



Las Cruces



ACTIVE TRANSPORTATION PLAN



Adopted October 15, 2018

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Thank you to the Las Cruces who
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Glossary

There are many terms used to describe different components of the transportation system, treatments, and bikeway facility types. To promote consistency and ease of understanding, the following terms are used throughout this Plan. For additional definitions of specific bicycle or pedestrian facilities, please refer to the Walkway & Bikeway toolkit on page 24.

American Disabilities Act (ADA) – A Federal regulation requiring the implementation of accessibility design criteria for highway elements that affect the accessibility and mobility of disabled individuals.

Arterial Road – Roadway designed for high-speed, high-volume travel between major points in both urban and rural areas.

Average Daily Traffic (ADT) – The total volume of traffic on a street during a given time period divided by the number of days in that time period.

Active Transportation – Any human-powered form of transportation including walking, bicycling, and wheelchair rolling. It encompasses trips made for any purpose including commuting, recreation, leisure, or others.

Better Utilizing Investments to Leverage Development Transportation Discretionary Grants Program (BUILD) – A Federal grant program that funds regionally significant surface transportation projects.

Bicycle Box – Designated area on the approach to a signalized intersection consisting of an advanced stop line and bicycle symbols. Bicycle boxes should be considered to mitigate conflicts between bicyclists and motorists.

Bicycle Detection – A system of hardware and software that detects the presence of bicyclists at a traffic signal and calls the green signal for the activated approach.

Bicycle Signal – Traffic control device used to improve intersection safety and operations for bicyclists.

Bikeway – Any type of bicycle facility, including paths in separate rights-of-way and on-street bikeways. Includes bike lanes, paved shoulders, signed bike routes, and sidepaths.

Capital Improvement Program (CIP) – A short-range plan which identifies and plans for capital projects and related financing options.

Collector Road – Collector roads gather traffic from local

roads and funnel that traffic into the arterial roadway network.

Community Services Block Grant (CSBG) – A federal grant program administered by the Department of Health and Human Services that provides funds to alleviate the causes and conditions of poverty in communities, which can include transportation projects.

Curb Extension – Treatment or application designed to visually and physically narrow the roadway in order to create safer and shorter crossing distances for pedestrians while increasing the available space for street furniture, benches, plantings, and trees.

Curb Radius – The radius of the arc formed where two intersecting curbs meet. Smaller curb radii encourage slower turning speeds at intersections.

Design Speed – Design speed is a selected speed used to determine various geometric design features of the roadway.

EAC – External Advisory Committee

Easement – An easement provides the easement holder the right to use land for a specific purpose. The easement holder is not the land owner.

EBID – Elephant Butte Irrigation District

FHWA – Federal Highway Administration

FTA – Federal Transit Administration

High-Intensity Activated Crosswalk Beacon (HAWK) – The pedestrian hybrid beacon (also known as the High-Intensity Activated crossWalk, or HAWK) is a pedestrian-activated warning device located on the roadside or on mast arms over midblock pedestrian crossings.

Highway Safety Improvement Program (HSIP) – A Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land.

ISC – Internal Stakeholder Committee

Level of Traffic Stress (LTS) – A rating system to estimate the levels of tolerance for bicycle traffic stress, which is a combination of perceived danger and other stressors associated with riding a bicycle close to motor vehicle traffic.

Local Road – Locally classified roads account for the largest percentage of all roadways in terms of mileage. Local roads are not intended for long-distance travel, instead providing direct access to abutting land on the origin and/or destination end of a trip.

Mid-Block Crossing – Designated crosswalks away from an established intersection provided to facilitate crossings at places where there is a significant pedestrian desire line such as bus stops, parks, and building entrances.

Memorandum of Understanding (MOU) – An agreement between two or more parties.

Mountable Curb/Curb Apron – Mountable curbs with curb aprons deter passenger vehicles from making higher-speed turns but accommodate the occasional large vehicle without encroachment or off-tracking into pedestrian areas.

MPO – Metropolitan Planning Organization

MUTCD – The *Manual on Uniform Traffic Control Devices* is a compilation of national standards for all traffic control devices, including traffic signals.

NACTO – National Association of City Transportation Officials

NMDOT – New Mexico Department of Transportation

Pavement Markings – Pavement markings are used to convey messages to roadway (or shared use path) users. They indicate which part of the road to use, provide information about conditions ahead, and indicate where passing is allowed.

Raised Crosswalk – Traffic calming device at a pedestrian crossing or crosswalk that raises the entire wheelbase of a vehicle to encourage motorists to reduce speed.

Right(s)-of-Way (ROW) – Land or property that is used for public purposes including streets, sidewalks, utilities, etc.

Rumble Strip – A textured or grooved pavement treatment designed to create noise and vibration to alert motorists of a need to change their path or speed. **Safe Routes to**

School (SRTS) – Programs that aim to make walking and bicycling to school safer for children.

Shared Lane Marking – Shared lane markings (or “sharrows”) are pavement markings that denote shared bicycle and motor vehicle travel lanes.

Shared Use Path – Shared use paths, also commonly referred to as trails or greenways, are paths designed for and generally used by bicyclists, pedestrians, and other non-motorized users.

Sidewalk Buffer – The space between the sidewalk and the adjacent roadway designed to improve pedestrian safety and to enhance the overall walking experience.

Speed Hump – Parabolic vertical traffic calming devices intended to slow traffic speeds on low-volume, low-speed streets.

Statewide Transportation Improvement Program (STIP) – A staged, multi-year, statewide intermodal program of transportation projects, consistent with the statewide transportation plan and planning processes as well as metropolitan plans, transportation improvement programs, and planning processes.

Transportation Investment Generating Economic Recovery (TIGER) - A Federal grant program, now replaced by BUILD.

Traffic Calming – A strategy and toolkit to slow the speeds of motor vehicle traffic to a “desired speed” by incorporating physical features, such as chicanes, mini traffic circles, speed humps, and curb extensions.

Two-Stage Turn Queue Box – Two-stage turn queue boxes are areas set aside for bicyclists to queue to turn at signalized intersections outside of the traveled path of motor vehicles and other bicycles.

Wayfinding – A system of directional signs along streets or paths that assist people in finding major destinations. Wayfinding can be designed specifically for drivers, bicyclists, or pedestrians.

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CHAPTER 1

Introduction

Chapter 1: Introduction

Las Cruces is a mid-sized city of just over 100,000 people, situated in the arid desert of southern New Mexico. The city's stunning scenery, mild weather, and recreational opportunities have attracted an influx of residents including many retirees, while New Mexico State University contributes to an annual ebb and flow of college students. Las Cruces is becoming home to more and more people who have fallen in love with the city's history, culture, and identity.

Complementing its goals to improve quality of life and provide transportation options for its residents, the City of Las Cruces has set in motion several efforts to emphasize healthy living. This includes updating the goals and policies in its Comprehensive Plan to create a healthy community, partnering with the New Mexico Department of Health to promote healthy eating and physical activity for children, and sustaining a robust Safe Routes to School program that has become a model for similar communities. The

City has also established an agreement with the Elephant Butte Irrigation District (EBID) to allow Las Cruces to use certain EBID canals and laterals for walking and bicycling.

Through programs, policies, and infrastructure, the City of Las Cruces can encourage more Las Cruces to use active transportation, which includes any human-powered form of transportation including walking, bicycling, and wheelchair rolling. The Las Cruces Active Transportation Plan (ATP) provides a vision and framework to make Las Cruces more livable for all its residents and visitors. It leverages existing initiatives and identifies major opportunities for the City to improve conditions for pedestrians and bicyclists. Strategic investments in active transportation will be critical to Las Cruces becoming a safer, healthier, and more connected community.^{1,2}



Public art in downtown Las Cruces

- 1 Active Living Research, The Role of Transportation in Promoting Physical Activity
- 2 Blue Zones, Healthy City Design: Healthy People, Healthy Economy (April 2016)

Why Invest in Active Transportation

Existing Needs

There are several reasons for the City of Las Cruces to act to improve active transportation for its residents and visitors. More details about the state of active transportation in Las Cruces are included in Appendix B.

Population Change: Las Cruces’ population is growing larger and its median age is rising. Given an increasing number of people who can’t drive or choose not to drive, the city’s transportation system must provide a greater range of options for people to get around. Maintaining, expanding, and operating a multimodal transportation system is essential for addressing existing demand and planning for future growth.

Existing Inequities: Approximately two thirds of Las Cruces are people of color, including 57 percent Latinos. However, substantial inequities exist. Communities of color have higher unemployment rates and are underrepresented among high-income households. Latinas and Native American women have the lowest earnings and low-income workers are more likely to rely on RoadRUNNER transit to get to work.³ People with low incomes are also more likely to rely on walking and biking, and more likely to live in places with poor walking and biking conditions. The intense heat and lack of shade in Las Cruces can make walking and biking unsafe and uncomfortable, and disproportionately impact Las Cruces who rely on active transportation.

Sprawl and Barriers: Sprawling development is often characterized by limited street connectivity; wide and high-speed arterials; and homogeneous and low-density land uses. Active transportation can be particularly difficult or uncomfortable in areas where destinations are too disconnected from where residents live, and major arterials and large intersections can be significant barriers for people who would like to walk or bike. A plan to improve active transportation can help with limiting patterns of sprawl and removing travel barriers.

Connectivity and Quality: There are substantial gaps in Las Cruces’ sidewalk and bikeway networks. Residents have cited infrequent, unsafe, and uncomfortable crosswalks across arterial roads and poor pavement quality in existing bike lanes as barriers to active transportation. There are currently 236 linear-miles of sidewalk gaps in Las Cruces. The Las Cruces ATP seeks to guide Las Cruces in creating a connected and well-maintained network of sidewalks, bike lanes, and trails.

Traffic Safety: According to data analyzed from the City of Las Cruces and the New Mexico Department of Transportation, from 2011 to 2015, there were 284 crashes involving bicyclists and pedestrians. The data include four pedestrian fatalities and one bicyclist fatality in Las Cruces compared to 276 pedestrian fatalities and 25 bicyclist fatalities across New Mexico.⁴ The City’s existing design standards can be updated to include safe and comfortable active transportation facilities and other complete street elements, improving safety for all Las Cruces who walk, bike, take the bus, or drive.

What words best describe walking and biking in Las Cruces today? Here is what the community told us.



Pedestrians using a bike lane to avoid a sidewalk gap

3 PolicyLink and the Program for Environmental and Regional Equity at the University of Southern California, An Equity Profile of Las Cruces (July 2017)
 4 City of Las Cruces and New Mexico Department of Transportation, Bicycle and Pedestrian Crash Data (2011-2015)

Benefits of Active Transportation

Las Cruces has much to gain from improving its active transportation network, policies, and programs. In addition to increasing safety, comfort, and convenience for bicyclists and pedestrians, active transportation can improve the city’s health, quality of life, environment, economy, and accessibility.

Health: Nearly seven out of 10 adults in New Mexico are overweight or obese.⁵ Fortunately, several local organizations are working to reverse the trend in Las Cruces, including Healthy Kids New Mexico, Healthy Kids Las Cruces, and the New Mexico Department of Health. Bicycling and walking can help adults achieve at least 150 minutes of exercise per week and children achieve at least 60 minutes of exercise every day, as recommended by the United States Department of Health and Human Services.⁶ Moderate exercise can help reduce the risk of inactivity-related diseases such as obesity, Type 2 diabetes, and certain types of cancer.

Quality of Life: Quality of life is influenced by physical and mental health, familial and other relationships, education and employment, and built and natural environments. Decreasing dependency on automobiles can lead to improved air quality, less traffic noise, and fewer and less severe traffic collisions. Bicycling and walking can also strengthen the sense of community by increasing opportunities for spontaneous interactions between residents.

Economic Vitality: Making bicycling and walking attractive options for both new residents and long-time Las Cruceans of all ages can help to attract and retain a robust workforce. Encouraging residents and visitors to travel by foot or by bike in downtown Las Cruces can also support the City’s promotion of economic activity in its downtown. The City and its partners realize this and encourage a bike share system. More private developers are recognizing the economic benefits of active transportation and are designing their projects to encourage and normalize bicycling and walking. Specifically, an Urban Land Institute report states that protected bike lanes boost economic growth by fueling redevelopment to boost real estate value, making workers healthier and more productive, helping companies score talented workers, and increasing retail visibility and volume.⁷



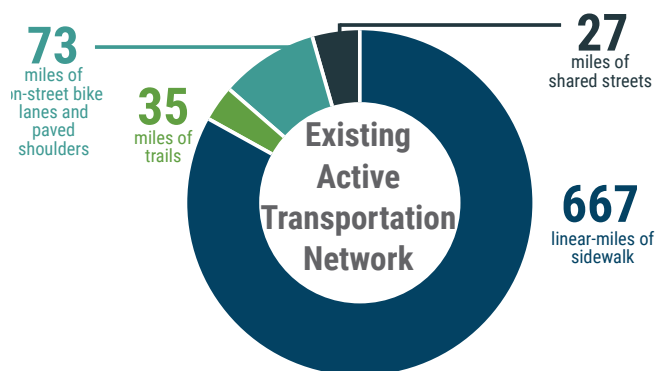
Pedestrians of all abilities need safe infrastructure.

Accessibility: Whether it’s due to mobility impairments, lack of car ownership (seven percent of households in Las Cruces compared to nine percent nationally), or other reasons, not all Las Cruceans drive as their primary mode of transportation.⁸ Furthermore, Las Cruceans who use mobility devices, such as wheelchairs, benefit greatly from well-designed sidewalks, crosswalks, and curb ramps that are safe, comfortable, and intuitive to use. Improved bicycle and pedestrian infrastructure can improve accessibility to destinations for the most vulnerable portions of Las Cruces’ population.

Existing Active Transportation Network

Las Cruces’ existing active transportation network is made up of sidewalks, off-street shared-use paths, on-street bike lanes, paved shoulders, and shared streets where bicyclists and motorists share the available space. As shown in Figure 1, there are 667 linear-miles of sidewalks, 35 miles of trails, 73 miles of on-street bike lanes and paved shoulders, and 27 miles of shared streets (some of which are marked with shared lane markings) within the city’s boundaries.

Figure 1. Existing Network Miles by Facility Type



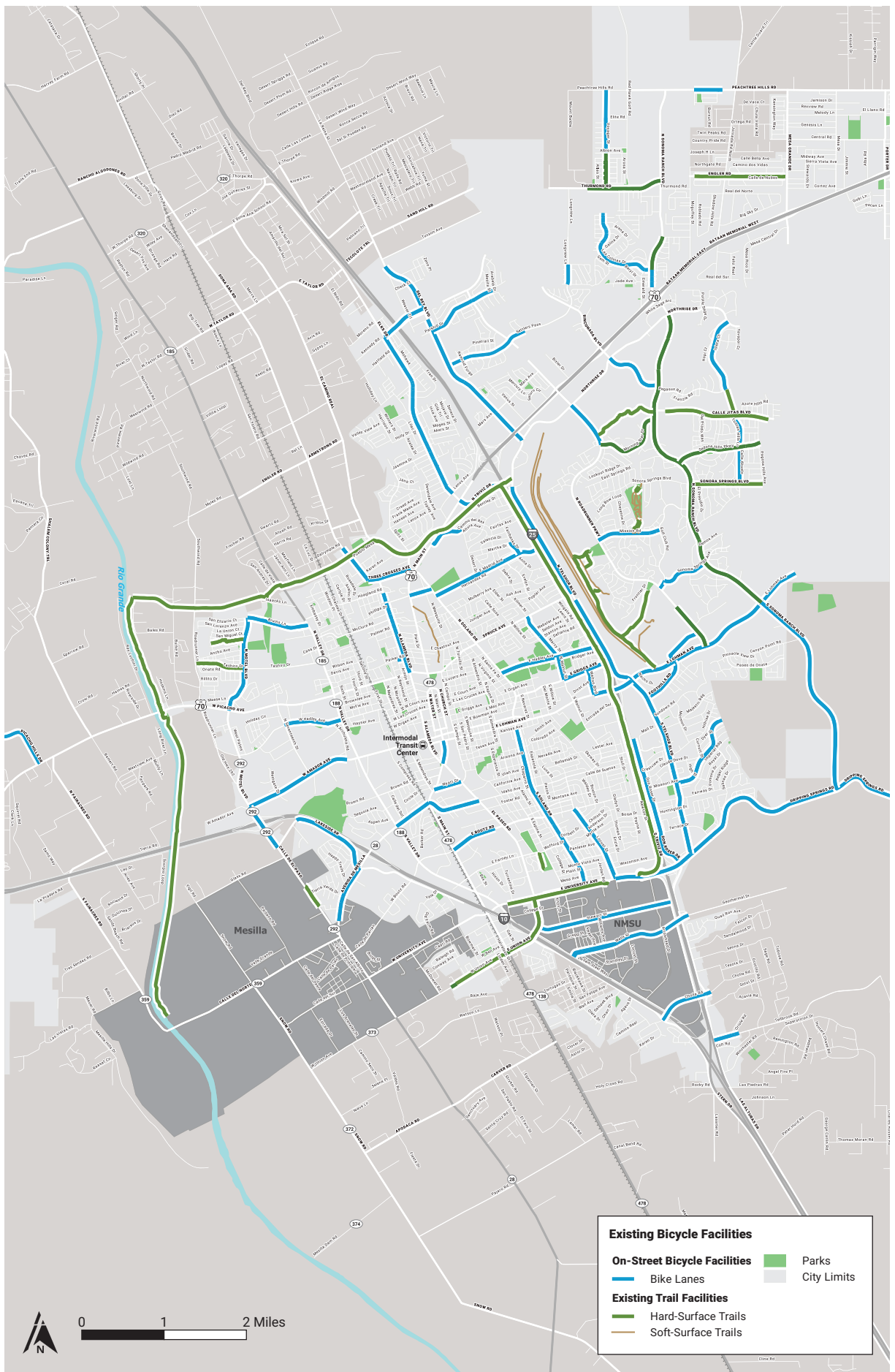
5 Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, <https://www.cdc.gov/brfss/index.html>

6 U.S. Department of Health and Human Services, 2008 Physical Activity Guidelines for Americans, <https://health.gov/paguidelines/guidelines/summary.aspx>

7 Urban Land Institute, Active Transportation and Real Estate - The Next Frontier (March 2016)

8 U.S. Census Bureau, 2016 American Community Survey 5-Year Estimates

Figure 2. Existing Bikeway Network



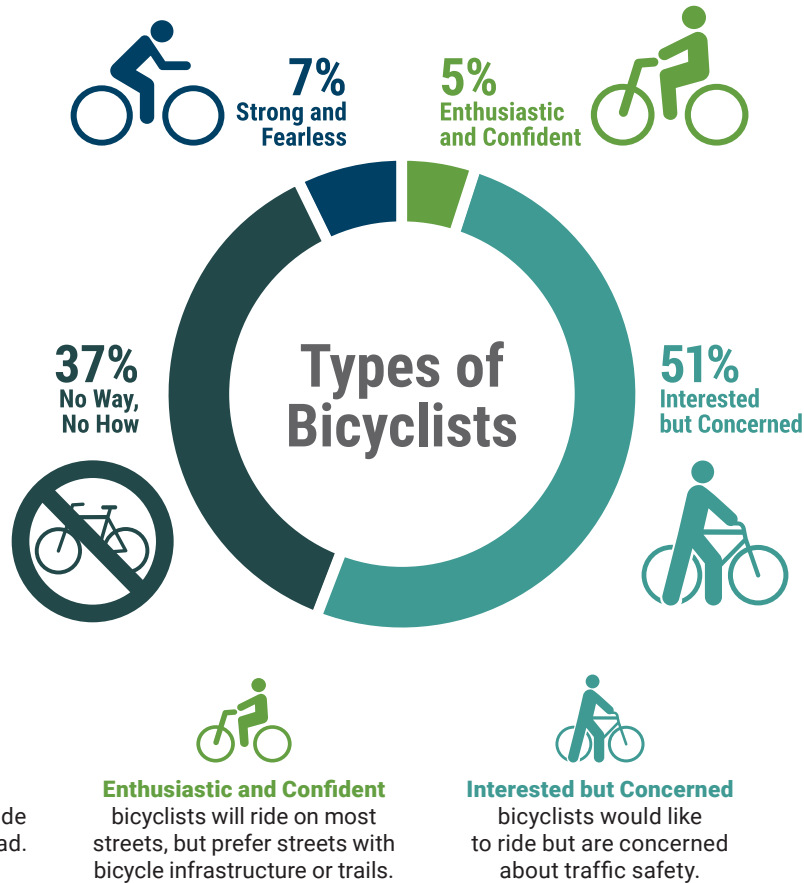
Planning Approach

The Las Cruces ATP provides a framework to make Las Cruces more walkable, bikeable, and livable for residents and visitors of all ages, backgrounds, and physical abilities. According to the most recent data from the U.S. Census Bureau,⁹ the percentage of Las Cruceans walking to work has steadily increased from 2.5 percent in 2012 to 3.4 percent in 2016. Over the same period, the percentage of employees who bicycle to work declined from 1.4 percent to 0.9 percent—a reverse trend compared to most American cities. By comparison, 2.8 percent of the U.S. working population walks to work and 0.6 percent commutes by bicycle. The City of Las Cruces and its partners can encourage Las Cruceans who drive alone to work (80.4 percent) to walk or bicycle to work instead by implementing the policy, program, and infrastructure recommendations of the ATP.

While the percentage varies by community, a national survey conducted by Portland State University¹⁰ found that approximately 5 out of every 10 adults in major urban areas, labeled as *Interested but Concerned* riders, would like to ride a bicycle but do not currently due to concerns about traffic safety. This segment of the population represents a major opportunity to increase the number of trips taken by bicycle. Planning, designing, and constructing bikeways that are safe and comfortable for the *Interested but Concerned* bicyclist will encourage more Las Cruceans to ride.

By developing an ATP that is focused on improving walking and bicycling safety and comfort for all Las Cruceans, the Las Cruces ATP's recommendations serve Las Cruceans who currently bike or walk for transportation, fun, or exercise. More people walking and bicycling can increase the visibility of those modes of transportation, reduce the sense of auto-dependency, and make traveling safer for everyone.

Figure 3. Types of Bicyclists



9 U.S. Census Bureau, 2016 American Community Survey 5-Year Estimates

10 Jennifer Dill and Nathan McNeil, Revisiting the Four Types of Cyclists: Findings from a National Survey, Transportation Research Record: Journal of the Transportation Research Board, 2587: pp. 90-99 (2016)

Goals & Objectives

Based on feedback from the public and stakeholders (detailed in Appendix A), the following goals and objectives were developed to guide the development of the ATP.

Improve safety for people who walk, bike, or roll in Las Cruces.

- Build pedestrian- and bicycle-friendly streets that manage vehicular speeds and reduce conflicts with motorists.
- Accommodate all Las Cruces, especially more vulnerable populations such as children, seniors, and people with disabilities.
- Enhance street crossings along key walking and biking routes.

Create a complete, comfortable, and attractive pedestrian network.

- Enhance pedestrian accessibility to transit services.
- Retrofit or expand the existing sidewalk network to include accessible pathways for people with mobility devices.
- Expand urban tree canopy to create “cool corridors.”
- Fill in gaps in the sidewalk and trail network.

Create a connected, comfortable, and attractive bicycle network.

- Create high-comfort bikeways that connect to each other and to major destinations.
- Improve maintenance of the surface and markings of existing bike lanes and trails, including regular sweeping and debris removal.
- Connect to and upgrade informal bicycle paths.
- Expand urban tree canopy to create “cool corridors.”
- Fill in gaps in the bikeway network.

Increase bicycle and pedestrian access to key destinations.

- Create a citywide wayfinding signage system to direct people to key destinations, trails, and comfortable on-street bike routes.

Embrace bicycling and walking as ways of transportation, recreation, and healthy living in Las Cruces.

- Increase the number of Las Cruces who bike or walk for all trip purposes.



A wide-angle view of Las Cruces

Photo by Flickr user dherrera_96, David Herrera

Plan Development

The development of the Las Cruces Active Transportation Plan included three major components: 1) coordination with recent planning efforts that support bicycling and walking in Las Cruces, 2) a public engagement strategy that obtained feedback from citizens and stakeholders, and 3) technical analysis that informed the creation of infrastructure recommendations and their prioritization. The analysis and recommendations are further described in Chapter 3 (Active Transportation Network) and Appendix C (Technical Analysis). The prioritization process is described in Chapter 4 (Implementation).

Recent and Ongoing Planning

Las Cruces Comprehensive Plan

Comprehensive plans guide community development and growth decisions, including those related to transportation, land use, urban design, and sustainability. Las Cruces' Comprehensive Plan includes the goals of maximizing public transportation availability, increasing mobility options and connectivity, making walking and bicycling safe and convenient, and enhancing infrastructure to attract and

retain citizens and tourists. The Comprehensive Plan provides a long-term vision and sets a foundation for the development of the Las Cruces ATP.

The City recently worked on updating the Healthy Community theme goals and policies. Existing policies under this theme include encouraging mixed-use development, designing multimodal transportation corridors, and coordinating land use and transportation planning. Currently, the City is updating the Comprehensive Plan in its entirety over an 18-month long, comprehensive planning process.

City of Las Cruces Strategic Plan

The City of Las Cruces developed a five-year strategic plan to prioritize City initiatives and resources. Under the theme of Capital Improvements & Infrastructure, the Strategic Plan sets goals to develop a plan for sidewalk implementation and to improve access to public transportation connecting downtown, New Mexico State University, and the Las Cruces Convention Center. The Las Cruces ATP builds on the priorities set by the City's Strategic Plan from 2017 to 2022.

Mesilla Valley MPO Transport 2040: Metropolitan Transportation Plan Update

The Mesilla Valley Metropolitan Planning Organization (MPO) is federally required to maintain and update its Metropolitan Transportation Plan every five years. The Metropolitan Transportation Plan prioritizes federal and state funding for transportation projects within the MPO area. Among the transportation principles listed in the plan are three that relate directly to improving conditions for bicycling and walking:

1. Promote and design healthy and livable communities,
2. Provide and improve multi-modal and intermodal options and accessibility for all users, and
3. Increase safety for all users starting with the most vulnerable modes.

The Metropolitan Transportation Plan identifies priorities for sidewalks, crosswalks, in-road bicycle facilities, and trails from 2016 to 2020. The development of the Las Cruces Active Transportation Plan included significant coordination with the Mesilla Valley Metropolitan Planning Organization to ensure that the Las Cruces ATP's recommendations aligned with the project and funding priorities of the MPO.

Las Cruces' Active Transportation Plan builds from the City's previous efforts to create a community that supports walking and bicycling. The **Comprehensive Plan Update** provides a vision for what the City should be and developed principles, goals, and policies related to healthy communities active transportation. The Mesilla Valley MPO **Transport 2040 Plan** includes priorities for multimodal infrastructure including trails, other bike routes, and pedestrian facilities.

Las Cruces is also the recipient of a Bronze-Level Bicycle Friendly Community designation from the League of American Bicyclists, which indicates the City's commitment to creating an improved walking and bicycling experience.



Las Cruces Parks & Recreation Master Plan

The 2012 Las Cruces Parks & Recreation Master Plan cites significant community interest in trails and establishes a broader goal of creating a loop trail system that encircles central Las Cruces and extends into Mesilla and Doña Ana County. The master plan sets goals for the City of Las Cruces to support the Mesilla Valley MPO in developing a connected system of trails, bicycle corridors, and pedestrian corridors.

Las Cruces ADA Transition Plan

To comply with the American Disabilities Act (ADA) of 1990, the City of Las Cruces drafted an ADA Self-Evaluation and Transition Plan. The self-evaluation found that sidewalks in Las Cruces are frequently obstructed by fire hydrants and trees and that accessible sidewalk ramps are generally absent. When present, sidewalk ramps frequently do not comply with ADA standards. The self-evaluation also cited wide streets without median refuge islands as a significant barrier for people with disabilities.

The transition plan prioritizes reconstructing existing facilities - including sidewalks, trails, curb ramps, bus

stops, and other facilities - to be ADA-compliant and taking advantage of capital improvement projects to implement ADA-compliant street design. The ADA transition plan also emphasizes improving existing transit stops by making them easier to access and facilitating boarding and alighting for people with disabilities.

Redevelopment in Downtown Las Cruces

The City of Las Cruces has successfully spurred redevelopment in downtown in recent years. The opening of Plaza de Las Cruces and development of the Amador Project, which houses the new headquarters for Visit Las Cruces, are playing a part in transforming downtown Las Cruces into a destination.

The City of Las Cruces has also initiated active transportation and roadway projects that will positively change the way its residents get around downtown. For example, construction on the two-way conversion of Church and Water streets has begun, and future phases will complete the project from Lohman Avenue to the roundabout at N Main Street. This ATP envisions a future where bicycling and walking will be safe and convenient options for all Las Cruces to access and enjoy their downtown.



Pedestrians in downtown Las Cruces

Stakeholder & Public Engagement

Stakeholder and public engagement was critical to the development of the Las Cruces Active Transportation Plan. Residents, business owners, employers, and local agencies provided input that collectively influenced the recommendations of the Las Cruces ATP. A detailed summary of the ATP's public engagement efforts is included in Appendix A.

Internal Steering Committee

The role of the Internal Stakeholder Committee (ISC) was to oversee the direction of the ATP's development and provide input at key decision points. The ISC comprised representation from the City of Las Cruces' Community Development, Economic Development, Public Works, Parks & Recreation, Quality of Life, Fire, Police, Transit, Utilities, Legal, and Administration departments; Doña Ana County; Mesilla Valley Metropolitan Planning Organization; New Mexico Department of Transportation; South Central Regional Transit District; and Bureau of Land Management. The ISC convened four times throughout the development of the ATP. While developing the ATP, the ISC participated in exercises to help build more institutional capacity for completing state-of-the-art active transportation projects.

External Advisory Committee

The External Advisory Committee (EAC) was made up of representatives from the City of Las Cruces, Doña Ana County, Mesilla Valley Metropolitan Planning Organization and its Bicycle and Pedestrian Facilities Advisory

Committee, South Central Regional Transit District, Las Cruces Hispanic Chamber, Las Cruces Public Schools and its Safe Routes to School program, Elephant Butte Irrigation District, New Mexico State University, Doña Ana Communities United, Doña Ana County Health and Human Services, Southern New Mexico Trail Alliance, New Mexico Department of Health, American Association of Retired Persons, Red Mesa Design and Development, Las Cruces Association of Realtors, Las Cruces Greater Chamber of Commerce, Las Cruces Green Chamber of Commerce, Community Action Agency of Southern New Mexico, Mesilla Valley Community of Hope, Velo Cruces, and Las Cruces Homebuilders Association. The EAC provided feedback to the planning process through two formal meetings.

Focus Groups

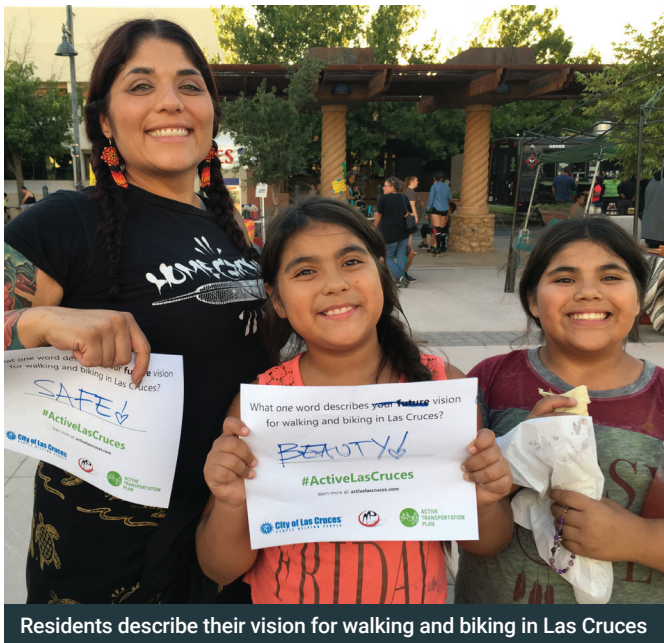
A critical part of the public engagement for the ATP was to meet with focus groups representing New Mexico State University faculty, staff, and students; youth participating in an after-school program; and transit riders. Each of the focus groups communicated desires for a more bikeable and walkable Las Cruces, but cited concerns regarding redevelopment encroaching into the University Avenue two-way separated bike lane, overcrowding of the Triviz Drive Trail, auto-centric street design, and the lack of safe pedestrian infrastructure along transit routes. Hearing from these specific groups of people helped ensure that the ATP's recommendations were well-informed and equitable.

Community Events

Project team members took part in the Las Cruces Farmers & Crafts Market and the City's Neighborhood Leadership Academy and asked attendees to complete a visioning survey. Respondents stated that walking and bicycling in Las Cruces today is hot, dangerous, difficult, and scary. When asked about what they hope walking and bicycling in Las Cruces to be, respondents indicated their desire for Las Cruces to be safe, connected, and complete.

Visioning Workshop

The Visioning Workshop provided community representatives, advocates, and stakeholders the opportunity to discuss the challenges of bicycling and walking in Las Cruces and to craft the vision for bicycling and walking in the future. Workshop attendees noted that Las Cruces' existing bicycle and pedestrian networks are disconnected and dangerous while optimistically pointing to the city's potential for positive change. This workshop informed the creation of the Las Cruces ATP's goals and objectives.



Residents describe their vision for walking and biking in Las Cruces

What is your vision for walking and biking in Las Cruces?
Community responses are shown.

reliable and convenient
accessible **safe** beautiful possible
connected and complete

Public Open House

Nearly 100 people attended the project's public open house, which sought feedback from the public to prioritize bicycle facility types, pedestrian treatment types, and policy and program recommendations. Separated bike lanes, trails, and neighborhood bikeways ranked the highest in terms of preference for bicycle facilities, while buffered sidewalks, signalized crosswalks, and median refuge islands ranked the highest as preferred pedestrian treatments. Of the policy and program recommendations presented at the open house, participants stated that the City of Las Cruces should prioritize hiring an active transportation coordinator, designing and configuring traffic signals to be bicyclist- and pedestrian-friendly, and developing a comprehensive bicycle parking policy.

Website and Online Survey

The Las Cruces ATP's public engagement strategy included a project website and online survey. The project website included information about the ATP, provided progress updates, and linked to the online survey. The online survey was completed by over 330 Las Cruces. Nearly half of the survey respondents self-classified as *Interested but Concerned* bicyclists, and there was an almost-even split between males and females (46 percent male and 49 percent female)—an indication that survey responses are generally representative of Las Cruces' population. The survey results indicate a strong desire from the community to improve the quality of existing crosswalks, increase the number of safe crosswalks, and provide landscaped buffers for sidewalks. The majority of survey respondents also support removing or narrowing travel lanes, widening existing roads, and acquiring separate rights-of-way to construct bicycle and pedestrian infrastructure. Detailed survey results are provided in Appendix A.



The February 2018 Open House helped inform ATP recommendations

Plan Organization

The Las Cruces Active Transportation Plan is organized into four chapters, including this one, with supporting appendices.

Chapter 1 introduces the ATP and explains why and how it was developed.

Chapter 2 offers policy and program recommendations to support walking and bicycling.

Chapter 3 describes the development of the ATP's infrastructure recommendations.

Chapter 4 lists the infrastructure recommendations of highest priority and outlines steps for implementation.

Appendix A summarizes the ATP's public engagement activities.

Appendix B profiles walking and bicycling in Las Cruces today.

Appendix C details the technical analysis behind the development of the ATP's recommendations.

Appendix D lists each of the ATP's proposed bikeway projects and prioritization scores.

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CHAPTER 2

Policies & Programs

Chapter 2: Policies & Programs

Policies and programs that ensure streets are designed, constructed, and improved for people of all ages and abilities are essential to Las Cruces becoming a safer and more comfortable city for everyone including people walking, bicycling, and using wheelchairs. The City of Las Cruces has been recognized by the League of American Bicyclists as a Bronze-Level Bicycle Friendly Community, and the Safe Routes to School National Partnership highlighted Las Cruces as a community that has seen success from its commitment to making it easier and safer for children to walk or bike to school. Based on feedback from the League of American Bicyclists, Las Cruces updated its bicycle ordinances in 2012. The update prohibits parking in bike lanes, requires a passing clearance of three feet for passenger cars and six feet for trucks and commercial vehicles, and eliminates mandatory bicycle registration.

Recommendations

Specific policy and program recommendations are grouped into three categories below: Build Institutional Capacity; Update Standards, Policies, & Codes; and Improve Data Collection & Sharing. Attendees at the ATP’s public meeting stated that the most important actions the City of Las Cruces can take are hiring an active transportation coordinator (71 percent), including bicyclists and pedestrians in traffic signal design and operation (64 percent), and developing a comprehensive bicycle parking policy (54 percent).



Las Cruces provide feedback on the ATP’s recommendations

Table 1. Build Institutional Capacity

Action	Description
Hire an active transportation coordinator	Hire a transportation planner or engineer to focus on coordinating and implementing active transportation projects.
Ensure high priority of the Elephant Butte Irrigation District (EBID) facilities can be used by pedestrians and bicyclists	Update the existing Memorandum of Understanding, or create a new one, to ensure that high-priority EBID facilities can be used by pedestrians and bicyclists.
Integrate the Safe Routes to School program with planning and engineering projects	Include planning and engineering staff in the Safe Routes to School (SRTS) Coalition, which currently includes crossing guards, the Department of Health, the Police Department, the City of Las Cruces, Doña Ana County, and the Mesilla Valley Metropolitan Planning Organization. Look for opportunities to make SRTS infrastructure changes through related City projects.
Expand the Neighborhood Traffic Calming Program	Modify the City’s Neighborhood Traffic Calming Program to regularly coordinate with the Planning Division, consider traffic calming on more types of streets, and prioritize traffic calming on proposed neighborhood bikeway routes.
Support a planned bike share system	Support bike sharing in Las Cruces by considering wayfinding signs and bicycle route improvement, as appropriate.

Table 2. Update Standards, Policies, & Codes

Action	Description
Include bicyclists and pedestrians in traffic signal design and operation	Review traffic operations policies to ensure that best practices in bicycle and pedestrian design are included in the appropriate contexts. In addition to condensed cycle lengths, push-button placement, leading pedestrian intervals, pedestrian countdown signals, pedestrian-only phases, and right turn on red restrictions, the City should consider bicycle-only phases and bicycle detection.
Develop a comprehensive bicycle parking policy	Improving bike parking will encourage more people to ride to errands, events, work, and school by bike. Develop a comprehensive bicycle parking plan to address bicycle parking needs. This would include guidance regarding ratios of parking supply for building types, equipment specifications, and parking type requirements. This could also include the installation of public bike repair stands.
Update Design Standards to match best practices	Update the City’s design standards in its Land Development Code to reflect national best practices and to improve the consistency, quality, and application of pedestrian and bicycle facility design. Include details that encourage pedestrian-friendly transit facilities and generous street tree requirements.
Establish multimodal maintenance policies	Incorporate a higher standard of care for bikeways into guidelines and timetables for maintenance activities, including street sweeping and repaving. Avoid using pavement types, such as chip seal, that are not bicycle friendly except as a temporary measure.
Optimize use of right-of-way	For some projects, consider right-of-way (ROW) acquisition, but when that is not possible or desirable, consider building bicycle and/or pedestrian facilities within the existing ROW. Consider creative ways to use existing street space.
Embrace land use policies that encourage active transportation	Consistent with the Comprehensive Plan Update, adopt land use policies that support mixed-use, compact development, and urban form to encourage walking and biking. Site schools and transit stops where there are safe connections.
Develop a street tree ordinance	Las Cruces’ tree canopy is inadequate and should be expanded as part of its Cool Corridors initiative and other transportation projects. The City can require the inclusion of street trees through the adoption of an ordinance with support from its Public Works and Parks & Recreation.
Create guidelines for bicycle and pedestrian wayfinding	Wayfinding comprises informational signage and markings that guide travelers to destinations. Wayfinding can make it easier for people to understand what is accessible by bike or foot, and it can remind motorists to expect bicyclists and pedestrians.
Use NACTO design guides	Use National Association of City Transportation Officials (NACTO) design guides including the <i>Urban Street Design Guide</i> and the <i>Urban Bikeway Design Guide</i> .
Optimize the capital and resurfacing project processes	Ensure that recommended pedestrian and bicycle projects are incorporated at the earliest possible stage of projects, consistent with the City’s Complete Streets Resolution. Consider creating a Complete Streets Checklist to guide projects.
Develop pedestrian crossing guidelines	Create pedestrian crossing standards and guidelines that specify where and how pedestrian crossings should be added throughout the city. Coordinate with the SRTS program.

Table 3. Improve Data Collection & Sharing

Action	Description
Create a bikeway and trails map	Create an online-based interactive bicycle map and a hard copy bicycle map including biking routes for the region. Consider available tools and resources such as Google Maps.
Modify Citizen Survey to include biking and walking questions	To collect better data about walking and biking, update the biannual Citizens Survey to include questions about biking and walking mode share, trip purpose, and satisfaction with existing facilities.
Collect bicyclist and pedestrian counts for new projects	Collecting bicyclist and pedestrian counts before and after a project is constructed can help the City of Las Cruces with project evaluation and planning for future projects. Including counts in new projects can lead to the development of a citywide bicyclist and pedestrian count database.
Work with local partners to reduce distracted and impaired driving	Las Cruces can leverage existing partnerships with local organizations, law enforcement, and citizens to develop a campaign or program to try to discourage and reduce impaired and distracted driving. While this action has farther-reaching benefits than just active transportation, making the streets of Las Cruces safer will help achieve the ATP goals.

Recommendation Spotlight:

Updates Design Standards to Match Best Practices

Based on a review of the City’s street design standards, listed below are potential changes that would better align with recent guidance from the Federal Highway Administration (FHWA) (*Achieving Multimodal Networks*) and NACTO. Street design guidance should be applied in appropriate contexts and with consideration for existing conditions and constraints—all while prioritizing safety for pedestrian and bicyclists, the most vulnerable road users.

- Reducing travel lane and center left-turn lane widths to 10.5 feet
- Reducing raised median widths to 19 feet
- Increasing sidewalk widths to at least 6 feet
- Requiring sidewalk buffers that are at least 6 feet wide
- Requiring sidepaths instead of bike lanes on streets with design speeds of 45 mph or greater
- Allowing sidepaths on both sides of arterial streets in place of sidewalks

Recommendation Spotlight:

Develop Pedestrian Crossing Guidelines

National resources can and do guide the City of Las Cruces in developing its own guidelines for pedestrian crossings. The FHWA published its *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* in 2017 which included the following guidance for pedestrian crash countermeasures based on roadway configurations, speed limits, and average daily traffic volumes.

Roadway Configuration	Speed Limit								
	≤30 mph			35 mph			≥40 mph		
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
2 lanes*	1 2 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
3 lanes with raised median*	1 2 3 4 5	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7
3 lanes w/o raised median†	1 2 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
4+ lanes with raised median‡	1 3 5	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7
4+ lanes w/o raised median‡	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8

*One lane in each direction †One lane in each direction with two-way left-turn lane ‡Two or more lanes in each direction

Given the set of conditions in a cell,

- # Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
 - # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restriction on crosswalk approach, adequate nighttime lighting levels
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Pedestrian Hybrid Beacon
- 8 Road Diet

This table was developed using information from: Zegeer, C. V., Stewart, J. R., Huang, H. H., Lagerwey, P. A., Feaganes, J., & Campbell, B. J. (2005), Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines (No. FHWA-HRT-04-100); Manual on Uniform Traffic Control Devices, 2009 Edition, Chapter 4F. Pedestrian Hybrid Beacons; the Crash Modification Factors (CMF) Clearinghouse website (<http://www.cmfclearinghouse.org/>); and the Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE) website (<http://www.pedbikesafe.org/PEDSAFE/>).

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CHAPTER 3

Active Transportation Network

Chapter 3: Active Transportation Network

The goals of the Las Cruces ATP—to improve safety and to create complete, comfortable, accessible, and attractive walking and biking networks—require walkways and bikeways in Las Cruces that respond to those needs. The Proposed Bikeway Network and Proposed Pedestrian Approach presented in this chapter were informed by technical analysis and community input.

The Proposed Bikeway Network is a selection of streets and rights-of-way in Las Cruces on which to implement high-quality bicycle infrastructure. The Proposed Bikeway Network comprises trails, sidepaths, separated and buffered bike lanes, standard bike lanes, bike boulevards,

paved shoulders, and—for some short segments—shared lane markings. The network will connect Las Cruces to schools, transit, parks, shopping centers, residential neighborhoods, and recreational opportunities.

Because every city street is for people who walk or use mobility devices, the Proposed Pedestrian Approach identifies, at a high level, geographic areas of the city to focus upgrades and it recommends context-sensitive strategies to improve pedestrian safety and access. The guidance will help the City decide where to allocate its resources to improve pedestrian safety, comfort, and access to transit.



The many faces of walking and biking in Las Cruces

Network Development

The network of planned facilities developed for the Las Cruces Active Transportation Plan resulted from an iterative process that included public and stakeholder input and feedback, coordination with City departments, identification of areas with high propensity for bicycling and walking, a Bicycle Level of Traffic Stress (LTS) analysis, an assessment of existing barriers and network gaps, identification of high-crash corridors, and alignment with the Mesilla Valley MPO Trail System Priorities Plan. Based on the results of the analysis, shown in detail in Appendix C and graphically represented in Figure 5, bike facility recommendations and pedestrian focus areas were identified and mapped.

Latent Demand Analysis

One of the key steps in developing a network of bicycling and walking facilities is to understand where the greatest potential for increased bicycling and walking trips exists or where existing trips may be made safer or more comfortable. To identify these areas in Las Cruces, a latent demand analysis was conducted. Each census block was scored based on walking- and biking-supportive factors including the density of intersections, population density, access to transit, households in poverty, percent of older adults, and access to parks, schools, and paved trails. Shown in Appendix C and Figure 5 in dark blue, the results of the analysis indicate the following areas have the highest latent demand for walking and bicycling trips in Las Cruces:

- US 70 (West Picacho Avenue) and Spruce Avenue between North Valley Drive and North Telshore Boulevard
- North Main Street between Amador Avenue and North Solano Drive
- North Alameda Boulevard between Amador Avenue and 3 Crosses Avenue
- South Triviz Drive between Missouri Avenue and East Idaho Avenue
- South Espina Street between East University Avenue and Missouri Avenue

Level of Traffic Stress Analysis

As discussed in Chapter 1, the ATP was developed with the *Interested but Concerned* bicycle rider—who would like to bicycle but is concerned about traffic safety—in mind. A Level of Traffic Stress (LTS) analysis was performed for this project because it addresses the needs of this type of rider.

An LTS analysis is a planning tool that has been used across the country to quantify the level of stress that a person bicycling is likely to perceive while riding on a street. It is based on the premise that a person's level of comfort on a bicycle increases as separation from vehicular traffic increases or as traffic volume and speed decrease. Conversely, a person's level of stress on a bicycle increases as separation from vehicular traffic decreases or as traffic volume and speed increase. Using the Mineta Transportation Institute's nationally-recognized research on low-stress bicycling and network connectivity, all streets in Las Cruces were assessed for their level of bicycling comfort.

This resulted in a numerical comfort ranking for every street in the city, from greatest comfort (LTS 1) to least comfort (LTS 4) shown in green to red in Appendix C and Figure 5. The LTS analysis found that, not including local streets, most of the streets in Las Cruces (225 miles) are scored as high stress (LTS 3 or 4) for bicyclists, while the remaining streets (125 miles) are low stress (LTS 1 or 2). High posted speed limits and street design encouraging high traffic speeds are major contributing factors in Las Cruces' most stressful streets for bicyclists, which include major connections like North Solano Drive, South Alameda Boulevard/El Paseo Road, North Valley Drive, South Main Street, Lohman Avenue, and University Avenue (LTS 4). The LTS analysis was critical in identifying where to focus facility improvements to create the most practical, comfortable, and appealing bicycling network.



A missing connection across railroad tracks

Barriers Assessment & Gap Analysis

Physical barriers and network gaps can make travel difficult, uncomfortable, and unsafe for bicyclists and pedestrians. For people with mobility disabilities, these challenges can make travel impossible. The most prominent physical barriers that limit bicycling and walking in Las Cruces include the railroad and the two interstate highways within the city. Other barriers include large vacant parcels, suburban-style strip malls with large parking lots abutting the street, discontinuous bike lanes, and sidewalk gaps. The Las Cruces ATP’s network development seeks to remove or mitigate these barriers and fill gaps in the active transportation network.

Crash Analysis

Based on available data, 284 crashes involving bicyclists or pedestrians were recorded in Las Cruces from 2011 to 2015, including four crashes resulting in pedestrian fatalities and one crash resulting in a bicyclist fatality.¹¹ In contrast to many American cities, reported crashes

involving bicyclists (160 crashes) were more frequent than crashes involving pedestrians (124 crashes) in Las Cruces. The crash analysis highlights street corridors with high frequencies of crashes for both bicyclists and pedestrians. Las Cruces’ high-crash corridors for pedestrians often overlap with the RoadRUNNER Transit service and South Central Regional Transit District routes, as shown in orange in Appendix C and Figure 5. While this finding doesn’t necessarily mean that pedestrian crashes are related to transit service, it does suggest that improvements to these corridors—such as connected sidewalks, safe intersections and crosswalks, transit stop amenities, and ADA improvements—could simultaneously reduce pedestrian crashes and improve access to transit.

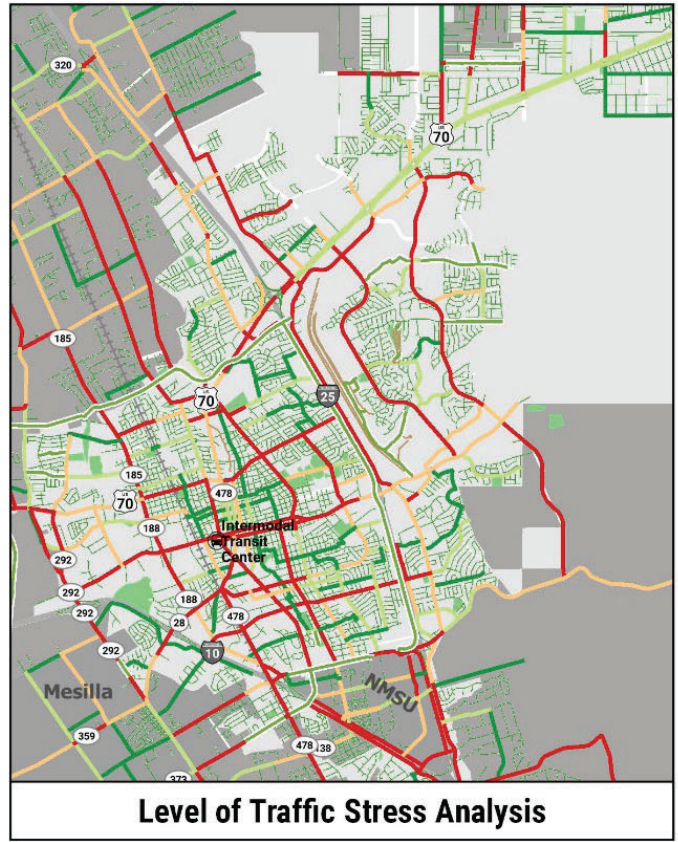
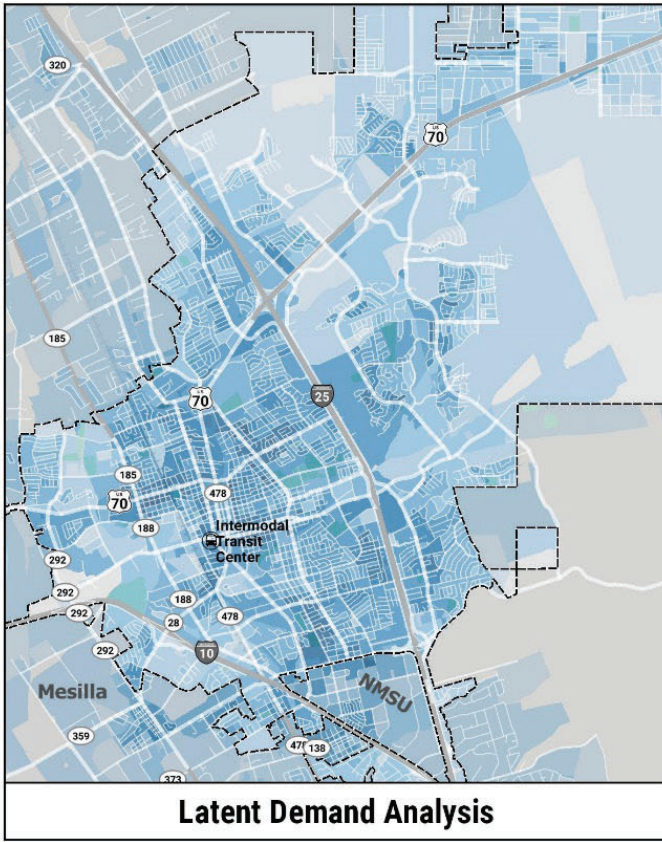
The high-crash corridors for bicyclists shown in orange in Appendix C and Figure 5 include several major arterial streets. The lack of safe bicycle facilities connecting to key destinations paired with high traffic volumes and speeds can lead to more frequent and more severe crashes between motorists and bicyclists.

Figure 4. Levels of Traffic Stress by Bicycle Facility



11 City of Las Cruces and New Mexico Department of Transportation, Bicycle and Pedestrian Crash Data (2011-2015)




Figure 5. Graphical Representation of Network Development Inputs




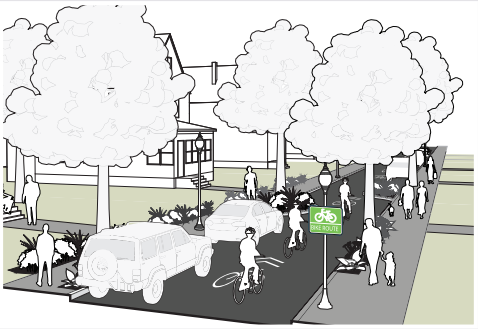



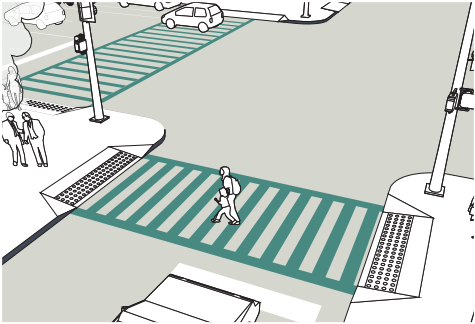

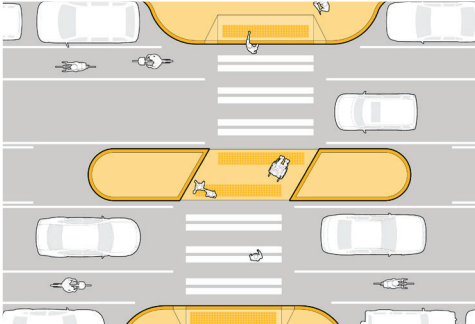
Walkway & Bikeway Toolkit


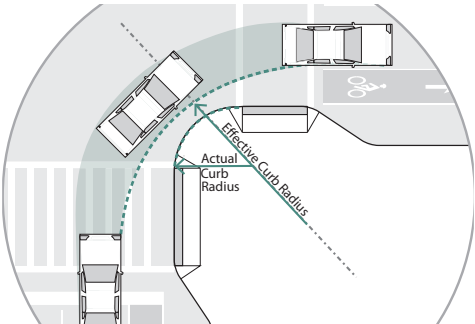

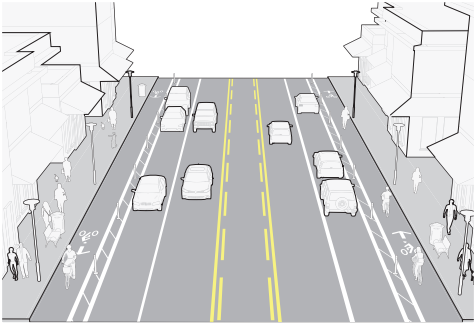
Table 4 represents high-level guidance for the planning, design, and construction of Las Cruces’ active transportation network. Design considerations unique to each treatment and appropriate street types are also included. As with all facilities, walkways and bikeways should be designed consistent with local, state, and federal standards. However, variances should be considered if needed to provide a higher-quality facility consistent with the National Association of City Transportation Officials (NACTO) *Urban Bikeway Guide* and *Urban Street Design Guide* and with FHWA’s 2016 *Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts* guidebook.

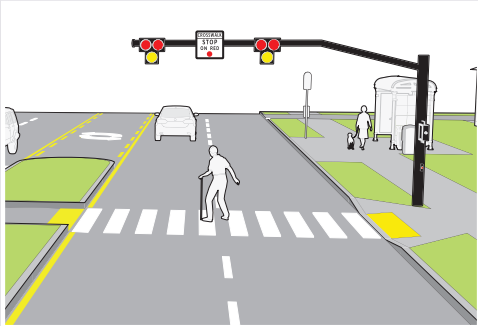
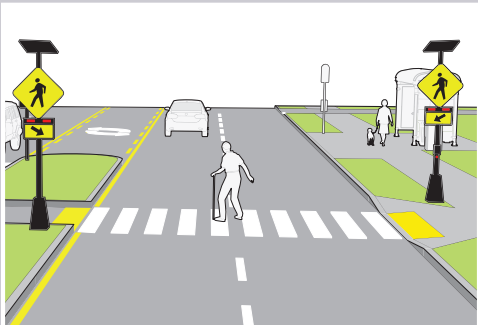

Table 4. Walkway & Bikeway Toolkit

Treatment Type	Description	Design Considerations	Street Type
Linear Facilities			
<p>Sidewalks</p> 	<p>Sidewalks provide dedicated space for pedestrians. Sidewalks are separated from travel lanes with curbs or buffer areas.</p>	<p>Sidewalks should be at least five feet wide to provide space for side-by-side walking and wheelchair use. They should be separated from travel lanes with a buffer that could accommodate street trees, landscaping, or street furniture. In most cases, sidewalks should be constructed on both sides of the street.</p>	<p>Any non-freeway street</p>
<p>Trails</p> 	<p>Shared use paths, also known as trails, include paved and unpaved paths that can be used by both pedestrians and bicyclists. Shared use paths can follow streets for short distances but are typically located away from streets.</p>	<p>Trail intersections should provide wayfinding to direct trail users. Where heavily utilized or around curves, a centerline can encourage users to stay to the right. Crossings at major streets should draw motorists’ attention and encourage yielding.</p>	<p>In parks, utility corridors, abandoned railroad corridors, and along arroyos and canals</p>
<p>Sidepaths</p> 	<p>Sidepaths are paved paths that can be used by both pedestrians and bicyclists. Sidepaths are located adjacent to streets and can connect to off-street trails.</p>	<p>Crossings at intersections and driveways should draw motorists’ attention and encourage yielding. Recessed crossings at driveways can improve interactions between bicyclists and motorists.</p>	<p>Arterials and collector streets with good visibility and few intersections or driveways</p>

Treatment Type	Description	Design Considerations	Street Type
<p>Separated Bike Lanes</p> 	<p>Separated bike lanes dedicate space to bicyclists that is physically separated from both motorists and pedestrians. Common vertical separators include planters, curbs, plastic delineators, and on-street parking. Separated bike lanes can be designed to accommodate one-way or two-way travel.</p>	<p>Bicycle signals, lateral offsets, signs, and markings can improve safety at intersections and driveways. Transitions to trails and other bicycle facilities should be clear and intuitive.</p>	<p>Arterials and collector streets</p>
<p>Buffered Bike Lanes</p> 	<p>Buffered bike lanes include a striped buffer area in addition to the bike lane, typically positioned between the bike lane and adjacent travel lane. In some cases, the buffer may be placed next to on-street parking to mitigate collisions with opening doors.</p>	<p>Cross-hatched buffers, clearly communicate the buffer's function. Where pavement width allows and on-street parking exists, buffers can be provided on both sides of the bike lane.</p>	<p>Collector streets and major local streets</p>
<p>Bike Lanes</p> 	<p>Conventional bike lanes provide space within the street for exclusive bicycle travel. Signs and markings remind motorists that the bike lane is intended solely for bicyclist travel.</p>	<p>Bike lanes should be striped at intersection approaches and through intersections if the need for clarity exists. Bike lanes should meet minimum width requirements exclusive of the gutter pan.</p>	<p>Collector streets and major local streets</p>
<p>Bike Boulevards</p> 	<p>Bike boulevards optimize local streets for bicycle travel by reducing traffic volumes and speeds. Bike boulevards include wayfinding signs and shared lane markings at a minimum.</p>	<p>Beyond signs and markings, bike boulevards generally include traffic calming features – such as speed humps, curb extensions, traffic circles, and traffic diversion treatments. In Las Cruces, select bike boulevards could be implemented as Cool Corridors (see page 29) to offer a truly comfortable bicycling experience.</p>	<p>Local streets</p>

Treatment Type	Description	Design Considerations	Street Type
<p>Paved Shoulders</p> 	<p>Paved shoulders are primarily constructed to accommodate emergency stops, provide space for emergency vehicles, and extend pavement life. However, they can also be used by bicyclists.</p>	<p>Paved shoulders can collect debris and should be swept to facilitate bicycle travel. Gaps should be provided in shoulder rumble strips to accommodate turning or merging bicyclists. Signage can remind motorists to expect bicyclists in paved shoulders.</p>	<p>Any street without curbing, rural streets</p>
Pedestrian or Complete Streets Treatments			
<p>Crosswalks</p> 	<p>Crosswalks facilitate pedestrian crossings at intersections and mid-block locations. In New Mexico, motorists are legally required to yield to pedestrians in any unsignalized crosswalk.</p>	<p>On higher-volume, higher-speed, multilane streets, marked crosswalks should be accompanied by treatments to encourage motorist yielding and improve pedestrian safety, such as parking restrictions, nighttime lighting, yield signs and markings, median refuge islands, and pedestrian hybrid beacons.</p>	<p>Any non-freeway street</p>
<p>Curb Ramps</p> 	<p>Curb ramps provide smooth transitions from sidewalks to streets at intersections and crossings which serve pedestrians with mobility devices. Curb ramps can also serve people with strollers or people on bicycles.</p>	<p>Curb ramp design and construction must comply with ADA requirements to ensure that they can be used by people with disabilities. ADA-compliant curb ramps typically include detectable surfaces to warn visually-impaired people of the bottom of the ramp.</p>	<p>Any street</p>
<p>Median Refuge Islands</p> 	<p>Median refuge islands allow pedestrians and bicyclists to cross one direction of traffic at a time. They shorten crossing distances, enhance visibility, and provide spaces for pedestrians waiting for traffic to pass.</p>	<p>Median refuge islands should be accompanied by crosswalk markings, signs, lights, and signals. At mid-block locations, median refuge islands can also encourage pedestrians to look for traffic by using an angle or zig-zag design and offsetting the crosswalks on either side.</p>	<p>Any street</p>

Treatment Type	Description	Design Considerations	Street Type
<p>Gateway Treatment</p> 	<p>The gateway treatment includes signs between travel lanes and on the edge of the road reminding motorists to yield to pedestrians at crosswalks.</p>	<p>In-street sign placards should be placed at mid-block crosswalks. Yield markings can help to draw attention to the presence of crosswalks.</p>	<p>Collector streets and local streets</p>
<p>Curb Radius Reductions</p> 	<p>Small curb radii encourage reduced turning speeds, shorten crossing distances, and improve intersection visibility.</p>	<p>A high frequency of right turns by large vehicles may preclude curb radius reductions. Occasional right turning movements by large vehicles can be accommodated through stop bar setbacks and curb aprons.</p>	<p>Any street</p>
<p>Access Management</p> 	<p>Access management seeks to reduce potential conflicts and improve predictability through turn restrictions, driveway consolidation, and driveway narrowing.</p>	<p>Driveway consolidation may increase the frequency of turns into and out of each driveway, which could necessitate pavement markings and signs to remind motorists, bicyclists, and pedestrians to watch out for one another.</p>	<p>Arterial streets and collector streets</p>
<p>Street Reconfigurations</p> 	<p>Also known as road diets, street reconfigurations reduce the number of vehicular travel lanes on multi-lane roadways, often allocating space instead to bike lanes, center left-turn lanes, or on-street parking. According to FHWA, road diets of four-lane undivided streets are associated with a 19 to 47 percent reduction in overall crashes.</p>	<p>In some cases, road diets can add bike lanes simply by narrowing existing travel lanes without impacting motor vehicle flow. Road diets on streets with on-street parking may position the parking lane to provide parking-protected bike lanes. To understand potential impacts, analysis should be performed before completing a road diet.</p>	<p>Multilane arterial streets and collector streets</p>

Treatment Type	Description	Design Considerations	Street Type
<p>Pedestrian Hybrid Beacons</p> 	<p>Also known as HAWK beacons (High-Intensity Activated Crosswalk beacons), pedestrian hybrid beacons are signals that stop vehicles with a red indication and allow pedestrians to cross with a walk signal.</p>	<p>Coordination with nearby traffic signals should be considered if pedestrian hybrid beacon activations could create motor vehicle queuing issues. Pedestrian hybrid beacons can provide crossing times that are long enough to accommodate slower pedestrians such as children and people with mobility disabilities.</p>	<p>Any street</p>
<p>Rectangular Rapid Flashing Beacons</p> 	<p>Rectangular rapid flashing beacons are signs with yellow flashing lights that draw motorists' attention to pedestrians in the crosswalk.</p>	<p>When used, median refuge islands should include activation buttons in the median to accommodate two-stage crossings.</p>	<p>Collector streets and local streets</p>
<p>Traffic Signals</p> 	<p>Traffic signals help separate conflicts between people driving, bicycling, and walking at intersections through red, yellow, and green circles and arrows; pedestrian signals; and bicycle signal heads.</p>	<p>Traffic signals without pedestrian push buttons should call the pedestrian signal every cycle. Crosswalk markings and bike lane extension markings can further improve awareness of pedestrians and bicyclists.</p>	<p>Any street</p>

Design Strategies Spotlights



Complete Streets

Complete Streets are streets that have been designed for all modes of transportation including walking, bicycling, riding the bus, and driving. They prioritize people over automobiles and can lead to improvements in safety, health, economic vitality, and community vibrancy. In 2009, the City of Las Cruces adopted a Complete Streets policy which requires the consideration of Complete Streets elements in its transportation plans and projects. To ensure that the planning, design, and construction of all streets consider Complete Streets principals, the City of Las Cruces should update the City’s design standards to include the Walkway & Bikeway Toolkit and endorse NACTO’s design guidelines, as described in Chapter 2. Las Cruces’ recent award-winning one-way to two-way street conversions in downtown used NACTO design guidelines, resulting in pedestrian-friendly streets with street trees, landscaping, and lighting.

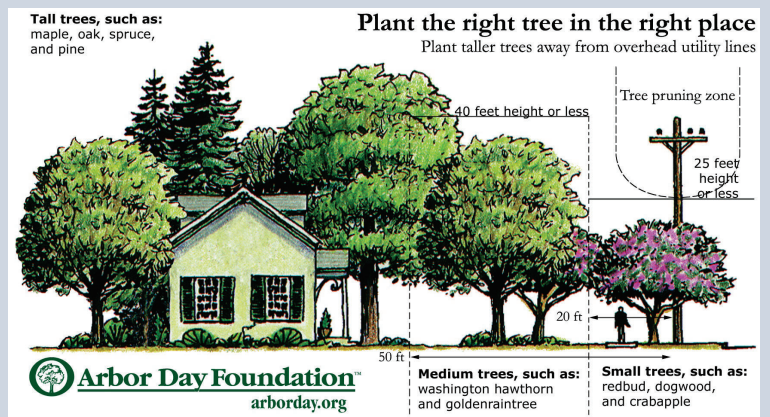
Elephant Butte Irrigation District Laterals

The City of Las Cruces has an existing Memorandum of Understanding (MOU) with the Elephant Butte Irrigation District (EBID) to allow for the consideration of pedestrian and/or bicyclist use of its laterals, to be evaluated on a case-by-case basis. As recommended in Chapter 2, the expansion of this MOU or the creation of new ones present a major opportunity for the buildout of the city’s active transportation network. The ATP’s Proposed Bikeway Network includes key connections facilitated by EBID laterals, such as the Armijo Lateral. New shared use paths along EBID laterals may or may not include paved paths, but each improved lateral should include informational wayfinding signs and provide barrier-free connections to the City’s street network.



Cool Corridors

The hot, dry climate of Las Cruces and the broader Chihuahuan Desert can be very uncomfortable and even unsafe for Las Cruces who walk or bike. The National Oceanic and Atmospheric Administration projects that heat events over 105 degrees will become more frequent and longer in duration, and this will disproportionately impact low- to moderate-income neighborhoods.¹² Low- to moderate-income neighborhoods are typically characterized by less energy-efficient homes and fewer residents who own or have access to motor vehicles or air conditioning. To mitigate the impacts of heat on its residents, the City of Las Cruces has begun to implement “Cool Corridors,” similar to efforts in other southwestern cities like Phoenix. These corridors or streets are designed to reduce heat with shade, landscaping, and reflective materials. Establishing streets as Cool Corridors, such as the pedestrian focus areas along transit corridors or bike boulevards, and investing in street trees citywide would greatly benefit Las Cruces who walk and bike.



12 City of Las Cruces Sustainability Program, Las Cruces Climate and the Urban Environment

Proposed Bikeway Network

The Las Cruces ATP recommends an additional 98 miles of bikeways, leveraging Las Cruces’ existing 113 miles of on- and off-street bikeways. The final completed network would include 212 miles of both existing and proposed facilities, distributed as shown in Figure 6 below. When completely built out, the Proposed Bikeway Network will make bicycling for recreation and transportation more safe, comfortable, and convenient for everyone. Figure 7 shows the Proposed Bikeway Network recommended by the ATP.

As with any master plan, the proposed networks and projects identified in the ATP were analyzed at a planning level and *do not represent detailed, site-specific study*. While the bicycle facility type defined for each alignment in the network is established as the City’s goal, different decisions might be made as each project advances—based on important factors such as right-of-way, public support, construction cost, and overall mobility goals. That said, the

City should seek to provide the most comfortable and safe bicycle facility possible for each alignment, consistent with the Walkway & Bikeway Toolkit in this ATP.

Key features of the Proposed Bikeway Network include:

- A branded, high quality shared use path loop around the city—the Las Cruces Loop—that includes the Triviz Drive Trail, Outfall Channel Trail, and La Llorona shared use path;
- Connections to downtown, the Mesilla Valley Intermodal Transit Terminal, New Mexico State University, parks, schools, and commercial and employment centers;
- Retrofitting and expanding the University Avenue separated bike lane into a shared use path; and
- A core network of low-stress facilities including separated bike lanes, buffered bike lanes, and bike boulevards.

Figure 6. Bikeway Network Mileage, Existing and Proposed

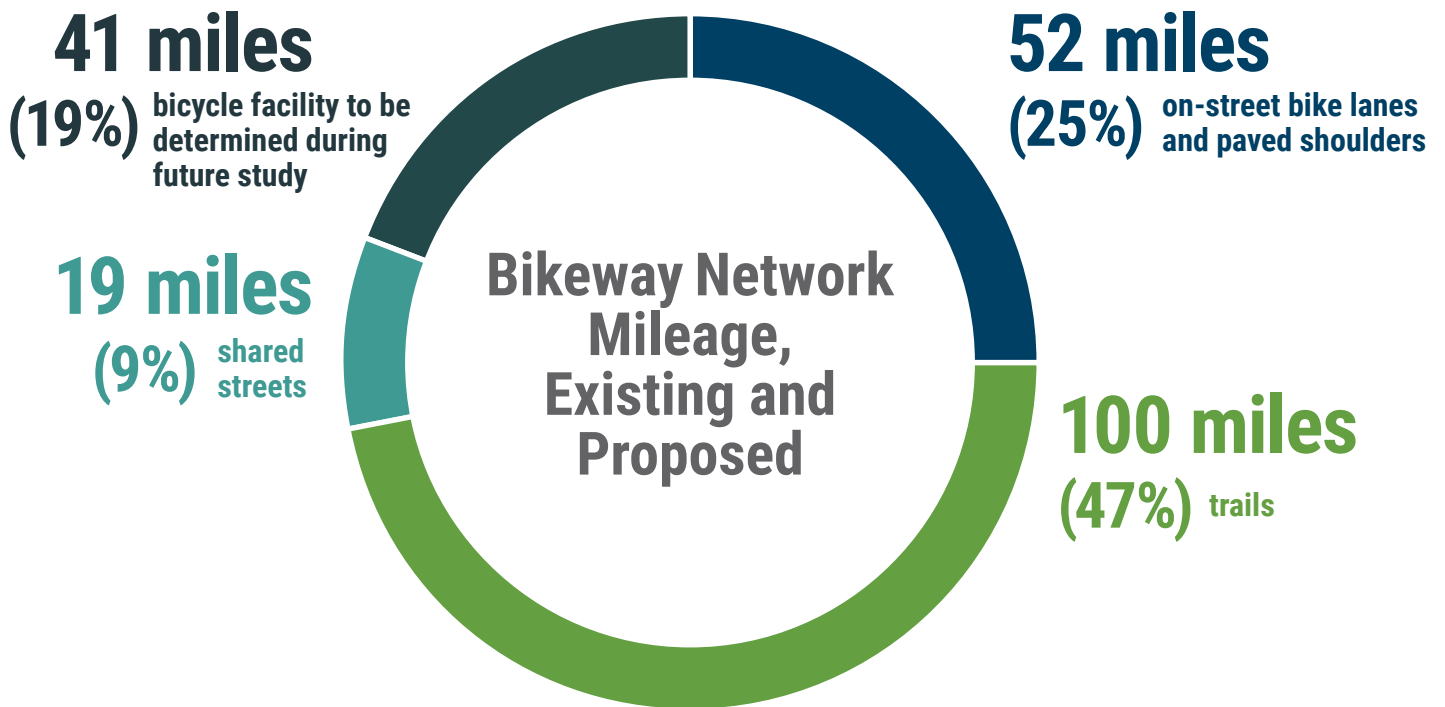
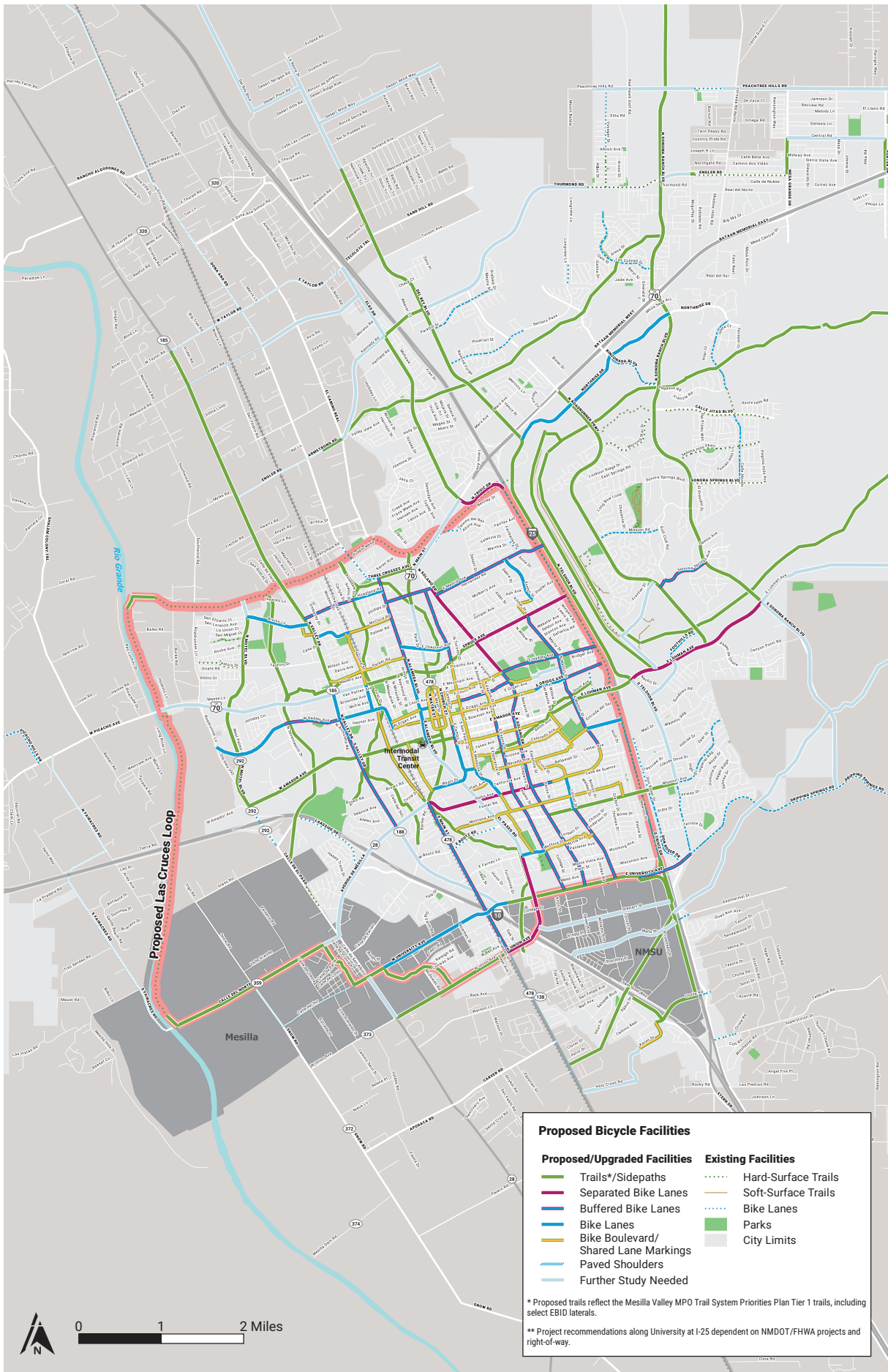


Figure 7. Proposed Bikeway Network



Proposed Pedestrian Approach

The network planning process identified several focus areas in Las Cruces for pedestrian improvements, shown in Figure 8. The pedestrian focus areas highlight locations that should be prioritized for investment in safe and comfortable pedestrian infrastructure such as sidewalks, crosswalks, trails, and street trees. As previously noted, the pedestrian high-crash corridors often overlap with transit routes, so these focus areas also address the need for safe access to transit with an emphasis on streets with a history of crashes.

Overall Approach

As project opportunities arise and funding becomes available, the City should use the following approach to improve the pedestrian environment in Las Cruces:

1. Review pedestrian focus areas to inform capital and in-house projects.
2. Close sidewalk gaps, first in the pedestrian focus areas and then citywide as opportunities arise.
 - a. Leverage opportunities through private development, public utilities projects, and major roadway projects to construct or reconstruct sidewalks.
 - b. Identify and fill sidewalk gaps that don't require detailed engineering, major grading or clearing of vegetation, or right-of-way acquisition.
3. Improve pedestrian crossings using the ATP's Walkway & Bikeway Toolkit, first in the pedestrian focus areas and then citywide as opportunities arise.
4. Add street trees and other Cool Corridor features to select streets in the pedestrian focus areas.
5. Implement context-specific enhancements, especially around schools and within transit corridors as described in the following sections.

By implementing many of the policy recommendations in Chapter 2—such as including pedestrians in traffic signal design and operation; updating the City's design standards to match best practices, embracing land use policies that encourage active transportation; developing a street tree ordinance; and developing pedestrian crossing guidelines—the City will lay the groundwork to improve the comfort and safety of walking and wheelchair use in Las Cruces.

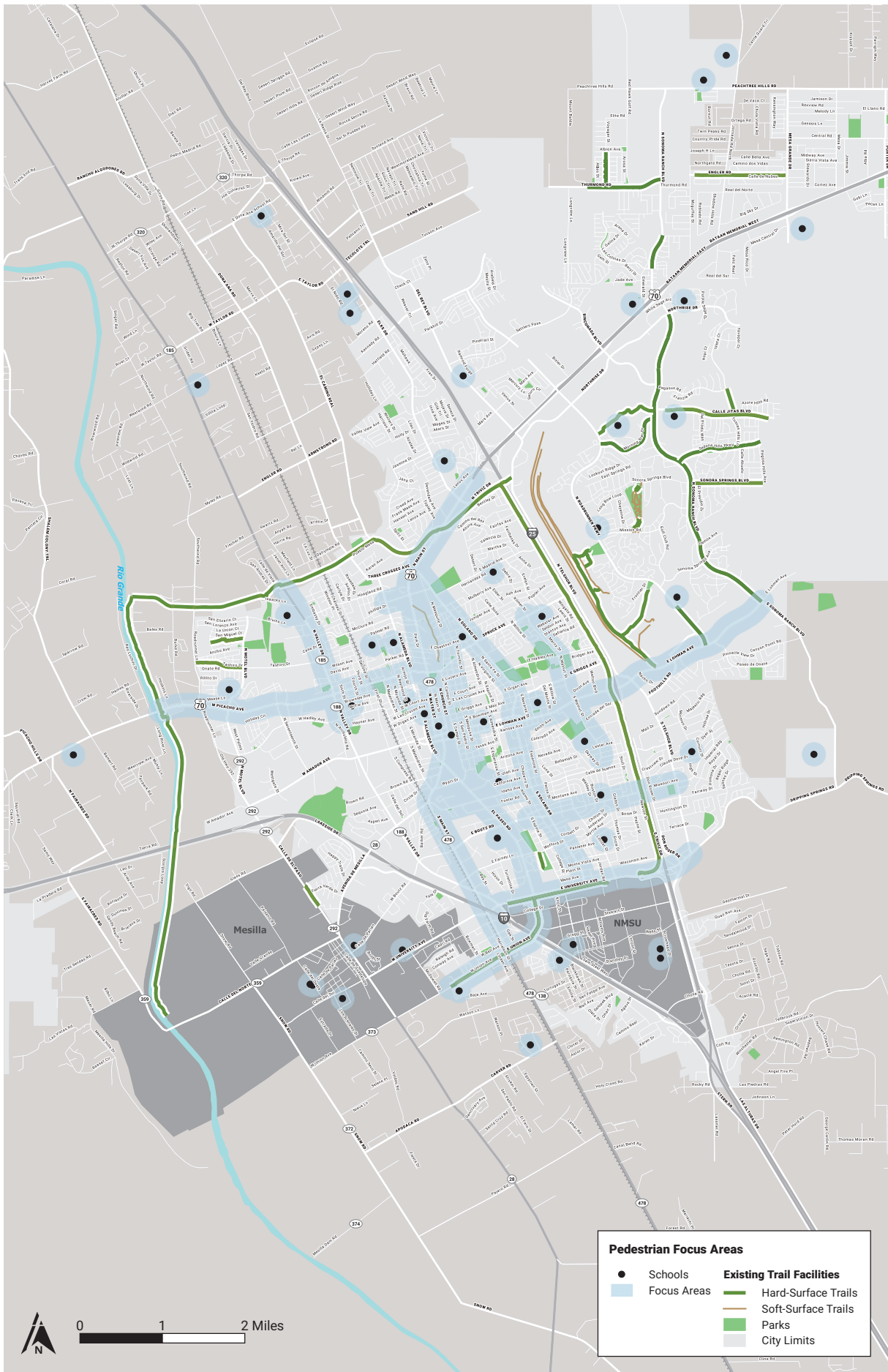


Pedestrians enjoying Plaza de Las Cruces



Pedestrians crossing Main Street in downtown Las Cruces

Figure 8. Proposed Pedestrian Focus Areas



School Zone Approach

Las Cruces Public Schools enrolls approximately 25,000 students, 12,000 of which are enrolled in elementary schools. Improving walkability around schools and increasing the number of students who walk to school can help to establish healthy habits, reduce congestion, improve air quality, and make trips to and near schools safer for everyone. The following characteristics should be considered throughout the planning and design of sidewalks and crosswalks in pedestrian focus areas around schools:

- Children are not as conspicuous as adults because of their size and height. Clear sightlines between motorists and students are especially critical at intersections, driveways, and crosswalks. Younger children are also not able to react to dangerous situations as quickly. Street design paired with driver education and strategic enforcement can encourage motorists to drive at appropriate speeds, increasing the time available react to avoid crashes.
- Students are typically on their way to school when many Las Cruces are commuting to work, while the trip home from school generally occurs before the evening commute. Furthermore, the morning school trip takes place in dark conditions during the winter. Infrastructure investments around schools should address the mix of traffic and need for adequate lighting along sidewalks and at intersections.
- Nineteen out of 25 elementary schools host walking school buses every week where adult leaders gather students to walk together to school from an off-campus location. Raised crosswalks, pedestrian hybrid beacons, and rectangular rapid flashing beacons can increase motorist awareness of crossing children while providing sufficient time for large groups or slower pedestrians to cross.

Example:

Conlee Elementary School

This area includes a school, a residential neighborhood, and a bus route along Missouri Avenue. A large number of kids walk to Conlee Elementary. Existing issues along Missouri Avenue include a high number of pedestrian crashes, a large number of pedestrians crossing midblock with no protection, potential speeding, and no bicycle facility. Other issues in this area include a sidewalk gap along Gladys Drive and a lack of crosswalks and ADA-compliant ramps at some locations.

Potential changes could include traffic calming measures like raised crosswalks, an enhanced pedestrian crossing of Missouri Avenue such as a pedestrian hybrid beacon, sidewalk gap closure and widening, high-visibility crosswalks, and ADA-compliant ramps. Any changes should be considered in detail by the Public Works Department, in concert with the community and school officials.



Missouri Avenue near Conlee Elementary School

Transit Corridor Approach

Many of the pedestrian focus areas represent the confluence of arterial streets with higher traffic volumes and speeds, significant commercial activity, transit service routes, and high frequencies of crashes involving pedestrians. The pedestrian focus areas along transit corridors highlight the importance of land use in designing active transportation networks. When improving infrastructure in pedestrian focus areas along transit corridors, the following characteristics should be considered:

- Large, expansive parking lots and frequent driveway access points reduce comfort and introduce excessive conflict points for pedestrians along the street and for pedestrians traveling to the front doors of businesses. The City of Las Cruces should consider reducing or eliminating parking minimums to avoid the construction of large and under-utilized surface parking lots.
- RoadRUNNER Transit and South Central Regional Transit District operate some out-and-back routes that serve bus stops on both sides of the street. Transit riders often board the bus at a stop on one side of the street

and alight at the stop on the opposite side of the street, resulting in frequent crossings at bus stops which can be unsafe without adequate crosswalk infrastructure. Las Cruces should prioritize connecting sidewalks to bus stops and providing mid-block crossings where needed at transit stops. In situations where mid-block crosswalks aren't warranted, nearby intersections should be upgraded to include high-visibility crosswalks, pedestrian signals, and median refuge islands.

- Pedestrian walk phases that coincide with motor vehicle turns create conflicts at intersections. While pedestrians in a crosswalk legally have the right of way, motorists often aren't looking for pedestrians and sometimes complete turns at high speeds to avoid collisions with other motorists. Higher numbers of motorists and pedestrians can be expected along transit corridors, which can increase the number of potential conflicts at intersections. Where appropriate, reducing curb radii to manage turning speeds, installing signage to restrict right turns on red or require yielding to pedestrians, and adjusting traffic signal timings can improve safety for motorists, transit users, and pedestrians at intersections.

Example:

El Paseo Road & Idaho Avenue Intersection

This area includes a grocery store, pharmacy, other retail destinations, and a bus route along El Paseo Road. Existing issues include automobile-oriented land uses and street design including several wide driveways, wide intersection corners, wide streets, and narrow sidewalks. Both El Paseo Road and Idaho Avenue are pedestrian high-crash corridors.

Potential changes could include median refuge islands, access management including curb-cut consolidation, the reduction of curb radii and/or removal of the existing slip lanes, sidewalk widening, high-visibility crosswalks, and transit shelter upgrades (such as cover). Any changes should be considered in detail by the Public Works Department, in concert with the community and surrounding businesses.



El Paseo Road north of East Idaho Avenue

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CHAPTER 4

Implementation

Chapter 4: Implementation

The Las Cruces Active Transportation Plan's policy, program, and infrastructure recommendations will help transform the city into a more bicycle- and walk-friendly community. The implementation of these recommendations will occur over time, commensurate with available resources and related opportunities. This chapter outlines strategies for building out the Proposed Bikeway Network and making improvements in the pedestrian focus areas, identifies priority bikeway projects to build, and identifies potential project funding sources.

Bikeway Implementation Strategies

Implementation of the Las Cruces ATP's proposed bikeway network will occur in one of four ways, in order of general cost:

1. **Demonstration projects:** An emerging strategy for implementation uses low-cost installation methods and materials to demonstrate the benefits and tradeoffs of a project on a temporary basis. These projects can take place over a day as a basic demonstration or longer as a pilot project. Demonstration projects provide cities the opportunity to test a concept and solicit public feedback before committing significant resources to permanent installation. This implementation strategy

requires a robust evaluation plan to gauge each project's success and inform next steps, along with careful selection of project locations.

2. **Resurfacing:** When the Las Cruces Public Works Department evaluates the pavement condition of city streets to determine which ones will be selected for resurfacing, the Department should look for opportunities to implement the recommendations of the ATP on those streets including bike lanes, buffered bike lanes, bike boulevards, crosswalks, and curb ramps. The Federal Highway Administration provides valuable guidance in their *Incorporating On-Road Bicycle Networks into Resurfacing Projects* document. Because these projects are already planned, this can be one of the most efficient and inexpensive ways for the City to build its active transportation network.

3. **Widening:** Roadway widenings are major projects that typically require utility relocation, right-of-way acquisition, and major construction. The roadway widening projects assumed in the ATP are intended to add space for bicycle and pedestrian facilities such as median refuge islands, sidewalks, separated bike lanes, buffered bike lanes, and standard bike lanes. Other roadway projects, such as streetscaping or two-way conversions, also provide opportunities to implement bicycle and pedestrian infrastructure.

4. **New construction:** When new roadways are constructed, whether they're privately or publicly-funded, they should include sidewalks and, where specified on the Proposed Bikeway Network, bicycle facilities. Streets without adequate active transportation infrastructure can be major barriers for people bicycling or walking, and new roadway construction should improve connectivity and accessibility for all users.

Regardless of the method, proposed changes to street configurations, traffic flow, and connectivity should undergo a community engagement process that fosters transparency between Las Cruces residents and the City. Evident from the ATP's online survey, Las Cruces are split on whether they support removing travel lanes (60 percent in support) or removing on-street parking (51 percent in support) to build active transportation infrastructure. These decisions will require thoughtful conversation, analysis, and design that is both data-driven and sensitive to the needs of Las Cruces who live, work, or travel along the street or streets in question.



Bicyclists using an on-street bike lane on Hadley Avenue

Bikeway Projects and Prioritization

The ATP’s implementation strategy for bikeway projects was developed in three main steps:

1. The Proposed Bikeway Network was divided into discrete projects characterized by bicycle facility types and probable implementation strategy.
2. The bikeway projects were evaluated using a weighted analysis based on factors related to the ATP’s goals: the proximate number of bicycle crashes, population density, existing bicycle trips, and household poverty percentage.
3. The top 20 in-house projects (resurfacing and restriping) and the top 10 capital projects (widening and new construction) were summarized separately and planning-level cost estimates were developed for select projects.

The Las Cruces ATP recommends 87 discrete bikeway projects, 38 of which are envisioned to be constructed through resurfacing and restriping projects and 49 that are envisioned to be constructed through roadway widenings

and new construction. The full list of proposed bikeway projects can be found in Appendix D. As noted in Chapter 3, the projects identified were analyzed at a planning level and *do not represent detailed, site-specific study*. While the bicycle facility type defined in the ATP for each project is established as the City’s goal, different decisions might be made as each project advances. The City should seek to provide the most comfortable and safe bicycle facility possible for each project, consistent with the Walkway & Bikeway Toolkit in this ATP.

Priority In-House Bikeway Projects

In-house bikeway implementation projects are those that can be designed and constructed by the City of Las Cruces Public Works Department. These projects are generally lower in cost (restriping with microsurfacing) or their costs can be absorbed into the City’s existing street maintenance program (resurfacing). Projects that reconfigure street cross-sections without impacting existing curbs can include bike lanes (conventional, buffered, and in some cases, separated), bike boulevards, and shared lane markings. Table 5 and Figure 9 show the top 20 priority in-house bikeway projects. Table 7 shows planning-level cost estimates for select projects.



Triviz Drive and the Triviz Trail



The end of the two-way separated bike lane on University Avenue

Table 5. Top 20 Priority In-House Bikeway Projects*

Map ID	Street	Start	End	Recommendation	In City's Repaving Plan?
A	N Alameda Blvd	US 70 (W Picacho Ave)	E Amador Ave	Bike Lanes	Yes
B	N Alameda Blvd	3 Crosses Rd	US 70 (W Picacho Ave)	Buffered Bike Lanes	No
C	Esperanza St	Idaho Ave	Montana Ave	Bike Boulevard	No
D	N Mesquite	Spruce Ave	Idaho Ave	Bike Boulevard/ Bike Lanes	No
E	Utah Ave	El Paseo Rd	S Mesquite St	Shared Lane Markings	Yes
F	Espina St	Colorado Ave	E University Ave	Buffered Bike Lanes	Yes
G	Farney Ln	El Paseo Rd	Corbett Dr	Bike Lanes/ Bike Boulevard	Yes
H	E Hadley Ave	Main St	N Triviz Dr	Bike Boulevard/ Buffered Bike Lanes/ Shared Lane Markings	Yes
I	Hoagland Rd	N Valley Dr	N Alameda Blvd	Bike Lanes/ Buffered Bike Lanes	No
J	Idaho Ave	S Locust St	Solar Way	Bike Boulevard/ Buffered Bike Lanes	No
K	S Walnut St	Lester Ave	Solar Way	Bike Boulevard	Yes
L	Kansas Ave	S Campo St	Olive St	Bike Boulevard	No
M	Las Cruces Ave	N Mesilla St	N Hermosa St	Bike Boulevard/ Bike Lanes/ Buffered Bike Lanes/ Shared Lane Markings	Yes
N	S Locust St	Missouri Ave	E University Ave	Buffered Bike Lanes	No
O	S Locust St	Klein Ave	Missouri Ave	Bike Boulevard/ Bike Lanes	No
P	E Madrid Ave	N Alameda Blvd	N Mesquite Dr	Buffered Bike Lanes	Yes
Q	S Main St	Idaho Ave	E Union Ave	Buffered Bike Lanes	Yes
R	N Mesquite St	E Madrid Ave	Spruce Ave	Buffered Bike Lanes	No
S	Montana Ave	West End of Montana Ave	Ralph Dr	Bike Boulevard/ Shared Lane Markings	Yes
T	Ralph Dr	Montana Ave	Missouri Ave	Bike Boulevard	No
U	W Park Dr	Montana Ave	Farney Ln	Bike Boulevard	No
V	S Solano Dr	E Lohman Ave	E University Ave	Buffered Bike Lanes	No
W	University Ave	Triviz Dr	S Telshor Rd	Buffered Bike Lanes	No
X	Walnut St	Spruce Ave	Lester Ave	Buffered Bike Lanes	Yes

*Project feasibility and final recommendations will be evaluated as funds or other opportunities become available.

** Design at I-25 interchange is dependent on NMDOT/FHWA projects and available right-of-way.

Priority Capital Bikeway Projects

Projects requiring complex design and major construction will be more difficult and costlier to implement. This category includes median- or curb-separated bike lanes, new sidepaths and shared use paths, and bike boulevards with major traffic calming treatments. Capital bikeway projects will require significant coordination between the City of Las Cruces and its partners, and they will take longer to implement. The total cost to implement the top 10 priority capital bikeway projects is \$9.5 million. Table 6 and Figure 9 show the top 10 priority capital bikeway projects. Table 7 shows planning-level cost estimates for select projects.

Table 6. Top 10 Priority Capital Bikeway Projects*

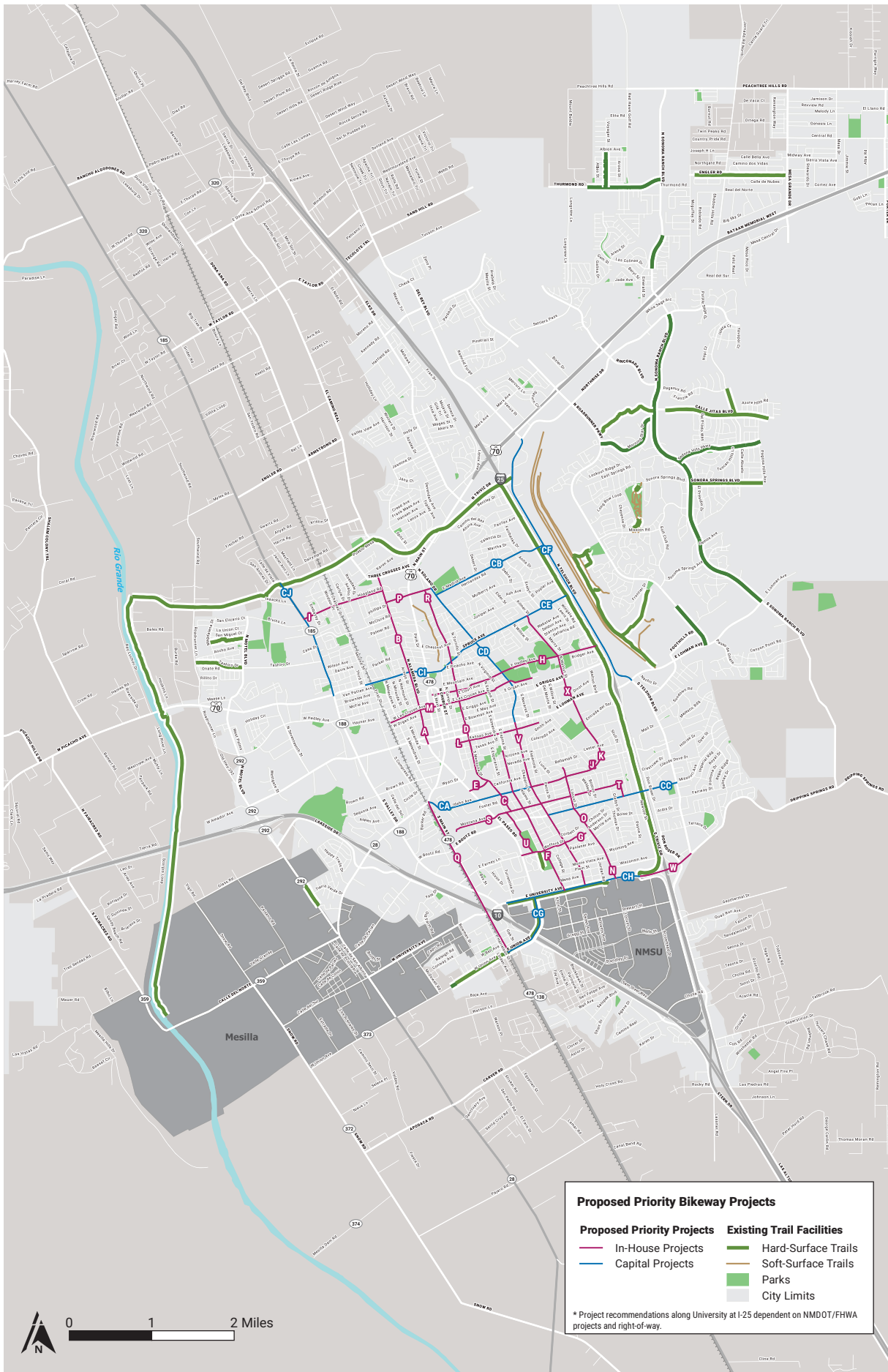
Map ID	Street	Start	End	Recommendation
CA	E Idaho Ave	S Main St	S Solano Dr	Separated Bike Lane
CB	E Madrid Ave	N Solano Dr	N Triviz Dr	Buffered Bike Lanes
CC	Missouri Ave	S Solano Dr	S Telshor Blvd	Sidepath
CD	N Solano Dr	E Madrid Ave	E Lohman Ave	Buffered Bike Lanes/ Separated Bike Lane
CE	Spruce Ave	N Solano Dr	N Triviz Dr	Separated Bike Lane
CF	N Telshor Blvd	Del Rey Blvd	E Lohman Ave	Sidepath
CG	Union Ave	S Main St	E University Ave	Separated Bike Lane
CH	University Ave	E College Ave	Triviz Dr	Shared Use Path
CI	US 70 (W Picacho Ave)	Second St	N Solano Dr	Sidepath
CJ	N Valley Dr	Mayfield Ln	US 70 (W Picacho Ave)	Shared Use Path/ Sidepath

**Project feasibility and final recommendations will be evaluated as funds or other opportunities become available.*



Thoughtful design elements like shade structures were included in the recent Plaza de Las Cruces construction.

Figure 9. Proposed Priority Bikeway Projects



Bikeway Treatments at Intersections

The design and construction of each of the ATP's bikeway projects will need to include treatments for guiding bicyclists through intersections. In most cases, roadway widening and acquiring additional right-of-way will be unnecessary. In addition to modifying pavement markings, changes to signage and traffic signal operations may be necessary. The City of Las Cruces should consult national design guidance documents such as the National Association of City Transportation Officials' *Urban Bikeway Guide* and *Urban Street Design Guide*; Federal Highway Administration's *Manual on Uniform Traffic Control Devices (MUTCD)*, *Achieving Multimodal Networks, Separated Bike Lane Planning and Design Guide*, and *Small Town and Rural Multimodal Networks*; and the American Association of State Highway and Transportation Officials' *Guide for the Development of Bicycle Facilities*.

Typical bicycle treatments at intersections include: bike lane markings approaching and through intersections, through bike lanes in the presence of exclusive right-turn lanes, and combined bike lane/turn lanes. Treatments available for experimentation and through MUTCD interim approval include two-stage turn boxes, green-colored pavement, bicycle signals, and bicycle boxes.

Proposed Sidewalk Construction

The Las Cruces Active Transportation Plan identified 236 linear-miles of existing sidewalk gaps in the city, 35 miles of which are located within the ATP's pedestrian focus areas. The areas in Las Cruces where sidewalk gaps exist in the current infrastructure can be grouped into five separate categories:

1. Areas where sidewalk gaps exist and a program needs to be implemented to eliminate these gaps (31 miles). **The planning-level cost estimate for constructing sidewalks to fill these gaps is \$19 million.**
2. Areas where sidewalks are planned, but are to be constructed with new development and redevelopment (77 miles).
3. Areas where sidewalks weren't required (before annexation into the City), but could be added through future roadway reconstruction projects (51 miles).
4. Areas that were designed to be developed without sidewalks (62 miles).
5. Areas where sidewalk construction isn't feasible given right-of-way constraints (15 miles).

A map showing the sidewalks gaps is included in Appendix D. In addition to leveraging its dedicated funding for new sidewalks, the City of Las Cruces should take advantage of other opportunities to construct sidewalks, such as new development and redevelopment projects, street widenings, and utility replacements.



An example of missing bicycle, pedestrian, and transit infrastructure on Valley Drive.

Investment

The planning-level estimated cost for a selection of the priority projects is shown in Table 7. The cost to build bicycle transportation projects can vary greatly depending on the type of facility and the existing conditions in the project area. The per-mile construction cost estimates were developed by identifying pay items and establishing approximate quantities. Unit costs are based on 2018 dollars and were assigned based on historical cost data from NMDOT and other sources. Costs include five percent for maintenance of traffic, allowances for landscaping, drainage, and utility work for applicable projects, and a planning-level contingency of 30 percent. Please note that the estimates do not include any costs for engineering analysis and design, easement or right-of-way acquisition, relocation of utilities, mobilization, or the cost for ongoing maintenance. Cost estimates may also vary depending on the number of intersections and their configuration. The overall estimates are intended to be general and used for planning purposes only. Construction costs will vary based on the ultimate project scope and economic conditions at the time of construction.

Table 7. Select Bikeway Project Costs*

Map ID	Street	Start	End	Recommendation	Planning-Level Cost Estimate
B	N Alameda Blvd	3 Crosses Rd	US 70 (W Picacho Ave)	Buffered Bike Lanes	\$468,000
C	Esperanza St	Idaho Ave	Montana Ave	Bike Boulevard	\$8,000
D	N Mesquite	Spruce Ave	Idaho Ave	Bike Boulevard/ Bike Lanes	\$58,000
E	Utah Ave	El Paseo Rd	S Mesquite St	Shared Lane Markings	\$3,000
F	Espina St	Colorado Ave	E University Ave	Buffered Bike Lanes	\$139,000
J	Idaho Ave	S Locust St	Solar Way	Bike Boulevard/ Buffered Bike Lanes	\$371,000
K	S Walnut St	Lester Ave	Solar Way	Bike Boulevard	\$4,000
L	Kansas Ave	S Campo St	Olive St	Bike Boulevard	\$33,000
N	S Locust St	Missouri Ave	E University Ave	Buffered Bike Lanes	\$385,000
R	N Mesquite St	E Madrid Ave	Spruce Ave	Buffered Bike Lanes	\$362,000
S	Montana Ave	West End of Montana Ave	Ralph Dr	Bike Boulevard/ Shared Lane Markings	\$64,000
T	Ralph Dr	Montana Ave	Missouri Ave	Bike Boulevard	\$6,000
V	S Solano Dr	E Lohman Ave	E University Ave	Buffered Bike Lanes	\$849,000
X	Walnut St	Spruce Ave	Lester Ave	Buffered Bike Lanes	\$119,000
CA	E Idaho Ave	S Main St	S Solano Dr	Separated Bike Lane	\$1,316,000
CB	E Madrid Ave	N Solano Dr	N Triviz Dr	Buffered Bike Lanes	\$570,000
CC	Missouri Ave	S Solano Dr	S Telshor Blvd	Sidepath	\$973,000
CD	N Solano Dr	E Madrid Ave	E Lohman Ave	Buffered Bike Lanes/ Separated Bike Lane	\$1,499,000
CE	Spruce Ave	N Solano Dr	N Triviz Dr	Separated Bike Lane	\$922,000
CF	N Telshor Blvd	Del Rey Blvd	E Lohman Ave	Sidepath	\$2,054,000
CG	Union Ave	S Main St	E University Ave	Separated Bike Lane	\$865,000
CH	University Ave	E College Ave	Triviz Dr	Shared Use Path	\$995,000
CI	US 70 (W Picacho Ave)	Second St	N Solano Dr	Sidepath	\$902,000
CJ	N Valley Dr	Mayfield Ln	US 70 (W Picacho Ave)	Shared Use Path/ Sidepath	\$909,000

* Actual project costs will vary based on the factors discussed in this section of the ATP. These costs should be used for planning purposes only.

Funding Opportunities

The City of Las Cruces currently utilizes local, state, and federal funding for transportation projects. The local Capital Improvement Program's (CIP) funding for street projects and programs—which primarily includes revenue bonds, local taxes, and state taxes—totals \$91,612,173 from fiscal year 2020 to fiscal year 2024.¹³ Six percent of the street-related budget includes shared use paths, bike lanes, and road diet projects as well as an ADA sidewalk program funded at \$250,000 annually. The ADA sidewalk program's funding is intended to maintain and repair the existing sidewalk network.

The New Mexico Department of Transportation (NMDOT) Statewide Transportation Improvement Program (STIP) dedicates nearly \$6 million to bicycle and pedestrian projects in Doña Ana County over the next five years, including a sidewalk accessibility project in Hatch and shared use paths in Anthony, Chaparral, and Mesilla. STIP funding for bicycle and pedestrian projects primarily come from federal grant programs which are matched by local and state funding.

To advance the implementation of the ATP's program, policy, and infrastructure recommendations, the City of Las Cruces will need to look beyond its traditional funding sources. Other potential funding sources are described below.

Other Federal Programs

NMDOT currently has funding allocations for bicycle and pedestrian programs from several federal programs including Congestion Mitigation and Air Quality, National Highway Performance Program, and the Surface Transportation Block Grant Program. The Surface Transportation Block Grant Program includes a set-aside for Transportation Alternatives which authorizes funding for bicycle and pedestrian facilities, recreational trails, Safe Routes to School projects, and others.

Other federal programs that the City of Las Cruces can utilize to fund active transportation infrastructure projects include:

- Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grants Program: BUILD replaces the pre-existing Transportation Investment Generating Economic Recovery (TIGER) program and funds surface transportation projects that are regionally significant.

- Highway Safety Improvement Program (HSIP): HSIP can fund pedestrian hybrid beacons and projects to separate pedestrians and motor vehicles such as medians, pedestrian refuge islands, and traffic signals.
- Federal Transit Administration (FTA) Grant Programs: Several FTA grant programs, e.g., Urbanized Area Formula Program and Bus and Bus Facilities Formula Grants, can fund bicycle and pedestrian infrastructure that serves transit stops and facilities.
- Community Services Block Grant (CSBG) Program: Administered by the Department of Health and Human Services, the CSBG program provides funds to alleviate the causes and conditions of poverty in communities, which can include transportation projects. Eligibility includes Safe Routes to School projects and neighborhood-based active transportation infrastructure that improve local transportation mobility or help revitalize neighborhoods.

Impact Fees

Municipalities can place impact fees on development projects, which require property developers to partially fund improvements required to accommodate growth in transportation demand. Revenues from impact fees can fund bicycle projects such as shared use paths. Because impact fees are typically tied to a development's trip generation rates and vehicular traffic impacts, establishing a clear nexus between the impact fee and the project's impacts is critical. Las Cruces currently collects impact fees for infrastructure like parks, utilities, and public safety.

Improvement Districts

New Mexico state law permits municipalities to create improvement districts where property owners are assessed for sidewalk maintenance. The City of Las Cruces could establish a downtown business improvement district to create a revenue stream for maintaining, repairing, and replacing sidewalks in downtown.

Parking Fees

Revitalization of downtown Las Cruces will increase traffic demand, including the demand on public parking. Establishing parking fees for on-street parking and off-street parking areas can yield significant revenues which can be used to fund transportation improvements in addition to paying for parking enforcement, maintenance, and administration.

¹³ City of Las Cruces, Fiscal Year 2018-2019 Proposed Budget

Bonds

General obligation bonds, also known as GO bonds, can be used to finance and accelerate project construction by increasing property taxes to pay off the bond debt in the next 10 to 15 years. In June 2018, the Las Cruces City Council approved a \$35.6 million general obligation bond referendum to be conducted by mail-ballot. Approximately \$2.7 million of the bond funding would be used to trail construction and wayfinding enhancements.

Grant Opportunities

The City of Las Cruces should continue to pursue grants to fund active transportation programs and projects. For example, the City recently received a \$40,000 grant from the New Mexico Department of Health, part of which will be used to install wayfinding on trails. Other opportunities may be available through organizations like the Paseo Del Norte Health Foundation and PeopleForBikes among many others.

Conclusion

By implementing the policies, programs, and infrastructure recommendations of this Active Transportation Plan, the City of Las Cruces will be well on its way to providing a transportation system that offers more safe, convenient, and comfortable choices for its residents, employees, and

visitors. Safer sidewalks, trails, bike lanes, and crossings mean greater safety for everyone. Increases in people walking and bicycling will catalyze Las Cruces' efforts to become a healthier, more vibrant, and more connected community.

Nurturing existing partnerships and fostering new ones will be critical to funding, planning, designing, constructing, and maintaining bikeways and walkways in and around Las Cruces. Strategic relationships with non-traditional partners, such as health departments and school districts, can advance shared goals and objectives to increase safety, improve individual and community health, and provide educational resources.

The success of the Las Cruces Active Transportation Plan will be based on the implementation of its recommendations. The City of Las Cruces should regularly evaluate their progress relative to this Plan's goals, objectives, and recommendations. Changes in Las Cruces, along with the demands on its transportation system, will necessitate an update of this Active Transportation Plan every five years in coordination with Mesilla Valley MPO's Metropolitan Transportation Plan updates. With continued support and investment from elected officials, local agency staff, and residents and businesses, Las Cruces will be safe, comfortable, attractive, connected, and accessible for all Las Cruces who currently or would like to walk, ride a bicycle, or use a wheelchair to get around.

The Mission of the City of Las Cruces is to provide customer-focused municipal services to residents, businesses, and guests so they can experience a “quality of place” to live, work & play.



Children playing in the fountains at Plaza de Las Cruces

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City of Las Cruces[®]
MOUNTAINS OF OPPORTUNITY

