

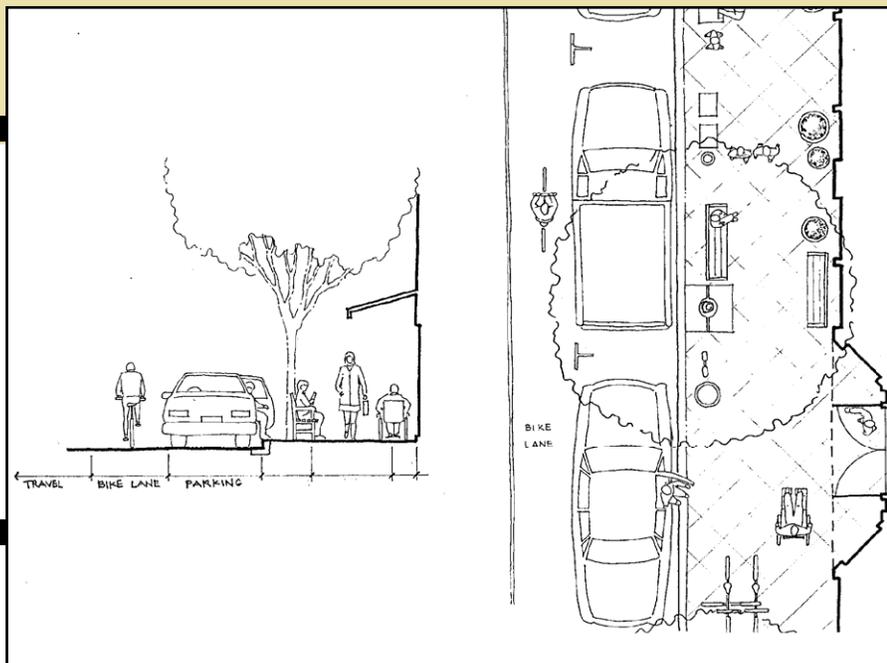


City of Sacramento Pedestrian Master Plan Appendices

Making Sacramento the Walking Capital

Final Draft

February 2006



Prepared By:



APPENDICES

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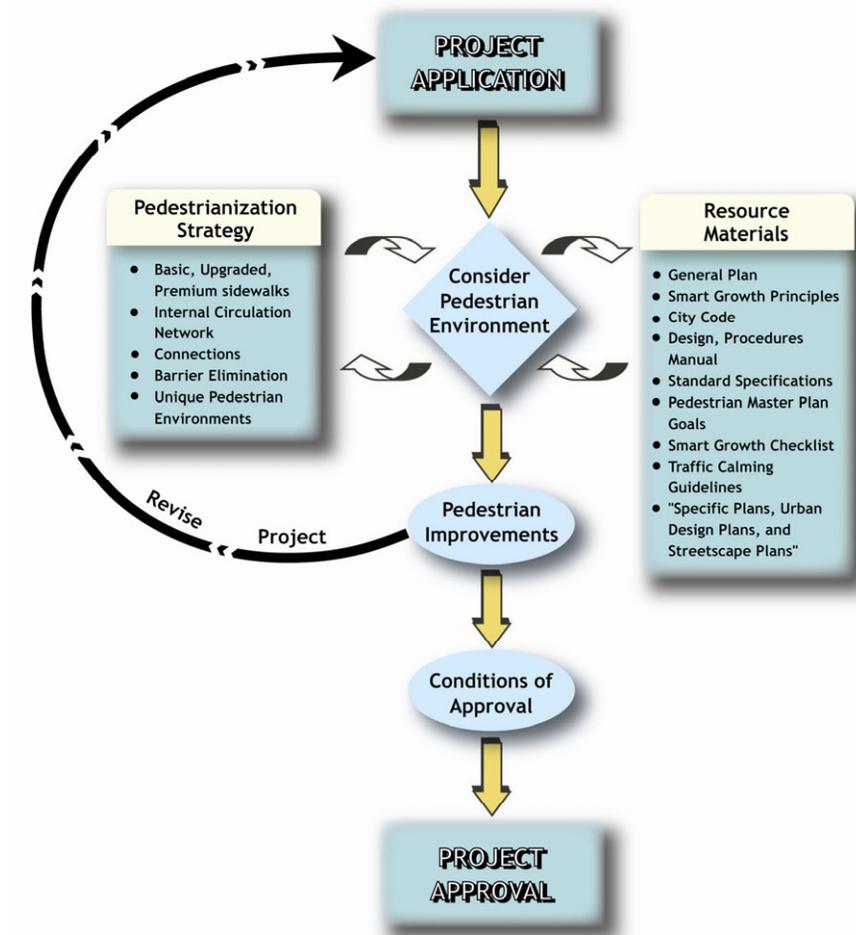
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APPENDIX A: SACRAMENTO PEDESTRIAN REVIEW PROCESS GUIDE

Integration of pedestrian facilities into new development projects is a key element to becoming the walking capital. The following chart outlines the way pedestrian needs should be evaluated as part of Sacramento’s review process.

Flow Chart of City Review Process:



As shown in the above flow chart, consideration of the pedestrian environment involves applying relevant resource materials and



determining an appropriate pedestrianization strategy for a particular project.

When a project application is submitted, City staff should review the project to determine how to best apply pedestrian accommodations. If the proposed project is considered sufficient, City staff will prepare conditions of approval for the project. Otherwise, the project proponent is asked to revise the project to make better pedestrian accommodations. .

The following checklist is meant to assist City staff in considering a project's pedestrian environment. This checklist describes how to reference relevant resources and determine an appropriate pedestrianization strategy.

HOW TO CONSIDER THE PEDESTRIAN ENVIRONMENT: PEDESTRIAN CHECKLIST

Consideration of the pedestrian environment involves the following four steps:

- 1. Reference Resource Material Requirements
- 2. Determine the Project's Pedestrian "Smart Growth" Score
- 3. Determine Appropriate Pedestrian Accommodations
- 4. Assess the Need for Additional Pedestrian Considerations

Step 1: Resource Material Requirements

Many City documents contain policies, standards, and guidelines applicable to pedestrians. The following documents contain the most relevant information, but, depending on the location of the project, other documents may need to be consulted, such as Specific Plans, Urban Design Plans, and Streetscape Plans.

General Plan: Refer to the *General Plan* for discussion and policies relating to overall transportation goals. Goals in the *General Plan* are balanced with respect to various modes of travel, and sections on pedestrian safety and comfort are included. New developments should be consistent with these goals.

Design & Procedures Manual, Pedestrian Friendly Street Standards, and Standard Specifications: Refer to the DPM and *Standard Specifications* for guidance on streets and sidewalk standards.



Jefferson Commons is a new three-story student apartment community that provides 288 units of much need housing for students at California State University, Sacramento.

Source: www.kaufmanmeeks.com

Pedestrian Safety Guidelines: Refer to the Pedestrian Safety Guidelines for guidance on “best practices” for pedestrian safety, especially at pedestrian crossings. See Appendix A3

Traffic Calming Guidelines: Refer to the City’s Traffic Calming Guidelines for guidance on how traffic calming strategies can improve pedestrian conditions and safety.

Other Documents: Other documents specific to a particular location, such as Specific Plans, Urban Design Plans, and Streetscape Plans may have language or policies for pedestrians.

Step 2: Pedestrian Smart Growth Rating

The pedestrian smart growth rating is adapted from the City’s draft *Smart Growth Implementation Guide* as a way to quantitatively assess pedestrian smart growth elements. The rating is intended to measure the relative pedestrian-friendliness of a project development. The following pages contain a rating scorecard to calculate how a development project will measure up to pedestrian needs.. This rating is calculated as an average of all the applicable measures, ranging from 1 to 4. A high rating (between 3 and 4) would indicate a development is likely to be pedestrian oriented. A low rating (2 or less) would indicate a development is unlikely to encourage or facilitate pedestrian activity.



The Fremont Building was a pioneering development project, representing the first large-scale mixed-use building in Sacramento. There was considerable doubt that such a large complex could succeed within the Midtown area, but judging by its incredible success, it is clear the skeptics were wrong.

Source:
www.leonarddevelopment.com/projects/project2.html



Wide sidewalks, a developed tree canopy, and an appropriate scale building façade make this residential street in St. Paul, Minnesota very walkable.

Pedestrian Smart Growth Scorecard (From Sacramento Smart Growth Implementation Guide)

Section 1: Proximity

1.1: Walking distance to transit stop (Bus, Light Rail)	Assessment	Rating	Score:
On site/across the street	Excellent	4	<input type="checkbox"/>
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable/transit not available		0	

1.2: Proximity to off-site restaurants, entertainment centers, retail shops, libraries, civic centers, parks services (bank, post office, barber and the like)	Assessment	Rating	Score:
Adjacent/across street	Excellent	4	<input type="checkbox"/>
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable/none		0	

1.3: Residential development projects: proximity to grocery, convenience stores, household supplies	Assessment	Rating	Score:
On-site, adjacent/across street	Excellent	4	<input type="checkbox"/>
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable		0	

1.4: Residential development projects: proximity to schools or day care	Assessment	Rating	Score:
On-site, adjacent/across street	Excellent	4	<input type="checkbox"/>
up to 1325 feet (approx. 5 minute walk)	Good	3	
up to 2650 feet (approx. 10 minute walk)	Acceptable	2	
up to 3975 feet (approx. 15 minute walk)	Minimal	1	
Not applicable		0	

1.5: Commercial development projects: proximity to residential, restaurant or retail shops services (bank, post office, barber, etc.)	Assessment	Rating	Score:
On-site	Excellent	4	<input type="checkbox"/>
Adjacent/across street	Very good	3	
up to 1325 feet (approx. 5 minute walk)	Acceptable	2	
up to 2650 feet (approx. 10 minute walk)	Minimal	1	
Not applicable		0	

Section 2: Site Optimization and Compactness

2.1: Location of building(s) relative to public sidewalk	Assessment	Rating	Score:
Adjacent	Excellent	4	<input type="checkbox"/>
Separated by open plaza or outdoor seating area	Good	3	
Separated by open landscaped area with connecting pathways	Acceptable	2	
Separated by fenced outdoor yard with connecting pathways	Minimal	1	
Not applicable		0	

2.2: Location of on-site parking relative to public sidewalk	Assessment	Rating	Score:
Located behind or within building	Excellent	4	<input type="checkbox"/>
Located to side of building	Good	3	
Adjacent with connecting pathways	Acceptable	2	
Adjacent with landscape screening	Minimal	1	
Not applicable		0	



Pedestrian Smart Growth Scorecard (Page 2)

Section 3: Accessibility and Mobility

3.1: Provide pedestrian amenities for transit	Assessment	Rating	Score:
Direct pathway to light rail transit station	Excellent	4	<input type="checkbox"/>
Direct pathway to bus shelter with seat, and schedule information	Good	3	
Adjacent to public sidewalk with loading area and seating	Acceptable	2	
Bus stop with signage	Minimal	1	
Not applicable		0	

3.2: Provide direct sidewalk connections	Assessment	Rating	Score:
Multiple entrances along all public sidewalks	Excellent	4	<input type="checkbox"/>
At least one entrance along a public sidewalks	Good	3	
Shaded, well marked pathway from public sidewalk	Acceptable	2	
Paved area from public sidewalk	Minimal	1	
Not applicable		0	

3.3: Relationship to automobile access	Assessment	Rating	Score:
Drive on access to rear of building(s) or alley access	Excellent	4	<input type="checkbox"/>
Driveway along public sidewalk with delineated pedestrian crossings	Good	2	
Driveway across public sidewalk	Minimal	1	
Not applicable		0	

3.4: Facilitate connections to public outdoor space	Assessment	Rating	Score:
Access to multi-use trails or pedestrian pathways	Yes	4	<input type="checkbox"/>
Not applicable		0	

Section 4: Street Network

4.1: Street pattern	Assessment	Rating	Score:
Entire street pattern is a grid	Excellent	4	<input type="checkbox"/>
Street pattern has mix of grid, loops and cul-de-sacs	Good	3	
Street pattern with loops and cul-de-sacs and pedestrian connections	Acceptable	2	
Street pattern with loops and cul-de-sacs	Minimal	1	
Not applicable		0	

4.2: Block lengths (long side)	Assessment	Rating	Score:
Less than 400 feet	Excellent	4	<input type="checkbox"/>
400-500 feet	Good	3	
501-600 feet	Acceptable	2	
Greater than 600 feet	Minimal	1	
Not applicable		0	

4.3: Continuation of existing neighborhood street pattern into new project	Assessment	Rating	Score:
	Yes	4	<input type="checkbox"/>
	No	1	
	Not applicable	0	

Overall Pedestrian Rating

(Total of all scores)/(number of measures scored>0) 4 = Excellent
3 = Good
2 = Moderate
1 = Poor



Step 3: Determine the appropriate pedestrian accommodation

Levels of Pedestrian Improvement

Overall, the City should be made accessible to pedestrians. While certain exceptions may apply, most streets should be targeted to have “basic” facilities. To meet the needs of pedestrians throughout the City, just providing this base level will not be enough to meet the demand. A three-tiered approach is recommended, where more intense improvements are proposed for areas of increased demand.

In locations where pedestrian demand is higher, “upgraded” improvements should be implemented. This level of improvement includes everything in the basic level, plus added features. Projects will be expected to provide all improvements along the street, including sidewalks, lighting and landscaping. Using the “basic,” “upgraded” or “premium” levels of improvements discussed earlier, an appropriate pedestrian accommodation should be applied. At a minimum, “basic” pedestrian improvements will be required of all projects. Along designated pedestrian corridors identified earlier in this section and areas with a high “Pedestrian Demand Rating,” “upgraded” or “premium” pedestrian treatments such as wider sidewalks and enhanced street crossings may be required.

Where pedestrian demand is at its highest, “premium” improvements should be used. These improvements include all of the basic and upgraded level improvements, plus additional elements that make the pedestrian setting an active urban place. Items like extra-wide sidewalks, special lighting, signage, and seating are some of the features included.

The three levels of improvements are summarized in the chart on the following page:



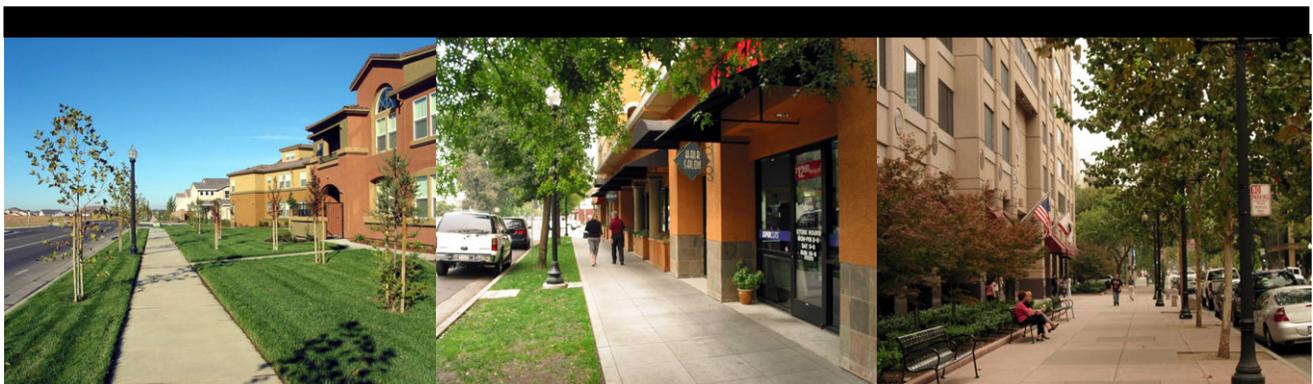
Located just 3.5 miles from downtown Sacramento, Del Paso Nuevo is a 150-acre master planned development that converts a distressed area into a new neighborhood with home-ownership opportunities.

Source: www.hud.gov/offices/cpd/communitydevelopment/programs/cdb/g30/ca/sacramentohousing/index.cfm (photos from web site)

Figure A.1: Levels of Pedestrian Improvements

	BASIC	UPGRADED	PREMIUM
Street Facilities	<ul style="list-style-type: none"> Detached sidewalks Vertical curb/gutter Curb ramps Obstacles removed Street lighting Parking/bike lane buffer 	<ul style="list-style-type: none"> Wider sidewalks Vertical curb w/gutter Curb ramps Obstacles removed Pedestrian-scale street lighting Street trees, landscaping Benches at bus stops Parking/bike lane buffer 	<ul style="list-style-type: none"> Wider sidewalks Vertical curb w/gutter Curb ramps Obstacles removed Pedestrian-scale street lighting Street trees, landscaping Benches at bus stops Wayfinding signs and kiosks Street furniture Outdoor eating areas Shade/shelter structures Parking/bike lane buffer
Crossing Treatments*	<ul style="list-style-type: none"> Marked crosswalks Accessible pedestrian signals Vehicle speed control 	<ul style="list-style-type: none"> High visibility crosswalks Accessible pedestrian signals Increased lateral separation Pedestrian islands Bulb-outs Raised crosswalks Other vehicle speed control 	<ul style="list-style-type: none"> High visibility crosswalks Accessible pedestrian signals Increased lateral separation Pedestrian islands Bulb-outs Raised crosswalks Other vehicle speed or volume control Grade separation Special traffic signaling
Reduced distances	<ul style="list-style-type: none"> Midblock crossings at some locations 	<ul style="list-style-type: none"> Shortcuts for pedestrians Midblock crossings 	<ul style="list-style-type: none"> Shortcuts for pedestrians Midblock crossings Dense housing Dense employment Transit access
Adding interest		<ul style="list-style-type: none"> Show windows 	<ul style="list-style-type: none"> Public art Show windows Vendor carts Street fairs

*Regardless of the environment's rating, the Pedestrian Safety Guidelines provide explicit direction about the type of crossing treatment appropriate at various locations.



B A S I C

U P G R A D E D

P R E M I U M

A pedestrian corridors map has been made showing streets that should be considered for “upgrade” or “premium” treatments. Highest pedestrian potential areas may further indicate a need for “premium” treatments. This map is shown in detail in Section VI.

Step 4: Need for Additional Pedestrian Considerations

Beyond street improvements, the need for adjacent pedestrian facilities and adequate internal pedestrian circulation should be evaluated.

Evaluation for adjacent needs and internal circulation should include:

- Projects that will have unique pedestrian environments, such as those that will have large open-space components, substantial peaks in pedestrian activity, or require additional pedestrian safety considerations, (such as day care centers and senior centers)
- Projects with high pedestrian traffic adjacent to gaps in the pedestrian network, where projects might be expected to contribute to closing gaps in the pedestrian network
- If there are substantial barriers or impediments to pedestrian travel nearby, projects may need to address strategies for barrier elimination or removal of travel impediments.
- Internal pedestrian circulation, such as internal pathways, pedestrian lighting, and separation from vehicular site access.



These pedestrian paths in Albuquerque, New Mexico are visually varied, with soft edges and pleasant ambiance.

DEVELOPMENT APPROVAL

Developers often propose new projects that create the need for pedestrian facilities or improvements. These projects may require improvements beyond the project limits to overcome obstacles and barriers to pedestrian travel.

City staff should evaluate the level of need based on the above pedestrian checklist. The level of improvement should have a clear relationship to the type and magnitude of the project.

Furthermore, the timing of implementing the pedestrian improvements should be included. Ultimately, 100 percent of the

pedestrian improvements should occur before or at the time the development is 100 percent complete.

Examples of required improvements include upgraded or premium pedestrian facilities, removal of barriers to pedestrian travel, and improved pedestrian connections to adjacent developments or trails.

RELATIONSHIP TO THE PEDESTRIAN IMPROVEMENT PROGRAM

Section V of the *Pedestrian Master Plan* discusses the Pedestrian Improvement Program. It describes where “upgraded” or “premium” pedestrian treatments should occur. Development projects should consider these locations when preparing condition of project approval.

UNIQUE ENVIRONMENTS, CONNECTIVITY, BARRIER REMOVAL, AND CIRCULATION

Project approval may also be conditioned upon the additional pedestrian considerations described above. These include projects with unique pedestrian environments, projects with pedestrian facilities nearby that it is appropriate to provide a connection to, projects where elimination of physical barriers to pedestrian connectivity should be addressed, and projects with a less than adequate internal pedestrian circulation scheme.



Metro Square is an infill project built in 1999 at a density of 21 units per acre. The project consists of the following 45 dwelling units on nearly a complete city block.

Source: <http://www.lgc.org>

APPENDIX B: PEDESTRIAN DESIGN GUIDELINES

INTRODUCTION

The Design Guidelines presented in this Appendix are meant to supplement the Pedestrian Friendly Street Standards in Section V of the *Design and Procedures Manual*. The guidelines presented here cover two basic levels of the pedestrian environment: the macro level (overall neighborhood design and land use features) and the micro level (corridor and detail level design elements such as corner radii, sidewalk and intersection design). General design principles govern the guidelines.

Walkable communities have:

- **Short block lengths** – no longer than 500 feet with few exceptions.
- **Frequent crossing opportunities** – at least every 300 feet near pedestrian trip generators such as schools, parks, libraries, shopping centers, and hospitals.
- **Different uses located within walking distance of one another** – neighborhoods within $\frac{1}{4}$ - $\frac{1}{2}$ mile of shopping centers and employment centers; all neighborhoods within $\frac{1}{4}$ - $\frac{1}{2}$ mile of a transit stop.
- **Frequent pedestrian amenities** – benches, water fountains, newspaper racks with consistent design and placement in pedestrian districts.
- **Wide sidewalks with buffer zones** – sidewalks at least five – six feet wide (and oftentimes wider) with six-foot planting strips in pedestrian districts.
- **Compact intersections** – with short crossing distances and cycle lengths for pedestrians.



THE BIG PICTURE: CREATING WALKABLE NEIGHBORHOODS

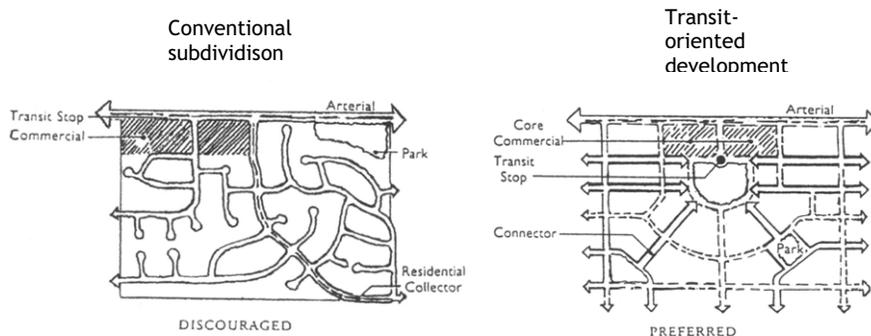
This section examines strategies and guidelines for creating pedestrian-friendly environments in both new and in-fill development. This section is for City staff and developers alike.

STEP ONE: ENCOURAGE WALKABLE LAND USE PATTERNS

The following examples and principles are instrumental in developing model walkable communities.

Transit-Oriented Development

Transit-oriented development (TOD) is highly conducive to pedestrian travel. Medium to high density neighborhoods are oriented around a transit station or hub, with integrated commercial and retail uses. The transit stop is generally designed to be easily accessible on foot. TOD differs from typical subdivision-style development by creating “nodes” of activity where commercial uses, parks, and transit stations can be located close to housing.



Source: *Creating Livable Streets, Portland Metro and Fehr & Peers*

Strategies for creating pedestrian-friendly TOD include:

- Concentrating land uses to encourage walking, especially near transit, and coupled with public space such as plazas, greens, and pocket parks.
- Encouraging shared parking and reducing parking requirements in pedestrian/transit districts.
- Establishing of parking maximums in pedestrian/transit districts.



The 12th and K Street Mixed-Use project Located adjacent to light rail and one block from the Capitol, this project will provide new housing and retail on Sacramento’s K Street Pedestrian Mall.

Source: Fletcher Farr Ayotte PC
www.ffadesign.com

Mixed-Use Development

Mixed-use development combines several different uses in the same development or district. Similar to TOD, mixed land uses encourage walking. Mixed-use development can attract and generate high levels of pedestrian activity, especially if uses are complementary and include residential components.

Principles for pedestrian-friendly mixed-use development include:

- Promoting Smart Growth principles that allow a mix of complementary uses, reducing building setbacks, establishing parking maximums, and discouraging of auto-oriented businesses where appropriate.
- Discouraging blank walls facing the street environment. Orienting doors and windows to face the main street.
- Creating street-level mixed uses that draw pedestrians in from the sidewalk and encourage street interaction.
- Creating landscape screening for parking structures or locating surface parking lots at the rear of buildings. Rooftop parking can also be considered for mixed-use districts.



This new Safeway grocery store at 19th Street and S Street includes other retail shop, restaurants and housing all in one complex.

STEP TWO: ELIMINATE BARRIERS

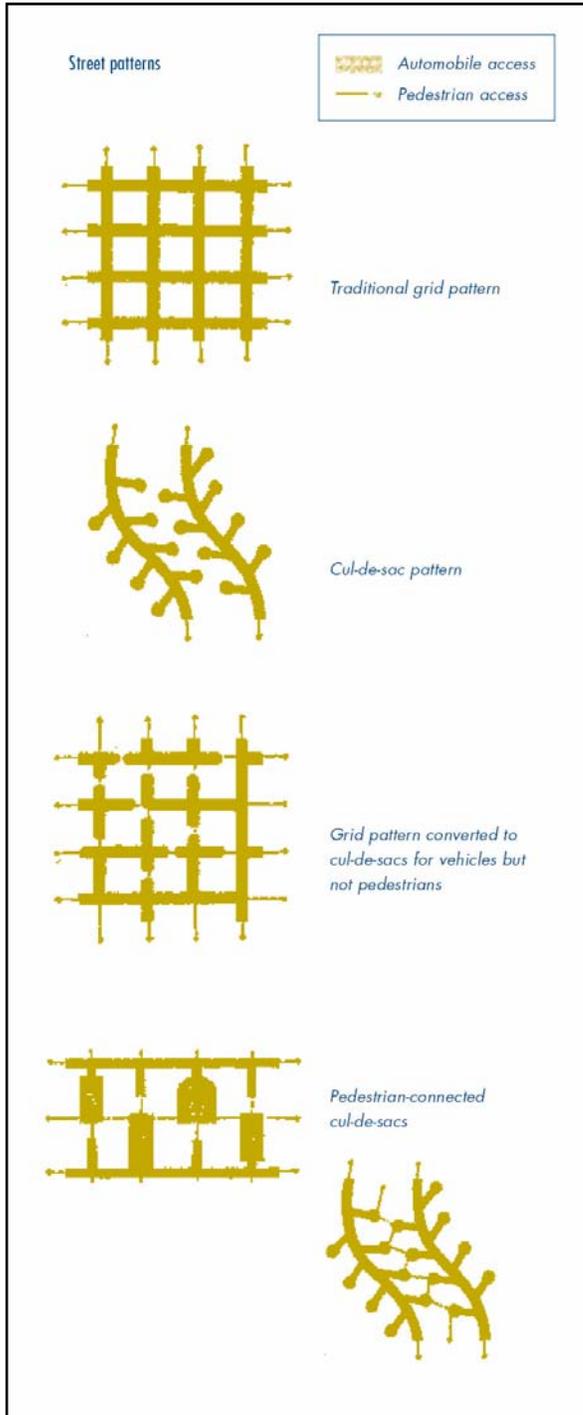
Barriers to walking include long distances, uninviting sidewalks, and lack of quality destinations. Establishing pedestrian shortcuts for access to nearby commercial centers as well as improving streetscapes can eliminate some major obstacles to walking. Principles for elimination of barriers in new developments include:

- Provision of direct connections or shortcuts from residential areas to neighborhood commercial destinations, parks, and trails. Connecting dead-end streets or cul-de-sacs to pedestrian trails or adjacent streets encourages pedestrian connectivity.
- Drawing walkability maps of a proposed development is a useful tool for determining pedestrian access to local destinations.
- Landscaping sidewalks with street trees and attractive views will encourage more pedestrian activity.



Pedestrian shortcuts, connected cul-de-sacs provide substantial improvements for pedestrian walkability and access to neighborhood destinations.

Figure B.1: Potential Ways of Barrier Elimination



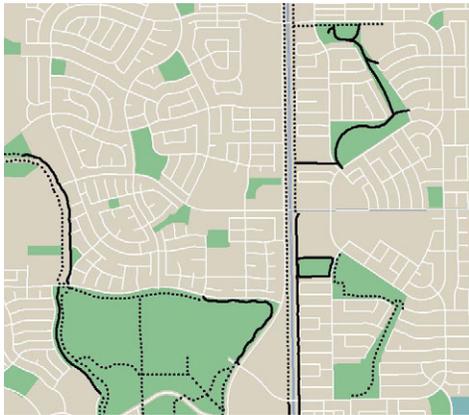
Pedestrian permeable streets can be created through connecting cul-de-sacs and retrofitting grid patterns to reduce through traffic.

Source: Access Magazine, Spring 2004

STEP THREE: CREATE A MULTI-USE TRAILS NETWORK

A multi-use trails network encourages walking for a variety of trip purposes. Access to commercial shopping destinations is possible with a trails network, as are opportunities for recreation and leisure activities. Sacramento’s existing river trails provide access to many citywide destinations, and new neighborhoods can take advantage of this to tie into the existing trails network. New developments can complement the City’s existing trails system by providing easy connections and extending it where possible. Principles for improving and extending the multi-use trails network include:

- Integrating access routes to trail networks and directing access to/from adjacent development encourages walkability and increases property values.
- Providing a clear, direct, and attractive internal pedestrian circulation network to building entrances and the surrounding sidewalk.



Trails networks can complement the roadway system by providing direct connections between destinations. Shown here are trails in the North Natomas area.

STEP FOUR: PROVIDE PEDESTRIAN CONNECTIONS

Connections to existing pedestrian amenities, such as trails, will create the opportunity for increased pedestrian traffic. It will also improve community connectivity and encourage walking as a preferred mode of travel. Principles for providing pedestrian connections include:

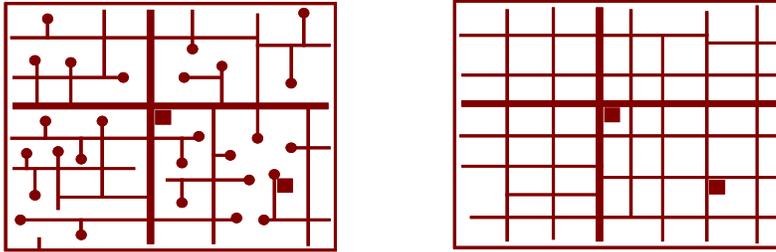
- Integrating access routes to trail networks and direct access to and from communities.
- Providing connections over barriers, such as railroads, waterways or freeways.



The ends of these cul-de-sac streets in North Natomas are connected with a multi-use trail that give pedestrians and bicyclists additional access.

STEP FIVE: STREET LAYOUTS

Newer forms of neighborhood design lack internal connections and concentrate traffic on fewer streets. This can lead to reduced opportunities for pedestrian travel, as destinations are further away than with more traditional grid-based systems. Interconnected through-streets disperse traffic loads across a number of pedestrian-scaled streets and provide direct opportunities for access to local destinations.



Street systems that are not interconnected, like the suburban cul-de-sac, result in longer walking distance and larger arterial streets.

Another option for new neighborhood design is to provide pedestrian connections to destinations while retaining some cul-de-sacs, which remain an attractive quality for many homebuyers.¹

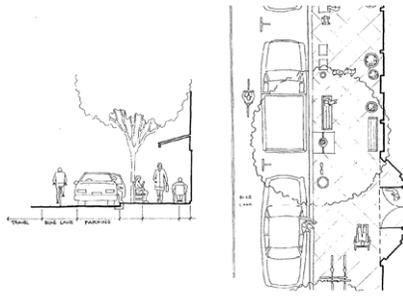
Block lengths in new neighborhoods should follow the recommendations listed in the *Traffic Calming Guidelines*:

“Some street networks leave excessively long blocks without interrupting intersections. Drivers that travel a long distance (500 feet or greater) without being required to slow or stop by traffic control devices can tend to travel at excessive speeds. To minimize this effect, the street network can be designed such that street blocks are interrupted by streets of sufficient traffic volumes to warrant a traffic control device (e.g. a traffic circle or stop sign) on the street of concern.”

¹ See “Reconsidering the Cul-De-Sac” by Michael Southworth and Eran Ben-Joseph, in *Access* magazine, Spring 2004 for more discussion on the appeal of cul-de-sacs to homebuyers.

STEP SIX: STREET CROSS-SECTIONS

The Pedestrian Friendly Street Standards in the *Design & Procedures Manual* are a good starting point for creating walkable streets. Additional treatments, such as wide sidewalks, wide landscaping strips, and landscaped medians, may also be considered in new developments to promote walkability. Reducing building setbacks and encouraging multiple entrance points from the sidewalk helps to make a more active “street wall,” which is a key element to encourage walking. Options such as angled on-street parking may provide a wider buffer for pedestrians and have the effect of calming street traffic and increasing parking capacity. Back-in angled parking is another option that increases visibility for bicyclists and provides easier vehicle loading than traditional front-in angled parking.



Wide sidewalks are encouraged, especially in areas with high expected pedestrian activity and where pedestrian amenities such as street furniture and outdoor seating will be present.

Source: *Creating Livable Streets, Portland Metro and Fehr & Peers*

STEP SEVEN: SITE ACCESS AND ARCHITECTURAL DETAILS

Providing site access for automobiles in a pedestrian friendly manner is an important principle for pedestrianizing neighborhoods. This includes limiting the number of access points for automobiles to minimize potential conflicts. Pedestrian visibility also should be considered wherever they cross in front of automobiles – providing areas clear of trees and other landscape features to insure that motor vehicle drivers can see pedestrians at intersections and driveways is important for maintaining pedestrian safety.

Details oriented towards pedestrians improve the visual quality of the pedestrian setting. Urban design guidelines, architectural design guidelines, and building codes can encourage a high level of architectural detailing.



THE DETAILS: CORRIDOR AND STREET LEVEL

THE PEDESTRIAN ENVIRONMENT

Design guidelines for detail-level pedestrian friendly improvements can be divided up into several elements that constitute the pedestrian environment. These include:

Travelway: The travelway includes sidewalks, pathways, and landscaping treatments that define the pedestrian traveled way.

Buffer: The buffer is the area between the travelway and the roadway. It is often the location of pedestrian amenities such as street furniture, newspaper stands, wayfinding signs, and seating. Other elements in the buffer zone can include parking and bicycle lanes.

Corners: This includes curb ramps planter and sidewalk space at intersection corners.

Street crossings: Street crossings include crossings at intersection and mid-block locations.

The Travelway: Sidewalks and Streets

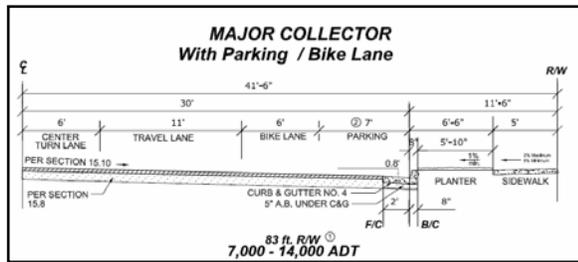
The DPM includes minimum design standards for street cross sections. Where pedestrian activity is likely to be greater, increased sidewalk widths are recommended. Additionally, the allowance of parking on arterial streets is recommended. See Appendix A3 for cross section drawings.

It is important to create sidewalk widths which are appropriate for the activities and pedestrian levels along the street. The minimum width for sidewalks is five feet. This is just enough width for two people to walk side by side, and it assumes that only a minimum amount of pedestrian traffic will use it. The following pages enumerate the approach to setting sidewalk widths for streets based on demand.

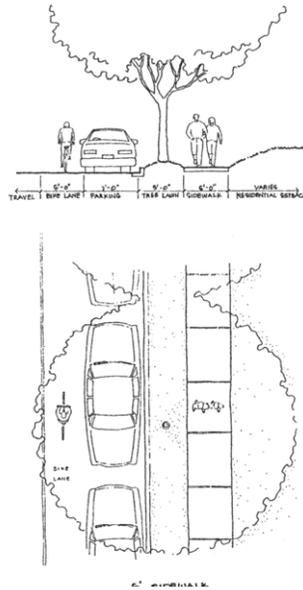


Sidewalk Design: Basic Sidewalks

The DPM describes basic facilities for all street types, including residential streets, collectors, and arterials. Basic facilities include five-foot sidewalks and a vertical curb. When built on a new street they should include a six foot landscape buffer between the sidewalk and the street. When installing sidewalks on existing existing streets, attaching it to the curbs may be necessary to maintain continuity of the street cross section.



Source: Design & Procedures Manual

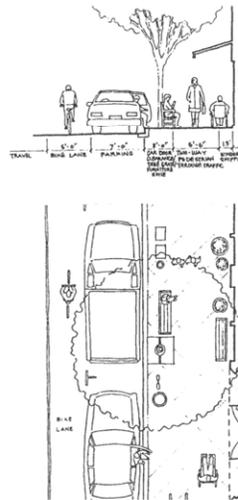


Source: Creating Livable Streets, Portland Metro and Fehr & Peers

Sidewalk Design: Upgraded Sidewalks

The DPM does not show street cross-sections for wider than five-foot sidewalks, but a wider sidewalk could be installed in areas that justify it. Wider sidewalks would provide an adequate pedestrian travelway and space for street furniture and seating. On-street parking and bicycle lanes serve as a buffer to separate the sidewalk from street traffic.

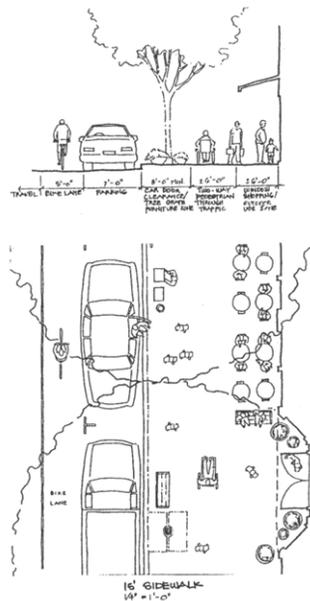
Source: Creating Livable Streets, Portland Metro, Fehr & Peers



Sidewalk Design: Premium Sidewalks

Premium sidewalks include a wide travelway for pedestrians as well as room for other amenities, such as tables, benches, and other pedestrian amenities. Below are illustrations of premium pedestrian facilities, with sidewalks that are approximately 15 or more feet wide, benches, and café-style street seating.

Source: Creating Livable Streets, Portland Metro and Fehr & Peers



The Buffer Zone

Planting strips, parking lanes, and even bicycle lanes provide a buffer between pedestrians on the sidewalk and motor vehicle traffic. Buffer strips are recommended to eliminate driveway cross slopes in the sidewalk, improve pedestrian comfort, and offer landscape/shade opportunities.

There are several elements that can be located in the buffer zone, including lighting, plantings, wayfinding signage, and street furniture. Although this document does not address landscape architecture issues, special care should be taken when selecting and planting street trees. Street trees provide shade and shelter as well as a buffer, but if planted improperly, they can also damage sidewalks.

Pedestrian-scaled street lighting

Pedestrian scaled street lighting improves visibility. Pedestrian scaled street lighting is typically mounted closer to the sidewalk than roadway-oriented lighting. Lighting standards that have architectural detailing will help to fit with a more human scale.

Landscaping Buffers

Street trees improve the pedestrian environment by providing shade and a buffer from automobile traffic. Trees can be planted along landscape strips or in individual tree wells. Landscaping treatments reduce the amount of impervious space along the walkway and can be used for drainage water quality purposes in some locations.

On-street Parking and Bicycle Lane Buffers

In addition to landscaping treatments, on-street parking and bicycle lanes can provide excellent buffers between pedestrians and automobile traffic, especially on streets with high traffic volumes.



Pedestrian amenities

Pedestrian amenities are appropriate for most premium pedestrian areas and many upgraded facilities. They include amenities such as seating, news racks, waste containers, recycling bins, water fountains, outdoor cafes, retail displays, and public art.

Pedestrian-oriented signage

In areas of high pedestrian activity pedestrian oriented signage is useful. This is especially the case where there are many pedestrians who may be unfamiliar with the area and the location of nearby destinations. This kind of signage should be smaller in size and closer to the sidewalk compared to roadway signage.



Outdoor seating, displays, and kiosks

Street cafés and restaurants with windows that open on the street encourage use of the sidewalk for extended time periods. Such uses can be a catalyst for additional pedestrian traffic and a high-quality pedestrian environment.



Newspaper stands and outdoor public restrooms are good examples of pedestrian amenities in San Francisco

Street furniture and newspaper rack ordinances

Street furniture and newspaper rack ordinances encourage a minimum level of visual appeal for urban streetscapes. They can maintain a level of amenity without creating obstacles.



The Corner Zone

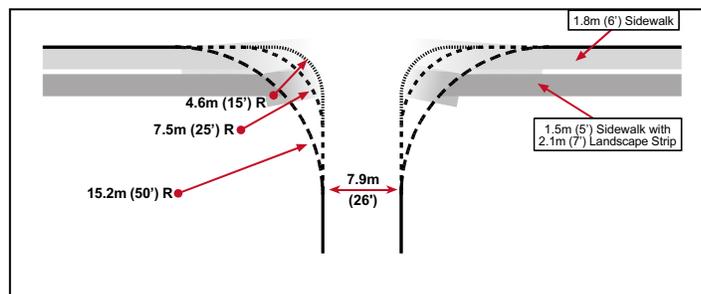
The street corner typically serves as the transition from the sidewalk to a crossing facility. Here, pedestrians perform many important tasks such as activating pedestrian crossing signals, waiting for vehicular traffic to clear, advertising their intent to cross to vehicles, gathering navigational information, and utilizing ramps to access crosswalks.

Good corners are:

- **Clear of obstructions** They have enough space to accommodate the typical number of pedestrians waiting to cross.
- **Visible** Pedestrians waiting to cross should have an unobstructed view of approaching vehicles and approaching motorists should be able to see waiting pedestrians easily.
- **Intuitive** Symbols, marks, and signs used at corners should be universal and clear so that both motorists and pedestrians know what actions or movements to make and expect.
- **Accessible** Everything at the corner, including ramps, landings, call buttons, signs, symbols, marks, and textures, must meet standards dictated by the Access Board, as required by the Americans with Disabilities Act and the *State of California Code of Regulations* Title 24.
- **Discreet** Corners should be separate from vehicle traffic. They should have design features that disallow vehicles from encroaching.

Maximum curb radii

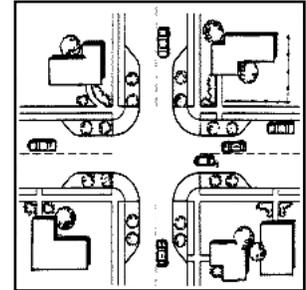
Reduced curb radii have a twofold benefit for pedestrians: First they improve pedestrian visibility by decreasing speeds for turning vehicles and second, they shorten crossing distances. Reduced curb radii are appropriate in pedestrian zones and commercial districts where few long vehicles are expected to be turning. Buses can generally maneuver around curbs with 25 foot radii. Other considerations that factor into the radius are the presence of bike lanes and on-street parking. Care should be exercised to insure that the radii are coordinated with the design of curb ramps.



Curb radii can have a dramatic effect on pedestrian crossing distances.

Corner bulbouts

Curb extensions or bulbouts are another effective strategy for decreasing pedestrian exposure and decreasing crossing distances at intersections. They are appropriate at locations with usable space next to the curb and at intersections of three or more lanes. Curb extensions should not extend further than six feet into the street adjacent to parallel parking, or 12 feet adjacent to diagonal parking. At locations with no on-street parking, curb extensions should be designed not to impede bicycle travel.



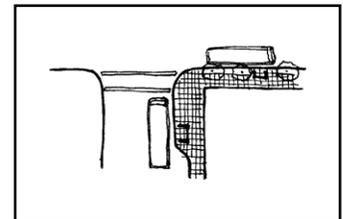
Corner bulbouts decrease crossing distances and improve pedestrian visibility.

Restricted parking near intersections

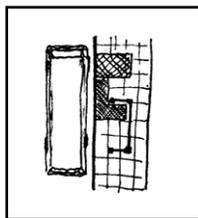
Parked vehicles near intersections reduce sight distances. While reduced sight distances can encourage traffic to travel at slower speeds, they also present a hazard to crossing pedestrians. Removal of parking spaces near intersections allows vehicles to have a clearer view of the curb and pedestrians crossing the roadway.

Bus stop bulbouts and exclusive bus lanes

Transit riders are pedestrians before and after their trip. Bus bulbouts are more pedestrian friendly than bus turnouts. Besides allowing for better visibility of transit riders waiting at stops, they can be an effective traffic calming strategy for traffic adjacent to the curb. Nevertheless, bus turnouts are necessary on streets with high volumes and speeds. Along corridors with high bus frequencies, exclusive bus only lanes improve transit travel times and reliability.



Location of transit stops for pedestrian visibility and safety



Source: Adapted from Architectural Transportation and Barriers Compliance Board

Transit stops can be located for ease of pedestrian access and transferring between lines. At busy intersections, locating the east-west and north-south bus stops on the same corner encourages a more seamless transfer from one bus line to another. Bus stops also should maintain a clear area for disabled access from the bus shelter to a waiting transit vehicle.

Street Crossings

Pedestrian crossings generally fall into two categories: controlled and uncontrolled. Controlled crossings include signalized locations and stop-controlled crossings (both all-way stops and stop-controlled approaches on two- and three-way stops). Uncontrolled crossings include both intersection and mid-block locations.

Pedestrian-friendly crossings are:

- **Compact:** A generally good maxim to follow is “never design more than you need.” Keep turning radii tight; discourage free-right turns; and include pedestrian refuge islands or other special devices at especially wide crossings.
- **Visible:** The pedestrian crossing should be clearly-marked. Maintaining a high-visibility crossing creates an intuitive and safe environment for all users. Visibility also applies to sight distance. *Pedestrians should be clearly visible by motorists up to 250 feet away.*
- **Useful:** One of the first steps in creating a marked, uncontrolled crossing, especially for mid-block locations, is to determine need and location. While identifying pedestrian “desire lines,” or the places where the most pedestrians want to cross, can present special challenges, it is essential in order to ensure a cost-effective and well-used crossing.
- **Safe:** A common misperception about marked uncontrolled crossings is that they give pedestrians a “false sense of security.” Recent research has concluded that not all marked uncontrolled crossings are less safe than marked crossings.

The City’s *Pedestrian Safety Guidelines* contain extensive direction on both controlled and uncontrolled crossing locations.



Alternative pavement treatment at the intersection of J Street and 26th Street

APPENDIX C: INTEGRATION AND IMPLEMENTATION

INTRODUCTION

Appendix C is divided into the following subsections:

- **High Priority Document Updates**
- **Citywide Document Matrix**
- **Implementation Guide**

HIGH-PRIORITY DOCUMENT UPDATES

This section presents recommended updates to the following City documents:

- General Plan
- Pedestrian Safety Guidelines
- Transportation Programming Guide
- Residential Design Standards
- Pedestrian Friendly Street Standards/ Design & Procedures Manual
- General Recommendations for Other Documents

The vision, goals and strategies in the Pedestrian Master Plan outline an approach to making Sacramento a model pedestrian-friendly city. In order to achieve this vision, policies must be applied to current planning practice and documents in Sacramento. The most fundamental of these is the City's General Plan, but policies also need to permeate down to transportation funding procedures, street and development standards, development review procedures, and community/specific plans. Several documents should be updated to fulfill the vision of creating a more pedestrian-friendly Sacramento. Some of the most vital are discussed below.



General Plan

The document assets and needs assessment for the General Plan is a sample of the type of evaluation that was conducted for policy-level documents that affect pedestrian conditions in Sacramento.

The following are specific recommendations for changes to the General Plan.

- Reconsider LOS C standard for Sacramento streets and change to LOS D for all facilities, with consideration of LOS E or F for freeways, main streets, and pedestrian zones.** The City is presently engaged in an update to its *General Plan*. Part of the update process is an ongoing discussion about the utility of the City’s current Level of Service standards, which call for Level of Service C at most intersections. In order to maintain Level of Service C for vehicles, it is often necessary to widen roadways to increase capacity and decrease delays for motorists. This approach often creates wide crossings, multiple turn lanes, and higher speeds, which are not conducive to a comfortable walking environment. It also creates challenges for converting one-way streets to two-way streets. This document encourages the adoption of a lower Level of Service for motorists, particularly in areas with high pedestrian activity or the potential for high pedestrian activity, to allow the City to create compact crossings.

	Main Street				Commercial Street				Industrial Street				Residential Street			
	Vehicles	Transit	Bicycles	Pedestrians	Vehicles	Transit	Bicycles	Pedestrians	Vehicles	Transit	Bicycles	Pedestrians	Vehicles	Transit	Bicycles	Pedestrians
Arterial	E	A	C	A	E	C	C	C	D	D	D	E	D	D	C	B
Collector	D	C	A	B	D	D	C	C	D	D	D	E	C	D	C	B
Local	D	D	B	A	C	C	C	C	C	D	D	E	C	D	C	B

Sample Multi-Modal, Context-Sensitive LOS Standards (not intended for use without further development)



- **Identify specific pedestrian districts and/or corridors for enhancement.**
- **Re-emphasize and incentivize compact mixed-use infill to create a better pedestrian environment.**
- **Include illustrations of pedestrian-oriented streetscape design to assist developers in fostering them.**
- **Include stronger pedestrian language and implementation tools.** For example, it could require that CIP projects include pedestrian elements or give projects with pedestrian improvements higher priority.
- **Explore opportunities to eliminate lanes and reduce roadway widths where appropriate.** Some roads in the City have excess capacity such that roadway space from excess travel lanes could be reallocated to install bicycle lanes, on-street parking, and/or sidewalks. Lane elimination strategies are typically called “road diets” and are effective at improving multimodal travel conditions and managing vehicle speeds. The development of schedule for reexamining potential roadways as road diet candidates.

Pedestrian Safety Guidelines

Prepared in 2002, the Sacramento Pedestrian Safety Guidelines provide an overview of existing programs and documents related to pedestrian safety. Other sections of the document deal with safe street crossings at intersections and mid-block locations.

- **Integrate the Pedestrian Safety Guidelines and Pedestrian Friendly Street Standards documents into Pedestrian Technical Guidelines (PTG) to guide the implementation of the Pedestrian Master Plan.** An integrated document can ensure internal consistency in various levels of plans and serve as a complement to the Pedestrian Master Plan. The PTG document could be developed when the Pedestrian Safety Guidelines and Pedestrian Friendly Street Standards are next updated, and could be more aggressive in promoting sidewalk design sensitive to its context, advocating compact mixed use development and more pedestrian-sensitive site and architectural design, and building a stronger relationship between the pedestrian network and transit.



Implementation and Inter-agency Coordination

Pedestrian-oriented plans and guidelines are only as good as their impact. Several mechanisms exist to make these policy documents more effective. However, without inter-agency coordination, the City has limited influence over its environment. Other entities build and make improvements in Sacramento including State government agencies (such as Caltrans), the County, and the Regional Transit District (RT). The Pedestrian Master Plan Steering Committee, which consisted of representatives from various City departments and RT, noted potential inter-agency tensions: with the State regarding parking requirements of state buildings, with RT regarding coordination of transit and adjacent land uses, and with Caltrans regarding changes at intersections in the City under Caltrans jurisdiction. The City of Sacramento will need to employ strict requirements and strategic coordination to ameliorate potential future conflicts.

Policy Recommendations

- **Establish formal communication with RT on improvements around transit and Caltrans for improvements around interchanges.**

PROJECT FUNDING

Transportation Programming Guide

Projects cannot be built without funding. Sacramento's Transportation Programming Guide (2002) provides a comprehensive structure for prioritizing the City's transportation programs and projects for funding. City staff and a council-appointed Community Advisory Committee developed the guide.

Policy Recommendations

- **Update the Transportation Programming Guide with pedestrian concerns in mind.** Include criteria for assessing pedestrian needs and ensure existing program funding considers pedestrian concerns.
- **Include Pedestrian Demand Score criteria from the Pedestrian Master Plan as a project ranking factor.**



- **Incorporate SWITRS data on pedestrian collisions as a project ranking factor.**

DESIGN STANDARDS

Several strategies are recommended for new neighborhood design. These changes mainly apply to the *Design and Procedures Manual*.

Residential Design Principles

Policy Recommendations

- **Replace design principles with more pedestrian friendly roadway designs.** The design principles include illustrations and diagrams, but, despite the excellent principles, many of them depict pedestrian unfriendly roadway and site designs. These should be replaced.
- **Coordination between planning and permitting is necessary for these principles to have a positive impact on the face of Sacramento.** Clearly stated design codes would promote their implementation.
- Encourage walkable land use patterns, including Transit Oriented Development and Mixed Use Development, following the principles laid out in the Design Guidelines (Appendix B).
- Provide clear, direct, and attractive internal pedestrian networks that connect buildings, neighborhoods, and commercial centers to the adjacent sidewalk.
- Follow the new procedures for development review outlined in this Section (and described in greater detail in Appendix A).
- Avoid “blank walls” wherever possible and create multiple entry points from the sidewalk into new developments.

Design and Procedures Manual / Pedestrian Friendly Street Standards

At a residential street design level, the Pedestrian Friendly Street Standards in the Design & Procedures Manual are revised street design standards that consider pedestrian accommodation on par with the automobile. The goals and objectives are clearly articulated with the guiding policies being to diversify community transportation choices and enhance neighborhood livability.



Policy Recommendations

- **Consider reducing corner radii on streets that do not have a significant number of larger vehicles from the current standard of 27 feet to a smaller radius such as 10-20 feet.** It may be appropriate to reduce curb radii where few large vehicles or buses will be turning and where on-street parking and bicycle lanes enable a greater effective radius than actual. Refer to Appendix B for more detailed discussion of curb radii and their effect on pedestrian crossing distances.
- **Ensure use of and consistency with the *Pedestrian Safety Guidelines*.** Consider special treatments such as pedestrian refuge islands, countdown signals, and others as described in the *Guidelines* where there are wide streets (wider than 60 feet), dual left- or right-turn lanes, or high numbers of turning vehicles.
- **Minimize pedestrian crossing distances by reducing lane widths.** The typical outside travel lane width of 11 feet (where a six foot bicycle lane is present) and the seven foot parking lane appropriately balance traffic needs while minimizing the distance pedestrian must cross and allowing more of the right-of-way to be designated for pedestrian facilities.
- **Provide adequate pedestrian crossing times.** Intersection crossings that are controlled by a signal should ensure adequate pedestrian crossing time is provided, particularly in areas where there may be children and seniors.
- **Encourage wider sidewalks in areas with high levels of pedestrian activity.** The width of a sidewalk should be proportional to the demand for pedestrian activity. High activity locations should have wider sidewalks to allow for additional amenities such as seating, window shopping, and conversing with passersby. For a more detailed discussion of appropriate sidewalk widths, see Appendices A and B.
- **Pedestrian-scale lighting standards should be provided all street categories, and the Manual should support the designation of pedestrian-supportive districts and corridors that are appropriate for investment in pedestrian-scale lighting.** A 14-foot light standard required for smaller collectors and residential streets is at a pedestrian scale, and the placement of the standards at all corners of an intersection would provide increased visibility. The “cobra head” style standard at 28 feet - 6 inches does not provide accommodation for pedestrian-scaled lighting, and the



requirements for placement do not require locating standards at each corner. This may compromise pedestrian visibility.

Other Documents and Ordinances

A total of 31 documents were reviewed as part of the Pedestrian Master Plan. These documents are listed in Table C-1 below.

Table C-1: Reviewed City Documents	
Document	Date
Citywide Policies	
General Plan	1988, 2000
Pedestrian Safety Guidelines	2002
Pedestrian Friendly Street Standards	draft
Transportation Programming Guide	2002
Design Procedures Manual with Improvement Standards	1990
Residential Design Principles	2000
Standard Specifications for Public Works Construction	1989
Street Design Guide Standards	1999
Traffic Calming Guidelines	2002
Design Guidelines for Bus and Light Rail Facilities	1987
Transition Plan for Curb Ramps	2001
Central City Policies	
Sacramento Central City Community Plan	1980, 1997
Sacramento Urban Design Plan for the Central Business District	1987
Central City Neighborhood Design Plan	-
Sacramento Central Business District Streetscape Study	1992
Community/Corridor Plans	
Airport Meadowview Community Plan	1984
North Sacramento Community Plan	1984
South Sacramento Community Plan	1986
North Natomas Community Plan	1994
South Natomas Community Plan	1988
R Street Corridor Plan	1996
District/Corridor Design Guidelines	
Alkali Flat Urban Design Guidelines	1972
Del Paso Heights Design Guidelines	1989
Oak Park Design Guidelines	1990
Alhambra Corridor Design Guidelines	1991
North Sacramento Commercial, Office, and Industrial Design Guidelines	1994
Del Paso Nuevo Development Guidelines	1998
65 th Street Transit Villages Plan	2001
Parkway Plans	
American River Parkway Plan	1985
Sacramento River Parkway Plan	1993
<i>Note: The Parks and Recreation Master Plan (2004) was developed subsequent to the document review and is not included in this section.</i>	

While it would be impractical to recommend policy changes for each document and ordinance individually, all plans and codes should be updated to ensure consistency with the Pedestrian Master Plan. In addition to the above documents, Sacramento's Zoning Code should be updated to allow the creation of pedestrian overlay zones and other amendments to encourage pedestrian-friendly development.



Policy Recommendations

- **Amend existing documents to be consistent with the Pedestrian Master Plan.** Because of the large number of existing documents, it may be infeasible to amend each for consistency with the Pedestrian Master Plan. A recommended approach is to ensure consistency between documents when they are next scheduled to be updated.
- **Revise Zoning Code to create a pedestrian and/or transit overlay zoning ordinance with: reduced setbacks, building height changes, and reduced parking requirements.**

MATRIX OF REVIEWED CITY DOCUMENTS

REVIEWED CITY DOCUMENTS

Year produced	Citywide Policies										Central City Policies						Community and Corridor Plans						District/Corridor Design Guidelines						Parkway Plans	
	1988, amended through 2000	2002	2002	1997, 2000	1990	Design Procedures for Street Improvement Standard Specifications	Design Standards & Traffic Calming Guidelines	City of Sacramento Plan for Bus and Light Rail Facilities	City of Sacramento Transition Plan for Curbside Ramps	Community Plan 1980, 1997	Urban Design Plan for the CBD Street	Neighborhood of Streetscape Design Plan	Meadowview Community Plan	North Sacramento Community Plan	South Natomas Community Plan	North Natomas Community Plan	13 th Street Corridor Plan	Alkali Flat Urban Design Guidelines	Del Paso Heights Design Guidelines	Oak Park Design Guidelines	Altamira Corridor Design Guidelines	Sacramento Office and Industrial Design Guidelines	Del Prado Nuevo Development Guidelines	65th Street Transit Village Plan	American River Parkway Plan	Sacramento River Parkway Plan				
General Plan																														
Pedestrian Safety Guidelines																														
Pedestrian Safety Guidelines																														
Access to Transit																														
Travelway Elements																														
Street Character																														
Land Use																														
Site Design																														
Architectural Design																														
Parking Elements																														
Standards																														

■ Sufficient Coverage
 ● Marginally Sufficient Coverage
 ○ Marginally Insufficient Coverage
 △ Insufficient Coverage
 □ Not Applicable



**SACRAMENTO PEDESTRIAN PLAN
IMPLEMENTATION GUIDE**



EXECUTIVE SUMMARY

Under the direction of City Staff and the lead consulting firm of Fehr and Peers, Nelson\Nygaard Consulting Associates and Community Design + Architecture worked together to produce this implementation guideline to assist the City of Sacramento's existing policies, codes, strategies, standards and guidelines as they affect the City's pedestrian environment.

The objective of this task is to:

1. Identify the strengths and deficiencies of the existing City policies and codes with respect to pedestrian facilities; and
2. Use the methodology developed for a subsequent workshop for the pedestrian master plan Steering Committee.

In total, 31 documents were reviewed. They fell into five general categories:

- Citywide Policies;
- Central City Policies;
- Community/Corridor Plans;
- District/Corridor Design Guidelines; and
- Parkway Plans.

This implementation guideline focuses on the citywide documents. Each document was based on current best practices for pedestrian design that address key aspects of safety and quality of the pedestrian realm. These best practices became the criteria for suggested changes. This includes consideration of the relationship between *pedestrian demand* and *pedestrian walkability* where *demand* is determined by the area land use and development that attracts people to a place and *walkability* is determined by sidewalk and street conditions that influence the level of safety and comfort. These best practices criteria fall into three main categories:

- Connectivity;
- Street Character; and
- Context Character.

Based on this set of criteria, the evaluation identified assets and needs. In general, while each of the documents have strengths, many contain inconsistencies both internally and with each other in the level and scope with which they address the pedestrian environment. This led to three main recommendations:

1. Incorporate the Pedestrian Master Plan into the General Plan and use it as a guiding policy document for Sacramento;



2. Produce a set of Pedestrian Technical Guidelines to create a common framework to guide the implementation of the Pedestrian Master Plan and all subsequent revisions to Sacramento's planning documents; and
3. Use this implementation document to update existing documents for consistency and pedestrian-orientation.

In May 2003, the consulting team presented the draft findings at a two-day workshop with the City of Sacramento's Pedestrian Master Plan Steering Committee. Participants' input and the consultant team's general recommendations are discussed in Chapter 3. On the most general level the primary conclusion developed by the consultant team is that pedestrian conditions in Sacramento are best furthered through strong pro-pedestrian language in the City's General Plan. The General Plan can then guide and inform all subsequent documents, be they more specific in issue or geographic scope.

More specifically, some of the recommendations identified through this process are:

- Update the General Plan Land Use Element to encourage more infill, mixed-use compact development.
- Update the General Plan Circulation Element to revise current level-of-service standards to tolerate higher levels of vehicular congestion and provide parallel assessments of the convenience and comfort of other travel modes including walking.
- Update *Design and Procedures Manual* to address the relationship between street function, sidewalk design, corner radii, adjacent land use and architectural design.
- Change the *Transportation Programming Guide* to require consideration of alternative transportation modes in all roadway projects and amend the programming weighting factors to include greater consideration of alternative transportation modes.
- Amend the *Residential Design Principles* to emphasize the creation of pedestrian networks rather than pedestrian pods and make the principles requirements rather than advisory.
- Develop procedures for regular coordination with RT on improvements around transit facilities and Caltrans for improvements around interchanges.



CHAPTER C-1. INTRODUCTION

Consistency with Adopted Plans

This chapter discusses how planning and implementation tools can be used to create and maintain a safe and attractive pedestrian environment and the ways in which those tools must interact and coordinate so as not to conflict with one another. Each of these important documents must reinforce each other's message and work as an integrated whole to provide effective guidance to a number of different City departments, boards, commissions, citizen groups and private developers.

General Plans

The City's commitment to creating a pedestrian-supportive environment should be reflected in its General Plan. The General Plan expresses the community's vision and defines policy initiatives necessary to achieve the vision. The commitment to a quality pedestrian environment includes developing a Land Use Element which encourages more compact, mixed-use, pedestrian-supportive development, including policies to create zoning and design guidelines for pedestrian-oriented development. The Land Use Element should also establish policies for land uses, site design, and building designs that support pedestrian activity, regardless of land use densities and intensities. In addition to supporting a minimum level of pedestrian improvements throughout the community, the General Plan should also identify specific pedestrian zones and corridors where a particular focus would be put to create a pedestrian supportive environment.

The Circulation Element of the General Plan should aim to balance vehicle and pedestrian conditions. This calls for a change in perspective regarding the vehicular level of service policies governing the nature and extent of roadway improvements required of new development and maintenance of existing roadways. A new approach, for instance, may be to accept degradations in vehicular level of service in specific areas in exchange for improved pedestrian conditions. This balancing of modes supports pedestrian safety as well as economic vitality. The Circulation Element should also establish implementation goals for investment in pedestrian infrastructure and ensure that adequate pedestrian facilities are a part of all transportation investments. The General Plan's environmental documentation should take into account that a multi-modal environment supports auto trip reductions through trip linking and mode shifts from autos to transit, bicycling, and walking.

Modifying and Creating Specific Plans

A Specific Plan is a tool for the systematic implementation of the General Plan. It establishes a link between policies of the General Plan and the specific characteristics and proposals in a defined area. A Specific Plan may be as general as setting forth broad policy concepts, or as detailed as providing direction to every facet of development from the type, location and intensity of uses to the design and capacity of infrastructure.



The Specific Plan can thus establish a policy directive and develop special project-specific site, building, parking, and open space design guidelines and standards that create a pedestrian-supportive environment. The Circulation chapter of the Specific Plans should illustrate pedestrian-supportive streetscape design concepts and plans and a pedestrian circulation plan that considers the most efficient on- and off-roadway pedestrian routes to create an integrated multi-modal circulation network. The Land Use and Community Character chapter should establish the mix of uses and the design standards and guidelines for private development necessary for a pedestrian-supportive environment. The Specific Plan's implementation program should define the shared public and private investment in the pedestrian-supportive multi-modal circulation network, from building new infrastructure to providing street improvements to modifying existing infrastructure.

Design Standards and Guidelines

A city may wish to create a set of pedestrian-oriented standards and guidelines that would essentially be a community's "checklist for walkability," and the document to which all other planning documents refer. The intent of the standards and guidelines document would be to improve pedestrian access and safety by providing a resource to those in the City who are responsible for the conditions of the built environment - be they a lawmaker, planner, designer, developer or community activist. The standards and guidelines document should address the principle issue of how to allocate space equitably to create active public space for pedestrians while at the same time maintaining appropriate space for transit, parking, bicycles, and vehicular movement.

They should address issues of new development as well as the retrofit and improvement of areas that are already developed in the community. The features outlined in this chapter would be an appropriate base outline for such a document because it encompasses a range of considerations from land use and transportation planning to site and detail design.

Pedestrian-Supportive Zoning Codes

Ideally, the City should undertake a complete zoning update to intensify development and modify street standards in designated cores or along corridors. An alternative would be to develop a Pedestrian- or Transit-Overlay Zoning Ordinance. The purpose of which is to create transit and pedestrian oriented environments by applying a set of zoning ordinances on top of the existing zoning. This would encourage an appropriate complementary mixture and density of uses, as well as the desired relationship between the public street system and private development to promote alternative modes of transportation to the automobile.

In order to create a finer-grained detail in architectural and urban form, new zoning might mandate design requirements such as reduced lot sizes and setbacks, and a high level of architectural interest and transparency. Parking requirements may also be reduced by methods such as allowing on-street parking to count towards a development's parking requirement as well as shared parking between sites with differing peak parking demands. The City might also consider maximum parking requirements to prevent developers from fostering excessive automobile dependence by providing more parking than necessary.

Prioritizing Funds for Pedestrians



A good system of plans, standards, guidelines, and zoning policies can provide a strong foundation for the implementation of a pedestrian-oriented city. However, making funds available for pedestrian improvements is just as important. Municipalities typically have systems in place for allocating funds for transportation improvements. These systems can display a bias in favor of auto-mobility at the expense of other transportation modes. Pedestrian-oriented planning documents need to be accompanied by a project ranking system that fosters prioritizing equally among the modes and does not neglect the needs of pedestrians.

Several mechanisms exist to help rank projects for funding based on how well they provide mobility for everyone and make basic needs accessible to the City's residents, employees and visitors. Citywide policies such as those in the General Plan often guide programming systems and should address all transportation modes even-handedly. For example, level-of-service requirements are often used to determine programming priorities. As discussed earlier in this section, LOS requirements should respond specifically to their context. Project ranking systems may also need to be adjusted to help create a more pedestrian-oriented city. Ranking systems should not lump together alternative modes as is typically done with the "catch-all" categories of "Ped/Bike" or "alternative modes." Instead, the needs of each non-automotive mode should be considered independently – because a pleasant street for pedestrians is not necessarily also good for bicyclists and transit riders.

There are many elements that comprise a good pedestrian environment. Safety is a critical consideration in locating improvements, and it should be considered when setting funding priorities. Data such as the Statewide Integrated Traffic Records Systems (SWITRS) will indicate where reported collisions are located. Pedestrian improvements can be prioritized for locations where a high number of collisions involving pedestrians have occurred as indicated by SWITRS data. However, SWITRS data does not indicate unsafe intersections if pedestrians avoid the intersection altogether due to perceived danger. This, in turn, has an impact on pedestrian connectivity. In other words, municipalities need to assemble a multi-faceted ranking system (collision rates, identifying land uses, vehicle speeds and volumes, and gathering community input, etc.) to evaluate projects for funding based on many aspects of pedestrians' needs.



CHAPTER C-2. REVIEW OF CITYWIDE DOCUMENTS

To provide guidance to create policies that support a quality pedestrian environment a series of best practices features have been identified (refer to appropriate in Chapter in PMP). In the analysis of the City's existing Planning documents, these features have been applied consistently in the documents as evaluation criteria.

Citywide documents cover a range of general land use and transportation goals and policies, as well as specific codes and guidelines. They include the City's *General Plan* (1988 with amendments through 2000), *Transportation Programming Guide* (2002), *Residential Design Principles* (2000), *Design Procedures Manual and Improvement Standards* (1990), *Standard Specifications for Public Works Construction* (1989), *Street Design Guide Standards* (1999), and *Pedestrian Friendly Street Standards* (DRAFT), *Traffic Calming Guidelines* (2002), *Design Guidelines for Bus and Light Rail Facilities* (1987), and *Transition Plan for Curb Ramps* (2001).

General Plan

Document Assets

- The plan includes good basic requirements for a better pedestrian environment, especially in the Central City.
- Land Use text describes pedestrian-friendly development patterns.
- The Pedestrianways section includes a good list of basic needs for a pedestrian-friendly environment, from large-scale land use needs to specific streetscape elements.
- Central City Goal C of the Circulation Element requires the development of a balanced approach to City transportation needs.
- The Circulation Element includes goals for pedestrians, bicyclists, and transit riders.

Document Needs

- Policies could re-emphasize and incentivize compact mixed-use infill to create a better pedestrian environment.
- A balanced approach to transportation should be citywide, not just in the Central City.
- A roadway conditions target LOS C results in wider roadways, which lack pedestrian scale.
- The General Plan could provide a more proactive and ambitious requirements for a better pedestrian environment.
- More specific requirements on crossing safety, pedestrian zone overlays, and access to services would improve citywide pedestrian conditions.
- GP could identify specific pedestrian districts and/or corridors for enhancement.
- Illustrations of pedestrian-oriented streetscape design would assist developers in fostering them.
- GP could have stronger implementation tools. For example, it could require that CIP projects include pedestrian elements or give projects with pedestrian improvements higher priority.



The City of Sacramento's *General Plan* was adopted in 1988 with amendments through September 2000. The *General Plan* is a crucial policy document which can help guide a city's development and infrastructure improvements in ways that facilitate and promote pedestrian travel. Subsequent specific plans, zoning ordinances, and other city policies can look to the guidelines provided in the *General Plan* for ways to encourage walking for transportation and recreation.

Two elements of the *General Plan* provide the framework from which a pedestrian-oriented city evolves. The Land Use element guides development practices that can encourage walking through both location and design. A more comprehensive Land Use and Community Character element can provide more focus on urban design that creates a better pedestrian environment. The Circulation element should reflect a balanced approach to the transportation modes, avoiding emphasis on the automobile at the expense of pedestrians.

Land Use Element

The *General Plan's* Land Use Element contains goals and policies that address the needs of pedestrians. The Land Use Element has the potential to positively impact the City's pedestrian-orientation on both a large (demand) and small (walkability) scale. At the larger scale, walking is only possible where origins and destinations are near each other (i.e., mixed-use development) and land uses are at a density great enough to bring origins and destinations close to each other and provide enough people to support a transit system. Zoning for mixed use is a critical part of a pedestrian-oriented city. Road systems must be logically structured so walking is efficient. At the smaller scale, buildings should face the street and have minimum setbacks, and parking should be kept to a minimum and located away from the street.

The Land Use Element discusses potential infill sites and redevelopment potential which is a good approach to growth because it is an efficient use of resources and maintains an environment where it is possible to use alternative modes. However, the images of residential development that the document provides display a bias against pedestrian-friendly design. Specifically, Figure 1 shows high-rise multi-family as a remotely-located, unattractive modern building located in an ocean of parking. Rather than using such stark, unappealing images, high-density housing should be illustrated with attractive architecture, ground-floor retail, sidewalks and transit. Plan-view figures (2-A and 2-B) have pedestrian-unfriendly characteristics such as cul-de-sacs, irregular street patterns, and parking lots next to the street. The illustrations include display of a zero lot line site plan, which allows for pedestrian-oriented density levels. Illustrations of pedestrian-oriented environments, such as the street view of developments, would provide clearer guidance to developers.

The plan includes pedestrian-friendly goals. Goal C emphasizes efficient use of resources including pedestrian-oriented land-use characteristics such as increasing neighborhood density, mixed land use, connection with transit, smaller lot sizes and sub-dividing. Goal E is to provide housing in mixed-use developments to reduce travel time to employment centers. These excellent goals would be more effective with pedestrian-friendly companion images.



Circulation Element

Sacramento's Circulation Element recognizes the need for a balanced transportation system in response to increased traffic congestion. Many of its goals and policies include consideration of non-auto-related uses of the street without naming them specifically. However, the circulation element also includes many pedestrian-unfriendly policies. It does not recognize trade-offs with the automobile; for example, the LOS standard is C or better (Goal D for Streets and Roads), significantly less congestion than what is tolerated in many pedestrian-oriented cities, particularly on streets and in districts that are intended to be pedestrian supportive such as shopping streets and districts. This conservative roadway requirement results in programming being skewed towards auto throughput rather than the functionality of the transportation system. Central City Transportation Goal D is to provide additional parking to support the economic vitality of downtown. Parking encourages shoppers to drive when they could otherwise walk or ride transit, and parking is a land use that is often unfriendly to pedestrians particularly in large expanses or concentrations.

The Circulation Element includes goals for transit riders, pedestrians and bicyclists. Central City Transportation Goal C specifically requires a balanced approach to the transportation system. While subsequent policies specifically address transit, automobile, and pedestrian modes, the language associated with each policy gives a very different emphasis for each mode. For example, the *General Plan* instructs to "encourage" transit use, "maintain" roadways for automobiles, and "consider" pedestrian pathways. Creating a truly balanced transportation system would require much more than "encouraging" and "considering" non-automobile modes. Instead, pedestrian networks must be created and maintained with quantifiable service level objectives that measure convenience and comfort that are required to be met just as with vehicle LOS standards. In appropriate districts and corridors, walking and transit should be given preference over automobiles.



Pedestrian Safety Guidelines

Document Assets

- The Guidelines provide an overview of current City policies regarding crosswalks, pedestrian signals and other elements of pedestrian safety.
- It clearly outlines safety issues regarding pedestrian crossings at controlled and uncontrolled intersection locations and at mid-block crossings and presents a methodology for enhancement.

The City commissioned the production of a set of Pedestrian Safety Guidelines, which was completed in August 2002. The document begins with a comprehensive overview of the programs and methodologies the City of Sacramento employs to improve the pedestrian experience. Programs and documents include:

- The Neighborhood Traffic Management Program that incorporates the City's *Traffic Calming Guidelines*;
- Development Standards as dictated in the City's *Design and Procedures Manual and Improvement Standards*, and the *Standards Specifications for Public Works Construction*;
- Youth programs including *Captain Jerry*, *Kids X-ing* and the *Safe Route to Schools Program*;
- *The City of Sacramento Transition Plan for Curb Ramps*; and
- Pertinent sections of the City's Municipal Code.

The focus of the remainder of the Guidelines is primarily on safe street crossings. The Guidelines provide guidance on establishing a crosswalk installation policy based on the 2002 FHWA study "Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations." In addition to uncontrolled intersections, best practices, including warrants, are provided for pedestrian treatments at controlled approaches (at intersections) and mid-block locations. Crossing enhancements such as signal devices, special striping, pedestrian refuge islands, and curb extensions (referred to as bulbouts in the Criteria) are presented in menu approach for controlled, uncontrolled and mid-block locations. In general, the material is thorough and succinct. Its content should be directly referenced in the Pedestrian Master Plan. .

A very brief chapter on Private Development Best Practices complements the guidelines' discussion of establishing a cohesive pedestrian network. This short chapter primarily references the safe crossings chapter, but ventures into sidewalk design, block length recommendations, and a development's internal pedestrian circulation and access – all important elements. The



Guidelines recommend continuous sidewalks separated by a planter or parking strip and a vertical curb along all new streets next to commercial or residential land uses. Street sections illustrating the recommendations are included in an appendix. One can assume that these cross sections guided the City's Public Works Department's Draft Pedestrian Friendly Street Standards (2003). A recommendation of maximum block length is indirectly established through a citation to the City's Traffic Calming Guidelines. It recommends that in new development interconnecting streets "of sufficient traffic volumes to warrant a traffic control device" interrupt blocks maintaining a maximum street block of no greater than 500'. Finally, at a site design level, the Guidelines recommend clear pedestrian circulation from sidewalk to building entrances.

In terms of an overall evaluation, the *Pedestrian Safety Guidelines* is successful in addressing safety. However, safety is only one aspect (albeit vital) in creating a pedestrian-friendly environment. Pedestrian *convenience* and *comfort* (including aesthetics) are also important considerations in promoting pedestrian walkability, and that land use and development characteristics influence pedestrian demand.

Transportation Programming Guide

Document Assets

- The Transportation Programming Guide provides a clear description of the associated goals, policies, project criteria and ranking system.
- Many programs include pedestrian improvements such as sidewalks, landscaping, traffic signals, and improvements around schools.
- Criteria and ranking for most programs emphasize increasing capacity to relieve congestion and improve air quality.

Document Needs

- Pedestrian concerns are overlooked for most programs, most notably street reconstruction, traffic signals and alternative modes.
- Data on collisions involving pedestrians is available from SWITRS and could provide a good source for project ranking.

Sacramento's *Transportation Programming Guide* (2002) provides a comprehensive structure for prioritizing the City's transportation programs and projects. City staff and a council-appointed Community Advisory Committee developed the guide. It has ten sections: major street improvements, street maintenance, street reconstruction, traffic signals, alternative modes, bridges, streetscape enhancement, sidewalks to schools, speed humps, and development driven projects. The goals and policies associated with these sections are drawn from City documents such as the *General Plan*. They also include criteria and ranking systems. While the City's plans include the vision for the City, how funds are allocated has a greater impact on conditions in Sacramento. As a result, the strengths and weaknesses of the City's plans and the perspective of



the programming authors are amplified in this document. The text below covers recommendations for relevant document sections:

Major streets section –Improvements include widening, extensions/connections, grade separations, and interchange construction and modification. Goals associated with street improvements are from the *General Plan*. The emphasis of the street improvements is to increase capacity to relieve traffic congestion without consideration for the induced demand effect – where the amount of traffic will increase to fill the capacity of the roadway. Improving conditions for pedestrians and other alternative modes balanced with investments in improving traffic progression are a more effective way to address congestion. Street improvement programming is directed by the LOS standard of C or better, which results in an acute auto-oriented skew. The ranking system gives stronger weight to auto flow/congestion. This funding category represents the most money (about \$500M in 2002).

Street reconstruction – Street reconstruction projects involve removing and replacing asphalt concrete, placing new striping and pavement markings, new curb, gutter, traffic controls and sidewalk construction. Reconstruction is necessary when a street has degraded too much for the maintenance program. The project ranking is based primarily on Average Daily Traffic (ADT) over alternative modes (bus and bike routes or lanes only, not pedestrians). Although reconstruction includes sidewalks, the ranking does not consider the pedestrian network or pedestrian safety. This funding category represented about \$34M in 2002.

Traffic signals – Intersection controls are an important tool for balancing priorities in the roadway system. Goals from the *General Plan* that address traffic signals include improving traffic flow, congestion and air quality. Helping people change to alternative modes, including walking, would have a greater benefit to air quality and congestion. As with street improvements, the emphasis for this funding category is to increase roadway capacity. When projects have a tiered ranking, preference is given to those with more collisions, higher pedestrian and bicycle traffic and those closer to schools (in that order). Traffic signals play a key role in pedestrian comfort and safety, and funding criteria should reflect that, including factors such as collisions involving pedestrians and other factors that influence the pedestrian experience.

Alternative modes – The alternative modes program should include pedestrians, but it only addresses the needs of bicyclists. A number of pedestrian facilities could be funded in this category. While only a small portion of the population rides a bicycle for transportation, everyone is a pedestrian at one point or another as they travel around the City.

Streetscape enhancement – The main emphasis of this category is landscaping in commercial and other corridors based on a 1987 policy. The *Commercial Corridors Plan* is part of the *Economic Development Strategy Framework* (EDSF, 2000) that identifies eligible corridors for the program. Improvements for these corridors include various pedestrian-oriented enhancements such as landscaping, lighting, sidewalk improvements, bulbouts, and trash receptacles. Ranking considers ameliorating high traffic volumes in downtown areas where the pedestrian retail experience could be improved with these facilities. In the “other corridors” category (corridors



not included in the EDSF), current appearance is the most important ranking criteria. Pedestrian safety and level of activity should also be included in the goals, policies and ranking.

Sidewalks to schools – Pedestrian and bicycle conditions near schools should be safe from auto traffic. Ranking for this program could include pedestrian collision rates along with the factors already included: average daily traffic (ADT), number of students, speed limit, and existing conditions.

Residential Design Principles

Document Assets

- The Principles describe a pleasant and safe pedestrian environment.
- Requiring multifamily housing to be near transit will foster an efficient land use and transportation system.

Document Needs

- The Principles should have more emphasis on creating a pedestrian network rather than just a good place for people.
- Despite good basic principles, illustrations depict suburban-style residential design with cul-de-sacs and large setbacks that create a pedestrian-unfriendly environment.
- To ensure implementation of the Principles, they should be requirements.

The City of Sacramento’s design principles for single and multifamily residential development are outlined in two documents: *Single Family Residential Design Principles* (1998) and *Multi-Family Residential Design Principles* (2000). These documents cover an array of development characteristics, including considerations for pedestrians. The documents assume that development will consist of single-use pods, including construction of disconnected street facilities, neighborhood boundaries with walls, and limited subdivision entry points.

“Pod-style” subdivision development patterns are by their very nature, not conducive to walking as a mode of transportation. Varied land uses and development densities that bring people and services closer together are key components that make it possible for people to walk from their homes to services or their place of work. Rather than focusing on pedestrian connections between residential developments and activity centers, Sacramento’s residential design guidelines concentrate solely on the quality of the pedestrian environment within a particular single or multifamily residential development. Although the quality of the pedestrian environment within residential developments is important, pedestrian connections between neighborhoods and commercial areas are crucial components of a truly walkable city.

