SANTA FE METROPOLITAN
PEDESTRIAN MASTER PLAN

PRODUCED FOR THE SANTA FE METROPOLITAN PLANNING ORGANIZATION

design office . AOS ARCHITECTS

AUGUST 13, 2015

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PEDESTRIAN MASTER PLAN

A Component of the Santa Fe Metropolitan Transportation Plan 2015 - 2040

Prepared for:

SANTA FE METROPOLITAN PLANNING ORGANIZATION

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August 13, 2015

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ACRONYM LIST

AADT	Annual Average Daily Traffic
AARP	American Association of Retired Persons
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
APA	American Planning Association
APS	Accessible Pedestrian Signal
BTAC	Bicycle and Trails Advocacy Committee
CDBG	Community Development Block Grant
CDC	Center for Disease Control
COLTPAC	County Open Lands, Trails, and Parks Advisory Committee
DOT	Department of Transportation
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
fps	Feet per Second
FTA	Federal Transit Administration
GIS	Graphic Information System
HAWK	High Intensity Activated Crosswalk
IAIA	Institute of American Indian Arts
IBC	International Building Code
IMBA	International Mountain Biking Association
ITE	Institute of Traffic Engineers
LFMC	La Familia Medical Center
LOS	Level of Service
LPI	Leading Pedestrian Interval
MAP-21	Moving Ahead for Progress in the 21st Century Act
MCD	Mayors Commission on Disabilities
MMLOS	Multi Modal Level of Service
MPA	Metropolitan Planning Area
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
MUTCD	Manual of Uniform Traffic Control Devices
NCRTD	North Central Regional Transit Division
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NMDOT	New Mexico Department of Transportation
PMP	Pedestrian Master Plan
PROWAG	Public Rights-of-Way Accessibility Guidelines
QR code	Quick Response code
REACH	Racial and Ethnic Approaches to Community Health
ROW	Right of Way
SFCC	Santa Fe Community College
SFUAD	Santa Fe University of Art and design office
SGMP	Sustainable Growth Management Plan
SR2S	Safe Routes to Schools
SWC	Southwestern College
TAP	Transportation Alternatives Program
TCC	Technical Coordinating Committee
TOD	Transit Oriented Development
TPB	Transportation Policy Board
WALC	Walkable and Livable Communities Institute
WFC	Walk Friendly Community

EXECUTIVE SUMMARY

Walking is well-known as the oldest form of transportation with many benefits: it is enjoyable, healthy, environmentally friendly, economically beneficial, and free.

Walking is especially important as a mode of transportation for children, older populations, and people who cannot afford or choose not to own and maintain personal vehicles. In Santa Fe, other populations who walk include tourists who are attracted to the City's historic center, where they can navigate the urbanized core by foot to visit cultural sites, landmarks, and other destinations.

Many areas in and around Santa Fe are traditionally walkable. In particular, areas within the historic core of the City as well as in surrounding newer planned residential neighborhoods have an established network of sidewalks and are walkable. A growing network of urban trails that connect to area destinations help make walking safer and enjoyable. Nevertheless, there are still gaps in the pedestrian network and stretches of roadways that either lack pedestrian facilities or are inhospitable to pedestrians. Many of these areas were developed after World War II in a manner that prioritized the automobile.

Improving the pedestrian environment and pedestrian experience is vital to providing a safe, convenient and direct pedestrian network; reducing dependency on the automobile; benefitting the environment; and encouraging community interaction.

The purpose of the Santa Fe Metropolitan Pedestrian Master Plan is to make Santa Fe a pedestrian-friendly community. The Plan provides strategies to increase the number of pedestrians by improving connectivity, safety, convenience and the attractiveness of the pedestrian environment.

The Pedestrian Master Plan addresses the following:

- identifying improvement needs and areas of critical concern
- developing a methodology for evaluating and ranking improvement projects
- providing policy recommendations to improve conditions for pedestrians
- outlining toolbox of best practices and design guidelines to implement in future roadway and sidewalk improvements
- presenting an implementation strategy

This Plan is the first Pedestrian Master Plan for the Santa Fe Metropolitan Planning Area (MPA). It encompasses a 426.6 square mile area including areas within the city limits, outlying rural areas, and nearby communities within the MPA.

By looking at a study area without a jurisdictional boundary defined by City limits, the plan is able to better address the inevitable transitions as rural areas become part of the City through annexation. It provides guidelines that work for pedestrians both in the rural condition and in areas that transform and develop into more populated semi-rural or suburban areas.

Although tourists are significant contributors to the local economy, Plan recommendations focus on improvements that dominantly benefit the residents of the City of Santa Fe, Santa Fe County, and the Pueblo of Tesuque.

The Santa Fe Metropolitan Pedestrian Master Plan will be updated every five years as needed to reflect changes in needs and conditions.

PLAN DEVELOPMENT

This Plan was a collaborative effort of the Santa Fe Metropolitan Planning Organization (MPO), a Working Group, and citizens who provided input at public meetings and other venues.

The planning process was guided by a Working Group representing special interest groups (American Association of Retired Persons - AARP, Santa Fe Public Schools, Bicycle and Trails Advisory Committee - BTAC, Chainbreaker Collective); local public planning, engineering, and health professionals; and included at-large members (City and County residents) and pedestrian advocates. This group met during the planning process and actively participated in reviewing the pedestrian demand and needs analysis, establishing a rating methodology, and reviewing pedestrian improvement recommendations.

Public input is an important component of this Plan. At the outset of the project, eight open houses held across the MPO area provided opportunities for public input to determine barriers and issues with existing pedestrian facilities. Multiple venues for public input included a project webpage with information on the project and upcoming meetings. A survey, completed by almost 900 people provided baseline information on pedestrian related issues.

Numerous existing pedestrian-focused plans and studies from other states and municipalities were examined as references for process, methodology, policy recommendations, and strategies for implementation. These documents provided a rich source of information for developing and refining recommendations in this Plan.

RECOGNITION

Santa Fe is nationally recognized as a tourist and recreation destination. With accolades in 2014 from various organizations that include designations such as #2 ranked City for Art Vibrancy [National Center for Arts Research], #2 ranked City in the Country with the Cleanest Air [American Lung Association], and the best small city to visit in America [Conde Nast], it is timely to pursue a designation as a pedestrian friendly city.

Much effort has been dedicated to establishing and promoting biking in the Santa Fe area with measurable results. The Santa Fe Metropolitan Bicycle Master Plan was completed in 2012. Santa Fe received a Silver 'Bicycle Friendly Community' designation from the American League of Bicyclists in 2013. In 2014, the International Mountain Biking Association (IMBA) awarded Santa Fe a Silver level IMBA Ride Center.

Walking has not benefitted from an organized group of advocates to encourage and support improvements. Forming an organized pedestrian advocacy group is a primary recommendation for the successful implementation of this plan.

Nationwide, a few rating systems exist to evaluate and rate communities for their walkability: WalkScore (see inset at right), and 'Walk Friendly Community' designations awarded by the University of North Carolina Highway Safety Research Center's Pedestrian and Bicycling Information Center. Santa Fe is poised to become a 'Walk Friendly Community' as the Plan is adopted and improvements are implemented. A walkable community benefits residents and commuters, attracts tourists and new residents, and boosts business and the local economy.

WalkScore (www.walkscore.com)

WalkScore calculates the walkability of a location based on proximity to public services such as stores, schools and parks. However, it is not an accurate rating system since it does not consider any other factors, such as the presence or quality of walking and cycling facilities (sidewalks, paths, crosswalks, etc.) or the ease of crossing streets (the presence of crosswalks, road widths, traffic volumes and speeds, etc.), or the quality of the pedestrian environment.

Santa Fe, NM
City average

25-49 Car Dependent (most errands require a car)

Santa Fe, NM
Downtown

70-89 Very Walkable (most errands can be accomplished on foot)

For comparison, some other city walkscores:

City	population	average walkscore	downtown walkscore
Santa Fe, NM	*67,947*	**36**	**81**
Boulder, CO	*97,385*	**56**	**90**
Charleston, SC	*120,083*	**34**	**93**

www.walkscore.com, 2015

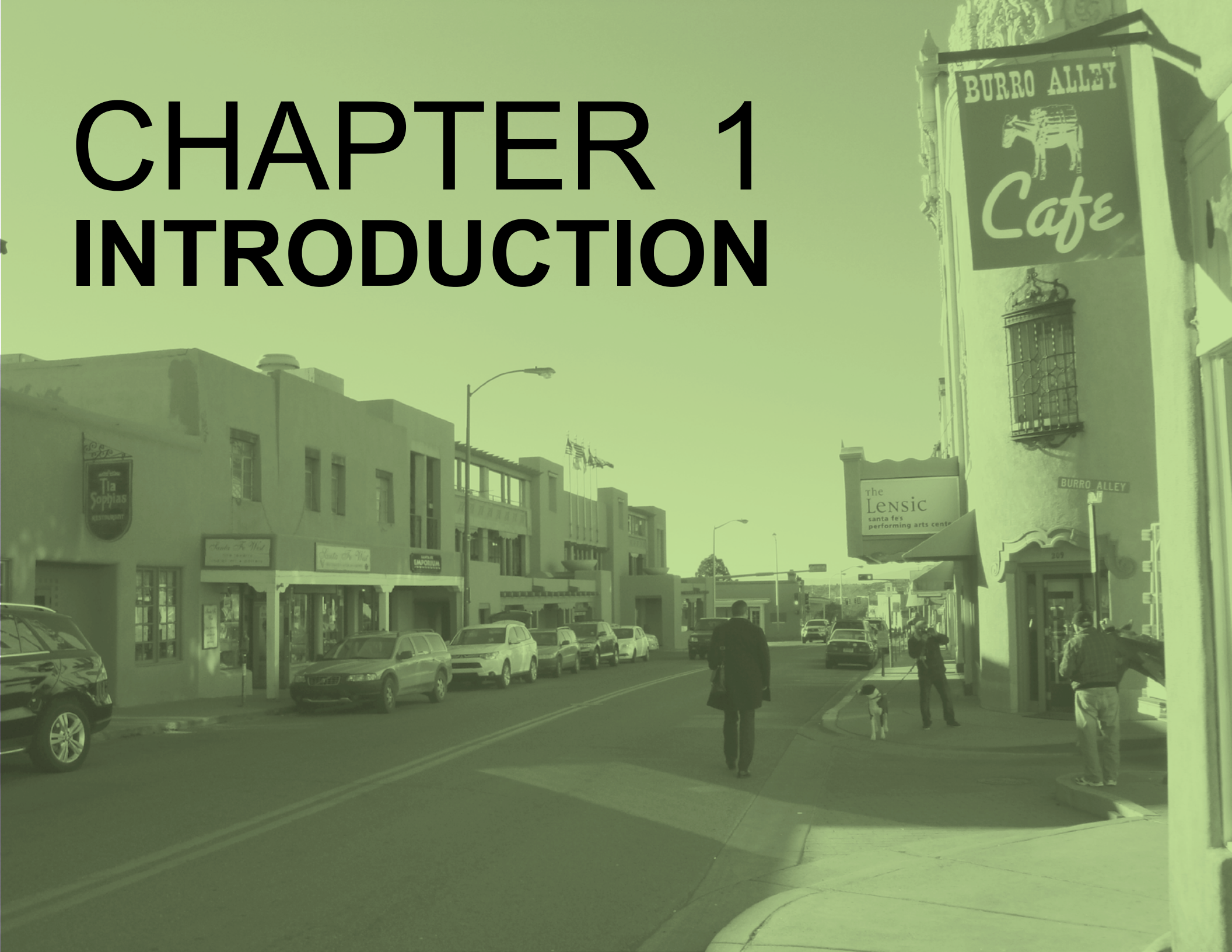
OUTLINE OF THE PLAN

The Santa Fe Metropolitan Pedestrian Master Plan supports a continued shift in thinking about the street environment that moves us from a car-centric approach to a multi-modal, comprehensive approach where pedestrians are not marginalized but accommodated and encouraged to walk in a safe and pleasing environment.

The Plan is organized into six chapters:

- *Chapter 1: Introduction* provides a context for the plan relative to national and local trends and establishes the vision and goals for the Plan.
- *Chapter 2: Plan Development* describes existing conditions for walking in the Santa Fe area, the public involvement process, and an overview of pedestrian area deficiencies and needs.
- *Chapter 3: Plan Recommendations* outlines a methodology for rating projects and presents areas of critical concern along major corridors and locations of needed improvements.
- *Chapter 4: Pedestrian Policies* reviews existing planning documents and recommends key policy changes for pedestrian facilities.
- *Chapter 5: Design Toolbox* makes recommendations for pedestrian facilities based on street type and provides a toolbox of design strategies for implementing pedestrian improvements based on best practices.
- *Chapter 6: Implementation* outlines a series of next steps to move the plan forward toward implementation.

CHAPTER 1
INTRODUCTION



1. INTRODUCTION

1.1 PROJECT BACKGROUND

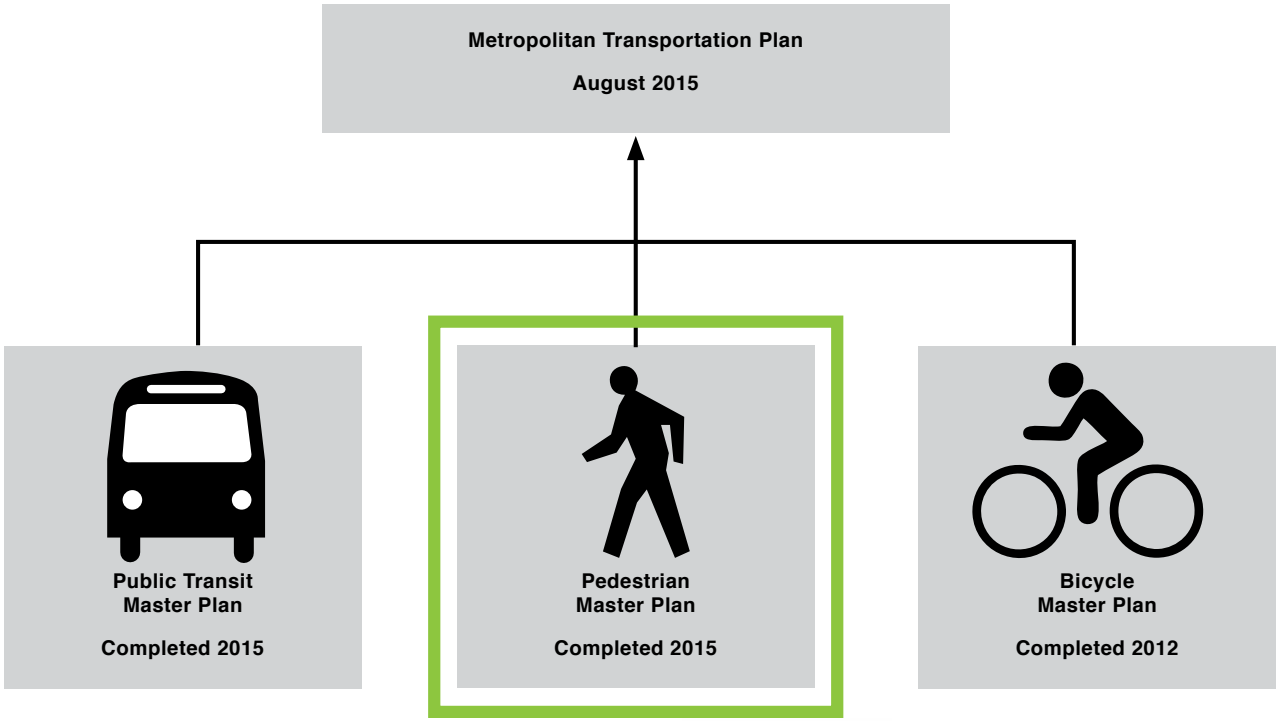
Metropolitan Transportation Plan
The 2015-2040 Santa Fe MPO Metropolitan Transportation Plan (MTP), updated every five years, provides an approach to transportation planning that includes multiple modes of travel: walking, biking, public transit, and driving. The MTP document will coordinate and integrate the following priority plans and establish a 25 year framework for improvements:

- Bicycle Master Plan
- Transit Master Plan
- Pedestrian Master Plan

The most important thing that the Santa Fe MPO can do to advance its goal of creating a robust multi-modal transportation system is to continue to consider the needs of pedestrians and cyclists in all projects and to permeate a balanced, multi-modal approach to transportation throughout the City and County organizations.

Residents and tourists walking in downtown Santa Fe.

Figure 1.1: Metropolitan Transportation Plan Components



Pedestrian Master Plan
As one document of several that will inform the Metropolitan Transportation Plan, a comprehensive Pedestrian Master Plan will guide the development of the pedestrian environment within the Santa Fe Metropolitan Planning Area. The Pedestrian Master Plan will establish a 25 year framework to improve the pedestrian environment and increase opportunities for walking as an active mode of transportation and recreation that is convenient, comfortable, safe, inclusive, and accessible by all. It will detail existing conditions, provide a comprehensive public input process, identify trends as they relate to pedestrian activity, and recommend project improvements and policy changes to further advance pedestrian mobility for all.

This document is the first Pedestrian Master Plan to be developed within the City of Santa Fe, Santa Fe County, and Santa Fe Metropolitan Planning Area.

1.2 NATIONAL TRENDS

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. The term “pedestrian” refers to a person moving from place to place on foot and/or with the use of an assistive mobility device, such as a wheel chair or guide dog.

Within recent years, the United States has seen a growing trend in walking as a form of transportation. As Millennials (born after 1990) elect to live without cars, they are moving closer to where they work and into neighborhoods with walkable destinations. As alternative modes of transportation become more commonplace within our communities, it is important to use best practices to improve pedestrian facilities and safety.

Commuters crossing Guadalupe Street at a signalized pedestrian crossing. During yearly legislative sessions, many commuters arrive by train and walk east to the NM State Capitol building.

pedestrian
a person moving from place to place, on foot and/or with the use of an assistive mobility device (when that person has a disability and/or medical condition).

walking or to walk
movement of a pedestrian

pedestrian facility
Infrastructure that is designed specifically for use by a pedestrian. These include:
- *Sidewalks*
- *Crosswalks (signalized and non-signalized)*
- *Shared use paths / Urban Trails*

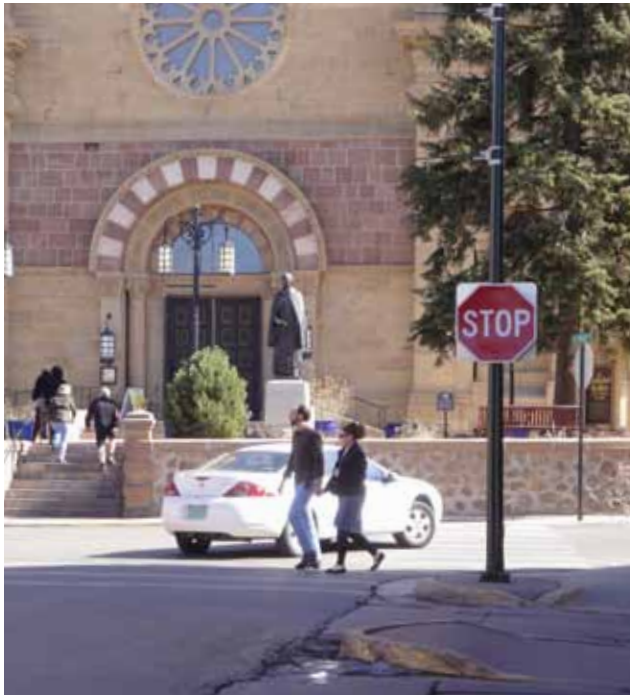
Highway shoulders are not specifically designated and designed for use by pedestrians, and are therefore not considered pedestrian facilities in the context of this Plan.

crosswalk
(1) that part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway; and
(2) any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface; (66-1-4.3. Definitions O.)

Pedestrian facilities are a critical part of a well-functioning transportation system. Every traveler is a pedestrian at some point during his/her trip, if only when traveling to and from motorized vehicles. The extent to which travelers depend on pedestrian facilities varies—some travelers drive most of the time, others use public transportation, and still others cannot or choose not to drive, and therefore depend more heavily on the pedestrian system.

Regardless of the needs of individual travelers, all users of the transportation system benefit from a safe, well-connected, and well-maintained pedestrian network.

Tourists walking through the historic Downtown Santa Fe



BENEFITS OF WALKING

- **Health benefits**
  Individuals who are physically active tend to live longer and have lower risk for heart disease, stroke, type-2 diabetes, depression, and some cancers; lower health care costs; and improved wellness at all ages.
- **Quality of life benefits**
  Better conditions for walking have intangible benefits to the quality of life. Facilities like rail trails and safe places to bike and walk attract tourists. 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, individuals with disabilities, seniors, and those unable to afford the cost of owning and operating a vehicle or bicycle. 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 in the United States. Traffic fatality rates tend to be lesser in regions with higher rates of walking and bicycling.
- **Economic benefits**
  Walking is the most affordable form of transportation. Building new facilities for bicycling and walking can be a boost for the economy. In addition to new jobs, impacts on local economies include rising property values, increased business at local establishments, improved worker productivity, and savings from reduced traffic congestion.
- **Transportation benefits**
  Many trips are short enough to be accomplished by walking. More than a quarter of trips are completed within one mile. *See 'Average Trip Length' below.* 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. A shift toward more walking can lead to improved public health through active transportation and could decrease overall the amount of carbon emissions. 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.

AVERAGE TRIP LENGTH

50% 3 mi. or less

27% 1 mi. or less (15-20 minute walk)

67% of these short trips are taken in private motorized vehicles

Source: National Household Travel Survey, 2009

"States with higher rates of walking and bicycling to work also have a higher % of the population meeting recommended levels of physical activity, and have lower rates of obesity, high blood pressure, and diabetes." (2014 Study)

1.3 SANTA FE TODAY

With a population of over 80,000, the City of Santa Fe is the cultural and governmental center of New Mexico. As New Mexico's Capital, Santa Fe is center stage for governmental policy for the entire state. A dynamic arts and cultural sector, an expanding public transportation system (including regional transit and extensive commuter trail system), and growing business, educational, and medical facilities serve the needs of the northern half of the state.

As Santa Fe's population grows and attitudes towards alternative modes of transportation shift, pedestrian focused initiatives are gaining traction *(see Figure 1.2).* Groups are focusing on creative solutions to address areas that are restrictive to pedestrian activity and are high tourist areas. Through prototyping and working with communities, the conversation of improving pedestrian facilities and safety has begun.

Figure 1.2: Pedestrian Related Initiatives

Parallel Initiatives

City of Santa Fe

City of Santa Fe Transition Plan
Santa Fe Walks
RE:MIKE
Prescription Trails Program
REACH Program (La Familia Medical Center)

Neighborhood Associations

Tierra Contenta Sidewalk Angels
Cerrillos Road / Alta Vista Street / Luisa Street / Cordova Road Pedestrian Road Safety Assessment

Creative Santa Fe

Walk [Santa Fe]
Jeff Speck Lecture / Workshop

Pedestrian Network

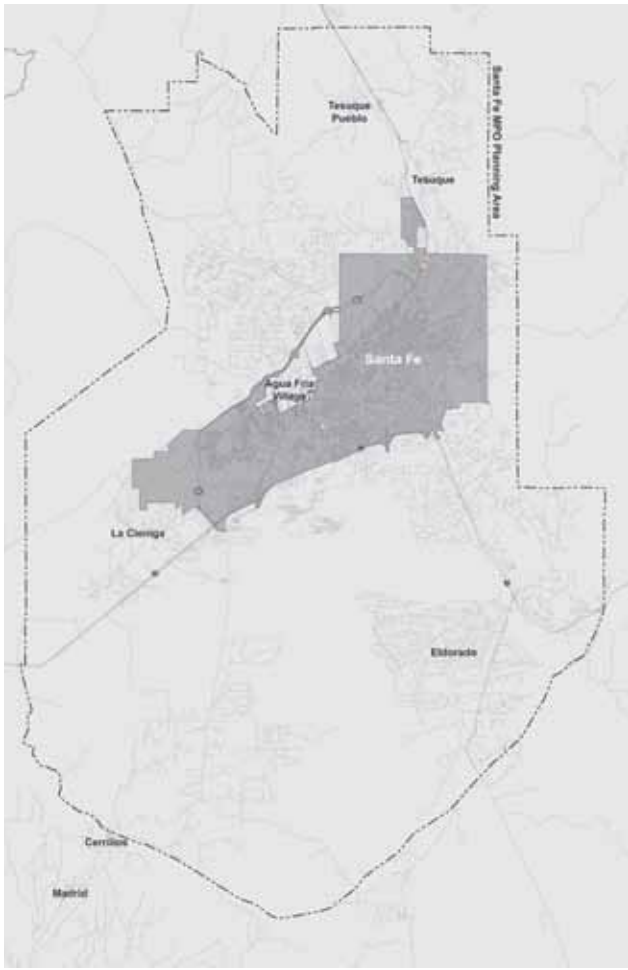
The Santa Fe Metropolitan Planning Area is comprised of historic and modern roadways that range from 6 lane highways to single lane cart paths that have been paved, to dirt roads. This sometimes makes upgrading streets to accommodate pedestrian facilities challenging. Single lane cart paths and dirt roads are often lacking the infrastructure needed to support sidewalks and in many cases do not hold the traffic volumes that require separate facilities.

In residential areas, property owners often build fences and walls along to the edge of the sidewalk or roadway. This poses challenges in sidewalk maintenance and implementation of new sidewalks. Many times the sidewalks are neglected by property owners and become over run with weeds. In Santa Fe property owners are required to maintain and replace sidewalks on their property.

Large volume, high speed roadways also pose challenges to pedestrian safety and design. Pedestrian facilities must be larger and buffered in these areas to protect users. Crossings are often very wide leaving pedestrians vulnerable. Many of the roadways within the Planning Area are posted 35 mph or higher. This is the threshold for pedestrian survival when struck by a vehicle. Posted speeds are on average 5 mph slower than actual speed.

Beyond the City limits sidewalks are not required along roadways. As the City annexes portions of the County, it creates areas of discontinuous sidewalks.

Figure 1.3: Santa Fe MPO planning area - 2014



Santa Fe, NM
area = 52.5 sq. mi
population = 81,198 (2014)

Santa Fe MPO planning area
area = 426.6 sq. mi
population = 116,386 (2013)

Pedestrian Laws

Pedestrians must generally cross at crosswalks. When crossing at a traffic signal pedestrians must obey the signal. Pedestrians have the right-of-way when crossing within a crosswalk, unless the pedestrian suddenly leaves the curb and enters the path of a vehicle that does not have time to react or stop. Pedestrians may cross a roadway at any point but must yield to all vehicles. However, pedestrians can only cross in a marked crosswalk between adjacent intersections with traffic controls. Pedestrians must use a sidewalk when provided. When there is no sidewalk pedestrians should walk on the left side of a roadway facing oncoming traffic, when practical.

Vehicles shall yield the right-of way to a pedestrian crossing a roadway within a crosswalk. Drivers shall exercise due care to avoid a collision with a pedestrian on any roadway and will sound the horn when necessary, and exercise extra precaution when a child or confused or incapacitated person is in the roadway. Vehicles must stop before emerging from an alley or private driveway. Vehicles emerging from any alley, driveway, or building within a business or residential district must stop prior to the sidewalk and yield the right-of-way to any pedestrian.

For excerpt of State pedestrian laws see Appendix B

Pedestrian Oriented Populations

The Santa Fe Metropolitan Planning Area attracts between 1 and 2 million visitors each year. The combination of day visitors and overnight visitors increases the Planning Area population by 10-20 times, especially during the summer months. Santa Fe is also a retirement destination. Almost 20% of the Planning Area population is over 65 years of age. In addition to the elderly population and tourist influx, approximately 20% of the population is under the age of 18. Together, the elderly and youth comprise almost half of the population of the Planning Area. These pedestrian oriented populations are more likely to rely on others and alternative forms of transportation to traverse the city.

Commuters walking to the South Capitol Rail Runner Station.

Safe Routes to School

Walking/biking to and from school can contribute towards the development of life-long habits and community-wide norms of incorporating physical activity into daily routines.

The most prevalent barriers to children walking to school are the distance to school and traffic related dangers. It may not always be possible to attend a school close enough to walk, but roadways around schools can be designed to protect children walking and biking to school. Parents driving children to school comprise up to 25% of morning traffic (*SRTS "The Decline of Walking and Bicycling", 2003 Parisi Associates study, 2001 Study Australia*) and less walking/biking results in more vehicle traffic. This is a cycle that spawns increased congestion around schools and decreases pedestrian safety.

Santa Fe has 34 schools within the Santa Fe Public Schools system, 22 private schools, and 5 Colleges / Universities. These institutions are located throughout the city and adjacent communities.

Commuters

Santa Fe has a large number of commuters that travel regionally on a daily basis. Many of these commuters travel on the New Mexico Rail Runner Express, a commuter train that has multiple stops from Belen to Santa Fe. Commuters also travel via the New Mexico Park and Ride Shuttles and North Central Regional Transit District buses. Upon arriving in Santa Fe, commuters either walk or use local buses to complete their commute.

Local residents also use the Santa Fe Trails buses to travel to work and other destinations throughout the city, walking or biking to stops.

1.4 PURPOSE

The Santa Fe Metropolitan Pedestrian Master Plan presents a set of goals and strategies as well as a framework for improving the pedestrian environment within the Santa Fe Metropolitan Planning Area and will serve to accomplish the following:

- Detail existing sidewalk system conditions, review policies for sidewalk maintenance and reconstruction, assess current design guidelines and policies that serve to enhance and promote Santa Fe as a pedestrian friendly community.
- Provide clear project and policy recommendations that advance the ability of all citizens and visitors to walk throughout the community in a safe, convenient, fun and healthy manner.

The Pedestrian Master Plan sets the groundwork for establishing a comprehensive vision for improving pedestrian conditions. Through public outreach and physical conditions analysis, it outlines what areas the public perceives as needing improvements and areas in need of greater study *(see Chapter 2)*.

Project Identification

This plan identifies and rates over 250 projects that address pedestrian safety and access through the development and upgrade of sidewalks, urban trails, crossings, and intersections. It also identifies 10 areas of critical concern recommended for further analysis and improvement. These projects and areas of concern were identified and rated through a technical analysis and public input process, and vetted with the Pedestrian Master Plan Working Group, the MPO Technical Coordinating Committee, and various other groups within the City and County. **Chapter 2** explains the project identification, evaluation and rating process; **Chapter 3** outlines projects and areas for improvement; and **Chapter 6** explains the implementation of the plan.

Pedestrian Policies

The plan also reviews existing policies for development of pedestrian facilities. City and County employees have helped identify policies that need to be reviewed. **Chapter 4** reviews local planning documents and specific policies and gives recommendations for improvement.

Additional Benefits

A pedestrian-friendly environment will benefit communities throughout the Planning Area by providing options for residents to incorporate more activity into daily life. Studies show that provision of infrastructure for walking and bicycling has a direct influence on improving public health, particularly by decreasing levels of obesity and diabetes. Providing pedestrian infrastructure offers transportation choices for residents and visitors that reduce reliance on single-occupant vehicles, which can improve energy efficiency in travel and lessen vehicle emissions.

Crossing Guard escorting students across Saint Francis Drive at W. Alameda Street

1.5 VISION + GOALS

The vision and goals were developed through integrated and coordinated planning efforts and an iterative public input process. This vision was crafted with nine goals relating to safety, equity, health, social, multi-modal transportation, economic sustainability, connectivity, land use and site design, and environment.

Crossing guard patrolling mid-block crossing on a busy street.

Vision

The residents of Santa Fe envision a community that invites people of all ages and abilities to walk for enjoyment, exercise, and daily transportation by providing a safe, convenient, and attractive pedestrian environment.

Goals

safety

Improve pedestrian safety through well-designed facilities along and across roadways, and by promoting safe driving, walking, and bicycling behaviors.

equity

Provide accessible pedestrian facilities for all through equity in public engagement, service delivery, and capital investment.

health

Develop a pedestrian network that promotes active, healthy lifestyles and sustains a healthy environment.

social

Enhance social interactions by creating inviting public places for people.

multi-modal transportation

Develop high-quality pedestrian facilities that provide access to all other modes of transportation.

economic sustainability

Enhance economic vibrancy by creating safe and aesthetically pleasing walking environments with easy connections to commercial centers and attractive and enjoyable public places.

connectivity

Provide a citywide network of accessible, efficient, and convenient pedestrian infrastructure that connects homes, jobs, shopping, schools, services, and recreation areas using sidewalks, crosswalks, shared-use paths, bridges, tunnels, and signage.

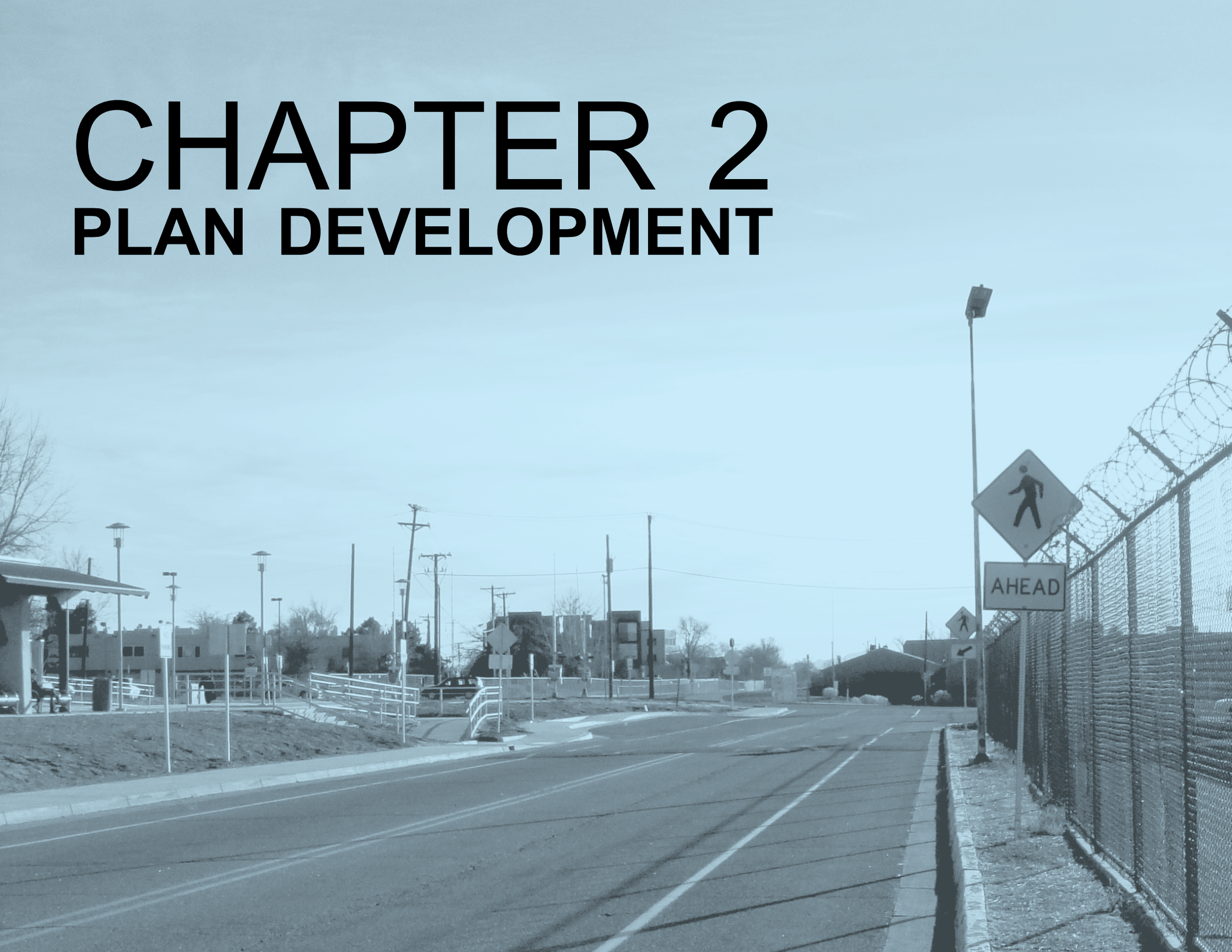
land use and site design

Employ land use planning and site design requirements that are conducive to pedestrian travel and result in a mode shift away from automobile trips to walking trips.

environment

Improve the environment with landscaped pedestrian corridors that provide shade, improve air quality, encourage walking, and reduce CO2 emissions.

CHAPTER 2
PLAN DEVELOPMENT



2. PLAN DEVELOPMENT

2.1 PLAN DEVELOPMENT PROCESS

The Master Plan drew upon some of the best resources in pedestrian planning to produce a document unique to the Santa Fe Metropolitan Planning Area. A critical component of the plan was the active involvement of Planning Area residents as well as local advocates, neighborhood leaders, and representatives from the City, County, and regional agencies. This section describes the process the project team undertook to ensure the process was transparent, inclusive, and provided interested stakeholders a variety of opportunities to be involved in generating the Plan.

The master planning process occurred on two levels over the course of 1.5 years: data collection / analysis and public input. The combination of public input and data collection / analysis has determined the evaluation and ranking of pedestrian improvement projects.

Data Collection

The project team collected data from the City, County, Metropolitan Planning Organization, Mid-Region Council of Governments, State, New Mexico Department of Transportation, and U.S. Census to gain an understanding of the pedestrian environment throughout the Planning Area. Although data covering the entire Planning Area was collected from a variety of entities, not all data for a comprehensive analysis were available at the time of study. With this in mind, the plan recommends new data collection in anticipation of the 5-year plan update and a reanalysis of the data as it becomes available.

Existing Conditions

The Pedestrian Master Plan study began with an investigation of existing physical conditions that serve as barriers to walking. A 1/4 mile or five minute walking distance buffer zone established around schools and transit stops served as the initial study area boundary. Within the study area, the design team documented the extent of existing sidewalks and urban trails, examined recorded pedestrian vehicle crash data and noted posted traffic speeds.

Public Input

The project team conducted two series of public meetings (*November 2013 and September 2014*), and made available a pedestrian survey to gain public comment throughout fall 2013. Meetings occurred at locations throughout the City and areas within the County to capture a wide range of residents. The survey was available online and at all public meetings in both English and Spanish.

Working Group

In order to ensure a high level of input from specific stakeholder groups with interests at the neighborhood, City, and County levels, a Working Group was formed summer 2014. The Working Group was charged with determining project evaluation criteria, assigning relative weights to criteria, and providing input to guide project rating and prioritization.

Pedestrian Analysis

In addition to public input, the initial mapping, and Working Group meetings, an analysis of pedestrian demand potential and pedestrian infrastructure deficiencies was conducted. The analysis indicators include, but are not limited to pedestrian oriented populations, neighborhood destinations, sidewalks, vehicle crashes, posted speed limits, street lighting, and designated school hazard zones. The pedestrian demand potential and pedestrian infrastructure deficiencies combine to show the areas with the highest pedestrian demand and lowest walkability.

2.2 EXISTING CONDITIONS

2.2.1 STUDY CONTEXT

As a starting point for the study, two prominent types of destinations distributed across the planning area that serve local residents were identified: educational institutions and public transit system stops. A 1/4 mile (5 minute walking distance) offset from these destinations established the study area buffer (see *Figures 2.1 and 2.2)*. The 29.1 square mile study area comprises more than half of the land within the city limits. The study area serves as a basis for examining existing pedestrian infrastructure where it can best serve Santa Fe's pedestrian oriented populations.

The study area includes the following institutions and public transit systems:

- **Schools**
  - 34 Public Schools
  - 22 Private Schools
- **Colleges / Universities**
  - Santa Fe University of Art and Design (SFUAD)
  - St. John's College
  - Institute of American Indian Arts (IAIA)
  - Santa Fe Community College (SFCC)
  - Southwestern College (SWC)
- **Public Transit**

  Regional Transit
  - New Mexico Rail Runner Express — Train
  - New Mexico DOT Park + Ride — Bus
  - North Central Regional Transportation District — Bus

  Local Transit
  - Santa Fe Trails — Bus
  - Santa Fe Pick-Up — Bus

Figure 2.1: Study Area - Fall 2013

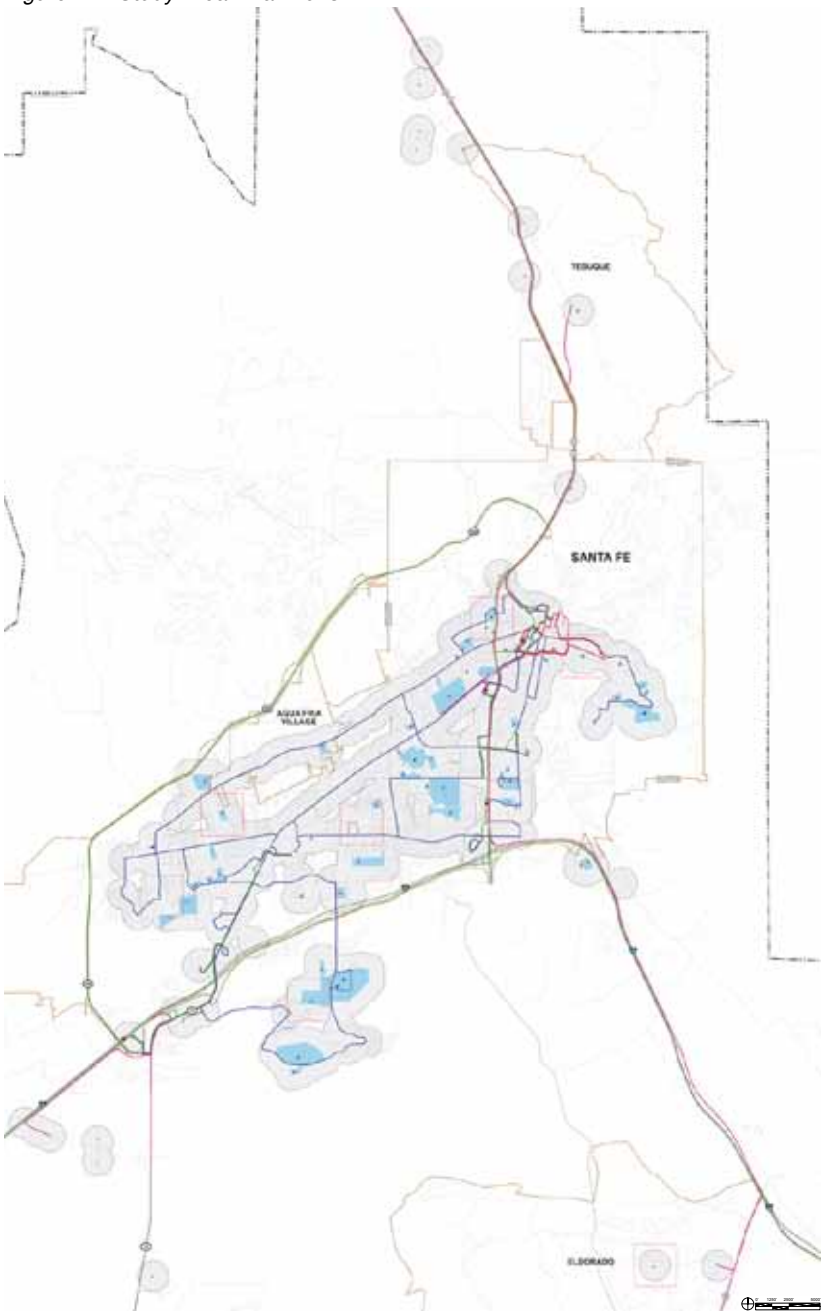
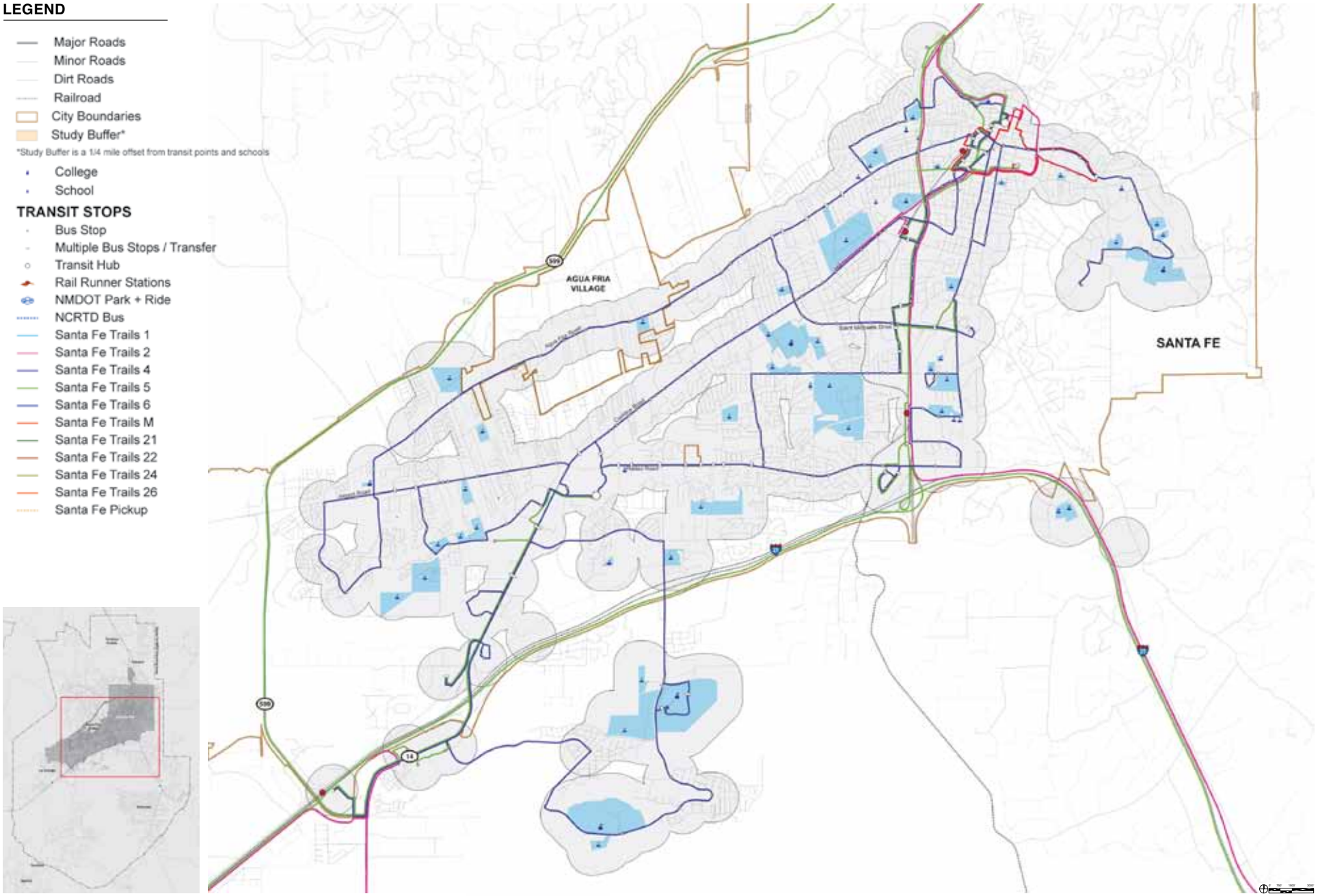


Figure 2.2: Study Area - Fall 2013



2.2.2 SANTA FE ROADWAYS

Over the last 400 years, Santa Fe has gradually transitioned from a small pueblo community to the capitol city it is today. Currently a predominantly car-oriented city, Santa Fe is marked by a series of development patterns that define its transportation history. The evolution of Santa Fe's circulation network has followed the city's growth, advances in transportation vehicles, and changes in road design requirements.

The advent of sidewalks as paved routes separated from vehicular traffic occurred gradually. The original circulation network of narrow dirt roads were shared by horses, carts, and pedestrians. Roadways were paved as motorized vehicles became more prevalent.

Gradually, old dirt roadways were paved in downtown urban areas. Paved sidewalks were added on both sides adjacent to existing property walls and building frontages, resulting in a network of narrow roadways. Dirt roadways in residential areas were slower to transition to paved surfacing. Often, paved sidewalks were not added to the roadway, due to lower densities within these neighborhoods and lower traffic volumes. Many dirt roadways still service residential areas within the city today and do not have separate paved sidewalks.

Newer urban and suburban roadways followed the requirements of local codes and included paved sidewalks alongside roadways. These road cross sections in planned communities typically were wider than adapted existing roadways.

Discrepancies in code requirements for roadway design between the City of Santa Fe and Santa Fe County is apparent when analyzing locations of gaps in sidewalk connectivity. Typically, County roadways do not require sidewalks. As the urban

Existing Conditions: Historic Dirt Roadway

Existing Conditions: Rural Roadway

Existing Conditions: Historic Paved Roadway

Existing Conditions: Suburban Roadway

Existing Conditions: Historic Paved Roadway with Sidewalks

Existing Conditions: Urban Roadway

Existing Conditions: Path

Existing Conditions: Obstructed Sidewalk

Existing Conditions: Sidewalk

Existing Conditions: Discontinued Sidewalk

Existing Conditions: Urban Trail

Existing Conditions: No Designated Sidewalk

boundary expands and new areas are annexed into the city, gaps in sidewalk connectivity and the construction of new sidewalks for a comprehensive system is necessary.

As roadways were paved and sidewalks installed, in some cases existing utility poles, utility boxes, trees, etc. obstructed sidewalks. These obstructions are still visible today and prove difficult to adjust to allow for adequate clearance.

Accessible curbs, now a standard requirement for new intersections and driveway cuts, are slowly being retrofitted on existing older paved sidewalks.

It is important to note that roadways serve as transportation corridors for vehicles as well as pedestrians. Roadway designs should always consider all modes of travel.

Urban Trails

A network of urban trails are being constructed alongside major drainageways and rail lines to provide an off-road alternative network for pedestrians and bicyclists. These trails are typically paved 8'-10' trails that connect neighborhoods, parks, and major destinations.

Pedestrian Connections - Property Internal

While this plan focuses primarily on the pedestrian network within the road right-of-way, safe and clear connections from this system to destinations / entrances internal to properties is just as vital to the pedestrian environment.

2.2.3 SIDEWALK INVENTORY

Sidewalks and urban trails are the foundation of the pedestrian network in Santa Fe. In 2013, a sidewalk inventory was conducted to provide a database of the existing pedestrian network within the study area. The inventory documents existing sidewalks on both sides of the street (347 mi.), one side of the street (57.6 mi), and missing sidewalks (255.3 mi.). The inventory also includes existing off-road paved urban trail segments (69.6 mi.). The sidewalk inventory mapping reveals gaps within the network that impair connectivity and may impact the public's willingness to walk. The inventory does not examine the condition of the sidewalk, obstructions, or compliance with ADA accessibility requirements.

For purposes of this study, a sidewalk is defined as a paved path within the road right of way at least four feet wide. A sidewalk is not a beaten dirt path, gravel path, shoulder of the roadway, or a path outside the right of way.

For the most part, the Santa Fe downtown area and newer designed subdivisions have good sidewalk coverage. Older and more rural residential areas with dirt roads, or roads that have been paved recently, do not have designated sidewalks. In addition, major roadways (eg. St. Francis / St. Michael's Drive overpass) constructed in the 1970's and 1980's lack sidewalks.

Gaps in the Santa Fe sidewalk network exist for a variety of reasons. Historic building styles left buildings and walls on the edge of the dirt street, used for walking and pulling carts. When the city upgraded the roadways to paved streets, often there was not sufficient space to include a sidewalk. Properties built within the county and later annexed into the city were not required to include a sidewalk at the time of construction.

Urban Trail Inventory

In addition to sidewalks, Santa Fe has an extensive and growing urban trail network. This network creates a secondary option that separates pedestrians and bicyclists from vehicular traffic. This network is comprised of major and minor paved trails. Major trails (22.1 mi.) are corridors that connect the city, running along the river, arroyos, and rail line. Minor trails (47.4 mi.) are neighborhood loops, park paths, and small spurs off the major trails.

Comparison to Other Municipalities

Santa Fe's sidewalk and urban trail coverage is not dissimilar to other communities of similar size and character.

Boulder, CO, with a population of 97,974, is similar in size and geography to the City of Santa Fe. Boulder has 456 miles of sidewalks and 69 miles of urban trails through out the city.

Charleston, SC, with a population of 120,550, has a similar population to the Planning Area and is an older community that has a similar growth pattern to Santa Fe. Charleston has 340 miles of sidewalk and 24 miles of urban trails.

sidewalk
a paved path for pedestrians within the right of way of the roadway

urban trail
a paved path reserved for use pedestrians and bicyclists only and typically separated from roadways

path
an unpaved informal path alongside roadways that is typically narrow

Sidewalk Inventory

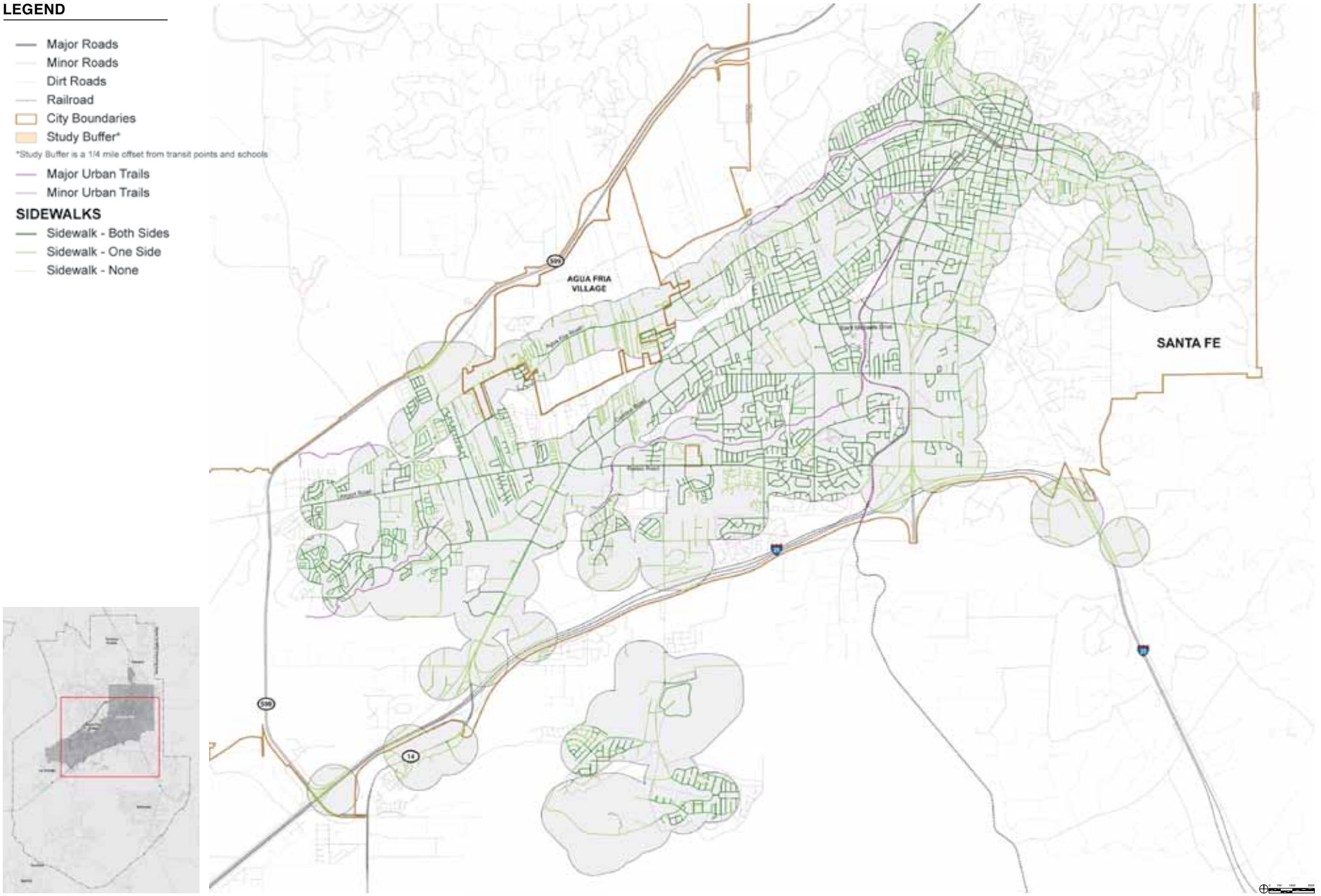
sidewalks both sides	347.0 miles
sidewalk one side	57.6 miles
urban trails	69.6 miles
major trails (22.1 miles)	
minor trails (47.4 miles)	
total sidewalks/trails	**474.2 miles**

Existing Conditions: Sidewalks - Brick / Concrete / Asphalt

no sidewalk	199.6 miles
dirt roadways with no sidewalks	55.7 miles
total gaps/no sidewalk	**255.3 miles**
gaps in the network	264
average gap length	200 feet

Existing Conditions: Paths - Dirt / Gravel / Roadway Shoulder

Figure 2.3: Sidewalk Inventory - Fall 2013



2.2.4 PEDESTRIAN SAFETY

Safety is a fundamental part of transportation planning under the federal MAP-21 legislation. The Santa Fe MPO has participated in the development of the statewide Comprehensive Transportation Safety Plan by NMDOT and a variety of other statewide initiatives. The Santa Fe MPO plans to become more involved in safety planning at the local level and continues to work to identify hazardous intersections and sections of roadways within the Santa Fe MPO planning area. It will use that information to assist NMDOT, City of Santa Fe, County of Santa Fe and Tesuque Pueblo in identifying mitigation measures and funding to resolve safety issues.

An understanding of pedestrian rights and legislation affecting pedestrians contributes to an informed populace and a safer environment. Education and enforcement of laws can also help highlight revisions to make the public realm safer. New Mexico State statues related to the pedestrian environment can be viewed in *Appendix B*.

"Safety is the top priority of the Department of Transportation. Our National Highway Traffic Safety Administration and Federal Highway Administration are working hard to raise awareness of the dangers to pedestrians, and to provide leadership, expertise, and resources to communities across America to combat these crashes."

http://www.nhtsa.gov
http://www.fhwa.dot.gov

Vehicle Pedestrian Crashes

Providing a safe environment for walking is key to encouraging pedestrian activity. One measure of tracking pedestrian safety is through vehicle / pedestrian crash documentation.

The Santa Fe MPO completed a road safety improvement study with accident data collected from 2006-2011. Data were analyzed to identify the top 25 crash locations, pedestrian related crashes, and bicycle related crashes. Within this five year period, 160 pedestrian crashes were reported in the planning area, with an 8% fatality rate.

A greater density of pedestrian-vehicle crashes occur at intersections along higher volume, higher speed roadways and in the downtown area with a higher density of tourist population (*see Figure 2.5*).

In addition to the sheer volume of pedestrians and vehicles, vehicle speed also contributes to pedestrian safety. A pedestrian hit by a vehicle traveling 40 mph has only a 15% chance of survival, while a pedestrian hit at 20 mph has a 95% chance of survival. Within Santa Fe, arterial and collector roads are posted at 35-45 mph, *see Figure 2.5*.

Crash Inventory - Santa Fe, NM 2006-2011

pedestrian crashes (32/yr average)	**160**
fatal	13
injury	130
property damage only	17
bicycle crashes (20/yr average)	**98**
fatal	0
injury	71
property damage only	27
total pedestrian + bicycle crashes	**258**

Pedestrian Crash Data Comparison

The New Mexico state average for pedestrian fatalities is 37.7 / year, with an average of 2.6 / year for Santa Fe.

Of all fatalities, pedestrian fatalities account for 10.6% of all roadway fatalities compared to a national average of 12.9% (*ABW, 2014 Benchmark Report*).

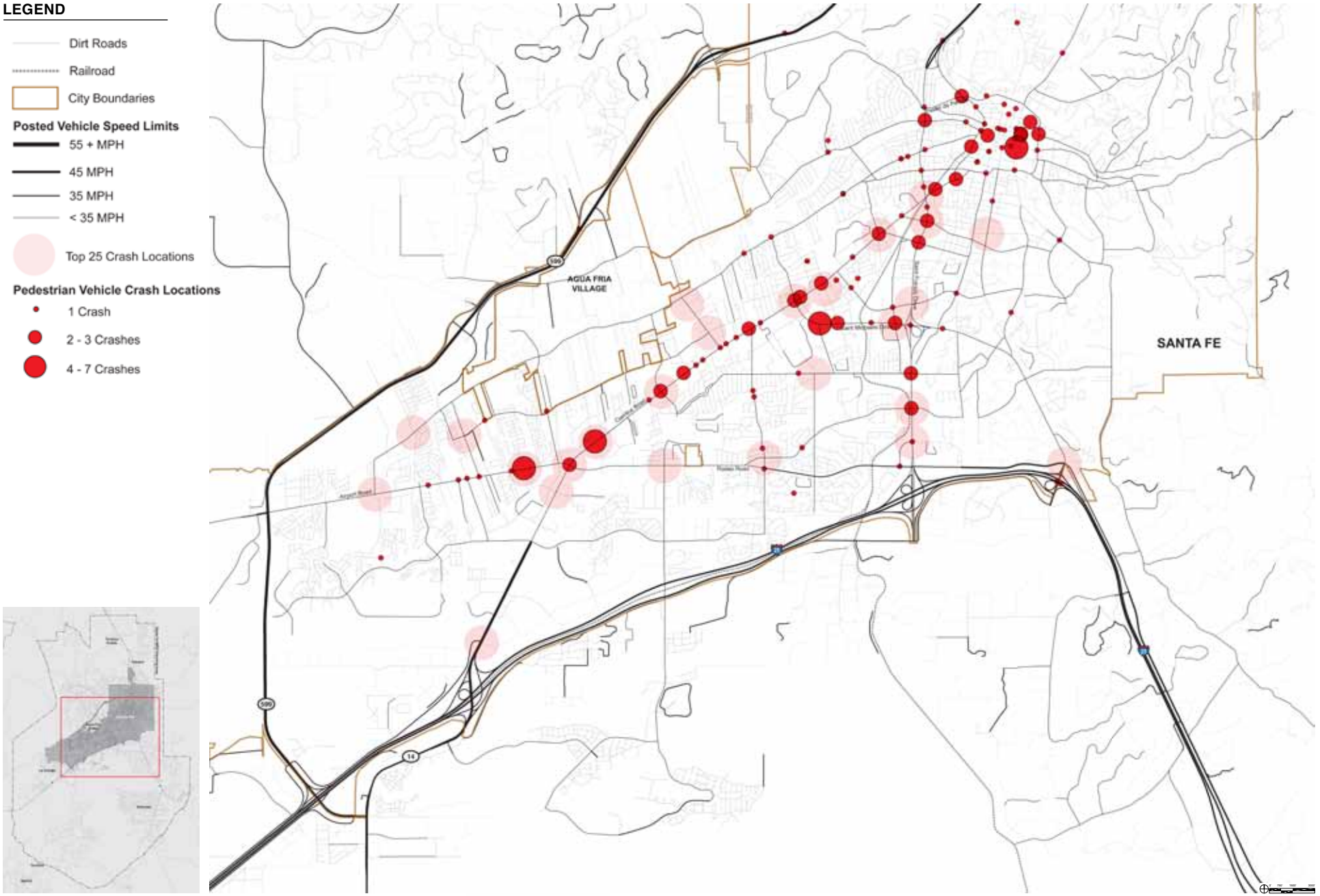
Overall, New Mexico ranked 11th in the category of Pedestrian Danger, with an average of 2.53 pedestrian deaths per 100,000 and a danger index of 88.5, compared to a national average of 1.56 pedestrian deaths per 100,000 and an average danger index of 52.2 (*2003-2012, Dangerous by Design 2014 Study, Smart Growth America*).

A disproportionate number of pedestrian fatalities occur with populations over 65 and under 16.

New Mexico has set performance measures to decrease bicycle and pedestrian fatalities. In 2013, as part of the NMDOT FFY14 Highway Safety Plan, a target of 40 fatalities per year was set, a reduction from 62 in 2012 and 41 in 2011.

An ad campaign communicating vehicular speeds and survival chances, New York City Department of Transportation.

Figure 2.4: Pedestrian Vehicle Crash Data - 2006-2011



2.3 PUBLIC INPUT

In collecting public input for the Santa Fe Metropolitan Pedestrian Master Plan, a concerted effort was made to inform residents of public meetings and to solicit responses to the survey over a three-month period. This process brought the pedestrian master plan to the attention of residents, business owners, commuters, policy makers, schools, and the public at large.

A broad public outreach strategy was initiated to maximize feedback and participation. A range of electronic, paper, and visual media was utilized to facilitate communication (e-mail notices, bus ads, posters, newspaper ads, Rail Runner station ads, etc). A webpage dedicated to the Pedestrian Master Plan on the Santa Fe MPO's website provided up-to-date information about the project and its progress and links to provide public input.

A significant component of the public process involved collecting input on issues that both positively and negatively affect pedestrians. This input was used to identify areas needing improvements. Public Input Meetings included a total of ten meetings conducted throughout the City and County. Meeting locations were selected in public buildings (schools, libraries, community centers) that were readily accessible by public transportation. Meeting locations were distributed around town at different times to best accommodate people's schedules and in proximity to places of residence. A Spanish interpreter was available for translation at the public meetings when requested in advance.

Survey responders (878), meeting participants (275), and interested individuals (10) provided feedback on the pedestrian environment summarized on the following pages. This response reflects approximately 1.4% of the City of Santa Fe's population.

2.3.1 ADVERTISING - PUBLIC OUTREACH

The public outreach strategy for the Pedestrian Master Plan consisted of multiple media venues over a three and a half month period to reach a broad audience across Santa Fe and Santa Fe County, *see Figure 2.5*.

Commuters were targeted through print advertisements on buses and at the South Capitol Rail Runner Station. Students and parents at schools where public meetings were held were targeted with flyers, emails, and robo-calls. Select schools also had a banner hung at the front of the school prior to the public meeting. Posters and flyers were hung at Senior Centers and libraries throughout the city to announce the public meetings and the online survey.

Newspaper ads in a variety of papers were run weekly with the public meeting schedule and email notices were sent out to a variety of list-

Figure 2.5: Public Meeting Notification - Master Plan (Public Meeting Series 1 - 2013, Public Meeting Series 2 - 2014)

Public Outreach Advertising: Meeting Series 1

Newspaper Display Advertising

Green Fire Times	Nov
Pasa Tiempo	Nov 1, Nov 8, Nov 15
The New Mexican	Oct 30, Nov 6, Nov 13
Journal North	Nov 3, Nov 10, Nov 17
The Reporter	Oct 30, Nov 6, Nov 13

Transit Advertising

Santa Fe Trails Bus	Oct 30 - Nov 30
North Central Regional Transit District Bus	Oct 23 - Nov 25
South Capitol Rail Runner Station Windscreen	Oct 29 - Nov 29

Meeting Posters

Santa Fe Senior Centers
Meeting Locations

Wayfinding Signage

Genoveva Chavez Community Center	Nov 1 - Nov 9
Southside Public Library	Nov 14 - Nov 23

Meeting Flyers

Ramirez Thomas Elementary School	Nov 1
Gonzales Community School	Nov 6
El Dorado Community School	Nov 6
Acequia Madre Elementary School	Nov 6
Amy Biehl Community School	Nov 12
Capshaw Middle School	Nov 20

Meeting Banner

Gonzales Community School	Nov 1 - Nov 7
Acequia Madre Elementary School	Nov 8 - Nov 14
Capshaw Middle School	Nov 15 - Nov 23

Email Notices

Meeting Notice	Nov 7, Nov 8, Nov 12, Nov 18, Nov 22
Survey Reminder	Nov 27, Dec 20, Dec 30

Santa Fe MPO Webpage

Project Cards

Capshaw Middle School Meeting	Nov 21
FutureMIX	Nov 21
Southside Library Meeting	Nov 23

Newsletters

Creative Santa Fe Newsletter	Nov 21
Let's Go Santa Fe! (Santa Fe MPO)	Jan 3

Radio Report

KSFR - Santa Fe Public Radio	Dec

Newspaper Articles / Press Releases

Journal North	Nov 5

Public Outreach Advertising: Meeting Series 2

Newspaper Display Advertising

Pasa Tiempo	Sept 19
The New Mexican	Sept 19
The Reporter	Sept 17

Meeting Banner

St Francis Drive + W Alameda Street	Sept 17 - Sept 24

Email Notices

Meeting Notice	Sept 8, Sept 15, Sept 19

serves. The email notice was sent out to a list serve of 966 recipients urging them to forward it to other interested individuals. A webpage was created on the Santa Fe MPO website and QR-codes were used on all advertisements that linked to the website. The Santa Fe MPO utilized Facebook to advertise the public meetings and encourage individuals to complete the online survey.

Project cards were handed out at a range of venues to spread the word about the online survey and public meetings. Wayfinding signage was used to navigate people to two of the public meetings and from the meetings to nearby transit stops, retail centers, restaurants, and coffee shops.

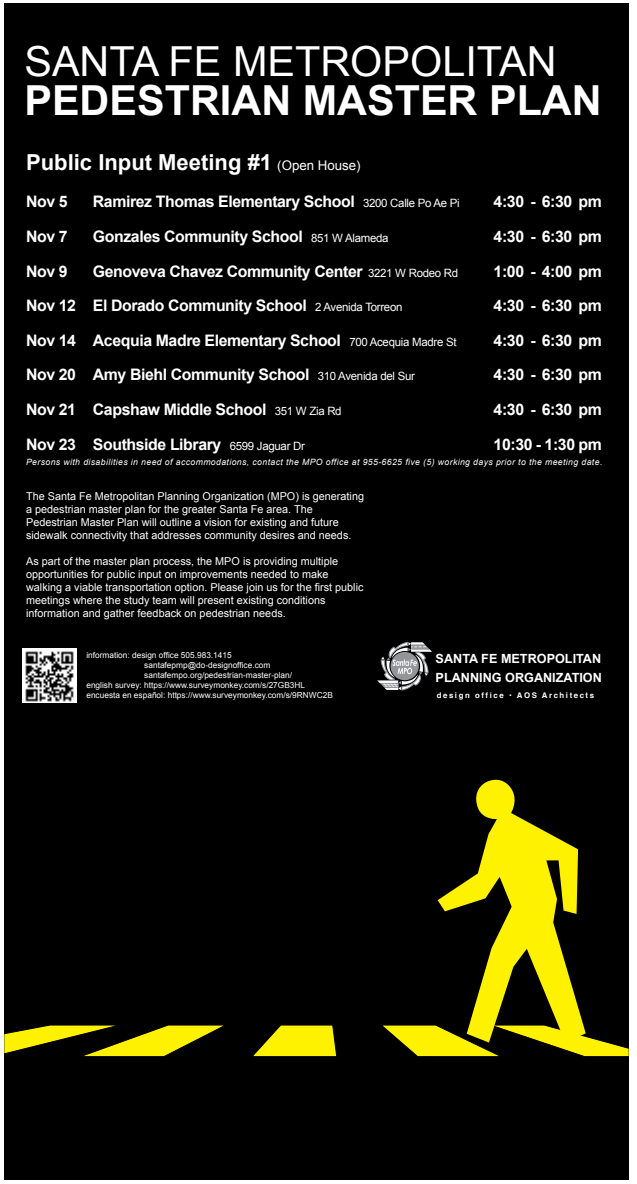
A newspaper article (Journal North) in early November 2013 and a radio interview (KSFR) in December 2013 helped provide more context for the project and reached a broader audience.

Public Input Meeting #1: Project Cards

Public Input Meeting #1: South Capitol Rail Runner Station Ad

Public Input Meeting #1: Wayfinding Signage announcing Genoveva Chavez Community Center Public Meeting

Public Input Meeting #1: Meeting Banner



Public Input Meeting #1: Rail Runner Station Ad

2.3.2 PUBLIC INPUT MEETINGS

Two series of public meetings were conducted to inform the public about the plan and provide opportunities for input. The first series of meetings, conducted in November 2013, consisted of eight meetings in an open house format to introduce the project and gather public input on pedestrian issues within the study area. The second series of meetings, conducted in September 2014, consisted of two meetings in an open house format to review proposed plan elements for public feedback.

The meetings provided information on the Santa Fe Metropolitan Planning Organization, the focus issues of the Pedestrian Master Plan, and the results of the existing sidewalk inventory within the study area gathered by the design team. Design team members and MPO staff were present to answer questions. The public was encouraged to provide input on the issues they saw within the pedestrian realm.

Meetings were held at public locations across town (*see Figure 2.8*) both in the City and County on week nights and weekends. All locations were in proximity to and accessible by public transit. Advertisements listed the full range of meeting locations, dates and times, offering the public options that would best meet their schedules. Meeting sites included both schools (8 of 10 meeting locations) and community facilities (2 of 10 locations), *see Figures 2.6 - 2.7 for meeting locations and times*.

The public was encouraged to participate at the meeting through several different methods: they were asked to pin where they live on a map of Santa Fe, mark what destinations they currently walk to, and give written comments in three different forms. Written comments were collected on an 8' x 10' detailed aerial map of Santa Fe, an enlarged 3' x 3' map of the area around the meeting location, and in the general comment box. Meeting attendees were also encouraged to complete the pedestrian survey.

A total of 222 comments were left on sticky notes on the maps, 74 surveys and 26 comment sheets were completed during the meetings. The public meetings yielded 31% of the comments and 8% of the surveys received.

In September 2014, a series of two public input meetings were conducted in an open house format to present the elements of the Master Plan document and gather additional public input on pedestrian issues within the Planning Area. The meetings reintroduced information from meeting series 1, as well as the results of the site analysis conducted by the design team, a draft project list + rating system, and draft pedestrian toolbox. Design team members and MPO staff were present to answer questions. The public was encouraged to provide input on the information

Public Input Meeting: Amy Biehl Community School

Figure 2.6: Public Input Meetings - Project Introduction (Nov. 2013)

Public Input Meetings: Project Introduction
total number of attendees (205)

- *project introduction*
- *overview of existing conditions analysis mapping*
- *public input through mapping, survey, and comment*

Ramirez Thomas Elementary School (10)
Tuesday, November 5, 2013, 4:30 - 6:30 pm
1 Survey, 1 Comment

Gonzales Community School (20)
Thursday, November 7, 2013, 4:30 - 6:30 pm
3 Surveys, 1 Comment

Genoveva Chavez Community Center (75)
Saturday, November 9, 2013, 1:00 - 4:00 pm
45 Surveys, 0 Comments

El Dorado Community School (10)
Tuesday, November 12, 2013, 4:30 - 6:30 pm
1 Survey, 0 Comments

Acequia Madre Elementary School (20)
Thursday, November 14, 2013, 4:30 - 6:30 pm
2 Surveys, 6 Comments

Amy Biehl Community School (25)
Wednesday, November 20, 2013, 4:30 - 6:30 pm
7 Surveys, 13 Comments

Capshaw Middle School (20)
Thursday, November 21, 2013, 4:30 - 6:30 pm
4 Surveys, 4 Comments

Santa Fe Southside Library (25)
Saturday, November 23, 2013, 10:30 - 1:30 pm
11 Surveys, 1 Comment

provided and issues they saw within the pedestrian realm that were not yet documented.

Meetings were held at two public locations on either side of the City, where previous Pedestrian Master Plan meetings were held, on a week night and weekend. Phase I public meetings were held

Figure 2.7: Public Input Meetings - Project Update (Sept. 2014)

Public Input Meetings: Project Update
total number of attendees (70)

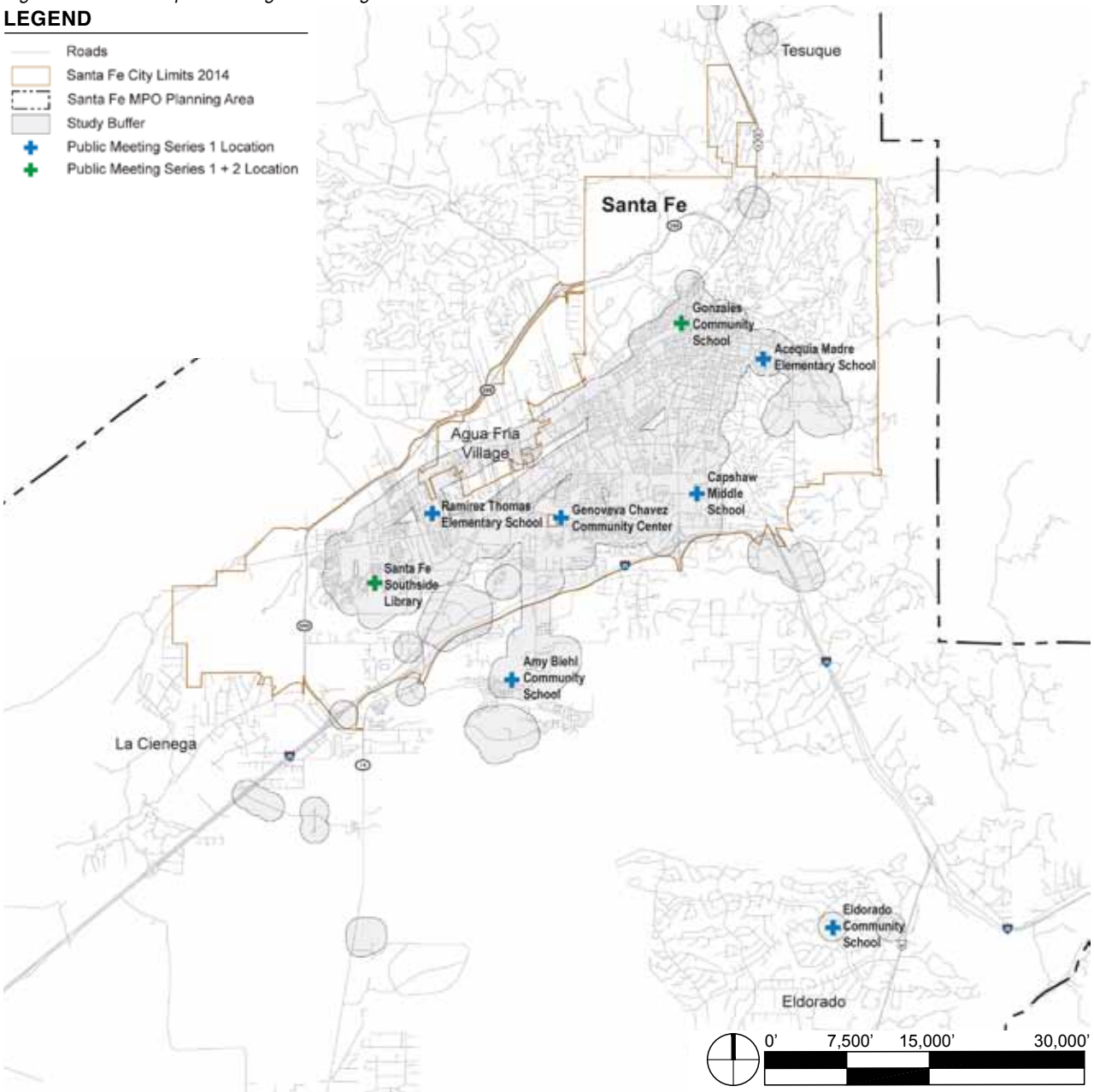
- project introduction
- overview of existing conditions analysis mapping
- project list from public input, city staff, working group
- toolbox elements + policy recommendations

Santa Fe Southside Library (25)
Saturday, September 20, 2014, 10:30 - 12:30 pm
26 Comments

Gonzales Community School (45)
Wednesday, September 24, 2014, 5:00 - 7:00 pm
46 Comments

Public Input Meeting: Santa Fe Southside Library

Figure 2.8: Public Input Meetings - Meeting Locations



at both locations. Advertisements listed both meeting locations, dates and times.

The public was encouraged to participate at the meeting through several different methods: they were asked to pin where they live on a map of Santa Fe and give written comments in three different forms. Written comments were collected on an 8' x 10' detailed aerial map of Santa Fe, a board for policy recommendation, and in the general comment box. Meeting attendees were also encouraged to complete the draft pedestrian improvement reporting sheet and leave comments on any boards that they felt needed improvement or additional information.

A total of 33 comments were left on sticky notes on the maps, 6 pedestrian improvement reporting sheets, 10 policy recommendations, 9 pedestrian toolbox comments, and 14 comment sheets were completed during the meetings.

Public Input Meeting: Gonzales Community School

2.3.3 COLLABORATIVE EFFORTS

The design team partnered with two local organizations spearheading initiatives that parallel the intentions of the pedestrian master plan.

Creative Santa Fe, a local non-profit focused on the local creative economy, is working on an initiative to improve the walkability of Santa Fe. The design team joined them at FutureMIX, an event held by MIX to explore future improvements to walkability in Santa Fe. The event was held at De Vargas Mall Thursday, November 21, 2013 from 6:00 - 8:00 pm. Participants at the event were asked to complete surveys and give their opinion on how walking can be improved in Santa Fe. Project cards were handed out to those who preferred to take the survey online. 21 surveys were completed at the event.

Creative Santa Fe also distributed surveys and project cards in late November during the Saturday Farmers Market as part of their Walk [Santa Fe] initiative to promote walking downtown. After each of these Saturday events, there was a increase of online survey responses. Creative Santa Fe also provided links to the survey in their monthly newsletter to subscribers.

The La Familia Medical Center (LFMC) REACH program advocates for changes in policy and improved infrastructure to encourage a healthy lifestyle and more physical activity. LFMC distributed paper surveys to employees, parents at the Agua Fria Elementary School, and residents at Country Club Gardens Mobile Home Park. A total of 29 surveys were collected from LFMC: 5 from Country Club Gardens residents, 11 from Agua Fria Elementary School parents, and 13 from LFMC employees.

Figure 2.9: Collaborative Efforts - Master Plan

Collaborative Efforts

Creative Santa Fe

Walk [Santa Fe] Project Card Handout	November 14, 2013 November 23, 2013 November 26, 2013
Electronic Survey Distribution	November 21, 2013
FutureMIX Survey Distribution 21 Surveys Completed	November 21, 2013

La Familia

Survey Handout 29 Surveys Completed	November 23 - December 20, 2013

Future Mix: De Vargas Mall

Future Mix: Opinion Board

2.3.4 WORKING GROUP

The purpose of the Pedestrian Master Plan Working Group was to provide informed public input to the Pedestrian Master Plan design team. The Working Group included at-large members (city and county residents), pedestrian advocates, special interest representatives (local chapter American Association of Retired Persons (AARP), Santa Fe Public Schools, City Bicycle and Trails Advocacy Committe (BTAC), Chainbreaker Collective), and local public planning, engineering, and health professionals. Working Group meetings were held on four evenings at Santa Fe City offices, 500 Market Station, Suite 200, from 5:30 p.m. to 7:30 p.m. on the following dates: June 4, June 23, July 23, and August 25, 2014.

The design team provided the working group with an overview of the Santa Fe community and pedestrian-related issues. Objective data such as pedestrian oriented populations and destinations were illustrated alongside potential pedestrian demand and deficiency data.

The design team presented a draft project identification / prioritization methodology. Working Group members added insight and clarification to several of the demand and walkability indicators being presented. The agreed upon indicators where then weighted by the Working Group. The Working Group emphasized that pedestrian oriented populations, proximity to schools, and proximity to transit were the most important demand indicators. Sidewalks, posted traffic speeds, and striping / marking were the most important walkability indicators.

The Working Group's biggest concern was that schools with known pedestrian deficiencies were not showing up in the mapping analysis. It was suggested that a school-specific analysis be completed. The design team will look at all school proximity projects and review these concerns.

The Working Group suggested projects be listed within short-term, mid-term and long-term project lists. Short-term projects would include sidewalks, signage, and striping. Mid-term projects would include intersection re-design. Long-term projects would include review of land use code and rezoning, arterial intersections, and areas of critical concern.

The Working Group identified several goals of the document: to review and prioritize projects, to identify policies that create walkable communities, and to educate school children about safe walking practices.

Working Group Meeting: Santa Fe Market Street Station Offices

Working Group Meeting: Introductory Presentation

Working Group Meeting: Weighting Analysis Indicators

2.3.5 COMMITTEE UPDATES

Additional public outreach and awareness of the Pedestrian Master Plan effort was provided through brief project presentations and updates at public committee and advisory board meetings. The purpose of these meetings was to make members aware of the Master Plan, document their input, and ask them to encourage their constituents to participate in the public input process.

The Santa MPO Transportation Policy Board (TPB) is recognized by federal and State regulatory agencies as the decision making body for the MPO. It is responsible to hold public meetings and encourage public participation following the MPO Planning Process as defined by federal law. The TPB approves planning documents and work programs that direct MPO staff activities. It has the authority to program federal transportation improvement funds within the MPO Planning Area.

The MPO Technical Coordinating Committee (TCC) includes TPB member agencies' staff and acts as technical advisory body for the TPB. Activities include: reviewing MPO planning documents, discussing transportation issues, ranking projects, and providing recommendations to the TPB.

The Santa Fe MPO met with the Transit Advisory Board to introduce the Pedestrian Master Plan and discuss the inclusion of transit routes in the study and sidewalk connections around transit stops in the study area. Transit service is an important link in extending the distance and perception of what is a "walkable" trip.

Figure 2.10: Committee Updates - Master Plan

Santa Fe MPO Committee Meetings

Transportation Policy Board

Tuesday, November 19, 2013, Master plan progress update
Thursday, February 27, 2014, Master Plan - Phase 1 update
Thursday, August 28, 2014, Master Plan - Phase 2 update
Thursday, October 30, 2014, Master Plan - plan presentation
Thursday, February 26, 2015, Master Plan - update
Thursday, March 19, 2015, Master Plan - plan presentation

Technical Coordinating Committee

Monday, November 25, 2013, Master plan progress update
Monday, February 24, 2014, Master Plan - Phase 1 update
Monday, August 25, 2014, Master Plan - status update
Monday, September 22, 2014, Master Plan - Phase 2 update
Monday, October 27, 2014, Master Plan - Phase 2 update
Monday, November 17, 2014, Master Plan - Phase 2 update
Monday, January 26, 2015, Master Plan - update
Monday, February 23, 2015, Master Plan - update
Monday, March 23, 2015, Master Plan - plan presentation
Monday, April 27, 2015, Master Plan - update
Monday, May 18, 2015, Master Plan - update

Additional Public Committee Meetings

Mayor's Commission on Disabilities

Thursday, August 15, 2013, Introduction of master plan
Thursday, April 17, 2014, Master Plan - Phase 1 update

Bicycle and Trails Advisory Committee

Wednesday, October 16, 2013, Meetings and Survey
Wednesday, November 20, 2013, Meetings and Survey
Wednesday, December 18, 2013, Survey
Wednesday, November 19, 2014, Phase 2 update

Transit Advisory Board

Tuesday, December 3, 2013, Introduction of master plan

La Familia Medical Center - REACH

Monday, February 24, 2014, Master Plan - Phase 1 update

County Open Land, Trails + Park Advisory Committee

Wednesday, November 5, 2014, Master Plan - Phase 2 update

2.3.6 WALK AUDIT

In Spring 2014, a series of walk audits were conducted by Dan Burden and Robert Ping of WALC (Walkable and Livable Communities Institute). The South Capitol area around the Rail Runner Station and up Cordova Road, and a section of Airport Road in proximity to the Country Club Gardens Mobile Home Park were audited.

A list of recommended improvements was generated that could transform these areas into safer walking environments. Recommendations included: putting Cordova Road and Airport Road on road diets, improving crosswalks to make them more visible, paint mid-block crossing advance limit warnings, and adding lighting at all intersection and mid-block crossings.

A Safe Routes To Schools audit at pick-up time at Sweeney Elementary School and Ortiz Middle School provided information on how these two schools could improve pedestrian safety around schools.

A full summary of recommendations can be found in *Appendix E*.

May 2014 Walk Audit - South Capitol Station WALC Institute

2.3.7 PEDESTRIAN SURVEY

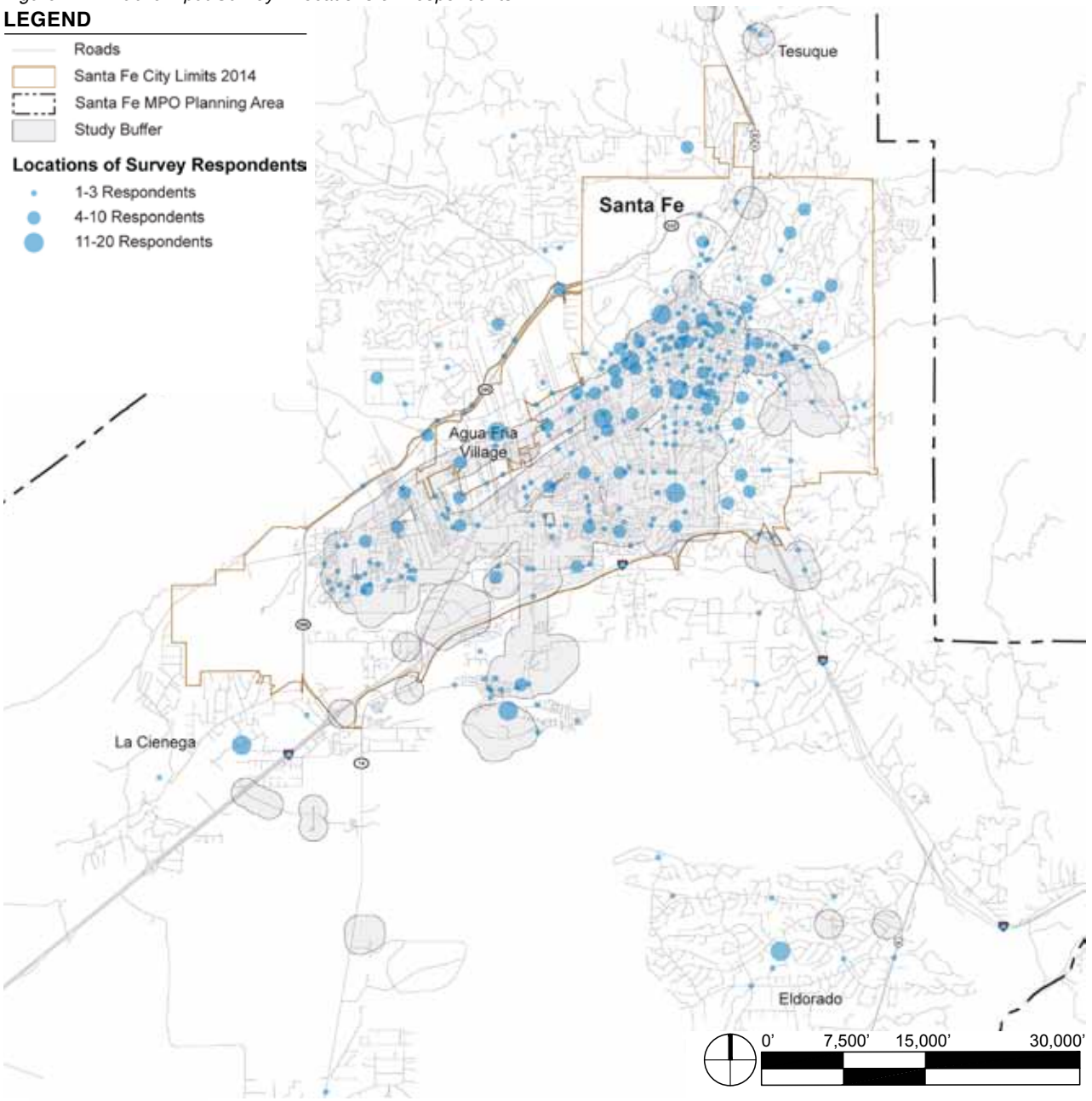
A pedestrian survey provided public input from residents and workers within the Santa Fe Metropolitan Planning Area. The survey was designed to better understand current walking and transportation habits, the public's perceptions of current pedestrian infrastructure, and identify improvements that could increase walking within the Santa Fe MPO planning area.

The survey was available both electronically and in paper form, in English and Spanish, between October 30 and December 31, 2013, *see Appendix A*. Email sendouts provided a direct link to the survey and a QR code on print advertisements provided a link to the MPO website where the survey could be accessed. Paper surveys were available at public meetings and were distributed to local senior centers and mobile home parks through La Familia Medical Center, and to downtown Santa Fe pedestrians by Creative Santa Fe.

A total of 878 surveys were completed (861 - English, 17 - Spanish) over the three month period.

The demographics of the survey respondents closely matched the City of Santa Fe 2010 Census data for those 24 - 44 years of age. The survey input did not reflect younger and older age group demographics: a much lower response was received from residents under 25 and over 75 than live within the City of Santa Fe. The majority of survey respondents were age 45 - 74 and primarily (48%) female. *For detailed survey demographics, see Appendix A.*

Figure 2.11: Public Input Survey - Locations of Respondents



2.3.8 PUBLIC PERCEPTIONS

The Santa Fe MPO and design team organized a public outreach effort to obtain input from a broad spectrum of the population in the MPO area. Public input was collected at public meetings, through surveys (electronic and paper), and by email correspondence.

Survey responses were received in two forms: multiple answer responses and written comments. Respondents were also asked to rate methods of transportation, destinations they currently walk to, and indicate what prevents them from using alternative modes of transportation. Additionally, respondents were asked which pedestrian improvement would increase their likeliness to choose to walk in their neighborhood.

From the survey, the design team learned that more than 20% of respondents are already walking, bicycling, or using transit in their commute to work. The most common walking destination for respondents was around the neighborhood (recreation, walking dog). The survey respondents also indicated that improving sidewalks, better connectivity, and more destinations within walking distance were the primary improvements that would make a difference. More comfortable pedestrian facilities, better crosswalks, and better lighting were also listed as improvements that would increase the likelihood of walking. *See Appendix C for complete survey summary.*

Respondents to the survey and meeting attendees were asked to identify specific locations and/or problems that need improvement to make walking more convenient and safer. These comments were received as mapped with post-it notes, written survey responses and emails. Each comment has been categorized by topic: connectivity, accessibility, maintenance, safety, enforcement, public awareness, bicycle related, transit related, trails related, schools, no improvements needed, and unrelated to the Pedestrian Master Plan.

These comments were collected and sorted into three databases, general comments, place specific comments, and unrelated place specific comments. General comments are comments that do not specify a specific location.

Place specific comments were provided in three forms: exact locations or points, trajectories, and areas; *see Appendix C*. Exact comment locations are the most useful to the study because they provide exact locations of deficiencies within the pedestrian network, with some listing desired improvements. The highest concentration of points exist around the South Capitol Campus.

Specific pedestrian-related deficiencies are harder to define when trajectories of roadways were identified. These comments generally reveal problematic corridors. Saint Michaels Drive is perceived as the most deficient corridor.

The areas of comment give a broad overview of problems that exist within larger areas. Both the areas of comment and the trajectories of comment are difficult to use within the study because the deficiencies in these areas are not pin pointed.

The public is largely concerned with connectivity and safety of pedestrian facilities. The majority of these comments pertain to gaps in the sidewalk network, disconnected developments, safety from vehicular traffic, and safety from individuals.

Figure 2.12: Public Perception Summary - Comment Categorization

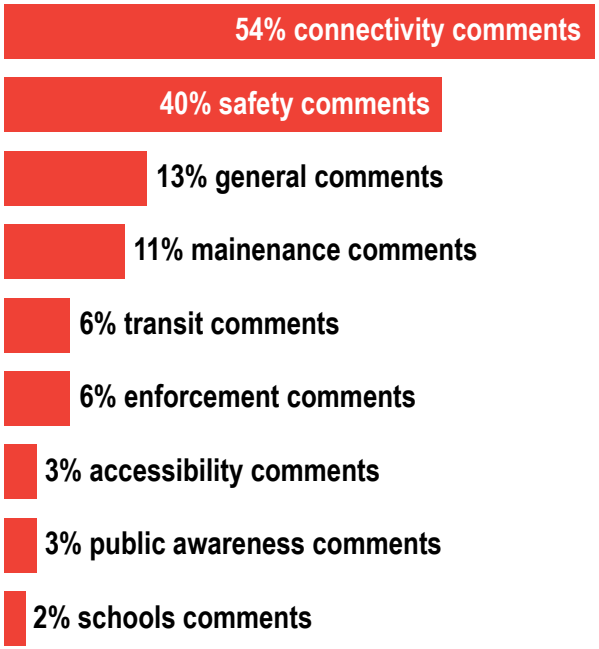
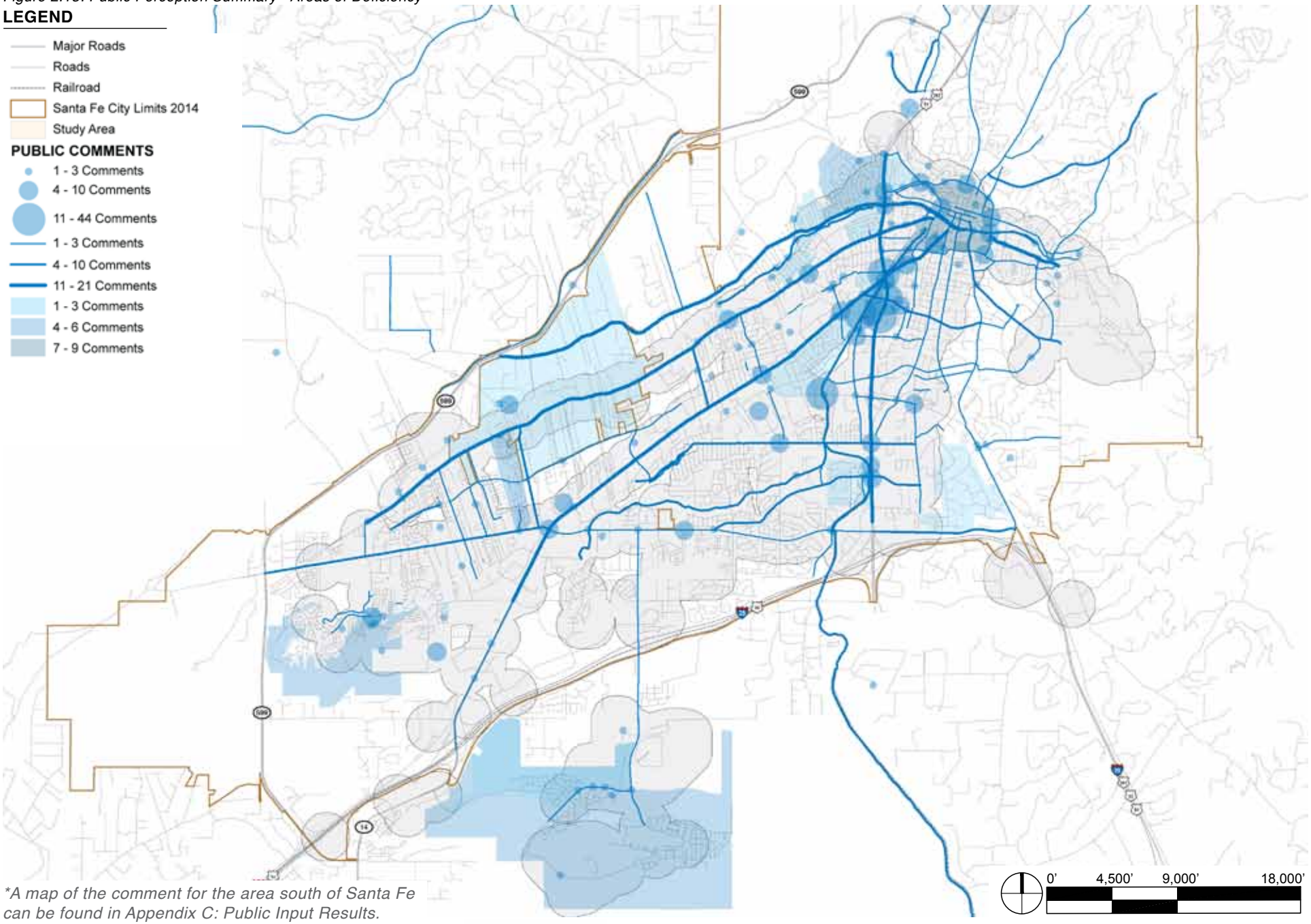


Figure 2.13: Public Perception Summary - Areas of Deficiency



**A map of the comment for the area south of Santa Fe can be found in Appendix C: Public Input Results.*

2.4 PEDESTRIAN ANALYSIS

A Pedestrian Demand Score, ranging from 0-40,000, was developed to identify areas with the greatest walking demand. At the same time, a Pedestrian Infrastructure Deficiency Score ranging from 0-40,000 was developed to identify areas with the lowest walkability. These scores were generated using available GIS data from the City of Santa Fe, Santa Fe County, the Santa Fe Metropolitan Planning Organization, Santa Fe Public Schools, New Mexico Department of Transportation, and U.S. Census.

For each category (demand and deficiency), a series of indicators were identified and weighted according to its importance in contributing to well-designed and usable pedestrian environment. The Working Group scored and weighed each indicator by importance, relative to other indicators. Pedestrian Demand indicators were weighted separately from Pedestrian Infrastructure Deficiency indicators. *The Pedestrian Improvement Need Analysis Methodology is detailed in Appendix D.*

2.4.1 PEDESTRIAN DEMAND POTENTIAL

To measure pedestrian demand, a set of 14 indicators were identified that correlate with higher rates of walking. Indicators of high potential for walking demand are grouped into three categories: pedestrian oriented populations, mix of land uses (use mix), and neighborhood destination proximity. The pedestrian demand potential shows areas that have a density of indicators high enough to encourage and support high volumes of pedestrian traffic.

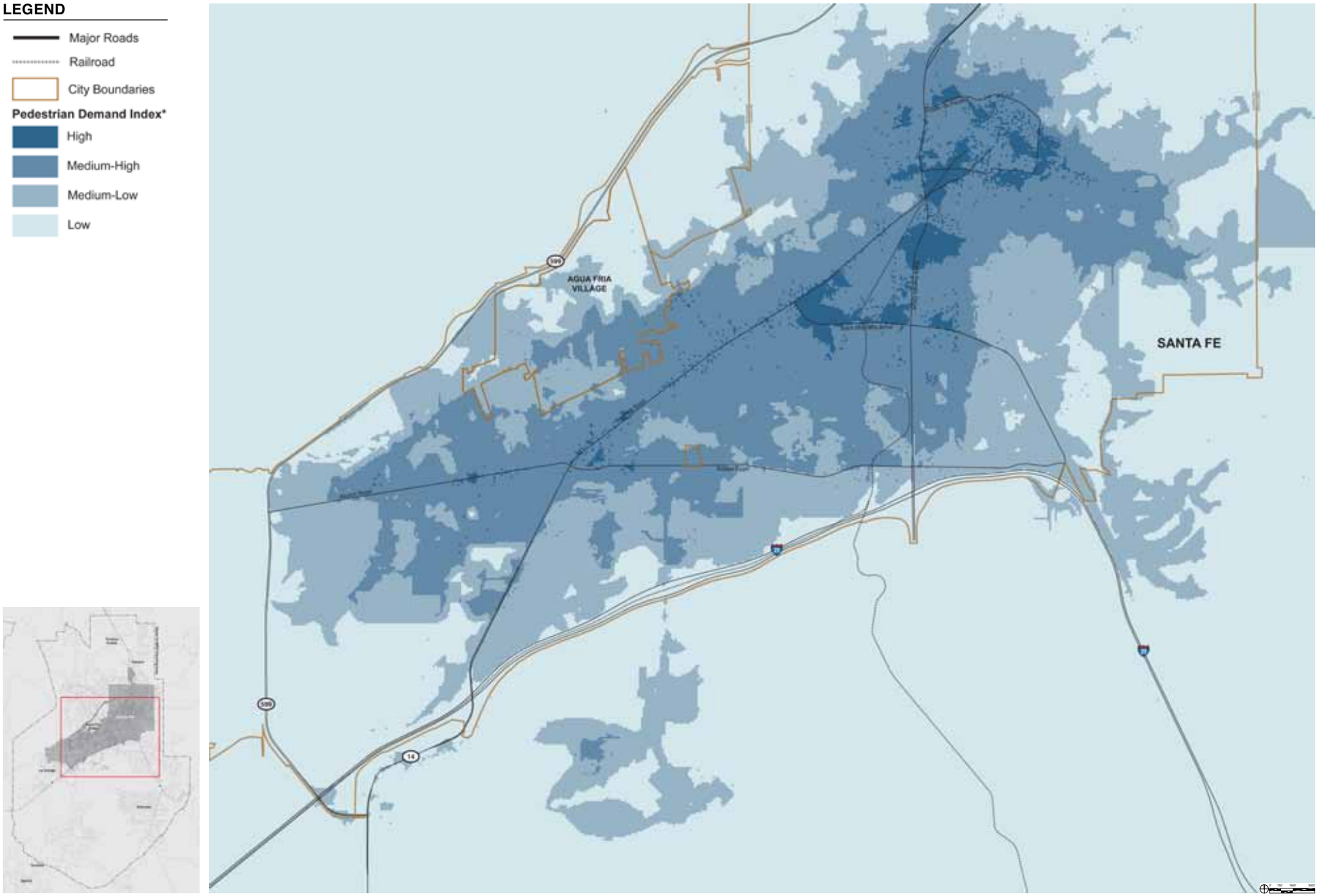
- **Pedestrian Oriented Populations** – indicators describing groups that have a greater likelihood of walking, including seniors, youth, low income (below $20,000), moderate income ($20,000 - $35,000), population density, and employment density. These indicators were derived from 2010 US Census data and 2013 Santa Fe MPO businesses data.
- **Destinations** – indicators of nearness to key neighborhood walking destinations (within a 1 mile walking distance). These indicators include schools, recreation areas, food sources (grocery stores, farmers markets, and food banks), community services (senior facilities, homeless shelters, libraries, community centers, medical services), cultural destinations, shopping centers, and public transit. These indicators were derived from 2013 Santa Fe MPO businesses data, City of Santa Fe data, Santa Fe County data, and New Mexico DOT data.
- **Use Mix** – indicators of variety of destinations within 600' of each other. These indicators were derived from 2013 Santa Fe MPO businesses data.

The areas within the Metropolitan Planning area with the highest pedestrian demand potential scores are areas of high employment (South Capitol, Railyard, St. Michaels Drive), with a high density of destinations (food sources, community services, etc), and in areas of high pedestrian oriented populations.

Pedestrian Demand Potential Indicators + Weights	
Public Transit	15
Schools	13
Low Income (below $20,000)	12
Employment Centers	9
Food Sources	9
Community Services	7
Population Density	7
Mix of Uses (Use Mix Index*)	6
Senior 65+	6
Moderate Income ($20,000 - $35,000) **+**	5
Youth (18 and under)	5
Recreation	4
Cultural Centers	1
Shopping Centers	1

+ *category added by PMP Working Group*

Figure 2.14: Pedestrian Potential Demand



2.4.2 PEDESTRIAN WALKABILITY

To measure Pedestrian Infrastructure Needs (Walkability), a set of nine indicators were identified. These reflect physical deficiencies of pedestrian infrastructure in the existing developed area within the Santa Fe Metropolitan Planning Area. Measuring walkability involves mapping out all of the infrastructure deficiencies and traffic conditions. The project team, with the Working Group, identified all measures of walkability that should be included in the evaluation by the City of Santa Fe and Santa Fe County. Although all indicators have been identified, only a few have readily available data sets.

The pedestrian infrastructure needs map shows areas that have the highest need for infrastructure improvements. Although the analysis is incomplete, it does show where there are deficiencies in the pedestrian infrastructure.

Infrastructure Needs
(available or partially available data)

- **Sidewalks** – Inventory of sidewalks on both sides of the street, one side of the street, and no sidewalks.
- **Pedestrian Vehicle Crashes** – Number of pedestrian-vehicle crashes 2006-2011.
- **Speed Limits** – Posted Traffic Speeds
- **Santa Fe Public Schools Hazard Zones** - A designated area within a walking distance of a school where conditions are too hazardous for students to walk and all students within the zone are bussed.

(data not available)

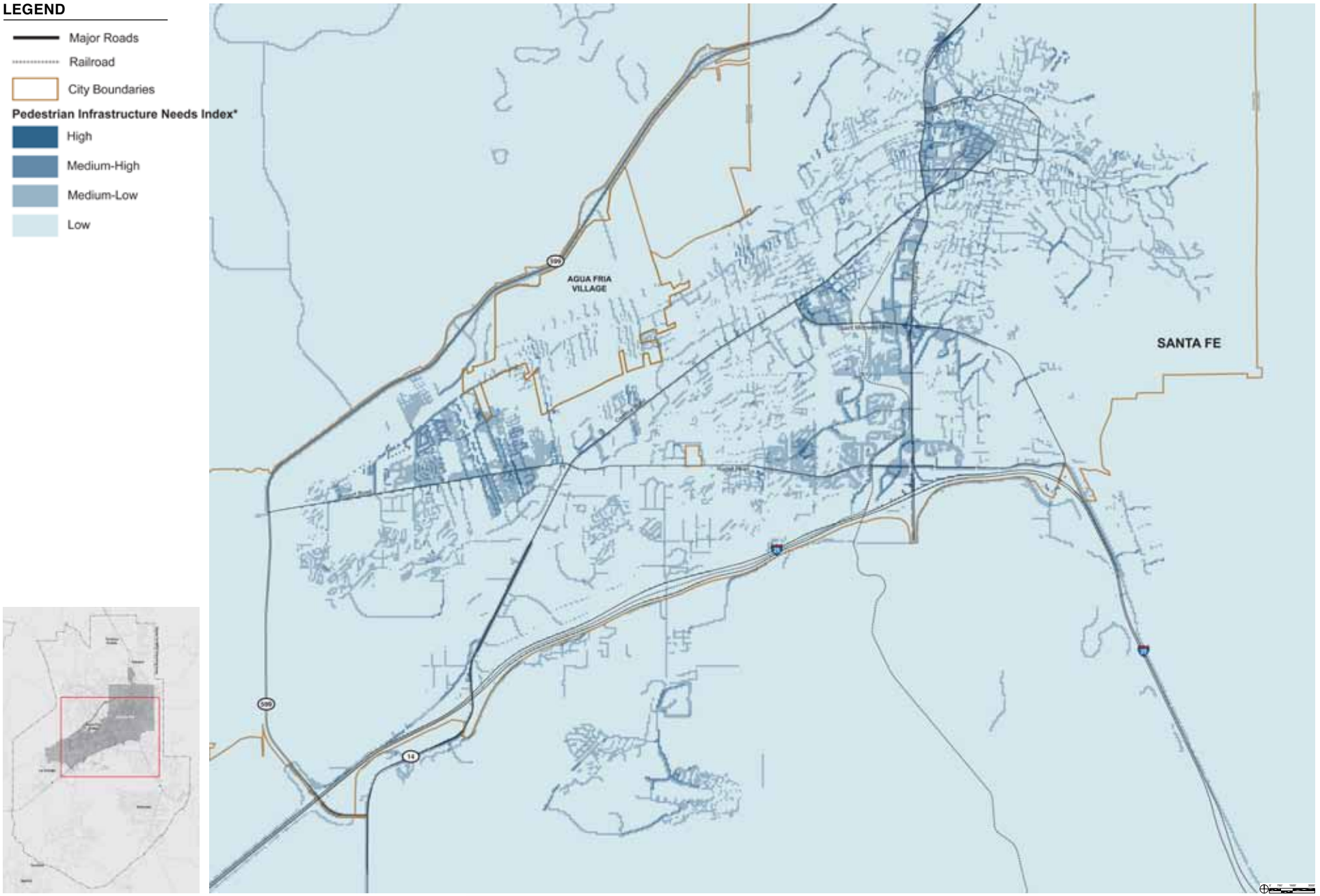
- **Street Lighting** – Inventory of street lights from PNM.
- **Street Width** - This data is currently unavailable.• **Street Connectivity**
- **Striping / Marking** – Inventory of existing street striping / marking. This data is currently unavailable.
- **Destinations per Capita** – This data is currently unavailable.
- **ADA Transition Plan** – City of Santa Fe ADA Transition Plan inventory of sidewalk conditions. This data have not yet been collected.

Pedestrian Infrastructure Needs Indicators + Weights

Sidewalks (Missing Segments) *	20
Striping / Markings + *	14
Traffic Speeds *	12
Street Connectivity *	12
Pedestrian Vehicle Crashes *	11
Destinations per Capita + *	11
SFPS Hazard Zones	9
Street Lighting *	7
Street Width *	4
ADA Transition Plan *	tbd

***** *incomplete data set*
+ *category added by PMP Working Group*

Figure 2.15: Pedestrian Walkability



2.4.3 PEDESTRIAN IMPROVEMENT NEED COMPOSITE

The Pedestrian Improvement Need Composite map summarizes areas of high pedestrian demand and high need (see Figure 2.16). Areas of need are identified by adding the average of the Pedestrian Demand weighted scores and the Pedestrian Walkability scores to find the areas with the highest demand and lowest walkability. These are the areas in need of improvements and with sufficient demand indicators to increase pedestrian activity once improvements are made.

The areas with the largest densities of highest scores (green) have been designated Areas of Critical Concern, indicated as loosely delineated red shapes on the map. These areas should be looked at as a whole when making improvements and may require improvements beyond pedestrian facilities (i.e. road diet, dedicated bike lane, etc.).

Areas of Critical Concern

A North Guadalupe Street Corridor

B St. Francis Drive / Historic Guadalupe Neighborhood

C Upper Cerrillos Road Corridor

D South Capitol Area

E Mid-Cerrillos Road Corridor

F Saint Michaels Drive Corridor

G South St. Francis Drive Corridor

H Lower Cerrillos Road Corridor

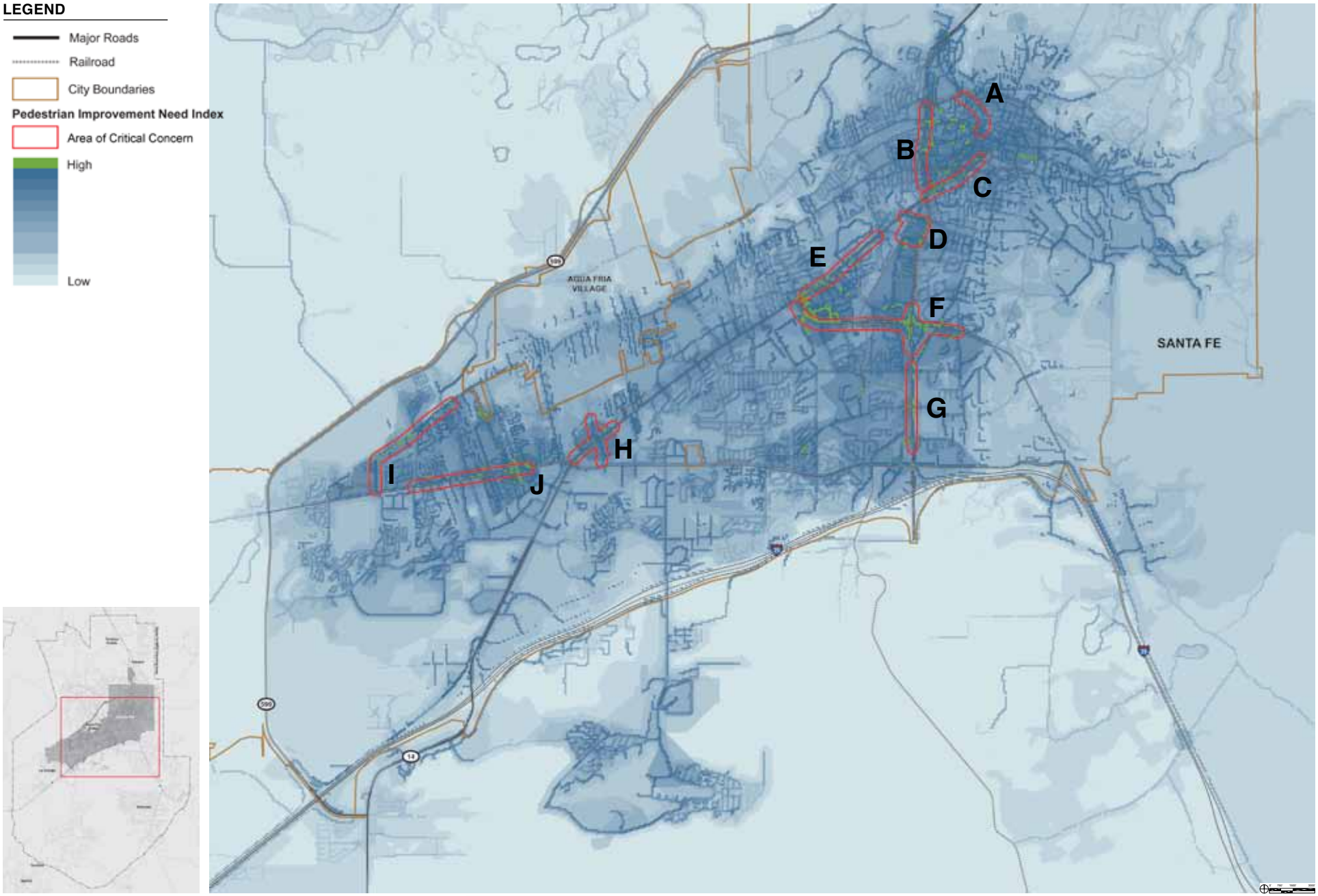
I Lower Agua Fria Street Corridor

J Airport Road Corridor

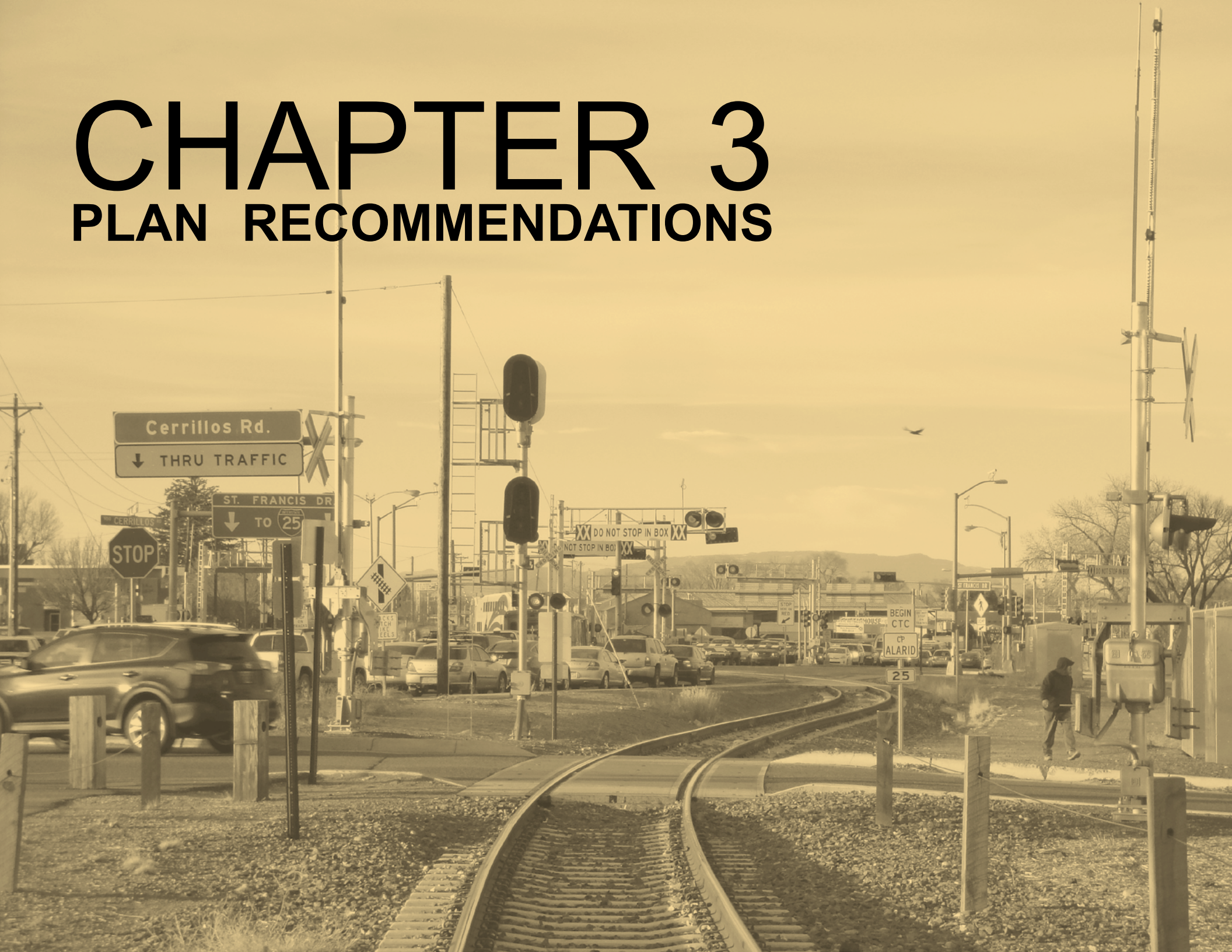
Pedestrian Areas of Critical Concern are locations within Santa Fe where pedestrian improvements are recommended. These areas have the following characteristics:

- Safety concerns
- Located near pedestrian-intensive land uses and pedestrian attractors
- High concentrations of pedestrian oriented populations

Figure 2.16: Pedestrian Improvement Need



CHAPTER 3
PLAN RECOMMENDATIONS



3. PLAN RECOMMENDATIONS

The following section highlights locations in the Santa Fe area that have been prioritized for pedestrian improvements. As the first effort to collect pedestrian-focus feedback in a comprehensive manner, the Santa Fe Metropolitan Pedestrian Master Plan process identified a long list of pedestrian environment locations in need of improvement.

In all, just over 250 locations were identified through public input and data analysis. These improvement needs have been categorized as follows:

- Areas of Critical Concern
  Roughly a quarter of the identified improvement locations fall within 10 designated zones, or "Areas of Critical Concern' that call for a multi-disciplinary planning effort to address issues for multiple modes of transportation, including pedestrian.
- Rural Projects
  Rural pedestrian improvement projects are located outside the 'Urban Planning Area' boundary.
- School Area Improvements
  With high concentrations of pedestrian-oriented populations, areas within walking distance of schools need well-designed, safe walking paths.
- Other Improvement Locations
  Improvement needs that do not fall in the above categories are identified by type. These have been rated according to their ability to address local pedestrian issues such as connectivity and safety.

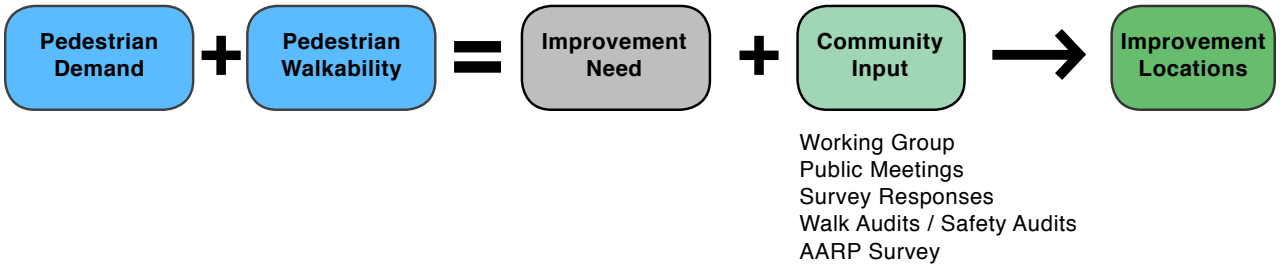
Prioritization

Improvement needs and areas of critical concern were identified through a technical analysis of existing conditions to determine the improvement need, from input from pedestrian focused organizations, and by validation from the general public. Selected improvement locations and pedestrian improvement areas are representative of pedestrian issues that occur throughout the city and MPO area. The full list of pedestrian improvement locations can be found in *Appendix D*.

Improvements

Suggested improvements to recommended project areas follow recommendations set forth in the Design Toolbox presented in *Chapter 5*. The primary focus of improvements is to create safe, walkable environments and encourage residents to integrate walking into their daily activities.

Figure 3.1: Pedestrian Improvement Need - Identification / Prioritization Process



3.1 RATING SYSTEM

Criteria to evaluate and rate improvement locations were generated for Santa Fe with input from City and County Staff and the PMP Working Group. Five key factors highlight the need for pedestrian improvements:

- Safety
  improvements that reduce ped/vehicle crashes or address the perception of safety
- Connectivity
  improvements to sidewalk system gaps or crossings
- Demand
  potential to increase access based on projected demand
- Improvement Need
  areas of high pedestrian demand and low walkability, as indicated on the analysis map 'Pedestrian Improvement Need' (see Figure 3.3)
- Feasibility
  level of project complexity with regard to land ownership and jurisdictional oversight

Each location under consideration receives a score for each of the above factors according to its potential for improving the pedestrian environment. The final score is a sum of the scores for each factor.

Comparisons of the ratings are more important than the rating themselves, as the criteria are intended to show the advantages and disadvantages of the proposed solutions relative to each other. Higher rated locations are typically located in areas with a high improvement need, will address a major identified safety issue and create a new connection. Lower rated locations will upgrade existing infrastructure to enhance the existing pedestrian environment.

This rating system serves as a tool for the City and County of Santa Fe to evaluate and determine the relative importance of improvement needs.

Figure 3.2: Score Card: Pedestrian Improvement Need

SAFETY How will the proposed project increase safety for all users? Does it alleviate a known issue?

4	Will resolve major identified safety issue (4+ crashes)
3	Will resolve a documented safety issue (1-3 crashes)
2	Will resolve an identified safety issue (3+ public comments)
1	Will resolve an undocumented safety issue (2 or fewer public comments)

SAFETY How will the proposed project increase safety along or across an existing roadway?

4	Will address a safety issue along or crossing a higher speed (40-45 mph) / high volume roadway (15,000 - 40,000 ADT)
3	Will address a safety issue along or crossing a medium speed (25-40 mph) / high volume roadway (15,000 - 40,000 ADT)
2	Will address a safety issue along or crossing a medium speed (25-40 mph) / medium volume roadway (5,000 - 15,000 ADT)
1	Will address a safety issue along or crossing a low speed (<25 mph) / medium volume roadway (5,000 - 15,000 ADT)
0	Will address a safety issue along or crossing a low speed (<25 mph) / low volume roadway (less than 5,000 ADT)

CONNECTIVITY How well will the proposed project improve the connectivity of the pedestrian network?

	Sidewalk Connection	Crossing / Intersection
4	Fills a major gap or creates a more convenient connection (missing connection along a collector roadway or higher classification)	Creates a new crossing at a major roadway
3	Creates a new connection or fills a minor gap (missing connection along a neighborhood / residential street)	Creates a new crossing at a minor roadway
2	Upgrades an existing sidewalk / path or introduces sidewalk to a new residential area (maintenance improvement, widens sidewalk, restripes crossing, etc)	Upgrades an existing crossing (restriping, new pedestrian activated signal, etc.)
1	Will have minimal impact on network connectivity	Has minimal impact on network connectivity

DEMAND How will the proposed project increase access in a pedestrian use area? *

4	Will improve access within an area of high pedestrian use
3	Will improve access within an area of medium pedestrian use
2	Will improve access within an area of low pedestrian use
1	Will minimally change or improve pedestrian access

IMPROVEMENT NEED Does the proposed project fall within a designated Area of Critical Concern?

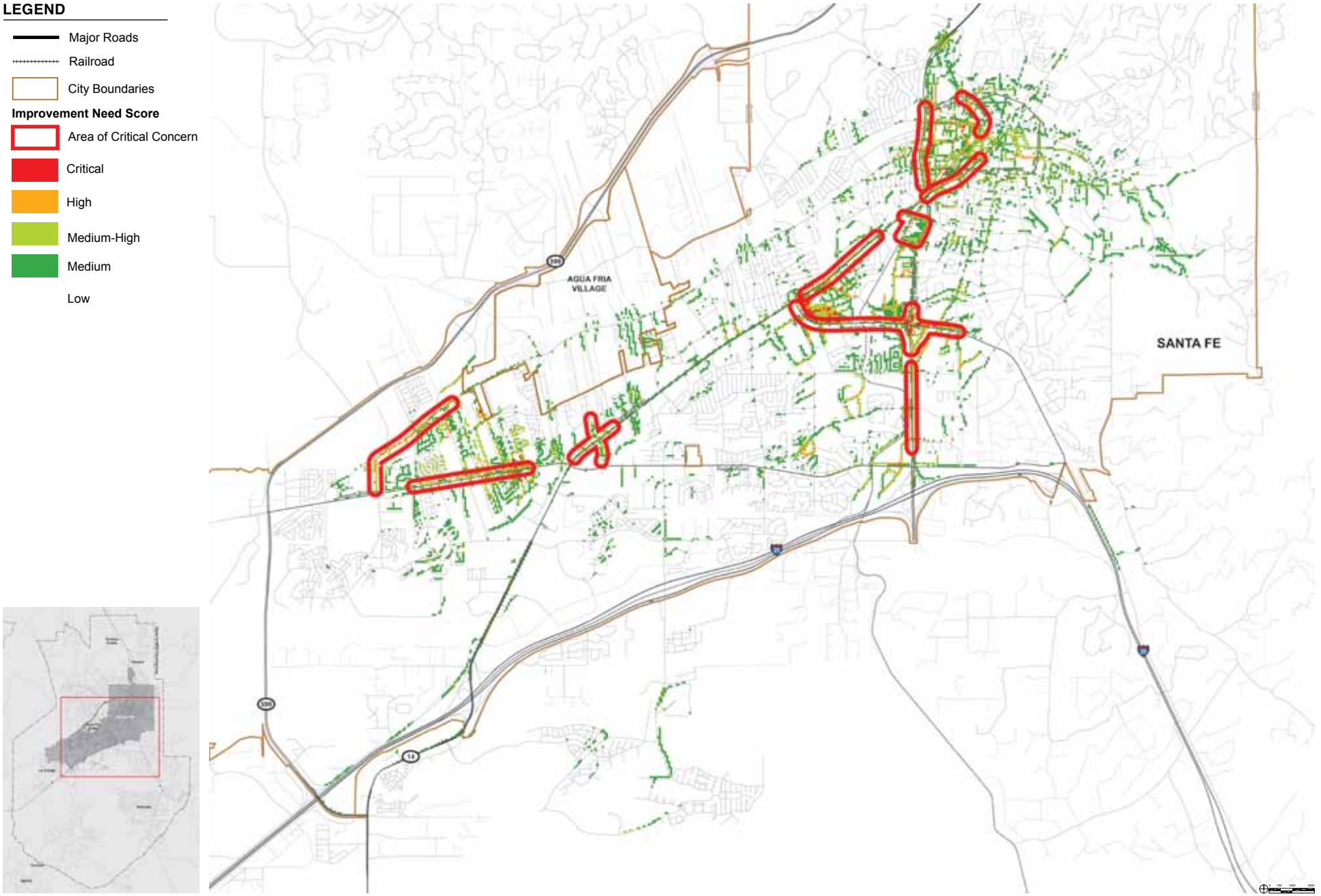
5	Falls within a designated Area of Critical Concern
4	Has composite score of 4000 - 4480 (High)
3	Has composite score of 3500 - 4000 (Medium High)
2	Has composite score of 3000 - 3500 (Medium)
1	Has composite score of < 3000 (Low)

FEASIBILITY Is the project in an area that can easily be developed by the City / County / State?

4	Land is owned by the City / County / State / publicly owned or within the Right-of-Way
3	Land has jurisdictional conditions (i.e. County land within FEMA flood plain or Federal Funding is used)
2	Land is privately owned
1	Land is privately owned and has jurisdictional conditions

** Currently data is lacking on pedestrian counts within improvement locations relative to area destinations. For the purposes of rating improvement locations, a relative observation and sense of potential counts was utilized. A recommendation of this plan includes obtaining pedestrian count data within the MPO area (see Chapter 6: Implementation).*

Figure 3.3: Pedestrian Improvement Need Map



3.2 IMPROVEMENT LOCATIONS

3.2.1 AREAS OF CRITICAL CONCERN

A series of 'Areas of Critical Concern' were identified through a technical analysis of existing conditions, input from the Pedestrian Working Group, and validation from the general public.

'Areas of Critical Concern' are areas with the highest concentration of high pedestrian demand potential and low walkability. There are ten of these areas distributed throughout the City of Santa Fe. Each of these areas is along a major roadway corridor with a large average daily volume of vehicle traffic. Many of them are along roadways under jurisdiction of the NM DOT and will require interagency collaboration to plan improvements, pursue funding, and obtain necessary approvals.

Before pedestrian improvements can be implemented, detailed plans must be developed for these areas. It is important that these areas are studied through a holistic lens. The needs of cyclists, public transit users, and vehicles, in addition to pedestrians should be taken into consideration in these areas.

Mid-Cerrillos Corridor

The Mid-Cerrillos Corridor area of critical concern is the segment of Cerrillos Road between Baca Street and Llano Street. This mixed-use area is comprised of businesses, restaurants, shops, hotels, and the Santa Fe Indian School, a large landowner on Cerrillos Road. This relatively narrow 4-lane with center median segment of Cerrillos Road is a major thoroughfare connecting Santa Fe's downtown and railyard districts to the more commercial big box segment of Cerrillos Road.

Long sections of sidewalk within this zone are absent or interrupted by frequent driveways and strip commercial parking areas. Along the Indian School property there are no sidewalks, only a dirt path between the property fence and street curb. The many commuting students attending the school walk along this dirt path to the intersection at Baca Street where they cross to head to the rail station.

There are also very few signalized crossings, making it difficult for pedestrians to cross the roadway. Fast driving speeds also make this stretch of roadway dangerous.

Pedestrian Issues

- missing sidewalks
  A 2,500 lf stretch of sidewalk is missing along the SF Indian School property edge. With a population of almost 100 commuting students using the nearby Rail Runner station, this is the dominant route of travel.
- obstructed sidewalks
  Sidewalks along the south side of Cerrillos are interrupted by frequent driveways and front end parking for strip shopping centers. This blurs and expands the vehicular zone beyond the defined roadway and obstructs a clearly defined pedestrian route.
- pedestrian environment
  High traffic volumes and speeds along Cerrillos with narrow sidewalks and no landscape buffer make walking along this stretch uncomfortable.
- distance between crossings
  Between the lighted intersections at Baca St. and 2nd Street, a 2,900 lf section of roadway, no mid-block pedestrian crossings exist to connect neighborhoods to Ashbaugh Park, or the Indian School to facing businesses.

select data

• jurisdiction	NM 14 / NMDOT
• traffic volume	32,000 AADT
• speed (posted)	35 mph
• roadway	4 lanes w/ center median bike lanes, both sides

Figure 3.4: Mid - Cerrillos Corridor

Lower Cerrillos Corridor

The Lower Cerrillos Corridor area of critical concern is comprised of Zafarano Dr. from Rodeo Road and to San Ingnacio Road and Cerrillos Road from Rodeo Road to Vegas Verde Drive.

With the continued buildout of shopping and entertainment centers along Zafarano Road both south and north of Cerrillos, this area has become a prime shopping destination. Designed largely for cars, Zafarano Road, Cerrillos Road, and the internal shopping center parking areas are difficult and unsafe for pedestrians.

Pedestrian Issues

- crossing distance
  Cerrillos Road is 10 lanes wide (130 ft.) at the Zafarano intersection and 6-7 lanes wide (90 ft.) crossing Zafarano. There is no dedicated center median refuge for pedestrians crossing either Zafarano or Cerrillos, leaving them vulnerable to vehicle traffic.
- crossing locations
  Zafarano Drive is difficult for pedestrians to navigate. The only crossing points between San Ignacio Road and Rodeo Road are Cerrillos Road and Camino de los Arroyos. This leaves pedestrians with very few access points to destinations across Zafarano.
- crossing markings
  Not all pedestrian crossings within this area are marked. Without markings drivers have little notification that pedestrians will be crossing.
- pedestrian environment
  Stretches of sidewalk without a buffer between high traffic volumes at high speeds and pedestrians.

select data

- jurisdiction NM 14 / NMDOT
- traffic volume 42,000 AADT
- speed (posted) 40 mph
- roadway (Cerrillos) 8 lanes w/ 2 lane center median bike lanes, both sides

Figure 3.5: Lower Cerrillos Corridor

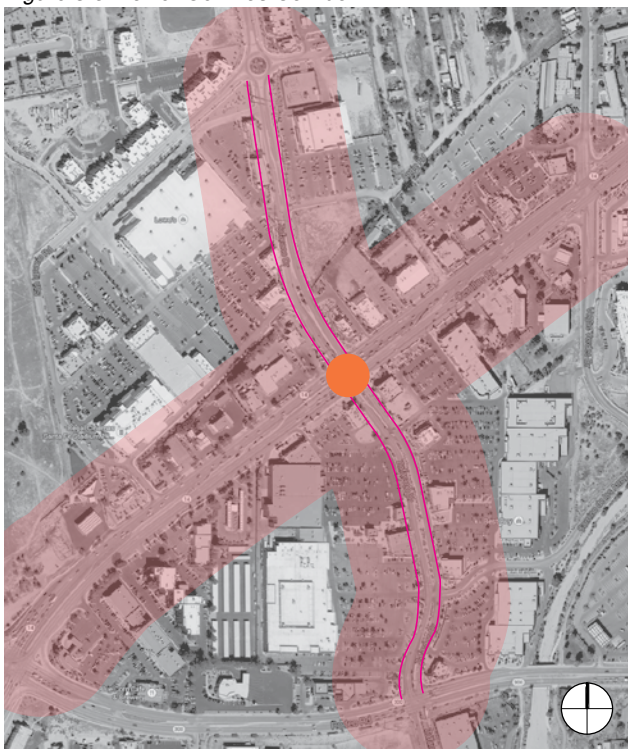


Figure 3.6: South Capitol Complex

South Capitol Complex

With the advent of the NM Rail Runner Express commuter train and the adjacent bus transit hub in 2008, the South Capitol Complex area has changed dramatically. This NM State administrative campus employs over 1,800 people in a 1/4 square mile area. A high density of adjacent businesses, grocery stores, schools, a park, urban trails, and residential areas contribute to the high volume of pedestrians in this area. Major roadways including Cerrillos Road, St. Francis and cross streets Cordova Rd and Alta Vista St. describe the perimeter of this busy area and have been locations of multiple ped/vehicle accidents.

Pedestrian Issues

- crossing distance
  Long crossing distances (90 - 150 ft.) with no or inadequate median refuge islands and poor markings at St Francis Dr, Cordova Rd, and Cerrillos Rd are difficult for pedestrians to cross
- pedestrian environment
  High traffic volumes and wide roadways, combined with narrow sidewalks with some or no landscape buffer create an uncomfortable walking environment for pedestrians
- disconnect of rail trail
  The rail trail segment of the urban trail between Alta Vista and Pen Road is missing, forcing bike commuters and pedestrians on to adjacent roadways without sidewalks

select data

- jurisdiction NM 14, US 84/285, City roads
- traffic volume 32,000 AADT - NM 14
41,000 AADT - US 84/285
- speed (posted) 35 mph
- roadway (St Francis) 6 lanes w/ center median
- roadway (Cordova) 4 lanes w/ center median

South St. Francis Corridor

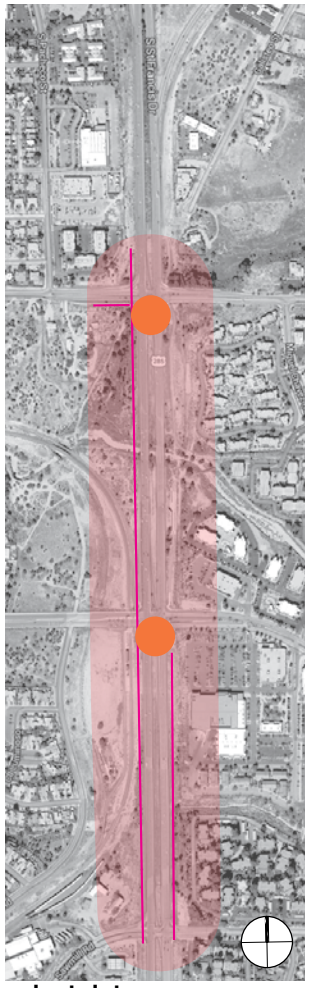
The South St. Francis Drive Corridor area of critical concern extends from Rodeo Road north to Siringo Road. As a large volume state highway that bisects an area with diverse high volume destinations (schools, shopping centers, medical offices, medium density neighborhoods) this area has large sections of missing sidewalk.

This section of roadway is very wide, with a ROW of approximately 300 ft. Two major urban trail systems run alongside, but not parallel with St. Francis: the Rail Trail, which follows the rail line, and the St. Francis Trail. The Gail Ryba trail connects the two in an underpass north of the Zia Road intersection.

Pedestrian Issues

- crossing distance
  Long crossing distances with no or inadequate median refuge islands and poor markings at St Siringo Rd, and Zia Rd are difficult for pedestrians to cross
- crossing timing
  Long crossing distances and the presence of a commuter train station and roadway crossing at the Zia / St. Francis intersection creates added complexity as vehicles race to avoid stopping for the train without acknowledging pedestrians
- missing sidewalks / trails
  The west side of St. Francis Drive between Rodeo and Siringo and the east side between Rodeo and Zia has no sidewalk or convenient parallel urban trail.
- pedestrian environment
  High traffic volumes, high speeds, wide roadways, and missing sidewalks / trails make this an inhospitable pedestrian environment.

Figure 3.7: South St. Francis Corridor



select data

- jurisdiction
  US 84/285 NMDOT
- traffic volume
  44,000 AADT (2013)
- speed (posted)
  45 mph
- roadway
  6 lanes w/center median

Figure 3.8: North St. Francis Corridor

select data

- jurisdiction
  US 84/285 NMDOT
- traffic volume
  50,000 AADT (2013)
- speed (posted)
  35 mph
- roadway
  6 lanes w/center median

St. Francis / Historic Guadalupe Neighborhood Corridor

The St. Francis / Historic Guadalupe Neighborhood Corridor area of critical concern extends from Cerrillos Road north to the Paseo de Peralta / Camino de las Crucitas intersection. A medium to high density residential area, with destinations on both sides of the roadway. Many pedestrians cross St. Francis or walk alongside it to reach their destinations.

Despite having a relatively narrow road ROW for 6+ lanes of traffic, the sheer volume and speed of vehicles combined with an inhospitable pedestrian environment makes this area a challenge to walk.

Pedestrian Issues

- crossing distance
  St. Francis Drive is 6+ lanes and approximately 105 ft. wide. In many cases, there is no center median refuge for pedestrians crossing traffic.
- un-marked crossings / fading marking
  Many pedestrian crossings are un-marked or have faded or inadequate markings that need to be updated
- distance between crossings
  Distances between lighted intersections range from 650-1500 ft, making it challenging for pedestrians to cross the busy and wide roadway to access desired destinations. Several jaywalking ped/vehicle incidents have been reported in this area
- pedestrian environment
  High traffic volumes, high speeds, and sidewalks directly adjacent to the curb with no landscape buffer makes this an uncomfortable walking environment.

St. Michaels Drive Corridor

The St. Michaels Drive Corridor area of critical concern extends from Cerrillos Road west 1.75 miles to Hospital Drive and includes the St. Francis interchange area. This section of roadway is very wide, with a ROW of approximately 150 ft.

Land uses along this stretch include a wide array of large and medium commercial, medical and educational institutions, connecting to adjacent medium to high density residential neighborhoods. The rail line and the parallel urban Rail Trail crosses St. Michaels Drive.

This area has received recent attention to improve roadway designs, densification, increased mixed use, and general area improvements.

Pedestrian Issues

- crossing distance
  St. Michaels Drive is 6 lanes and approximately 150 ft. wide. In many cases, there is no center median refuge for pedestrians crossing traffic.
- obstructed sidewalks
  Sidewalks along the both sides of St. Michaels Drive are interrupted by frequent wide driveways and busy access drives to shopping center parking areas.
- missing sidewalks
  A stretch of roadway that extends from Pacheco Street under St. Francis Drive to Galisteo has no sidewalks on either side of the road.
- un-marked crossings / fading marking
  Many pedestrian crossings are un-marked or have faded markings that need to be updated
- distances between crossings
  Distances between lighted intersections range from 1,000 - 1,700 ft, making it challenging for pedestrians to cross the busy and wide roadway to access desired destinations. Several jaywalking ped/vehicle incidents have been reported in this area
- discontinuous crossings
  A number of neighborhood roadways terminate at St. Michael's Drive with no signalized intersection, so pedestrians are forced to walk to the nearest signalized intersection. Many jaywalk to cross more directly.
- right-turn slip lanes
  Free right turn lanes along Saint Michaels Drive allow vehicles unchecked access and flow. This vehicular movement is detrimental to pedestrians, as drivers are not aware of pedestrians crossing in these areas.

select data

• jurisdiction	NM State highway
• traffic volume	30,000 AADT (2013)
• speed (posted)	40 mph
• roadway (Cerrillos)	6 lanes w/ wide center median bike lanes, both sides

St. Michaels Drive

Figure 3.9: St. Michaels Drive Corridor

Airport Road Corridor

The Airport Road Corridor area of critical concern extends from Calle Atajo to Paseo del Sol and describes a 7,650 lf, or 1.5 mi. stretch. An influx of commercial destinations and buildout of adjacent residential areas are occupying vacant lands in this evolving and growing portion of the city.

The Airport Road corridor must respond to this growth by providing an adequate distribution of safe pedestrian crossings, both at intersections and at mid-block locations, where warranted. A large population of school-aged children live in a residential area north of Airport Road and attend Sweeney Elementary School on the south side of Airport Road along South Meadows.

Although Airport Road has bicycle lanes and a landscape buffer zone on both sides of the street, high volume and high speed traffic makes the pedestrian environment uncomfortable for walking.

Pedestrian Issues

- crossing distance
  Long crossing distances (95 - 100 ft.) with no or inadequate median refuge islands and poor markings at all intersections with Airport Road make it difficult for pedestrians to cross.
- distance between crossings
  Distances between lighted intersections range from 580-2,500 ft, making it challenging for pedestrians to cross the busy and high speed roadway to access desired destinations.
- un-marked crossings / fading markings
  Many pedestrian crossings are un-marked or have faded or inadequate markings that need to be updated.
- pedestrian environment
  High traffic volumes, high speeds, poor lighting and sidewalks with no landscaping makes this an uncomfortable walking environment. While sections of Airport Road have a landscape buffer area between the sidewalk and the roadway, no trees or vegetation are in place to buffer pedestrians from vehicular traffic.

select data

• traffic volume	27,000 AADT (2013)
• speed (posted)	40-45 mph
• roadway	4 lanes w/ center median bike lanes, both sides

Figure 3.10: Airport Road Corridor

Lower Agua Fria Street Corridor

The Lower Agua Fria Street Corridor area of critical concern extends just over 1 mile from the intersection with South Meadows Road southwest as Agua Fria turns into San Felipe Road and connects to Airport Road.

This section of roadway is within the city limits and exemplifies a transitional roadway that once served a dominantly rural area but has shown rapid urbanization and build-out. Agua Fria Road is classified as an 'Urban Minor Arterial' roadway and provides a major east-west transit route linking the southwest section of the city to the downtown area.

Agua Fria Road has received roadway upgrades with new pavement and curb and gutter. However, no sidewalks exist on either side of the roadway. The section of San Felipe Road has no curb and gutter or sidewalks on either side of the road.

Pedestrian Issues

- lack of sidewalks
  No sidewalks exist on either side of the road for the entire stretch of the planning area. Transit stops along this stretch have concrete pads, but no connecting walkways.
- distance between crossings
  There are long distances between lighted intersections with pedestrian crossings. While the roadway is relatively narrow, the volume and speed of traffic make it challenging for pedestrians to cross.
- crossings
  Pedestrian crossings at lighted intersections are not marked. There are no formal mid-block crossings or pedestrian crossings at non-lighted intersections or at transit stop areas.

Figure 3.11: Lower Agua Fria Street Corridor

select data

- jurisdiction — City of Santa Fe
- traffic volume — 4,500 AADT (2013)
- speed (posted) — 30 mph
- roadway — 2 lanes
  narrow bike lanes, both sides

- pedestrian environment
  The narrow road right of way (40 - 50 ft. ROW) with no sidewalk and adjacent yard or subdivision walls parallel with the roadway makes this an uncomfortable walking environment. The available ROW for sidewalks and landscape buffers is limited. Subdivision internal access points to Agua Fria pedestrian and transit networks would enhance network connectivity.

Upper Cerrillos Corridor

The Upper Cerrillos Corridor area of critical concern extends a distance of 2/3 mile from St. Francis Drive northwest to West Manhattan and Sandoval. This area has transformed with the Railyard Park and development of mixed-use destinations within the Railyard area. Peripheral growth and improvements along upper Cerrillos have made it a popular destination for eating and shopping.

Cerrillos Road, a relatively wide, medium speed, high volume roadway serves as an 'Urban Principal Arterial' and major feeder of traffic to downtown destinations. It has relatively few lighted intersections with pedestrian crossings, making it difficult to cross to reach destinations on the opposite side.

select data

- jurisdiction — City of Santa Fe
- traffic volume — 30,000 AADT (2013)
- speed (posted) — 25 - 35 mph
- roadway (Cerrillos) — 4 lanes / 4 lanes w/ turn lane

Pedestrian Issues

- distance between crossings
  There are long distances (900 - 1,800 ft.) between lighted intersections with pedestrian crossings. The roadway width combined with the volume and speed of traffic make it challenging for pedestrians to cross. Pedestrians are often seen jaywalking between the Railyard Park and Whole Foods and at the intersection with Early Street.
- crossings
  Intersection markings are faded or inadequate. The Cerrillos / West Manhattan / Sandoval intersection has no clarity for pedestrians.
- obstructed sidewalks
  Sidewalks on the south side of the road between St. Francis and Gilmore Street have multiple obstructions (utility poles), access drives, and front-in parking areas to adjacent strip commercial store.
- pedestrian environment
  The high volume and speed of vehicles along Cerrillos, the quantity and popularity of destinations, combined with a pedestrian environment with a sidewalk directly adjacent to the curb with no landscape buffer makes it challenging for walking comfortably.

Figure 3.12: Upper Cerrillos Corridor

Figure 3.13: North Guadalupe Street Corridor

North Guadalupe Street Corridor

The North Guadalupe Street Corridor area of critical concern extends from West Alameda Street and runs north beyond the intersection with Paseo de Peralta. A Road Safety Audit (RSA) was conducted and completed for the NMDOT / City of Santa Fe on this stretch of roadway January 2015.

The primary aspect of this planning area is the medium volume / speed of traffic combined with a higher volume of pedestrians crossing the roadway to access a dense array of businesses.

Pedestrian Issues

- obstructed sidewalks
  Sidewalks on both sides of the roadway between San Francisco and Catron have multiple obstructions (utility poles) that force pedestrians into the street to avoid them. Sidewalks along both sides of Guadalupe are interrupted by frequent driveways and front end parking for local businesses.
- crossings
  Pedestrian crossings at intersections are poorly marked or have no markings. The convergence of Jefferson and McKenzie with N Guadalupe is confusing and very wide for pedestrians to cross.
- pedestrian environment
  The volume and speed of vehicles along N Guadalupe along with narrow, obstructed sidewalks that lack a buffer (between Catron - West Alameda) makes it an inhospitable environment for walking.

select data

- jurisdiction — City of Santa Fe
- traffic volume — 15,000 AADT (2015)
- speed (posted) — 25 - 35 mph
- roadway — 4 lanes

3.2.2 RURAL IMPROVEMENT LOCATIONS

Rural areas within the Metropolitan Planning Area demonstrate a need for pedestrian improvements. These areas are located outside the 'Urban Area' as defined by US Census demographics. Selected projects listed at right were identified through the needs analysis and public input process (see Appendix D for full project list). While the quantity and extent of projects identified in rural areas are not as extensive as those in the urbanized area, they are no less vital to a functioning and useful pedestrian network.

As these rural areas become more developed, populations become denser, and destinations such as schools, shopping areas, and transit stops are built. At this point, earlier rural street cross sections with no sidewalks or designated pedestrian paths no longer serve the community. Retrofits to the existing roadway system must be made to address pedestrian connectivity. These include sidewalks, curb cuts, crossing improvements, pedestrian markings and mid-block crossings.

In addition, new developments in rural areas must anticipate future growth and a holistic, multi-modal approach to design within the right of way.

Agua Fria St (San Felipe Rd - Camino de Chelly)

A number of pedestrian connections and upgrades are needed along and across Agua Fria Street to make it more walkable. The following pedestrian issues have been identified:

- Calle Atajo
  sidewalk connection
- Camino de Chelly - San Ysidro Crossing
  marked crossing (striping, signage, etc.)
- San Ysidro Crossing - San Felipe Rd
  sidewalk connections

Santa Fe River Trail (Camino Carlos Real - Caja del Oro Grant Rd)

The Santa Fe River Trail in its current state is missing a segment between Camino Carlos Real - San Ysidro Crossing. As this trail is designed and installed, connections to area destinations should be made (i.e. trail connection to La Familia on Caja del Oro Grant Rd).

West Alameda (Siler Rd - Via Abajo)

A section of rural roadway along West Alameda in Santa Fe County which connects Via Abajo (underpass under NM 599) to Siler Road has no trail / sidewalk and a very narrow shoulder.

Municipal Recreation Complex

A trail intersection and crossing at Wildlife Way and Caja del Rio Road is un-marked, making it dangerous for trail and recreation area users to cross the roadway.

Avenida del Sur (Richards Ave - Rancho Viejo Blvd)

Sections of trail and sidewalk currently exist along sections of Avenida del Sur, but a trail/sidewalk does not extend east to Richards Avenue on the north side of Avenida del Sur. Formal connections between trail and sidewalk sections are missing in a few locations, and there is only one mid-block crossing at the Amy Biehl School. A request has been made by the public to install a pedestrian-activated flashing beacon at this location.

Agua Fria St

West Alameda near Siler Rd.

Richards Ave (Rodeo Rd - Chili Line)

Although Richards Avenue serves as a 'Principal Urban Arterial' roadway connecting Rodeo Road to the SF Community College, providing access to area public and private schools, and Rancho Viejo subdivisions, there are no sidewalks or parallel paths on either side of the road. Sidewalk connections and crossings at intersections and mid-block across Richards Avenue should be installed.

Santa Fe Community College Trail Connections

Trail connections between transit stops, residential areas, and area destinations are missing between the Santa Fe Community College / Rancho Viejo area and adjacent Eldorado and Arroyo Hondo areas.

Bishops Lodge Rd (Tesuque Village Rd - Murales Rd)

The stretch of rural roadway from Murales road by Ft. Marcy Park to Tesuque Village has unimproved shoulders of varying widths for pedestrians. While posted speed limits vary from 25 - 45 mph and some pedestrian signs have been installed, walking alongside this roadway is uncomfortable for pedestrians. With no clearly defined pedestrian zone, vehicles frequently use the shoulder area for additional parking and obstruct informal pedestrian paths.

This route is used before Easter by pilgrims walking to the Santuario de Chimayo.

Eldorado

A low density residential subdivision with a growing commercial center, Eldorado has trails that connect to area destinations but lacks a complete network. The following pedestrian issues have been identified:

- Agora Shopping Center / Avenida Vista Grande crossing improvements for visibility and safety trail / sidewalk connections
- Trail/sidepath along Caliente Road connecting Avenida Eldorado and Avenida Vista Grande
- Avenida Azul trail connections

Richards Avenue

Bishops Lodge Road

Eldorado - Avenida Vista Grande near Agora

3.2.3 SCHOOL AREA IMPROVEMENTS

Area schools serve as major destinations and have the potential of being prime locations for pedestrian activity. Although current national statistics indicate that 70% of all school-age children are brought to school in a vehicle (compared to 30% just 30 years ago), a variety of programs such as 'Safe Routes to Schools' are enabling and encouraging walking to school. These efforts help reduce peak hour traffic, encourage physical activity through walking, and reduce emissions near schools.

In Santa Fe, some major impediments to walking to school exist where students must cross busy roadways to get to their area school. If students must cross a major roadway to schools in their district (within 1 mile for Elementary Schools, 1.5 miles for Middle Schools, and 2 miles for High Schools), these areas are designated as 'Hazard Zones' and students can be bussed to school. Santa Fe Public School District has identified 10 Hazard Zones near public schools in which students cannot walk because it is not safe.

Pedestrian improvements near schools should focus on sidewalk connectivity and crossing improvements. Identifying creative solutions to improve safety at intersections should result in either the removal or elimination of the hazard area designation. Planning for new schools and locating them in the heart of neighborhoods with a pedestrian focus, can further encourage walking as the primary means of transportation for students.

The following select improvement projects have been identified that would address current barriers to walking to school.

Airport Road Corridor

Two primary residential areas along Airport Road are designated as hazard zone within the Sweeney Elementary School walk zone. During the 2013-2014 school year, 168 students were bussed from these areas just 1/4 mile to their designated school because there was no safe route for them to walk. Students from the Country Club Gardens Mobile Home Park north of Airport Road must cross the busy road to get to school.

Sidewalk and landscape buffer improvements along Airport Road, in addition to intersection improvements at South Meadows and a mid-block crossing at Country Club Gardens / Buffalo Grass Road would increase pedestrian safety in this area.

An internal trail connection between residential areas from Center Drive west to South Meadows, together with sidewalk and landscape buffer improvements along Airport Road would increase pedestrian safety for these students and provide a non-vehicular route to school.

Lower Agua Fria Street Corridor

Almost all of the students within the new El Camino Real school district (2014, first year of operation) are in designated ride zones because walking to school is not safe and does not meet state minimum requirements. The Cottonwood Mobile Home Park, whose eastern border is just 820 feet from the school property, houses 320 elementary school students who are bussed twice a day because no safe route to school exists for students to walk.

Pedestrian improvements include securing a sidewalk or trail easement and constructing a connection between the Cottonwood Mobile Home Park and the El Camino Real School. In addition, the construction of a sidewalk along Agua Fria Street, or providing crossings and a connection to the future Santa Fe River Trail to connect to the school would increase pedestrian safety in this area.

Figure 3.14: Sweeney Elementary School - Hazard Zones 2014

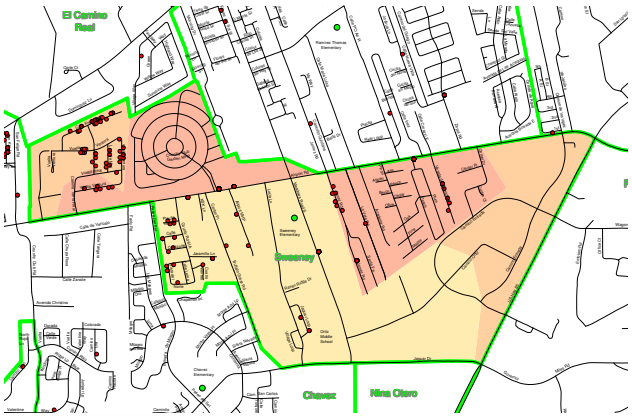
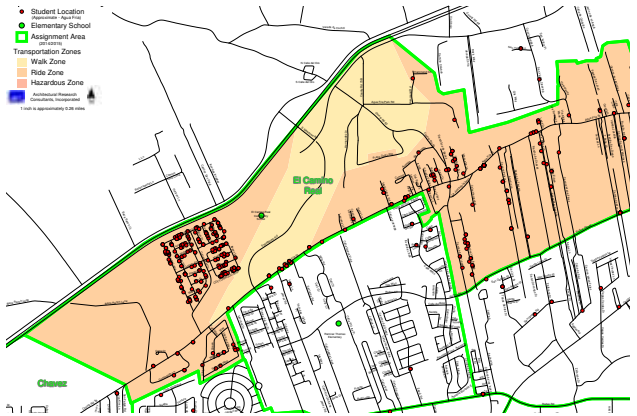


Figure 3.15: El Camino Real School - Ride Zones 2014



Ramirez Thomas School - Area Improvements

Ramirez Thomas has the highest number of students that live within the 1 mile walk zone who attend the school with 389 of 478 students, or 81% of students in the walk zone. Many of these students, however, do not walk to school because area roadways do not feel safe and there is a culture of parents driving their children to school.

Sidewalk and landscape buffer improvements along Ruffina Street, a busy connector roadway north of the school property, would help improve walkability. In addition, paving and adding sidewalks and safe crossings across Calle Po Ae Pi to the west of the school would help connect to residential areas south and west of the school.

Other School Area Improvements

Improvements to the pedestrian environment around schools should be studied on a site by site basis, looking both at internal circulation networks and access points as well as connections to sidewalk and trail networks. Multiple points of access from area neighborhoods should be provided to school grounds for students to increase options for walking, without affecting school safety.

Some improvements to area schools include the following:

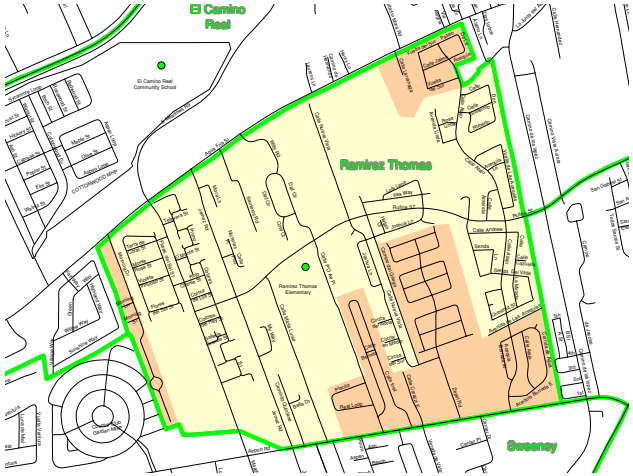
- crossing markings / striping
- intersection improvements
- sidewalks with landscape buffers and good pedestrian visibility
- pedestrian education programs geared toward school children
- enforcement of lower speeds in school zones

School Bus Stop Area Improvements

Students living outside the walk zone of their school and attending their designated school are served with school bus transportation from remote school bus stop areas. The locations of these stops are determined by the school district and oftentimes vary from year to year. Pedestrian connections to these stops should be present for the safety of the students.

An analysis of these remote school bus stops should be conducted that takes into consideration pedestrian safety issues, parent pick-up / drop-off configuration, and ridership numbers. A joint effort between the school district and the municipality of that jurisdiction would be beneficial to implement any site specific improvements.

Figure 3.16: Ramirez Thomas Elementary School - Ride Zones



Sweeney Elementary School - Crossing Guard at pick-up time

School Bus Stop locations should be safe for pedestrians

3.2.4 OTHER IMPROVEMENT LOCATIONS

In addition to the areas of concern previously mentioned, the plan identifies 175 more locations spread throughout the planning area that are in need of improvements. These stand-alone improvement locations have been rated and according to their ability to address major public concerns about safety and connectivity. They range in scale from simple striping and signing needs, to larger scale intersection or corridor improvements.

In general, these improvement locations fall into the categories listed at right. A full listing of identified improvement locations, organized by type, can be found in *Appendix D*.

These improvements may be completed as stand-alone projects or in coordination with roadway maintenance projects. Improvements should follow guidelines outlined in *Chapter 5: Pedestrian Toolbox* and consider all modes of transportation.

It is envisioned that a Pedestrian Advisory Committee would be formed to help evaluate and recommend projects for implementation (*see Chapter 6: Implementation*).

Factors that may influence the recommendation to pursue design and implementation of projects include available funding, heightened public concern, the potential of bundling pedestrian improvements with other area roadway improvements.

Missing Sidewalk Segment (Connectivity)

Missing sidewalk segments impede connectivity. In many cases worn footpaths are evident in locations where connections are needed. New segment installation should consider full access from intersections and other destinations.

Sidewalk Buffering / Landscaping

Buffering from vehicular traffic by adding landscaping buffers with planting and widening the sidewalk can help make a more comfortable pedestrian zone. Along many roadways, narrow sidewalks adjacent to high speed traffic leave pedestrians exposed and vulnerable.

Crossing Marking / Striping / Signage

Many locations lack crossing markings and pedestrian signs. Striping conventions are inconsistent and are not maintained. The adoption, implementation and maintenance of a bold pedestrian marking and striping program will provide clear visual cues at locations where pedestrians and vehicles intersect.

Intersection Safety

Intersection safety includes crossing markings, but also signalization, signal timing, median refuge islands, curb ramps and other elements that facilitate clear and safe passage across roadways at intersections. Intersection redesign to reduce crossing distances for pedestrians and to slow traffic have the greatest impact on safety.

Mid-Block Crossing

Mid-block crossings allow pedestrians to reach destinations across the roadway without having to cross at intersections. Typically, these are installed in locations where there is high pedestrian volume, destinations on both sides of the street, and long distances between intersections.

3.2.5 CITIZEN REPORTING

Citizen Reporting - Project Evaluation

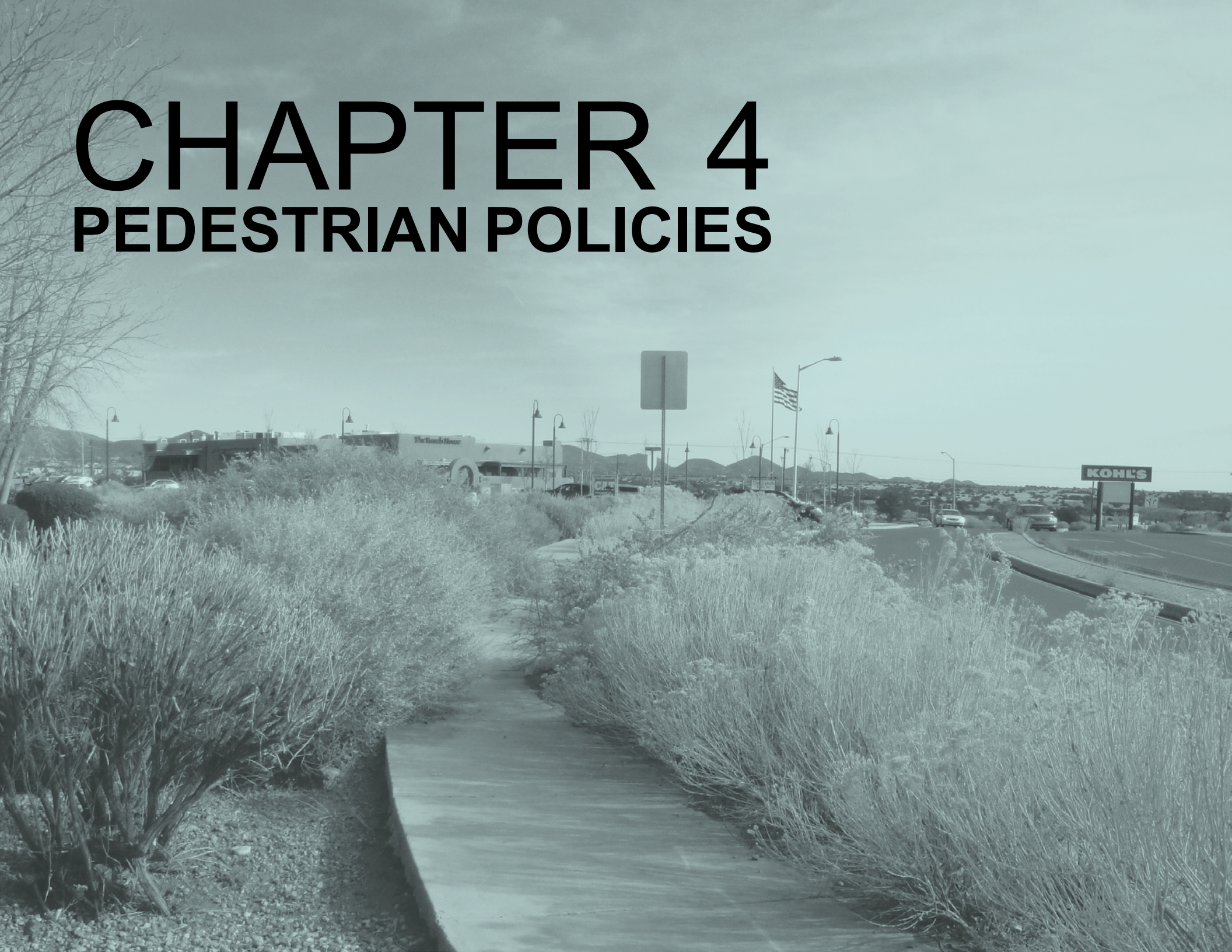
As additional locations are identified that are not included in the improvement needs list generated as part of this plan, the City and County of Santa Fe should formalize a process for documenting, evaluating, and adding them to the list. Currently, both Santa Fe County and the City of Santa Fe have on-line venues for reporting issues.

The City of Santa Fe has a 'Request and Report' web page that informs the individual reporting of current policies and allows reporting according to a limited list of items. Standard pedestrian-related reporting topics focus on sidewalk maintenance issues, weed control, traffic signals, and overhead lighting. Based on public feedback during the master plan process, this list should be expanded to include a broader range of topics, including missing sidewalks, striping, intersection improvements, law enforcement, and accessibility issues.

Santa Fe County has a location on their website to 'Report a Road Concern'. Although it is primarily road-focused, sidewalk and other pedestrian issues can be reported in this location.

As locations are reported, they should be rated according to the criteria outlined in *Figure 3.1 Score Card*. The improvement need can then be added to the master list and evaluated for funding, design, and implementation.

CHAPTER 4
PEDESTRIAN POLICIES



4. PEDESTRIAN POLICIES

The vision of the Santa Fe Metropolitan Pedestrian Master Plan is to provide an environment that invites people of all ages and abilities to walk for enjoyment, exercise, and daily transportation by providing a safe, convenient, and attractive pedestrian environment. In order to realize this vision, existing policies must be updated to align with this vision. The plan will help increase the quality of life, environment, and livability for Santa Fe area residents.

Existing Policies

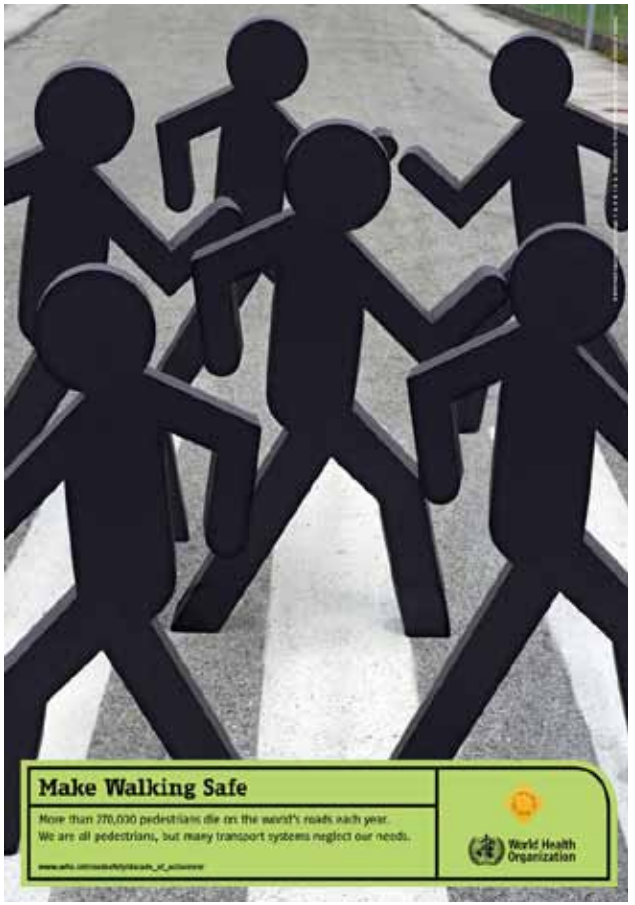
A number of existing state and federal planning requirements address pedestrian issues. In addition, the City of Santa Fe and Santa Fe County have adopted many local planning documents with policies pertaining to the pedestrian environment.

Policy Recommendations

To fully address pedestrian needs and concerns, however, some of these plans will need to be updated to achieve a walking environment that better serves the community and meets the vision of the plan. Policy changes recommended in this section will ensure consistency with the Pedestrian Master Plan.

Integrated Planning Initiatives

A number of national transportation planning initiatives focus on integrating a balanced planning approach between all transportation modes. Adopting aspects of these policies would improve the quality of life for the Santa Fe community and result in a more walkable environment.



A World Health Organization marketing campaign to raise awareness to the importance of implementing safety measures for pedestrians.

4.1 EXISTING DOCUMENTS + POLICIES

It is important that this plan aligns and is consistent with relevant Federal, State, and Local plans. The following Federal and State documents address the planning, design, and operation of pedestrian facilities:

Federal Plans, Guidelines + Regulations

- Americans with Disabilities Act (ADA)
- Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration, USDOT
- Guide for the Planning, Design and Operation of Pedestrian Facilities, American Association of State Highway and Transportation Officials, AASHTO
- Guide for the Development of Bicycle Facilities, AASHTO
- A Policy on Geometric Design of Highways and Streets (the Green Book), AASHTO
- A Guide for Achieving Flexibility in Highway Design, AASHTO
- International Building Code (IBC), International Conference of Building Officials Uniform Code, and locally adopted building codes

New Mexico State DOT Documents

- New Mexico DOT policies, standard plans and provisions, specifications for road and bridge construction, and uniform design standards for streets and highways

In addition to the above Federal and State documents and laws relating to pedestrian-related issues, a number of local plans address the pedestrian environment. The following plans provide guidelines on pedestrian issues. Many of these plans will need to make adjustments in order to be consistent with the Santa Fe Metropolitan Pedestrian Master Plan.

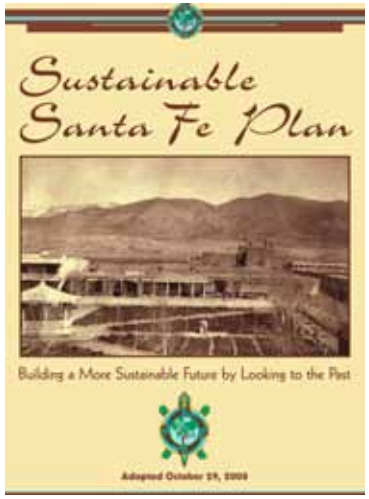
Santa Fe General Plan (1999)

The City of Santa Fe's currently adopted 1999 General Plan contains basic pedestrian requirements and a section on "pedestrian circulation," within the Transportation chapter.

The Transportation chapter establishes policies and standards to provide a multi-modal transportation system that encourages alternatives to automobile travel. Two of the established themes within the Transportation chapter of the Santa Fe General Plan are quality of life and transportation alternatives. Walking is an encouraged mode of transportation. The Plan recommends that new development increase the number of access points and pedestrian/ bicycle connections to the neighborhood network. Neighborhood layouts encourage walking, facilitate movement choice, and allow for alternative routes to enter and exit the neighborhood. The Plan points out that malls and other large commercial developments, as they are now designed, do not foster an environment conducive to walking.

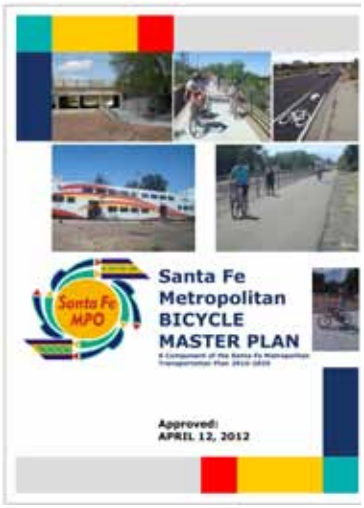
Sustainable Santa Fe Plan (2008)

The Sustainable Santa Fe Plan was developed to promote "community sustainability" through social justice, economic health, and environmental stewardship. The Plan supports development that allows for the use of transportation alternatives to vehicles. The proposed actions are to prioritize zero emission transportation (walking, bicycling, and electric vehicles), establish safe routes for zero emission transit, continue the design and construction of a comprehensive pedestrian / bike trail system, implement Complete Streets, and reduce the heat island effect. All of these actions would greatly benefit the pedestrian environment in Santa Fe.



Santa Fe Metropolitan Bicycle Master Plan (2012)

The Santa Fe Metropolitan Bicycle Master Plan and the Santa Fe Metropolitan Transit Plan (currently being produced), together with this plan, are components of the Santa Fe Metropolitan Transportation Plan. The vision of the Plan is for Santa Fe residents and visitors to enjoy safe and convenient bicycle and pedestrian access along a comprehensive network of multi-use trails and "complete streets", connecting residential neighborhoods with employment centers, parks, open space, schools, retail centers, and other public and private services throughout the metropolitan area. Many of the improvements recommended in this plan also benefit pedestrians.



City of Santa Fe ADA Transition Plan (2011)

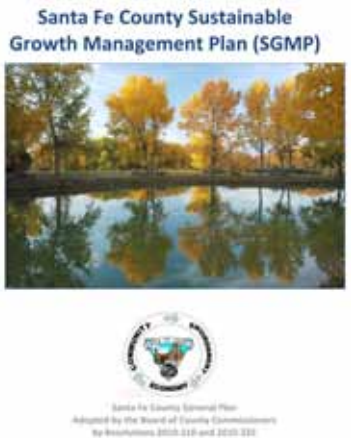
The City of Santa Fe, under Title II of the Americans with Disabilities Act (ADA), has the responsibility to operate each service, program, and/or activity so that it is readily accessible by individuals with disabilities. In the event that structural changes are necessary, the City of Santa Fe developed an ADA Transition Plan setting forth the steps necessary to complete such changes.

An update to the Transition Plan is being conducted and is anticipated to be complete by 2016. Data collected as part of the update as well as specific plan recommendations should compliment elements of the plan.

Sustainable Growth Management Plan (2010)

The Sustainable Growth Management Plan (2010) is Santa Fe County's equivalent to the City of Santa Fe's General Plan. The primary goal of the Sustainable Growth Management Plan (SGMP) is to ensure compatibility among various land uses in order to protect the health, safety, and general welfare of the County. This Plan looks at the pedestrian environment from the perspective of Land Use; Open Space, Trails, Parks, and Recreation Areas; Green Design and Development; and Transportation. The Plan seeks to use Complete Streets and Context Sensitive Solutions to encourage the use of non-motorized transportation alternatives and increase pedestrian connectivity throughout communities within the County.

Santa Fe County is in the process of adopting a Sustainable Land Development Code, a legal framework for implementing land development and growth management policies of the SGMP.



4.2 POLICY RECOMMENDATIONS

Modifications and additions to existing local policies are necessary in order to address improvements to the pedestrian environment and achieve the goals of the plan. Recommendations have been proposed based on input from the Working Group and the general public and include policy recommendations initiated by other municipalities with adopted pedestrian master plans.

Improvements to pedestrian facilities fall broadly within the categories established as part of the evaluation and analysis phase and align with current locally identified pedestrian concerns. The Santa Fe Metropolitan Pedestrian Master Plan policy recommendations are grouped in the following categories:

- **Connectivity**
- **Safety**
- **Livability / Health**

Connectivity

The major elements of the pedestrian network are sidewalks and street crossings. Sidewalks should provide a well-connected, attractive and safe pedestrian environment separated from cars that includes space for walking and appropriate street amenities. Gaps in the sidewalk network should be addressed and driveway intrusions minimized. Pedestrian access in parking lots should be provided. Street crossings should be provided at intersections and appropriate mid-block locations for increased crossing opportunities.

Figure 4.1: Pedestrian Network Connectivity - Crossings

Pedestrian Network Connectivity - Crossings

Street Crossings

- Install ADA-compliant curb ramps at all marked and unmarked crosswalks.
- Revise subdivision regulations to allow curb radii smaller than 15 feet in new residential developments where truck, bus and other large vehicle traffic will be infrequent.
- Increase installation of curb extensions (bump outs) and include plantings where possible, where this would not adversely affect bike lanes.
- Establish guidelines for the use of raised medians for pedestrian refuge areas.
- Where highway ramps enter the urban street network, design intersections with attention to pedestrian safety.
- Improve non-standard intersections.
- Improve at-grade railroad track crossings to ensure they have proper gates and signage.
- Avoid multiple turning lanes wherever possible.
- Expand use of traffic calming to reduce speeding and protect pedestrians.
- Review the potential for reducing lane widths to minimize pedestrian crossing distances.

Sidewalk ramp at corner of intersection

Sidewalk ends dangerously at railroad crossing

Figure 4.2: Pedestrian Network Connectivity - Sidewalks

Pedestrian Network Connectivity - Sidewalks

Sidewalk Design

- Establish a sidewalk zone system with minimum dimensions for walking zones and furnishings or landscape buffers to ensure clear pedestrian routes on sidewalks.
- Coordinate sidewalk standards to the roadway classification system so that the standards will correspond with the nature and levels of pedestrian activity.
- Improve pedestrian connectivity to transit.
- Limit the width, number and location of driveways.

Sidewalk Furnishings

- Encourage street trees and landscaping to control storm water and heat island effect. Balance space for the free flow of pedestrian movement with area for amenities and furnishings
- Accommodate necessary utility infrastructure.
- Allow for sustainable street furnishings, signage, and amenities that enhance the pedestrian environment.
- Accommodate commercial enterprises that enliven the street life of the neighborhood. Inventory existing street lighting; repair/replace damaged lights and install new ones for safety.

Sidewalk Gaps + Barriers

- Complete the documentation of identifying barriers and gaps in the existing pedestrian network.
- Develop and implement a reporting and evaluation system for pedestrian-related improvements
- Establish guidelines for requiring property owners to build or replace missing or substandard sidewalks and outline possible funding assistance programs.
- Consider opportunities to expand or improve sidewalks and other pedestrian facilities as part of routine street upgrade, maintenance, and rehabilitation projects.
- Phase pedestrian improvements with development. Develop clear regulations as to who will pay for future sidewalks if pedestrian improvements are not installed at the time of initial development.

Sidewalks in New Development

- Require sidewalks in new developments to follow the recommended sidewalk design standards for total width and minimum width of the Walking Zone and the Furnishing Zone.
- Promote sustainable development practices for new sidewalks through the use of permeable sidewalk surfaces and plantings in the Furnishing Zone.
- Establish standards for pedestrian facilities within parking lots.

Sidewalk separated from roadway with seating and landscape amenities

Evidence of foot traffic illustrates need for sidewalk improvements

Sidewalk corner in need of repairs and accessible ramp

Safety

The primary goals for improving safety are to reduce the incidence of pedestrian crashes and to increase the perception of safety for pedestrians. Policy recommendations focus on the design, construction, and maintenance of sidewalks and streets so pedestrians feel comfortable walking. Particular attention must be paid to improvements at intersections and crossings, where most pedestrian crashes occur.

One aspect of safety recommendations are not engineering or design related, but focus on education and enforcement of traffic laws regulating interaction between motorists, bicyclists, and pedestrians. Many people are not aware of how laws apply to pedestrians. Safety education can build awareness and understanding of all users as to their role in the transportation system.

NMDOT awareness campaign for drivers and pedestrians, 2012

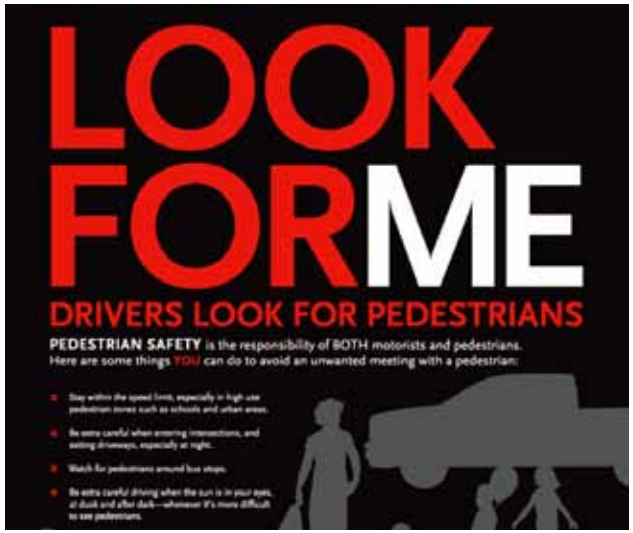


Figure 4.3: Pedestrian Safety

Pedestrian Safety

Education

- Develop and implement education programs focusing on pedestrian safety. Target specific audiences including elementary school students, older Santa Feans, and non-English speakers.
- Develop a safety awareness campaign emphasizing the rules of the road pertaining to vehicles and pedestrians as a part of the larger transportation community.
- Provide training of staff whose jobs affect pedestrian safety, in order to implement the Plan.

Enforcement

- Establish a citizen-led Pedestrian Advocacy Committee to advocate for pedestrian issues.
- Improve training of police officers and personnel on traffic and parking laws as they relate to pedestrians.
- Develop enforcement campaigns that target locations with high rates of pedestrian crashes, and campaigns to target behaviors that endanger pedestrians.
- Use pedestrian sting operations to increase compliance of Yield to Pedestrian laws.
- Update local laws to conform to state traffic laws and the Uniform Vehicle Code regarding walking.

Pedestrian Signals

- Develop criteria for the use of audible pedestrian signals and leading pedestrian intervals (LPI).
- Continue to test new technologies for traffic control such as Rapid Flash Beacons, HAWK Crossings (High-intensity Activated crossWalk), and Automated Pedestrian Detection, particularly at midblock crossing locations.
- Expand the use of pedestrian signals.
- Keep signal cycles as short as possible and ensure that clearance intervals are properly timed.

Markings

- Adopt criteria for crossing markings and crossing improvements at intersections such as striping, signage, refuge islands, bump-outs, signals, or other tools.

Maintenance

- Set standards for acceptable sidewalk conditions. Require sidewalk inspection when properties are sold.
- Commit City funds to the maintenance of publicly owned sidewalks.
- Prioritize sidewalk snow removal at public facilities.
- Educate property owners as to ordinances and requirements regarding sidewalk clearing.

Livability + Health

Livability depends on the right mix of land uses and destinations to promote walking as well as the character of the pedestrian environment. A pedestrian friendly environment has a positive relationship with adjacent development. People prefer to walk to destinations in locations with visual interest, a sense of security and protection, and easy access to adjacent buildings.

Studies show that walkable communities are not only desirable, but improve public health and increase levels of activity.

Encouragement recommendations seek to promote physical activity and improve community health through increased levels of walking and bicycling. The “safety in numbers” phenomenon suggests that improved safety will also be a result of growing pedestrian and bicycling activity.

Figure 4.4: Livability and Health

Livability + Health

Encouragement

- Develop a marketing campaign to promote the benefits of walking, partnering with the Department of Public Health and local health professionals.
- Conduct and expand events to encourage walking - Walk and Bike to School Day Implement a Pedestrian Awareness Week, like the existing Bike to Work Week
- Distribute materials encouraging residents and visitors to experience Santa Fe by foot, including maps and self-guided walking tours.
- Create a walking website.
- Support aging in place.
- Promote a Car Free Day (September 22nd, cities around the world participate in this celebration of active transportation).

Livability

- Encourage walkable land use patterns, including Transit Oriented Development and Mixed Use Development.
- Provide clear, direct, and attractive internal pedestrian networks that connect buildings, neighborhoods, and commercial centers to the adjacent sidewalk.
- Develop and implement guidelines for development review procedures that focus on the pedestrian environment.
- Provide multiple entry points from sidewalks into new developments and create connections between existing developments and area destinations.

WALK [Your City] campaign, Santa Fe, NM temporary signage installation by Creative Santa Fe, November 2014

Cities have initiated programs to promote walking. This campaign was for San Francisco’s first Walk To Work Day.

Safe Routes to Schools initiatives to encourage walking and biking to local schools

SafeRoutes
National Center for Safe Routes to School

4.3 INTEGRATED PLANNING INITIATIVES

Complete Streets

Santa Fe's streets and roadways should be balanced among all users of the public Right of Way, including bicycles, motorized vehicles, transit, and pedestrians. Some streets in Santa Fe allocate more space than is necessary for motorized vehicles, which allows drivers to feel comfortable driving at higher speeds and increasing the risk of injury to pedestrians. Neighborhood and local street designs should slow traffic and make it safer for pedestrians.

The term 'complete streets' was coined in 2003 by American Bikes. It refers to a new policy defined as: "A complete streets policy ensures that the entire right of way is routinely designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street."

Since its introduction, the National Complete Streets Coalition has formed, and many state and local complete street policies have been adopted. The complete streets initiative is intended to address safety, health, climate change, special populations and growth and revitalization.

A complete streets approach requires an inter-agency cooperation and coordination to design and implement solutions that benefit all users.

New Mexico Policies

While advocates are lobbying for the adoption of more complete streets policies in New Mexico, as of 2015, only Las Cruces and Albuquerque have adopted Complete Streets policies or ordinances (*see list at right*).

In 2007, the Santa Fe MPO Transportation Policy Board adopted a resolution (Resolution No. 2007-1) authorizing Santa Fe MPO staff to work with City and County agencies and committees to designate common Complete Streets specifications that are consistent across jurisdictions for regionally significant roadways.

Complete Streets Policies in New Mexico
as of December 22, 2014
source: www.smartgrowthamerica.org

City

• Mesilla, NM	resolution
• Las Cruces, NM	policy
• Albuquerque (*1/25/2015*)	ordinance

County

• Bernalillo County	plan
• Dona Ana County	resolution

Region

• Albuquerque MPO	resolution
• Las Cruces MPO	resolution
• Santa Fe MPO	resolution

Figure 4.5: Complete Streets Chicago, 2013 (Modal Hierarchy)

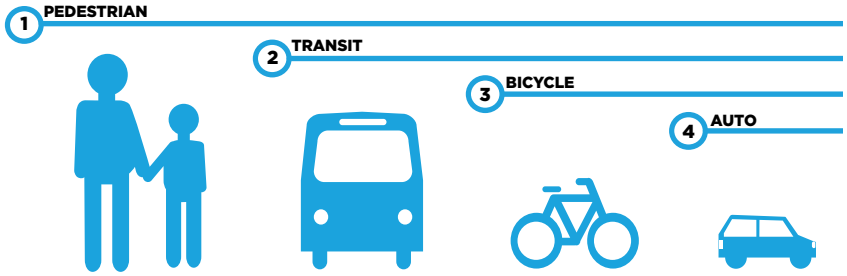
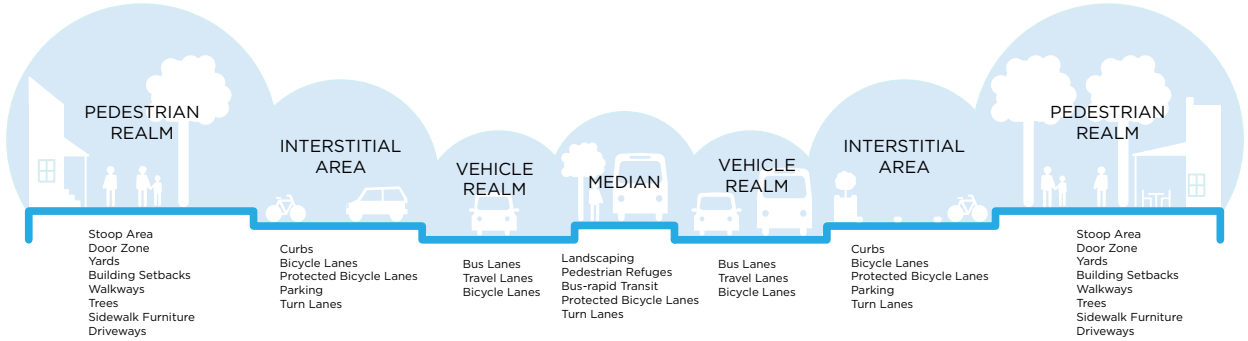


Figure 4.6: Complete Streets Chicago, 2013 (Street Cross-Sectional Elements)



Multi-Modal Level of Service Analysis + Modeling (MMLOS)

Analyze level of service of streets and intersections to include all modes of travel in a balanced manner, not merely for vehicular traffic. Level of Service analysis for pedestrians should look at the intensity of existing pedestrian use relative to destinations and the density of surrounding land uses as well as include projected land uses and changes that may encourage pedestrian use in the future.

Typical Level of Service (LOS) analysis rates vehicle delay at intersections. A more balanced approach would include all modes of transportation and provide adjustments based on area specific goals. For example, in an industrial park, LOS for trucks might be a primary performance measure; in a retail environment, parking and a pedestrian friendly environment might be the target performance measure.

Figure 4.7: Green Transportation Hierarchy (Transportation Alternatives, 2001)

Transportation Alternatives, 2001 (NYC advocacy group for bicycling, walking and public transit)

The Green Transportation Hierarchy favors more efficient (in terms of space, energy and other costs) modes.

CHAPTER 5
DESIGN TOOLBOX

5. DESIGN TOOLBOX

Planning for pedestrians facilities should be accomplished at the outset of all projects as part of a balanced and integrated transportation solution. Focusing on the quality of the walking environment can enhance the pedestrian experience. The character and setting of the pedestrian facility, as well as adjacent land use mix, density, destinations, and origins directly impact levels of pedestrian use.

This chapter provides guidelines for the design of pedestrian facilities by profiling current best practices from other municipalities. It is understood that pedestrian facilities are an integral part of a larger transportation and infrastructure network that also accommodates bicycles, motorized vehicles, transit, and freight.

In many cases, retrofits to pedestrian facilities are needed in areas that have existing infrastructure. The areas of critical concern and projects outlined in Chapter 3 and in Appendix D describe existing deficiencies. This chapter outlines general guidelines for pedestrian friendly streets, pedestrian needs based on types of pedestrians, and introduces a toolbox of pedestrian elements that will improve pedestrian facilities.

5.1 PEDESTRIAN NEEDS

Pedestrian needs are diverse and wide-ranging and should be considered in the design of pedestrian facilities. While design standards are conceived to meet the needs of an 'average' population, they must be applied in a flexible manner to address the full range of pedestrians. For example, pedestrians typically travel at speeds of 3 to 4 mph, covering between 1/4 to 1/3 miles in a 5 minute walk. Children, older adults, and people with certain disabilities typically travel at much lower speeds. Where these populations cross intersections, signal timing should be adjusted to accommodate a slower walking speed. Walking speeds also slow down when pedestrian volumes increase and the square footage per person decreases.

Figure 5.1: Pedestrian Characteristics by Age Group

COMMON CHARACTERISTICS BY AGE GROUP

AGE 0 to 4: Learning to walk
- *Requiring constant parental supervision*
- *Developing peripheral vision, depth perception*

AGE 5 to 12: Increasing independence, but still requiring supervision
- *Poor depth perception*
- *Susceptible to "dart out"/ intersection dash*

AGE 13 to 18: Sense of invulnerability
- *Intersection dash*

AGE 19 to 40: Active, fully aware of traffic environment

AGE 41 to 65: Slowing of reflexes

AGE 65+: Street crossing difficulty
- *Poor vision*
- *Difficulty hearing vehicles approaching from behind*
- *High fatality rate*

(Source: Hawaii Pedestrian Master Plan Toolbox)

Barriers to Pedestrian Travel

The quality of pedestrian facilities should keep pace with the needs of pedestrians. In Santa Fe, the most commonly cited reasons for not walking include:

- lack of sidewalk connectivity
- concerns for personal safety
- lack of destinations (facilities to and from popular origins and destinations)
- poor lighting

Pedestrian Oriented Populations

Older Adult Pedestrians

As populations age, access to transit and safe routes to destinations become more important. Research shows that people over 60 walk more than other age groups, yet may have impaired mobility. Santa Fe's senior population (65 and older) is 30%, with its aging population anticipated to grow steadily over the next 20 years.

Younger Pedestrians

Younger pedestrians (under 18 years old) make up 32% of the population in the Santa Fe Urban Area (2010 Census). Young pedestrians often rely on safe walking routes to school, transit stops, and recreation facilities. Very young pedestrians get distracted easily and may dart out into traffic.

People with Disabilities

People with disabilities need carefully designed facilities that eliminate barriers and address mobility needs based on the particular disability. Many of these barriers are identified as part of the ADA Transition Plan, currently underway in Santa Fe.

Figure 5.2: Defining "Walkable Community"

Defining "Walkable Community"
By Dan Burden of Walkable Communities (www.walkable.org)

A "walkable community" is designed for people, to human scale, emphasizing people over cars, promoting safe, secure, balanced, mixed, vibrant, successful, healthful, enjoyable and comfortable walking, bicycling and human association. It is a community that returns rights to people, looks out especially for children, seniors and people with disabilities and takes aggressive action to reduce the negative impacts of sixty-plus years of auto-centric design and uncivil driving practices. It is also a community that emphasizes economic recovery of central neighborhoods, promotes the concepts of recovering and transforming suburban sprawl into meaningful villages, and especially takes ownership and action to protect and preserve open space.

A walkable community, like a livable community, smart growth community, or sustainable community, makes a neighborhood, hamlet, village, town, city or metropolis into a place where many people walk, ride bicycles and use transit, and where anyone who drives a car moderates their behavior in a way where they take nothing from the rights of those who wish to stay healthy and active by taking part in activities outside the car.

A walkable community is one that is old, historic, well worn, restored sensibly and worthy of protection. A walkable community is one that is compact, new, fresh, invigorating and teaming with people enjoying their streets, parks, plazas, buildings and other physical space.

Below are ten indicators of prosperous, walkable, healthy and livable communities:

- Compact, lively town center.
- Many linkages to neighborhoods.
- Low speed streets.
- Neighborhood schools and parks.
- Public places packed with children, teenagers, adults and people with disabilities.
- Convenient, safe and easy street crossings.
- Inspiring and well-maintained public streets.
- Land use and transportation mutually beneficial.
- Celebrated public spaces and public life.
- Many people walking.

Also see "Key Principles of Building Healthy Communities," Building Communities With Transportation: Distinguished Lecture Presentation, Transportation Research Board, Walkable Communities (www.walkable.org/download/TRBpaper.doc), January 10, 2001.

A Walkable City

Sidewalks are the backbone of the pedestrian network. They are part of the street where pedestrians should be able to move freely and comfortably without fear of vehicular conflicts. Some sidewalks in Santa Fe are very narrow and many are cluttered with obstructions such as utility poles or other impediments.

Downtown Santa Fe is generally considered walkable, with sidewalks on both sides of the street, narrow roadways, and a range of destinations and attractions. For much of the city and rural area, however, the sidewalk network is limited by gaps, obstructions, pinch points, and sidewalks in poor condition.

While the dominant focus of the pedestrian facility design guidelines in this chapter is on sidewalks and crossings, it is important to consider the pedestrian environment as part of the entire roadway system.

Pedestrian Trip Lengths

The distance a pedestrian is willing to travel varies greatly depending on the pedestrian facilities, nearby destinations, the attractiveness of the route, climate and weather conditions, the purpose of the trip and the time of day, to name a few. People will walk longer distances for recreation or a purpose, but prefer shorter distances when they are commuting.

According to the National Survey of Pedestrian and Bicyclist Attitudes and Behaviors, about 27% of all walking trips are less than 1/4 mile and about 15% are more than 2 miles. The average walking trip is about 1.2 miles. 73% of all pedestrian trips are less than 1/2 mile, ca. a 10 minute walk.

Roadway Redesign

Redesigning roadways can be beneficial for the pedestrian. By conducting a road diet (reducing the amount of space for motor vehicles) either through eliminating lanes or shrinking the width of lanes, the road can accommodate vehicles more efficiently and safely. Additional space from a road diet is re-allocated for other uses, such as turn lanes, bus lanes, pedestrian refuge island, bike lanes, or more sidewalk zone space.

Road diets should be considered in locations of pedestrian use where roadways were designed dominantly for vehicular traffic. Space reallocation to slow traffic and accommodate other modes of transportation (walking, bicycling, transit) can improve pedestrian facilities and encourage people to walk more.

Road Diet - Before and After Example (WALC Institute)

Pedestrian Access to Transit

Designing pedestrian facilities that promote and enhance walking in and around transit stops encourages transit use and increases walking levels. Walking and transit use go hand in hand. Pedestrian facilities around transit stops in particular should be designed to make multi-modal trips convenient, safe, and enjoyable.

People with disabilities tend to rely on transit as their primary transportation mode and need properly design, accessible pedestrian facilities, in compliance with ADA Standards. Locating bus stops in proximity to pedestrian crossings can help increase pedestrian safety.

The current transit study being conducted by the Santa Fe MPO will provide recommendations on improving transit and pedestrian access to transit.

Trail Connections

Trails are important to the overall connectivity between pedestrian and bicycle networks. A network of off-road paved urban trails exists in Santa Fe. Many new connections and sections are recommended for implementation to create a cohesive network, as outlined in the 2012 Bicycle Master Plan. Although recommendations outlined in the Pedestrian Master Plan focus on needed sidewalk and crossing improvements, improving and providing connections to the urban trail network allows a safe alternate walking location until sidewalk connections and improvements can be made.

Sustainable Street Design

Recent planning and emphasis on sustainability in design has combined the practices of Complete Streets, Great Streets, Green Streets, and the intent of the National Environmental Policy Act (NEPA) into Sustainable Streets. An integrated transportation approach, sustainable streets not only addresses transportation modes and users, but also looks at the physical context and environmental aspects of street design.

The following are objectives of sustainable streets:

- reduce energy consumption
- reduce consumption of material resources
- reduce impacts to environmental resources
- support healthy urban communities
- support sustainability during implementation

5.2 SIDEWALK AND WALKWAY STANDARDS

Roadway Classification

The design of roadways and streets varies depending on the width of the Right-of-Way, the function of the street, adjacent and nearby land uses, and the types of transportation to be accommodated. Different street types serve different purposes and pedestrian needs will vary accordingly.

As a starting point to defining street types, Santa Fe's functional roadway classification (see Figure 5.2) can serve as an initial tool to guide appropriate improvements to pedestrian facilities. This street network provides the basic network for walking and bicycling within the MPO area.

It is important to note that as the metropolitan area grows and roadway connections and extensions are made, corresponding adjustments to the roadway classification system are made. In some cases, such as in the historic downtown area, rural zones, and walkable commercial corridors, it may be desirable to prepare a system of street types based on a balanced view of transportation needs within an existing built environment.

Sidewalk Location

As a recommended best practice, continuous sidewalks should be provided on both sides of all streets, roadways, and highways that are used by pedestrians. In cases where there are space limitations and previously no sidewalks, sidewalks on one side of the street may be acceptable. In these cases, the side with the most pedestrian origins and destinations serves as the best location for pedestrian facility improvements.

Rural areas should accommodate facilities for pedestrians. Worn paths are indicators for a need for improved facilities.

Historic Character

Santa Fe has a rich cultural and historic heritage that should retain its integrity, even as improvements are made to public facilities. Sidewalks and street improvements in the Historic District must conform to aesthetic standards while meeting local and national codes. Balancing these needs can be challenging, especially where there are space limitations.

Site specific solutions should be generated for these historic areas that meet the intent of providing safe and accessible pedestrian facilities, while retaining the historic integrity of the area. Areas that are particularly challenging include established streets such as Agua Fria Street, Canyon Road, or Cerro Gordo where road rights-of-way are narrow and existing historic structures occupy or encroach on the street.

In some cases, such as the residential east-side area with dirt roads and within the traditional village of Agua Fria residential areas, sidewalks may not be needed because of low traffic volumes. Pedestrians are comfortable walking within the road.

Sidewalks and crossings in Santa Fe's historic district must meet design codes and fit in with the historic character of the City.

Figure 5.3: Functional Roadway Classification System

LEGEND *(Pending Federal Highway Administration Approval)*

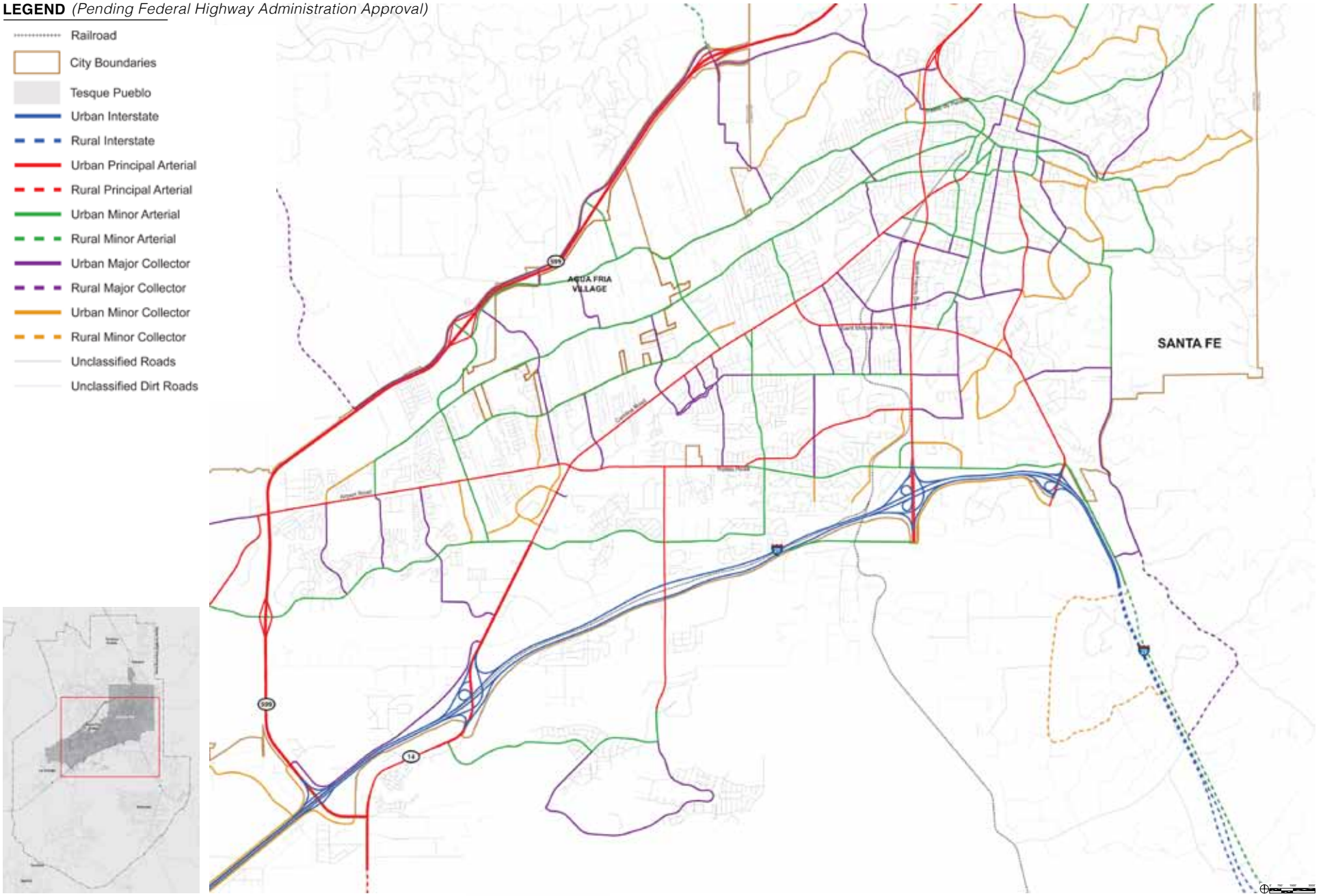


Figure 5.4: Recommended Dimensions for Sidewalks and Walkways

STREET TYPE	NO. TRAVEL LANES	SIDEWALK WIDTH TOTAL WIDTH	WALK ZONE	BUFFER ZONE	FRONTAGE ZONE
Principal Arterial					
Urban	4-6 lanes	12 ft. min.	8-10 ft. (6 ft. min.)	5 ft.	no minimum
Rural	2-4 lanes	12 ft. min.	6-8 ft. (6 ft. min.)	5 ft.	no minimum
Minor Arterial					
Urban	4 lanes	12 ft. min.	8 ft. (6 ft. min.)	4 ft.	no minimum
Rural	2-4 lanes	12 ft. min.	8 ft. (6 ft. min.)	5 ft.	no minimum
Major Collector					
Urban	2 lanes	12 ft. min.	6-8 ft. (6 ft. min.)	4 ft.	no minimum
Rural	2 lanes	12 ft. min.	6-8 ft. (6 ft. min.)	5 ft.	no minimum
Minor Collector					
Urban	2 lanes	10 ft. min.	6-7 ft. (5 ft. min.)	5 ft. (3 ft. min.)	3 ft. clear ROW
Rural	2 lanes	10 ft. min.	6-7 ft. (5 ft. min.)	5 ft.	3 ft. clear ROW
Local Residential					
Urban	2 lanes	8 ft. min.	5 ft.	3.5 ft.	no minimum
Rural	2 lanes	8 ft. min.	5 ft.	no minimum	no minimum

NOTE: The dimensions listed are guidelines and should be reviewed for each project to fit the anticipated volume of pedestrian use.

Figure 5.5: Pedestrian Realm Zones

frontage zone

Area along the right of way that provides space between the building facade, wall or fence and the walk zone.

walk zone

Space for pedestrian through travel that is obstacle-free and clear for walking.

buffer

Primary buffer space between active pedestrian walking area; interface between on-street parking or vehicle travel lane; space for furnishings / landscaping

street

Sidewalks Zones and Width Standards

Each roadway classification includes a set of associated design standards for sidewalks and walkway dimensions. The sidewalk is divided into three zones: the frontage zone, the walk zone, and the buffer zone.

frontage zone

The frontage zone is the area of sidewalk adjacent to the building facade, wall, or fence. The frontage zone varies greatly depending on location and zoning. In commercial areas, this is the zone for a sidewalk cafe or sidewalk sales. In residential areas, this is the zone for architectural elements such as steps, stoops, or planters. Where existing encroachments exist, new encroachments would be allowed within the frontage zone as long as they respect the prevailing alignment.

The total width of the sidewalk is greater than the minimum walk zone and minimum buffer zone to allow for localized design variability.

walk zone

The primary function of the walk zone, the most important portion of the sidewalk zone, is to accommodate pedestrian flow, Proper pedestrian flow depends on the width of the sidewalk to accommodate the anticipated number of people using the sidewalk. An average pedestrian occupies 2 1/2 feet of the walk zone; two people need 5 feet of sidewalk; three people, or a person passing two in the opposite direction requires 8 feet of sidewalk.

Pedestrians generally tend to travel in the center of sidewalks to separate themselves from traffic, walls, fixed obstructions or protrusions, and other pedestrians entering and exiting the walk zone. Extra space, also called a ‘shy distance’ is needed for a comfortable walking experience adjacent to these obstructions on both sides of the walk zone. The walk zone, or ‘effective width’ of the sidewalk takes into account the 24 inches of ‘shy space’ adjacent to obstacles.

In general, 5 feet clear width of sidewalk should be the minimum for any new construction in low to moderate density areas. In areas with higher density or major pedestrian promenades, wider sidewalks should be provided. In all cases, the minimum ADA dimensions must always be met.

buffer zone

The buffer zone serves a number of functions: it provides a buffer from traffic, a space for landscaping to create a more pleasant walking environment and absorb storm water runoff, and a place for street furnishings, utilities, and signs. Elements within the buffer zone vary depending on the adjacent land uses, the speed and volume of traffic, and whether there is a bike lane or parking within the street.

Minimum recommended buffer zones protect pedestrians from traffic on higher volume roadways and provide space for furnishings and landscaping.

Pedestrian comfort is linked in large part by how the street environment is designed. On higher volume, faster speed roadways, pedestrian facilities require a larger buffer and wider sidewalks. On lower volume, slower speed streets, pedestrians are more comfortable walking on narrower sidewalks with a smaller or no buffer.

Sidewalks and Walkway Definitions

sidewalk:
space within the road right-of-way dedicated to pedestrian travel that is separated from motorized vehicles vertically (with a curb) and horizontally, if space is available.

walkway:
term used synonymously with sidewalk

paved walkway:
paved route separated from the roadway, typically in lower density areas without curbs or sidewalks

pedestrian path:
unpaved / unimproved path or trail

shared-use / multi-use path:
paved pedestrian path that is shared with bicyclists

Shoulders or unpaved foot paths / trails along roadways are sometimes used by pedestrians but are not formally recognized as pedestrian facilities. If pedestrians are present in these locations, formal sidewalks or walkways should be considered.

Sidewalk Surfacing

Sidewalk surface materials should be selected to be slip-resistant, easy to maintain, and meet accessible criteria as required by ADA Standards. Typically, sidewalks in Santa Fe are constructed of concrete or brick, materials known for their durability and longevity. Other surfacing options include unit pavers (concrete, asphalt, stone), asphalt, or pervious materials such as pervious concrete, unit pavers with pervious joints, and compacted crusher fines paving. Where possible, recycled materials or materials with recycled content should be used.

In all cases, material choices should examine construction and life cycle / maintenance costs, meet ADA Standards, and adhere to local requirements (eg. historic district requirements).

Sidewalks and walkways should be designed with a maximum longitudinal grade of 5% and a cross-slope of not more than 2%. Paving should be sloped away from buildings toward planting areas or the street. No horizontal or vertical gaps larger than 1/2” are permitted between materials.

At junctures with driveways, sidewalks should be level to communicate that sidewalks are considered part of the roadway, and driveways are not. Providing a level sidewalk across driveways tells motorists they are crossing a sidewalk and that the pedestrian has the right-of-way.

Curb Cuts / Ramps

Sidewalk curb ramps are considered the most important element of an accessible pedestrian environment because they provide accessibility at grade transitions between the sidewalk and the street.

Sidewalk curb ramps may also be known as accessible ramps or wheelchair ramps. When placed at intersection corners, crossings, parking access, and other locations they facilitate a seamless transition from the sidewalk level to the street level.

Curb ramps should be constructed to meet ADA Standards by maintaining required slopes and cross-slopes, including tactile warning strips, and providing unobstructed connections with paths of travel. Where possible, ramp width should match the width of the sidewalk.

Curb Cut / Ramp with Crossing Markings

Buffers

Sidewalks placed directly adjacent to curbs are inhospitable to pedestrians, particularly along high-volume and high-speed roadways. Allowing space for a buffer between the curb and sidewalk can improve pedestrian safety and enhance the walking experience.

The Buffer zone is a flexible area into which the walking zone or street zone may extend, depending on site-specific conditions. Several types of treatments on the edge of the roadway within the street can help buffer pedestrians from vehicular traffic. These areas also provide space for landscaping, light poles, utilities, signs, and street furniture.

Street-zone buffers can increase the distance between pedestrians and moving vehicular traffic. On-street parking can be beneficial for pedestrians because it provides a buffer between the roadway and the sidewalk and typically reduces vehicle speeds. Parking should be set back from pedestrian crossings and intersections so parked cars do not interfere with visibility Bicycle paths also serve to buffer pedestrians from motor vehicle traffic.

Buffers of Parking along San Francisco St.

Landscaping / Planting Buffer

Introducing plants into the buffer zone is highly beneficial to the street environment. Plants can help mitigate the urban heat island effect, provide a more comfortable microclimate, help manage stormwater runoff, and provide locations for bird and wildlife habitat.

Street trees serve as a barrier between pedestrians and traffic on high volume streets and help provide a more comfortable, shaded walking environment. Street trees also visually narrow the field of vision for motorists, causing them to move more slowly.

Landscape improvements in the buffer zone can soften the edge of the sidewalk and make the walking environment more enjoyable. Plant selections can aesthetically enhance the streetside environment and help establish a local character with drought tolerant and native plants.

Planting areas, or rain gardens, along roadways can be designed to collect stormwater runoff to help irrigate plants and allow for infiltration. Curb extensions can capture stormwater to control flow and improve water quality.

Street Trees within Buffer Zone

Furnishings

A variety of streetscape furnishings within the buffer zone can contribute to the street environment and provide places for rest and social interaction. A palette and placement plan for furnishings should be developed for each streetscape project to enhance the identity and character of the streetscape and surrounding district and make the most use of this area.

Pedestrian-focused furnishings can include seating, trash / recycling receptacles, bicycle racks, bollards, tree grates, planters, transit shelters, and informational signage. Furnishings should be concentrated in areas where pedestrians will benefit from them most, such as near transit stops, shaded locations, and at building entrances or collection spots. Furnishings should be selected for quality, value (low maintenance / durability), and respond to the character of the place.

Public art can be integrated within the streetscape to add character and help with wayfinding.

Site Furnishings within Buffer Zone

Lighting

Poor lighting at intersections and along major pedestrian routes can impair pedestrian visibility, create unsafe and uncomfortable environments. Good lighting provides safety, security, and comfort for pedestrians and enhances the ambience of retail and commercial districts.

According to the National Highway Traffic Safety Administration (NHTSA), seventy percent of pedestrian fatalities occur at night. Installing lights allows vehicles to see pedestrians at intersections.

Crosswalks and their approaches should be well lit, with a consistent level of lighting. Overhead road lighting installed at crosswalks generally provides a greater visibility distance than head lamps alone. Lights should be offset from the crosswalk and located upstream of it so light falls on crossing pedestrians where vehicles are approaching.

Maintaining functional lighting is also key to a safe night-time walking environment. A reporting system can help identify locations where bulbs need replacement and lights are damaged or broken.

Figure 5.6: Lighting of Pedestrian Areas for Good Visibility

Rural Areas and Shoulders

Rural areas typically do not have designated sidewalks or walkways. In some cases, shoulders along roadways are used by pedestrians in rural settings, although they are not formally recognized as pedestrian facilities and do not meet ADA requirements.

Space for pedestrians should be allocated along roadways for emergency use, even in completely undeveloped areas. Rural roadways and highways should meet minimum shoulder width standards on both sides (see Figure 5-6: AASHTO Standards). Along rural roadways in areas known to have pedestrians, No Parking signs should be installed to prohibit parking.

In general, rural areas that show signs of use by pedestrians along shoulders should ultimately receive permanent improvements to have designated sidewalks or walkways.

Figure 5.7: Roadway Shoulder Dimensions - AASHTO

Shoulder Dimensions

Refer to local and state standards for applicable shoulder width requirements. As a general best practice, per the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, shoulders should be:

- 4 to 6 ft wide minimum adjacent to a bike lane and on local roads with lower traffic volumes
- 4 ft minimum on roads with less than 400 ADT and 6 ft minimum on roads with 400 to 1500 ADT
- 6 ft width is acceptable on roads with 1500-2000 ADT if minimum width of traveled way is 24 ft
- 8 ft wide minimum on roads over 2000 ADT

Pedestrian using a rural roadway

5.3 INTERSECTIONS AND CROSSINGS

Roadway design at street intersections and crossings, where pedestrians are actually in the roadway, are particularly important to pedestrian safety. Pedestrians are the most vulnerable in these locations because they move much slower and weigh less than vehicles.

Reference Standards + Guidelines

- Proposed Right-of-Way Accessibility Guidelines (PROWAG)
- American Association of State Highway and Transportation Officials (AASHTO)
- AASHTO Green Book
- Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO)
- Federal Highway Administration (FHWA)
- Planning and Urban Design Standards, American Planning Association
- NM DOT ADA Standard Drawings
- Manual of Uniform Traffic Control Devices (MUTCD)

Figure 5.8: Principles of Intersection Design to Accommodate Pedestrians (Hawaii Pedestrian Plan, 2013)

Intersection Design to Accommodate Pedestrians

- Design compact intersections.
- Eliminate unrestricted motor vehicle movements.
- Reduce motor vehicle speed through intersections.
- Create crossings on all legs of an intersection.
- Design crossing in a direct line, at 90 degrees to the direction of vehicular travel, as feasible.
- Clearly identify crossings to all pedestrians, including those with sight impairments.
- Avoid multiple and skewed intersections.

Pedestrian safety should be a high priority when designing or retrofitting intersections and crossings. Reducing the distance pedestrians must walk and designing intersections to minimize conflicts while increasing safety should be a priority. In walkable areas, street crossing distances should be kept as short as possible. This enables pedestrians to cross the street more safely and comfortably and reduces their exposure in the street.

Intersection design requires the consideration of all potential users. The needs of motorists and bicyclists should be met in addition to designing for pedestrian safety, while improving accessibility and mobility. Design solutions should be determined on a case by case basis with consideration for the needs of all intersection users. The following toolbox items focus on design solutions that help increase pedestrian safety.

The following toolbox for intersections and crossings improve the pedestrian experience while accommodating vehicular travel.

Crossing markings should be more visible at this busy intersection

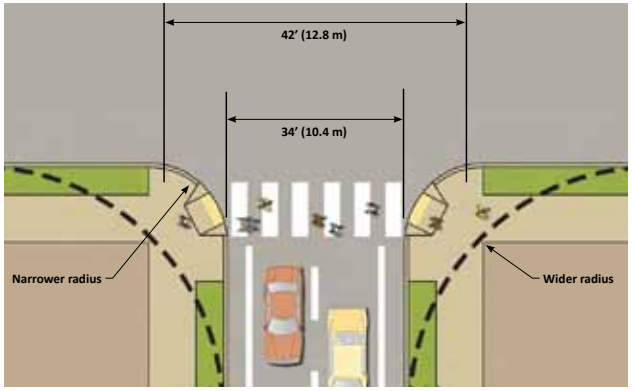
Reduced Curb Radius

To help slow down vehicular traffic and reduce the crossing distance for pedestrians, the use of smaller curb return radii at intersections should be considered. Reduced radii provides an extended sidewalk area and makes pedestrians more visible to motorists. Reduced radii also help to slow vehicles as they navigate through their turning movement, enabling drivers to respond more quickly to signal changes and crossing pedestrians. The smallest practicable curb-return radii should be used at intersections: 5-15 ft. radius where no turn is possible, and 16 ft. radius at the right turn corner.

On multi-lane streets and roads where large vehicles constitute a very low proportion of turning vehicles, smaller curb return radii should be used and allow large vehicles to encroach into the adjacent travel lanes.

Curb-return radii should be designed to reflect the “effective” turning radius of large vehicles at corners. If there is on-street parking or dedicated bicycle lanes, the “effective” turning radius is greater than the curb-return radius.

Figure 5.9: Curb Radius Reduction benefits pedestrians

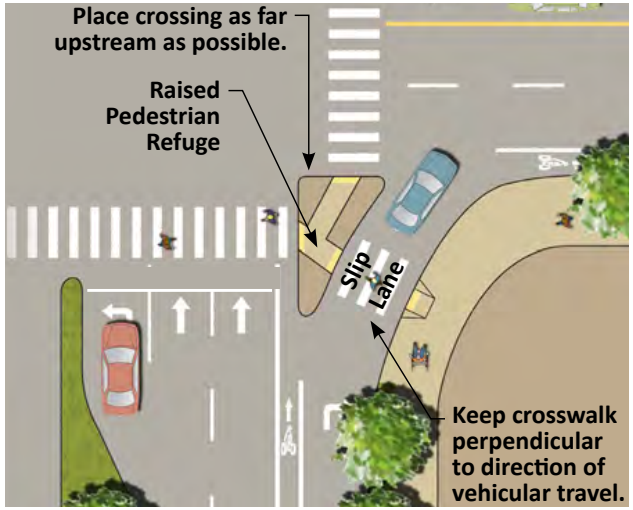


Right-Turn Lanes / Slip Lanes

Dedicated right-turn lanes and right-turn slip lanes at intersections help facilitate fast motor vehicle travel and are detrimental to pedestrians. Ideally, these should be eliminated or redesigned to be less problematic. There are a number of locations in Santa Fe with slip lanes, making crossing the street dangerous for pedestrians.

In areas where there are high right-turning volumes or large vehicles frequently turn, pedestrian volumes are low and not expected to increase greatly, a channelized right-turn lane may be permissible. In this case, the turning angle should be reduced to increase pedestrian visibility and slow approach speeds. In areas with pedestrians, alternate solutions include signalizing the right-turn lane or installing a raised pedestrian crossing to a refuge island across the yield-controlled slip lane.

Figure 5.10: Right-Turn Slip Lane



Bump-Outs

Bump-outs (also known as curb extensions or bulb-outs) extend the sidewalk into a parking or non-motorized lane. Bump-outs can reduce the turning speed for vehicles, reduce the distance the pedestrian must cross, improve visibility between motorists and pedestrians, create more space for riders waiting for the bus, and eliminate illegal parking in the corner clearance zone.

Bump-outs should be planted or have some vertical indicator so that they can be noticed by vehicles if covered by snow.

Figure 5.11: Bump-Outs Reduce Crossing Distance

Mid-Block Crossings

Mid-block crossings should be located where there is adequate sight distance for both the motorist and pedestrian. In addition to proper roadway geometry, any obstacle should be removed that would interfere with visibility at the crossing location.

Mid-block crossings are appropriate where there are multiple destinations on opposite sides of the street mid-block, where pedestrian activity is high and pedestrian/vehicular conflicts exist, and where there is a long distance (greater than 300 ft) to the nearest signalized intersection. A study warranting a mid-block crossing should be completed, including determining proper locations and design of the mid-block crossing with proper visibility and safety.

Curb extensions create space for on-street parking and shorten the crossing distance for pedestrians.

Figure 5.12: Refuge Island Locations for the Most Benefit

Refuge Island Locations

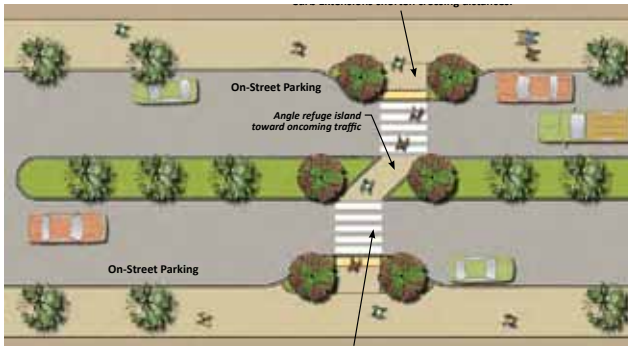
- Wide, two-way streets (four lanes or more) with high traffic volumes, high travel speeds and large pedestrian volumes.
- Wide streets where children, people with disabilities, or older adults cross regularly.
- Wide, two-way intersections with high traffic volumes and significant numbers of pedestrians.
- Local and side streets where traffic volumes and flows create insufficient time to cross.
- Minor access/local residential streets where they function both as traffic calming devices and street crossing aids.

Medians / Center Refuge Islands

Medians and center refuge islands are curbed areas separating the two directions of traffic on a street. They eliminate the need for pedestrians to cross both directions of traffic at once, particularly on multi-lane roads. Whether located at intersections or mid-block, they help define the pedestrian walking space and provide protection and refuge from motor vehicles. At intersections, a median nose facing the center of the intersection provides added protection from vehicular traffic.

Medians and center refuge islands should be 8-10 feet wide and 6 feet long (minimum) to provide refuge for several pedestrians waiting at once. Mid-block crossing designs that are angled require pedestrians to look toward oncoming traffic and increase their awareness of approaching vehicles.

Figure 5.13: Median Refuge Island

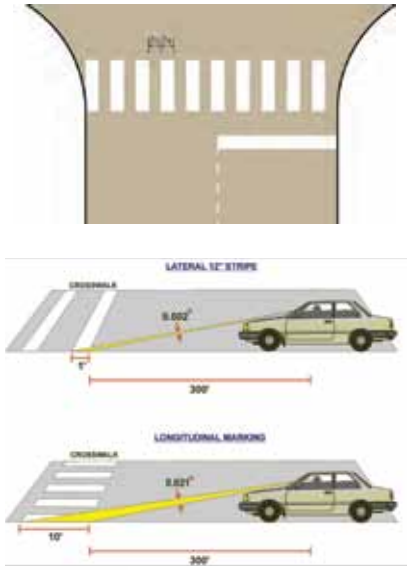


Marked Crossing

Marked crosswalks indicate where pedestrians may cross the street and alert drivers where pedestrians are expected to cross. On multi-lane roads with an ADT of 12,000 or more, marked crossings should always be combined with other pedestrian safety measures, such as signs, signals, or raised medians.

Longitudinal markings, piano-keys or continental striping are more visible to drivers from afar and are the preferred striping for all crosswalks. While initial cost for this striping can be 2-4 times greater than parallel striping, maintenance costs are significantly less because the striping pattern can be spaced to avoid wear from tire marks. Minimum width of longitudinal markings to be 12-24 inches (NMDOT standard). Minimum width of the crosswalk to be 6 feet.

Figure 5.14: Marked Crossing with Continental Striping



Stop Bars / Advance Stop Bars

Stop bars are typically placed at intersections where motorists are required to stop to prevent overhang into crosswalk areas. Stop bars also allow for motorists in multiple lanes to see pedestrians at mid-block crossings.

Stop bars are typically 12-24 inch wide white stripes that extend across all approach lanes. They should be located at least 4 feet in advance of the crosswalk, parallel to it. They should be used for right-turn-on-red movements and for vehicles turning left from the cross street.

At multi-lane roadway mid-block crossings, stop bars should be placed 30-50 feet from the marked crossing.

Marking Materials / Maintenance

Markings can be made with a variety of materials (eg. inlay tape, thermoplastic, paint). They should be monitored regularly and maintained in good condition. Once no longer needed, they should be removed in their entirety.

Advance Stop Bar Marking

5.4 PEDESTRIAN SIGNALS AND SIGNAGE

Pedestrian Signals and Signage

Pedestrian signals should be installed at all traffic signals, except where pedestrians are prohibited. Traffic signal installation is determined by conducting engineering analyses according to local codes and by assessing site-specific issues (proximity to schools, senior centers, hospitals, etc.).

All new intersections and reconstructions of intersections with traffic signals, must be designed to meet accessibility requirements, including accessible pedestrian signals.

Reference Standards + Guidelines

- American Association of State Highway and Transportation Officials (AASHTO)
- AASHTO Green Book
- Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO)
- Federal Highway Administration (FHWA)
- Planning and Urban Design Standards, American Planning Association
- Manual of Uniform Traffic Control Devices (MUTCD)
- US Access Board Public Rights-of-Way Accessibility Guidelines (PROWAG)

In-Road Pedestrian Sign

In many cases, both pedestrians and motorists are not aware of state laws regarding pedestrians. In Santa Fe, State and City laws require that vehicles must yield for pedestrians who are in a crosswalk.

In-road “State Yield Stop for Pedestrians” flop-over signs are a supplemental feature to remind drivers of this law. Placed in the middle of the roadway, these signs attract motorists’ attention.

In-Road pedestrian signs are best suited in roadways with large volumes of pedestrians crossing, and in school zones. They are also appropriate when limited space or cost prevents construction of a median with more prominent pedestrian signage.

Mid-Block Pedestrian Actuated Signals

Pedestrian actuated signals, also known as High Intensity Activated Crosswalk, or HAWK Signals, are appropriate where there are multiple destinations on opposite sides of a high traffic volume or speed roadway, or roads with four or more lanes.

Pedestrian beacons are triggered by pedestrians and alert motorists to stop / yield for pedestrians crossing so they do not cause undue delay to vehicles when pedestrian volumes are low. A signal warrant analysis should be performed to determine if a pedestrian actuated signal should be installed.

Advance warning signs and stop bars, or sharks teeth markings (triangular markings), should be placed in advance of mid-block crossings.

In-Road Pedestrian Sign at Marked Crossing

Mid-Block Pedestrian Signal at Cordova Street

Signal Timing

Signal timing for pedestrians and vehicles must be balanced to address the needs of all users. Pedestrian signal timing is based on the time for a pedestrian to cross at a speed of 3.5 fps (2009 MUTCD).

When there is a known presence of slower pedestrians (including older adults, people with mobility impairment, or children), a crossing speed of 2.5 fps is recommended (ITE, Design and Safety of Pedestrian Facilities manual). Research shows that after waiting 30 seconds, pedestrians begin to look for gaps in traffic to cross streets. A pedestrian activated signal can help in these situations.

Pedestrian Countdown Timer

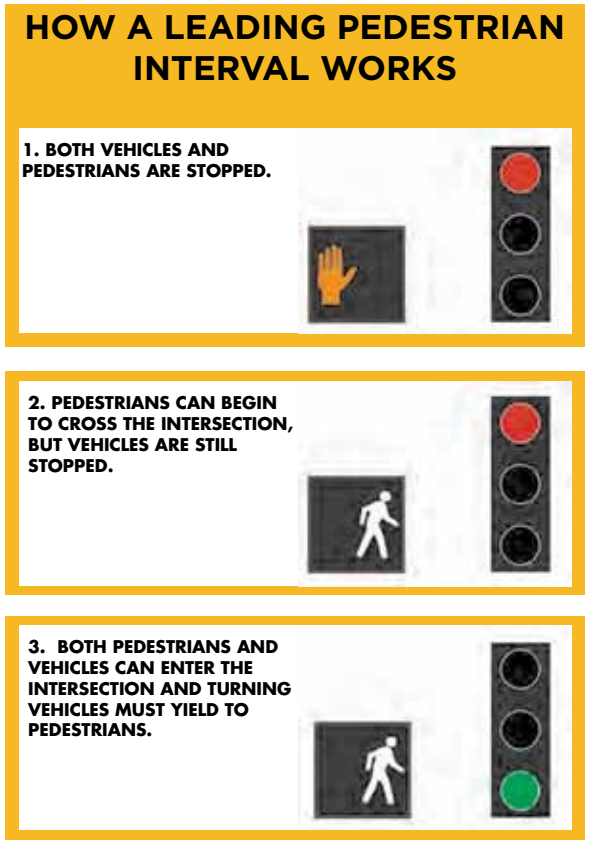
Pedestrian countdown timers provide information on the amount of time remaining to cross the street at signalized intersections. Existing intersections should be retrofitted with the countdown display for increased pedestrian safety.

Pedestrian Countdown Timer

Leading Pedestrian Interval

A leading pedestrian interval (LPI) gives pedestrians a head start into an intersection before vehicles begin turning. The WALK signal is turned on approximately three seconds before vehicles are given a green signal. This signal is often used in conjunction with “No Right-turn on Red” signals.

Figure 5.15: Leading Pedestrian Interval Signal Timing

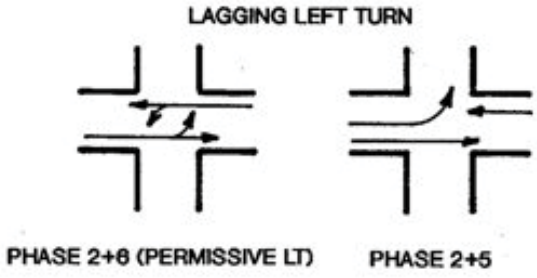


Lagging Left Turn Signal

Pedestrians and vehicle conflicts can occur at intersections where pedestrians must wait for left turning vehicles to clear the crosswalk.

A lagging left turn is a signal timing method in which the left-turn arrow is given after vehicles traveling straight have passed through the intersection. By allowing pedestrians to cross the intersection at the beginning of a signal cycle, conflicts between pedestrians and vehicles turning left are reduced and vehicular operations can improve.

Figure 5.16: Lagging Left Turn Signal



Crossing Push Button Signal

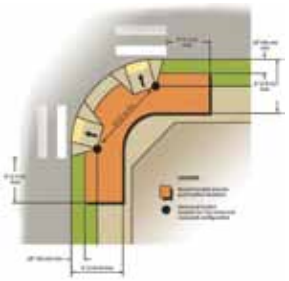
Push button placement helps to indicate which street is being crossed, how to line up to cross, and separates audible messaging between two separate push buttons controlling the two crossings at a typical intersection.

Accessible Pedestrian Signal

An accessible pedestrian signal (APS) is a traffic signal that provides auditory and/or vibrotactile information to pedestrians who are blind or have low vision. Audible devices should be separated by at least 10 feet to avoid confusion as to which crossing is open.

The design and placement of pedestrian actuators should follow the Manual of Uniform Traffic Control Devices (MUTCD).

Figure 5.17: Push Button Crossing - Accessible



CHAPTER 6
IMPLEMENTATION

6. IMPLEMENTATION

6.1 PEDESTRIAN IMPROVEMENTS

The intent of the Santa Fe Metropolitan Pedestrian Master Plan is to guide improvements to the pedestrian environment so walking in Santa Fe is more enjoyable, convenient, healthy, and safe. A primary objective is to make walking a viable transportation option and increase the number of pedestrians walking in Santa Fe.

The Pedestrian Master Plan identifies a series of improvement areas / locations and a broad set of strategies to guide the design of pedestrian improvements using best practices. The implementation of these improvements hinges on the following:

- initiate planning studies in areas of critical concern, educational programs, and policy recommendations as outlined in this Plan
- allocate resources to ensure the consistent application of standards that are pedestrian friendly and that reference best practices in pedestrian-oriented design
- form a Pedestrian Advocacy Committee
- pursue additional funding to help finance the design and construction of sidewalk and pedestrian project improvements on a regular ongoing basis
- collect data, establish performance measures, and evaluate progress

The Santa Fe Metropolitan Pedestrian Master Plan outlines pedestrian-related improvements in the following categories:

- Areas of Critical Concern (*Chapter 3*)
  These are areas that need additional analysis and planning to assess project scope and costs. In most cases, these areas will require multi-modal transportation improvements.
- Implementation Locations (*Chapter 3*)
  As identified through analysis and a community input process, identified pedestrian needs have been rated and categorized for improvement. These projects include rural and school-related improvement locations.
- Policies (*Chapter 4*)
  A series of pedestrian-related policies have been recommended to facilitate the implementation of more walkable environments.
- Programs (*Chapter 4*)
  Education and outreach programs will help communicate the benefits of walking, existing laws, and encourage walking.

Given funding limitations and the scope of existing need, pedestrian improvement projects need to be prioritized. When possible, improvements should be implemented that will serve multiple purposes, including enhanced pedestrian connectivity and safety.

Through public input, the Pedestrian Master Plan includes a list of specific locations with identified deficiencies or safety issues as well as broader areas with more generalized concerns (*see Chapter 3: Plan Recommendations and Appendix D*). All of those identified in the inventory should be subject to further review as planning continues on a more detailed community level.

It is anticipated that many more locations with improvement needs will be identified and brought forward after the Plan has been approved. Some of these deficiencies such as missing sidewalk segments or crosswalk re-striping are widely scattered throughout the Santa Fe area and have been categorized for future assessment, construction or maintenance. Each identified location has a rating score that can be used to prioritize the improvement benefit or need.

Since current funding is inadequate to meet every deficiency, it is recommended to focus on the Areas of Critical Concern (*see Figure 6.1*) and develop a comprehensive program for each area to improve the pedestrian environment for safety, comfort and convenience. In addition, locations identified near area schools (*see Chapter 3.2.3: School Area Improvements*) are likewise a high priority and should be addressed in coordination with the local school district.

Figure 6.1: Pedestrian Improvements - Areas of Critical Concern

AREAS OF CRITICAL CONCERN LOCATION	# LOCATIONS [1]	RATING SCORES [2] SAFETY Crashes	SAFETY Road Type	NETWORK Segment / Crossing	DEMAND	ACC [3]	FEASIBILITY	SCORE (Average)
South Capitol Complex	10	3.6	2.6	3.0	3.0	5.0	4.0	**21.2**
Mid-Cerrillos Corridor (Llano St. - Baca St.)	4	3.0	3.0	3.5	2.3	5.0	4.0	**20.8**
St. Francis / Guadalupe Neighborhood (Cerrillos Rd. - Paseo de Peralta / Crucitas)	5	3.4	3.6	2.4	2.4	5.0	4.0	**20.8**
St. Michaels Drive Corridor (Cerrillos Rd. - Hospital Dr.)	11	3.1	3.9	2.4	2.5	5.0	4.0	**20.8**
Lower Cerrillos Corridor (Zafarano Dr.: Rodeo - San Ignacio Rd.) (Cerrillos Rd.: Rodeo - Vegas Verde Dr.)	2	3.0	3.5	2.5	2.5	5.0	4.0	**20.5**
South St. Francis Corridor (Rodeo Rd. - Siringo Rd.)	6	2.7	3.3	3.3	2.0	5.0	4.0	**20.3**
Upper Cerrillos Corridor (St. Francis Dr. - West Manhattan Dr.)	7	2.4	3.0	2.4	2.7	5.0	4.0	**19.6**
North Guadalupe Corridor (West Alameda St. - Paseo de Peralta)	5	3.4	2.4	2.0	3.0	5.0	3.8	**19.6**
Airport Road Corridor (Calle Atajo - Paseo del Sol)	5	2.4	2.4	2.8	2.2	5.0	4.0	**18.8**
Lower Agua Fria Street Corridor (South Meadows Rd. - Airport Rd.)	5	2.0	1.8	2.6	2.0	5.0	4.0	**17.4**

PROPOSED STUDY AREA LOCATION	DISTANCE
South Capitol Complex	1/4 sq. mi.
Mid-Cerrillos Corridor (Llano St. - Baca St.)	1.00 mi.
St. Francis / Guadalupe Neighborhood (Cerrillos Rd. - Paseo de Peralta / Crucitas)	1.00 mi.
St. Michaels Drive Corridor (Cerrillos Rd. - Old Pecos Trail)	1.75 mi.
Lower Cerrillos Corridor (Zafarano Dr.: Rodeo - San Ignacio Rd.) (Cerrillos Rd.: Rodeo - Vegas Verde Dr.)	0.50 mi. 0.60 mi.
South St. Francis Corridor (Rodeo Rd. - Siringo Rd.)	0.75 mi.
Upper Cerrillos Corridor (St. Francis Dr. - West Manhattan Dr.)	0.65 mi.
North Guadalupe Corridor (West Alameda St. - Paseo de Peralta)	0.50 mi.
Airport Road Corridor (Calle Atajo - Paseo del Sol)	1.50 mi.
Lower Agua Fria Street Corridor (South Meadows Rd. - Airport Rd.)	1.00 mi.

NOTES:

1 Indicated improvement locations are based on analysis and public input.
2 See rating scoring sheet for score criteria. Scores reflected on this spreadsheet are averages of individual improvement location scores.
3 All improvement locations on this spreadsheet are within Areas of Critical Concern.
Improvement locations and rating scores are subject to evaluation and will likely be adjusted when these areas are analyzed in greater depth. These areas do not represent a complete evaluation of the Santa Fe Metropolitan Planning Area. See Appendix D for current complete listing of improvement locations identified as part of this study. Additional areas may be considered as deemed necessary by the respective agency.

For budgeting purposes, a figure of $35,000 - $70,000 per 0.50 miles of project area can be used to conduct a more in-depth planning study and determine a precise list of improvements needed within the areas of critical concern.

6.2 CONSISTENT STANDARDS

Efforts should be made to allocate resources in order to educate and institutionalize the implementation of recommended standards across jurisdictional boundaries. There should be coordination between agencies, departments, advocacy groups, and other organizations with an interest in walking to ensure the consistent application of standards that are pedestrian friendly. Participation and buy-in from departments in both the City and County will help with this initiative.

The Pedestrian Toolbox presented in Chapter 5 represents some of the best practices for designing pedestrian friendly facilities. The Toolbox summarizes best practices for designing streets that accommodate pedestrians; presents guidelines for sidewalks that encourage walking; and outlines methods to design and modify intersections and pedestrian crossings for safety.

Standards should be adopted for both rural and urban settings to provide safe pedestrian facilities in rural areas and allow for a seamless transition to build out pedestrian facilities as areas become urbanized.

All existing planning documents should be updated to integrate pedestrian considerations and recommended practices to comprehensively plan streets and create pedestrian friendly environments.

6.3 PEDESTRIAN ADVOCACY COMMITTEE

In the Santa Fe area, no entity currently focuses on pedestrian issues. Without this focus, pedestrians are marginalized.

This plan recommends a committee be formed to provide input and guidance on pedestrian-related issues. Members should be comprised of residents both within and outside the City limits, represent a diverse cross-section of the community and include representation of accessibility challenged individuals.

Similar to the Bicycle and Trails Advocacy Committee (BTAC) or the Mayors Commission on Disabilities (MCD), a separate Pedestrian Advocacy Committee would help staff evaluate and prioritize pedestrian improvements and review projects for conformance with best practices. This committee would also provide a forum for identifying and hearing pedestrian needs and issues.

Tasks of the pedestrian advocacy committee could include:

- evaluate and recommend changes to existing policies and design standards to improve pedestrian safety and access
- develop benchmarks and performance measures; prepare annual report summarizing progress and the achievement of goals
- recommend priority projects for improvements based on Master Plan recommendations
- track implementation of the Master Plan
- contribute to pedestrian-related aspects of planning and development projects
- advise governing bodies, departments, and offices on matters related to pedestrians, including what impact actions may have on the pedestrian environment

6.4 FUNDING

A clear funding strategy will help secure funding for prioritized improvements. Since funding is often competitive and limited, establishing a road map to implement projects and allowing for flexibility to implement in phases can help with securing funds. The following approach towards project funding is recommended:

- implement pedestrian improvements as part of another project that is already programmed
- determine which pedestrian improvements can be implemented as part of routine maintenance
- evaluate which projects are best suited for applying for federal funding based on available funds, likelihood of award, and level of effort to apply for funds.
- create a stand-alone project when warranted and when the project cannot be implemented as part of another roadway project.
- pursue General Obligation Bonds for larger multi-modal projects that include pedestrian improvements

Capital Improvements

Funding for sidewalk and pedestrian improvements will likely come from a broad variety of sources. *Figure 6.2* outlines a series of potential sources or mechanisms to fund capital improvements.

Maintenance

Under current codes, property owners are responsible for maintaining and repairing sidewalks on their property. In new developments or when existing properties are improved, sidewalks are installed as part of the improvements and paid for by the developer or owner.

Data Management

Funding is also needed for additional data collection and management of the GIS sidewalk database. This funding should be provided as part of the MPO operating budget in coordination with the City of Santa Fe and Santa Fe County.

Figure 6.2: Potential Funding Sources / Mechanisms

Potential Funding Sources

Federal

- Surface Transportation Program
- Transportation Alternatives Program (TAP)
- Safe Routes to Schools Program (SR2S)
- Highway Safety Improvement Program
- National Highway Safety Administration
- Recreational Trails Program
- Enhanced Mobility of Seniors and Individuals with Disabilities Program
- Congestion Mitigation and Air Quality Improvement Program
- Community Development Block Grant (CDBG)

State

- State Highway Fund
- Government Obligation Bonds
- State and County General Fund

Local

- Impact Fees / Fee-in-Lieu
- Gross Receipts Tax Revenue
- General Obligation Bond
- Sidewalk Fund
- Public Private Partnerships
- Parking Fees and Fines
- Improvement Districts
- Tax Increment Financing

6.5 DATA COLLECTION, PERFORMANCE MEASURES, EVALUATION

In order to generate a more comprehensive analysis of pedestrian improvement needs, additional data collection is needed. As the Santa Fe Metropolitan Pedestrian Master Plan was generated, a number of data sets were created (eg. public transit stops, sidewalk inventory) to better analyze pedestrian conditions and needs. Additional data collection would both complete existing data sets and provide valuable new data to better analyze areas of deficiency (*see recommended data collection items outlined in figure 6.3*). Much of the additional data collection was identified through the public process and from Working Group members.

Additionally, baseline pedestrian count data and follow-up counts at regular intervals would be useful to track usage, particularly before and after improvements are made. Some municipalities conduct counts on an annual or semi-annual basis. Others also track before and after counts as major project improvements are implemented.

Performance Measures

As the Pedestrian Master Plan is adopted and project improvements are made, progress should be tracked against established performance measures. Performance measures are also useful for evidence-based decision making and forecasting. These performance measures need to be finalized for the plan and could include the following targets to better meet community goals:

- Walking: set target mode share percentages for pedestrians vs. other modes
- Walking: track participation in Safe Routes to Schools (SR2S) programs
- Safety: reduction of ped/vehicle crash rate
- Project Implementation: number of projects initiated / implemented
- Reporting: update and formalize on-line citizen reporting methodology for pedestrian issues; track reports

Figure 6.3: Recommended Pedestrian Data Collection

Pedestrian Data Collection

- Pedestrian Counts
  Install pedestrian counters to establish existing condition counts and document pedestrian usage after improvements.
- Crash Data
  Collect detailed information on pedestrian crashes to determine what types of safety improvements might have the greatest impact on making streets safer for pedestrians.
- Sidewalk Inventory
  Complete the sidewalk inventory for the entire MPO planning area to identify additional sidewalk gaps; update database as improvements are made.
- ADA Transition Plan
  Add most current transition plan data and recommendations, once complete, to the sidewalk inventory database.
- Pedestrian Signals
  Inventory existing pedestrian signals to determine location, signal type / phasing, timing, cycle length, walk interval, usage, etc.
- Lighting
  Inventory existing lighting of the pedestrian environment and implement a plan to replace / install lights for adequate night time use.
- Striping / Marking / Signage
  Inventory existing markings and signage at pedestrian crossings to evaluate their effectiveness for pedestrian safety.
- Street Width
  Collect information on street width, posted speed limits, ROW width, sidewalk and buffer zone widths.

Evaluation

In an effort to gauge progress towards making Santa Fe a more pedestrian friendly environment, it is important to document existing conditions and establish targets. Understanding where the Santa Fe community ranks among others in the nation is useful for marketing and targeting future improvements.

Walk Friendly Community Designation

Walk Friendly Communities is a national recognition program developed to encourage towns and cities across the U.S. to establish or recommit to a high priority for supporting safer walking environments. The WFC program will recognize communities that are working to improve a wide range of conditions related to walking, including safety, mobility, access, and comfort. (source: www.walkfriendly.org)

Communities are evaluated based on a set of criteria and are awarded walk friendly community designations of bronze, silver, gold, or platinum. As of 2014, 50 communities have received Walk Friendly Community designations.

The WFC program is maintained by the University of North Carolina Highway Safety Research Center's Pedestrian and Bicycling Information Center, with support from a number of national partners.

Walk Friendly Community seal