CITY OF SACRAMENTO | JUNE 2006

making sacramento the walking capital

PEDESTRIAN master plan

City of Sacramento

Pedestrian Master Plan

Making Sacramento the Walking Capital

Final Report

June 2006

Prepared By:

Department of TRANSPORTATION City of Sacramento

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CITY OF SACRAMENTO
PEDESTRIAN MASTER PLAN
JUNE 2006

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SACRAMENTO PEDESTRIAN MASTER PLAN

making sacramento the walking capital

The purpose of the Pedestrian Master Plan is to make Sacramento a model pedestrian-friendly city—the "Walking Capital." The Pedestrian Master Plan provides a comprehensive vision for improving pedestrian conditions.

PLAN OVERVIEW

The plan is organized into five sections:

- Introduction and Background
- Plan Development and Community Outreach
- Existing Conditions
- Goals and Policies
- Implementation Guide

Design Guidelines are included, along with technical support, in the appendices.

OBJECTIVES

The Sacramento Pedestrian Master Plan has two primary objectives:

1. **Institutionalize Pedestrian Considerations**—Prepare policy, standard and procedural recommendations that allow the City to leverage the best pedestrian environments from new developments and incorporate pedestrian considerations into all transportation and land use projects (exhibited in the figure to the right).

2. **Improve Current Pedestrian Deficiencies**—Prepare a capital improvement process that enables the City to systematically retrofit currently deficient sidewalk and pedestrian crossing locations.

Sacramento is already a model for cities across the United States for practices related to street design and installing safe crosswalks. The City's design practices

form the basis for assuring that new developments and transportation facilities are constructed with great pedestrian environments. There are two additional keys to becoming the Walking Capital: (1) create land use patterns that promote walking; and (2) construct new pedestrian enhancements.

The premise of this Plan is that areas lacking land use patterns that would support walking, such as much of North Natomas, should be addressed through policy actions that would create walking demand. The City's scarce resources for improving pedestrian environments should be targeted to areas with supportive land uses (that is, there are potential walkers) but lacking sidewalks and crosswalks.

CRITICAL DECISIONS

In order to make decisions about which areas should receive

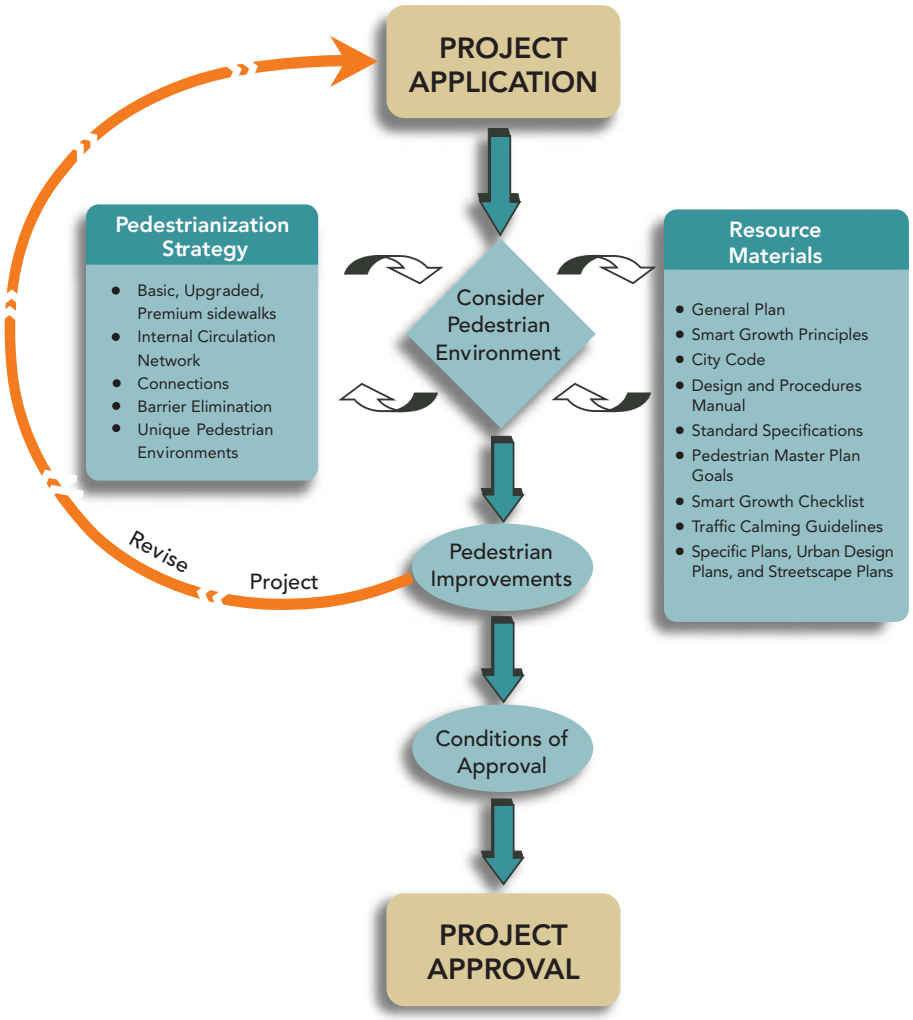
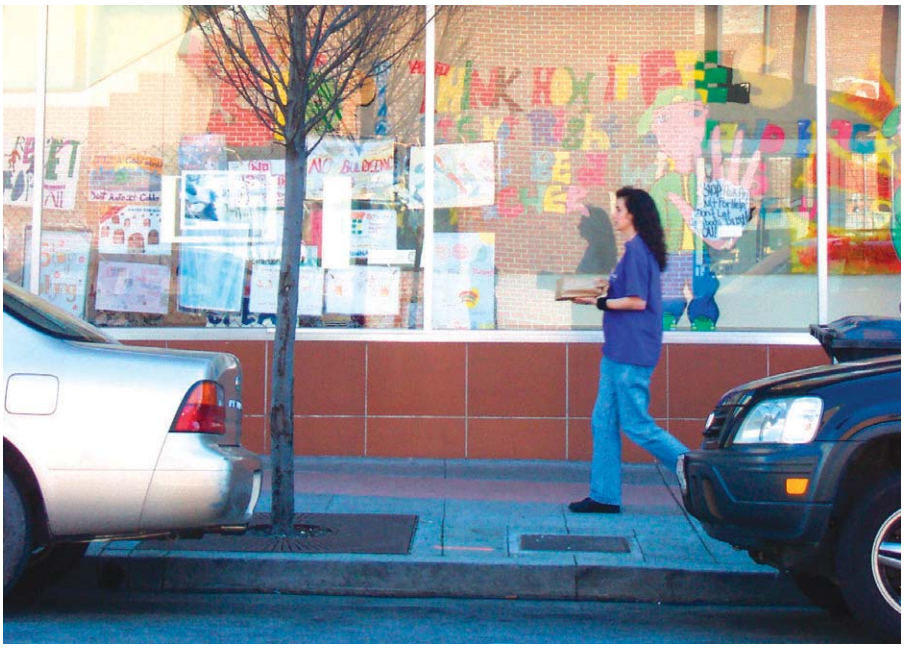


FIGURE 1: *Integration of pedestrian considerations into new development projects is a key element to becoming the walking capital.*



pedestrian enhancements, also known as the Pedestrian Improvement Process (PIP), the City developed new tools to measure "walking demand" and "pedestrian deficiencies" (or walkability). These tools are described in Section V of the report (Implementation) and form the technical basis to support the City's aggressive pedestrian-friendly policies.

Not all areas in Sacramento have the same level of demand. The overall strategy for this plan is to match the level of improvements to the demand of a particular area.

The most fundamental level of improvement is called "basic." This is similar to what already exists in most parts of the City. Generally speaking, all parts of the City should be receiving basic improvements. The "upgraded" level of improvement includes everything in the basic level, plus added features, like wider sidewalks, more intense lighting and landscaping and higher quality street-crossing treatments. These improvements are targeted for commercial streets with medium to high levels of automobile traffic. "Premium" 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.

MEASURING PERFORMANCE OF NEW DEVELOPMENT

Just as City-constructed pedestrian projects will be built at varying levels of improvements, private developments will also be required to construct upgraded and premium facilities when adjacent to and encompassing pedestrian corridors and nodes.

DEL PASO RD
RALEY BL
GRAND AV
SAN JUAN RD
NORTHGATE BL
NORWOOD AV
RIO LINDA BL
ROSEVILLE RD
DEL PASO BL
EL CAMINO AV
N 16TH ST
10TH ST
E ST
H ST
P ST
T ST
BROADWAY
STOCKTON BL
FOLSOM BL
RIVERSIDE BL
14TH AV
65TH ST
FREEPORT BL
FRUITRIDGE RD
24TH ST
ELDER CREEK RD
FLORIN RD
FRANKLIN BL
MEADOWVIEW RD
Sacramento River
American River
80
160
5
50
99
Pedestrian Areas
Pedestrian Street Corridors
Existing Bicycle/Pedestrian Trails
Planned Future Trails
Pedestrian Nodes
Light Rail Stations
Source: Fehr & Peers, City of Sacramento, 2006
N
0 0.5 1 2 3 4 Miles

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	
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	
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	
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	
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	
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	
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	
Located to side of building	Good	3	☐
Adjacent with connecting pathways	Acceptable	2	
Adjacent with landscape screening	Minimal	1	
Not applicable		0	

Beyond sidewalk construction requirements, private developments will also be measured for their level of pedestrian friendliness. The City has a Smart Growth Implementation Guide, which uses a scoring system to evaluate new and infill development projects. The Pedestrian Master Plan proposes an update to the scoring system so that pedestrian focused results can be quantified.

This information can be used to indicate where a proposed development project is supportive of

BASIC

UPGRADED

PREMIUM

Upgraded improvements are recommended for all pedestrian corridors, and premium improvements appropriate for pedestrian activity "nodes."

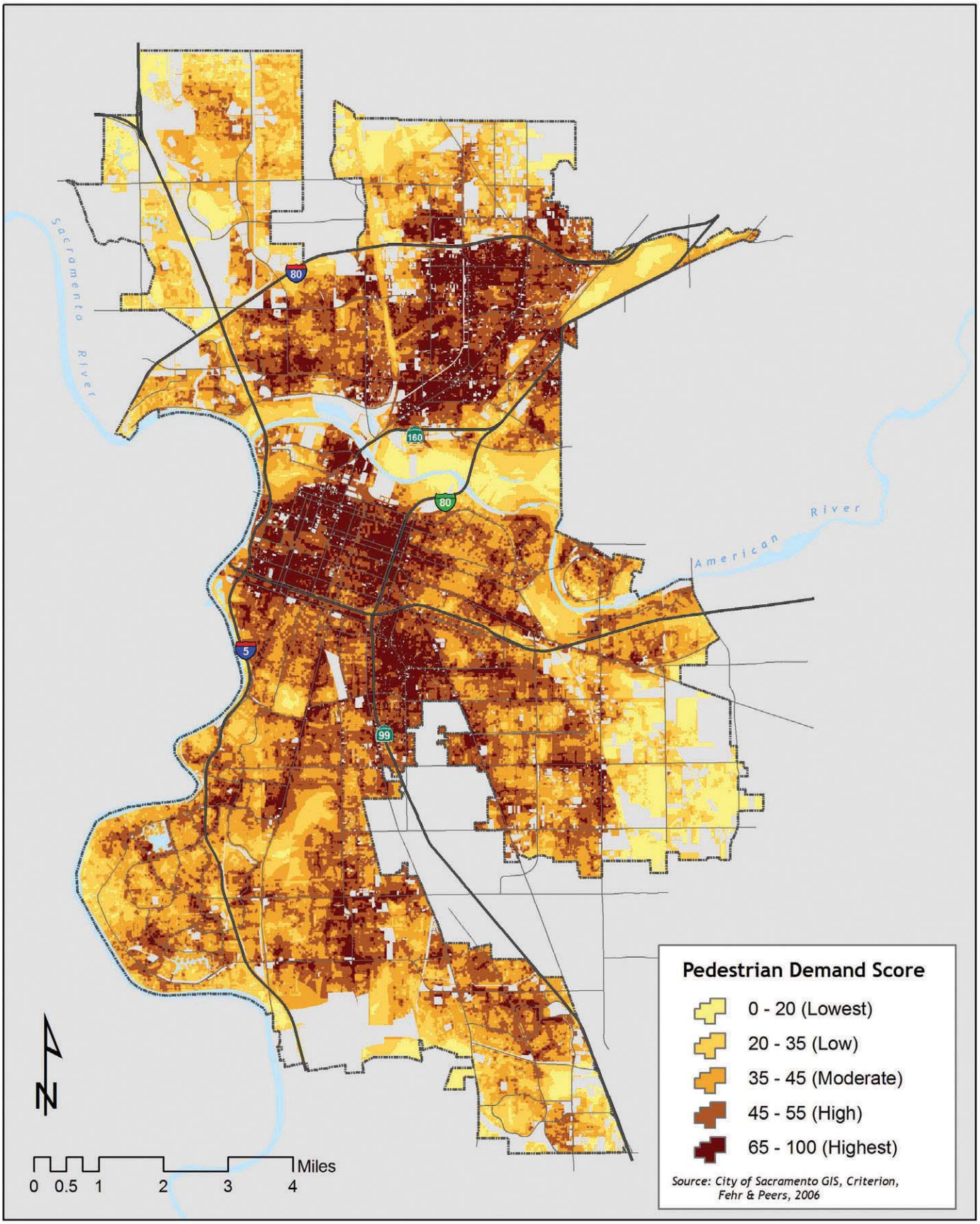
pedestrians, and where more pedestrian friendly modifications can be made.

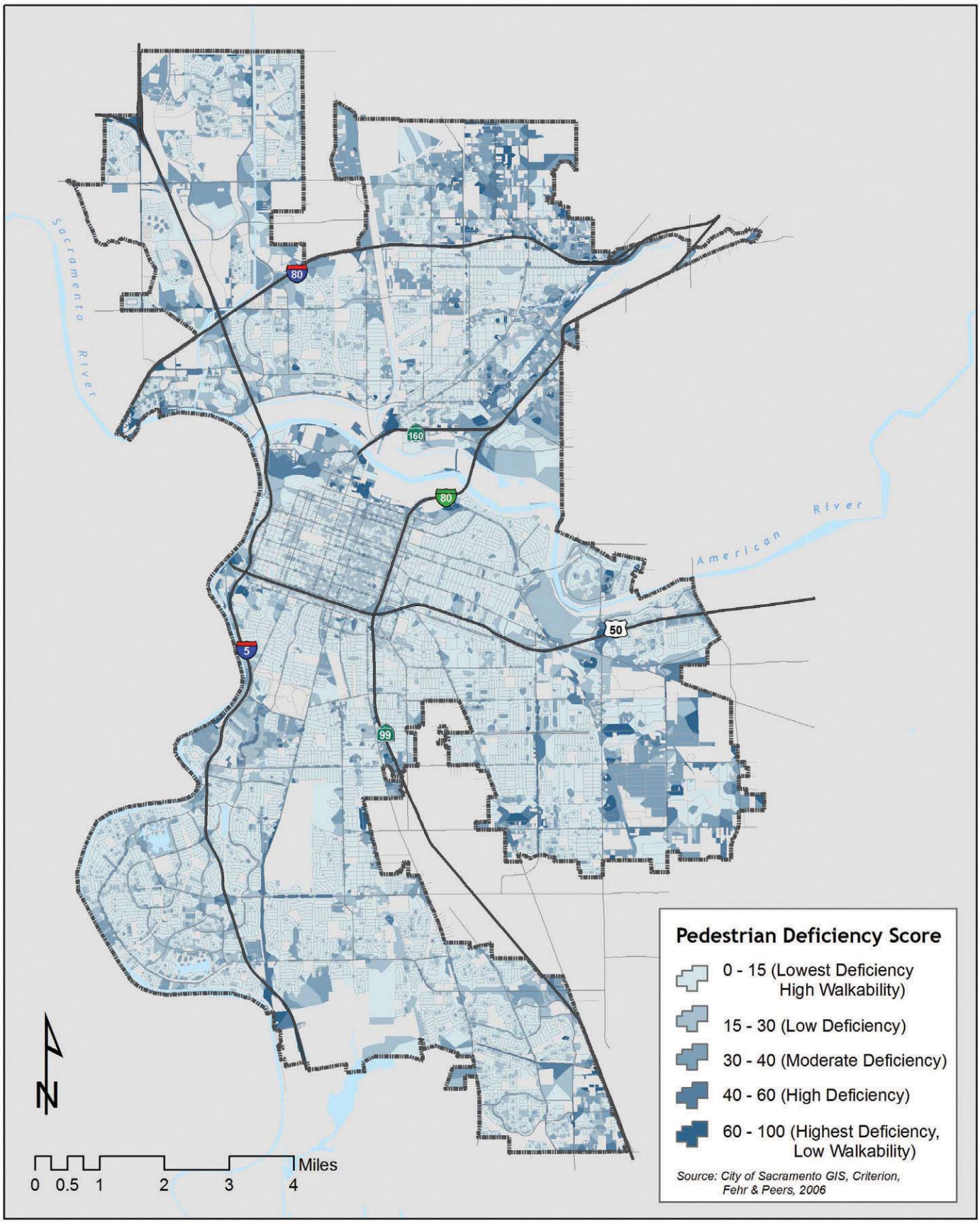
GETTING IT DONE

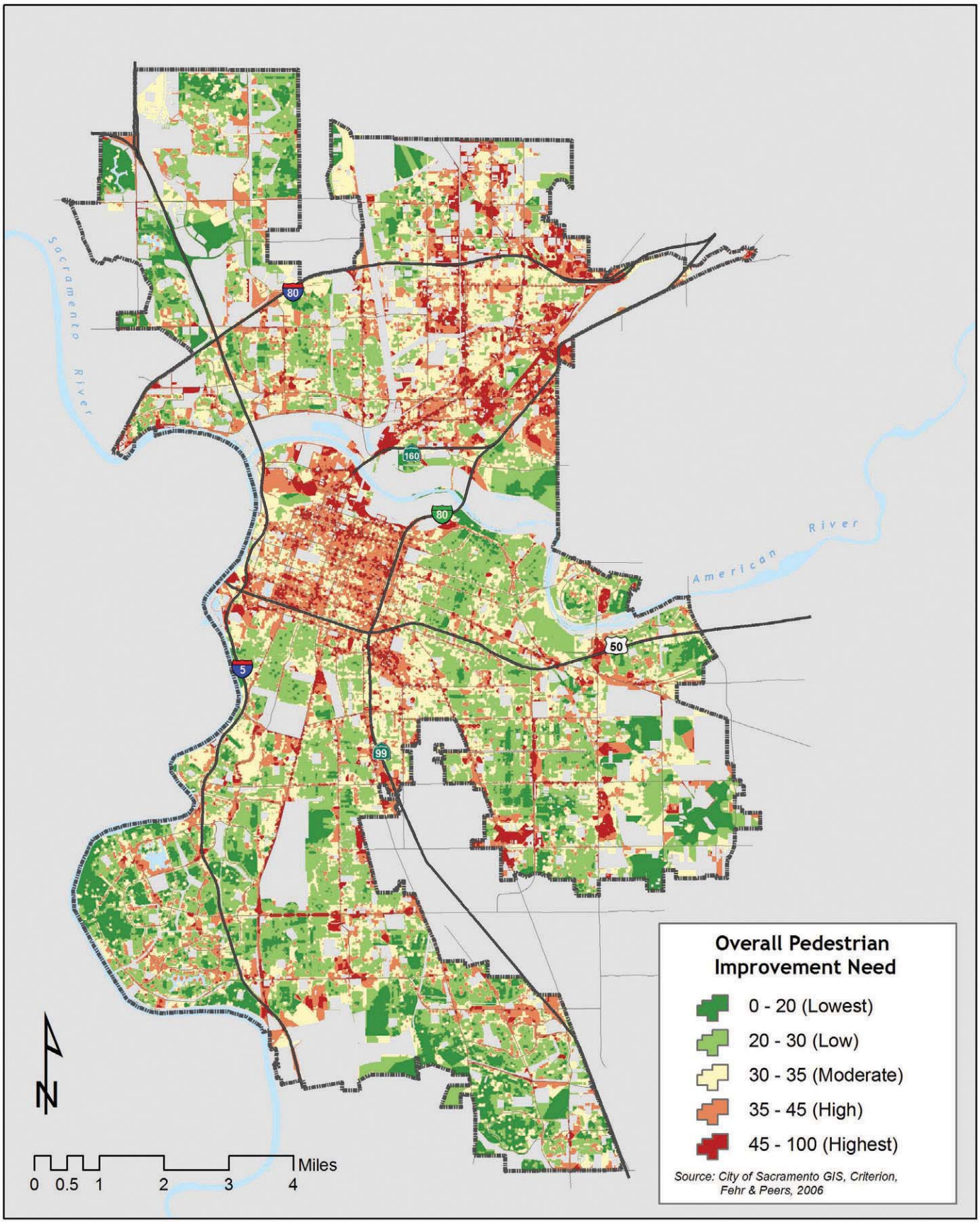
The City has already accomplished a great deal for pedestrians. The key short-term action items for the City are to update the City's practices on development review, make appropriate revisions to the General Plan, including considering modifications to transportation performance measures (level of service standards), and begin implementation of top priority sidewalk and crossing projects (Section V of the report shows maps of high-priority pedestrian improvement areas). Within the next year or two, the City should consider broader revisions to its Transportation Programming Guide so that the new pedestrian improvement projects work closer with other transportation improvements.

PEDESTRIAN PLAN "TO-DO" LIST

TASK	STATUS
Accomplishments	
Develop and implement Neighborhood Traffic Management Program	Complete
Prepare Bikeway Master Plan	Complete
Implement (as resources permit) Bikeway Master Plan	Underway
Prepare American's with Disabilities Act (ADA) Transition Plan	Complete
Implement ADA improvements	Underway
Develop Pedestrian Safety Guidelines	Complete
Create Pedestrian-Friendly Street Standards	Complete
Institute a Streetscapes / Urban Design Capital Improvement Program	Complete
Incorporate pedestrian-friendly practices into City standards	Complete
Develop Riverfront Master Plan	Complete
Implement Riverfront Master Plan	2006 +
Implement Education Programs (Captain Jerry, 50+ Wellness, Driver Awareness, etc.)	Complete
Short-Term Actions	
Adopt Smart Growth Implementation Guide	Underway
Expand pedestrian-friendly development review practices	2006
Amend General Plan to improve pedestrian considerations	Underway
Develop/Implement Pedestrian Path of Travel Strategies around Construction	Activities Underway
Adopt Sidewalk Pedestrian Improvement Program (PIP)	2006
Implement Top Priority Sidewalk projects	2006 +
Complete development of the Street Crossings Improvement Program	2006
Implement Top Priority Street Crossing projects	2006 +
Mid and Long-Term Actions	
Update Transportation Programming Guide	Beyond 2006
Update Design and Procedures Manual	Beyond 2006
Review Pedestrian Safety and Access Needs for Seniors	Beyond 2006
Form Partnerships for Pedestrian Awareness and Education	Beyond 2006
Continue to Implement Top Priority Sidewalk Projects	Beyond 2006
Continue to Implement Top Priority Street Crossing Projects	Beyond 2006


Sacramento River
American River
80
160
80
5
99
Pedestrian Demand Score
0 - 20 (Lowest)
20 - 35 (Low)
35 - 45 (Moderate)
45 - 55 (High)
65 - 100 (Highest)
Source: City of Sacramento GIS, Criterion, Fehr & Peers, 2006
N
0 0.5 1 2 3 4 Miles


Sacramento River
American River
80
160
80
50
5
99
Pedestrian Deficiency Score
0 - 15 (Lowest Deficiency High Walkability)
15 - 30 (Low Deficiency)
30 - 40 (Moderate Deficiency)
40 - 60 (High Deficiency)
60 - 100 (Highest Deficiency, Low Walkability)
Source: City of Sacramento GIS, Criterion, Fehr & Peers, 2006
N
0 0.5 1 2 3 4 Miles


Sacramento River
American River
80
160
80
50
5
99
Overall Pedestrian Improvement Need
0 - 20 (Lowest)
20 - 30 (Low)
30 - 35 (Moderate)
35 - 45 (High)
45 - 100 (Highest)
Source: City of Sacramento GIS, Criterion, Fehr & Peers, 2006
N
0 0.5 1 2 3 4
Miles

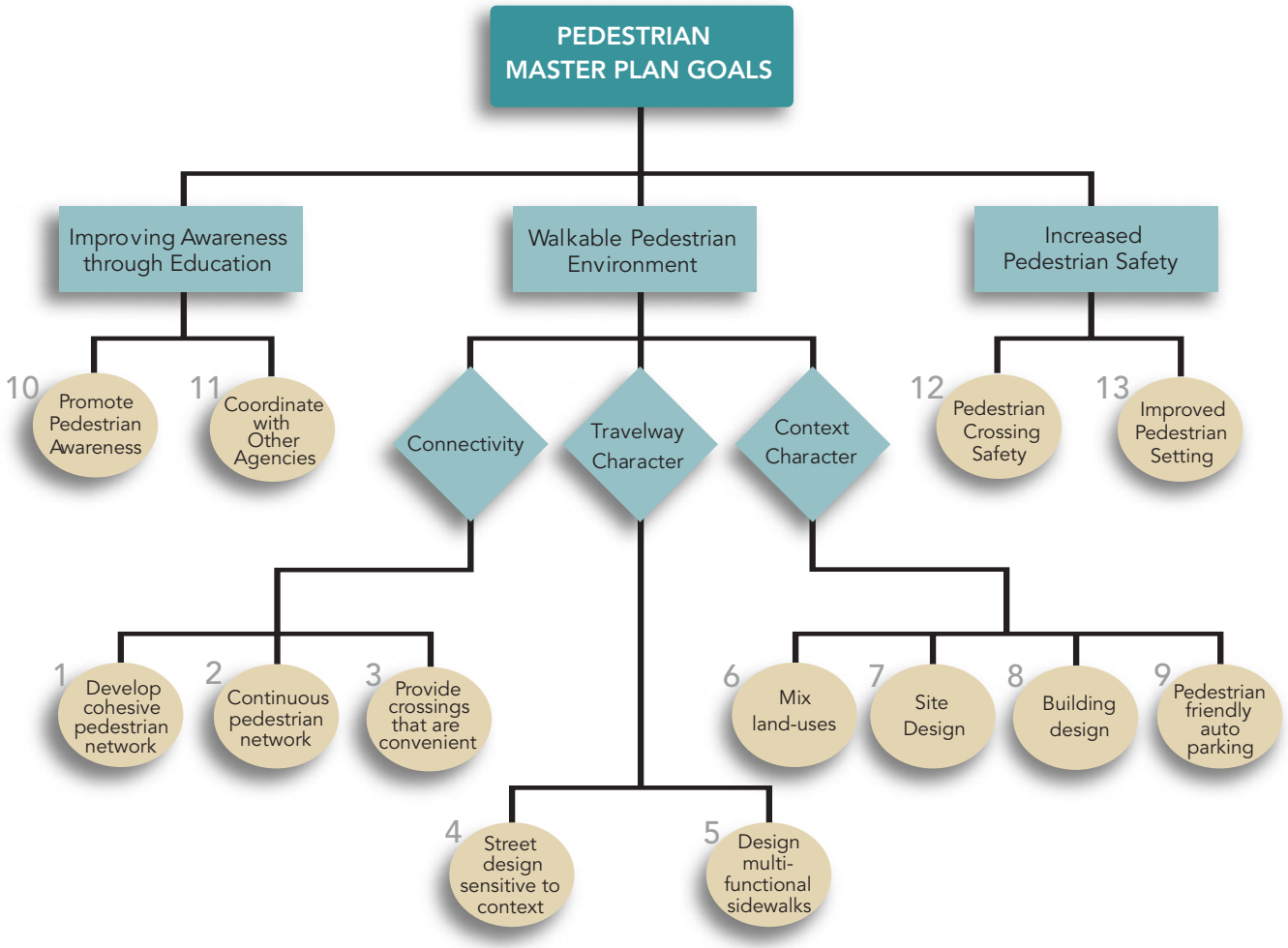


FIGURE 2: *Goals for the Pedestrian Master Plan include improvement awareness through education, increasing safety, and creating connected pedestrian environments surrounded by pedestrian-supportive land uses.*

The estimated cost of completing all sidewalk improvements within the City is about $400 million. The crosswalk and other crossing improvements will represent an equal amount, making the total cost of pedestrian improvements about $800 million.

The most important thing that the City can do to advance its goal of being the Walking Capital is to continue to consider the needs of pedestrians in all projects and to permeate a balanced, multi-modal approach to transportation throughout the City organization. This Plan continues the City's strong momentum in this direction.

I. INTRODUCTION AND BACKGROUND

INTRODUCTION

Walking as a form of transportation is enjoyable, energizing, environmentally friendly, and free. It has been a prevalent form of transportation throughout history. However, in the last fifty years the quality of the pedestrian environment in many cities has declined. Walking from one place to another has become challenging, as pedestrians must navigate wide roadways, speeding vehicles, and travel longer distances.

In recent years, interest in non-motorized transportation has re-emerged. Traffic congestion chokes many cities, and travel by automobile can be frustrating, time-consuming, and stressful. Nationally, interest in alternate modes of transportation was emphasized in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, as well as with subsequent federal transportation spending legislation. States and local agencies have also shifted focus away from planning primarily for the automobile in favor of a multimodal approach to transportation.

"Walking is the oldest and most basic form of human transportation. It requires no fare, no fuel, no license, and no registration."

-Portland Pedestrian Master Plan, 1998

With a population of over 450,000, the City of Sacramento is the cultural, educational, business, and governmental center of a six-county metropolitan region. As California's Capital City, Sacramento is center stage for governmental policy for the entire state. A dynamic business sector, an expanding public transportation system (including light rail), affordable housing, and growing cultural, educational, and medical facilities serve the needs of the nearly two million people in the region.

To walk from one place to another is transportation in its most basic form. In the large, diverse Sacramento region, many trips involve walking to work, to the store, or to school. On an average day, pedestrians walk from one place to another nearly five million times in the Sacramento region, and over one million times within the City of Sacramento itself. [1]

[1] According to the 1995 Nationwide Personal Transportation Survey, the average person takes 2.4 walking trips daily. In addition to these trips, every person is a pedestrian at some point in their journey, such walking to one's car or to the nearest bus stop.

PURPOSE OF THE PEDESTRIAN MASTER PLAN

The purpose of the Pedestrian Master Plan is to make Sacramento a model pedestrian-friendly city – the "Walking Capital."

The Pedestrian Master Plan provides a comprehensive vision for improving pedestrian conditions. It presents a set of goals and strategies to achieve this vision (Section IV), and it includes a framework for creating an improved pedestrian environment. A methodology for prioritizing future pedestrian improvements was also developed (Section V).

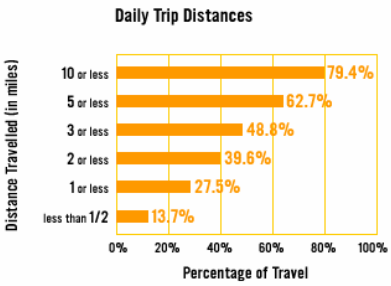
Making Sacramento more pedestrian-friendly is intended to improve the quality-of-life of Sacramento residents and visitors as well as meet the City Council's vision of Sacramento being the most livable city in America. Specific benefits afforded by walking are:

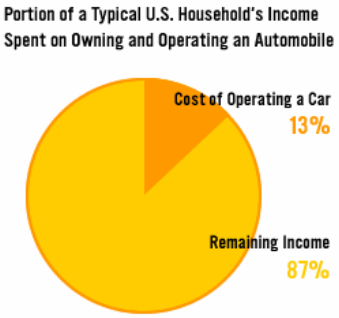
- **Health benefits** - The health benefits of regular physical activity are far-reaching: reduced risk of coronary heart disease, stroke, and other chronic diseases; lower health care costs; and improved wellness for people of all ages.

- **Transportation benefits** - Many trips are short enough to be accomplished by walking – over one quarter of trips are one mile or less (see graphic on right). Walking can reduce roadway congestion, energy consumption, and driver frustration. Walking is also an important link between other modes of transportation.

- **Environmental benefits** – Walking is the most sustainable mode of transportation. Transportation is responsible for nearly 80 percent of carbon monoxide and 50 percent of nitrogen oxide emissions in the U.S. Although individual cars are much cleaner today than they were in earlier years, if total vehicle travel continues to grow, overall air quality will deteriorate. Moreover, cars and trucks burn millions of barrels of oil, a non-renewable energy source, every day. Fewer trips made by this mode also mean fewer "cold starts" by vehicles, when some of the most toxic emissions occur.

- **Economic benefits** - Walking is the most affordable form of transportation. Pedestrian-oriented neighborhoods facilitate economic development, increasing surrounding property values and encouraging additional investment in neighborhoods rather than on transportation and fuel.





Source: Walkinginfo.org / US Census, 1998

- **Quality of life benefits** - Better conditions for walking have intangible benefits to the quality of life. Walking is an indicator of a community's livability – a factor that has a profound impact on attracting businesses and workers as well as tourism. In areas where people walk, there is a palpable sense that these are safe and friendly places to live and visit.

- **Social equity benefits** – Much of our population is unable to drive, including children, many disabled people, seniors, and those unable to afford the cost of owning and operating a vehicle. Because many more people are able to walk than drive, pedestrian travel is more equitable than other forms of transportation.

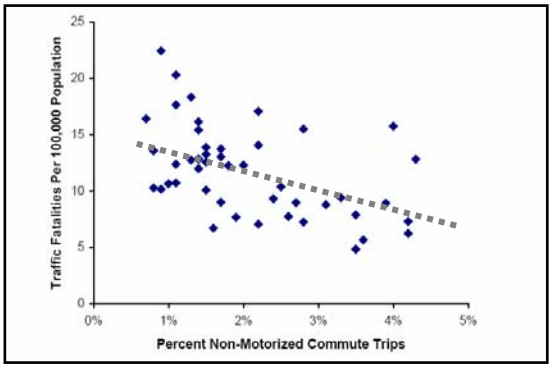
- **Safety benefits** – Traffic accidents are the primary cause of death among all ages from 3 to 34. Traffic fatality rates tend to be lesser in regions with higher rates walking and bicycling.

Households in automobile-dependent communities devote 50% more to transportation (more than $8,500 annually) than households in communities with more accessible land use and more multi-modal transportation systems (less than $5,500 annually)

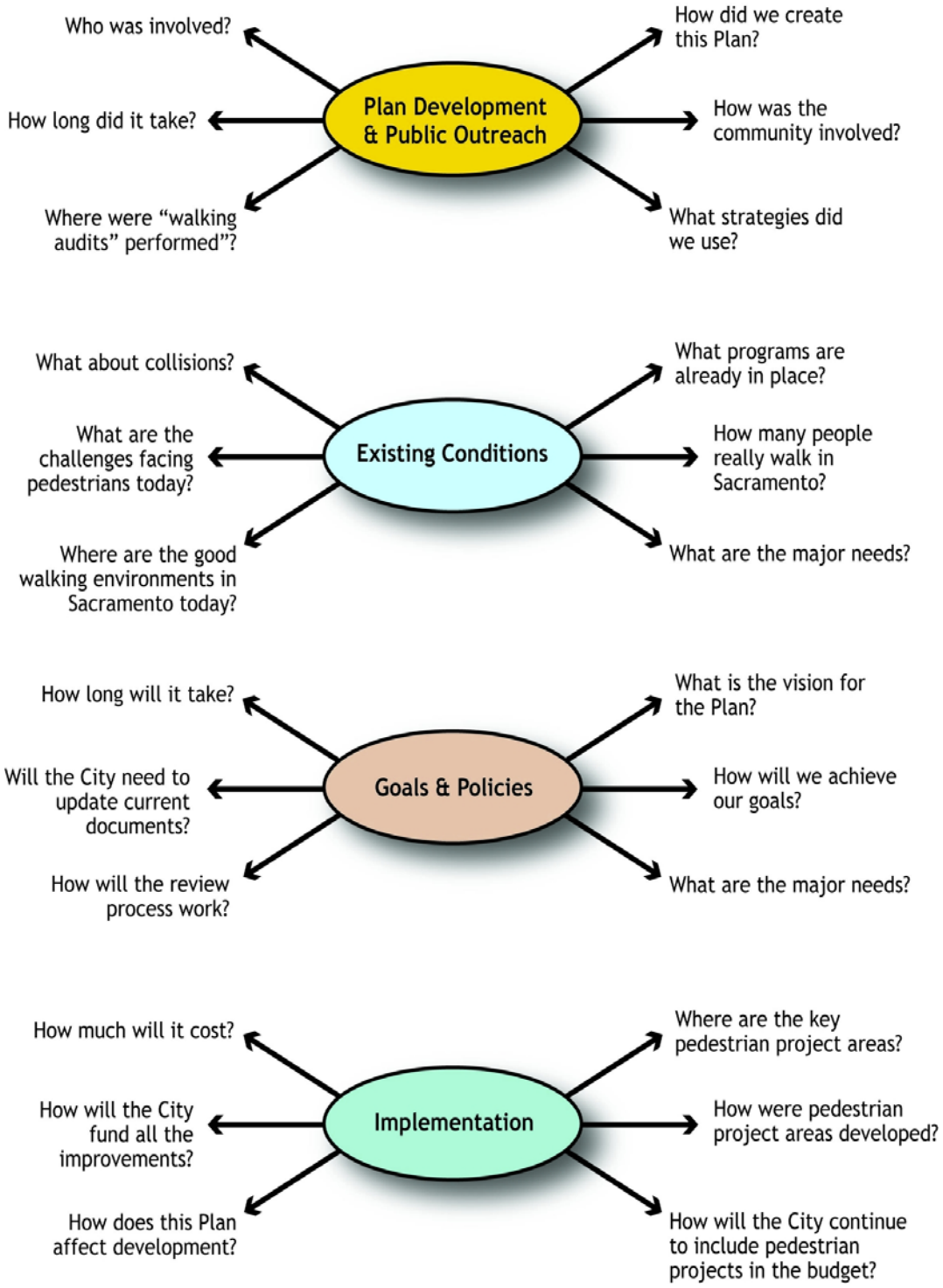
Source: Surface Transportation Policy Project, 2000, www.transact.org

Traffic fatality rates versus non-motorized commuting to work (in US metropolitan regions, Census 2000)

Source: Victoria Transport Policy Institute, 2004



HOW TO USE THIS DOCUMENT



How to use this document:

If you are a citizen…

The Plan contains useful information about current conditions, goals for the future, and an Implementation Plan

…see sections III, IV, and V.

If you are a developer…

the Plan creates a new process to evaluate your project's pedestrian friendliness

…see Sections III, IV and V.

If you are a City staff member…

The Goals & Policies section outlines specific policy updates to existing City documents. Section V includes updates to the City's development review process

…see Section IV & V and Appendix A.

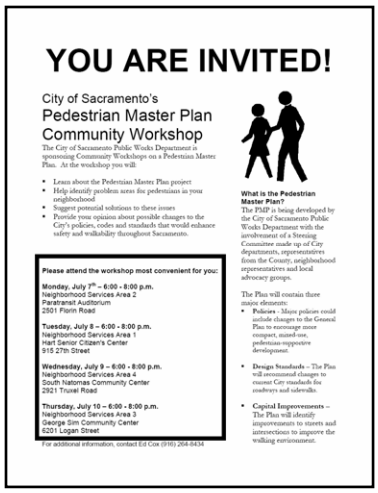
II. PLAN DEVELOPMENT PROCESS/OUTREACH

The *Master Plan* drew upon some of the best resources in pedestrian planning to produce a document unique to Sacramento. It was critical to involve Sacramento residents as well as local advocates, neighborhood leaders, and representatives from County and regional agencies. This section describes the process that the project team undertook to ensure that the process was transparent and that interested stakeholders had a variety of opportunities to be involved in the Plan's creation.

The outreach for the Master Plan occurred on two levels over the course of six months:

Residents – The project team conducted public meetings on four dates. The meetings occurred as a part of regularly-scheduled neighborhood meetings or as stand-alone events. The invitation is included in Appendix D-6. An overview of the schedule is below.

- Monday, July 7, 2003 – Neighborhood Services Area 2
- Tuesday, July 8, 2003 – Neighborhood Services Area 1
- Wednesday, July 9, 2003 – Neighborhood Services Area 4
- Thursday, July 10, 2003 – Neighborhood Services Area 3


YOU ARE INVITED!

City of Sacramento's
Pedestrian Master Plan
Community Workshop

The City of Sacramento Public Works Department is sponsoring Community Workshops on a Pedestrian Master Plan. At the workshop you will:

- Learn about the Pedestrian Master Plan project
- Help identify problem areas for pedestrians in your neighborhood
- Suggest potential solutions to these issues
- Provide your opinion about possible changes to the City's policies, codes and standards that would enhance safety and walkability throughout Sacramento.

What is the Pedestrian Master Plan?
The PMP is being developed by the City of Sacramento Public Works Department with the involvement of a Steering Committee made up of City departments, representatives from the County, neighborhood representatives and local advocacy groups.

The Plan will contain three major elements:

- **Policies** – Many policies could include changes to the General Plan to encourage more compact, mixed-use, pedestrian-supportive development.
- **Design Standards** – The Plan will recommend changes to current City standards for roadways and sidewalks.
- **Capital Improvements** – The Plan will identify improvements to streets and intersections to improve the walking environment.

Please attend the workshop most convenient for you:

Monday, July 7th – 6:00 - 8:00 p.m.
Neighborhood Services Area 2
Paratransit Auditorium
2501 Florin Road

Tuesday, July 8 – 6:00 - 8:00 p.m.
Neighborhood Services Area 1
Hart Senior Citizen's Center
915 27th Street

Wednesday, July 9 – 6:00 - 8:00 p.m.
Neighborhood Services Area 4
South Natomas Community Center
2921 Truxel Road

Thursday, July 10 – 6:00 - 8:00 p.m.
Neighborhood Services Area 3
George Sim Community Center
6201 Logan Street

For additional information, contact Ed Cox (916) 264-8434

Invitation to public meeting for the Pedestrian Master Plan. (See Appendix D for full-size version)

Steering Committee – In order to ensure a high level of input from specific stakeholder groups with interests both at a neighborhood level and citywide, a Steering Committee was formed at the outset of the project. The Steering Committee consisted of about 16 members as follows:

- Three at-large members
- Three pedestrian advocates
- One person from the City's Traffic Engineering section
- One person from the City's Long Range Planning Department and one from Transportation Planning
- City ADA Coordinator

- City Project Manager
- Two representatives from the County of Sacramento
- One representative from Caltrans
- One representative from Regional Transit
- One representative from the Sacramento Area Council of Governments

The Committee met three times and was tasked with the following items:

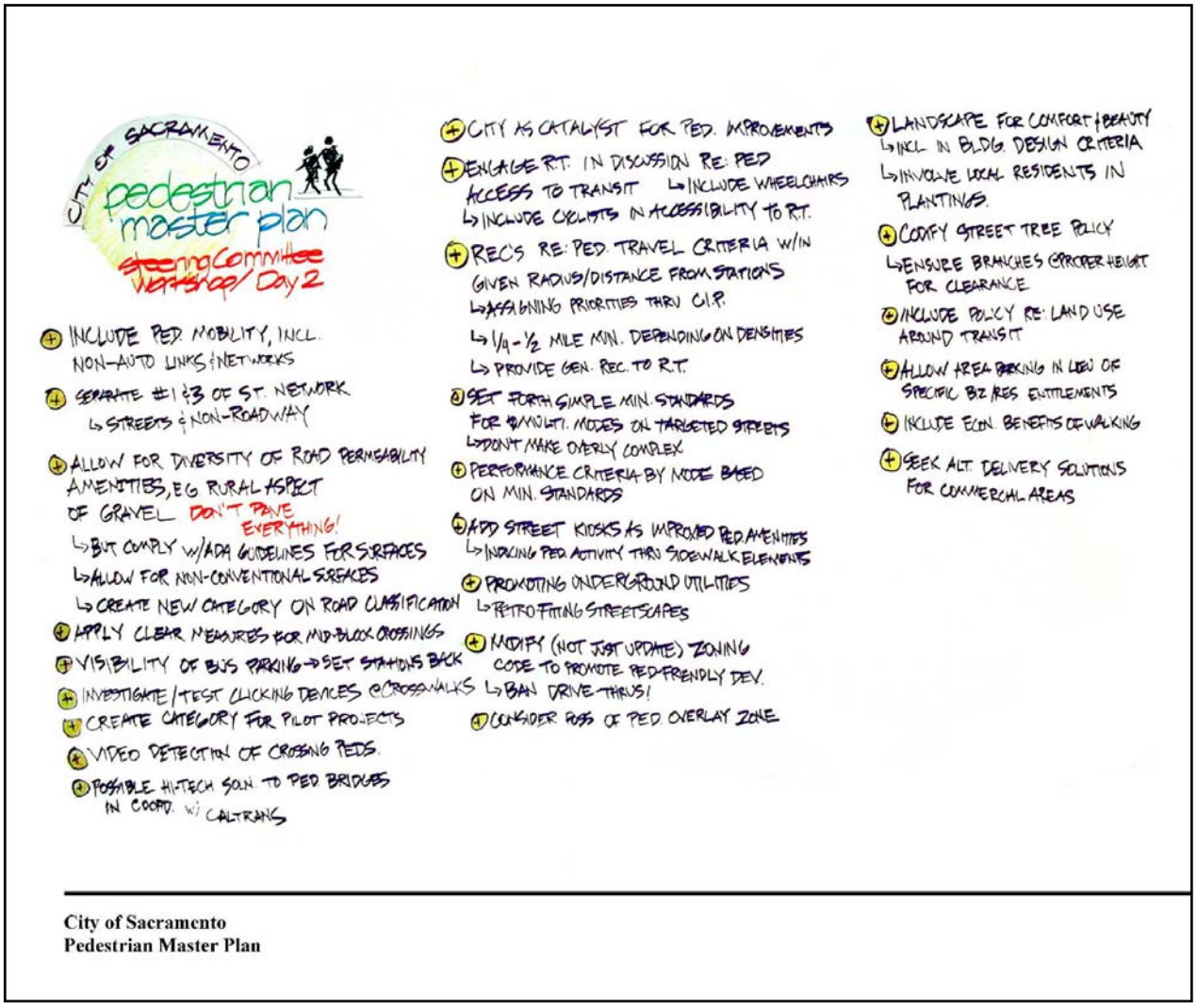
- Provide input and reach substantial agreement on policy issues, guiding principles and the general structure and contents of the Pedestrian Master Plan.
- Provide technical input and guidance for the Pedestrian Master Plan.
- Advise the team on existing City design standards and procedures, as well as changes that may occur during the planning process.
- Provide key documents and code provisions to the Consultant Team to assist the planning process.
- Provide input and help shape the project prioritization methodology to be used in the planning process.
- Provide input on the Pedestrian Master Plan.
- Review inputs obtained from general community forums and meetings and assist the team in analyzing the input received.

The Steering Committee had its first kick-off meeting in 2003. The Committee discussed the work plan and the background for the Pedestrian Master Plan. Subsequent meetings occurred over the next few months. The Committee had extensive, detailed discussion of several items, most notably high priority policies and standards and the methodology for identifying and ranking potential projects. Wall graphics, meeting notes, and the agenda for this meeting are included in Appendix D.

Following this meeting, City staff presented early Plan recommendations to the City Council. The team later conducted meetings in Neighborhood Service Areas 1-4 to present initial recommendations and gather public input. The meetings consisted of an initial presentation followed by an "open house" format, wherein

meeting participants could visit several stations covering various topics, such as Land Use Policies and the Capital Improvement Program.

In November 2005 and February 2006, the Steering Committee held its final meetings. At these meetings, the Committee reviewed major recommendations and finalized its recommendations for the identification and prioritization of pedestrian project areas. These recommendations became essential parts of the Plan, and their influence runs throughout the document.



A sample wall graphic recording the Steering Committee's input from its May meetings.

City Staff – As part of the visioning process, City staff and some members of the Steering Committee participated in "walking audits" with the project team. Walking audits are detailed studies of pedestrian conditions conducted while walking throughout a community. Four neighborhoods were selected to be audited by City of Sacramento staff. These neighborhoods have the potential to be great places to walk but lack some of the amenities of the most walkable neighborhoods. They are as follows:

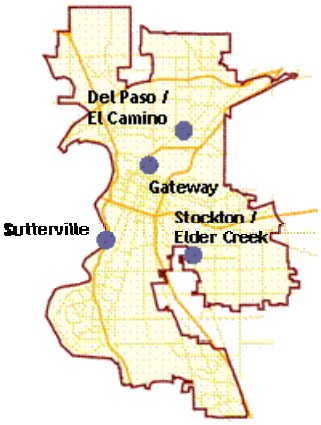
- Del Paso / El Camino Neighborhood
- Gateway Neighborhood
- Stockton / Elder Creek Neighborhood
- Sutterville Neighborhood

The vision developed for these neighborhoods included strategies for reducing vehicle speeds, improving pedestrian crossings, and creating nodes of commercial activity.

Finally, City staff and the "Braintrust," a group of experts in various fields of pedestrian planning met to exchange ideas about a variety of topics, including ways to identify and prioritize projects and potential policy changes to City documents.

What is a walking audit?

Walking audits are detailed studies of pedestrian conditions conducted while walking throughout a community or neighborhood.



Map of neighborhoods where walking audits were conducted.

WALKING AUDIT SUMMARIES

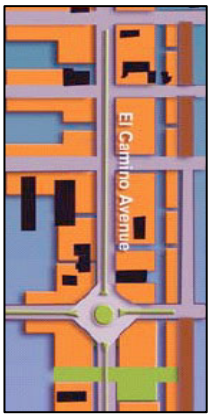
Del Paso / El Camino Neighborhood

Snapshot: The Del Paso / El Camino Neighborhood is flanked on the East by a light rail corridor, and to the North and South by Del Paso Boulevard and El Camino Avenue, both wide and heavily trafficked corridors that are unwelcoming to pedestrians.

Sample recommendations:

- Create a compact, mixed-use transit village, with housing and neighborhood-serving retail, to promote walking to and from transit and to shops.

Redesign the unsafe roadway around Northwood Elementary by adding a curb and gutter, sidewalks set back from the street, parallel parking on the residential side of the street, and by limiting driveways. This will enable more students to walk safely to school.



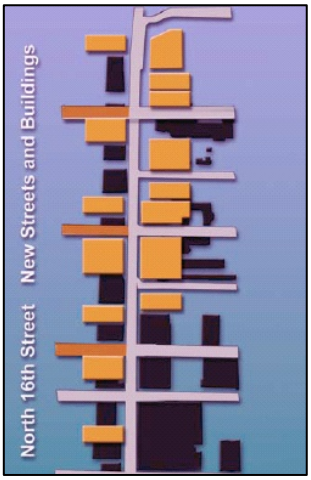
The vision for El Camino Avenue includes mixed use villages, roundabouts, and an intermodal center.

Gateway Neighborhood

Snapshot: The Gateway neighborhood is surrounded by a triangle of wide, fast multi-lane roads with dangerous street crossings.

Sample recommendations:

- Reduce travel speeds by downsizing travel lanes, reducing posted speed limits to 30-35 miles per hour, and by adding on-street parking, bicycle lanes, and landscaped medians to reduce the effective street width.
- Develop compact, mixed-use villages in the 12th and 16th street corridors.
- Transform C Street into a pleasant, pedestrian-friendly boulevard that would link 16th Street and a future light rail station on North 12th Street.



Gateway Corridor Vision

Stockton /Elder Creek Neighborhood

Snapshot: The low-density, suburban Stockton and Elder Creek neighborhood is intersected by the high-speed 65th Expressway and by two five-lane boulevards, Stockton Road and Elder Creek Road.

Sample recommendations:

- Transform the high-speed corridors into pedestrian-friendly boulevards by decreasing the number of travel lanes and lane widths, and by adding tree-lined medians planter strips, refuge islands, bicycle lanes, and transit stops.
- Redesign "skewed" intersections to reduce effective crossing distance.

Stockton / Elder Creek Vision

Sutterville Neighborhood

Snapshot: Sutterville Road, which links the I-5 Freeway and Freeport Boulevard, is a wide, multi-lane roadway with high travel speeds.

Sample recommendations:

- Decrease the width of Sutterville road from four to two travel lanes with medians, bicycle lanes, and on-street parking. Widen trails and sidewalks along the length of the road, and add a tree canopy.
- Develop a compact, mixed-use, mixed-income village where Sutterville Road and Del Rio road converge.
- Create a "barbell" shaped set of two roundabouts at the intersection of Sutterville Road and Del Rio Road to improve pedestrian and vehicular flow and to reduce crossing distances.

"Barbell" roundabouts would reduce pedestrian crossing distances

III. EXISTING CONDITIONS

This section begins to provide a snapshot of citywide pedestrian conditions. First, it describes the existing infrastructure including gaps in the sidewalk network and street lighting. Second, it describes the number of pedestrians walking in Sacramento today in order to give a sense of the current audience for pedestrian improvements. It also provides important information on proximity to transit. The closer residents are to effective transit, the greater the likelihood they will access it by walking. Figure 3.4 provides some context for citywide transit service. Next, there is a discussion of the challenges facing Sacramento today that must be overcome in order to achieve its vision of becoming the "Walking Capital." Finally, this section explores the array of programs already in place. The City has made great strides towards improving the pedestrian environment thus far. Its *Pedestrian Friendly Street Standards, Pedestrian Safety Guidelines,* and Smart Growth Checklist are all examples of internal policies that will help the City meet its goals. These documents and other citywide education and enforcement programs are highlighted.

SACRAMENTO TODAY

The 2000 US Census indicates the average journey to work commute duration in the City of Sacramento is 25.6 minutes, comparable to the nationwide average of 25.5 minutes. Traffic congestion is increasing in the Sacramento region, which makes walking an attractive potential travel option for shorter trips. In fact, over one million walking trips are still made daily in the City of Sacramento. On average, nearly nine percent of all travel is made by walking, a percentage that is once again on the rise after decades of decline.[2]

The Downtown Plaza Mall has lively, pedestrian-oriented environment

[2] Based on the 1990 and 1995 Nationwide Personal Transportation Survey and the 2001 National Household Travel Survey

EXISTING PEDESTRIAN INFRASTRUCTURE

An understanding of the condition of existing pedestrian facilities in Sacramento is necessary for determining future opportunities for improvement. While sidewalks and street lighting are identified in Figures 3.1 and 3.2, other pedestrian infrastructure conditions such as street crossings and street connectivity were also evaluated as part of the Master Plan.

Sidewalks

Many streets in Sacramento currently lack sidewalks (Figure 3.1). The intent of the *Pedestrian Master Plan* is to address sidewalk deficiencies in a systematic and fair manner.

Street Lighting

Some areas in Sacramento have missing or infrequent street lighting (Figure 3.2). Street lightning can be a contributing factor to pedestrian comfort.

WALKING TO WORK

The commute to and from work contributes to much of today's traffic congestion. Increasing the number of commuters who walk to work or walk to transit is one way to lessen the effects of peak hour traffic congestion. Recent research has shown that nearly 40 percent of Americans would like to walk to work if it were a reasonable option.

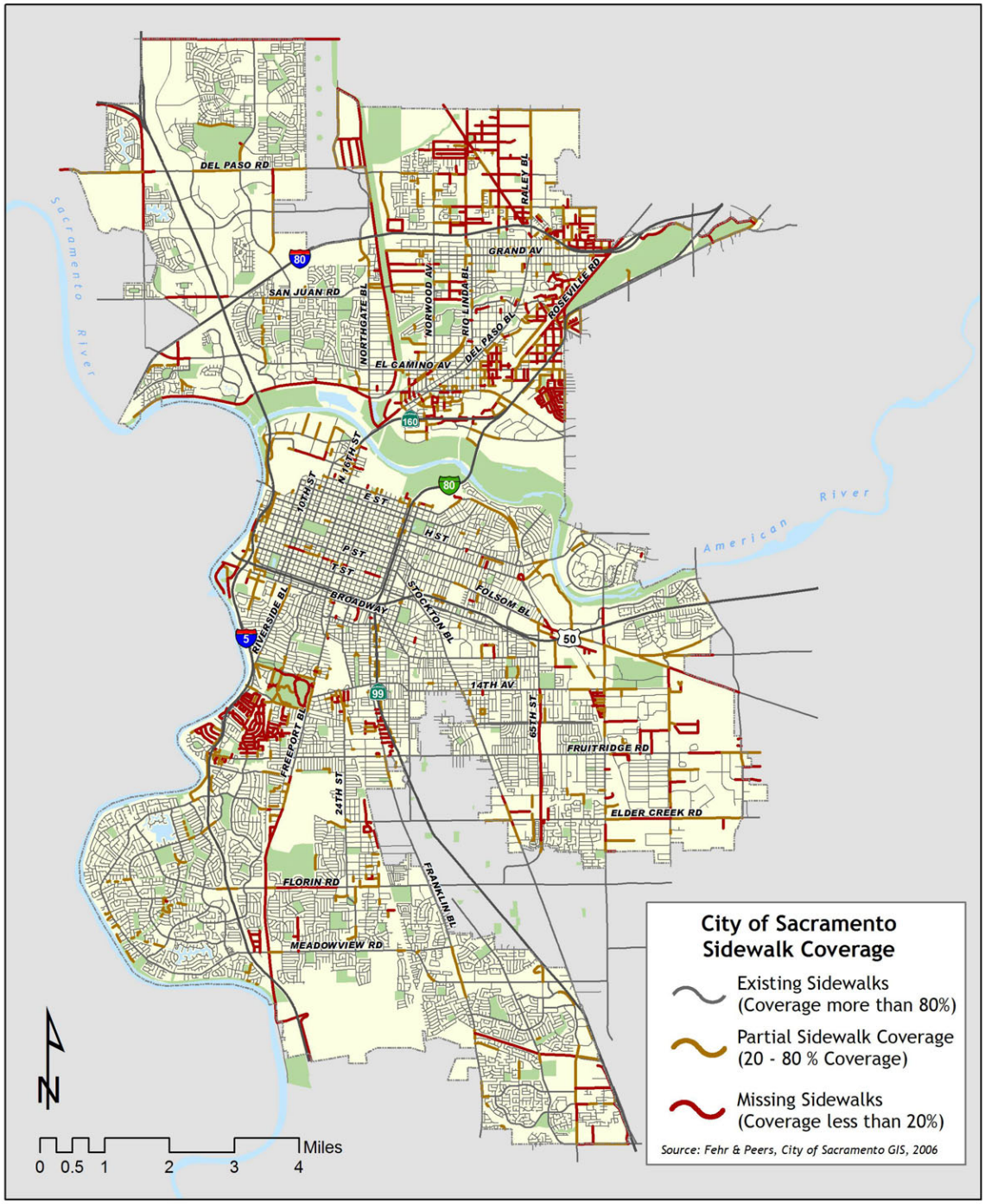
Nationwide and in California, 2.8 percent of commuters walk to work, according to the 2000 Census. Comparably, 2.7 percent of commuters walk to work in Sacramento. Walking travel in Sacramento varies substantially by neighborhood. In downtown Sacramento, nearly 18 percent of commuters walk to work. Several neighborhoods near downtown have even higher levels of pedestrian activity – many of these locations have similar numbers of commuters walking to work as driving.

Walking to work is not always an accurate indicator of overall pedestrian activity as commute trips represent only about 15 percent of trips taken across all modes of travel. The data excludes trips made on foot to transit stops or to and from one's vehicle, since all trips involve walking at some point. While it may not provide an accurate indication of the amount of pedestrian travel in a particular area of the City, the percent of commuters who walk to work provides a reasonable indication of the relative levels of pedestrian activity in various parts of Sacramento (See Figure 3.3).

Approximately 10,000 residential housing units have recently been constructed or are planned for the Downtown area, such as the 9th and J Plaza Lofts. New housing will substantially increase walking activity and allow more residents to be within walking distance of work. As part of the General Plan Update, the number of planned units may increase to upwards of 20,000.

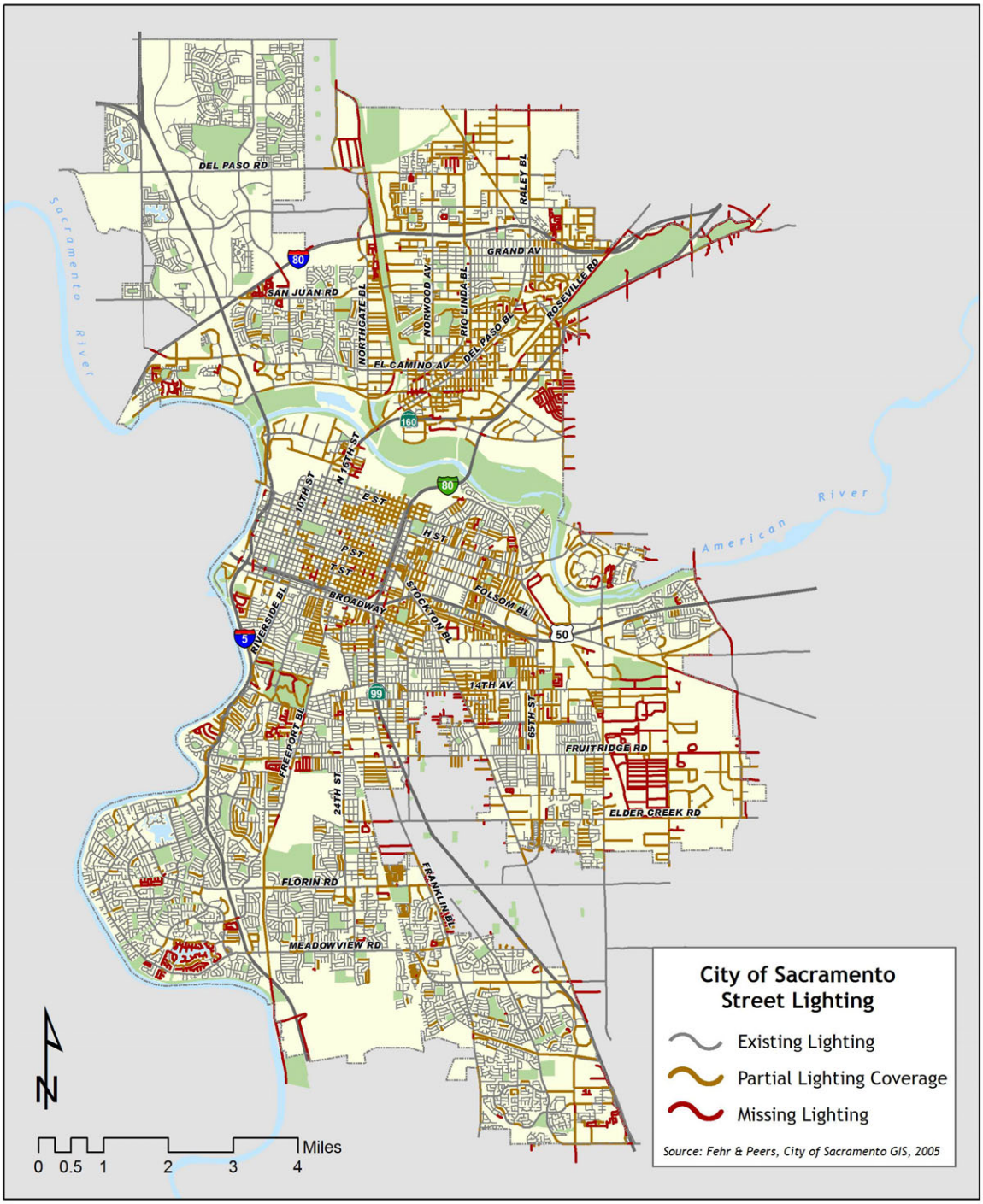
Source: www.cimgroup.com

Figure 3.1: Existing Sidewalk Coverage (2006)



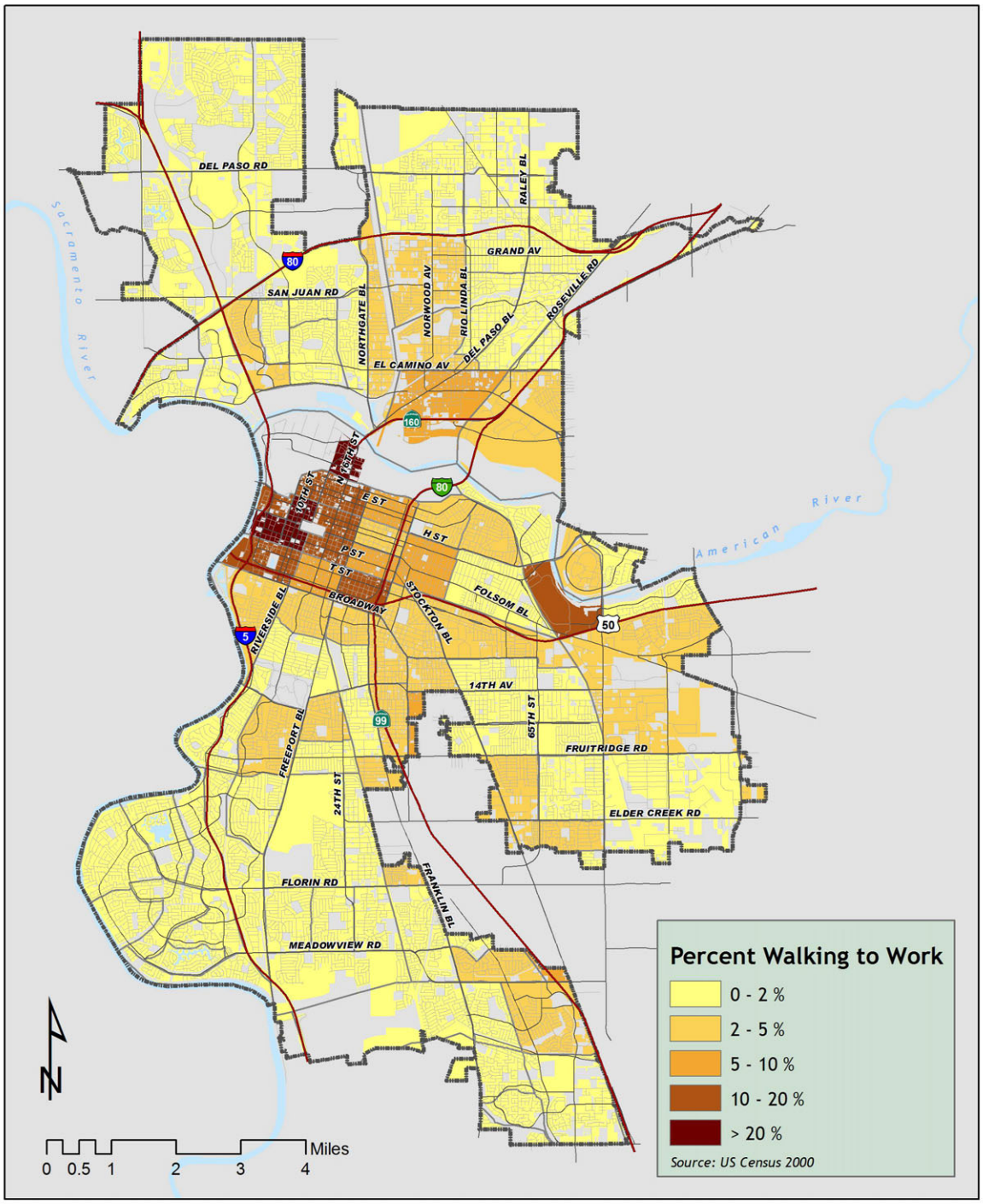
While many areas of Sacramento have extensive sidewalk coverage, there are also areas with only partial coverage or lacking sidewalks altogether.

Figure 3.2: Existing Street Lighting Coverage (2005)



The figure above shows street lighting coverage in Sacramento. Some areas of the City lack streetlights altogether, while other areas only have partial coverage.

Figure 3.3: Percentage of Commuters Walking to Work in Sacramento, 2000



The figure above shows the percentage of commuters who walk to work, according to the 2000 Census. Data is shown by census tract. The areas within and near downtown have substantially higher rates of pedestrian commuters.

WALKING TO TRANSIT

Walking and transit go hand in hand – every transit rider is a pedestrian before and after taking transit. Areas near transit stops are therefore important centers of pedestrian activity, and a lack of adequate sidewalk facilities can discourage transit use. The map on the following page (Figure 3.4) indicates light rail station locations and lines as well as streets in Sacramento with bus routes, representing transit-served areas with higher levels of pedestrian activity.

Areas near transit stations are important centers of pedestrian activity.

WALKING DISTANCE

Recent research has indicated a walking trip of ¼ mile is an acceptable distance for errands. The time to walk this distance is about 6 minutes, given that the average walking speed is three to four feet per second (or 2 to 2.7 miles per hour). Many people will accept 1/8 of a mile (about 3 minutes or about 1.5 city blocks) as an incidental component of a trip that includes travel by another mode such as driving. Walking distance can be summarized by the type of trip as follows:

Type of trip	Example	Distance	Travel time
Commute	Trip to work	3/4 mile	20 minutes
Errands	Trip to bank	1/4 mile	6 minutes
Incidental	Trip from parking	1/8 mile	3 minutes

San Diego's Gaslamp Quarter features streetside seating at many restaurants and cafés, strengthening interaction with the street and making walking more pleasurable.

Recent data suggest people may even be willing to walk further if the pedestrian environment is pleasurable or for recreational purposes. The National Survey on Pedestrian and Bicyclist Attitudes and Behaviors (2002) found average walking trip distances were in excess of one mile:

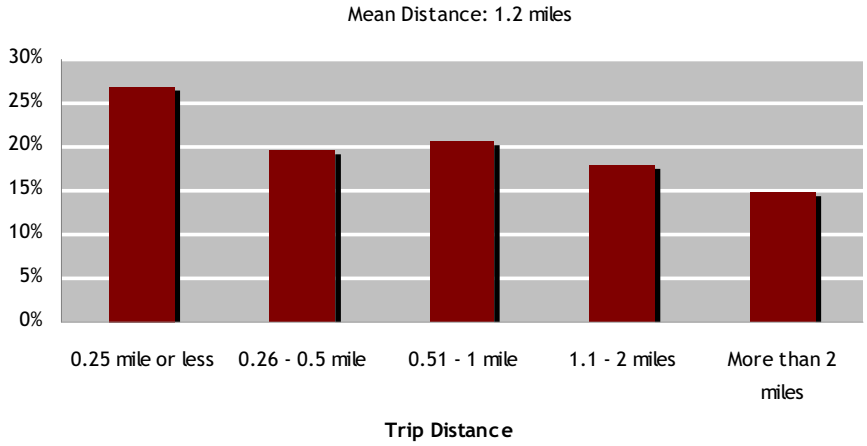
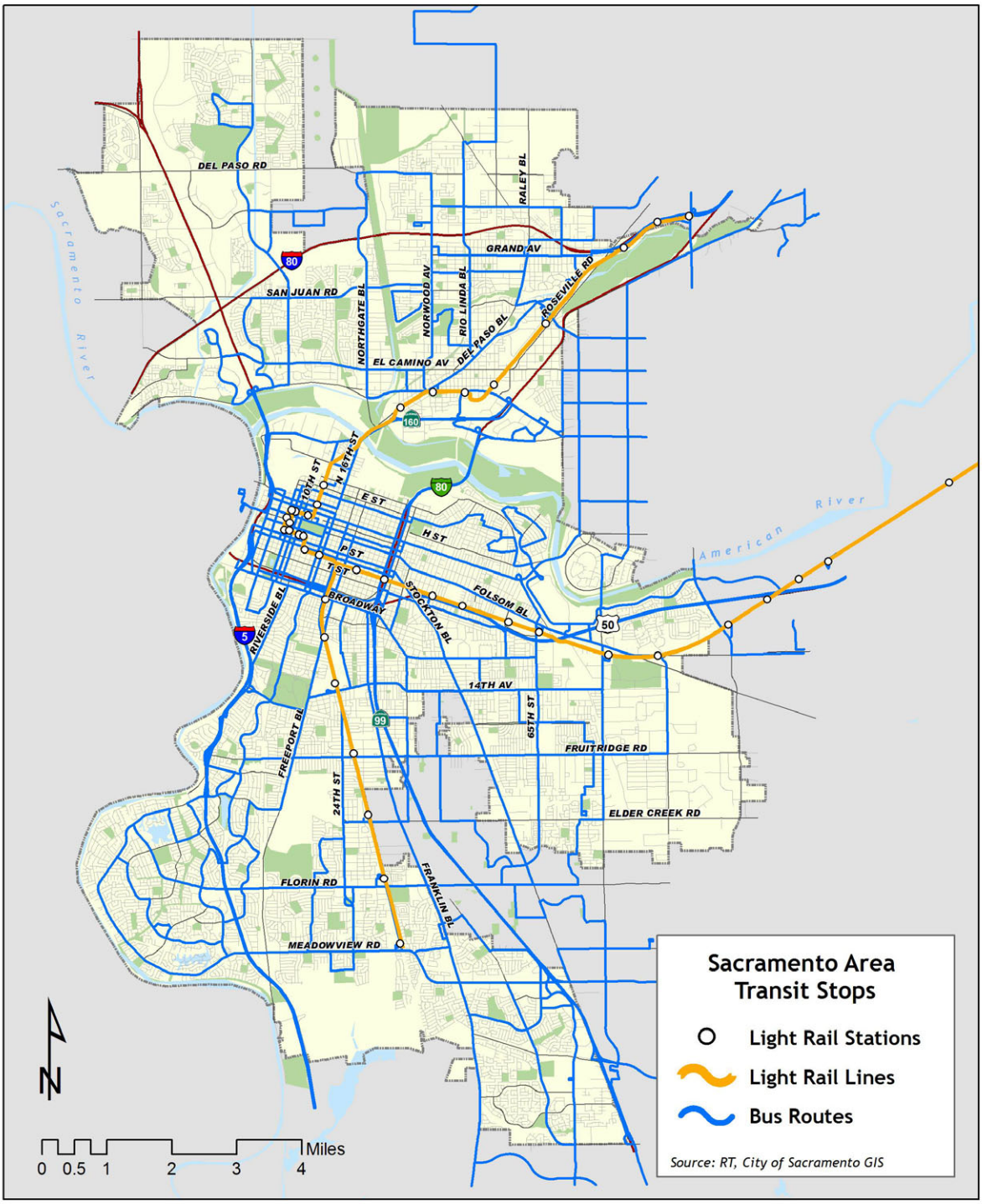


Figure 3.4: Light Rail Stations and Bus Routes in Sacramento (2005)



The City of Sacramento has an extensive transit network. Areas around transit stations and stops frequently have high levels of pedestrian activity.

Mean walking distance was found to be 1.2 miles (on a typical day in the summer), and respondents on average took 1.7 walking trips per day. The 2001 National Household Travel Survey found median walking trip distance to be somewhat lower at 0.45 miles. While there is some variation in average trip lengths, these studies indicate walking to destinations as far as one mile away is an attractive travel option for many.

Even though many destinations in Sacramento are dispersed and spread out, many services and amenities are within an acceptable walking distance. In Sacramento, most of the population is located within a one mile walking distance of the following destinations:

- Schools and community centers = 87%
- Parks = 98%
- Transit stops = 96%
- Neighborhood shopping = 92%
- Social services destinations = 31%

Old Sacramento has an historic atmosphere that is enjoyable for pedestrians.

PEDESTRIAN COLLISION REPORTS

A brief analysis of collision reports maintained by the Statewide Integrated Traffic Records System (SWITRS) shows some generalized trends with regard to automobile versus pedestrian crashes. Over the ten year period between 1995 and 2005, there were over 50,000 collision reports, of which approximately 2,500 (five percent) were automobile versus pedestrian (See Figure 3.5 on Page 19).

When compared to the unincorporated portions of the County of Sacramento, the City of Sacramento has a "pedestrian danger index" of about a half of that calculated for the County.

Source: Surface Transportation Policy Project, 2001

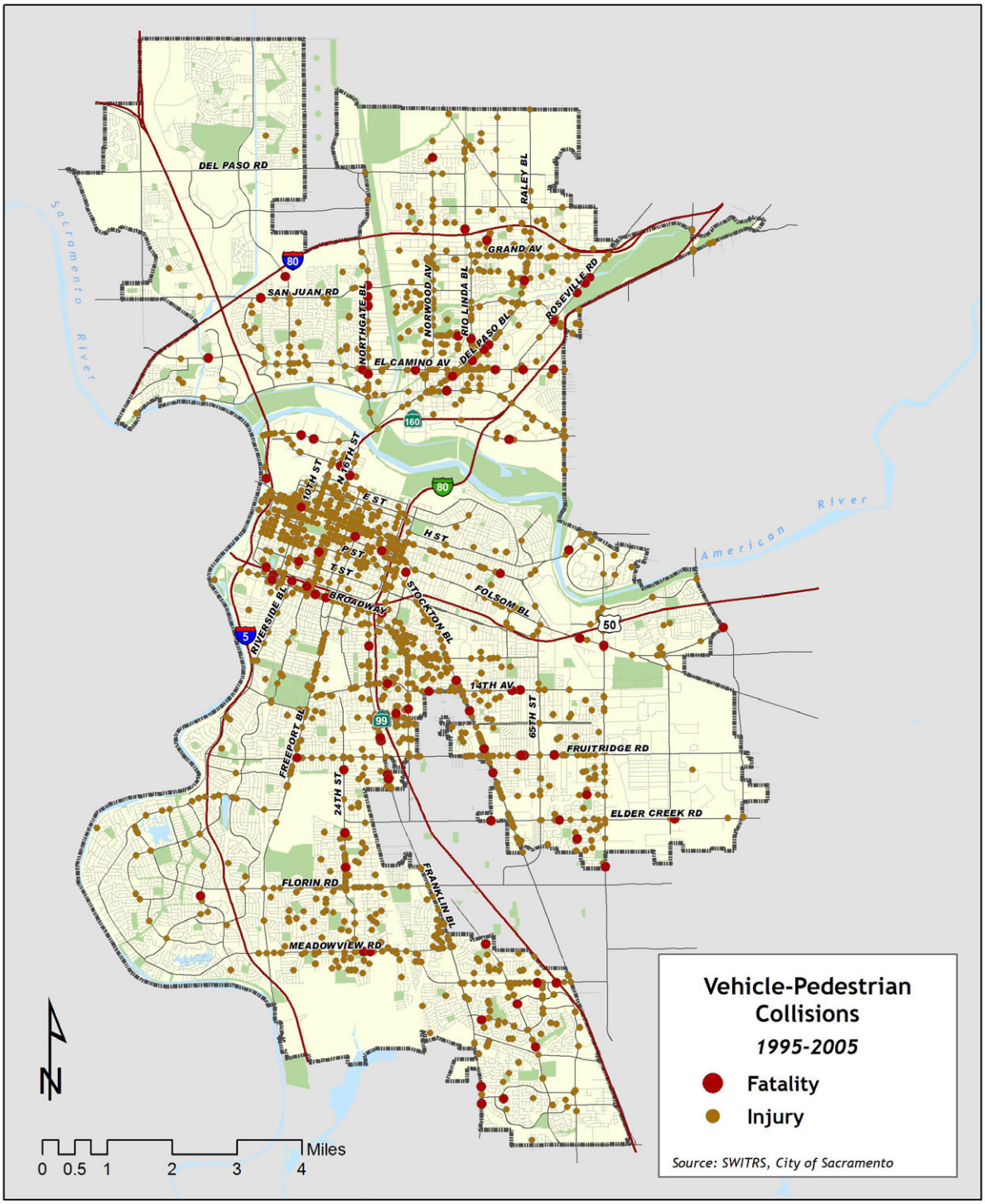
A large number of collisions that occur between motor vehicles do not result in an injury or fatality. However, automobile-pedestrian crashes have a significantly higher rate of injuries and fatalities. This is expected since pedestrians are more vulnerable than drivers. About 95 percent of pedestrians involved in automobile-pedestrians collisions were injured; four percent were fatalities. Over the 10-year period, approximately 100 fatalities occurred as a result of an automobile-pedestrian collision. Pedestrians over 65 years old who were struck by an automobile had the highest fatality rate compared to other age groups.

Within the automobile-pedestrian collision reports there are records that reveal additional details. The records show that the "party at fault," is the motorist as often as it is the pedestrian. Almost 70 percent of the reported collisions occur when a driver fails to yield to a pedestrian inside a crosswalk or when a pedestrian improperly crosses in front of an automobile.

Collision reports also indicate pedestrian crash locations. However, care should be used when interpreting this data, as many factors that are not location-specific can contribute to collisions, such as time of day, weather conditions, degree of sobriety, and the ages of those involved. A small number of data points on a map may not indicate anything about a particular location. At best, a group of data points at a single location reveals that there is a tendency for collisions to occur relative to the number of pedestrians in the area.

Pedestrian collision locations are one of several factors used to evaluate and prioritize improvements as part of the Implementation Plan (Section V).

Figure 3.5: Automobile-Pedestrian Collisions, 1995-2005



Automobile-pedestrian collisions occurred in all parts of the City, generally along major streets and in areas with higher levels of pedestrian activity.

CHALLENGES TO CREATING THE WALKING CAPITAL

To develop Sacramento as the Walking Capital, it is important to consider the challenges faced by pedestrians in Sacramento. Obstacles to walking contribute to individual decisions and attitudes about walking. Identifying the most common kinds of obstacles will help to devise the appropriate measures to be taken. The most common obstacles are as follows:

Missing Infrastructure: Many areas within the City lack even the most basic pedestrian infrastructure. Basic pedestrian infrastructure begins with sidewalks and curb ramps, but also includes well-marked street crossings, pedestrian pushbuttons at intersections, and other accessories that facilitate safe, convenient pedestrian travel.

Over 400 miles of roads in Sacramento lack sidewalks.

Lack of Pedestrian Sensitivity: Many buildings in Sacramento are not oriented towards pedestrians. These places appear uninviting towards pedestrians and are closed off from the activity of the street. Additionally, some sidewalks and pedestrian facilities, while well-intentioned, are not conducive to easy and comfortable pedestrian access. Pedestrian tunnels certainly provide passage, but being so isolated from the adjacent roadway often makes the pedestrian feel trapped. Narrow meandering sidewalks substantially increase pedestrian travel distances. When placed on a slope, this adds additional inconvenience for wheelchair users.

Many new buildings or developments, such as the subdivision wall (above) or this shopping center on Meadowview Road (below), are oriented away from the pedestrian. Such orientation ignores and excludes the pedestrian walking on the sidewalk.

Above: Pedestrian tunnels can make pedestrians feel trapped. Below: Narrow meandering sidewalks can be inconvenient for walking; when placed on a slope they add an additional avoidable burden.

Much of Sacramento is Built-Out: Much of Sacramento is developed, thus diminishing opportunities to create new pedestrian-friendly districts. Additionally, the land required to build appropriate facilities in developed areas is not always available. In some cases, buildings are located such that there is not enough room to put in the desired improvements.

The location of existing buildings can present a substantial challenge to sidewalk widening.

Wide, High-speed Arterial Roadways: A major barrier to pedestrian travel is wide, high-speed arterial roadways. Many roadways have been built particularly wide to accommodate peak traffic levels. However, during non-peak hours, these wide roadways can encourage high speed travel above established speed limits. High vehicle speeds are problematic for pedestrians by limiting the time that pedestrians can safely cross the street and making them vulnerable to more severe collisions. Creating a walkable environment means addressing ways to manage speeds including such measures as landscaping, synchronized signal timing to slow traffic, and lane reconfiguration to narrow overly wide roadways.

Wide arterial roadways are a barrier for pedestrian travel due to long crossing distances and high travel speeds. Where sidewalks are missing, travel along arterial roadways is also challenging.

Simply Adding Sidewalks is not an Easy Solution: Adding a sidewalk is not always simple. Frequently, drainage issues require re-grading of the street to add a sidewalk. Right of way for wider sidewalks in areas of high pedestrian demand is frequently constrained. Physical barriers, such as telephone poles and utility boxes, are oftentimes in the way of potential sidewalks.

Drainage ditches on some streets present substantial barriers to the addition of sidewalks. Drainage improvements to streets can be prohibitively expensive in some cases.

Utility poles are oftentimes directly in the way of pedestrian travel on sidewalks, creating a challenge to pedestrian movement.

Maintenance is a Challenge: Maintenance of sidewalks presents an additional issue. Current policy on sidewalk maintenance indicates the responsibility for maintenance is on the adjacent property owner. This is particularly problematic along several downtown streets where the sidewalks are "hollow." The hollow sidewalks are a result of a massive effort undertaken in 1864 to raise the streets to reduce problems with flooding. As a result several downtown sidewalks are elevated concrete slabs that require special engineering monitoring and maintenance.

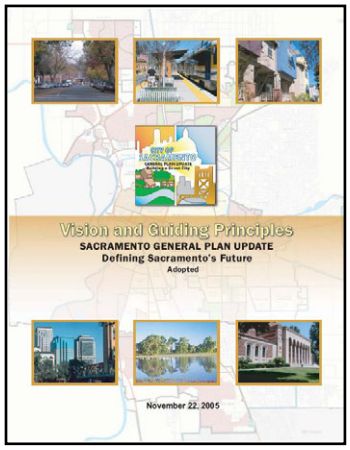
Funding: Funding of new pedestrian projects is also a major concern. Funding is scarce, and the City is required to dedicate a significant portion of pedestrian funds toward the installation of curb ramps and the removal of access barriers.

Recognizing the need to develop a process for the distribution of scarce resources, this document establishes a prioritization process in Section V.

EXISTING DOCUMENTS AND POLICIES

Many policies pertaining to pedestrians exist in current City documents. To achieve the vision of making Sacramento the Walking Capital, current planning practice and documents should adopt a unified, coherent vision. Appendix C contains a detailed evaluation of all existing documents and policies pertaining to pedestrians and transportation planning along with suggested changes to ensure consistency with the *Pedestrian Master Plan*. Highlights from important documents are included below.

SACRAMENTO GENERAL PLAN



The most fundamental of citywide documents is the City's *General Plan*. The currently adopted *1988 General Plan* contains basic pedestrian requirements and a section on "pedestrian ways." Overall transportation goals are balanced with respect to various modes of travel, and the *General Plan* recommends the elimination of pedestrian hazards such as rolled curbs and includes sections on pedestrian safety and comfort.

The City is currently undertaking an update to the *General Plan*, which represents an opportunity to implement these suggestions. In November 2005, the City adopted a "Vision and Guiding Principles" document for the *General Plan Update*, which includes land use, mobility, and community design principles supporting an overall vision of becoming the "most livable city in America."

Appendix C of this Plan contains specific recommendations to be considered as part of the *General Plan Update*. Recommendations include articulating incentives for pedestrian-friendly development, balanced transportation planning among travel modes citywide, and modifications to the City's current transportation Level of Service standard.

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, which is updated regularly.

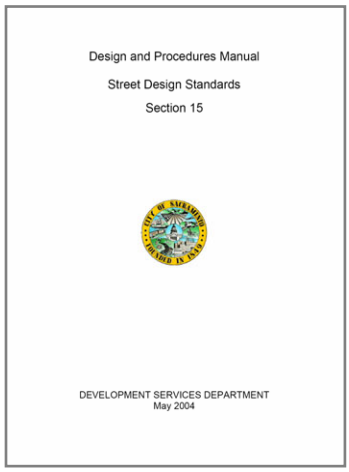
Of the nine program areas within the Transportation Programming Guide (TPG), the Sidewalks to Schools and the Streetscape Enhancement programs focus the most on pedestrian needs. Projects under the Sidewalks to Schools program are designed to provide safe walking routes to schools. The main purpose of the Streetscape

Enhancement program is to improve the aesthetics and the travel experience on the City's streets, which serves to create a more walkable pedestrian environment.

DESIGN & PROCEDURES MANUAL

Design of pedestrian facilities and consideration of pedestrians in roadway projects is governed by the *Design & Procedures Manual and Improvement Standards (2003)*. The *Design & Procedures Manual* (DPM) provides minimum standards to be used in the preparation of plans for street improvements

The *DPM* is used in conjunction with the *Standard Specifications for Public Works Construction Manual (1989)*, which are construction standards for the City of Sacramento. Both of these manuals' designated standards represent *minimum values,* which imply the lowest acceptable limit in design.


Design and Procedures Manual

Street Design Standards

Section 15

DEVELOPMENT SERVICES DEPARTMENT
May 2004

The pertinence of the *DPM* to the condition of the pedestrian environment is primarily in terms of lighting and street design standards, whereas the *Standard Specifications Manual* addresses issues of sidewalk and curb construction.

Section 15 of the *DPM* specifically addresses street design standards. Sacramento's *Pedestrian Friendly Street Standards* were recently incorporated into Section 15. Revisions included:

- Elimination of rolled curbs
- Separating sidewalks from roadways with landscaping strips for newly created streets.
- Reduced lane widths to discourage speeding
- Addition of bicycle lanes on selected streets

Section 15 of the DPM contains the following objectives for Sacramento's streets:

a. Residential streets and street networks should be designed to discourage speeds above 25 mph.

b. Residential street networks should be designed to encourage only neighborhood traffic and should seek to minimize traffic volumes on residential streets.

c. Street design should enhance and improve pedestrian safety and comfort and encourage non-motorized travel modes.

"The City's street system should encourage alternate mode use, especially walking and bicycling, by working toward a balance of all street users...Street design should enhance and improve pedestrian safety and comfort and encourage non-motorized travel modes."

Design & Procedures Manual, Section 15.1

d. Employ traffic calming measures when the size and/or shape of a residential subdivision project limits the number of alternative designs.

e. Discourage parking on sidewalks.

f. Enhance and beautify the streetscape and pedestrian environment by bringing landscaping closer to the street.

g. Balance street design so that it does not favor motorized traffic.

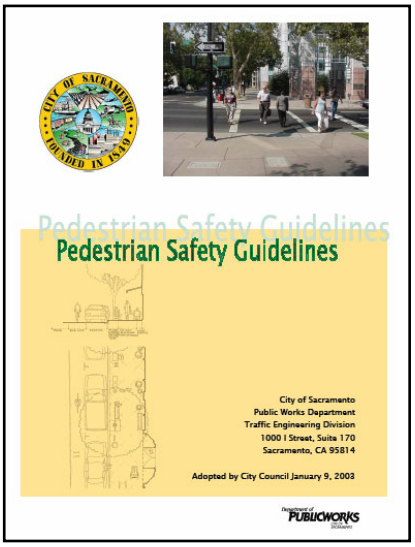
h. Streets should not be barriers to personal interaction.

ADA TRANSITION PLAN

The City of Sacramento, under Title II of ADA, has a responsibility to operate each service, program, or activity so that when each is viewed in its entirety, it is readily accessible to and usable by individuals with disabilities. In the event that structural changes are necessary, the City of Sacramento developed a Transition Plan setting forth the steps necessary to complete such changes.

In 1994, the City prepared and implemented its Transition Plan with respect to City facilities, and in 2001 completed a complementary Transition Plan that specifically addresses curb ramps and other sloped areas. The Transition Plan outlines a methodology for implementation and includes technical illustrations that cover the range of corner conditions that would be found throughout the City and would comply with dimensional regulations specified in ADA.

In 2003, working with active disability advocacy groups, the City agreed to expand the definition of barriers to include all pedestrian rights of way, not just curb ramps. Over the next 30 years, or until the program is completed, the City will spend at least 20 percent of its Transportation Fund to address curb ramps, crosswalks, and obstacles within the pedestrian right-of-way (predominantly sidewalks) on its 1,100 miles of streets. The Transportation Fund is money allocated to the City via gas tax and Measure A sales tax revenue and is currently about 5.7 million dollars per year.



PEDESTRIAN SAFETY GUIDELINES

Prepared in 2002, the *Sacramento Pedestrian Safety Guidelines* provide a thorough overview of existing programs and documents related to pedestrian safety. Other sections of the document provide guidance for installing safe street crossings at intersections and mid-block locations. In terms of an overall evaluation, the *Pedestrian Safety Guidelines* are successful in addressing safety. Although it is

vital, safety is only one aspect to consider in creating a pedestrian-friendly environment.

SMART GROWTH IMPLEMENTATION GUIDE

In 2003, the City began developing measures to encourage a new form of development called Smart Growth. The basis for smart growth comes from 14 principles listed in the box on the right.

To encourage new neighborhoods to adopt pedestrian-friendly design standards, the City is in the process of developing a *Smart Growth Implementation Guide*. The Guide assesses:

- Proximity to existing/future development and infrastructure
- Mix and balance of uses
- Site optimization and compactness
- Accessibility and mobility choices (sample score card below)
- Community context and site design
- Block, pedestrian and park network scale
- Environmental quality
- Diversity
- Re-use and redevelopment options

The draft *Smart Growth Implementation Guide* is a good implementation tool for putting smart growth principles into practice in Sacramento. It includes the Smart growth Scorecard, a checklist for assessing how well a proposed development adheres to Smart Growth Principles.

Other cities have adopted plan review checklists for new developments. For example, Sunnyvale, California has a comprehensive plan review checklist for bicycle and pedestrian impacts that must be completed prior to granting development approval.

SACRAMENTO SMART GROWTH PRINCIPLES

1. Mix land uses and support vibrant city centers
2. Take advantage of existing community assets emphasizing joint use of facilities
3. Create a range of housing opportunities and choices
4. Foster walkable, close-knit neighborhoods
5. Promote distinctive, attractive communities with a strong sense of place, including the rehabilitation and use of historic buildings
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Concentrate new development and target infrastructure investments within the urban core of the region
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost-effective
10. Encourage citizen & stakeholder participation in development decisions
11. Promote resource conservation and energy efficiency
12. Create a Smart Growth Regional Vision and Plan
13. Support high quality education and quality schools
14. Support land use, transportation management, infrastructure and environmental planning programs that reduce vehicle emissions and improve air quality

NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

To address concerns regarding how traffic affects neighborhoods in Sacramento, the City has implemented a Traffic Calming program. Many traffic calming strategies relate closely to pedestrian planning. Generally, a traffic calmed street will be safer and more attractive as a pedestrian environment. The City's *Traffic Calming Guidelines* (2002) develop a framework for selecting, applying, and designing traffic calming measures in Sacramento. The guidelines contain recommendations for reducing the negative impacts of traffic in neighborhoods by establishing a public process method to implement traffic calming plans. This is the function of the Neighborhood Traffic Management Program (NTMP).

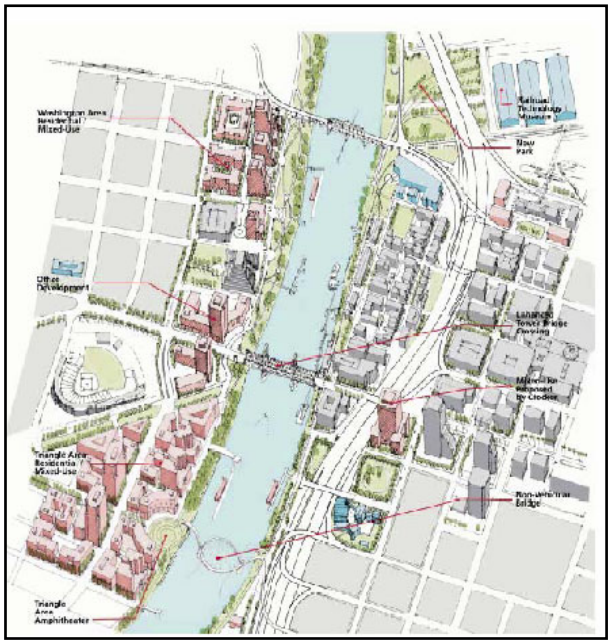
The goal of Sacramento's Neighborhood Traffic Management Program is: "To improve neighborhood livability by reducing the impact of traffic in residential neighborhoods, which promotes safe and pleasant conditions for all users of local streets."

RIVERFRONT MASTER PLAN

The Cities of Sacramento and West Sacramento also recently developed the *Riverfront Master Plan*. The current vision for the riverfront is to encourage pedestrian activity with high quality landscaping and design and to include a wide mix of contemporary uses such as open space, public gathering sites, housing and commercial activity.

The Sacramento River Promenade is an attractively design walkway affording scenic views of the Sacramento River and the Tower Bridge. It also connects to an extensive trail system along the Sacramento and American Rivers.

The riverfront should provide a high-quality experience for both visitors and residents. The *Pedestrian Master Plan* will build on this established vision by identifying specific projects that will help both cities move forward towards reaching these goals for the riverfront.



Source: *www.cityofsacramento.org/riverfrontmasterplan/pdf/sac-riverfront-masterplan.pdf*

PARKS AND RECREATION MASTER PLAN

Walkers at McKinley Park Lake

Source: Sacramento Parks and Recreation Master Plan

The City developed a Parks and Recreation Master Plan in 2004. The purpose of the plan is to establish a vision and policies for the development on parks and recreational opportunities. The plan establishes several goals related to pedestrians, including the development of a "green and social infrastructure" of trails, parks, river corridors, community centers, nature areas, and outdoor event venues to provide places for people to gather.

Social Capital

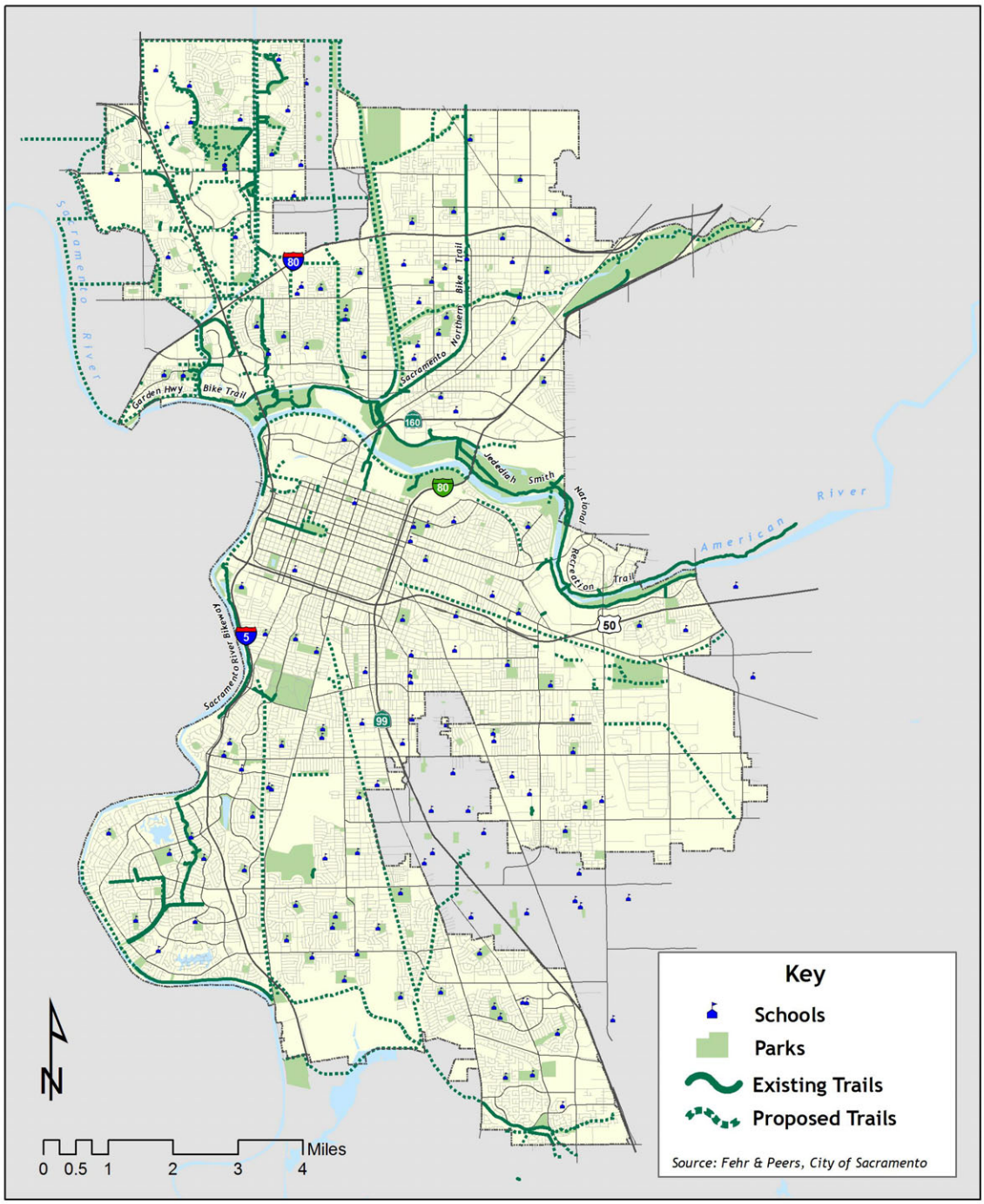
Walking can foster human interaction and can help contribute to the social connectededness, or "social capital," of neighborhoods. The *Parks and Recreation Master Plan* defines social capital as the "Positive value of connections among individual-social networks and the norms of reciprocity and trusthworthiness that arise from them. Strong social capital can have a positive impact on children's welfare, public safety, neighborhoods, economic prosperity, health and democracy.

BIKEWAY MASTER PLAN

Both the City and County of Sacramento have created a joint Bikeway Master Plan. Part of the planning for bikeways involves a network of bike trails. Although built to standards for bicycle travel, these trails serve as pedestrian ways as well. Recently the City updated the bikeway plan to include new trails in developing areas. These trails are built using bikeway funds. Existing and proposed off-street trails are shown on Figure 3.6.

There are over 55 miles of pathways and trails in Sacramento

Figure 3.6: Existing and Proposed Off-Street Trails, 2010 Bikeway Master Plan



The map shows existing multi-use pathways and trails in Sacramento. The Jedediah Smith National Recreation Trail along the American River provides a continuous East-West connection through the City.

FIFTY PLUS WELLNESS PROGRAM

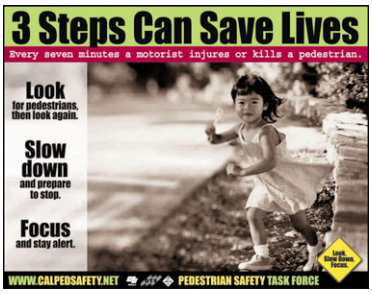
Photo: Marni Leger

The City of Sacramento Parks and Recreation Department has a 50+ Wellness Program that encourages walking for health throughout the greater Sacramento area. One of the activities it introduces is the Neighborhood Walk program. The concept of the Neighborhood Walk is to organize walking groups in locations where the walkers live. This removes the need for transportation to and from the walk site. Walkers stroll in familiar surroundings that connect them with their immediate community; they provide "eyes on the street" to increase neighborhood safety; and they walk with other neighbors to encourage and strengthen social connections. The concept of walking in a group also gets older, more frail adults out and walking when they otherwise would not, either from fear or lack of motivation.

CAPTAIN JERRY TRAFFIC SAFETY PROGRAM

The Captain Jerry Traffic Safety Program offers basic pedestrian safety instruction to Kindergarten to 5th grade students. Activity booklets and safety guidelines are distributed to students and each classroom is visited individually to review crosswalk safety and how to safely use the pedestrian signal at intersections. Safe routes to school are explored and maps of the neighborhood are provided to students to encourage walking.

STATEWIDE DRIVER AWARENESS CAMPAIGN, 2003



Sacramento organizations concerned with pedestrian safety participated in the California Pedestrian Safety Task Force's 2003 Public Information Campaign. The message was designed to provide motor vehicle drivers with three basic driving tips to improve pedestrian safety: "Look for pedestrians, then look again; Slow down and prepare to stop; Drive focused and alert." The communication plan utilizes a variety of message distribution channels including:

- Traffic radio sponsorships in the San Diego, Los Angeles, San Francisco and Sacramento.
- A curriculum-based in-school program targeted to new drivers and "pre-drivers" (grades 6-12) promoted to educators during summer 2003 and developed in conjunction with Newspapers in Education and four of the State's major newspapers including the Sacramento Bee.

IV. PEDESTRIAN GOALS AND POLICIES

The Sacramento Pedestrian Master Plan has two primary objectives:

1. **Institutionalize Pedestrian Considerations** – Incorporate consideration for pedestrians into all City policies, standards, and procedures in order to enable the City to gain the best pedestrian environments from new land use developments and transportation projects.

2. **Improve Current Pedestrian Deficiencies** – Prepare a methodology for creating a capital improvement program that enables the City to systematically retrofit deficient sidewalk and pedestrian crossing locations.

Sacramento's Vision is to become the Walking Capital by improving the environment to make a model pedestrian-friendly city.

The first step in establishing goals and policies for Sacramento is to establish a vision of desirable elements in a highly walkable City.

VISION OF A GOOD PEDESTRIAN ENVIRONMENT

The purpose of the *Pedestrian Master Plan* is to make Sacramento the Walking Capital. This plan provides a comprehensive vision for improving the pedestrian environment to create a model pedestrian-friendly city. It is a vision in which the City elevates considerations for pedestrians to provide a balance among all modes of travel; create safe, walkable environments; and encourage residents to integrate walking into their daily activities.

The vision of the Walking Capital is articulated through a set of goals and strategies outlined in this plan. These goals are designed to guide and inspire the creation of the Walking Capital. The plan also presents a framework for integrating the efforts of City staff, private developers, and City residents to achieve the vision of becoming the Walking Capital.

The City's existing *General Plan* includes language supporting pedestrian use. Similarly, the *General Plan Update's* "Vision and

Guiding Principles" document states the City's guiding principle for transportation alternatives is to:

> **"Provide a variety of transportation choices that promote accessible alternatives to the automobile, including walking, bicycling, and taking transit"**
>
> *– General Plan Update Vision and Guiding Principles, November 2005*

This principle complements the *Pedestrian Master Plan's* vision. Sacramento already contains many walkable neighborhoods and districts, such as Old Sacramento, Downtown and Midtown, that provide a vision of a good pedestrian environment. These places feature wide sidewalks, visually interesting streetscapes, high levels of pedestrian activity, and multiple destinations.

Downtown

Wide sidewalks and pleasant seating areas in the Downtown area are inviting to pedestrians.

Old Sacramento

A variety of unique stores, restaurants, and the historic atmosphere contribute to the appealing pedestrian environment of Old Sacramento.

Midtown

The Midtown area's mixed uses, wide sidewalks, and tree-shaded streets contribute to its pedestrian character.

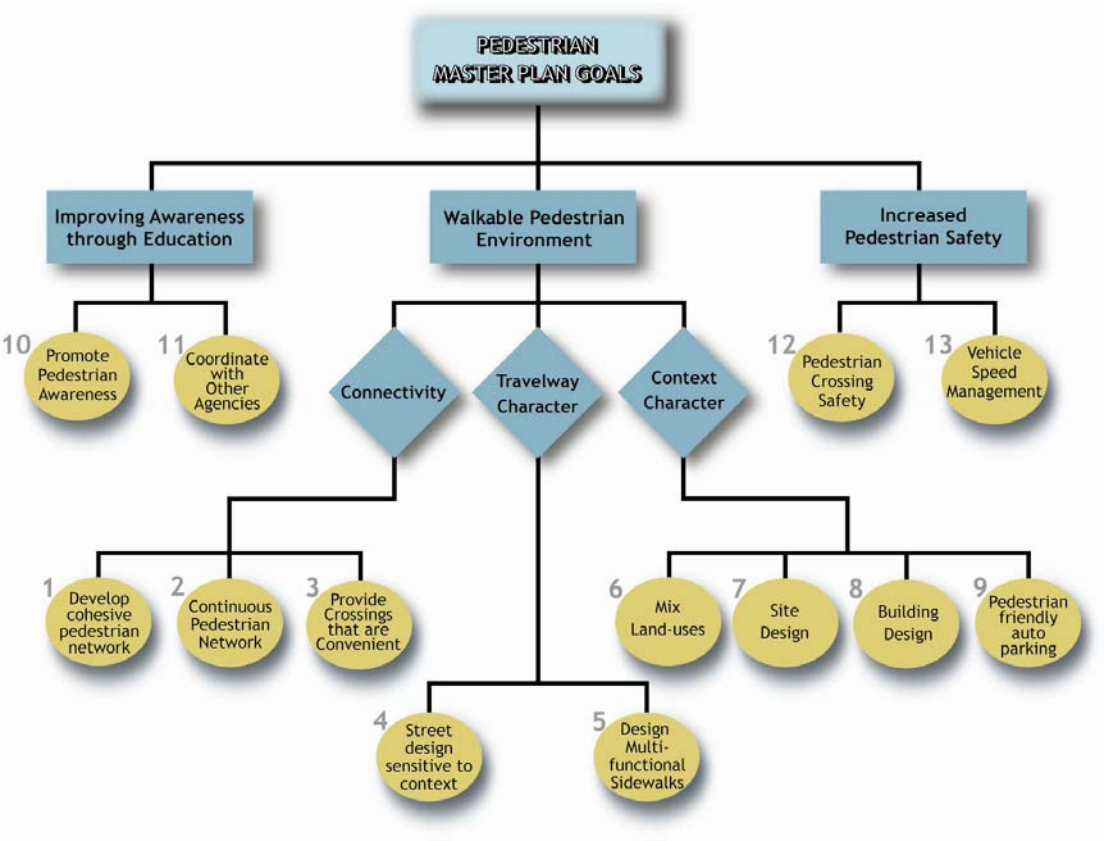
PEDESTRIAN MASTER PLAN GOALS

The goals of the Pedestrian Master Plan fall into three categories: creating a walkable pedestrian environment; improving awareness of walking as alternative transportation through education; and increasing pedestrian safety. Specific goals are summarized in Figure 4.1.

How to create the Walking Capital:

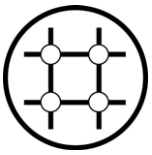
- Create a **walkable** pedestrian environment throughout the City
- Improve awareness of the pedestrian mode through **education**
- Increase pedestrian **safety**

Figure 4.1: Pedestrian Master Plan Goals



WALKABLE PEDESTRIAN ENVIRONMENT GOALS

Characteristics of a walkable pedestrian environment can be grouped into three main categories: connectivity, travelway character and context character. Each one is described below, followed by a set of goals related to it and actions to achieve the goals.



Connectivity refers to the street and pedestrian network. A well-connected network of streets and pedestrian ways means that it is easy for the pedestrian to get around. Connectivity includes support for safe, convenient street crossings. It also refers to access to bus or light rail (transit). Walking and transit go hand in hand – transit riders typically supplement their trip with some form of pedestrian travel at both ends. While Sacramento has invested heavily in building and operating its transit system, more investments should be made to improve pedestrian access to transit. In turn, pedestrian improvements will support increased ridership and create a more functional multimodal transportation system.

Streets in the Curtis Park area are an example of a well connected street system.

"Streets and their sidewalks, the main public places of a city, are its most vital organs."

- Jane Jacobs

The K Street mall and light rail corridors running through downtown Sacramento provide an interesting and diverse pedestrian setting.

Connectivity Goals:

- **Goal 1: Develop a *cohesive* pedestrian network of sidewalks and street crossings that make walking a realistic way to get around.**
- **Goal 2: Provide a *continuous* pedestrian network that connects through blocks and sites, and connects buildings to each other, to the street, and to transit facilities.**
- **Goal 3: Provide crossings that are *convenient* and *comfortable* for pedestrians to use.**

This sidewalk at 16th Street and S Street functions as a walkway and an outdoor dining area.

Policies and Actions:

- Provide direct connections or shortcuts from residential areas to neighborhood commercial destinations, parks, gathering places, and trails, especially in new or infill development. Connect dead-end streets or cul-de-sacs to pedestrian trails or adjacent streets to encourage pedestrian connectivity.
- Follow the recommendations outlined in the *Pedestrian Safety Guidelines* related to frequent, secure crossing opportunities.
- Provide connections over barriers such as railroads, waterways, and freeways.
- Reduce, eliminate, or provide access around sidewalk obstructions, such as utility poles, that are barriers to pedestrian travel.

The Third Street Promenade in Santa Monica, California is a lively place with many people. Sidewalks are very wide, yet still filled with people.

Travelway character refers to the roadway space between curbs as well as sidewalk space. Roadway space can be designed to serve traffic while still providing a high-quality pedestrian environment and improving safety for all modes. The design of the sidewalk and the elements within it is also a key part of creating a pedestrian-friendly environment. This requires more than just a minimum width of sidewalk. Sidewalks are multi-functional, and their design should reflect the need to provide walking space as well as other functions that occur on the sidewalk (such as outdoor dining, window shopping, waiting for transit, sitting on benches, and so on).

Travelway Character Goals:

- **Goal 4: Create a street design sensitive to its context.**
- **Goal 5: Design sidewalks that are enjoyable to walk along and that acknowledge their multi-functional purposes.**

What is context? "Context-sensitive design" refers to a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility.

Policies and Actions:

- Provide landscaped sidewalk buffers and urban design features, especially in areas of high pedestrian activity, in order to encourage walking.
- Follow the *Pedestrian Friendly Street Standards*: add wide sidewalks, medians, and wide buffers where appropriate.
- Consider flexibility in roadway cross-sections and classification in pedestrian zones and commercial districts.
- **Improve the street-level experience for pedestrians, including addition of street trees to provide shade and enhance streetscape appearance.** This includes amenities such as tree wells, seating, waste containers, pedestrian-scale wayfinding signage, and news racks in commercial corridors. Determination of appropriate street tree types will made by the City's Parks and Recreation Department.
- **Provide pedestrian-scale lighting standards for all street categories**. A 14-foot light standard 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.
- **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.

Key Document Update: *Design & Procedures Manual*

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

Context Character refers to the way the adjacent functions interact with the pedestrian. A pedestrian friendly environment should have a positive relationship to an area's land use. A mix of complementary land uses and appropriate densities is necessary to make walking a realistic option.

The configuration of development facing the pedestrian way is also a key factor in pedestrian comfort and safety. Improvements can be made by building stores with little or no set back and constructing parking at the side or rear of a site. Providing a defined 'street wall'[3] makes the pedestrian feel less exposed, and limiting vehicular site access reduces the number of potential conflict points. The character of architecture should be welcoming to pedestrians. Good walking environments have visual interest, a sense of security and protection, and easy access to adjacent buildings. Finally, parking facilities can be shared and integrated into the community in such a way that they do not alienate the pedestrian, but allow for safe and comfortable pedestrian movement.

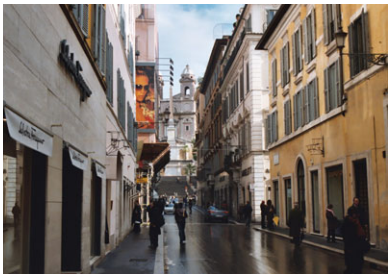
Context Character Goals

- **Goal 6: Strengthen the transportation – land use connection by mixing land use types, allowing appropriate densities, and encouraging compact development where walking is the mode of choice.**
- **Goal 7: Configure development on a site to have a strong relationship to the pedestrian setting, providing easy and frequent access and minimizing potential automobile conflicts.**
- **Goal 8: Design buildings such that their architecture enhances and encourages pedestrian activities.**
- **Goal 9: Provide pedestrian friendly automobile parking layouts to prevent isolating pedestrians from their destinations.**

Eyes on the Street

One of the keys to providing pedestrian comfort and safety is to create pedestrian environments where there are "eyes on the street," or natural surveillance. Jane Jacobs first described this concept in her book The Death and Life of Great American Cities:

"There must be eyes on the street, eyes belonging to those we might call the natural proprietors of the street. The buildings on a street equipped to handle strangers and to insure the safety of both residents and strangers must be oriented to the street. They cannot turn their backs or blank sides on it and leave it blind. The sidewalk must have users on it fairly continuously, both to add to the number of effective eyes on the street and to induce a sufficient number of people in buildings along the street to watch the sidewalks."



The height of the buildings along this narrow street in Rome, Italy reduces the feeling of exposure, an important element of pedestrian comfort.

[3] A "street wall" in the architectural sense is not a concrete wall but the face of a building. The photo of Rome, Italy to the right provides a good example of a well-defined and visually interesting street wall. Also, refer to Appendix B for design guidelines relating to context character.

Policies and Actions

- 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.

Key Process Update: Development Review

This new building at Kokomo Drive welcomes the pedestrian.

WALKING AWARENESS GOALS

Part of the success of making the Walking Capital will come from implementing programs that encourage walking. Currently the City has programs for specific age groups and different kinds of events to encourage walking. The goals for walking awareness should reflect the successes currently experienced and promote the role of walking in contributing positively to the social cohesion of the community.

Education Goals

- **Goal 10: Promote pedestrian awareness in Sacramento such that it becomes the "Walking Capital."**
- **Goal 11: Coordinate with other transportation agencies to develop a more seamless multimodal transportation system.**

The K Street mall and light rail corridors running through downtown Sacramento demonstrate a well-integrated multimodal system.

Policies and Actions

- Provide at least one event annually that promotes pedestrian safety and walkability, such as "Walk to School Day."
- Establish formal communication with RT on improvements around transit and with Caltrans on improvements around interchanges.
- Develop partnerships with local organizations to develop educational materials and promote pedestrian awareness.

PEDESTRIAN SAFETY GOALS

Pedestrian safety goals address the need to create safe, visible, and convenient pedestrian roadway crossings, internal site circulation, seamless access to transit, and truly multimodal streets

Pedestrian Safety Goals

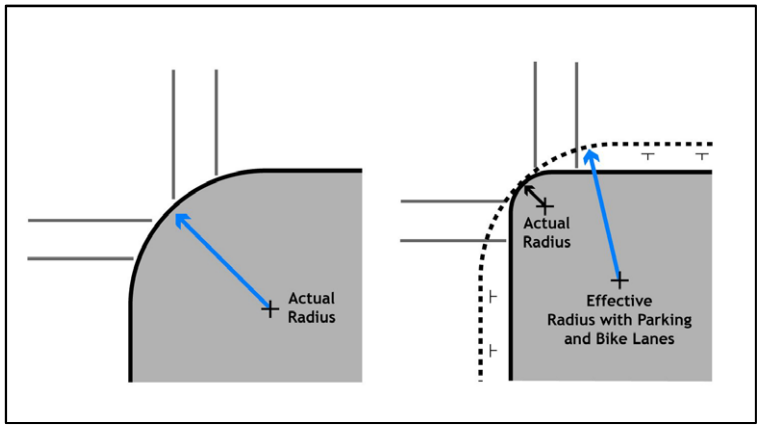
- **Goal 12: Improve pedestrian safety at intersections and mid-block locations by providing safe, well-marked pedestrian crossings.**
- **Goal 13: Develop and implement speed management policies that support safe driving speeds on all City streets.**

Policies and Actions

- **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 restoring 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.
- **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.

Key Document Updates: *General Plan* and *Design & Procedures Manual*

- **Consider reducing corner radii.** It may be appropriate to reduce curb corner radii on streets where few large vehicles or buses will be turning and where on-street parking and bicycle lanes enable a greater effective radius than actual (see diagram at right). Curb radii could be reduced from the current standard of 27 feet to 10-20 feet. Refer to Appendix B for more detailed discussion of curb radii and their effect on pedestrian crossing distance.



Curb radii can be substantially reduced where on-street parking and bike lanes exist. While the above intersections have different corner curb radii, the effective radii are the same.

- **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.

- **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.

- **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.

- **Support opportunities to provide angled on-street parking**. Angled on-street parking can enhance the pedestrian environment and improve pedestrian safety by providing a wider buffer between vehicle lanes and the sidewalk. Angled parking can be front-in or back-in, though back-in angled parking is generally more favorable for bicyclists and can provide a traffic calming effect.

Angled parking provides a wide buffer between the sidewalk and adjacent vehicle lanes.

KEY RECOMMENDATIONS

Appendix C provides a detailed description of policy recommendations for existing City documents. A brief summary of key recommendations is described in Table 4.1 below.

Table 4.1: Key Document Recommendations	
General Plan Update	• Modify existing Level of Service standard • Designate pedestrian districts and corridors • Incentivize compact, mixed-use infill development and illustrate pedestrian-oriented streetscape designs • Promote great walking access to transit • Explore opportunities to reduce roadway widths and eliminate lanes where appropriate
Design and Procedures Manual	• Minimize curb corner radii • Consider special pedestrian treatments where dual turn lanes exist • Minimize pedestrian crossing distances • Provide pedestrian-scale lighting options for all street types
Transportation Programming Guide	• Update with additional pedestrian criteria • Incorporate pedestrian collision data and Pedestrian Demand Score (see Section V) as project ranking factors
All Documents	• Ensure consistency with Pedestrian Master Plan • Create pedestrian or transit overlays in Zoning Code
Development Review Process	• Adopt Pedestrian-Friendly Development Review Guide in Appendix A (also summarized on pages 42-46). • Ensure close coordination between Planning and Permitting departments

SACRAMENTO'S PEDESTRIAN REVIEW PROCESS: A GUIDE

Integration of pedestrian facilities into new development projects is a key element to becoming the Walking Capital. 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.

A detailed guide for City staff is presented in Appendix A. It follows the steps listed below which describe 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**

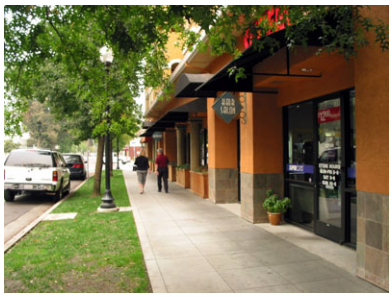
Jefferson Commons is a new three-story student apartment community that provides 288 units of much need housing for students at California State University, Sacramento.

Source: www.kaufmanmeeks.com

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**
- **Design & Procedures Manual, Pedestrian Friendly Street Standards, and Standard Specifications**
- **Pedestrian Safety Guidelines**
- **Traffic Calming Guidelines**
- **Other Documents, including relevant Specific Plans, Urban Design Plans, and Streetscape Plans.**



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

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.

A rating scorecard that can be used to calculate how a development project will measure up to pedestrian needs is presented in Appendix A. 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.

Step 3: Determine the appropriate pedestrian accommodation

Levels of Pedestrian Improvement

Overall, the City should be made accessible to pedestrians. 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 Score," "upgraded" or "premium" pedestrian treatments such as wider sidewalks and enhanced street crossings may be required. See Section V for a detailed description of the Pedestrian Demand Score.

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 figure 4.2 below.

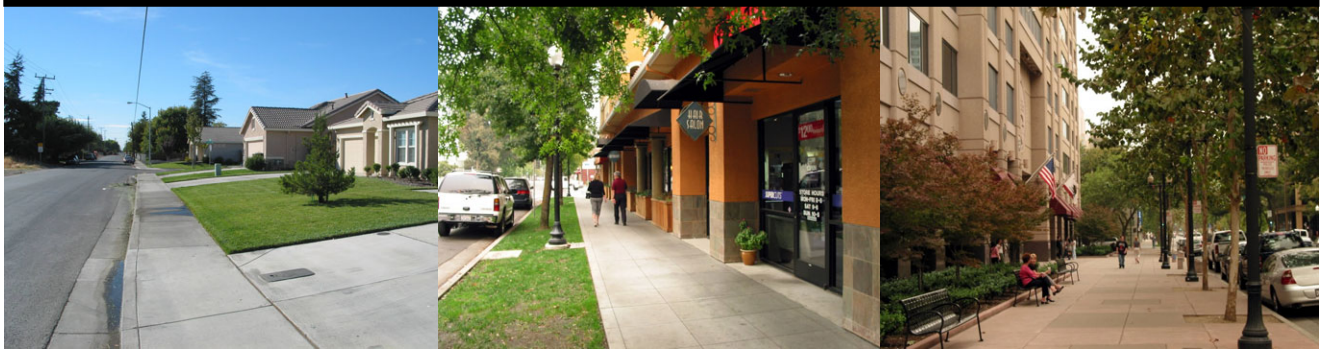
Located just 3.5 miles from downtown Sacramento, Del Paso Nuevo is a 150-acre master planned development that converts a distressed area into a new neighborhood with home-ownership opportunities.

Source:www.hud.gov/offices/cpd/communitydevelopment/programs/cdbg30/ca/sacramentohousing/index.cfm (photos from web site)

Figure 4.2: Levels of Pedestrian Improvements

	BASIC	UPGRADED	PREMIUM
Street Facilities	Detached sidewalks Vertical curb/gutter Curb ramps Obstacles removed Street lighting Parking/bike lane buffer	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	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**	Marked crosswalks Accessible pedestrian signals Vehicle speed control	High visibility crosswalks Accessible pedestrian signals Increased lateral separation Pedestrian islands Bulb-outs Raised crosswalks Other vehicle speed control	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	Midblock crossings at some locations	Shortcuts for pedestrians Midblock crossings	Shortcuts for pedestrians Midblock crossings Dense housing Dense employment Transit access
Adding interest		Show windows	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 "upgraded" or "premium" treatments. Highest pedestrian potential areas may further indicate a need for "premium" treatments. This map is shown in detail in Section V, page 56.

The City has formed a technical advisory committee to develop guidelines for construction of sidewalks in infill locations. The recommendations of this group will be presented to the City Council as part of the Pedestrian Master Plan Implementation program.

In addition to providing excellent internal pedestrian circulation, these pedestrian paths in Albuquerque, New Mexico are visually varied, with soft edges and pleasant ambiance.

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:

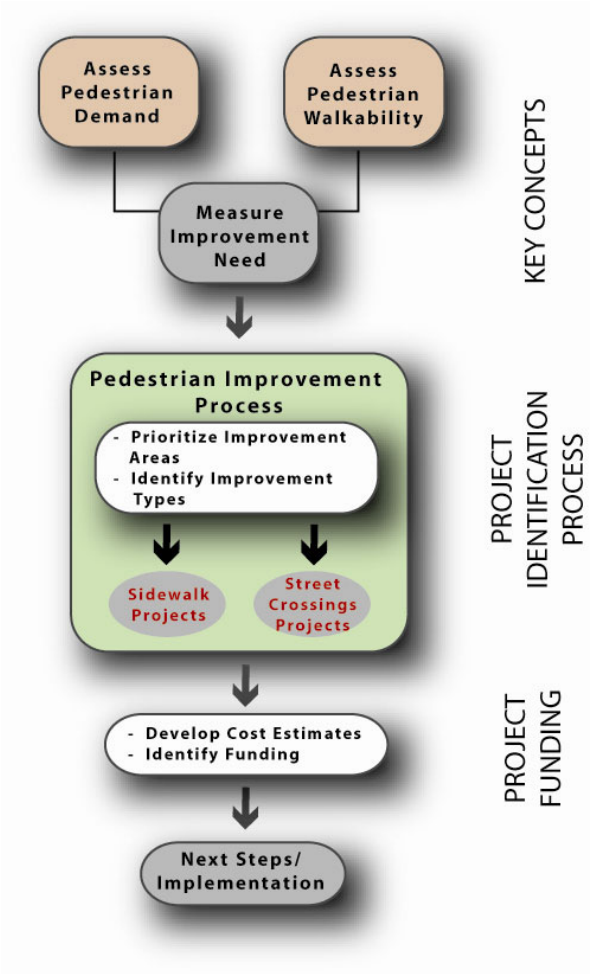
- Projects that will have unique pedestrian environments, such as those that will have large open-space components, substantial peaks in pedestrian activity, or require additional pedestrian safety considerations, such as schools, day care centers, and senior centers
- Projects with high pedestrian traffic 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.
- Non-motorized trails connected to existing or proposed trail networks

Many European town centers, such as this one in Mainz, Germany, feature high-quality pedestrian environments where pedestrians and vehicles share the same space.

V. IMPLEMENTATION PLAN

The implementation of the *Pedestrian Master Plan* includes document and process updates (as noted in the Goals and Policies section) as well as physical improvements to the pedestrian environment. Identifying and prioritizing these improvements presents a unique challenge in a large city with a multitude of pedestrian environments. The process identified to address this challenge is outlined below:

- Defining Key Concepts: Pedestrian Walkability and Demand
- Identifying Project Areas: Pedestrian Improvement Process
- Funding: *How can projects be funded?*
- Next Steps: *What are the next steps to implementation?*



This flow chart presents the key steps contained in the Implementation Plan. The key concepts of Pedestrian Demand and Walkability are used to measure the improvement need of areas within the City. Areas of highest need are included in the Pedestrian Improvement Process. The remainder of the section discusses funding sources and next steps to project implementation.

PEDESTRIAN WALKABILITY AND DEMAND

Planning for pedestrians requires understanding two key concepts: Pedestrian walkability and pedestrian demand. Pedestrian walkability refers to the ease, comfort, and safety of walking and is influenced by connectivity, accessibility, the sense of safety (real and perceived), and the quality of the pedestrian environment. Pedestrian demand is the extent to which people want to walk to a particular place and is influenced by land use and development types including mixes and intensities of activities, the presence of public spaces and parks, and the availability of transit facilities. Pedestrian walkability and demand are interdependent, and an evaluation of pedestrian conditions involves consideration of both.

Pedestrian **walkability** refers to the ease, comfort, and safety of walking. It is influenced by connectivity, accessibility, the sense of safety, and the quality of the pedestrian environment

A place can be categorized based on its levels of pedestrian walkability and demand. A place may have desirable destinations, such as locations with multiple shops, office parks, schools, and the like, but which are difficult or unsafe to walk to. This may be due to inadequate sidewalks, infrequent street crossing opportunities or lack of a direct route. Such a place would have low walkability and high demand. Alternatively, a place may be walkable because of improved facilities, but it may lack a destination to which people want to travel. Such a place would have high walkability and low demand.

Pedestrian **demand** is the extent to which people want to walk to a particular place. It is influenced by land use and development types including mixes and intensities of uses, the presence of public spaces and parks, and the availability of transit facilities.

The optimum pedestrian environment would have both high walkability and high demand. Consequently, all plans and guidelines must work toward achieving high levels of both demand and walkability if their aim is to increase pedestrian travel.

ANALYSIS OF PEDESTRIAN DEMAND AND WALKABILITY

A Pedestrian Demand Score, ranging from 0-100, was developed to identify areas with the greatest walking demand (see Figure 5.1 on page 50). Similarly, an Infrastructure Deficiency Score ranging from 0-100 was developed to identify areas with the lowest walkability (see Fig. 5.2 on page 52. These scores were generated by assigning each street segment a walking potential rating and an infrastructure deficiency rating based on a set of indicators described in the section below and listed in detail in Appendix G. The rating values were applied to street segments by converting the unique indicator measurement units into a common set of rating criteria. Additionally, the methodology weighted the importance of each indicator relative to other indicators. Walking potential indicators were weighted separately from infrastructure deficiency indicators to support the methodology's two separate final indices.

Venice, Italy is the foremost example of a walkable city. Pathways along the Grand Canal are wide and feature dramatic views.

The methodology was executed using the City's GIS database and the INDEX software package. The City's geography was "rasterized" into

a grid of cells containing every street segment in the City along with its surrounding land-uses. Across this geography, the INDEX software applied a set of indicators to measure walking potentials and infrastructure deficiencies.

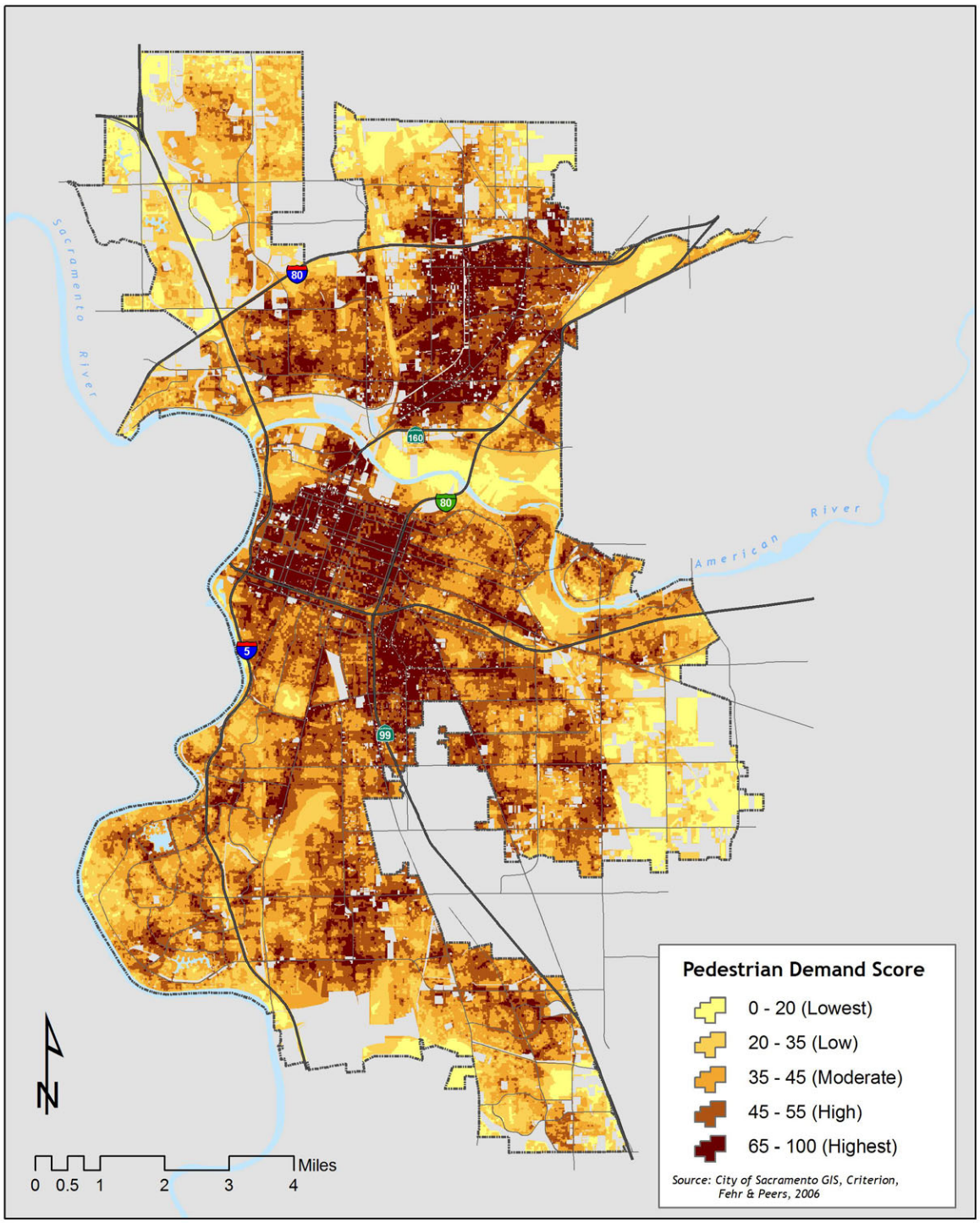
PEDESTRIAN DEMAND INDICATORS

To measure pedestrian demand, a set of 15 indicators correlated with higher rates of walking were used. Areas of strong walking demand (or high "potential) are grouped into four categories: need, proximities, walking environment, and important policy boundaries. A detailed list of indicators is contained in Appendix G.

- **Demographics** – indicators describing groups that have a greater likelihood of walking, including seniors, youth, low income, and those without cars. These indicators were derived from US Census 2000 data.
- **Proximities** – indicators of nearness to key walking destinations (located within 1 mile of walking distance). These indicators were derived from the City of Sacramento's Geographic Information System (GIS) data.
- **Pedestrian environment** – indicators that have been empirically shown to correlate with the choice to walk, including population density, employment density, and mixed land uses. These indicators were derived from several sources, including City of Sacramento and US Census data.
- **Policy areas** – presence of special areas having greater importance for pedestrians due to City policies. These areas were mapped using City of Sacramento GIS data.

Employment centers and areas near transit are key indicators of pedestrian demand

Figure 5.1: Citywide Pedestrian Demand (Pedestrian Demand Score)



Citywide map of pedestrian demand: darker areas are where more people are likely to walk.

WALKABILITY INDICATORS

To measure walkability, a set of six indicators were used. These reflect physical deficiencies in pedestrian facilities in the existing built area of Sacramento. The most notable are: missing sidewalks, inadequate street lighting, difficult street crossing conditions, and obstacles to direct pathways.

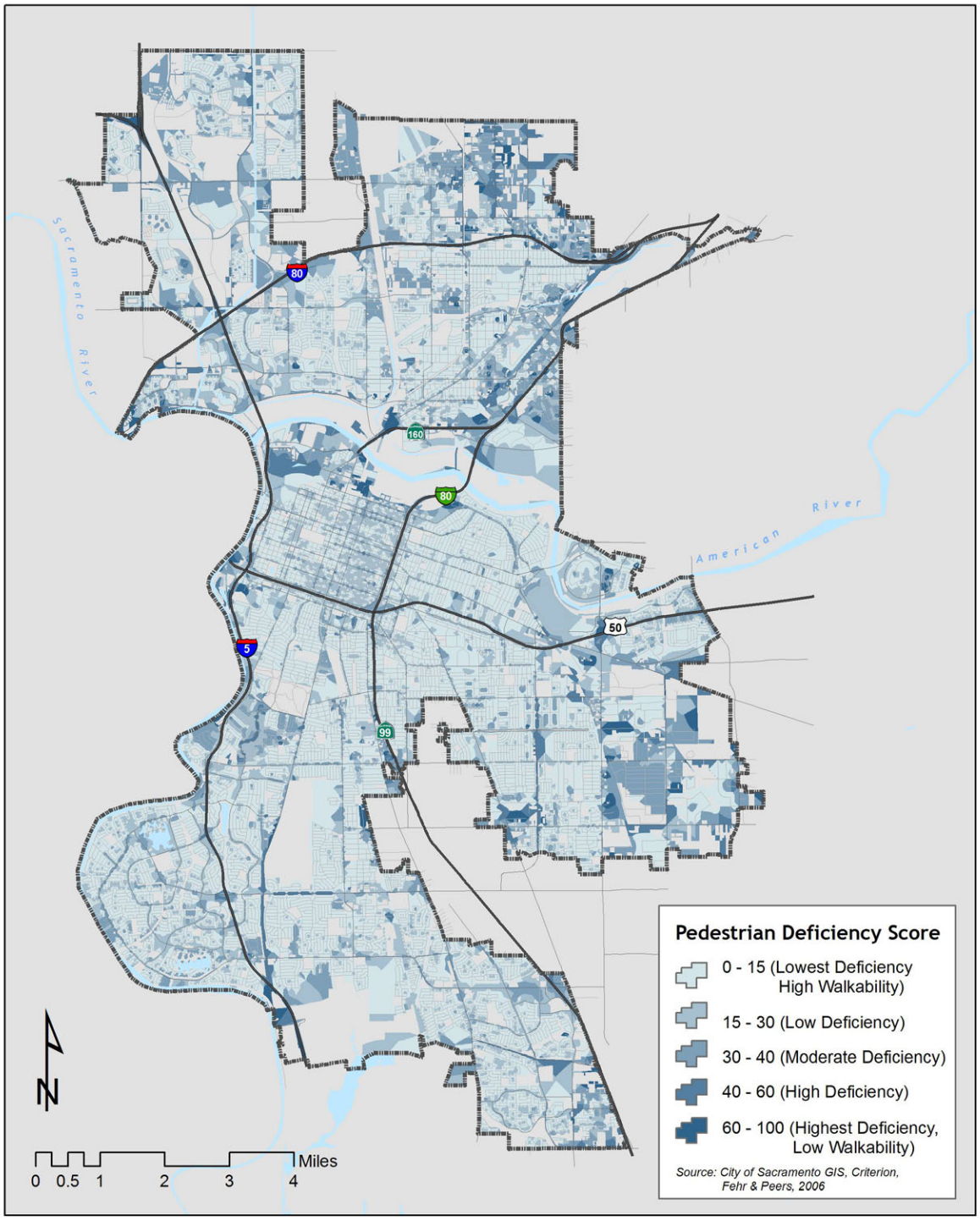
This German street is narrow with a well-defined street space in between buildings, both factors that improve walkability.

Measuring walkability involves mapping out all of the infrastructure deficiencies and traffic conditions. The six indicators used are as follows:

- **Sidewalks** – Proportion of streets with sidewalks versus those that don't have them
- **Street Lighting** – Density of streetlights
- **Pedestrian Crossings** – Presence or absence of arterial traffic signals (as an indicator of safe pedestrian crossings)
- **Crossing Distance** – Street width/crossing distance
- **Street Connectivity** – A qualitative measure of how well streets are connected; assigned a value of 0 – 1
- **Collisions** – Annual number of pedestrian / vehicle collisions

Many streets in Sacramento near transit lines have missing sidewalk segments

Figure 5.2 Citywide Walkability Map



The walkability map shows an infrastructure deficiency score. It is based on an aggregation of six deficiency indicators. Areas of high deficiency are shown in dark blue.

IMPROVING WALKABILITY

There are two key components of addressing walkability deficiencies.

1. **Prioritization** – Identifying a rational and fair mechanism for determining which areas receive improvements first.
2. **Improvement Types** – Determining the level of improvements that are appropriate for a given area.

While the Plan seeks to achieve basic improvements, including sidewalks and lighting, throughout the City, there are some areas, such as commercial main streets, where greater levels of improvements may be appropriate.

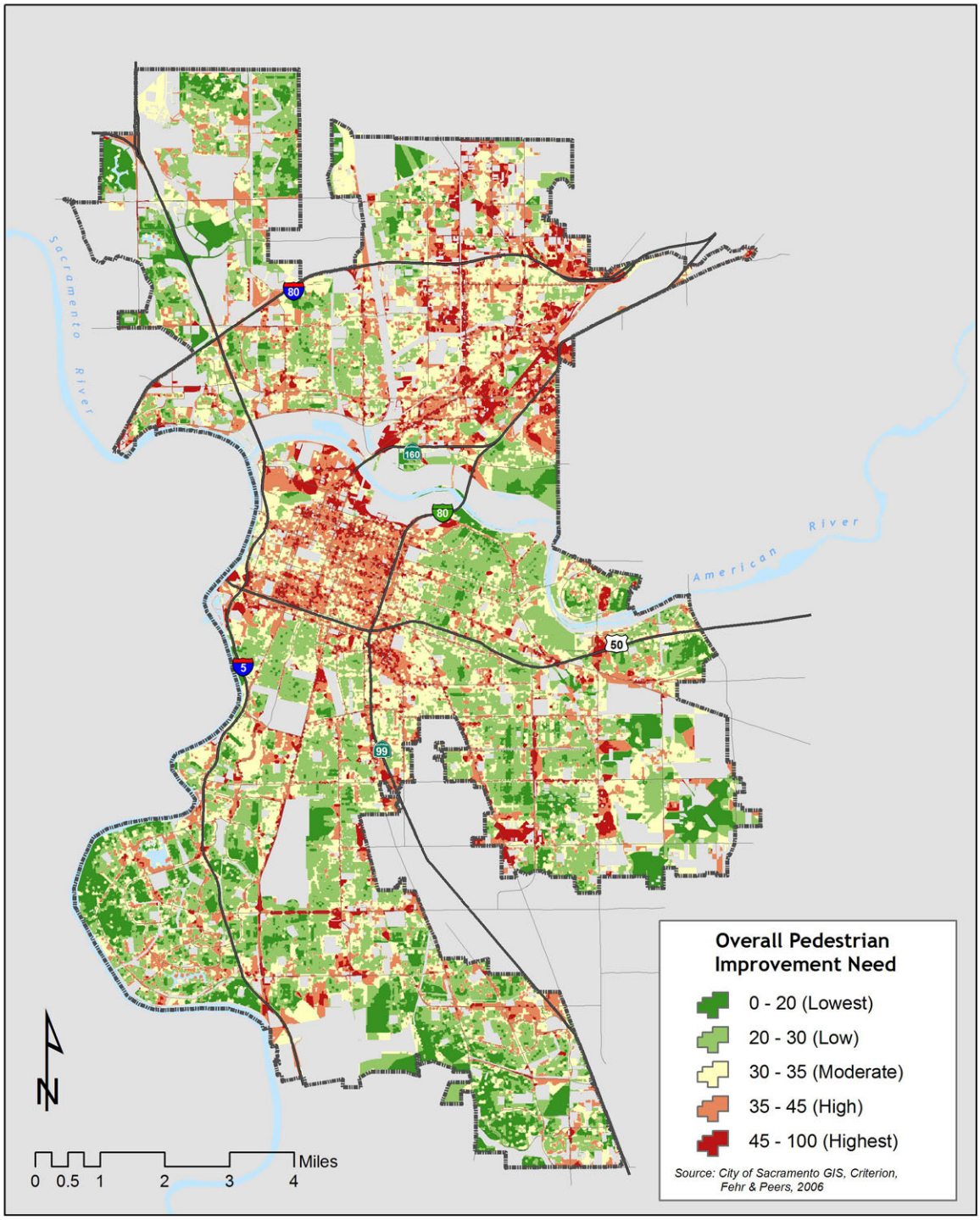
PRIORITIZATION

Improved pedestrian environments are targeted to areas with high pedestrian demand but low walkability

This process is achieved through a composite score of areas with high pedestrian demand and low walkability:

The Pedestrian Demand and Pedestrian Infrastructure Needs (walkability) indicators were combined by taking the geometric mean of the two score sets for the highest scoring segments on both indices. This analysis produced the Pedestrian Improvement Need Composite Map (Figure 5.3), which shows areas with high demand and low walkability. While this presents an overall picture of improvement needs, specific needs, such as sidewalk and street crossing projects, are addressed through the Pedestrian Improvement Process (page 57).

Figure 5.3: Pedestrian Improvement Need Composite Map



The pedestrian need score is a composite of the pedestrian demand and pedestrian walkability scores. Areas with high demand and low walkability are identified as having the greatest need.

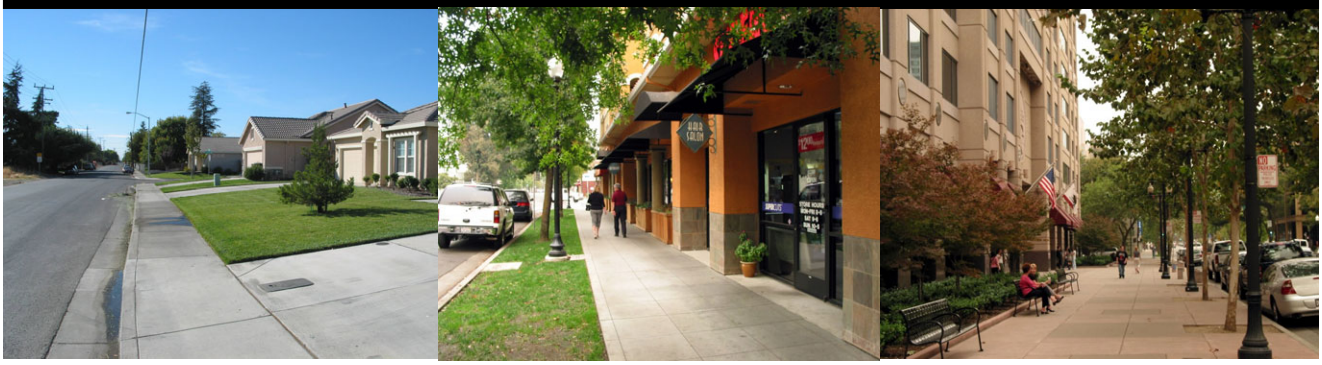
IMPROVEMENT TYPES

Pedestrian Corridors and Nodes: Matching Improvements to the Level of Need

When considering sidewalks construction, the design should be based on the level of pedestrian activity expected. Not all areas in Sacramento have the same level of demand. The overall strategy for this plan, therefore, is to match the level of improvements to the demand of a particular area. A three tiered approach towards making pedestrian improvements includes areas of "basic," upgraded," and "premium" facilities.

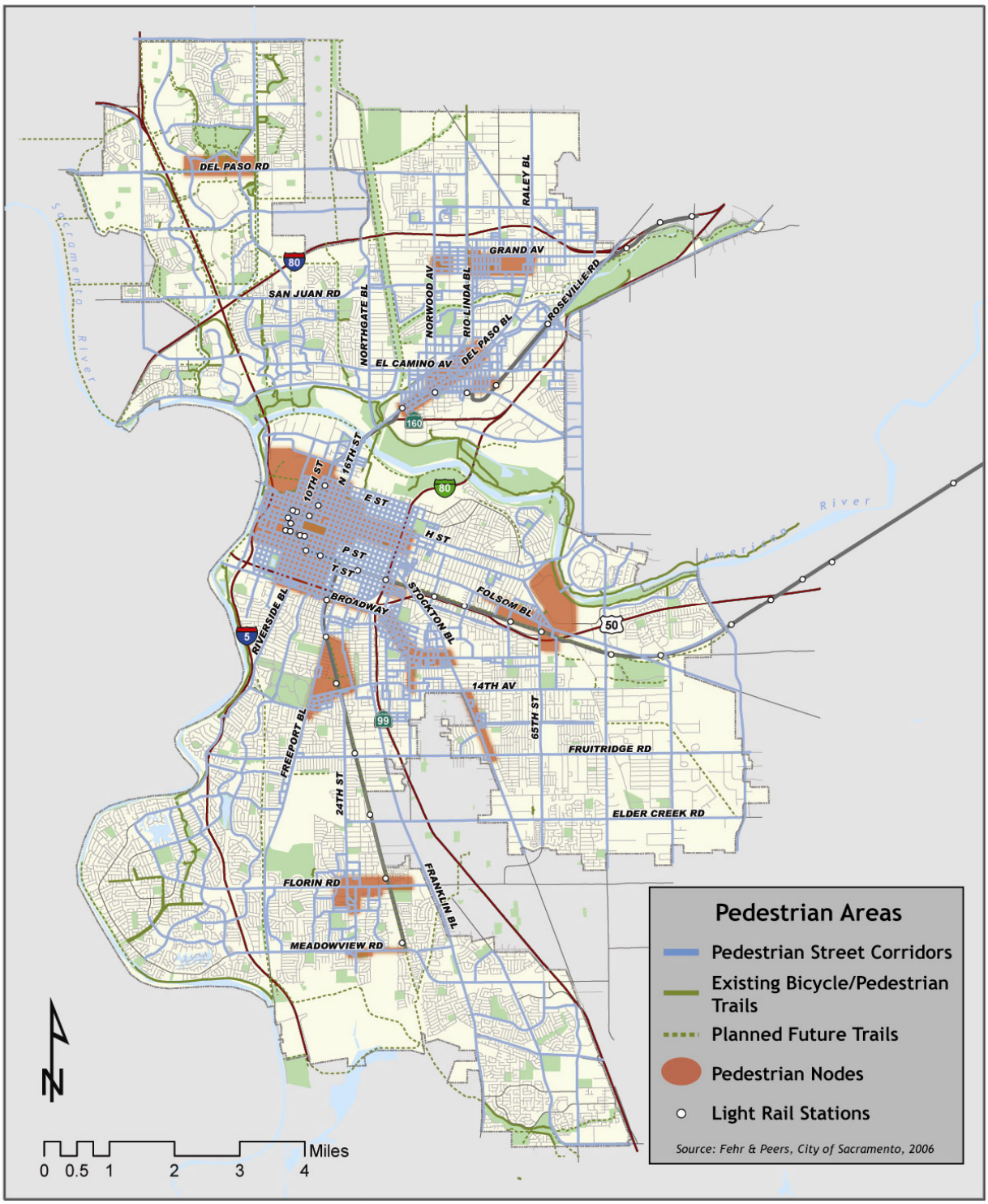
Generally speaking, all parts of the City should be receiving basic improvements. Upgraded improvements include everything in the basic level, plus added features, like wider sidewalks, more intense lighting and landscaping and higher quality street crossing treatments. These improvements are targeted for designated Pedestrian Corridors as shown in Figure 5.4 on the following page.

The top level of improvements is called "Premium." 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. Premium improvements are appropriate for pedestrian "nodes" of activity where there are high levels of pedestrian demand. Pedestrian nodes, shown in Figure 5.4, are derived based on areas within the city with the highest levels of pedestrian demand.



BASIC UPGRADED PREMIUM

Figure 5.4: Pedestrian Corridors and Nodes Map



Pedestrian corridors are areas targeted for Upgraded pedestrian improvements. Pedestrian "nodes" are areas with high pedestrian activity and will generally warrant Premium pedestrian improvements.

PROJECT IDENTIFICATION: PEDESTRIAN IMPROVEMENT METHODOLOGY

The ease of pedestrian travel is closely tied to the condition of the pedestrian travelway. Transportation improvements that facilitate pedestrian travel include sidewalks and street crossings. The purpose of the Pedestrian Improvement Process (PIP) is to prioritize these improvements where they are needed the most.[4]

The Pedestrian Improvement Process includes two methodologies, each of which have two elements:

- **Sidewalks Program Methodology**
  - Areas requiring new curb, gutter, and sidewalk
  - Infill sidewalks with existing curb and gutter
- **Street Crossings Program Methodology**
  - Intersection crossings
  - Midblock crossings

The Pedestrian Improvement Process is designed to be integrated into the City's Transportation Programming Guide (TPG) as a new program area. The criteria that will be used to identify and rank projects is based on the demand and walkability scores described above.

This section is intended to establish a methodology for prioritizing sidewalk and street crossings projects. Specific projects are not identified here but will be developed as part of integration with the TPG.

SIDEWALKS PROGRAM METHODOLOGY

Sidewalks provide pedestrians a separated travel path from vehicles on the road. Within an urban area, sidewalks should be provided everywhere but especially around schools, transit stops, parks, and along mixed-use commercial corridors. In the case of schools, safety considerations are a primary concern when parents and children make the decision whether children should walk (or be driven) to school. Transit stops are also locations of high pedestrian activity, as

[4] In addition to sidewalks and street crossings, there are other types of improvements that facilitate pedestrian travel such as pedestrian bridges, off-street trails, pedestrian cut-through routes, and internal site circulation. The Pedestrian Improvement Process focuses expressly on sidewalk and street crossing improvements.

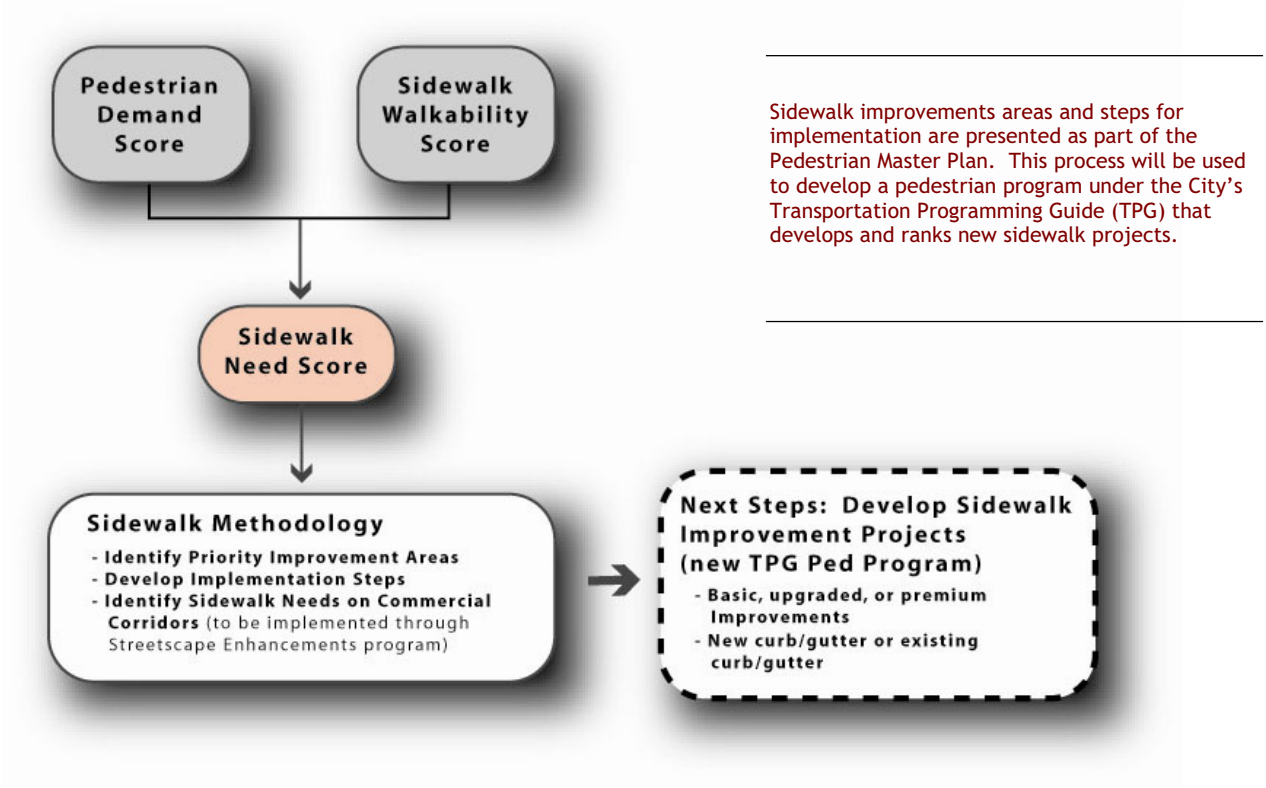
every transit rider is a pedestrian for some time both before and after taking a trip by transit. Commercial areas not only accommodate pedestrian travel but also serve as gathering places for pedestrians.

The construction of sidewalks to schools, transit, and pedestrian commercial areas will result in an increase in walking as a mode of transportation and a corresponding decrease in vehicular trips. In commercial areas, sidewalks can also provide economic benefits to local businesses. Providing sidewalks will increase the safety and convenience of pedestrian travel for all users, as well as furthering the federal mandate to improve air quality and the City Council's desire to conserve energy and reduce overall capital improvement costs.

Sidewalk Improvement Process

The Pedestrian Demand and Walkability scores are used to develop an overall need score for sidewalk improvements. Figure 5.5 below outlines the process for identifying, ranking, and implementing sidewalk projects.

Figure 5.5: Sidewalk Program Flow Chart



Sidewalk improvements areas and steps for implementation are presented as part of the Pedestrian Master Plan. This process will be used to develop a pedestrian program under the City's Transportation Programming Guide (TPG) that develops and ranks new sidewalk projects.

SIDEWALK METHODOLOGY

Identifying Project Locations

The methodology for identifying highest priority sidewalk improvements includes the following steps:

1. Identify all street segments lacking sidewalks
2. Rank all segments based on their Pedestrian Demand Score
3. Identify clusters of the highest-scoring street segments to develop candidate project areas
4. Rank the top 20 projects based on a weighted average of improvement need for all street segments in candidate project areas
5. Identify highest priority streets requiring new sidewalks or infill sidewalks and prepare project maps.

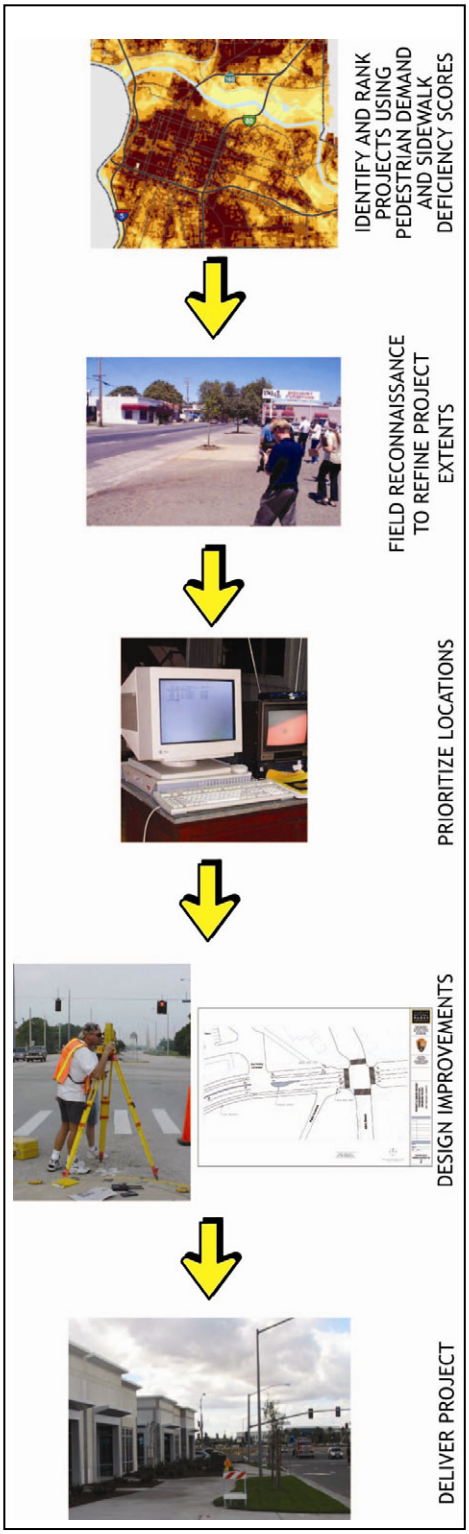
Figure 5.7 on page 61 presents high priority sidewalk areas.

Steps for Implementing Projects

After sidewalk projects are identified and ranked, the following steps are proposed to design and implement projects (see Figure 5.6 on right):

- **Identify and Rank Candidate Projects**: Candidate project identification includes using the Pedestrian Demand Score according to the steps outlined above.
- **Field Verification**: Field verification should include a review of existing conditions (such as available right-of-way, adjacent land uses, and pedestrian volumes) and identifying potential design constraints (such at locations of utilities). Defining project extents may also be supplemented by citizen requests for sidewalks on specific streets adjacent to project areas. It may also be appropriate to combine sidewalk projects with street crossing improvement projects.
- **Design Improvements:** Appropriate sidewalk improvements should be designed after projects have gone through the field verification process. This includes developing plans and detailed estimates of the cost to construct. The level of improvement should be consistent with the level of pedestrian activity and the criteria in the *Pedestrian Safety Guidelines*.

Figure 5.6: Sidewalk Project Implementation Flow Chart



- **Deliver Project**: The final step of the sidewalks program process will be to construct new sidewalks.

Sidewalks on Commercial Corridors – Streetscape Enhancements Program

Commercial corridors are identified in the Streetscape Enhancements program of the Transportation Programming Guide. Improvements to these streets include landscaping, addition of medians, and other aesthetic improvements in addition to pedestrian improvements. Commercial Corridors lacking sidewalks are identified below, with the understanding that they should be included as improvements in the Streetscape Enhancements program. Figure 5.8 indicates Commercial Corridors currently lacking sidewalks.

Next Steps – TPG Sidewalk Program

The next steps for sidewalk implementation will be to integrate the methodology presented above into the City's Transportation Programming Guide. The new program will use the methodology presented above to develop a prioritized list of sidewalk capital improvements.

Improvement Types

The type of sidewalk improvement will be based on the level of pedestrian activity expected. The pedestrian corridors and nodes map on page 56 shows where basic, upgraded, and premium sidewalk facilities will be constructed.

New Sidewalks and Infill Sidewalks

Construction of some sidewalks will require new curbs and gutters to be installed. Other sidewalk projects may already have existing curbs and gutters and could be cheaper to install. Identification of areas with existing curbs and gutters will be useful in determining overall project costs.

Figure 5.7 Sidewalk Project Priority Areas

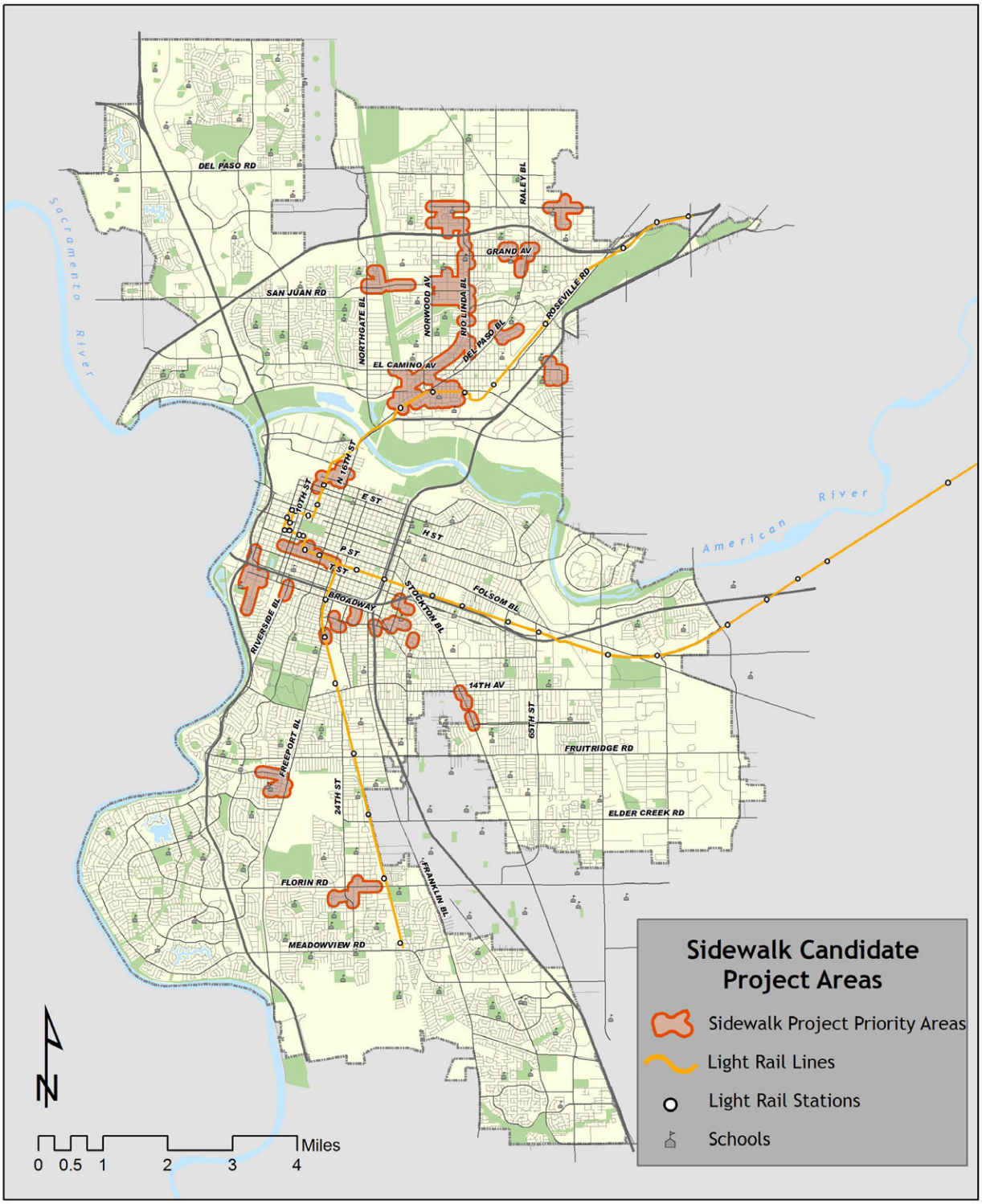
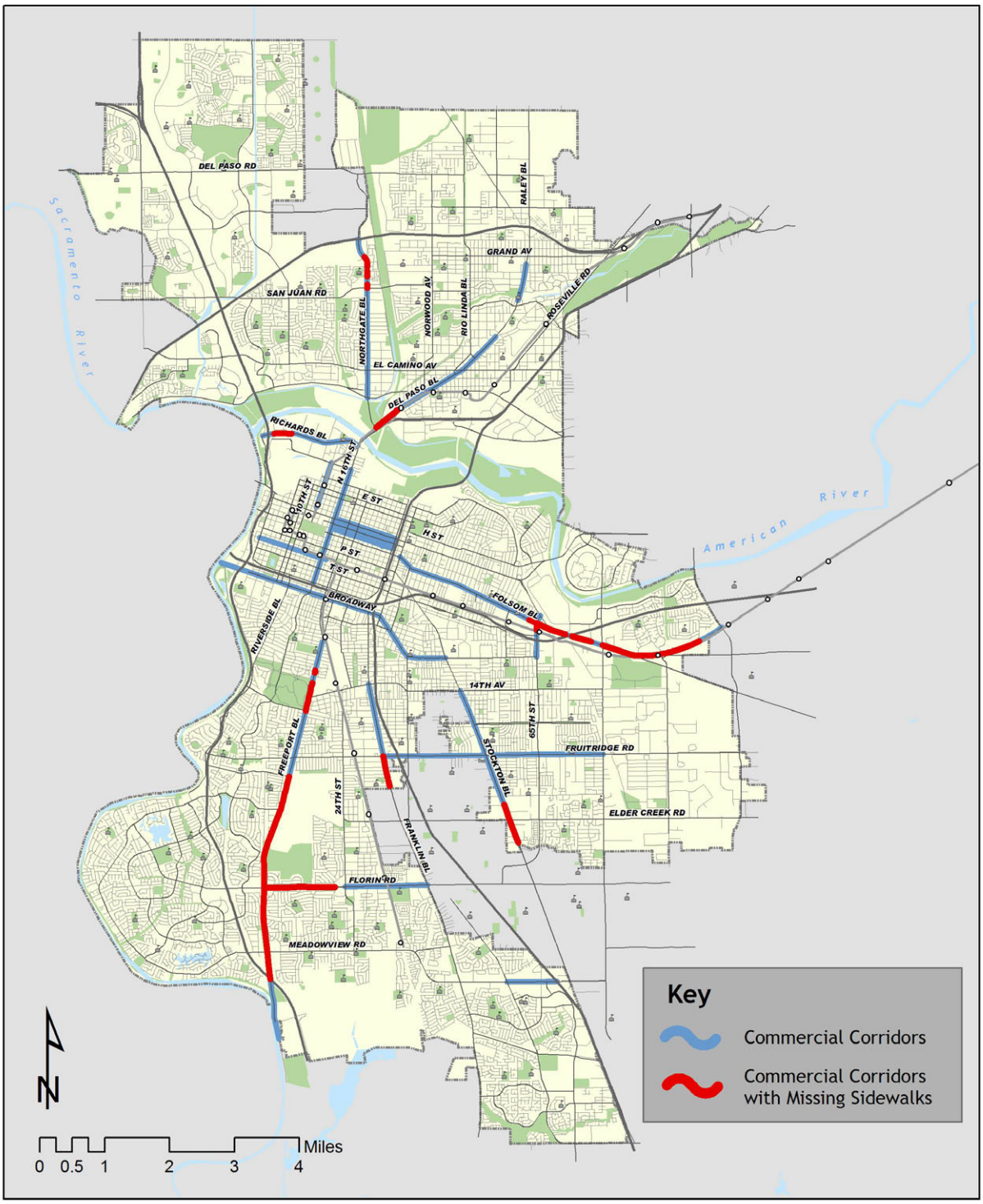


Figure 5.8: Commercial Corridors with Missing Sidewalks



STREET CROSSINGS PROGRAM METHODOLOGY

Well-designed street crossings are vital for improving pedestrian mobility and connecting neighborhoods. Well-marked, high visibility 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.

As with sidewalks, street crossings are particularly important near schools, transit stops, parks, and where there are many pedestrians. The addition of new street crossings may be most effective where there are existing safety deficiencies and a high demand for street crossings.

According to the City's *Pedestrian Safety Guidelines*, midblock crossings should be installed where:

- Sufficient demand exists to justify the installation of a crosswalk
- The mid-block location is:
  - 300 feet or more from another crossing location on an arterial street,
  - 200 feet or more from another crossing location on a collector street, or
  - 100 feet or more from another crossing location on a local street;
- The mid-block location has sufficient sight distance; and
- Safety considerations do not preclude a crosswalk.

Intersection Crossings

Marked crossing locations are essential links in the pedestrian network and can be installed at intersections or mid-block locations. Street crossings at intersections are important because they provide access for pedestrians traveling in multiple directions.

The intent of this Street Crossings Program is to prioritize locations of intersection and mid-block crossings. The type of crossing improvement considered should be consistent with the *Pedestrian Safety Guidelines*. Intersection crossing improvements can range from lower-cost installations such as countdown signals to higher cost improvements such as pedestrian bulbouts and refuge islands.

Midblock Crossings

Midblock crossings provide important linkages in the pedestrian network where there is a high crossing demand or where intersection crossing locations are widely spaced. According to the *Pedestrian Safety Guidelines*, mid-block crossings should be marked where sufficient demand exists, where there are no nearby alternate crossings, and where safety is not a concern (see text on right):

Where mid-block crosswalks are installed, the standard design should have a high-visibility pavement treatment with an "advance yield" line in advance of the crosswalk.

Proposed Project Ranking Methodology

The need for new or improved street crossings is based on several factors, including pedestrian safety, daily roadway traffic, average vehicle speed, and existing crossing length. Because data for several of these areas is not readily available citywide, this methodology proposes using collisions as the first step for identifying candidate street crossing locations. A more detailed field verification process is

proposed to select, evaluate, and design specific crossing projects based on additional evaluation criteria (see Figure 5.9 on right).

Street crossing improvement projects are proposed to be developed according to the following steps:

- **Identify Candidate Sites**: Candidate site identification includes using the Pedestrian Demand Score and collision statistics to determine a collision index for high-risk pedestrian street crossings. The collision index is a rough collision "rate" developed by dividing average number of collisions over the past seven years by each street segment's Pedestrian Demand Score. The candidate list of high-risk street crossings would also be supplemented by citizen requests for crossing improvements at specific locations.

- **Screen Tests**: Screen tests include review of aerial photographs and field verification. Performing a field review of candidate street crossings will help with gathering of relevant data (such as roadway volumes, traffic speeds, crossing distances, pedestrian crossing volumes) and identifying potential design constraints. For mid-block crossing locations, a review of block lengths and estimated pedestrian crossing demand may also be appropriate.

- **Prioritize Locations**: Perform a field review of highest ranking street segments/intersections to determine potential crosswalk locations. Things to consider in assessing highest priority street crossing projects could include a cost/benefit analysis combined with the Pedestrian Demand Score or the expected safety benefit to improvements (such as change in pedestrian LOS).

- **Develop Improvements:** Appropriate crossing enhancements should be designed after projects have been prioritized. This includes developing plans and detailed estimates of the cost to construct. The level of improvement should be consistent with the level of pedestrian activity and the criteria in the *Pedestrian Safety Guidelines*.

- **Deliver Project**: The final step of the street crossings process will be to construct pedestrian crossings.

A prioritized list of street crossings projects will be developed as part of the next steps integrating this process with the TPG.

Figure 5.9: Street Crossings Project Flow Chart

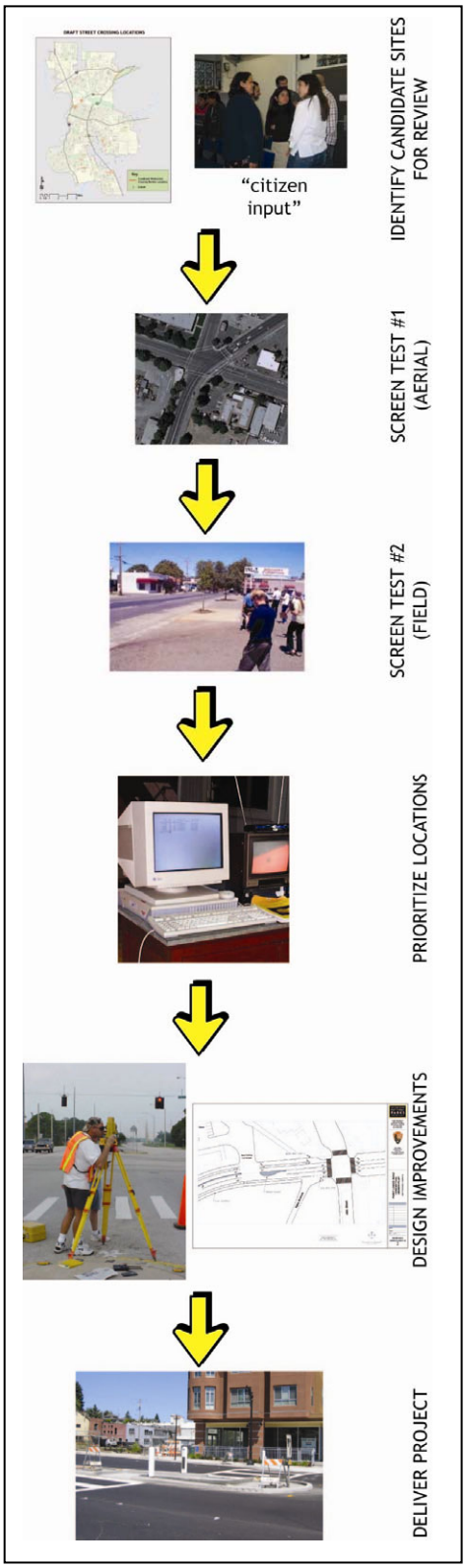
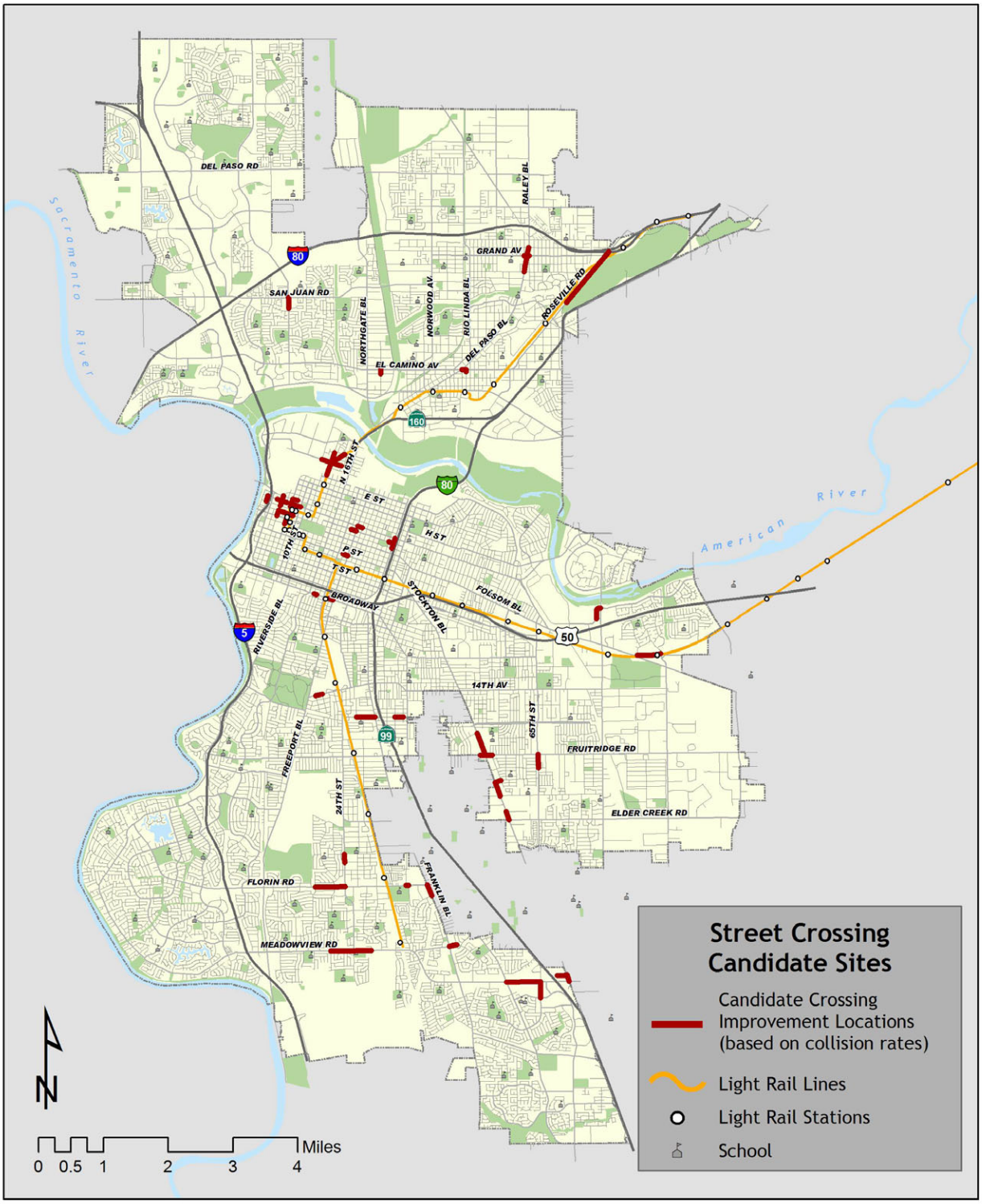


Figure 5.10: Candidate Street Crossing Review Locations



FUNDING

Pedestrian projects will be funded either as stand-alone projects that specifically target pedestrian improvements or as part of a larger capital improvement project. In the City's Capital Improvement Program (CIP) documents for Fiscal Years 2005 and 2006, the City programmed an annual average of approximately $36 million toward transportation capital improvement projects and maintenance activities. This funding generally consists of local, state, and federal funds as outlined above.

STAND-ALONE PROJECT FUNDING

Approximately 17-26% of the City's transportation CIP (Construction and Maintenance) budget is programmed to alternate modes only (Bicycle and Pedestrian) projects, with the majority being pedestrian-related.[5] In a typical year, the majority of the work consists of the City's annual obligation required by the *Barden v. City of Sacramento* Settlement Agreement. It also consists of programs (such as the *Pedestrian Safety Program* and the Captain Jerry Safety Program) and specific pedestrian projects (such as the Tower Bridge Bike/Pedestrian Improvement project).

In determining the amount available for stand-alone projects, it is assumed that funding currently programmed toward the City's settlement agreement or existing pedestrian programs will not change. It should be noted that it is expected that, where possible, pedestrian projects consistent with the City's settlement agreement may also be consistent with the *Pedestrian Master Plan* thereby increasing the net funding for implementing *Pedestrian Master Plan* PIP projects. It is also recognized that grant funds will address eligible projects and that receiving these funds involves a regional or state-wide competitive process. Funding received through these sources may vary from year to year.

Table 5.4 shows estimates of possible funding revenue from the most significant funding sources. The table reveals that the amount of funds available for pedestrian projects is estimated to range between $700,000 and $1.8 million annually given the current levels of expected revenues. Appendix H contains a full discussion of available and potential funding sources for pedestrian projects.

[5] Based on a review of the 2005 and 2006 CIP

Table 5.1: Funding Estimates for Stand-Alone Pedestrian Projects

Funding Source	Estimated Annual Amount Local Funds	Estimated Annual Amount Grant Funds
Measure A[1]	$300-$400K	
Redevelopment Programs[2]	$0-$65K	
Regional Bicycle and Pedestrian Program[3]		$100-$200K
SACOG Community Design Program[3]		$300-$600K
Safe Routes to School Program		$0-$500K
Total	**$300-$465K**	**$400K-$1.3M**

Source: MIG & City of Sacramento, 2006

Notes:

1 This is in addition to existing alternate modes programs shown in the FY 05 and 06 CIP.

2 The estimate assumes that five percent of this funding source will be spent on pedestrian improvement projects.

3 It is assumed that the City of Sacramento will receive a fair share amount from these regional programs based on population and that fifty percent will go toward pedestrian improvements.

4 Maximum total project cost eligible for the Safe Routes to School Program.

FUNDING FOR PEDESTRIAN PROJECTS AS ROUTINE ACCOMMODATION

In addition to stand-alone alternate modes projects, the City of Sacramento, as a matter of practice, incorporates alternate modes elements into most capital improvement projects. Examples of projects include roadway reconstruction, widening, and extensions; bridge rehabilitation and replacement; streetscape improvements; neighborhood traffic calming projects; and intersection improvements. Alternate mode elements that are considered include street lighting; sidewalk construction and repair; curb ramps; crosswalks; signalized crossings; and on-street bike lanes.

When considering pedestrian improvements in stand alone projects and other capital improvement projects, it is estimated that currently the City programs approximately 23-33 percent of its overall Transportation CIP to alternate modes improvements. It is expected that when implementing pedestrian improvements with other capital improvement projects, these improvements would be consistent with the Pedestrian Master Plan where possible thereby increasing the net funding for implementing Pedestrian Master Plan projects.

NEXT STEPS

As noted above, implementation of the *Pedestrian Master Plan* includes document and process updates (as noted in the Goals and Policies section) as well as physical improvements to the pedestrian environment.

The approach to identifying and prioritizing physical improvements is presented through the Pedestrian Improvement Process. Document and process updates were noted in Section IV and are described in greater detail in the Pedestrian Master Plan *Implementation Guide* (Appendix A).

Next steps are outlined in the "to do" list in the following table. The list is divided into accomplishments (i.e. tasks the City has recently completed or are nearly complete), short-term actions, and mid/long-term actions.

Table 5.2: Sacramento Pedestrian Plan "To Do" List

Task	Status
Accomplishments	
Develop and implement Neighborhood Traffic Management Program	Underway
Prepare Bikeway Master Plan	Complete
Implement (as resources permit) Bikeway Master Plan	Underway
Prepare American's with Disabilities Act (ADA) Transition Plan	Complete
Implement ADA improvements	Underway
Develop Pedestrian Safety Guidelines	Complete
Create Pedestrian-Friendly Street Standards	Complete
Institute a Streetscapes / Urban Design Capital Improvement Program	Complete
Incorporate pedestrian-friendly practices into City standards	Complete
Develop Riverfront Master Plan	Complete
Implement Riverfront Master Plan	2006 +
Implement Education Programs (Captain Jerry, 50+ Wellness, Driver Awareness, etc.)	Complete
Short-Term Actions	
Adopt Smart Growth Implementation Guide	Underway
Expand pedestrian-friendly development review practices	2006
Amend General Plan to improve pedestrian considerations	Underway
Develop / Implement Pedestrian Path of Travel Strategies Around	Activities
Construction Activities	Underway
Adopt Pedestrian Improvement (sidewalk) Program (PIP)	2006
Implement Top Priority Sidewalk projects	2006 +
Complete development of the Street Crossings Improvement Program	2006
Implement Top Priority Street Crossing projects	2006 +
Mid and Long-Term Actions	
Update Transportation Programming Guide	Beyond 2006
Update Design and Procedures Manual	Beyond 2006
Review Pedestrian Safety and Access Needs for Seniors	Beyond 2006
Form Partnerships for Pedestrian Awareness and Education	Beyond 2006
Continue to Implement Top Priority Sidewalk Projects	Beyond 2006
Continue to Implement Top Priority Street Crossing Projects	Beyond 2006

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