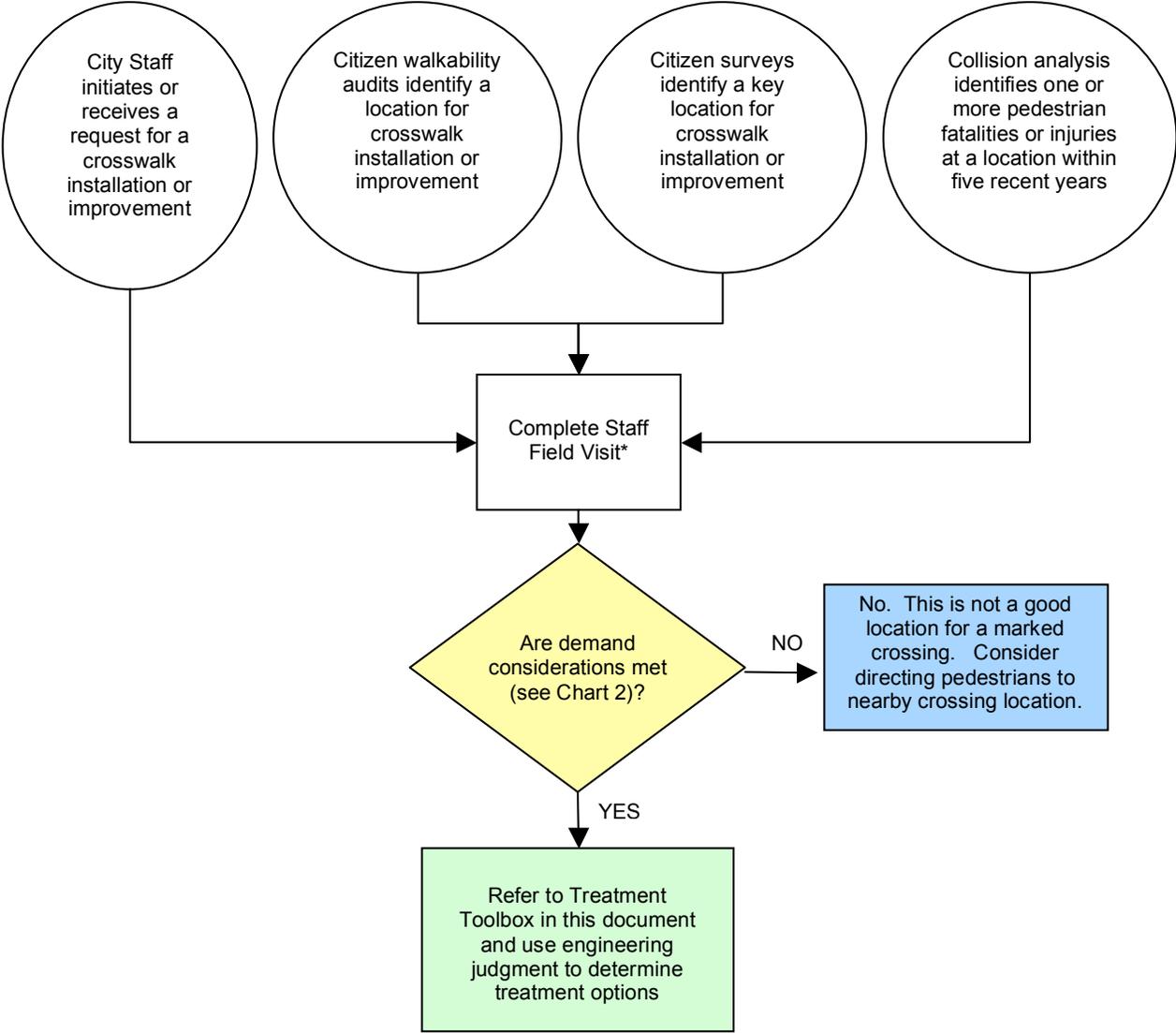
Considerations for Multi-Lane, High Volume, and/or High Speed Locations

For candidate crosswalk locations on either a multi-lane street of three or more lanes, or on two-lane streets with daily traffic volumes (ADT) greater than 12,000 or with posted speed limit exceeding 30 miles per hour, enhanced treatments beyond striping and signing may be needed. Additional funding sources should be identified as needed for these enhancements. Failing to provide an enhanced crosswalk and/or removing a crosswalk because it cannot be enhanced should be an option of last resort.

⁷ Zegeer, C.V., J.R. Stewart, H.H. Huang and RA. Lagerwey. "Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines." Report No. FHWA-RD-01-075. Washington, DC, USA: Federal Highway Administration, March 2002. http://www.walkinginfo.org/pdf/r&d/crosswalk_021302.pdf.

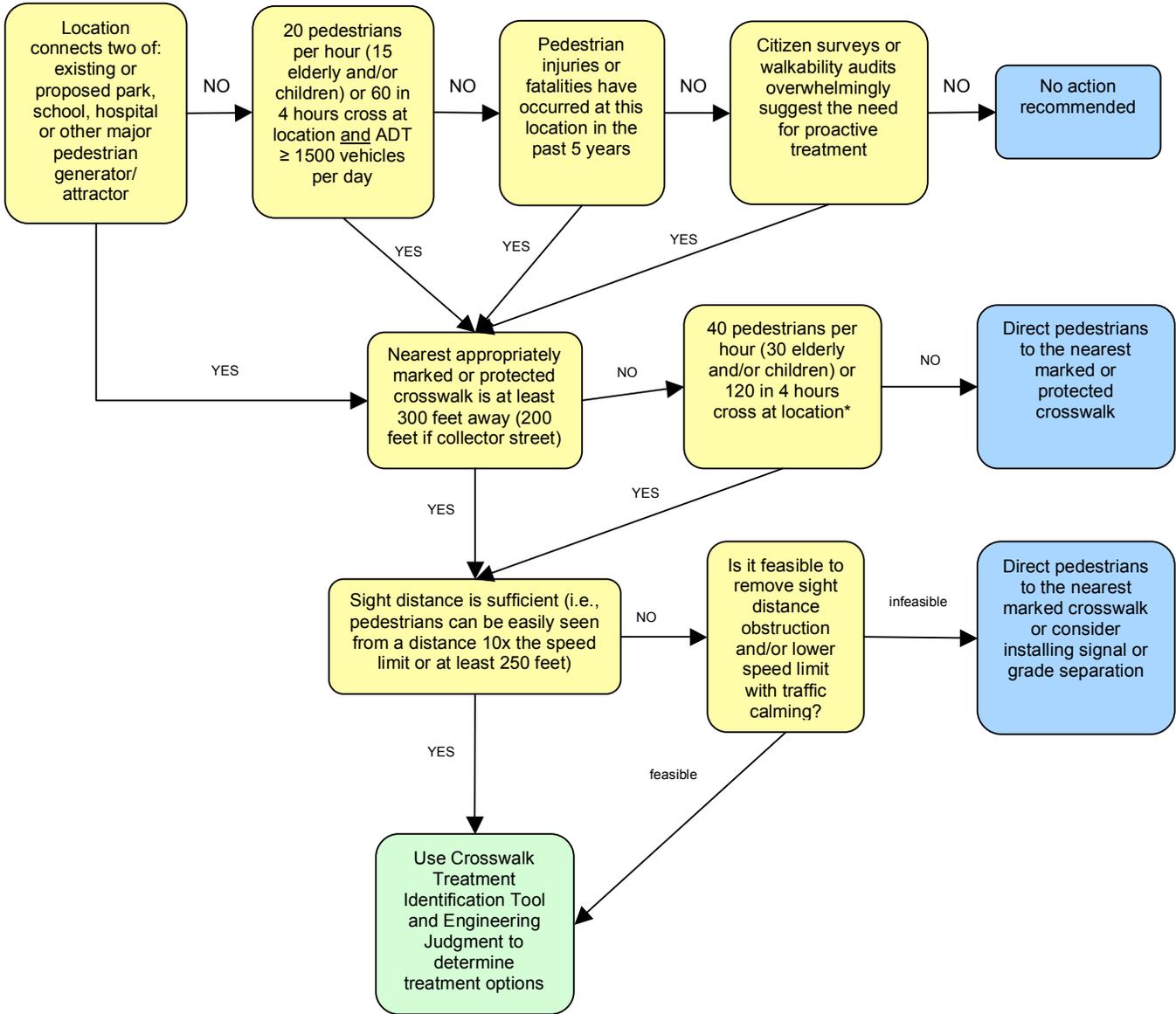
⁸ Fitzpatrick, Kay, et al... Improving Pedestrian Safety at Uncontrolled Crossings. TCRP Report 112/NCHRP Report 562. 2006. http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_562.pdf.

Chart 1. Recommended Selection Process for Uncontrolled and Mid-Block Crosswalk Locations



* A field visit checklist is provided in Appendix A

Chart 2. Feasibility Analysis for Treatments at Uncontrolled Locations



* Consider lowering the volume requirements in rural locations or to meet local ranges for pedestrian volumes

Note: Where no engineering action is recommended in Chart 2, consider applicable education and enforcement efforts.

Treatment Toolbox

Based on the results of Charts 1 and 2, the procedure in this section may be used at a candidate crosswalk location to identify an appropriate crosswalk treatment. The treatment identification procedure follows a two-step process to determine a “match” for the study location characteristics. The first step is to determine if the pedestrian and vehicle volumes meet the signal warrant requirements to install a pedestrian signal. If this warrant is met, then a signal is recommended. If the warrant is not met, one or more less “intense” treatments is recommended, as described below.

A calculation of Pedestrian Level of Service (PLOS) forms the basis for treatment identification.⁷ PLOS is the average delay experienced by pedestrians as they are waiting to cross the street. The average crossing speed is based on curb-to-curb width and gaps in traffic.

Expected motorist compliance is another key variable for treatment identification. Compliance is based on field observations and engineering judgment. It is meant to reflect typical motorist responses to pedestrians attempting to cross the street. If drivers are likely to stop for a pedestrian, the compliance is rated “high.” If drivers rarely stop for pedestrians, compliance is rated “low.” A default compliance rate of low is suggested for all locations where the speed limit is greater than 30 MPH.

A treatment matrix assigns treatment by level of enhancement needed (with the most significant enhancement required with the worst PLOS and compliance rates).

Level 1 Treatments:

- High Visibility Crosswalk Markings, Advance Yield Limit Lines, Advance Signage

Level 2 Treatments:

- Curb Extensions, Bus Bulbs, Reduced Curb Radii, Staggered Pedestrian Refuges

Level 3 Treatments:

- In-pavement Flashers, Overhead Flashing Beacons (two-lane roads)
- Rectangular Rapid Flashing Beacons (RRFB)* (multi-lane roads)

Level 4 Treatments:

- HAWK, RRFB, or Direct Pedestrians to Nearest Safe Crossing⁸

Level 5 Treatments:

- Signal (when warrants are met)
- Grade Separation (freeways and high speed, high volume arterials)

Descriptions for each treatment are presented in the next section. For higher levels of treatments, combinations of treatments across levels (such as a HAWK beacon with curb extensions) may be appropriate. These combinations should be determined based on site feasibility and engineering judgment.

⁷ Note: This calculation requires data inputs from the Field View Checklist (see Appendix A). The pedestrian level of service calculation is set forth in the Highway Capacity Manual (HCM), published by the Transportation Research Board.

⁸ Not included in the current CMUTCD (however, the HAWK is included in the federal MUTCD and the RRFB has provisional approval at the federal level).

Treatment Identification Matrix for Uncontrolled Locations

PEDESTRIAN LEVEL OF SERVICE *	EXPECTED MOTORIST COMPLIANCE		
	HIGH	MODERATE	LOW (or Speed > 30 MPH)
LOS A-D (average delay up to 30 seconds)	LEVEL 1 High Visibility Crosswalk Markings, Advance Yield Lines, Advance signage	LEVEL 2 Curb Extensions, Bus Bulb, Reduced Curb Radii, Staggered Pedestrian Refuge Plus LEVEL 1	LEVEL 3 2 lane road: In-pavement flashers, overhead flashing beacons Multi-lane road: RRFB Plus LEVELS 1 AND 2
LOS E-F (average delay greater than 30 seconds)	LEVEL 2 Curb Extensions, Reduced Curb Radii, Staggered Pedestrian Refuge Plus LEVEL 1	LEVEL 3 2 lane road: In-pavement flashers, overhead flashing beacons Multi-lane road: RRFB Plus LEVELS 1 AND 2	LEVEL 4 HAWK, RRFB, or Direct Pedestrians to Nearest Safe Crossing PLUS LEVELS 1 AND 2

* Based on the pedestrian level of service criteria as defined in the 2000 Highway Capacity Manual, Table 18-13 (LOS Criteria for Pedestrians at Unsignalized Intersections) for average delay/pedestrian, where delay is calculated as a function of vehicle flow rates and critical gaps (which are a function of walking speed, crosswalk length, and startup and end clearance times).

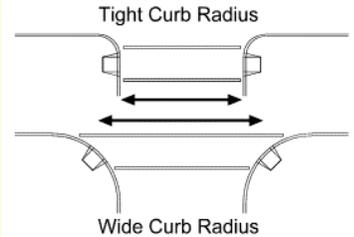
Notes:

- A Pedestrian Refuge Island is recommended for consideration in all scenarios where at least six feet of right-of-way is available.
- A Road Diet is recommended for consideration in all scenarios with four or more lanes of traffic and a daily traffic volume of less than 16,000 vehicles (ADT). Streets with ADT between 16,000 and 20,000 are also candidates for road diets, but require additional study.

Candidate Treatment Options

The following table provides a summary of the treatments toolbox. Additional fact sheets and case studies for many of these treatments are included in the NHCRP 562 Report at http://trb.org/publications/nchrp/nchrp_rpt_562.pdf or the Pedestrian Bicycle Information Center at <http://www.walkinginfo.org/>.

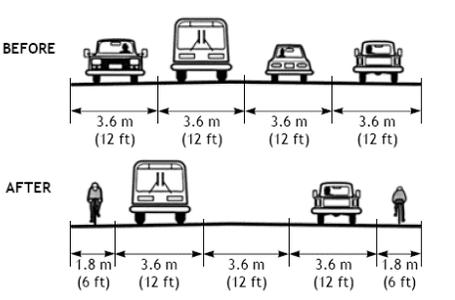
CROSSWALK TREATMENTS			
Measure	Description	Benefits	Application
Level 1			
<p>Marked Crosswalk</p>  <p><i>Image source: www.walkinginfo.org/pedsafe/</i></p>	<p>Marked crosswalks should be installed to provide designated pedestrian crossings at major pedestrian generators, crossings with significant pedestrian volumes (at least 15 per hour), crossings with high vehicle-pedestrian collisions, and other areas based on engineering judgment</p>	<p>Marked crosswalks provide a designated crossing, which may improve walkability by signaling a clear “channel” for pedestrian pathways to both pedestrians and vehicles.</p>	<p>Marked crosswalks alone should not be installed on multi-lane roads with more than about 10,000 vehicles/day. Enhanced crosswalk treatments (as presented in this table) should supplement the marked crosswalk.</p>
<p>High-Visibility Signs and Markings</p>  <p><i>Image source: exodusinnovations.com</i></p>	<p>High-visibility markings include a family of crosswalk striping styles such as the “ladder” and the “continental.” High-visibility fluorescent yellow green signs are made of the approved fluorescent yellow-green color and posted at crossings to increase the visibility of a pedestrian crossing.</p>	<p>Increases the visibility of a pedestrian crossing. Beneficial in areas with high pedestrian activity, as near schools, and in areas where travel speeds are high and/or motorist visibility is low.</p>	<p>High visibility crosswalk striping (ladder or triple four style) should be used for all uncontrolled marked crosswalks. Yellow paint must be used for all crosswalks within 200 feet of a school. High visibility signs should be used in areas with frequent pedestrian activity.</p>
<p>Advanced Yield or Stop Lines</p>  <p><i>Image source: www.saferoutesinfo.org</i></p>	<p>Standard white stop or yield limit lines are placed in advance of marked, uncontrolled crosswalks. Stop or yield lines are determined based on state vehicle codes (requiring the driver to either stop or yield to the pedestrian).</p>	<p>This measure increases the pedestrian’s visibility to motorists, reduces the number of vehicles encroaching on the crosswalk, and improves general pedestrian conditions on multi-lane roadways. It is also an affordable option.</p>	<p>Useful in areas where pedestrian visibility is low and in areas with aggressive drivers, as advance limit lines will help prevent drivers from encroaching on the crosswalk. Addresses the multiple-threat collision on multi-lane roads.</p>

CROSSWALK TREATMENTS			
Measure	Description	Benefits	Application
<p>In-Street Pedestrian Crossing Signs</p>  <p><i>Image source: www.seton.com</i></p>	<p>This measure involves posting regulatory pedestrian signage on lane edge lines and road centerlines. The In-Street Pedestrian Crossing sign may be used to remind road users of laws regarding right of way at an unsignalized pedestrian crossing. The legend STATE LAW may be shown at the top of the sign if applicable. The legends STOP FOR or YIELD TO may be used in conjunction with the appropriate symbol.</p>	<p>This measure is highly visible to motorists and has a positive impact on pedestrian safety at crosswalks.</p>	<p>Mid-block crosswalks, unsignalized intersections, low-speed areas, and two-lane roadways are ideal for this pedestrian treatment. The STOP FOR legend shall only be used in states where the state law specifically requires that a driver must stop for a pedestrian in a crosswalk.</p>
Level 2			
<p>Curb Extension/ Bulb Outs</p>  <p><i>Image source: Dan Burden</i></p>	<p>Also known as a pedestrian bulb-out, this traffic-calming measure is meant to slow traffic and increase driver awareness. It consists of an extension of the curb into the street, making the pedestrian space (sidewalk) wider.</p>	<p>Curb extensions narrow the distance that a pedestrian has to cross and increases the sidewalk space on the corners. They also improve emergency vehicle access and make it difficult for drivers to turn illegally.</p>	<p>Due to the high cost of installation, this tool would only be suitable on streets with high pedestrian activity, on-street parking, and infrequent (or no) curb-edge transit service. It is often used in combination with crosswalks or other markings.</p>
<p>Reduced Curb Radii</p>  <p><i>Image Source: www.ci.austin.tx.us</i></p>	<p>The radius of a curb can be reduced to require motorists to make a tighter turn.</p>	<p>Shorter radii narrow the distance that pedestrians have to cross; they also reduce traffic speeds and increase driver awareness (like curb extensions), but are less difficult and expensive to implement.</p>	<p>This measure would be beneficial on streets with high pedestrian activity, on-street parking, and no curb-edge transit service. It is more suitable for wider roadways and roadways with low volumes of heavy truck traffic.</p>

CROSSWALK TREATMENTS			
Measure	Description	Benefits	Application
<p>Staggered Median Pedestrian Island</p>  <p><i>Image Source: www.tfhr.gov/</i></p>	<p>This measure is similar to traditional median refuge islands; the only difference is that the crosswalks in the roadway are staggered such that a pedestrian crosses half the street and then must walk towards traffic to reach the second half of the crosswalk. This measure must be designed for accessibility by including rails and truncated domes to direct sight-impaired pedestrians along the path of travel.</p>	<p>Benefits of this tool include an increase in the concentration of pedestrians at a crossing and the provision of better traffic views for pedestrians. Additionally, motorists are better able to see pedestrians as they walk through the staggered refuge.</p>	<p>Best used on multi-lane roads with obstructed pedestrian visibility or with off-set intersections</p>
Level 3			
<p>In-Roadway Warning Lights</p>  <p><i>Image Source: www.tfhr.gov/</i></p>	<p>Both sides of a crosswalk are lined with pavement markers, often containing an amber LED strobe light. The lights may be push-button activated or activated with pedestrian detection.</p>	<p>This measure provides a dynamic visual cue, and is increasingly effective in bad weather</p>	<p>Best in locations with low bicycle ridership, as the raised markers present a hazard to bicyclists. May not be appropriate in areas with heavy winter weather due to high maintenance costs. May not be appropriate for locations with bright sunlight. The lights may cause confusion when pedestrians fail to activate them and/or when they falsely activate.</p>
<p>Overhead Flashing Beacons</p>  <p><i>Image source: tti.tamu.edu</i></p>	<p>Flashing amber lights are installed on overhead signs, in advance of the crosswalk or at the entrance to the crosswalk.</p>	<p>The blinking lights during pedestrian crossing times increase the number of drivers yielding for pedestrians and reduce pedestrian-vehicle conflicts. This measure can also improve conditions on multi-lane roadways.</p>	<p>Best used in places where motorists cannot see a traditional sign due to topography or other barriers.</p>

CROSSWALK TREATMENTS			
Measure	Description	Benefits	Application
<p>Stutter Flash*</p>  <p><i>Image source: mutcd.fhwa.dot.gov</i></p>	<p>The Overhead Flashing Beacon is enhanced by replacing the traditional slow flashing incandescent lamps with rapid flashing LED lamps. The beacons may be push-button activated or activated with pedestrian detection.</p>	<p>Initial studies suggest the stutter flash is very effective as measured by increased driver yielding behavior. Solar panels reduce energy costs associated with the device.</p>	<p>Appropriate for multi-lane roadways.</p>
Level 4			
<p>Hawk Beacon Signal*</p>  <p><i>Image Source: www.tfhr.gov/</i></p>	<p>HAWK (High Intensity Activated Crosswalks) are pedestrian-actuated signals that are a combination of a beacon flasher and a traffic control signal. When actuated, HAWK displays a yellow (warning) indication followed by a solid red light. During pedestrian clearance, the driver sees a flashing red “wig-wag” pattern until the clearance interval has ended and the signal goes dark.</p>	<p>Reduces pedestrian-vehicle conflicts and slows traffic speeds</p>	<p>Useful in areas where it is difficult for pedestrians to find gaps in automobile traffic to cross safely, but where normal signal warrants are not satisfied. Appropriate for multi-lane roadways.</p>
Level 5			
<p>Traffic Signal</p>  <p><i>Image source: www.livablestreets.com</i></p>	<p>Conventional traffic control devices with warrants for use based on the Manual on Uniform Control Devices (MUTCD)</p>	<p>Reduces pedestrian-vehicle conflicts and slows traffic speeds</p>	<p>Must meet warrants based on traffic and pedestrian volumes; however, exceptions are possible based on demonstrated pedestrian safety concerns (collision history)</p>

* Treatment not included in the current version of the CMUTCD

CROSSWALK TREATMENTS			
Measure	Description	Benefits	Application
<p>Pedestrian Overpass/ Underpass</p>  <p><i>Image source: omahamidcenturymodern.blogspot.com</i></p>	<p>This measure consists of a pedestrian-only overpass or underpass over a roadway. It provides complete separation of pedestrians from motor vehicle traffic, normally where no other pedestrian facility is available, and connects off-road trails and paths across major barriers.</p>	<p>Pedestrian overpasses and underpasses allow for the uninterrupted flow of pedestrian movement separate from the vehicle traffic. However, for underpasses, security is known to be a major issue.</p>	<p>This measure is most appropriate in extreme cases where pedestrians must cross roadways such as freeways and high-speed, high-volume arterials. Use of either type of facility falls off rapidly when the additional time required for use amounts to 20% or more of the time required to cross at grade. This measure should be considered only with further study.</p>
<p>Consider for All Multi-Lane Roads</p>			
<p>Road Diet (aka Lane Reduction)</p>  <p><i>Image Source: www.tfhrcc.gov/</i></p>	<p>The number of lanes of travel is reduced by widening sidewalks, adding bicycle and parking lanes, and converting parallel parking to angled or perpendicular parking.</p>	<p>This is a good traffic calming and pedestrian safety tool, particularly in areas that would benefit from curb extensions but have infrastructure in the way. This measure also improves pedestrian conditions on multi-lane roadways.</p>	<p>Roadways with surplus roadway capacity (typically multi-lane roadways with less than 20,000 ADT) and high bicycle volumes, and roadways that would benefit from traffic calming measures.</p>
<p>Consider for All Scenarios</p>			
<p>Median Pedestrian Island</p>  <p><i>Image source: http://thegoodcity.wordpress.com/category/transportation/</i></p>	<p>Raised islands are placed in the center of a roadway, separating opposing lanes of traffic with cutouts for accessibility along the pedestrian path.</p>	<p>The refuge allows pedestrians to focus on each direction of traffic separately, and provides them with a better view of oncoming traffic as well as allowing drivers to see them more easily. It can also split up a multi-lane road and supplement other pedestrian tools.</p>	<p>Recommended for multi-lane roads wide enough to accommodate an ADA-accessible median</p>

Pedestrian Plan Action Steps

Task Type	Task	Lead City Agency/ Partner	Timeline	Relative Cost*	Relative Priority	Plan Chapter
Proposed Site Improvements						
Near-term Projects	Identify priority projects for implementation and pursue funding for design and construction.	Planning Engineering Redevelopment	1-5 years	-\$-\$-\$-\$	Tier 1: High Tier 2: Medium Tier 3: Low	Chapter 3: 50-106 Appx: A-2-A-7
Medium-Term Projects	Ensure that medium-term projects are considered as new funding sources, redevelopment or other opportunities arise.	Planning, Engineering, Redevelopment	6-10 years	-\$-\$-\$-\$	Tier 1: High Tier 2: Medium Tier 3: Low	Chapter 3: 50-106 Appx: A-2-A-7
Long-term/ Opportunistic Projects	Ensure that long-term projects are considered as new funding sources, redevelopment or other opportunities arise.	Planning Engineering Redevelopment	Ongoing- Long-term	-\$-\$-\$-\$	Tier 1: High Tier 2: Medium Tier 3: Low	Chapter 3: 50-106 Appx: A-2-A-7
Project Prioritization	Reevaluate the prioritization of projects as facilities are constructed, new opportunities arise, and priorities shift over time.	Planning RBPAC	Annual	\$	Moderate	Appx: A-2-A-7
Repaving	Coordinate repaving projects with proposed on-street, curb ramp, and crosswalk improvements; prioritize repaving on streets with existing and proposed facilities with poor pavement conditions.	Planning Engineering	Ongoing	\$	High	Chapter 2, Chapter 3: 50-106 Appx: A-2-A-7, A-8-A-18
Richmond Greenway Maintenance and Operations	Collaborate with Rails to Trails to seek grant funding for a focused study on construction practices and materials, and maintenance and operations to help the City deter crime and vandalism.	Planning Rails to Trails Conservancy Groundwork Richmond Planning	Short-term	\$	Medium	Chapter 3: 88-97
Bay Trail Gaps	Support and coordinate with TRAC and ABAG to address gaps and improvements to the Bay Trail.	Redevelopment ABAG TRAC	Ongoing	\$	Medium	Chapter 3: 88-99
Regional Coordination	Coordinate with CCTA, WCCTAC, and neighboring jurisdictions to ensure a continuous and connected on-street and off-street pedestrian and bicycle network throughout West County.	Planning WCCTAC	Ongoing	\$	Medium	N/A
Collisions						
SWITRS Reports	Obtain and make available to the public standardized SWITRS reports for collisions in Richmond involving pedestrians and bicyclists for the latest available calendar year.	Police	Annual	\$	High	N/A
Trends	Analyze collision trends from SWITRS reports and include the information in an annual traffic safety report.	Engineering	Annual	\$	Medium	N/A
Hot Spots	Create and analyze maps of collision locations, and seek solutions to any newly identified collision hotspots.	Engineering	Annual	\$	High	Chapter 1: 4
Support Programs						
Educational Campaign	Develop and deliver bilingual educational campaigns with motorist, pedestrian and bicycling safety and share-the-road messages.	Engineering Dept, Police Dept	Annual	\$	High	N/A

Richmond Pedestrian Plan: Appendix

Task Type	Task	Lead City Agency/ Partner	Timeline	Relative Cost*	Relative Priority	Plan Chapter
Neighborhood Walk Audits and Clean-ups	Conduct neighborhood walk audits and clean-up campaigns with residents to assess walking conditions, identify safety and infrastructure problems, and encourage property owners and tenants to keep parked vehicles, plants, weeds, and other debris from blocking walkways	Police Code Enforcement Unit Engineering Community Organizations Neighborhood Councils	Annual	\$	Medium	Chapter 2: 32-36
Encouragement Programs and Events	Partner with the school district and community groups on Safe Routes to School, guided walks, runs or rides, and other efforts to promote walking and bicycling among students, young adults, families and seniors of all abilities.	Planning Engineering Contra Costa County Health Services Community Organizations School District	Ongoing	\$	Medium	N/A
Code Enforcement	Give warnings and cite vehicles illegally parked on sidewalks in driveways and other areas.	Police Code Enforcement Unit	Ongoing	\$	High	Chapter 2: 32-36
Bicycle Patrol Unit	Provide adequate funding for a bicycle patrol unit.	Police	Annual	\$\$	Low	N/A
Policy						
Complete Streets	Adopt a complete streets policy to ensure roadway design and operation with all users in mind.	Planning Engineering	Short to mid-term	\$\$	Medium	Chapter 2: 17-18
Development Code Update	Update standards in the subdivision and zoning codes to implement citywide recommendations in coordination with the required code update following adoption of the new General Plan.	Planning	Short to mid-term	\$ ¹	Medium	Chapter 2
Engineering Standards	Review, update and develop relevant engineering standard plans and specifications to implement citywide recommendations.	Engineering	Short-term/ Ongoing	\$\$	Medium	Chapter 2 Chapter 3
Crosswalk Policy	Adopt criteria, procedures and consistent standards for pedestrian crossing treatments.	Engineering	Short-term	\$	High	Appx: A-8-A-18
Street Trees and Landscaping Guidelines and Standards	Develop citywide guidelines and standards for trees and green stormwater drainage and treatment strategies in streets, parking lots and sidewalk areas.	Planning Engineering Parks and Public Landscaping	Short-term	\$\$ ²	Medium	Chapter 2: 39-41
General Plan Policies	Conduct a detailed review of relevant policies and actions in the General Plan, and develop implementation mechanisms for any not addressed in the Pedestrian Plan or through other City plans and processes.	Planning	Short- to medium-term	\$	Medium	Circulation, Land Use and Urban Design, Health and Wellness, Community Facilities and Infrastructure Elements

¹ Cost is folded into the cost of the required comprehensive zoning code update to ensure zoning code consistency with new General Plan. In addition, the City is approved for funding from a Proposition 84 Sustainable Communities Grant that can aid this effort; however, funding at the time of this writing is contingent upon sell of State bonds for the grant program.

² The City is approved for funding from a Proposition 84 Urban Greening Grant that can aid this effort; however, funding at the time of this writing is contingent upon sell of State bonds for the grant program.

Richmond Pedestrian Plan: Appendix

Task Type	Task	Lead City Agency/ Partner	Timeline	Relative Cost*	Relative Priority	Plan Chapter
Bicycle Master Plan	Coordinate Pedestrian Plan recommendations with Bicycle Master Plan implementation to ensure that walking and bicycle improvements complement one another.	Citywide	Ongoing	\$	High	Richmond Bicycle Master Plan
RBPAC	Examine RBPAC membership and expand to ensure representative community cross-section of pedestrian mobility needs and concerns.	Planning	Short-term	\$	High	N/A
Staff Coordinator	Seek funds to hire a part- to full-time pedestrian and bicycle coordinator to oversee and pursue funding for projects set forth in the Pedestrian and Bicycle Plans, and support interdepartmental and interagency coordination on walking and biking issues and infrastructure.	TBD	Ongoing	\$\$	High	N/A
Public Input	Develop gradations of public notification and outreach corresponding to the scope and level of street improvement projects. ³	Engineering	Short-term	\$	Low	N/A

*Estimated Order of Magnitude Cost: \$ = <\$50K, \$\$ = \$50K-\$200K, \$\$\$ = \$200K-\$500K, \$\$\$\$ = >\$500K

³ The Community Participation Chapter of the Draft Richmond Parks Master Plan includes recommendations and a matrix of types of public input targeted for different types of projects that could be used for guidance for repaving, striping, and more intensive roadway and streetscape projects.



MEMORANDUM

Date: July 22, 2010

To: Josh Meyer, Local Government Commission

From: Brooke DuBose and Ryan McClain, Fehr & Peers

Subject: Cutting Boulevard/Carlson Boulevard Roundabout Concept

WC07-2478

Fehr & Peers performed a conceptual level feasibility assessment of replacing the signalized Cutting Boulevard/Carlson Boulevard intersection with a roundabout. This assessment included a basic intersection operations analysis and conceptual layout. This memorandum summarizes our results.

Background

Cutting Boulevard and Carlson Boulevard are currently four-lane roads, with left-turn pockets at the intersection. The roads intersect at a 45 degree angle, creating a skewed intersection. Potential road diets would reduce both of these roadways to two lanes. For the purposes of the roundabout analysis, it was assumed that the road diets would be in place.

Union Pacific rail lines run parallel to Carlson Boulevard in the project area. Cutting Boulevard crosses the tracks approximately 75 feet west of the study intersection. Additionally, there is frequent truck traffic through the intersection serving industrial and commercial uses.

Existing pedestrian facilities include a sidewalk on the east side of Carlson Boulevard, and on the north and south sides of Cutting Boulevard. Crosswalks are provided across the south, east, and north legs of the intersection.

Traffic Operations

For operational analysis, existing peak hour traffic volumes were obtained from the 2006 Richmond *General Plan* project documents. The SimTraffic microsimulation software and NCHRP 572 methodology were both used for this analysis, which we have found provide a conservative assessment. The impacts of the railroad crossing were not included in this operational analysis. Initial analysis of a single lane roundabout resulted in the following:

- Acceptable operations during the AM peak hour
- The eastbound approach fails during the PM peak hour with queues extending over a half mile and delay of 10 minutes per vehicle

With the resulting failure of the eastbound approach, a second eastbound lane was added. This provides a second entry lane, a second circulating lane, and a second exit lane for eastbound through traffic. With the additional lane, the roundabout performed acceptably in both the AM and PM peak hours. We estimate that the extents of the second eastbound travel lane would be from

S. 31st Street to Stege Avenue/S. 34th Street. Additional analysis would be needed to refine the projected capacity needed for the eastbound direction.

Conceptual Roundabout Design

A conceptual roundabout layout incorporating the second eastbound lane is shown in Figure 1. This design provides an inscribed diameter of 100 feet for the single lane section and 130 feet for the two lane section. Right turn slip lanes are provided at the 45 degree approaches to provide for truck turns. This design accommodates a WB-40 (45.5 foot-long) semitrailer. Mountable curbs at several locations would be required for larger vehicles since a larger diameter roundabout is not feasible at this location.

Typically, a roundabout would have two lanes in both directions (e.g. the eastbound and westbound directions.) However, in this case the buildings in the northeast quadrant limit the available space for a second lane in the westbound direction, and the operations analysis does not indicate a need for a second lane.

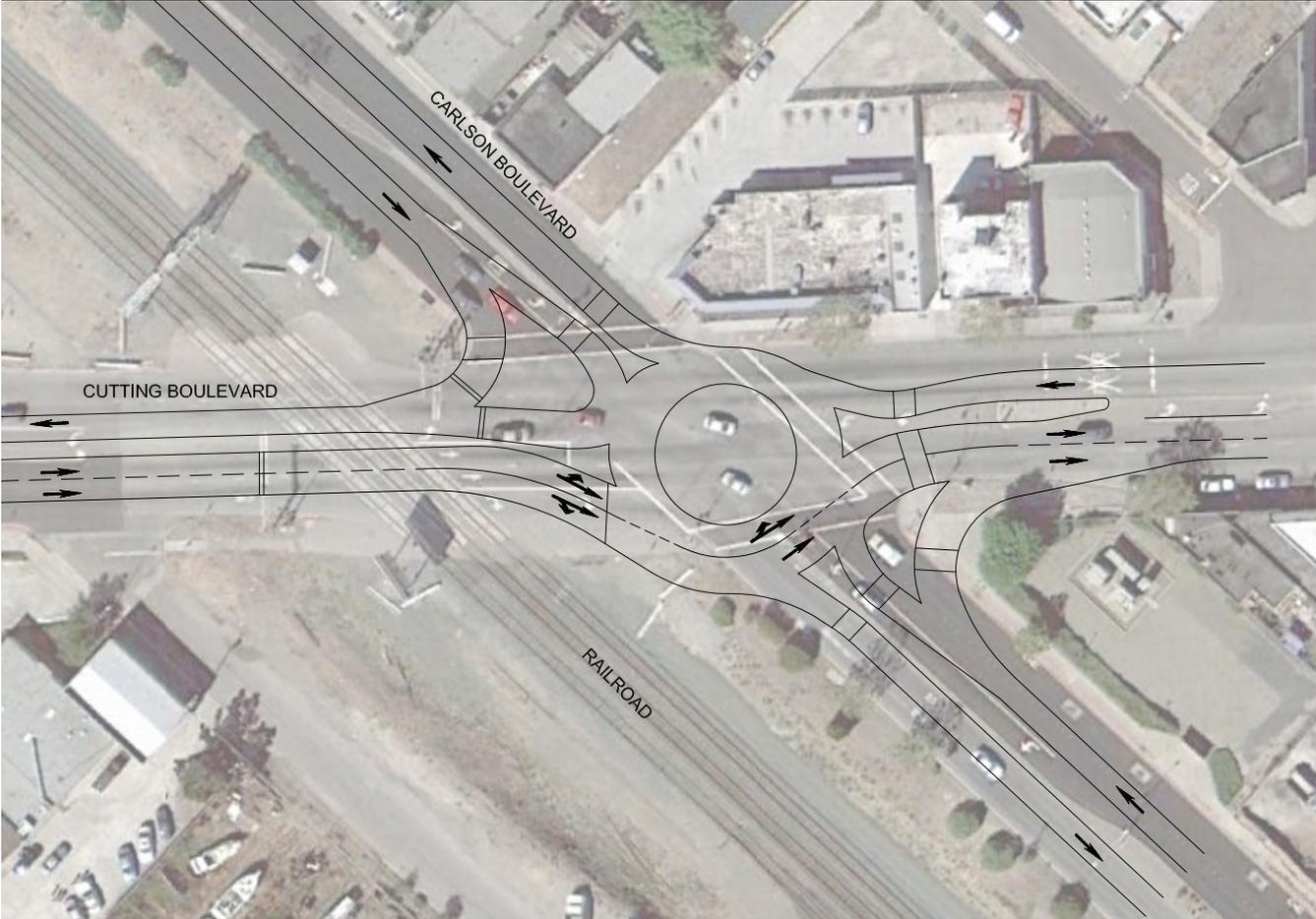
Similar to existing conditions, a crosswalk is not proposed for the west leg of the intersection. A crosswalk at this location would place pedestrians very close to the railroad tracks on the south side of the roadway, which may present safety concerns. With limited pedestrian destinations on the west side of the intersection, the crosswalks on the remaining three legs and at S. 31st Street should sufficiently accommodate pedestrian access.

The eastbound railroad crossing arm could remain in the existing location with this proposed design. We recommend moving the westbound crossing arm to the east, away from the railroad, and providing crossing arms for both the slip lane and the roundabout exit lane. Right-of-way from the railroad would be needed in the southwest quadrant of the intersection as shown in Figure 1.

Next Steps

Following are our recommended next steps. The feasibility and acceptability of a roundabout at this location can be reevaluated at the end of each step.

- Refine conceptual geometric design, including fastest path analysis, sidewalks, and right-of-way impacts. A topographic survey showing existing curb lines, railroad, and right-of-way is recommended.
- Approach Public Utilities Commission (PUC) with concept design and our approach to operational analysis with the railroad crossing.
- Based on feedback from PUC, perform detailed simulation with railroad crossing.
- Receive approval from PUC.
- Complete construction document package, including plans, specifications, and cost estimate.



CUTTING BOULEVARD/CARLSON BOULEVARD INTERSECTION
CONCEPTUAL ROUNDABOUT

Jurisdictions with Complete Streets Policies

updated: 02/03/10

Source: *Completestreets.org*

Policies Collected	State	County	Regional/MPO	City
Legislation / Ordinance	California Colorado Connecticut Florida Illinois Hawaii Massachusetts Maryland Michigan Minnesota Oregon Puerto Rico Rhode Island Vermont Wisconsin	Montgomery County, MD Salt Lake County, UT		Airway Heights, WA Albert Lea, MN Buffalo, NY Charlotte, NC Columbia, MO Columbus, MS Crystal City, MO DeSoto, MO Dexter, MI Ferguson, MO Ferndale, MI Hernando, MS Honolulu, HI Houghton, MI Issaquah, WA Kirkland, WA Lansing, MI North Myrtle Beach, SC Redmond, WA Renton, WA Roanoke, VA Saline, MI Salt Lake City, UT San Francisco, CA* San Francisco, CA* Seattle, WA Sedro-Woolley, WA St. Louis, MO Taylor, MI Tupelo, MS University Place, WA
Tax Ordinance		Sacramento County, CA San Diego County, CA		Seattle, WA
Internal Policy	California Colorado Louisiana Mississippi New Jersey North Carolina Pennsylvania Tennessee Virginia	Cobb County, GA Cook County, IL Hennepin County, MN Johnson County, IA Marin County, CA	Anderson, IN MPO (MCCOG) Bloomington, IN MPO (BMCMPPO) Boise, ID MPO (COMPASS) Cleveland, OH MPO (NOACA) Columbus, OH MPO (MORPC) Dayton, OH MPO (MVPC) Fargo-Moorhead ND, MN (Metro COG) Portage, IN (NIRPC) Quad Cities, IA/IL MPO (Bi-State RPC) Wilmington, DE (WILMAPCO)	Coeur d'Alene, ID Chicago, IL Las Cruces, NM Midland, MI Rochester, MN Rockville, MD Washington, DC
Executive Orders	Delaware			Nashville, TN Philadelphia, PA Salt Lake City, UT
Plans		Arlington County, VA Washtenaw County, MI	Austin, TX MPO (CAMPO) Birmingham, AL MPO (PCGB) Cheyenne, WY MPO	Bloomington, MN Boulder, CO Champaign, IL

Complete Streets - Current Policies

updated: 02/03/10

For more information, visit www.completestreets.org

Plans, cont.			Kansas City, MO (MARC) Pensacola, FL TPO (FATPO) Madison, WI MPO (MATPB) St. Joseph, MO MPO (SJATS) St. Louis, MO MPO (EWGCOG) Savannah, GA MPO (CORE)	Colorado Springs, CO Columbus, IN Decatur, GA Fort Collins, CO Hendersonville, TN Lee's Summit, MO Louisville, KY New York City, NY Northampton, MA Salamanca, NY Santa Barbara, CA West Palm Beach, FL Scottsdale, AZ Tacoma, WA
Design Guidance	Massachusetts		Knoxville Regional TPO	Basalt, CO Charlotte, NC Louisville, KY New Haven, CT New York City, NY Sacramento, CA San Diego, CA Tacoma, WA
Resolution	North Carolina South Carolina	Ada County, ID Doña Ana County, NM DuPage County, IL Erie County, NY Hennepin County, MN Jackson County, MI Kauai County, HI La Plata County, CO Lee County, FL Monmouth County, NJ Pierce County, WA Richland County, SC Spartanburg County, SC Ulster County, NY	Bay Area, CA MPO (MTC) Jackson, MI MPO Las Cruces, NM MPO San Antonio-Bexar County, TX MPO	Allegan, MI Anderson, SC Babylon, NY Baltimore, MD Berkley, MI Big Lake, MN Binghamton, NY Bozeman, MT Brookhaven, NY Byron, MN Cascade, IA Charlottesville, VA Chickasaw, AL Columbia, SC Columbus, OH Concord, NH Cuba, NY Daphne, AL Dayton, OH Des Moines, IA Duluth, MN Edmond, OK Elizabethtown, NY Emerson, NJ Everett, WA Fairfax, CA Fairhope, AL Festus, MO Flint, MI Franklin, PA

Complete Streets - Current Policies

updated: 02/03/10

For more information, visit www.completestreets.org

Resolutions, cont.				Golden, CO Gowanda, NY Greenville, SC Hamtramck, MI Helena, MT Hoboken, NJ Independence, MN Iowa City, IA Islip, NY Jackson, MI Kauai, HI Kingston, NY Knoxville, TN Lawrence, NJ Lee's Summit, MO Linden, MI Mackinaw City, MI Madison, WI Manistique, MI Mesilla, NM Miami, FL Middletown, RI Missoula, MT Montclair, NJ Morgantown, WV Netcong, NJ New Haven, CT New Hope, MN Newport, OR Newport, RI North Little Rock, AR Novato, CA Novi, MI Orange Beach, AL Pascagoula, MS Prattville, AL Red Bank, NJ Red Wing, MN Ross, CA Roswell, GA Saint Paul, MN San Anselmo, CA Sandpoint, ID Sault Ste. Marie, MI Spartanburg, SC Spokane, WA Stewartville, MN Topeka, KS West Windsor, NJ
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Complete Streets - Current Policies

updated: 02/03/10

For more information, visit www.completestreets.org

Policies Collected	State	County	Regional/MPO	City	Total Policies
Legislation / Ordinance	15	2	0	31	48
Resolution	2	14	4	79	99
Tax Ordinance	0	2	0	1	3
Internal Policy	9	5	10	7	31
Executive Orders	1	0	0	3	4
Plans	0	2	9	17	28
Manuals/Standards	1	0	1	8	10
<i>Total Policies</i>	<i>28</i>	<i>25</i>	<i>24</i>	<i>146</i>	223
<i>Total Jurisdictions</i>	<i>24</i>	<i>24</i>	<i>24</i>	<i>136</i>	208

**San Francisco has two ordinances that direct a Complete Streets approach.*



Examples of Complete Streets Policies and Guides

visit www.completestreets.org for updates and more information

Agency	Policy	Level	Year	Link
State of Connecticut	Public Act 09-154	State	2009	http://www.completestreets.org/webdocs/policy/cs-ct-legislation.pdf
State of Minnesota	Sec. 52 Minnesota Statutes 2008, section 174.75	State	2010	http://www.completestreets.org/webdocs/policy/cs-mn-legislation.pdf
State of California DOT	Deputy Directive 64-R1	State	2008	http://www.completestreets.org/webdocs/policy/cs-ca-dotpolicy.pdf
State of New Jersey DOT	Complete Streets Policy	State	2009	http://www.completestreets.org/webdocs/policy/cs-nj-dotpolicy.pdf
State of North Carolina DOT	Complete Streets Policy	State	2009	http://www.completestreets.org/webdocs/policy/cs-nc-dotpolicy.pdf
State of Massachusetts DOT	Project Development and Design Guidelines	State	2006	http://www.mhd.state.ma.us/default.asp?pgid=content/designGuide&sid=about
Mid-America Regional Council (Kansas City, MO area)	Transportation Outlook 2040	MPO	2010	http://www.marc.org/2040/Plan/index.aspx
Madison County Council of Governments (Anderson, IN area)	Complete Streets Policy	MPO	2010	http://www.completestreets.org/webdocs/policy/cs-in-madisoncountycog-policy.pdf
Mid-Ohio Regional Planning Commission (Columbus, OH area)	Complete Streets Policy	MPO	2010	http://www.completestreets.org/webdocs/policy/cs-oh-morpc-policy.pdf
Fargo-Moorhead Metropolitan Council	Complete Streets Policy	MPO	2010	http://www.completestreets.org/webdocs/policy/cs-nd-fargomoorhead-policy.pdf
Salt Lake County, UT	Ordinance No. 1672	County	2010	http://www.completestreets.org/webdocs/policy/cs-ut-saltlakecounty-ordinance.pdf
Dona Ana County, NM	Resolution 09-114	County	2009	http://www.completestreets.org/webdocs/policy/cs-nm-donaanacounty-resolution.pdf
Ada County, ID Highway District	Resolution No. 895	County	2009	http://www.completestreets.org/webdocs/policy/cs-id-adacounty-policy.pdf
Crystal City, MO	Ordinance	City	2010	http://www.completestreets.org/webdocs/policy/cs-mo-crystalcity-ordinance.pdf
Seattle, WA	Ordinance No. 122386	City	2010	http://www.completestreets.org/webdocs/policy/cs-wa-seattle-ordinance.pdf
Byron, MN	Resolution	City	2010	http://www.completestreets.org/webdocs/policy/cs-mn-byron-resolution.pdf
Festus, MO	Resolution No. 3924 ½	City	2010	http://www.completestreets.org/webdocs/policy/cs-mo-festus-resolution.pdf
Missoula, MT	Resolution No. 7473	City	2009	http://www.completestreets.org/webdocs/policy/cs-mt-missoula-resolution.pdf



Examples of Complete Streets Policies and Guides

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Agency	Policy	Level	Year	Link
Las Cruces, NM	Resolution 09-301	City	2009	http://www.completestreets.org/webdocs/policy/cs-nm-lascruces-resolution.pdf
Rochester, MN	Complete Streets Policy	City	2009	http://www.completestreets.org/webdocs/policy/cs-mn-rochester-policy.pdf
Decatur, GA	Community Transportation Plan	City	2008	http://www.decaturga.com/cgs_citysvcs_dev_transportationplan.aspx
New Haven, CT	Complete Streets Design Manual	City	2010	http://www.completestreets.org/webdocs/policy/cs-ct-newhaven-manual.pdf
New York City, NY	Street Design Manual	City	2009	http://nyc.gov/html/dot/html/about/streetdesignmanual.shtml
Charlotte, NC	Urban Streets Design Guidelines	City	2007	http://charmeck.org/city/charlotte/Transportation/PlansProjects/Pages/Urban%20Street%20Design%20Guidelines.aspx