

SANTA FE METROPOLITAN BICYCLE MASTER PLAN 2019

SANTA FE METROPOLITAN PLANNING ORGANIZATION



NEW MEXICO DEPARTMENT OF TRANSPORTATION
SANTA FE COUNTY
PUEBLO OF TESUQUE
CITY OF SANTA FE



SANTA FE METROPOLITAN BICYCLE MASTER PLAN

PREPARED FOR:

SANTA FE METROPOLITAN PLANNING ORGANIZATION

AND PARTNER AGENCIES

SANTA FE COUNTY
CITY OF SANTA FE
PUEBLO OF TESUQUE
NEW MEXICO DEPARTMENT OF
TRANSPORTATION

APPROVED AND ADOPTED ON JUNE 27, 2019 BY THE

SANTA FE MPO TRANSPORTATION POLICY BOARD







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ACRONYMS

AADT	Annual Average Daily Traffic	MPO	Metropolitan Planning Organization
AASHTO	American Association of State Highway and Transportation Officials	MTP	Santa Fe MPO Metropolitan Transportation Plan
ACS	American Communities Survey (U.S. Census Bureau)	MUTCD	Manual on Uniform Traffic Control Devices (FHWA's national standards and guidelines for signage, pavement markings, signals, etc.)
ADA	Americans with Disabilities Act	MVD	State Motor Vehicle Division
ADAAG	ADA Accessibility Guidelines	NACTO	National Association of City Transportation Officials
ATSF	Atchison, Topeka & Santa Fe Railroad	NHPP	National Highway Performance Program
APHA	American Public Health Association	NHS	National Highway System
BCNM	Bicycle Coalition of New Mexico	NM	New Mexico
BFB	Bicycle Friendly Business	NMDOT	New Mexico Department of Transportation
BFC	Bicycle-Friendly Community (per League of American Bicyclists)	NMGRT	New Mexico Gross Receipts Tax
BLM	Bureau of Land Management	NMSP	New Mexico State Parks
BPE	Bicycle/Pedestrian/Equestrian	OSTP	Open Space, Trails, and Parks
BMP	Bicycle Master Plan	PDC	Programming Decision Committee
BSF	Bike Santa Fe	RGT	Rio Grande Trail
BTAC	Bicycle and Trails Advisory Committee (City of Santa Fe)	ROW	Right of Way
CAG	Citizens' Advisory Group	RTD	Rio Transit District
CCD	Community College District	RTP	Recreational Trails Program
CDC	Center for Disease Control	RTPO	Regional Transportation Planning Organization
CIP	Capital Improvement Plan	SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (federal transportation authorization act)
CMAQ	Congestion Mitigation and Air Quality Improvement	SBR	State Bike Route
COLTPAC	County Open Land, Trails, and Parks Advisory Committee	SOBs	Seniors on Bikes
DOT	Department of Transportation	SFCT	Santa Fe Conservation Trust
EMNRD	New Mexico Energy, Minerals, and Natural Resources Department	SFFTS	Santa Fe Fat Tire Society
FAST	Fixing American Surface Transportation	SFPS	Santa Fe Public Schools
FEMA	Federal Emergency Management Agency	SFRT	Santa Fe Rail Trail
FHWA	Federal Highway Administration	SGMP	Sustainable Growth Management Plan
HSIP	Highways Safety Improvement Program	SHSP	Strategic Highway Safety Plan
IMBA	International Mountain Biking Association	SRTS	Safe Routes to School
ISTEA	Inter-modal Surface Transportation Efficiency Act	TAP	Transportation Alternatives Program
JPA	Joint Powers Agreement	TIGER	Transportation Investment Generating Economic Recovery
MPO	Metropolitan Planning Organization	TE	Transportation Enhancements (federal funding category)
LAB	League of American Bicyclists	TPL	Trust for Public Land
LCI	League Cycling Instructor (certified by LAB)	US	United States
LGRF	Local Government Road Funds	USBR	United States Bicycle Route
LWCF	Land and Water Conservation Fund	USBRs	United States Bicycle Route System
MOU	Memorandum of Understanding	USDOT	United States Department of Transportation
MP	Master Plan	USFS	United States Forest Service





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EXECUTIVE SUMMARY

Santa Fe has distinguished itself as a community in support of bicycling: its ideal setting, combined with a passionate and growing number of bicycle advocates, sets the stage for the continued growth and interest in bicycling. Santa Fe boasts year-round bicycling weather, stunning views, high elevation, an array of single-track options, and a growing network of urban and soft surface trails. The local bicycling community includes a number of dedicated bicycling-related organizations, businesses, and supportive local governments. Beginning in 2013, Santa Fe has been recognized by the League of American Bicyclists as a Silver-level Bicycle Friendly Community, reflecting its enthusiasm and support for bicycling.

The 2019 Santa Fe Metropolitan Bicycle Master Plan (BMP) presents an update to the 2012 Bicycle Master Plan to incorporate current best practices in municipal planning for bicycles. The 2019 BMP reflects the latest innovation in approaches and sets a goal of creating an ‘all ages and abilities’ bicycle network. It updates the extensive, prioritized list of projects to guide improvements to the bicycle network and recognizes the growing wave of bicycle-related events and awareness. Since the previous BMP, however, there has been a greater acknowledgement that the majority of the population does not feel comfortable riding in bike lanes at the edge of a busy street, but would feel safe in a protected bicycle lane. The 2019 BMP reflects a shift in emphasis towards a vision for a bicycle network that serves all ages and abilities that addresses issues of equity and access.

The planning process, which occurred over seven months from October 2018 through March 2019, sought input from bicycle advocates as well as the broader public. Although the public input resident profile does not statistically match that of the Santa Fe Metropolitan demographic, the plan recommendations are grounded in objective analysis and best practices in bicycle network and facility design, and complemented by stakeholder and community input.

The 2019 Santa Fe Metropolitan Bicycle Master Plan is divided into four chapters with supporting appendices.

CHAPTER 1: Introduction + Background

provides an overview of the vision and goals of the plan, achievements and shifts in best practices, and the planning context.

CHAPTER 2: Plan Development

describes existing conditions, the planning context, and the public engagement process.

CHAPTER 3: Policy Recommendations

outlines key recommendations and demonstrates how Santa Fe is currently addressing the five E’s (Engineering, Encouragement, Education, Enforcement, and Evaluation and Planning).

CHAPTER 4: Implementation Plan

presents the prioritized list of Phase A, B, and C projects to improve the bicycle network, introduces the Design Toolkit, and outlines potential funding sources.

For more background, please refer to the appendices:

Appendix A contains a Bicycle Design Toolkit, offering best practice design guidance to use when implementing bikeway projects.

Appendix B summarizes the public input that shaped the Plan and includes the full public input survey results and public comments.

Appendix C contains the full set of analysis maps documenting existing available data used for the Plan.

Appendix D catalogs Bicycle Friendly Community applications and report cards for Santa Fe.



BACKGROUND

The plan's vision reflects Santa Fe's needs, values and aspirations for bicycling. The plan provides an overview of achievements since the 2012 BMP as well as shifts in best practices in bicycle facility planning and design. A Progress Assessment chart illustrates in graphic form a series of indicators with benchmarks set as part of the 2012 BMP compared to current conditions and targets for the next plan update (2024 Target). While significant progress has been made since the 2012 BMP, particularly with League of American Bicyclist (LAB, www.bikeleague.org) recognition, advocacy, and project implementation, a number indicators still lack baseline data and have not been tracked.

PLAN DEVELOPMENT

An assessment and understanding of existing conditions, evaluated against a desired primary bicycle network (Vision 2040 Network), provides an overview of gaps and major concerns in the network. Key factors that influence bicycle facility design for all ages and abilities are traffic speeds and traffic volume. Many of the crashes documented within the past three years have occurred on higher speed / higher volume roads and at intersections. Higher speeds and higher volume traffic call for greater separation between motor vehicles and bicycles for on-road facilities. Comparatively, streets with lower speeds and lower traffic volumes can support shared or designated on-road bicycle facilities. An understanding of relevant plans adopted by partner agencies as well as broader state and inter-state planning initiatives helps provide an overview of the planning context.

POLICY RECOMMENDATIONS

Given Santa Fe's aspiration to be recognized as a Gold-level Bicycle Friendly Community, a number of the recommended steps to achieve this focus on advancing policy and increasing bicycle-related advocacy. Plan recommendations outline current initiatives, progress, and steps to improve bicycle-related Engineering, Education, Encouragement, Enforcement, and Evaluation and Planning.

LAB Bicycle Friendly Community

Santa Fe, Fall 2017 - Key steps to GOLD LAB Recommendations for City of Santa Fe actions based on 2017 application.

» *Develop a design manual that meets current NACTO standards or adopt the NACTO Urban Bikeway Design Guide. This will make it easier for city staff to propose and implement bicycle facility designs that have been shown to improve conditions for people who bike in other cities throughout the United States.*

» *Bicycle-safety education should be a routine part of education, for students of all ages, and schools and the surrounding neighborhoods should be particularly safe and convenient for biking and walking. Work with local bicycle groups and interested parents to create an in-school bicycle education program.*

» *The data that Santa Fe reported on its road network was incomplete or inconsistent. This lack of complete data makes it difficult to judge the current state of bicycling in Santa Fe. Ensure that data is available on your roadway network, including speed limits, as well as your bicycle network so that your community can utilize GIS-based or other network analyses, create high-quality bicycle network maps, and accurately assess the quality of your bicycle network.*

» *Targeted education outreach efforts should include outreach to motorists, including residents and visitors, so that everyone understands changes made to the community and how to properly interact with bicyclists on your roadways.*



IMPLEMENTATION

Implementing the plan recommendations can begin before the plan is adopted. To bolster bicycling in Santa Fe, six immediate action steps can set the foundation for the continued long-term commitment to the plan and ensure progressive network growth.

Immediate Action Steps

- Adopt the plan
- Create a City of Santa Fe bicycle coordinator position
- Adopt a Compete Streets Policy
- Complete a transformative project
- Work towards BFC - Gold designation
- Collect baseline on-street bicycle counts

Implementation projects are assigned values and prioritized according to criteria set by the previous plan with additional input. The phased schedule of projects is grouped into Phase A (short term: 2019-2024), Phase B (mid-term: 2025-2030), and Phase C (long-term: 2030-2040), which serve as guides for prioritizing project implementation. Cost ranges and potential funding sources support capital improvement planning, project financing, and project development.

Additional implementation steps outline twelve recommendations with suggestions for bicycle network growth and promote bicycle planning best practices. An overview of the Design Toolkit provides guidance on the design of bicycle facilities to meet 'all ages and abilities'.

As projects are implemented, the interactive map can be used as a tool to document progress towards meeting the goals of the 2019 Santa Fe Metropolitan Bicycle Master Plan. It is critical for Santa Fe partner agencies to monitor and periodically reevaluate community needs in order to make adjustments as necessary.



Image 0.1: Santa Fe Conservation Trust Community Cruise.



INTRODUCTION + BACKGROUND 1







INTRODUCTION

The Santa Fe Metropolitan Planning Organization (SFMPO) was established in 1982 by the federal government in order to create a forum for transportation-related planning in the Santa Fe area. Prior to its formation, local transportation planning efforts were handled individually by the City of Santa Fe, Santa Fe County, Pueblo of Tesuque, and the New Mexico Department of Transportation (NMDOT). The 2019 Santa Fe Metropolitan Bicycle Master Plan (BMP) serves as the regulatory document for the provision of bicycle programs and facilities within the Santa Fe MPO area.

PURPOSE

The purpose of the Bicycle Master Plan is to provide a framework for improving the bicycling environment throughout the Santa Fe area. The goals, actions, policies, and projects identified in the plan will advance the vision through new bicycle infrastructure (trails and on-road bicycle facilities); bicycle enhancing facilities (wayfinding and bicycle parking); policy updates; and programs to encourage ridership and safety for bicyclists as well as to educate motorists and bicyclists of laws. This plan reflects today's best practices in planning for bicycling at a national and international level. The plan is an update to the 2012 Santa Fe Metropolitan Bicycle Master Plan and reflects the latest innovation in approaches.

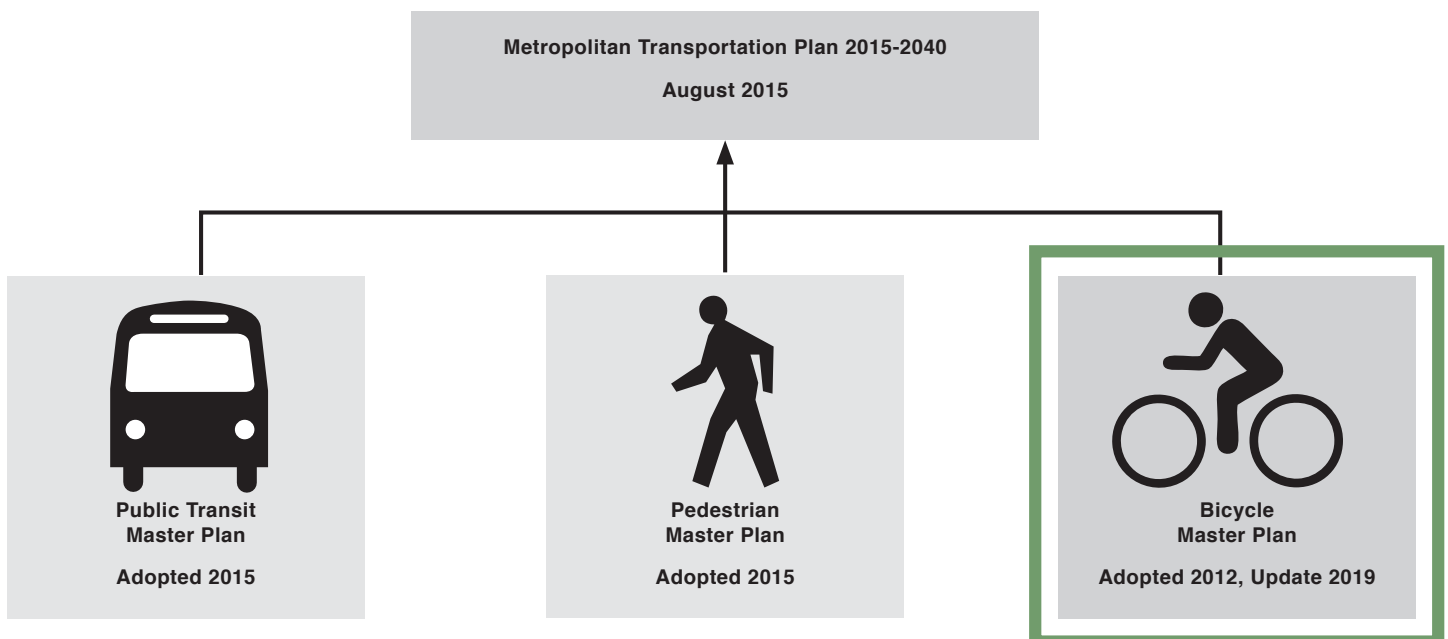
The 2019 Santa Fe Metropolitan Bicycle Master Plan document is part of the overall 2015-2040 Santa Fe MPO Metropolitan Transportation Plan (MTP). The MTP, updated every five years, provides an approach to transportation planning that includes multiple modes of travel: walking, biking, public transit, and driving. The MTP document coordinates and integrates the following priority plans and establishes a 25 year framework for improvements:

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

This plan, like the other plans that inform the MTP, by its nature is a work in progress. Updates to the BMP should occur every five to seven years. These updates reevaluate priorities, assess progress, and take advantage of emerging opportunities and trends.

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

Figure 1.1: Metropolitan Transportation Plan Components





VISION AND GOALS

The Santa Fe Metropolitan Bicycle Master Plan vision and goals provide a framework for the document and include recommendations for programs, policies, project prioritization, and implementation. They are informed by public outreach and agency feedback, as well as the 2015-2040 Metropolitan Transportation Plan.

VISION STATEMENT

Santa Fe is a place where people of all ages and abilities can safely and comfortably have bicycle and pedestrian access along a comprehensive network of multi-use trails and complete streets, connecting residential neighborhoods with employment centers, parks, open space, schools, retail centers, and other public and private services throughout the metropolitan area.

GOALS

The goals of the Bicycle Master Plan were developed through a stakeholder input process as part of the 2012 BMP and include recommendations from the 2017 League of American Bicyclists evaluation for Bicycle Friendly Community designation. The goals were vetted by stakeholders and prioritized at the public involvement meetings.

- 1. EDUCATION** - Educate motorists and bicyclists about traffic laws and safe operating behavior; integrate bicycle safety education for students of all ages.
- 2. DESIGN STANDARDS** - Adopt design standards or a toolkit that meets current AASHTO and NACTO standards to improve both new bicycle facilities and on road retrofits.
- 3. CONNECTIVITY** - Provide critical connections for bicyclists and pedestrians of all ages and abilities that link destinations, transit, and neighborhoods.
- 4. ENCOURAGEMENT** - Create incentives and remove barriers to travel by bicycle to increase mobility, accessibility, ridership, and safety.
- 5. WAYFINDING** - Provide bicyclists with easily accessible information (signage, maps) on how to use the bicycle network.
- 6. DATA** - Gather data on the current state of bicycling in Santa Fe to serve as a baseline and a tool for analyzing the quality of the bicycle network.
- 7. SAFETY** - Create a bicycle network that is safe and comfortable for bicyclists of all ages and abilities, particularly at schools and surrounding neighborhoods.

VISION 2040 BICYCLE NETWORK

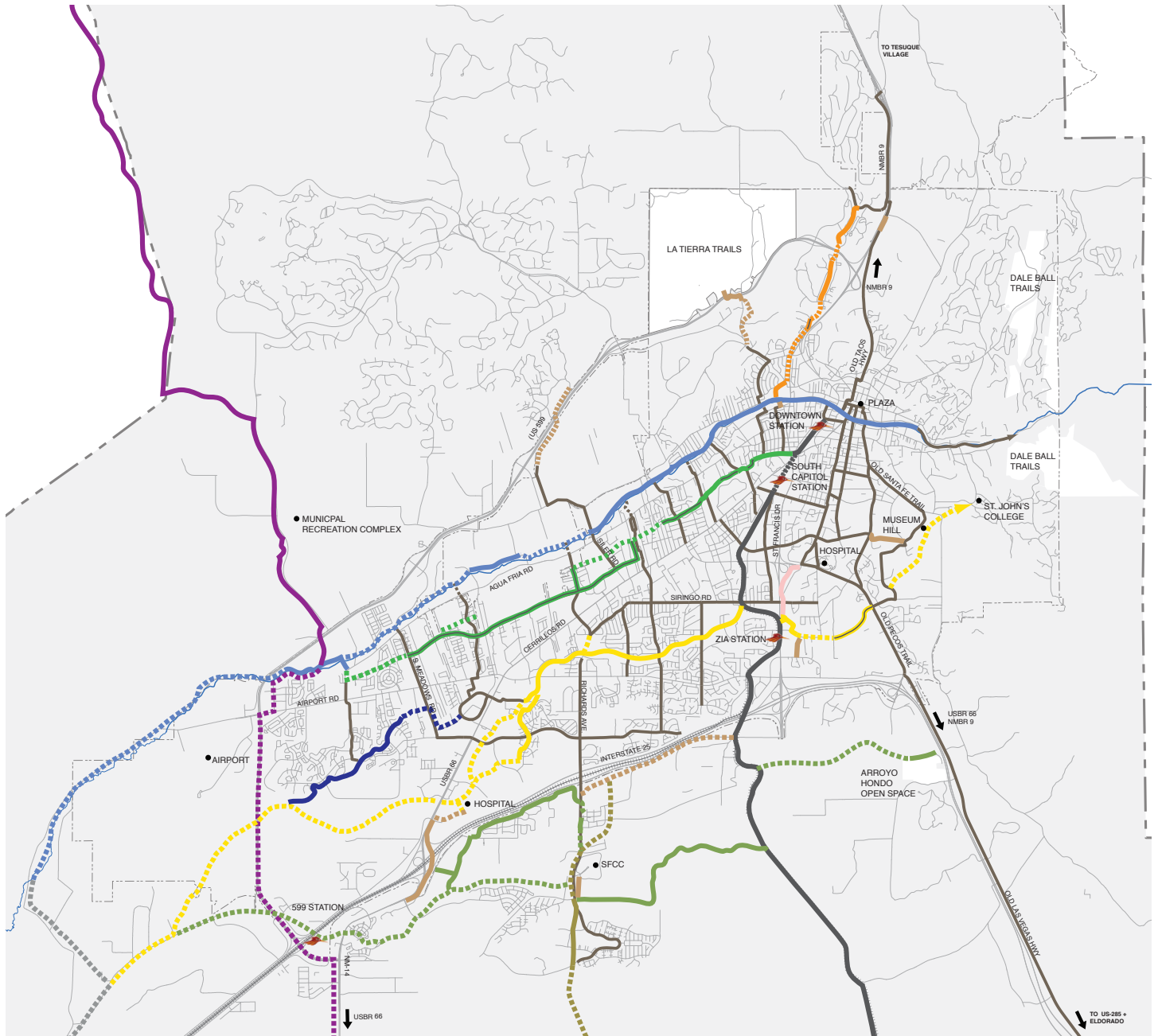
The VISION 2040 Bicycle Network - a selection of streets and trails in Santa Fe on which to implement appropriate bicycle infrastructure - will improve connectivity and access to destinations across the Santa Fe MPO area. The network builds upon existing trail and on-street facilities.

The goal of the VISION 2040 Bicycle Network is to provide a comprehensive and connected network of bikeways that link Santa Fe area residents and visitors to jobs, schools, transit, shopping, open spaces, and recreational opportunities.

The Project List outlined in Chapter 4 identifies projects to complete the network and prioritizes them according to a generalized timeline (Phase A, B, C). Facility improvements should be designed with the guidance of the Design Toolkit provided in Appendix A.



Map 1.1: Santa Fe Metropolitan Area - VISION 2040 Bicycle Network



LEGEND

- Santa Fe Metropolitan Planning Area
- City of Santa Fe
- Santa Fe River
- Railroad Tracks
- TRAIL PLANNING CORRIDORS (LONG TERM PLANS)**
 - ATSF Regional Trail
 - NM Central Regional Trail
 - Bonanza Creek / Madrid Spur / NM14
 - Rio Grande Trail
- ON ROAD BICYCLE NETWORK**
 - Primary Network Connections
 - Primary Network Connections, Proposed

TRAILS KEY

- Existing Trail
- Existing Trail Route, On Road
- Planned Trail
- Connector Trail
- Acequia Trail
- Arroyo Chamiso Trail
- Arroyo Hondo Trail
- Cañada Rincon Trail
- El Camino Real Trail / Rio Grade Trail
- Santa Fe Rail Trail
- Santa Fe River Trail
- St. Francis Trail
- Tierra Contenta Trails

Note: Priority network alignments illustrated are diagrammatic and for planning purposes only. Actual alignments may be adjusted according to available easements, property acquisition, and other planning considerations.

Source Data: Santa Fe County, "Open Space, Trails and Parks Strategic Management Plan trail planning corridors;" Santa Fe MPO, "Bikeways, Bike Lanes, Trails, On Road and Proposed Trails / Future Trail Connections derived from Bikeways;" and Alta Planning, "2019: Rio Grande Trail preferred trail alignment."





BENEFITS OF BICYCLING

Investments in bicycle facilities can provide many benefits, both to the Santa Fe community and the bicyclist. A bicycle-friendly Santa Fe can help promote healthy living, decrease traffic and associated pollution, and stimulate local and regional economic development. Santa Fe's size, topography, climate, and cultural assets all contribute to making our community an ideal location for the bicycle to play a more significant role in transportation.

TRANSPORTATION BENEFITS

Bicycling is an inexpensive and efficient form of local transportation for residents and visitors, especially in a small and mostly flat urban area like Santa Fe. While the most recent bicycling mode share data indicates that only 1% of the Santa Fe population commutes by bicycle, commuter trips represent only a small portion of bicycle use. Most bicycle riding locally is recreational. Bicycling can expand transportation options for non-motorist populations who are not able or do not want to rely on an automobile for personal transportation whether due to age, cost, principle, or other reasons.

Like walking, bicycling is an important adjunct to public transit as a transportation option. For a portion of transit users, the bicycle is a critical component of their access to the bus system or commuter rail. Facilities such as bike lanes, urban trails, bike parking, space for bikes on buses and trains, and even "bike share" systems (or inexpensive bicycle rentals) all contribute to facilitating the first or last mile(s) of trips – the part that is not covered by existing bus or train service.

ENVIRONMENTAL BENEFITS

Transportation accounts for a significant source of greenhouse gas emissions in the United States, with motor vehicle emissions representing 82 percent of carbon dioxide, 10 percent of methane, and 6 percent of nitrogen oxides released in the air (2017 EPA Greenhouse Gas Emissions Report). In New Mexico, motor vehicles account for about 17 percent of greenhouse gases produced in the state (NMED GHG Emission Trends 2000-2013).

A mode shift from driving short trips in a vehicle to walking or riding a bicycle would have meaningful benefits from an environmental perspective. Nationwide, 46 percent of trips are 3 miles or less, a 10-15 minute bicycle ride. An increase in bicycle use would not only reduce greenhouse gas emissions but also alleviate motor vehicle congestion. More bikes means cleaner air for Santa Feans to breathe and clear skies for all to enjoy.

Research indicates that if more dedicated bicycle facilities were provided, a significant portion of the population would consider bicycling (Dill, Jennifer, and Nathan McNeil. *Four Types of Bicyclists? Testing a Typology to Better Understand Bicycling Behavior and Potential*. Working paper. Portland State University. August 10, 2010.).

Bicycle Commuting Modeshare

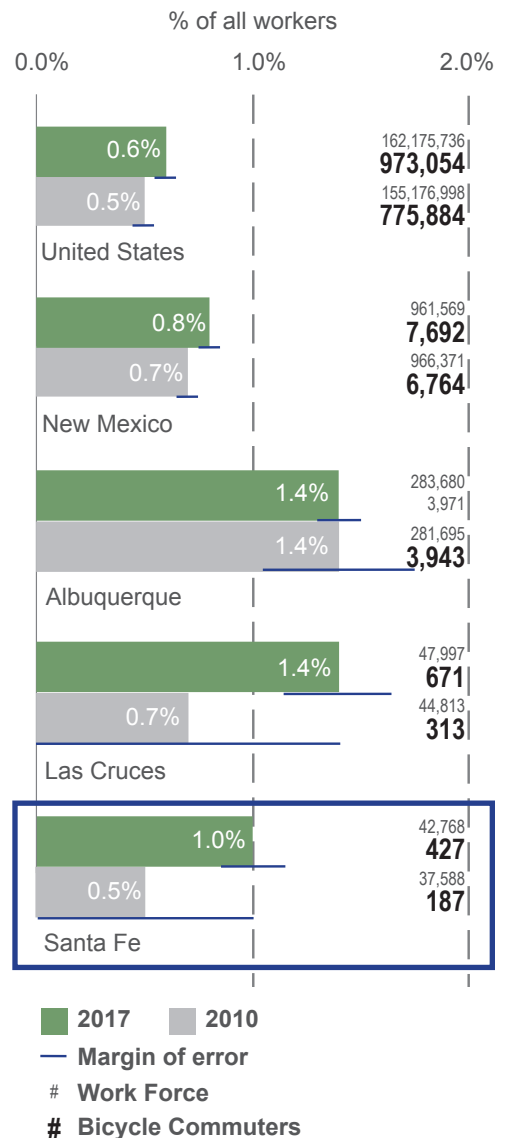


Figure 1.2 Bicycle Commuting | Modeshare
Source: US Census Bureau, "2013-2017 American Community Survey 5 Year Estimates - Commuting Characteristics by Sex"

AVERAGE TRIP LENGTH (US)

46% 3 mi. or less

21% 1 mi. or less (15-20 minute walk)

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

Source: National Household Travel Survey, 2017



HEALTH BENEFITS

Investment in bicycling and walking directly benefits the health of our communities, especially children. In Santa Fe County, obesity affects almost one fifth of adults (18.4%) and more than 1 in 7 youths ages 10-17: rates that are slightly lower than the New Mexico state average (28.5% adults, 15.9% youth), and significantly lower than the national average (39.8% adults, 14.8% youth) (2017, NM-IBIS, 2017 CDC). Over the past 10 years, adolescent obesity rates in New Mexico have increased by 50 percent (2007-10.2%, 2017-15.9%, CDC). Integrating walking and bicycling into New Mexicans' daily routine is a promising way to combat the upward trend in obesity.

In combination with obesity trends, of particular concern is the low percentage of adolescents that meet recommended physical activity amounts. Only 24.1 percent of adolescents in Santa Fe were physically active for a total of at least 60 minutes per day. Given Santa Fe's educational budget restrictions and declining offerings in physical education, promoting walking and bicycling to school and establishing a safe and reliable bicycle network is a logical strategy for children's health that can benefit the entire community.

ECONOMIC BENEFITS

Transportation is a major expense for American families, with the annual cost of car ownership and operation an average of \$8,849 per car (2018, AAA based on 15,000 miles driven annually). The cost burden of private automobile ownership has a disproportionate impact on lower-income families (2017 Santa Fe median household income \$58,821, US Census ACS). Comparatively, the national average for annual cost of bicycle ownership and operation is \$308 (Pocket Guide to Transportation, Bureau of Transportation Statistics, 2009). Individuals and families that have the capacity to bicycle, walk, or use transit for part or all of their transportation needs can realize significant savings over relying on one, two, or more private motor vehicles.

Combined with transit, an increased mode share of bicyclists and pedestrians can result in a myriad of savings: time and space for motorists through "congestion mitigation"; reduction of road maintenance and construction costs; reduced fuel consumption and emissions; and less public and private space dedicated to roadways and parking.

Bicycle tourism is one of the fastest growing outdoor recreation industries nationwide with an estimated 48 million people bicycling recreationally per year and contributing \$83 billion to the economy in 'trip-related' sales (2017, Outdoor Industry Association). In Colorado, an estimated \$522 million in revenue is attributed to bicycle tourism (2016, Economic and Health Benefits of Bicycling and Walking in Colorado).

Percentage of Population Meeting Recommended Physical Activity Amounts

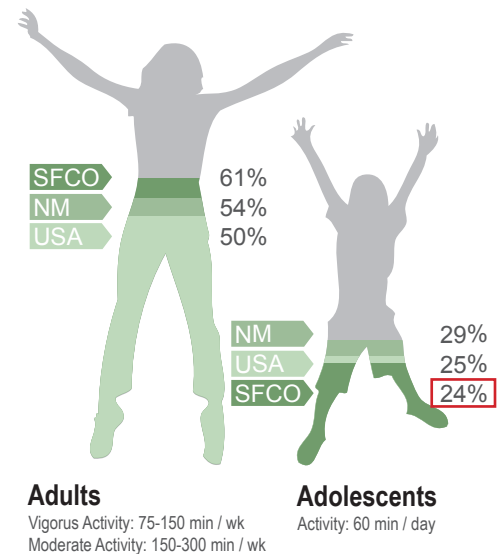


Figure 1.3 Percentage of Population Meeting Recommended Physical Activity Amounts
Source: Santa Fe County, "NM-IBIS, 2017"

Nationwide, numerous studies support the argument that biking and walking improvements lead to increased retail sales and property values.

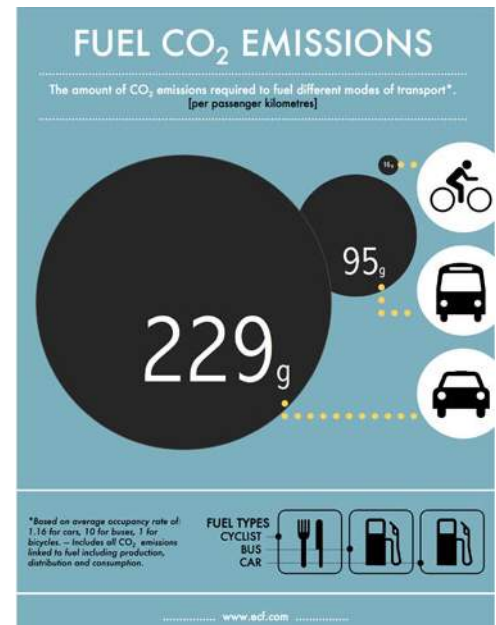


Figure 1.4: CO₂ Emissions
Source: 2014, www.sustainabilityzero.com/infographic-co2-cycling-study-2/ (2014)



BENEFITS OF BICYCLE PLANNING

Planning for bicycles is integral to a comprehensive approach to transportation planning. The design, implementation and operation of trails, bikeways, and bike lanes as complete networks encourages non-motorized transportation and promotes a more equitable and safe public infrastructure.

INFRASTRUCTURE ACCESS

Research shows that Infrastructure improvements to facilitate safe bicycling and walking results in increased use and comfort levels. An analysis of Safe Routes to Schools programs in four locations showed that engineering improvements for walking and bicycling were associated with a 18 percent increase in walking and bicycling to and from school (*Clifton et al, 2013*). Separated bike lanes have been shown to increase biking levels between 21–171% (*Monseré et al, 2014*). Since 2005, the average bike facilities per square mile in the 50 most populous cities has doubled, from 0.9 to 1.8. 45 states have installed bike lanes on state highways and 20 have installed protected bike lanes.

Nationwide, however many people still lack access to basic infrastructure for bicycling and walking. As of 2012, only 39 percent of U.S. residents stated that they live within a quarter mile of a bike lane (marked lane on a public road reserved for bikes), while 32 percent of respondents stated that no streets in their neighborhood had sidewalks (*NHTSA, 2012 survey*). Research shows that, in some cities, low-income communities and those of color have less access to bicycling and walking facilities than higher-income, white communities. *2016 Benchmark Report, Alliance for Biking and Walking*

COMPLETE STREETS

Complete Streets is a planning initiative initiated over a decade ago to design and implement streets that “enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.” (*smartgrowthamerica.org*). Communities adopt a Complete Streets policy to direct transportation planners and engineers to design and operate the entire road right of way in a way that balances the needs of different modes and supports local land uses, economies, cultures, and natural environments. Complete Streets improvements include:

- Dedicated space for the safe movement of pedestrian and bicyclists
- High-quality transit options and infrastructure
- Attractive and inviting public realm with landscape amenities
- Efficient movement of motor vehicles

In 2007 the MPO Transportation Policy Board has adopted a Complete Streets resolution directing local city and county departments to designate Complete Streets specifications for regionally significant roadways (*Resolution No. 2007-1, adopted 8.16.2007*). To date, neither the city or the county have adopted policies or ordinances regarding Complete Streets.

Biking and Walking to School Trends

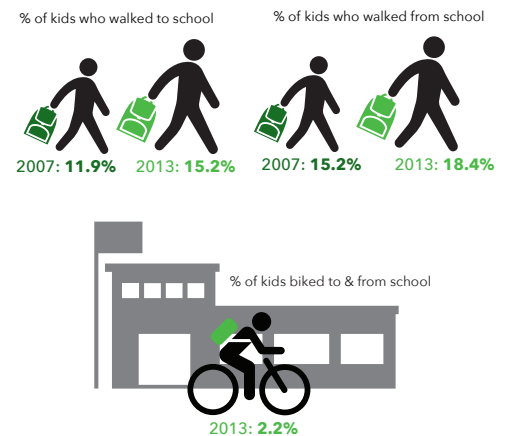


Figure 1.5: Biking and Walking to School Trends
Source: 2016 Benchmarking Report, “Alliance for Biking and Walking based on 2011 and 2015 NSRTS data”

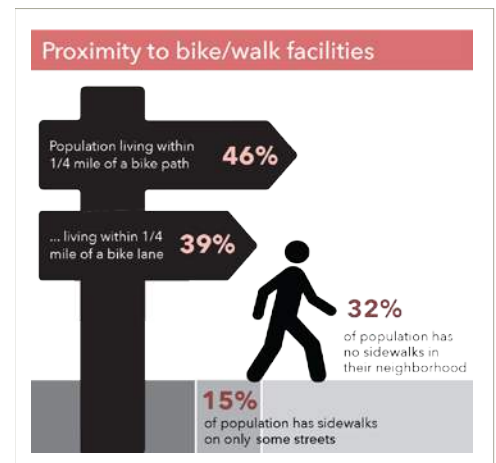


Figure 1.6: Proximity to Bike / Walk Facilities
Source: 2016 Benchmarking Report, “Alliance for Biking and Walking based on 2012 NHTSA survey data, 2012 National Survey of Bicyclist and Pedestrian Attitudes and Behaviors, Volume 2: Findings Report”



Figure 1.7: A Complete Street
Source: www.completestreets.voicesforhealthykids.org



EQUITY

A recognition of the disparity between the demographics of communities and the makeup of policy advisors and decision makers, in recent years, has led to an increased focus on equity, diversity, and inclusion. In Santa Fe, despite efforts otherwise, the demographic of bicyclists and the makeup of advisor groups such as BTAC does not reflect that of the Santa Fe community. Beginning in 2015, the League of American Bicyclists Bicycle Friendly Community program included questions to collect information on community efforts related to equity, diversity, and inclusion.

Addressing equity begins with public outreach and planning and continues with funding allocations, facility improvements, operations, and programs. Laws and regulations also help provide protections for all people. Legislations such as Safe Passing laws and Vulnerable Road User laws recognize that people walking or biking are more vulnerable to injury or fatality in the event of a crash compared to those in motor vehicles.

According to the American Public Health Association, “Nearly one-third of the U.S. population—including children, older adults, people with disabilities, low income people, women, and rural residents—are transportation disadvantaged (e.g., they are unable to transport themselves or purchase transportation)” (APHA Policy Number:20099. *Improving Health through Transportation - Land Use Policies*, Nov. 2009). Increasing access to alternative transportation, including access to bicycles and bicycle facilities, is critical to improving access to employment opportunities, health, and quality of life - especially for individuals without access to a private vehicle.



Image 1.1: Provide for all ages and abilities.



Image 1.2: Equity of access despite income or social class.

“Equity addresses the effects of power imbalances and the social, economic, and political differences that generate disparate outcomes for people in arenas like health, education, and employment. Equity recognizes that different people have different barriers to living healthy, fulfilled lives. In order to allow people to get to the same outcome, we need to understand the different barriers and opportunities that affect different groups, and craft our approaches, policies, and programs with those various challenges and needs in mind.”

Source: Safe Routes to School National Partnership Report, Sara Zimmerman, Michelle Lieberman, Karen Kramer, and Bill Sadler. Safe Routes to School National Partnership. “At the Intersection of Active Transportation and Equity”, (2014: pg.3).

TRANSPORTATION EQUITY

HORIZONTAL EQUITY

Horizontal equity (also called fairness and egalitarianism) concerns the distribution of impacts between individuals and groups considered equal in ability and need. According to this definition, equal individuals and groups should be treated the same in the distribution of resources/benefits and costs.

VERTICAL EQUITY WITH REGARD TO INCOME AND SOCIAL CLASS

Vertical equity (also called social justice, environmental justice and social inclusion) is concerned with the distribution of impacts between individuals and groups that differ, in this case, by income or social class. By this definition, transport policies are equitable if they favor economically and socially disadvantaged groups in order to compensate for overall inequities (Rawls 1971). Policies are called progressive if they favor disadvantaged groups and regressive if they harm such groups.

VERTICAL EQUITY WITH REGARD TO MOBILITY NEED AND ABILITY

This is concerned with the distribution of impacts between individuals and groups that differ in mobility ability and need, and therefore the degree to which the transportation system meets the needs of travelers with mobility impairments. This definition is used to support universal design (also called accessible and inclusive design), which means that transport facilities and services accommodate all users, including those with special needs.

These different types of equity often overlap or conflict. For example, horizontal equity requires that users bear the costs of their transport facilities and services, but vertical equity often requires subsidies for disadvantaged people. Therefore, transport planning often involves making trade-offs between different equity objectives.

(Evaluating Transportation Equity: Guidance For Incorporating Distributional Impacts in Transportation Planning, 03/18/19: Todd Litman Victoria Policy Institute)



STATE OF NEW MEXICO

General bicycle planning by the New Mexico Department of Transportation (NMDOT) is coordinated through the Bicycle/Pedestrian/Equestrian (BPE) Coordinator. New Mexico state law and policy require accommodations for bicycles, pedestrians, and equestrians along and across state highways. (NMSA 67-3-62). The Prioritized Statewide Bicycle Network Plan (NM Bike Plan), adopted in 2018, serves as the primary long-range infrastructure plan to guide bicycle improvements on state roads.

The MPO works with NMDOT District 5 planners to conduct transportation planning for state highways in the Santa Fe MPO area. District 5 allocates federal funding and state matching funds for state highway projects. State funding is also the basis for all highway maintenance activities by District 5.

NMDOT administers the following bicycle-related programs:

- Transportation Alternatives Program (TAP): a Federal reimbursement program that can generally be used for bicycle and pedestrian infrastructure and activities.
- Recreational Trails Program (RTP): a Federal reimbursement program that provides funding to develop and maintain recreational trails and trail-related facilities for both motorized and non-motorized uses.
- Highway Safety Improvement Program (HSIP): a Federal reimbursement program to help achieve significant reduction in traffic fatalities on all public roads, as guided by the Strategic Highway Safety Plan.
- Congestion Mitigation and Air Quality Improvement (CMAQ) Program: a flexible funding reimbursement program for transportation projects to help meet the requirements of the Clean Air Act.

The New Mexico Energy, Minerals and Natural Resources Department (EMNRD) recently completed the Rio Grande Trail Master Plan based on guidance of state legislation (NMSA 1978m section 9-SC-1) and in partnership with NMDOT, FWHA, and the New Mexico Recreational Trails Program (NMSP). The Rio Grande Trail Master Plan (2018) serves as a guide to implement a 500-mile cross-state recreational trail, a portion of which extends through the Santa Fe MPO area.

PUEBLO OF TESUQUE

As an active participant of the Santa Fe MPO, the Pueblo of Tesuque supports regional transportation planning efforts, particularly as it relates to respecting and preserving the cultural and natural resources within Tesuque Pueblo. Leadership has consistently articulated a desire that bicyclists who utilize US 285 frontage road as it passes Tesuque Pueblo and surrounding territories be mindful and respectful of both tribal lands and cultural impacts. Though Tesuque Pueblo may be a smaller village, their jurisdiction via land, water and natural resources is expansive. The opportunity for the Santa Fe MPO and it's member agencies to provide bicyclists educational resources, wayfinding, and other signage exists to support the desires of the Pueblo.



Image 1.3: State Road NM14 (Cerrillos Road) urban corridor.



Image 1.4: State Road NM 599 (Santa Fe Relief Route and the Veterans Memorial Highway) looking south.



Image 1.5: State Road NM14 to Cerrillos



SANTA FE COUNTY

Santa Fe County's trail planning is undertaken by the Open Space Trails and Parks staff with guidance from the County Open Land, Trails, and Parks Advisory Commission (COLTPAC). The OSTP staff have focused on the development of multi-modal trails as transportation corridors (eg. Santa Fe Rail Trail, Santa Fe River Trail, Arroyo Hondo Trail) as well as recreational trail alignments within and connecting to Santa Fe County open space properties.

Regional bikeway planning for on-road facilities is coordinated through the County's transportation coordinator as guided by the Future Bikeways Network map outlined in the 2015 Sustainable Growth Management Plan (SGMP). Santa Fe County plans and codes require accommodation for bicycles with new development and retrofits of existing facilities. Traditional communities and community districts within Santa Fe County have adopted community plans that guide development within these areas.



Image 1.6: Rural, gravel roads within Santa Fe County are suitable for bicycling but lack specific infrastructure.



Image 1.7: A striped bike lanes at a County road intersection.

CITY OF SANTA FE

The city's earliest efforts at bicycle planning began with the 1993 Bikeways Master Plan, which outlined short and long term on-road and off-road bikeways. In 2003, the Bicycle and Trails Advisory Committee was formed, which meets monthly and serves to actively promote and guide bicycle and trail infrastructure improvements in Santa Fe. In 2012, the first Santa Fe Metropolitan Bicycle Master Plan was adopted, which serves as the current guiding document for bicycle planning for the MPO area.

A variety of policies support planning for bicycles in the city under the city's General Plan, the Parks and Recreation Plan of 2001, subsequent activities under the Bicycle and Trails Advisory Committee (BTAC), and the Sustainable Santa Fe Plan. Trail and on-road improvement projects are executed with oversight from the Engineering Division. No designated Bicycle or Pedestrian coordinator position exists within the City.

In support of these planning efforts, Chapter 14 of the City's General Code requires the accommodation of bicycle and pedestrian traffic along city streets as well as through off-road trails. Developers are expected to provide for "vehicle and pedestrian traffic circulation;" bicycles are implicit to this requirement for some uses, explicit for others. The Code states that all new public streets shall be required to provide adequate pedestrian and bicycle facilities, as well as necessary transit facilities. Where developments provide open space, the Code specifies that "To the greatest extent possible, connections shall be provided to public open space and/or the urban trail system and bicycle paths, or in such a way that a future connection shall be facilitated."



Image 1.8: Neighborhood streets with less vehicular traffic may have no specific bicycle infrastructure such as sharrows or signage.



BACKGROUND / SANTA FE TODAY

PROGRESS ASSESSMENT - 2012 PLAN

Beginning with the 2012 BMP, a set of indicators were established to track progress toward meeting goals set out in the plan. Baseline data was recorded as a starting point to evaluate future improvements. The MPO, working in conjunction with member agencies, tracks baseline data, records benchmarks, and initiates reporting mechanisms to evaluate progress toward meeting objectives set within the Bicycle Master Plan. In some cases where baseline data was not available, recommendations were made to initiate baseline data collection. A few indicators still lack baseline data and need attention or adjustment to best track progress.

INDICATORS: FACILITIES AND PROGRAMS

1 BICYCLE FRIENDLINESS

SANTA FE BICYCLE FRIENDLY COMMUNITY RATING

League of American
Bicyclists



2010

2011-2012

2013-2021

2024 TARGET

-

-

Figure 1.8: Bicycle Friendly Community Rating

Source: League of American Bicyclists, "Santa Fe Scorecards"

2 BIKEWAY FACILITY INVENTORY






	SHARED LANE			BICYCLE LANE			ON-ROAD FACILITY BUFFERED BICYCLE LANE			OFF-ROAD FACILITY / TRAIL SEPARATED (PROTECTED) BIKEWAY			URBAN TRAIL (8'-10' WIDE)	
	 Image 1.9			 Image 1.10			 Image 1.11			 Image 1.12			 Image 1.13	
MPH	≤25	30-35	≥40	≤25	30-35	≥40	≤25	30-35	≥40	≤25	30-35	≥40	Paved	Unpaved
2012	N/A	N/A	N/A	N/A	N/A	N/A	0 mi	0 mi	0 mi	0 mi	0 mi	0 mi	18 mi	2 mi
2018	60 mi	104 mi	26 mi	16 mi	52 mi	40 mi	0 mi	0 mi	0 mi	0 mi	0 mi	0 mi	28 mi	11 mi
TARGET														
2024	75 mi	144 mi	36 mi	20 mi	72 mi	55 mi	-	5 mi	5 mi	-	1 mi	-	42 mi	21 mi

Figure 1.9 Bicycle Facility Inventory. Bicycle facilities indicated above are intended to be AASHTO-compliant facilities

Source: City of Santa Fe, "Shared Lane and Bicycle Lane by speeds", Santa Fe MPO, "Bikeways 2018 (Buffered Bicycle Lane, Separated Bikeway, Urban Trails)", and Santa Fe Bicycle Metropolitan Master Plan 2012, "Buffered Bicycle Lane, Separated Bikeway, Urban Trails." Note: Prior to 2019 "Bicycle Lanes" were defined as a wide paved shoulder (5ft) or sufficient paved shoulder or bike lane (4ft).

3 NETWORK ACCESS

Indicators to be developed prior to the 2024 BMP update include the following:

- % urban population living within one mile of a bikeway directly connected to the core bikeway system
- % urban population living within one mile of a multi-use trail directly connected to the core trail system
- % urban population with bicycle access to major destinations (recreation, shopping, schools, etc.)
- % public facilities easily accessible by bicycle from the core bikeways network



4 ADDITIONAL FACILITY-BASED INDICATORS

Additional indicators to be considered for implementation and tracking include the following:

- Bicycle Parking distribution / quantity
- Bike Share program growth

INDICATORS: EDUCATION / AWARENESS AND BEHAVIOR

1 MODE SHARE

	2010	2017	TARGET 2024
WORKFORCE	37,588	42,768	
BICYCLE COMMUTERS	total commuters percentage	187 0.5%	427 1.00%
			2017 average mode share for Gold BFC communities was 5.2%. 2.00%

Figure 1.10 Modeshare Indicator Source: US Census Bureau, "2013-2017 American Community Survey 5 Year Estimates - Commuting Characteristics by Sex"

2 BICYCLES ON TRANSIT

	2015	2016	2017	2018	4-year average	TARGET 2024
SF TRAILS	total riders total riders w/ bikes % riders w/ bikes	979,603 26,172 2.67%	903,345 26,618 2.95%	861,690 24,779 2.88%	819,217 22,388 2.73%	890,964 24,989 2.80%
RAIL RUNNER	total riders total riders w/ bikes % riders w/ bikes	313,405 8,948 2.86%	291,794 9,616 3.30%	281,601 8,513 3.02%	275,595 9,022 3.27%	290,599 9,025 3.11%
NCRTD	total riders total riders w/ bikes % riders w/ bikes	- - -	- - -	- - -	64,280 3,816 * 5.94%	-
						28,000 3.20% 11,400 3.80% 5,000 7.50%

Figure 1.11 Bicycles on Transit Indicator. Note: * 1,323 riders with bicycles, or 35% of the total number counted on NCRTD buses in the MPO area, utilized the new Mountain Trail Route 250 (established September 2015). This route serves a recreation function.
Source: City of Santa Fe, "Santa Fe Trails Ridership," Rio Metro Regional Transit District, "Rail Runner Ridership," and North Central Regional Transit District, "Ridership."

3 BICYCLES IN PUBLIC SECTOR

	2019	TARGET 2024
FIRST RESPONDERS (CITY)	EMT* Police Parking Enforcement	1 3 7
FIRST RESPONDERS (COUNTY)	EMT Police Parking Enforcement	- 6 -
		2 6 7 1 8 -

Figure 1.12 Bicycles in Public Sector. Note: * The City of Santa Fe staffs a "Bike Medic Team" of 2 EMTs for special events only.
Source: City of Santa Fe Fire Department, City of Santa Fe Police Depart, and Santa Fe County Sheriff.

4 ADDITIONAL EDUCATION / AWARENESS BASED INDICATORS

Additional indicators to be considered for implementation and tracking include the following:

- Commuter behavior / increase
- Safety course completion numbers, including LAB 'Smart Cycling' course completion numbers
- Bike share program growth (coordinate with facility -based indicator reporting)



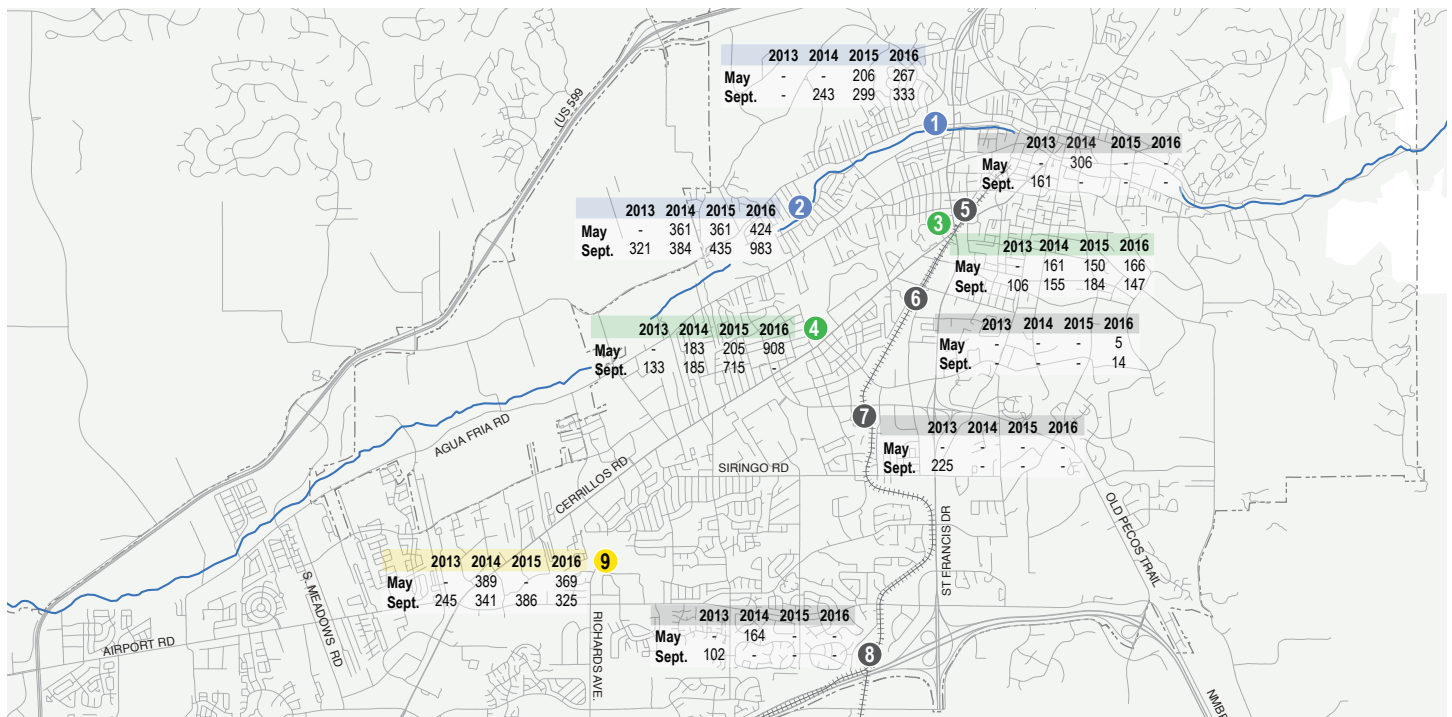
5 RIDERSHIP

In order to track progress and understand the impacts of bicycle facility improvements on ridership, regular bicycle counts need to be conducted. To date, no formal bicycle rider counts have been conducted. Five automated counters, Eco-Counter PYRO sensors, owned by the Santa Fe MPO have been stationed in various locations along urban trails and tracked trail use between 2013-2016, after which point data ceased to be transmitted. These counters utilize passive-infrared pyroelectric technology to count both bicyclists and pedestrians by detecting body temperature. In Spring 2019, the MPO re-engaged these automatic counters.

In an effort to facilitate national data collection on bicycling and walking, the National Bicycle and Pedestrian Documentation Project, initiated in 2010, provides guidance on collecting data on bicycling and walking (www.bikedocumentation.org). Count and survey data is collected locally and submitted in a national database. Official National Count / Survey days are set twice a year in mid-May and mid-September for collection from Tuesday through Thursday and Saturday through Sunday.

The Santa Fe MPO, in coordination with partner agencies, should participate in this national effort and upload Santa Fe data. Besides re-evaluating existing automatic counter collection points along the trails, additional collection points need to be established, along with securing volunteers to help collect count and survey data within the set time frames.

Map 1.2: Santa Fe Metropolitan Area - Eco-Counter Trail Usage Counts, National Documentation Project - 7 days in May / September 2013-16



LEGEND

- Santa Fe Metropolitan Planning Area
- City of Santa Fe
- Santa Fe River
- Railroad Tracks

TRAIL USE COUNTERS

- Counter Location, River Trail
- Counter Location, Acequia Trail
- Counter Location, Rail Trail
- Counter Location, Arroyo Chamiso Trail
- Counter Location, Proposed

- 1 River Trail - West of St. Francis Dr.
- 2 River Trail - West of Cristobal Colon
- 3 Acequia Trail - West of St. Francis Dr.
- 4 Acequia Trail - Ashbaugh Park to Otowi Dr.
- 5 Rail Trail - North of St. Francis Dr.
- 6 Rail Trail - South of Alta Vista
- 7 Rail Trail - South of St. Michael's Dr.
- 8 Rail Trail - North of I-25 Overpass
- 9 Arroyo Chamiso - East of Richards Ave

Note:

'Eco-Counter' data is for reference only. Numbers reflect usage counts captured along urban trails and include both bicyclists and pedestrians. Gaps in records and anomalies exist due to intermittent sampling, counter relocations, and loss of power.

Source Data:

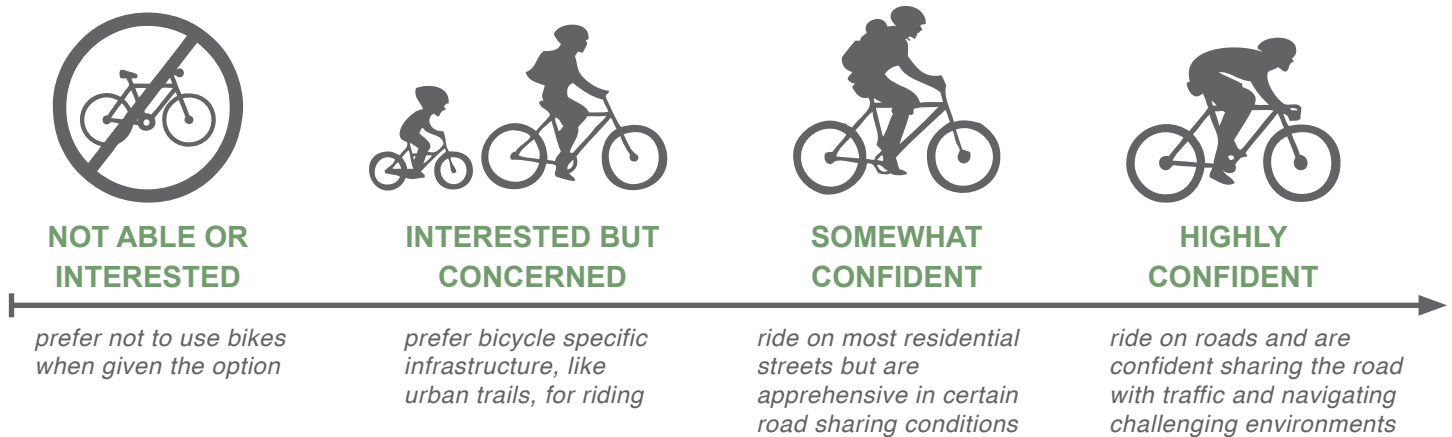
Santa Fe MPO, "Eco-Counters"



BICYCLISTS

BICYCLE USERS

For planning purposes, bicyclists have been categorized into four general types of riders corresponding to their perceptions around bicycling: “Strong and Fearless,” “Enthused and Confident,” “Interested but Concerned,” and “No Way No How.” (Dill, J., McNeil, N. *Four Types of Bicyclists? Examination of Typology for Better Understanding of Bicycling Behavior and Potential. Transportation Research Record, 2014.*) By understanding the unique characteristics and needs of every user along this spectrum, bicycle infrastructure improvements can provide quality facilities and minimize user risk. Design solutions should accommodate a range of abilities / users and appeal to a majority of the bicycle user population to provide a more complete network and increase ridership.



BICYCLE USER SPATIAL CONSIDERATIONS

When planning for bicycles, a consideration of the space a bicycle rider needs to operate a bicycle is important. Bicycle rider ability and comfort level factors in to the spatial consideration, with more experienced riders occupying a narrower corridor than less confident or younger aged bicycle riders. For this reason, the introduction of buffer zones or a physical barrier between bicycle lanes and moving traffic can provide a safer operating environment for both motor vehicles and bicycle riders. Buffer zones also help accommodate non-traditional bicycles such as recliner bicycles, rickshaws, or those with wagons or cargo carriers.

BICYCLE RIDER DIMENSIONS

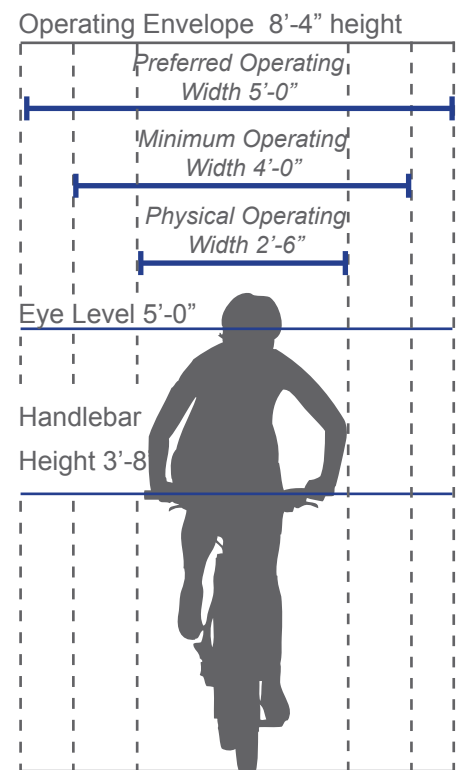


Figure 1.13: Bicycle Rider Dimensions
Source: 2018 New Mexico Rio Grande Trail Guidelines, "Trail User Spatial Considerations"



ACHIEVEMENTS SINCE 2012 BMP

The 2012 Bicycle Master Plan set the stage for an expansion of the bicycle network and initiated tracking indicators. A number of notable improvements to bicycle infrastructure and bicycle planning have been made in the Santa Fe MPO area since 2012, including:

Green Bicycle Lane (2015) - A pilot project to stripe green bicycle lane pavement markings on portions of Camino Carlos Rey, Don Gaspar, and Richards Avenue to visually highlight dedicated bicycle lanes.

Bicycle Signal Detection (2015) - Installation of infrared detection system for bicycle-activated signals at three intersections (Paseo De Peralta / Don Gaspar, Camino Carlos Rey / Siringo, Camino Carlos Rey / Cerrillos) and video detection system at 2 intersections (Richards Ave. / Governor Miles, Camino Carlos Rey / W. Zia Road).

Expansion of Urban Trail System (2012-2018) - The funding, design, and construction of significant connectors and substantial sections of urban trail segments has greatly improved the area's urban trail network. Selected projects include:

- | | | |
|---------------------------|--|---|
| Santa Fe Rail Trail | 6.56 miles | (Spur Trail to Avenida Eldorado) |
| Santa Fe River Trail | 1.00 mile | (Frenchy's Field to Siler Road) |
| El Camino Real Trail | 14.00 miles | (El Camino Real Trailhead to Diablo Canyon) |
| | | (3.25 miles w/in MPO area) |
| Acequia Trail connectors: | St. Francis Underpass | |
| | Kathryn Street neighborhood connection | |
| | Oñate Street neighborhood connection | |
| | Otowi Street neighborhood connection | |
| | Montano Street neighborhood connection | |

Bicycle Corral | Bike Racks (2015) - A pilot project to repurpose a parking space in front of the popular downtown Cowgirl BBQ into a bike corral with six bike loops was installed in 2015. Additional loops were installed in various areas in downtown Santa Fe to address a deficit of dedicated bicycle parking options.

Interactive Map (2018) - Introduction of a publicly accessible on-line interactive map that serves as a tool to outline future network improvements, project implementation timelines, project status, jurisdiction, and approximate cost. The map also has opportunities for public feedback.



Image 1.14: Green bicycle lane markings for visibility along Richards Avenue.



Image 1.15: Acequia Trail - St. Francis Drive Underpass, completed in 2018 offers a safe route at one of the city's most dangerous intersections.



Image 1.16: Santa Fe Rail Trail within Santa Fe County. Developed as a transportation and recreational trail along the rail spur, it was constructed to meet AASHTO guidelines.



Image 1.17: Cowgirl bike corral in action.



TRENDS AND SHIFTS IN BEST PRACTICES

The past decade has seen a number of trends and shifts in best practices regarding planning for bicycle facilities and planning in general.

All Ages and Abilities Planning - With national research outlining the four general categories of bicyclists in 2014 (Strong and Fearless, Enthused and Confident, Interested but Concerned, and No Way No How), planning for bicyclists has acknowledged the need to accommodate the full spectrum of abilities in infrastructure improvements. The average US city is comprised of dominantly 'Interested but Concerned' riders or those who do not ride at all. Improvements that target these populations include separated or protected bicycle lanes or trails. (See additional facility improvements in the toolkit)

Building a Complete Bicycle Network - In an effort to increase transportation mode share to bicycles, a connected network must serve the variety of trips users want to take and be designed for bicyclists of all ages of abilities. A network that provides safe and convenient connections and appeals to a majority of the bicycle user population can help increase ridership.

Capturing Short Trips - Most trips Americans take are short, usually less than 3 miles. Enabling short driving trips of less than three miles to be converted to bicycle trips, for both work and non-work related trips, would help increase bicycling and walking as well as help achieve greenhouse gas reduction targets. To maximize the investment in system improvements, implementation should focus on where short trips most frequently occur and how best to incentivize a mode shift from car to bicycling or walking.

Environmental Justice - (social equity + inclusion) Acknowledging not only rider abilities and comfort levels, but also underserved population access to bicycles, bicycle infrastructure, safety gear, and education, will provide them with greater access to this mode of transportation.

Land Use Planning - Encouraging and supporting high-density, multi-modal land use planning policies (e.g. Transit Oriented Development) can help utilize existing infrastructure and provide housing, jobs, and services close to where people live, work, and play. Bicycle planning in coordination with land use planning can become an integral part of Climate Action Plans (CAPs) to help reduce carbon emissions within cities.

Technology - With over 77 percent of the U.S. population owning a smart phone (Pew Research Center, 2018), more people can access mobile apps to expand their transportation options, including public transit and bike share. This portable technology also provides instant access to recommended routes and bicycle-related social network groups.



Image 1.18: Providing infrastructure for all ages and abilities expands community ridership and access for everyone.



Image 1.19: Infrastructure like the Rail Runner sets the stage for future transit oriented developments to serve the region.

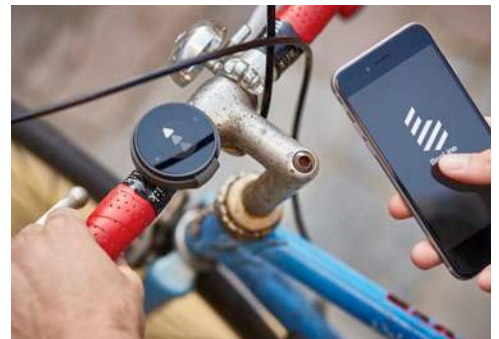


Image 1.20: Route finding, bike sharing, performance monitoring, and social media sharing are few attributes supported by technology.

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



Millennials - The Millennial generation (born between 1983 and 2000) is known for choosing a less car-centric lifestyle and favoring denser city neighborhoods (2016 Benchmarking Report, Alliance for Biking and Walking).

Complete Streets - A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks. This helps to ensure streets are safe for people of all ages and abilities, balances the needs of different modes, and supports local land uses, economies, cultures, and natural environments.

The National Complete Streets Coalition, which launched this movement in 2004, promotes the development and implementation of Complete Streets policies and professional practices. To date, over 1325 agencies at the local, regional, and state levels have adopted Complete Streets policies, totaling more than 1400 policies nationwide.

(Smart Growth America <https://smartgrowthamerica.org/program/national-complete-streets-coalition/>)

Road Diet - A roadway reconfiguration known as a Road Diet offers several high-value improvements at a low cost when applied to traditional four-lane undivided highways or roadways. In addition to low cost, the primary benefits of a Road Diet include enhanced safety, mobility, and access for all road users and a “complete streets” environment to accommodate a variety of transportation modes. (FHWA via https://safety.fhwa.dot.gov/road_diets/)

Road Diets are an essential tool for the implementation of “Complete Streets.” According to the “Road Diet Guide” (2016) issued by NMDOT a Road Diet is defined as:

Road Diets, or a reallocation of road-way space, are a changing of the cross section of a roadway in order to achieve potential benefits, such as safety, increased multimodal accommodation, or to better accommodate left-turning vehicles, in addition to numerous other potential benefits. Road Diets most often involve restriping a four-lane undivided road to a three-lane road with two through lanes and a two-way left-turn lane.

Both the City of Santa Fe and Santa Fe County have completed road diets and the City of Santa Fe is currently working on redesigning North Guadalupe Street utilizing the design principles of a Road Diet. Road Diets benefit all users of the road including motorists by decreasing conflicts and reducing speeds.

TWO LANES + MEDIAN + BIKE LANE

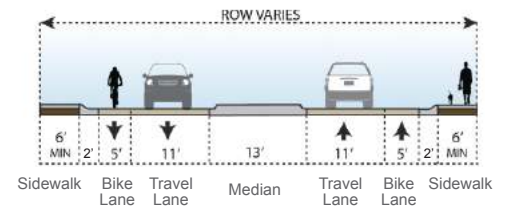


Image 1.21: Example of proposed Guadalupe Street Road Diet that accommodates 5' bike lanes. The current cross-section includes four 11' lanes.



Image 1.22: Paseo de Peralta at Canyon Road today with 4 lanes.



Image 1.23: Road Diet (restriping): Paseo de Peralta at Canyon Road conceptual restriping with pedestrian crossing and median island. Benefits include reduced conflicts and speeds for motorists, safer crossing and sidewalk buffers for pedestrians and bike lanes for cyclists.





PLAN DEVELOPMENT 2





EXISTING CONDITIONS

SANTA FE BIKEWAYS + TRAILS

Santa Fe's bikeway system is a combination of on-road facilities, including designated bike lanes, striped shoulders, and lanes shared with motor vehicle traffic; and off-road facilities, including paved multi-use trails and formal or informal soft-surface paths. In some cases, facilities are designated and linked through "Bike Route" or other guidance signage.

The Santa Fe Bikeways and Trails Map outlines this existing system. The Santa Fe MPO updates and publishes the map on a regular basis and makes it available in both print and digital form. The most recent update was issued in 2018. It illustrates the existing system of trails, on-road bicycle facilities, and recreation destinations, as well as schools, bike shops, and train stops. Facilities are designated according to pavement type, width, and relative speed (for on-road segments).

On-road bicycle facilities are designated as shared-use road facilities according to lower posted speed or higher speed routes. Roads with designated bike lanes that are AASHTO-compliant are not identified separately from non-compliant bicycle lanes or striped shoulders of varying width. This map has been instrumental in communicating connectivity of the overall bicycle system for experienced riders. It must be noted, however, that it does not represent an AASHTO-compliant network or one that accommodates 'interested but concerned' bicycle riders.

CONTEXT

Santa Fe is situated at approximately 7,000 feet Mean Sea Level (MSL) at the base of the Sangre de Cristo mountains to the east of the city. The terrain is relatively flat within the city, with moderate elevation gains (ca. 150-200 ft) towards the escarpment to the north and the foothills to the east. The Santa Fe River serves as the primary drainageway and extends from the mountain southwest, ultimately feeding into the Rio Grande approximately 28 miles downstream of the Santa Fe Plaza.

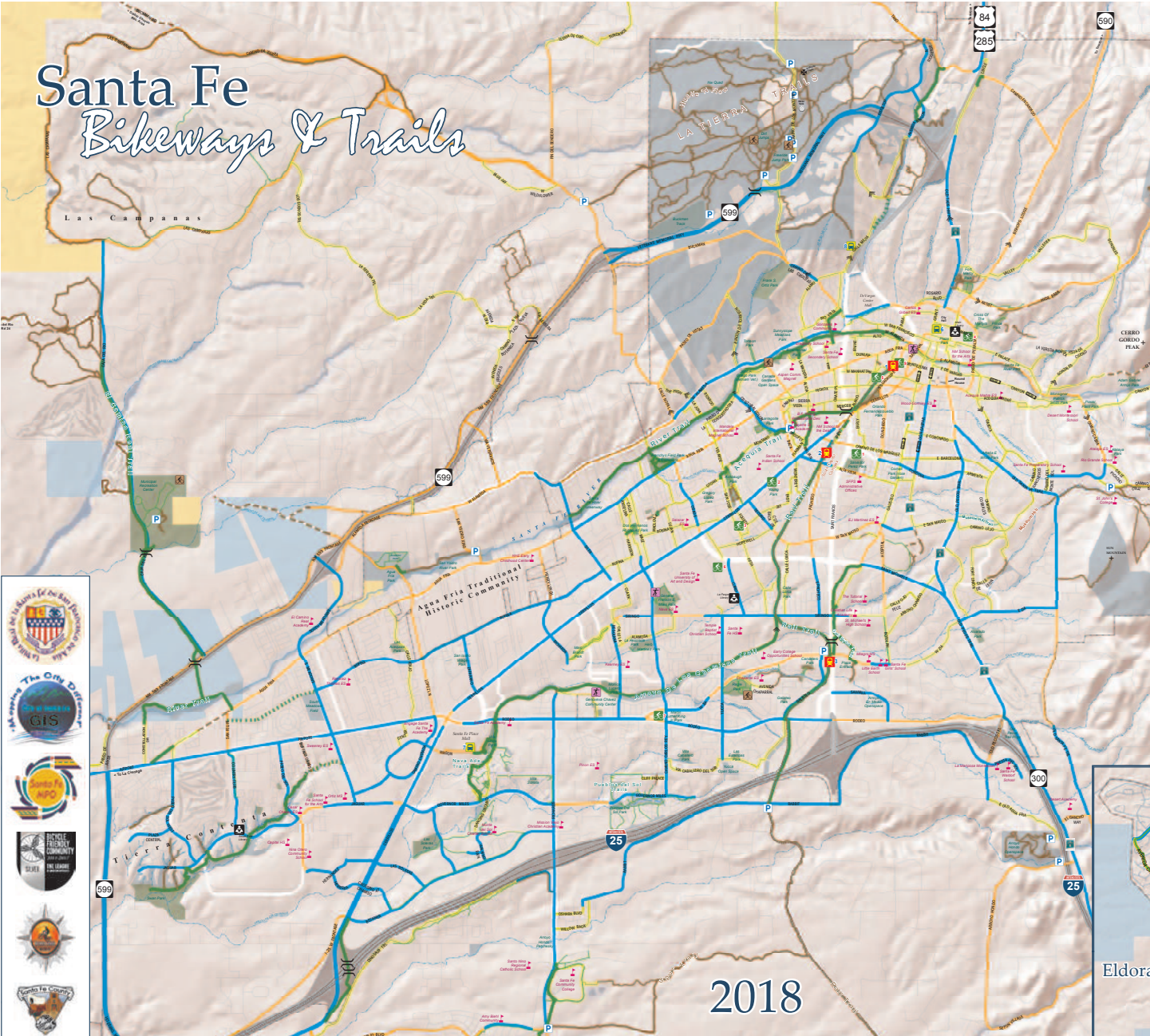
The MPO boundary includes Tesuque Pueblo to the north of the city and extends south to include a portion of the Galisteo Basin. The existing Atchinson Topeka Santa Fe (ATSF) railway forms the southern edge of the MPO boundary.

CLIMATE

Santa Fe climate is semi-arid with four distinct seasons. Temperatures are moderate with an average high of 86 degrees in July to average lows of 17 degrees in January. On average there are 325 sunny days per year. Average rainfall is 14 inches per year, mostly occurring during summer 'monsoon' seasons in July and August.



Map 2.1: Santa Fe Bikeways + Trails Map, 2018



Source Data: Santa Fe MPO



ROADWAY NETWORK

An examination of the existing roadway network in the Santa Fe MPO area with respect to speed and traffic volumes reveals a fragmented array of roadway segments that can accommodate 'interested but concerned' bicycle riders. The Toolkit provides strategies to improve the safety of roadway corridors for bicyclists and pedestrians.

SPEED LIMITS

The level of comfort bicycle riders have on roadways is directly impacted by the speed of vehicular traffic. The greater the speed, the more separation is necessary between bicycles and motor vehicles. An analysis of existing posted speed limits indicates that while most neighborhood streets are posted at 25 MPH or 20 MPH, many collector or arterial streets speed limits are posted at 35 MPH or greater. A number of the designated bicycle network on-road connectors are illustrated on these collector or arterial roads, suggesting that extra measures should be implemented to increase bicycle safety along these corridors or they should be evaluated for reduced posted traffic speeds.

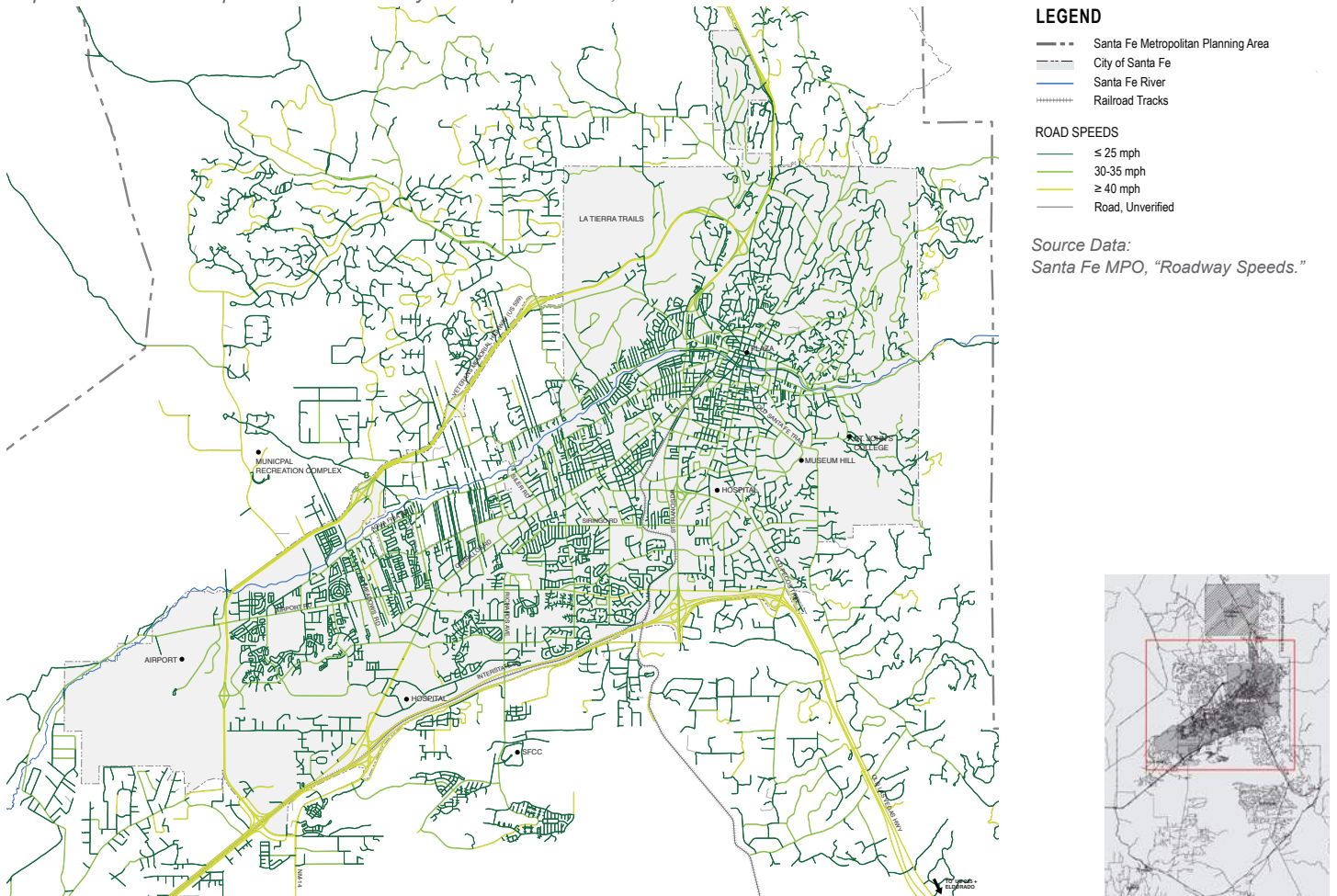
ROADWAY NETWORK CENTERLINE MILEAGE BY SPEED RANGE

	≤ 25 MPH	30 - 35 MPH	≥ 40 MPH	TOTAL
2012	N/A	N/A	N/A	N/A
2019	830 mi	255 mi	250 mi	1,335 mi

Note: Data does not include roadway mileage south of La Cienega and the junction of US 285 and I-25 (within the Santa Fe MPO boundary) .

Source: Santa Fe MPO, "Roadway Speeds."

Map 2.2: Santa Fe Metropolitan Area - Roadway Posted Speed Limits, 2019



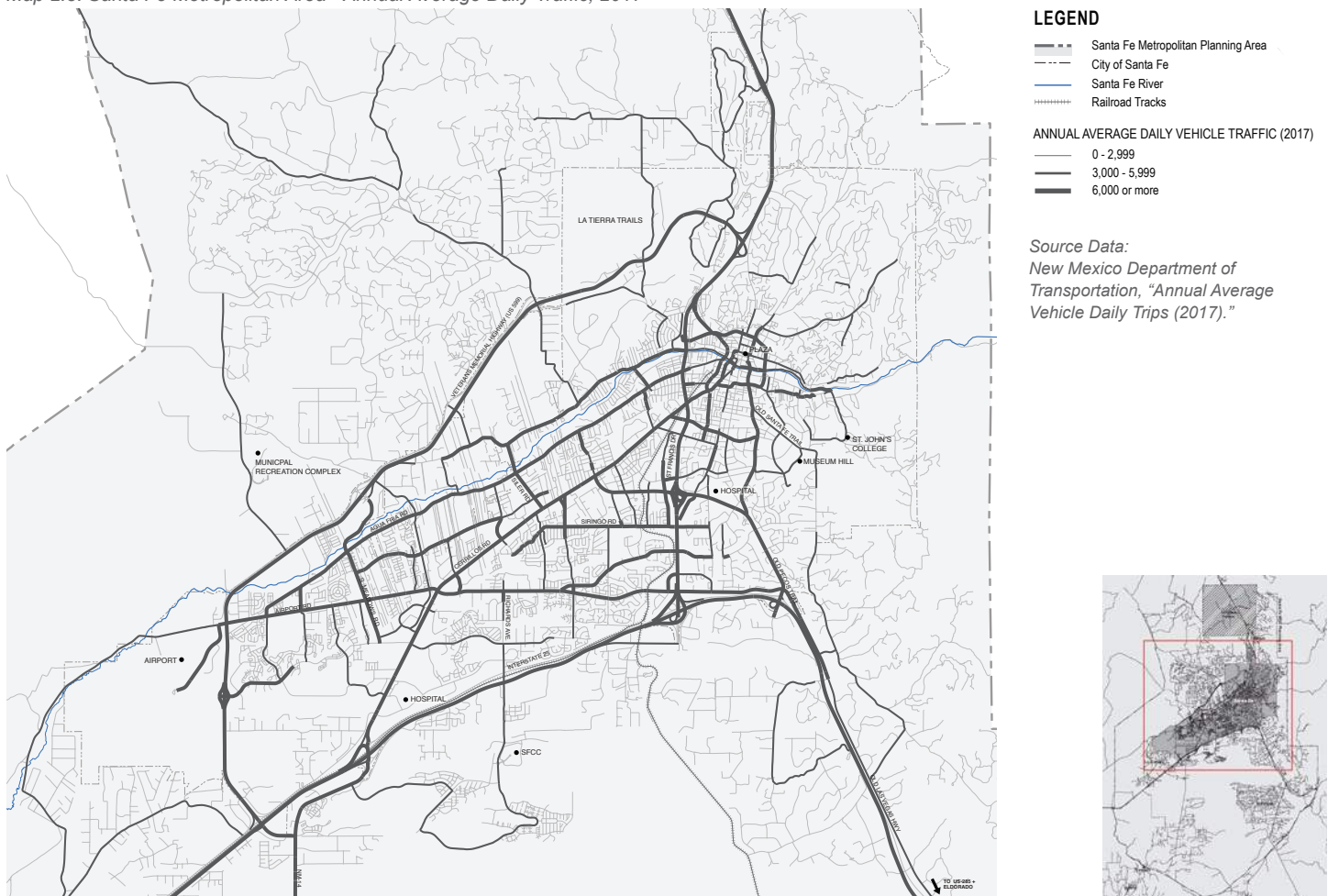


TRAFFIC VOLUMES

In conjunction with the speed of vehicular traffic, a higher number of moving vehicles on roadways impacts the comfort and safety level of bicycle riders using on-road facilities. Traffic volumes, counted as Annual Average Daily Traffic (AADT), provide an overview of the busiest streets within the Santa Fe MPO area. The NMDOT tracks traffic volumes on an annual basis for both state owned and maintained roadways as well as other public roads within the MPO area.

Logically, many of the higher traffic volume roadways throughout Santa Fe are typically on collector or arterial streets, which also serve as primary bicycle network segments. Map 2.4: Santa Fe Metropolitan Area - AADT illustrates traffic volumes according to recommended cutoffs (AADT: 0-3,000, 3,000-6,000, and 6,000 +) for facility improvements as outlined in the Toolkit (Appendix A). Improving bicycle facilities along these segments to accommodate all ages and abilities design could help alleviate traffic congestion, increase comfort levels for both bicyclists and motorists, and contribute to greater bicycle commuting mode share.

Map 2.3: Santa Fe Metropolitan Area - Annual Average Daily Traffic, 2017





BICYCLE CRASH ANALYSIS

An understanding of bicycle crashes can provide clues as to the relative safety of Santa Fe's bicycle network as well as driver habits. Since March 2015, the Santa Fe Police Department has adjusted field data collection methods on crashes to facilitate the analysis of those occurring with bicycles.

SANTA FE BICYCLE CRASH ANALYSIS (2018) (see Map 2.4, right)

In 2018, the City of Santa Fe Police Department, Crime Analysis Division conducted its first analysis of bicycle crashes documented over a 3-year time frame (March 1, 2015 - February 28, 2018). A total of 110 recorded bicycle crashes were analyzed. Bicycle riders involved in crashes were primarily male (81%) and fairly evenly distributed in age between 11-60 years, with only 14% of riders less than 10 years of age or over 60.

The study revealed that the main contributing factor in reported crashes was a failure to yield on behalf of both bicyclists and motor vehicles (35 / 110 crashes, or 33%) with the second leading cause driver inattention (21 / 110 crashes, or 19%). When citations were given to bicyclists, failure to yield was the leading reason (28% of citations). Of all citations given to vehicles, failure to yield was also the primary reason (37% of citations). The fault for crashes were equally assigned to bicyclists and motor vehicles, with an officer citing the vehicle 28% of the time and the bicyclist 25% of the time (neither 43%, both 4%).

Locations of bicycle-related crashes occurred dominantly at intersections (64%), where the conditions require more driver / bicycle awareness and knowledge of yield priorities. A spatial analysis of the crash locations reveals additional patterns. According to Map 2.2 crash incidents are dispersed across town but are generally focused on principal arterials (53 crashes, or 48%), including Cerrillos Road (24 crashes), Airport Road (9 crashes), St. Francis Drive (7 crashes) and St. Michael's Drive (5 crashes). Crashes occur primarily on weekdays (85%) rather than weekends (15%).

Nationwide, 61 percent of all bicyclist fatalities occur on principal and minor arterial roadways, primarily in urban areas (71% bicycle deaths within urban areas, 2016). The proportion of traffic fatalities has gradually increased from around 1.5% in 2003 to over 2% in 2016, this despite bicyclist representing only 1% of trips (2018 Benchmarking Report: 2016 NHTSA).

A number of initiatives have emerged across the US that attempt to address safety and reduced bicycle fatalities. One example is Vision Zero, which focuses on modifying the process of creating and maintaining safe networks, rather than changing individual behaviors. More than 40 cities across the US have committed to Vision Zero. The closest cities with this policy are Boulder and Denver in Colorado and Tempe in Arizona. No cities have yet committed in New Mexico, but the Mid-Region Council of Governments in Albuquerque developed a Regional Transportation Safety Action Plan in 2018 that closely mirrors a Vision Zero approach.



TRADITIONAL APPROACH	VS	VISION ZERO
Traffic deaths are INEVITABLE		Traffic deaths are PREVENTABLE
PERFECT human behavior		Integrate HUMAN FAILING in approach
Prevent COLLISIONS		Prevent FATAL AND SEVERE CRASHES
INDIVIDUAL responsibility		SYSTEMS approach
Saving lives is EXPENSIVE		Saving lives is NOT EXPENSIVE

Figure 2.1 Vision Zero campaign
Source: www.visionzeronetwork.org

Vision Zero is a significant departure from the status quo in two major ways:

Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure those inevitable mistakes do not result in severe injuries or fatalities. This means that system designers and policymakers are expected to improve the roadway environment, policies (such as speed management), and other related systems to lessen the severity of crashes.

Vision Zero is a multidisciplinary approach, bringing together diverse and necessary stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration among local traffic planners and engineers, policymakers, and public health professionals has not been the norm. Vision Zero acknowledges that many factors contribute to safe mobility -- including roadway design, speeds, behaviors, technology, and policies -- and sets clear goals to achieve the shared goal of zero fatalities and severe injuries.

[illegible]

 Santa Fe Metropolitan Planning Area
 City of Santa Fe
 Santa Fe River
 Railroad Tracks

- 1 Crash
- 2-3 Crashes

Data represents a 3 year time frame (March 1, 2015 - February 28, 2018) and a total of 110 reported bicycle-related vehicle crashes. In order to be statistically viable, the data set would need to be collected for at least 5 years or 150 incidents. Data collected prior to March 1, 2015 does not have the same categories and information as this set and is not able to be analyzed for comparison.



VISION 2040 BICYCLE NETWORK

The Santa Fe MPO VISION 2040 Bicycle Network outlines a system of major urban trails and on-road connectors that link neighborhoods to destinations and perimeter recreation areas. Many of the trails follow natural drainageways, historic routes, or rail lines, adding a historic and natural component to the trail experience. Currently 50 miles of existing urban trails (37 miles proposed) and 40 miles of on-road connectors, the VISION 2040 Bicycle Network serves as a guide for implementing a complete network of safe bicycling facilities to connect neighborhoods with destinations within the city as well as outlying communities and recreation areas.

The VISION 2040 Bicycle Network is distinguished from the Bikeway and Trails System Map (*Map 2.1*) in that it is an aspirational, primary network of urban trails and on-road connector segments. It illustrates both existing primary network segments and proposed segments (as dashed lines) for a complete primary network. The Bikeway and Trails System Map, by contrast, illustrates existing conditions for bicycling and does not communicate a bicycle system hierarchy.

The VISION 2040 Bicycle Network serves as an update to the 'Santa Fe's Major Multi-Use Trails and Selected On-Road Connections: Expanded Bikeway Vision 2032' map presented in the 2012 BMP. Revisions reflected in this map include:

- Map illustrates VISION 2040 Bicycle Network existing segments (solid line) and planned segments (dashed line)
- Trail corridors are updated to reflect existing conditions, proposed Santa Fe County trail planning corridors, and proposed standard wayfinding colors / trail names
- Simplifies on-road network to reflect only primary on-road connector segments
- Surface material is not identified; all trail segments identified as existing meet accessibility requirements

Figure 2.2: Santa Fe VISION 2040 Bicycle Network - urban trail mileage within the Santa Fe MPO area, 2019

TRAIL	PAVED	UNPAVED	FUTURE ¹	TOTAL
Acequia Trail	6.2 ²		3.0	9.2
Arroyo Chamiso Trail ³	6.8		8.0	14.8
Arroyo Hondo Trail ⁴	2.5	3.0	7.0	12.5
Cañada Rincon Trail	0.8	0.5	1.0	2.9
Camino Real / Rio Grande Trail (North)	4.0	1.5		5.5
Santa Fe Rail Trail	4.3	11.8	4.0	20.1
Santa Fe River Trail	4.6		8.0	12.6
St. Francis Trail	0.6			0.6
Tierra Contenta Trails	2.9		1.0	3.9
Connector Trails	4.0		5.0	9.0

Source: Santa Fe MPO, "Santa Fe Bikeways"

Notes:

¹ Future urban trail lengths are approximate and subject to change upon final design and construction.

² Includes on-road trail sections

³ Includes the 'Gail Ryba', 'Las Soleras', and 'Nava Ade' Trails

⁴ Includes 'Spur Trail' and 'Dinosaur Trail' segments

While segments of the VISION 2040 Bicycle Network exist today, the system is not yet interconnected and far from amenable to riders within the 'Interested but Concerned' bicycle rider group. The network would benefit from some of the following improvements to help with the safety of the network and ease of wayfinding.

- connectivity: complete primary connector segments
- safety: analyze on-road segments and implement infrastructure improvements according to all ages and abilities guidelines
- wayfinding: provide environmental signage, wayfinding, and branding of major trails, particularly those comprised of a combination of on-road and designated trail segments

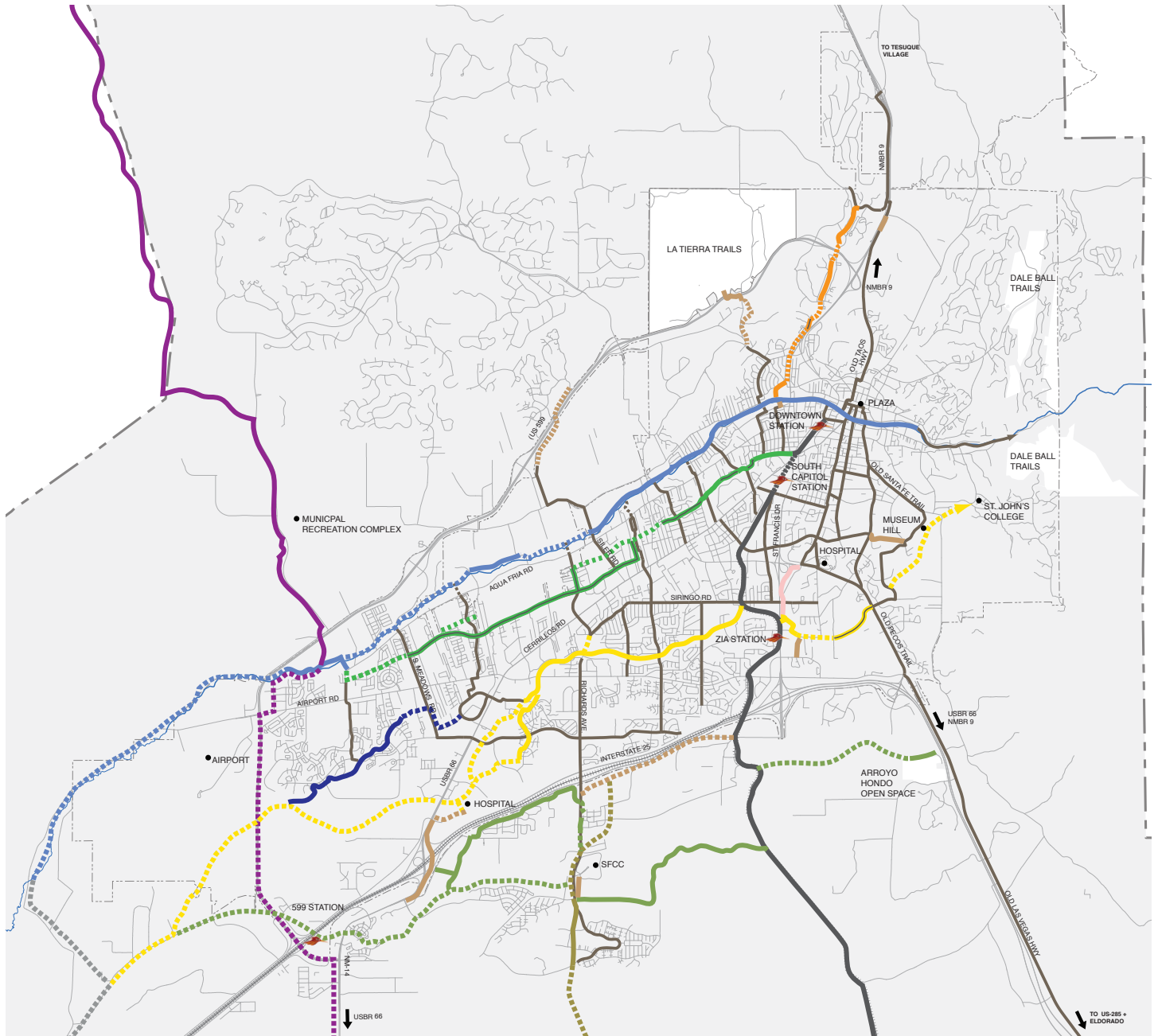
Figure 2.3 Future Trails - Estimated mileage within the SF MPO area

TRAIL PLANNING CORRIDOR	FUTURE
ATSF Regional Trail	16.0
NM Central Regional Trail	15.0
Bonanza Creek / Madrid Spur / NM14	12.0
Rio Grande Trail (South)	19.0

Notes: Planning corridors are conceptual and distances are rough estimates only.



Map 2.5: Santa Fe Metropolitan Area - VISION 2040 Bicycle Network



LEGEND

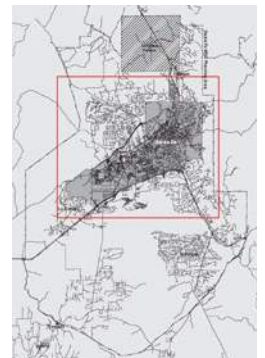
- Santa Fe Metropolitan Planning Area
- City of Santa Fe
- Santa Fe River
- Railroad Tracks
- TRAIL PLANNING CORRIDORS (LONG TERM PLANS)**
 - ATSF Regional Trail
 - NM Central Regional Trail
 - Bonanza Creek / Madrid Spur / NM14
 - Rio Grande Trail
- ON ROAD BICYCLE NETWORK**
 - Primary Network Connections
 - Primary Network Connections, Proposed

TRAILS KEY

- Existing Trail
- Existing Trail Route, On Road
- Planned Trail
- Connector Trail
- Acequia Trail
- Arroyo Chamiso Trail
- Arroyo Hondo Trail
- Cañada Rincon Trail
- El Camino Real Trail / Rio Grade Trail
- Santa Fe Rail Trail
- Santa Fe River Trail
- St. Francis Trail
- Tierra Contenta Trails

Note: Priority network alignments illustrated are diagrammatic and for planning purposes only. Actual alignments may be adjusted according to available easements, property acquisition, and other planning considerations.

Source Data: Santa Fe County, "Open Space, Trails and Parks Strategic Management Plan trail planning corridors; Santa Fe MPO, "Bikeways, Bike Lanes, Trails, On Road and Proposed Trails / Future Trail Connections derived from Bikeways;" and Alta Planning, "2019: Rio Grande Trail preferred trail alignment."





SANTA FE RIVER TRAIL

length: 4.6 miles (ca. 13 miles at full buildout)

width: 8'-10'

surface: concrete, some parts asphalt or crusher fines

The Santa Fe River Trail is a paved multi-use trail that parallels the Santa Fe River and connects many diverse neighborhoods and parks. It will eventually extend almost 13 miles from downtown Santa Fe southwest to La Cienega. A long term project, currently a total of 4.6 miles in 3 segments are in existence with another 2.75 miles in the planning / design stage. It is also recognized as the historic El Camino Real de Tierra Adentro hiking trail, with NPS signage along the route.



Image 2.1: The Santa Fe River Trail near Alto Bicentennial Park.

SANTA FE RAIL TRAIL

length: 16.1 miles (ca. 20 miles at full buildout)

width: 8'-10'

surface: asphalt, crusherfines

The Santa Fe Rail Trail (SFRT) is an 16 mile urban trail that follows the Santa Fe Southern rail spur to extend from the train depot in downtown Santa Fe, south and eventually connect to Lamy, NM. A recreational trail and alternative transportation corridor, it connects to communities south of Santa Fe and provides stunning views of expansive high desert landscapes in the Galisteo Basin.



Image 2.2: The Santa Fe Rail Trail serves as a corridor for recreational enthusiasts, bicycle commuters, and long distance riders.

ACEQUIA TRAIL

length: 6.2 miles (ca. 9 miles at full buildout)

width: 10' (trail segments), shared residential roadway

surface: concrete, asphalt

The Acequia Trail loosely follows the trajectory of the Acequia Madre, or mother ditch, an irrigation ditch parallel to the Santa Fe River Trail offset to the south by about a 1/2 mile. The Acequia Trail is a comprised of segments that are both separated off-road paths and on-road shared-use neighborhood streets. It traverses the heart of many neighborhoods.



Image 2.3: The Acequia Trail at Baca Street.

ARROYO CHAMISO TRAIL

length: 6.8 miles (ca. 15 miles at full buildout)

width: 10'

surface: asphalt

The Arroyo de los Chamisos functions as a wide, winding, primary waterway during storm events that extends from the Sangre de Cristo foothills and St. John's College / Museum Hill area west towards La Cieneguilla - the full east-west extent of the city. The Arroyo Chamiso Trail follows the alignment of the drainageway is comprised of multiple sections of designated multi-use trail and a few on-road segments. Some segments overlap with existing named trails (eg. Santa Fe Rail Trail, Gail Ryba Trail).



Image 2.4: The Arroyo Chamiso Trail acts as an important crosstown connection.



ARROYO HONDO TRAIL

length: 5.5 miles (ca. 13 miles at full buildout)

width: 10'

surface: concrete

The Arroyo Hondo Trail, an east-west urban trail corridor south of I-25 that loosely follows the Arroyo Hondo drainageway, will provide major off-road connections between the NM-599 Rail Runner station, the Santa Fe Community College, and neighboring residential subdivisions. It will extend north to connect to the trail network north of I-25 and serve as a commuter and recreational trail system for adjacent housing communities.



Image 2.5: Arroyo Hondo Trail, "Spur Trail" connection near the Santa Fe Community College.

CANADA RINCON TRAIL

length: 1.3 miles (ca. 3 miles at full buildout)

width: 8'-10'

surface: concrete, asphalt

In the northern part of Santa Fe, the Canada Rincon Trail connects from the Santa Fe River Trail north uphill (ca. 385 ft. climb) to Tano Road and neighborhoods north of Santa Fe. The trail loosely parallels the west edge of the Canada Rincon Arroyo with a combination of designated urban trail segments and on-road segments.



Image 2.6: Cañada Rincon Trail conceptual section near the Reserve at Santa Fe.

EL CAMINO REAL DE TIERRA ADENTRO TRAIL

length: 5.5 miles within SF MPO area, 9.5 miles dirt / singletrack (ca. 15 miles total)

width: 8'-10', 18" side path

surface: asphalt, crusherfines, dirt (singletrack)

Loosely following the historic trade route from Mexico to northern New Mexico, the El Camino Real de Tierra Adentro multi-use trail occupies a north-south route along the western edge of Santa Fe MPO area. Paved from the Santa Fe River Trail north to the Municipal Recreation Complex, it continues as a soft surface trail to Diablo Canyon (ca. 9 miles beyond the MPO boundary).



Image 2.7: The El Camino Real De Tierra Adentro Trail acts as an important regional link for long distance riders and equestrians.

NM CENTRAL TRAIL

length: in planning stage

The historic New Mexico Central Railway line, known locally as the 'Pinto Line,' or 'Frijoles Line,' was a railway that connected Santa Fe south to Torrance (116 mile length). The Santa Fe connection was in operation in this area for only 26 years (1903-1929). The railway grade today (without track) remains as a distinctive feature in the Galisteo Basin landscape. A future multi-use trail along this line would connect the southern edge of Santa Fe near the SF Community College and Rancho Viejo subdivision south to the town of Galisteo.



Image 2.8: The future 'NM Central Trail' is intended to follow the railroad alignment of the historic New Mexico Central Railway line.



BICYCLE NETWORK MAJOR CONCERNS + GAPS

As outlined previously in the VISION 2040 Bicycle Network, the primary bicycle network in Santa Fe is comprised of a combination of urban trails and a series of on-road connector segments. The VISION 2040 Bicycle Network is intended to be an 'All Ages and Abilities' network, and consequently does not include major high speed / volume streets such as Cerrillos Road or St. Francis Drive.

In order to complete the network, a series of major concerns and gaps must be improved and / or completed. Disconnected segments that affect the current functional primary bicycle network are illustrated on the following map (Map 2.6: *Santa Fe Metropolitan Area Primary Bicycle Network - Major Concerns + Gaps*, 2019).

Urban Trail - Gap

Incomplete or disconnected urban trail segments are indicated in red. With a few exceptions (Rail Trail at South Capital Station, Acequia Trail, and River Trail), most of the incomplete trail segments lie on the edges or outside city limits. Many of these segments have received conceptual level design and engineering and are designated as higher priority segments.

On-Road Connector - Missing / Inadequate Bicycle Facilities

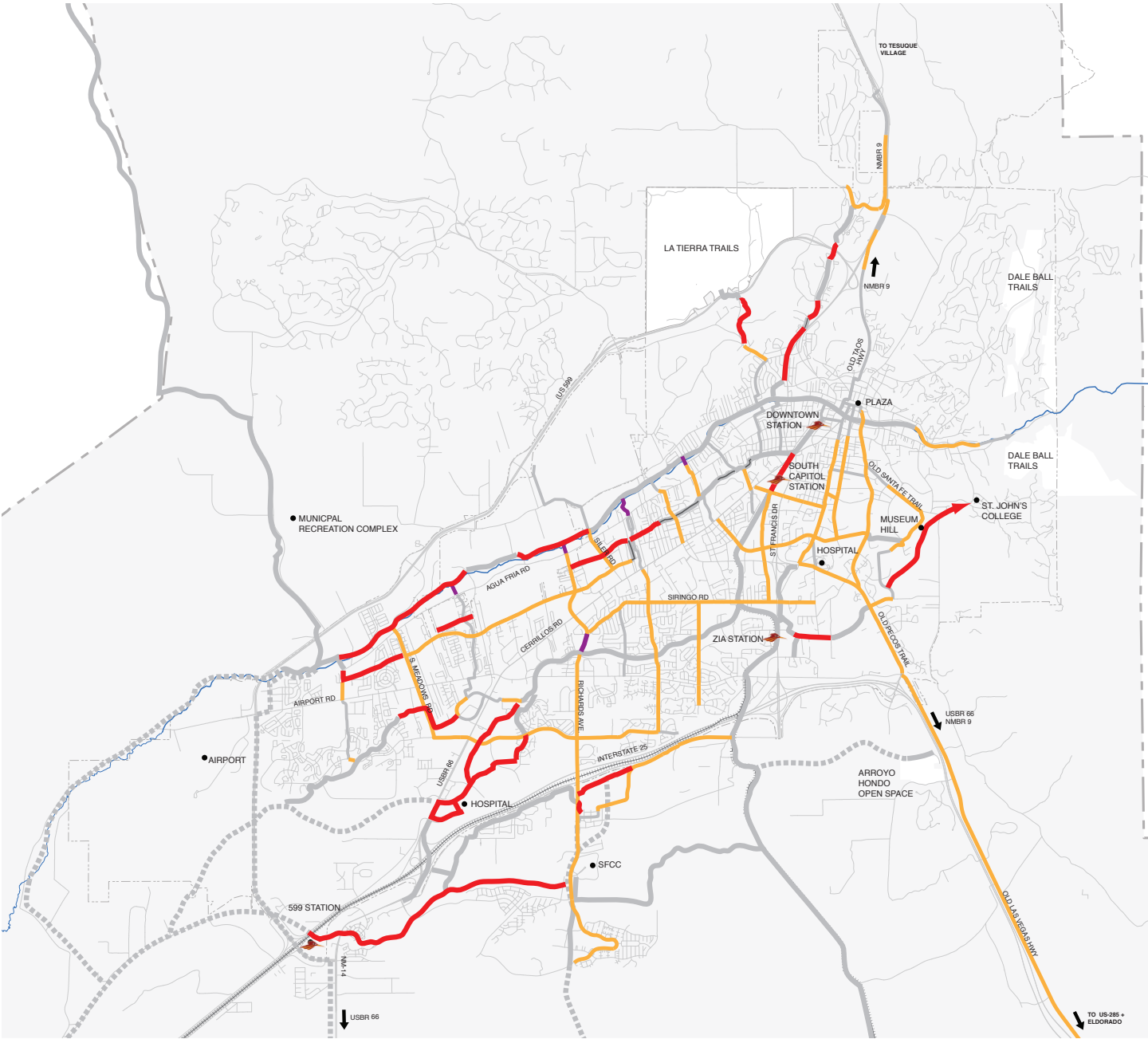
On-road connector segments that are either missing, or do not meet recommended bicycle facility criteria set by the Toolkit are illustrated in orange. Given the 2019 BMPs goal of providing a bicycle network that accommodates 'interested but concerned' bicycle riders, on-road segments improvements merit additional scrutiny to increase levels of safety and comfort for these riders, particularly on collector and arterial roadways. A cursory examination of the existing roadway network in Santa Fe with respect to posted speed limits and traffic volumes reveals a fragmented array of on-road bicycle facilities that accommodates 'interested but concerned' bicycle riders. The Toolkit provides strategies to improve the safety of roadway corridors for bicyclists and pedestrians.

Urban Trail / On-Road Connector - Gap

Gaps between on-road bicycle network segments and urban trail segments are indicated in purple. Most of these disconnected segments link the north/south on-road connectors to urban trails such as the Santa Fe River Trail, but also include gaps such as the crossing of the Arroyo Chamiso between the north and south segments of Richards Road.



Map 2.6: Santa Fe Metropolitan Area Primary Bicycle Network - Major Concerns + Gaps, 2019



LEGEND

- Santa Fe Metropolitan Planning Area
- City of Santa Fe
- Santa Fe River
- Railroad Tracks
- URBAN TRAILS BICYCLE NETWORK**
 - Red line: Network Gaps, Trails
 - Grey line: Existing Trail
 - Grey line: Existing Trail Route, On Road
 - Dashed grey line: Trail Planning Corridor (Long Term Plans)
- ON ROAD BICYCLE NETWORK**
 - Purple line: Network Gaps, Urban Trail / On Road / Connector
 - Orange line: Network Concerns, ≥ 30 MPH or $\geq 6,000$ AADT
 - Grey line: Existing Primary Network Connections

Note: Priority network alignments illustrated are diagrammatic and for planning purposes only. Actual alignments may be adjusted according to available easements, property acquisition, and other planning considerations.

Source Data: Santa Fe MPO, "Bikeways, Bike Lanes, Trails." Trail Network Gaps derived from "Bikeways" and Proposed Trails / Future Trail connections." On Road Network Concerns derived from "Bikeways" and Primary Network Connections with Roadway Speeds ≥ 30 mph and AADT $\geq 6,000$.





EXISTING PLANNING + DOCUMENTS

PLANNING FRAMEWORK

A number of plans have been conducted at the state, regional, and local level that impact bicycle planning within the MPO area. The past few years has been marked by an increased interest in trail and bicycle facility planning, with a particular emphasis on recreation and tourism. The new state Office of Outdoor Recreation, created in 2019, will provide opportunities to coordinate recreational planning state-wide.

STATE PLANNING CONTEXT AND SUPPORTING DOCUMENTS

At the state level, New Mexico has placed increased emphasis on bicycle planning and promoting multi-modal transportation options over the last decade. State Law NM Stat § 67-3-62 (2015) requires that provisions for pedestrian, bicycle, and equestrian traffic be included as part of all highway projects receiving state public funds.

New Mexico Prioritized Statewide Bicycle Network Plan (2018) - The NM Bike Plan identifies a priority bicycle infrastructure network to facilitate investments, and design guidelines to guide infrastructure improvements. *“The NM Bike Plan is the first comprehensive statewide effort to develop a broad set of bikeway infrastructure and reflects an increased emphasis by NMDOT on multi-modal planning and transportation safety.”* (NM-PB p.12)

NMDOT Roadway Bicycle Guideline Map - The NMDOT Roadway Bicycle Guideline Map was developed to assist bicyclists in selecting preferred routes through New Mexico based on their personal skill and comfort level. The map includes estimated shoulder width (including presence of rumble strips, guardrails, and other adjacent barriers), traffic volumes, steep inclines, and other features that may impact one’s decision to travel by bicycle along a roadway. The map remains a valuable tool for bicyclists who wish to understand existing conditions along NMDOT roadways.

New Mexico 2040 Plan (2015) - The 2040 Plan emphasizes multi-modal transportation alternatives as a means of achieving statewide goals and objectives. In addition to calling for a state bicycle plan to establish priorities for facility development, the plan recommends using road resurfacing projects as opportunities to improve or maintain bikeway facilities and connectivity along designated corridors.

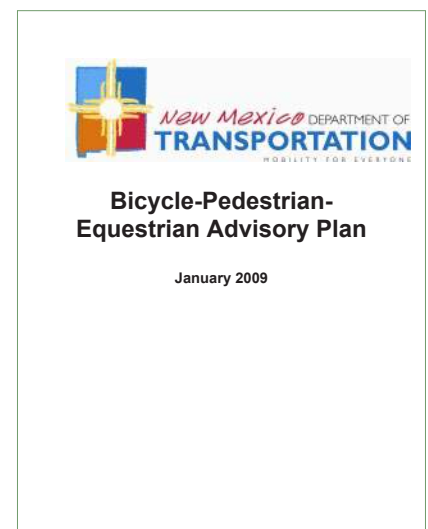
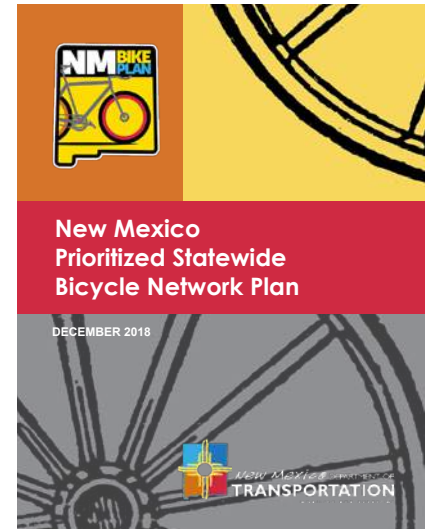
Additional New Mexico state-wide bicycle planning reference documents:

Bicycle Pedestrian Equestrian Advisory Plan (2009)

Strategic Highway Safety Plan (2019)

Highway Safety Plan (2017)

NMDOT Road Diet Guide (2016)



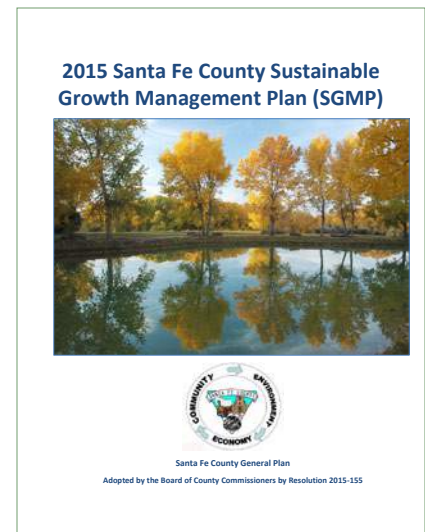


SANTA FE COUNTY PLANNING DOCUMENTS

Santa Fe County Open Space, Trails, and Parks Strategic Management Plan (2019) - The OSTP Strategic Management Plan serves as a guidance document for implementing Santa Fe County open space, trails, and parks programs and projects. The document outlines resource management strategies and opportunities to provide meaningful experiences to residents, including developing trail connections and access to open spaces. The trail network is devised as a hierarchy of regional, community, and local trails. Design guidelines cite Forest Service Trails Management Handbook for rural trails and the AASHTO Guide for the Development of Bicycle Facilities for designated transportation trail routes.

Santa Fe County Sustainable Growth Management Plan (2015) - The SGMP includes policies to build complete streets, including bike lanes or paved shoulders on existing and future county roads where warranted, and to build trails for transportation purposes in addition to recreation. The Future Bikeways Network Map outlines a series of improvements to existing and future on-road and off-road facilities for navigating around Santa Fe County by bicycle.

Community Plans - Community Plans have been adopted by various communities within Santa Fe County that lie within the MPO area. These plans (e.g. Santa Fe Community College District Plan, Tesuque Community Plan, La Cienega and La Cieneguilla Community Plan, Village of Agua Fria Community Plan) strive to preserve their traditional heritage and guide community growth in a sustainable way. Development is subject to the County Land Use Code and the SGMP.



CITY OF SANTA FE PLANNING

While the previous 2012 Santa Fe Metropolitan Bicycle Master Plan serves as the primary planning document to guide improvements in the city, planning for bicycles is also supported by a variety of policies under the City's General Plan (1999); the Parks, Open Space, Trails & Recreation Master Plan (2017); various neighborhood and area plans; and the Sustainable Santa Fe Plan.

Chapter 14 of the City's General Code requires the accommodation of bicycle and pedestrian traffic along city streets as well as through off-road trails. The code outlines requirements for developments to provide required facilities.

Bicycle and Trails Advisory Committee (BTAC) - BTAC, comprised of nine members representing all city districts as well as Santa Fe County, meets monthly to discuss and advise on bicycle and trails-related initiatives. The meeting also serves as a forum for the general public to bring bicycle and trail matters to the floor.



HISTORICAL TRAILS

Since 1600 A.D., Santa Fe has served as a destination and nexus for major trade routes between Mexico and portions of the United States. Beginning before the 16th century, the El Camino Real de Tierra Adentro, a 404-mile artery of commerce and cultural exchange, served as a major north/south trade and travel route between Mexico and Santa Fe, extending up to Ohkay Owingeh Pueblo. The Old Spanish Trail, a 2,700 mile trade route beginning in late 1829, extends from Santa Fe west to Los Angeles. The Santa Fe Trail, a 1,203 mile commercial highway, connected Missouri to Santa Fe and operated between 1821 and 1880. (www.nps.gov/national-historic-trails)

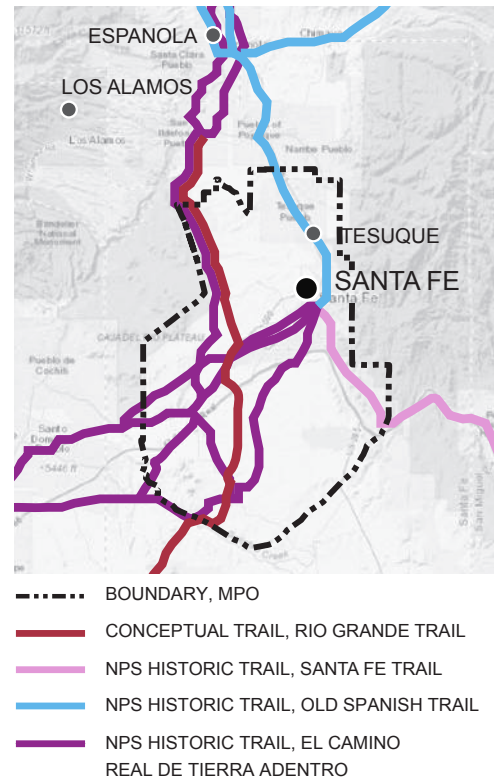
In the 20th century between 1926 to 1937, the Historic Route 66, one of the first main east/west highways traveled through Santa Fe. In 1937, Route 66 was straightened between Santa Rosa and Albuquerque, bypassing Santa Fe. Currently, portions of these historic trail routes are being revived as new state and interstate trails.

INTERSTATE TRAILS

The United States Bicycle Route System (USBRS) is a developing nationwide system of numbered, signed, and approved bicycle routes. Planned route alignments have been mapped and their adoption is being spearheaded by the Adventure Cycling Association. To date, New Mexico has not yet approved or signed any USBRS routes within the state. US Bicycle Routes are nominated for national designation by state DOTs and designated and catalogued by AASHTO at their meetings. The following planned Routes are located within the Santa Fe MPO boundary:

USBR 66 - almost 500 miles of the 2,493-mile bicycle route extending from Chicago to Los Angeles traverse New Mexico, with ca. 36 miles within the Santa Fe MPO boundary.

USBR 75 - this proposed north / south corridor parallels the Rio Grande River Corridor and will extend between El Paso north into Colorado. In some sections, the route will share alignments with paved sections of the Rio Grande Trail as well as NM highways.



Map 2.7: Historical Trail Map
Source data: National Parks Service, "Historic Trails"



Image 2.9: Rio Grande Trail logo, developed through a partnership with the New Mexico Tourism Department and the Rio Grande Trail Commission.



Image 2.10: El Camino Real de Tierra Adentro National Historic Trail logo, developed by the National Park Service - National Historic Trails program.



Image 2.11: El Camino Real de Tierra Adentro Trail - Santa Fe County Section.



STATE TRAILS

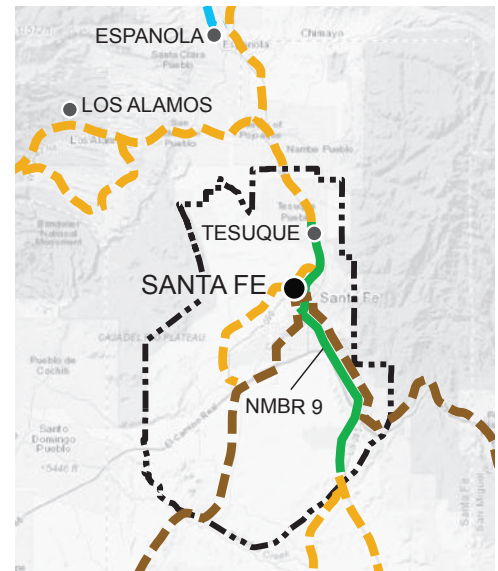
Starting in the 2000s, the state Bicycle Pedestrian Equestrian (BPE) Advisory Committee identified state bicycle routes. Routes typically follow portions of NM highways and are signed with green (wayfinding) state bicycle route signs. The 2018 NM Bike Plan recommends that the system be integrated with NM Bike Plan infrastructure network, coordinated with national designated routes that pass through the state, and signed with consistent signage and wayfinding along the routes. The following designated Routes are located within the Santa Fe MPO boundary:

NMBR 9 - approximately 20 miles of north / south roadway within the MPO has been signed as a state bicycle route. From Lamy to Tesuque via the historic Santa Fe plaza, the route generally follows Old Pecos Trail south of downtown Santa Fe and Old Taos Highway north of downtown.

RIO GRANDE TRAIL

In 2015, state legislation (HB 563) established the Rio Grande Trail Commission to oversee the development of a 500-mile cross-state recreational trail along the Rio Grande. The recreational trail for hiking, biking, and horseback riding will allow users to “*explore, learn about, and connect with a tapestry of diverse national habitats, rich history, striking landscapes, and vibrant communities.*”

RGT - the preferred trail corridor alignment, a 23-mile stretch within the Santa Fe MPO area, is intended as designated multi-use backcountry trail or sidepath. It follows the historic El Camino Real de Tierra Adentro trail and portions of it parallel NM 14, designated as the Turquoise Trail National Scenic Byway.



- BOUNDARY, MPO
- NM ROUTE, EXISTING
- NM ROUTE, PLANNED
- NM ROUTE, PROPOSED
- US ROUTE, PROPOSED (USBR 66)

Map 2.8: US + State Bicycle Route Map
Source data: New Mexico Department of Transportation, “NM Bike Routes,” and League of American Cyclists, “USBR 66”



Image 2.12: New Mexico State Bicycle Route, Example sign (M1-8-NM)



Image 2.13: United States Bicycle Route, Example sign



Image 2.14: NM State Bike Route 9 along Galisteo Street.



PUBLIC ENGAGEMENT

PUBLIC + STAKEHOLDER INPUT

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

The public outreach strategy for the Bicycle Master Plan was orchestrated and led by MPO staff, it consisted of multiple venues over a three and a half month period to reach a broad audience across Santa Fe and Santa Fe County. Electronic notices and invites to participate in public input opportunities were sent through social media (Facebook, Nextdoor), email list-serves, and directly to interest group contacts (bicycle stores, bike advocates, non-profit trail organizations, bike rider groups, etc.). Under-served and underaged groups were encouraged to participate by coordinating with partner organizations (Santa Fe Public Schools, Chainbreaker Collective). Meeting advertisements and links to the survey were promoted on the City of Santa Fe's website and on the Santa Fe MPO website / Facebook page.

BICYCLING SURVEY

An online survey was conducted November 2018 through January 2019 and in March 2019 with a total of 854 respondents. Survey responses provided a snapshot of bicyclists demographic in Santa Fe and outlined preferred improvements to the bicycling in Santa Fe MPO area. For an overview of survey results, see *Survey Results* on the following pages; for complete survey sample and results, see *Appendix B: Public Input*.

STAKEHOLDER MEETINGS

A series of meetings were conducted with partner agencies and stakeholder representatives to gather input on plan components relative to bicycle facility project planning, design, and implementation. The design toolkit was presented as a resource for guiding facility improvements. The following agencies were represented at the stakeholder meetings:

- New Mexico Department of Transportation (NMDOT)
- Santa Fe County
- City of Santa Fe
- Santa Fe Public Schools
- Bike Santa Fe

SANTA FE BIKE SUMMIT

The first Santa Fe Bike Summit on February 26, 2019 convened representatives from local bike shops, governmental agencies, bike organizations, non-profits, and advocacy groups. The well-attended event established a forum to coordinate planning efforts, outline upcoming events, and promote bicycle related initiatives.



Image 2.15: Stakeholder Meeting: Toolkit Draft discussion.



Image 2.16: Santa Fe Bike Summit: networking + coordination.



PUBLIC INPUT MEETING

- The Bicycle Master Plan public involvement meeting was held Wednesday, February 6, 2019 at the Market Street Station offices and Thursday, February 7, 2019 at the Southside Library. 39 individuals signed in at the meetings with an estimated 55 people attending.

The meeting was conducted as an open house with a brief presentation early in the meeting to introduce the plan update and provide an opportunity for Q + A. Meeting boards provided an overview of elements of the plan and allowed the public to provide input on the proposed Phase A, B, C projects, the Design Toolkit, the Master Plan document outline, the Bicycle Network Vision 2040, and proposed Policy Recommendations. Meeting boards also included an overview of feedback from the community survey.

Public comments were collected by documenting preferences and feedback at each project information board. Some of the primary concerns raised by those who gave comments were:

- specific comments on needed facility network improvements / connectivity (on Vision 2040 network and Phase ABC projects boards)
- education of motorists
- hire dedicated bicycle / pedestrian coordinator(s)
- bicycle sensors at intersection signals

See *Appendix B: Comments + Suggestions - from the Public* for specific feedback and images of the plan component boards.

Based on comments received at the meetings, attendance was primarily experienced or confident bicyclists. However, there were also some attendees who represented the 'interested but concerned' bicyclist. They communicated their fear of riding in town without safe / separated bike lanes and trails and the need for improvements targeted to their comfort level.

The top 5 policy recommendations as determined by meeting attendees, in order of priority, were:

- **Educate motorists** about safe operating behavior around bicyclists.
- Create and implement programs to **retrofit roadways** in need of bicycle facilities.
- Provide **critical connectivity** for bicyclists and pedestrians.
- **Create incentives / remove barriers** to travel by bike.
- Provide bicyclists with useful guidance through **bike route signage** and other **wayfinding** assistance on trails and roads.

Public Input Meetings

total number of attendees (62)

- MPO information
- survey results
- project list - phase ABC projects
- bicycle network - vision 2040
- master plan document outline
- toolbox elements
- policy recommendations

Market Street Station (45)

Wednesday, February 6, 2019, 5:00 -7:00 pm
57 Comments

Santa Fe Southside Library (10)

Thursday, February 7, 2019, 5:00 -7:00 pm
16 Comments

Figure 2.4: Public Input Meetings



Image 2.17: Public Input Meeting: Market Street Station.



Image 2.18: Public Input Meeting: Southside Library.

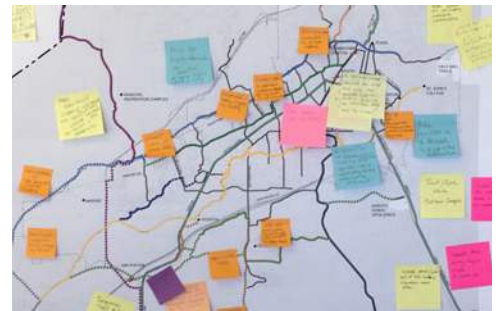


Image 2.19: Comments on bicycle network.



SURVEY RESULTS

A public input survey, available in English and Spanish, was conducted November 2018 through January 2019 and March 2019 with a total of 854 responses. The survey was accessible on line and in hard copy at a number of area events (eg. MIX Santa Fe, Ski Swap, Chainbreaker - ¡Posolada! event). Respondents answered a range of questions about their bicycling habits and comfort level, commented on issues and potential solutions to improve bicycling, and provided general demographic information.

PROFILE OF RESPONDENTS

Respondents to the BMP Bike Survey were dominantly white (74%) male (54%) and 45 years and older (65%). Comparatively, Santa Fe is dominantly hispanic (55%) and female (53%), with 40 percent of its population at the younger and older ends of the spectrum (20% <18 and 20% >65). National data on bicycle commuting reveals a disproportionate lack of representation by these populations: bicycle commuters are only 28% women, 18% of people of color (Asian, Hispanic/Latino, Black), and 28% younger and older (22% 5-15 and 6% >65) (*2018 Benchmarking Report: 2010 Census data, 2017 NHTS data*).

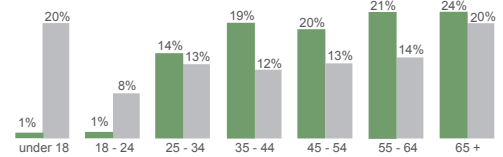
In terms of comfort level riding a bicycle in Santa Fe, over 78 percent of respondents could be classified as seasoned bicyclists, identifying themselves as 'Highly Confident' (17%) and 'Somewhat Confident' (61%). By contrast, national data on bicyclists estimates that these categories only account for about 13 percent of riders (4-7% 'Highly Confident', 5-9% 'Somewhat Confident'), with a majority (51-58%) 'Interested but Concerned' and a third (31-37%) 'Not Able or Interested.' (see *Bicycle User Types for a more in-depth description of these categories*)

Over 73 percent of respondents are frequent bike riders, with 51 percent riding 3 or more days per week and 21 percent riding 1-2 days per week. 28 percent are less frequent riders, riding 1-3 days per month (18%) and less than monthly (10%). Bicycle commuters accounted for 45 percent of respondents. The dominant reason for bicycling is for recreation and exercise (90%), followed by a concern for the environment (64%), and to interact socially with family and friends (54%).

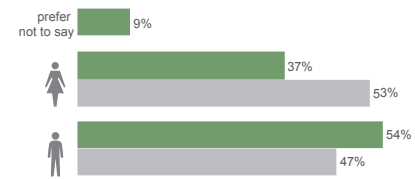
Nevertheless, the survey provides important insights into public outreach efforts that could be conducted to reach populations in the 'Interested but Concerned' bicyclist category as well as those more reflective of the Santa Fe demographic (including women, hispanic residents, disabled riders, and those 24 years old and younger). Outreach to occasional bicyclists would help provide input on how to address their concerns with infrastructure improvements.

SURVEY RESPONDENTS vs SANTA FE

Age



Gender



Ethnicity

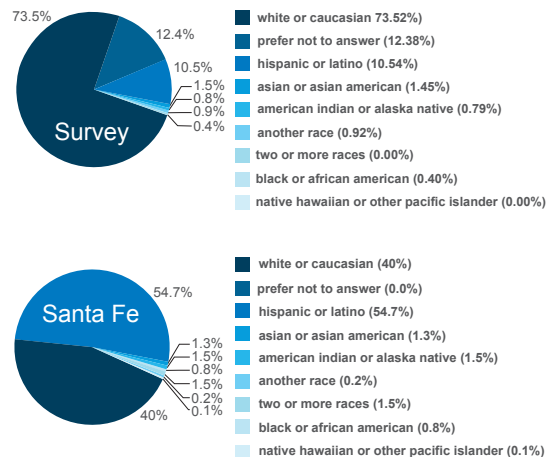


Figure 2.5: Age, Gender, and Ethnicity of Survey Respondents vs Santa Fe Demographics

Comfort Level

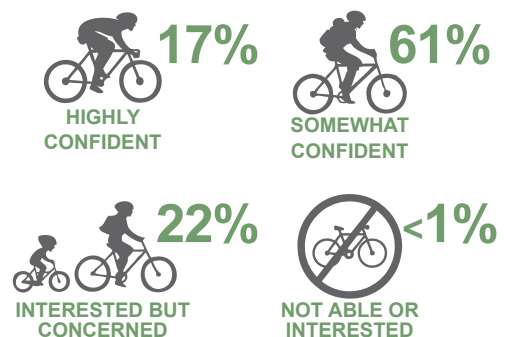


Figure 2.6: Comfort Level of Survey Respondents



KEY FINDINGS

Bicycle riders in Santa Fe indicate that the barriers and concerns to biking have to do primarily with motor vehicle driver behaviors (inattention, speeding) and secondarily with bicycle infrastructure design (intersection safety, proximity to cars, safe routes). The fact that Santa Fe has no protected or buffered bike lanes may contribute to these perceptions.

Input regarding efforts to improve bicycling in Santa Fe were rated for their perceived effectiveness. The most highly rated solutions included increased trail development, providing protected bike lanes and designated bicycle routes, as well as strong bicycle advocacy. Less effective initiatives, according to survey respondents, included bike safety education, wayfinding, and bicycle-focused clubs, events and programs.

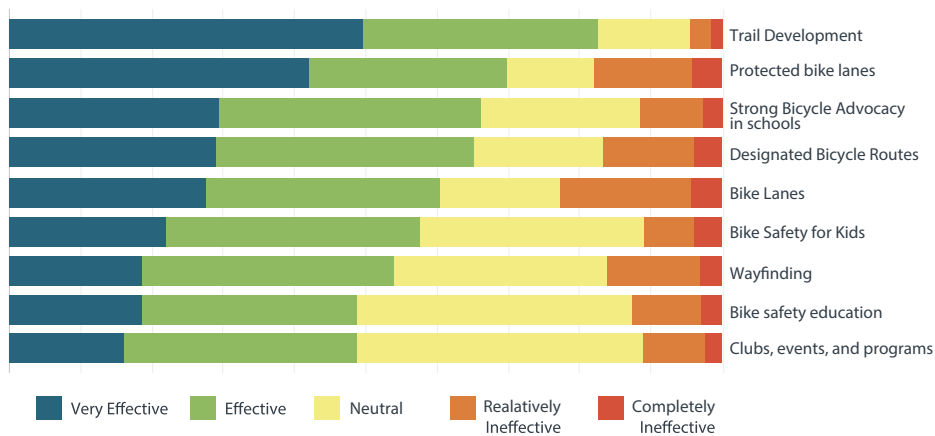


Figure 2.7: Effectiveness of Improvements to Santa Fe's Bicycle Environment

An open-ended question asking what would help most to improve biking in Santa Fe received 615 responses with a wide array of recommendations. The most frequently cited suggestions focused on infrastructure improvements, including better and more trails / paths, bike lanes / routes, protected bike lanes, and connectivity of the network. Additionally, better education for motorists, bicyclists, police, and designers was mentioned, along with enforcement of existing traffic laws. Providing safe intersection / roadway crossings and better, more boldly marked striping, signage, and wayfinding was also frequently cited (see Appendix B: Survey Results).

CONSIDERATIONS

Given survey respondent's frequency and comfort level with bicycling in Santa Fe, it is interesting to note the relatively high degree of concern about the existing bicycle infrastructure and attitudes toward motor vehicle driver behavior. This highlights the importance of not only making improvements to increase the comfort level of bicycling for existing riders, but also for accommodating and increasing 'Interested but Concerned' ridership. Conducting continued outreach to under-served populations will also help identify targeted improvements to encourage and facilitate bicycle riding.

Top Barriers and Concerns

68%



Image 2.20: Drivers are inattentive / distracted.

56%



Image 2.21: Concerned about speeding traffic.

57%



Image 2.22: Feels difficult or unsafe crossing major roads.

45%



Image 2.23: Uncomfortable riding close to moving cars.

43%



Image 2.24: No safe routes where I want to go.

Additional concerns included: too much automobile traffic (37%), weather (30%), no bike parking facilities (24%), no direct route to destination (21%), distance too far (8%), don't own a bike (6%), physically unable to ride a bike (2%).



BICYCLE POLICY RECOMMENDATIONS 3







INTRODUCTION

Approaches in planning for bicycles and pedestrians are often broken down into “Five E’s: Engineering, Education, Encouragement, Enforcement, and Evaluation. The Bicycle Master Plan recommends likewise following these “E’s”, as outlined by the League of American Bicyclists:

Figure 3.1: LAB Bicycle Friendly Community, Santa Fe Report Card scoring for the Five E’s, 2017.

CATEGORY SCORES

ENGINEERING <i>Bicycle network and connectivity</i>	3.0 /10
EDUCATION <i>Motorist awareness and bicycling skills</i>	2.4 /10
ENCOURAGEMENT <i>Mainstreaming bicycling culture</i>	6.5 /10
ENFORCEMENT <i>Promoting safety and protecting bicyclists' rights</i>	4.1 /10
EVALUATION & PLANNING <i>Setting targets and having a plan</i>	4.4 /10

ENGINEERING: Creating safe and convenient places to ride and park

The most visible and perhaps most tangible evidence of a great place for bicycling is the presence of infrastructure that welcomes and supports it. Survey after survey shows that the physical environment is a key determinant in whether people will get on a bike and ride. The most advanced Bicycle Friendly Communities and Bicycle Friendly Universities have a well-connected bicycling networks, consisting of quiet neighborhood streets, conventional and protected bike lanes, shared use trails, and policies to ensure connectivity and maintenance of these facilities. Secure, convenient and readily available bike parking is also a key component.

EDUCATION: Giving people of all ages and abilities the skills and confidence to ride

Offering a lot of ways for people to get the skills and confidence to ride is key to building great places for bicycling. At the community level this begins with bicycle-safety education being a routine part of public education. Communities, businesses and campuses can offer options for adults looking to improve their biking skills with everything from online tips, brown bag lunch presentations and in-depth on-bike training opportunities. The League’s Smart Cycling program, and more than 2,000 League Cycling Instructors around the country, are a great resource in delivering high quality education programs. It is also vital to make motorists and cyclists aware of their rights and responsibilities on the road through public education campaigns that promote the Share the Road message.

ENCOURAGEMENT: Creating a strong bike culture that welcomes and celebrates bicycling

Communities, businesses and universities play a critical role in encouraging people to ride by giving them a variety of opportunities and incentives to get on their bikes. This can be done through the celebration of National Bike Month and Bike to Work Day, producing community bike maps, route finding signage, bicycle-themed celebrations and rides and commuter challenges. Many places are investing in public bike sharing systems and internal fleets, which are a convenient, cost effective, and healthy way of encouraging people to make short trips by bike.

ENFORCEMENT: Ensuring safe roads for all users

Basic laws and regulations need to govern bicycling and the rules of the road to ensure safety for all road users. With a good set of laws and regulations in place that treat bicyclists equitably within the transportation system, the next key issue is enforcement. Law enforcement officers must understand these laws, know how to enforce them, and apply them equitably to ensure public safety. A good relationship between the bicycling community and law enforcement is essential; for example, a police representative can participate on a Bicycle Advisory Committee to increase awareness on both sides. Similarly, having more police officers on bikes helps increase understanding of cyclists’ issues. On college and university campuses, theft prevention is a huge undertaking. Having law enforcement partners and great policies in place is essential to promoting bicycling.

EVALUATION & PLANNING: Planning for bicycling as a safe and viable transportation option

Metrics are essential. A comprehensive bicycle master plan, in combination with dedicated funding and active citizen/organizational support is the foundation of a great bicycling community, business or university – indeed, progress without it is difficult. A successful plan focuses on developing a seamless cycling network that emphasizes short trip distances, multi-modal trips and is complemented by encouragement, education and enforcement programs to increase usage. A dedicated Bicycle Program Coordinator and an effective Bicycle Advisory Committee can play an important role in helping decision makers create, implement, and prioritize those bicycle programs and policies.



KEY POLICY RECOMMENDATIONS

The following key policy recommendations and steps, as refined by stakeholder groups, were prioritized through public input. These policy recommendations are intended to support the following goal:

Bicyclists are able to confidently, safely, and effectively ride bicycles within a shared transportation network where cyclists rights and responsibilities are understood, respected, and enforced.

1 EDUCATE MOTORISTS AND BICYCLISTS ABOUT SAFE OPERATING BEHAVIOR

This Plan recommends that the MPO and its member agencies work collaboratively with the local cycling community to:

- Integrate bicycle awareness into driver education curricula, including those produced by the Motor Vehicle Division (MVD), private driving schools, and defensive driving classes offered by public agencies and private entities.
- Pursue partnerships with LCIs, bicycle-mounted police, and others to create a speakers resource to speak with high school students, college students, and other young audiences.
- Provide training and training materials for special motorist groups such as Santa Fe Trails, RTD, and NM Park and Ride bus drivers.
- Partner with the MVD and the legal system to offer bicycle education to motorists who have had their driver's licenses revoked.
- Prepare and distribute printed materials educating motorists about safe driving around bikes.
- Generate and execute a media campaign (print, social, web, radio) to encourage bicycle-friendly driving, provide education on existing laws, and communicate bicycle-related issues to the general public.



Figure 3.2: A comprehensive motorist education campaign includes lessons, media campaigns, community outreach, and government entity coordination to address driver awareness.
source: Bike New York

2 CREATE INCENTIVES / REMOVE BARRIERS TO TRAVEL BY BIKE

This Plan recommends that the MPO and member agencies coordinate efforts to:

- Work with public and private employers to create services and incentives for staff who commute by bicycle, including providing employees with lockers, showers, and protected parking, and offering to reimburse costs of commuting by bicycle at least on par with support for commuting by other means.
- Allow developments to substitute bicycle provisions, including lanes, trails, parking, or bike share kiosks, in place of provisions otherwise required for motor vehicle parking.
- Encourage local businesses, government agencies, and higher-education institutions to pursue recognition from LAB as “Bicycle-Friendly Businesses” (BFBs) or “Bicycle-Friendly Universities.”
- Encourage local businesses and the bicycle-riding public to participate in the ‘Bicycle Benefits’ program to promote bicycling by providing bike parking, discounts, and rewards for riding.

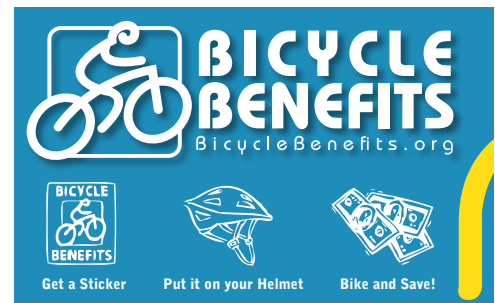


Figure 3.3: National and community programs may be implemented to encourage bicycle use on a large scale.
source: Bicycle Benefits.org



3 ESTABLISH A DISTRICT-WIDE SAFE ROUTES TO SCHOOL PROGRAM

This plan recommends that the MPO work with member agencies, the cycling community, and Santa Fe Public Schools to:

- Secure active involvement of Santa Fe Public School (SFPS) District.
- Work toward district-wide involvement in annual Walk-and-Roll-to-School Day (held each October), National Bike-to-School Day (to be held each May), and other promotional opportunities.
- Advance SFPS policies that favor walking and bicycling to school.
- Enlist support of the public health community (e.g. through NMDOH's Healthier Weight Coalition and the NM Helmets for Kids Coalition), and private foundations for development of local SRTS activities.
- Develop and promote trail alignments and other non-motorized routes as part of broader SRTS programs that align with the bikeway system.



Image 3.1: Chaparral Elementary's Walk-and-Roll to School Day aims to reduce vehicular congestion, promote activity, and encourage the future development of safe routes to the school.

4 SUPPORT BICYCLE EDUCATION FOR CHILDREN AND ADULTS

This Plan recommends that the MPO, the City and County of Santa Fe, the State of New Mexico, educational institutions, public health and safety advocates, and the local cycling community work together to:

- Establish formal programs for pedestrian and bicycle education for children and adults by engaging local certified League Cycling Instructors (LCIs) and other local groups active in bicycle education to lead programs (eg. City Recreation Department, NMDOT resources).
- Offer bicycle education to youth, college students, new residents, new employees, lower-income groups, and other individuals that may be embarking on bicycle transportation for the first time in our area.
- Provide bicycle education through LCIs and others to local government staff, elected officials and committee members, law enforcement, and others who plan for bikes, design for bikes, enforce bicycle laws, and/or use bicycles in their work.
- Link bicycle education with recreational activities, events, and other opportunities.
- Provide guidance on trail etiquette, particularly on how to be safe and courteous in sharing trails with other users.
- Promote helmet use among children and adults; work with the NM Helmets for Kids Coalition and local partners to ensure that helmets are available for children and youths whose families cannot afford a helmet.



Image 3.2: Utilize national organizations, government agencies, and local non profits to support bike safety education.



Image 3.3: Helmet give away programs reduce risk of concussion and lay the foundation for a lifetime of bicycle safety.



5 ENFORCE TRAFFIC LAWS RELATING TO BICYCLING

This Plan proposes that the MPO work with member agencies, the cycling community, and law enforcement to:

- Support training of City, County and State law enforcement on the City's Bicycle Code, other traffic laws and enforcement as they relate to bicycles, and crash reporting procedures for bicyclists and pedestrians.
- Support officer training of Santa Fe County Sheriff, NM State Police, and Tesuque Tribal Police on bicycle laws in effect outside the City of Santa Fe.
- Develop programs, possibly in partnership with the bicycle industry, the public health community, and local LCIs, that allow law enforcement officers to distribute helmets, lights, other safety equipment, and educational materials to bicyclists who appear to need them.



Image 3.4: Knowledge and enforcement of bicycle related laws should be supplemented with community outreach and officer involvement.

6 ESTABLISH A BIKE-SHARING PROGRAM AS AN EXTENSION OF PUBLIC TRANSIT SERVICES

This Plan recommends that the MPO, the City, and partners continue to explore opportunities to establish organized bike sharing in the Santa Fe area through a viable number of standard kiosks, closely linked to and offered as an extension of other transit services.

- Take a proactive approach towards bike-share and micro-mobility so policies direct the operation of a program that best fits the needs, goals, and requirements of the City.
- Conduct a bike-share feasibility analysis to evaluate need, cost / benefit analysis, recommended City policies and regulations, access to trip data, and determine which bike-share option is more suitable.
- Address issues of equity and barriers to entry in advance of initiating a bike-share system so the program does not just serve downtown, denser populated areas along the bicycle network, but also is accessible to transportation-challenged individuals and those farther away from the center of town.
- Consider partnering with Rio Metro Regional Transit District to expand their existing PACE Bike-Share Program into the Santa Fe metropolitan area.



Image 3.5: Bike share programs benefit local residents as well as out of town visitors looking for a convenient ride.

Bike-share is expanding across the country and in recent years, it has emphasized flexibility and lower cost (and barrier to entry). In other cities, bike share programs implemented in conjunction with bicycle facilities for 'Interested but Concerned' riders have correlated with large increases in bicycle mode share.



7 CONTINUE TO PROMOTE AND CELEBRATE BICYCLES AND BICYCLE TRANSPORTATION IN THE SANTA FE AREA

This plan recommends that the MPO, partner agencies, and the local cycling community:

- Continue to support promotional activities such as Bike-to-Work Week and Walk and Roll to School Day.
- Continue to support community bicycle rides; explore opportunities to create new rides tied in with other areas of interest (e.g. art, history).
- Promote the use of bicycles by tour groups in downtown Santa Fe and environs.
- Promote bicycling as active transportation in collaboration with public health partners and through recreational bicycling events and other public events. Use bike valet service or bike corrals at large outdoor events both to facilitate and to visibly promote bicycling.
- Promote and enhance the Santa Fe Bikeways and Trails Map.
- Develop useful Bike Route guidance signage; establish an ongoing program to provide guidance for bicyclists and pedestrians.
- Continue to update “apps” with local bikeway information.
- Promote Bike Tourism in and throughout Santa Fe:
 - Work with the Visitor’s Center and Convention Bureau, the private sector, and regional and national organizations such as Adventure Cycling Association to market Santa Fe as an “active vacation destination.”
 - Develop special maps and other marketing materials to showcase Santa Fe’s bicycling resources to visitors.
 - Promote development of state-wide on-road and off-road facilities, including State Bike Route 9, USBR 66, and the Rio Grande Trail.

8 ENCOURAGE AND FACILITATE THE USE OF BICYCLES BY PUBLIC AGENCY STAFF AND IN THE PRIVATE SECTOR

This Plan recommends that the MPO work with public agencies and other partners to:

- Recognize the bicycle as a legitimate, safe, efficient, and desirable form of transportation for official duties.
- Promote increased official use of bicycles by law enforcement, emergency first responders, parking enforcement, parks maintenance staff, building inspectors, security personnel, and others.
- Promote use of bike share systems by staff of public agencies and large private employers.
- Provide incentives, or remove disincentives, to private businesses that use bicycles, including but not limited to delivery, pedicab, and security services.
- Restrict use of public agency or contractor motor vehicles on multi-use trails.



Image 3.6: Advantages of first responders on bicycles include increased public visibility / communication, improved access to trails and parks, and additional mobility in congested public areas.



EDUCATION

The education of bicyclists, motorists, elected officials, public servants, and the general public about bicycle transportation is a critical component of this Bicycle Master Plan, as are efforts to encourage individuals, businesses, and public agencies to recognize the value of bicycle transportation and to use bicycles for transportation needs. Of all the E’s evaluated as part of Bicycle Friendly Community ratings, education is the category most in need of improvement in Santa Fe.

BICYCLE EDUCATION

The primary disseminators of bicycle education in Santa Fe are five active trained and LAB certified League Cycling Instructors (LCIs). In coordination with Bike Santa Fe, they organize training sessions and link with local organizations to bring bicycle education to adults as well as children through “Smart Cycling” classes. Additional instructors are being trained in 2019 to reach a goal of 12 certified instructors statewide. The number of graduates of the ‘Smart Cycling’ course has steadily increased, with 26 graduates in 2018.

Currently no organized bicycle education exists for children and adolescents as part of the curriculum in local public schools with the exception of two high schools, the Masters Program and Santa Fe Indian School, where Bike Santa Fe conducts bicycle education classes. Instead, bicycle education for children and adolescents occurs sporadically through safe cycling skills and ‘learn to ride’ classes for children and at bike clinics and rodeos as part of larger community events. Mountain biking skills for children are introduced at the annual ‘Take a Kid Mountain Biking Day’ in October, and encouraged through the local Santa Fe Fat Tire Society’s ‘Atalaya Flyers’ program, which conducts weekly rides for young riders and organizes Santa Fe’s NICA Composite Team for races in Colorado.

The health community has increased its engagement in bicycle education for children and families with a focus on safety. Staff of La Familia Medical Center has worked with area schools to educate children and a Christus St. Vincent Hospital nurse has long provided helmet distribution and helmet fittings at public events. The City’s Parks + Recreation Department has been active in assisting private partners, such as Christus St. Vincent Hospital, and public partners, such as the Santa Fe Police Dept., at public events with helmet giveaways, including professional fittings, and “bike rodeos” where children can learn bicycling skills from a trained instructor on a closed course. The City, County and the MPO also distribute bicycle safety information through the Bikeways and Trails Map, whose reverse side includes a variety of written and illustrated tips for safe and effective use of the bicycle.

Non-profit groups, including Bike Santa Fe and the Chainbreaker Collective, educate community members on safe and effective cycling as well as on how to build and maintain bicycles as affordable transportation.



Image 3.7: Local Certified League Instructor training course and Smart Cycling classes are offered through Bike Santa Fe



Image 3.8: Atalaya Flyers bicycle education and NICA team racing program.

Smart Cycling

Completion Rates for Santa Fe courses:

2016	data not available
2017	data not available
2018	26
2019	12 *

(* number as of May 2019; more courses scheduled for June, July, and September 2019)



MOTORIST EDUCATION

The Bicycle Coalition of New Mexico (BCNM) and Bike Santa Fe have worked to raise awareness of bicycles among motorists through campaigns such as “Give Bicyclists Five Feet” slogan boards placed throughout the city. Another form of raising all highway users’ awareness of bicycles, and the need to safely share the road, has been through the installation of “ghost bikes” to commemorate where bicyclist fatalities have occurred in New Mexico. These white ‘ghost bike’ markers, an idea spearheaded by the Duke City Wheelmen Foundation based in Albuquerque, are protected under state law relating to roadside descansos (memorial shrines). Two bicyclists who were killed on Santa Fe area roadways in years past were memorialized through ghost bikes in 2010-11.

Local LCIs may be available to discuss safe operation of motor vehicles around bicyclists with special audiences such as transit operators, police, public agency staff, teenagers, or driving students. The City has expressed interest in receiving this kind of training for transit operators in Santa Fe. Beginning in June 2011, the New Mexico Motor Vehicle Division (MVD) Handbook included a section on sharing the road with bicycles and safe driving around bicyclists as a component of driver education. The New Mexico driver’s license tests also includes questions about interactions with bicyclists.

In response to the apparent lack of clarity of local ‘Share the Road’ signs, local bicycle advocates lobbied for “May Use Full Lane” signs within Santa Fe City limits. Approved in 2018, the new signs will be accompanied by additional signs outlining the minimum five feet to pass requirement as dictated by city ordinance. Implementation and an educational campaign is anticipated to occur beginning in 2019.

SAFE ROUTES TO SCHOOL

“Safe Routes to School” (SRTS) efforts have been primarily school-based, focusing on participation in Walk n Roll to School Day (October) and National Bike to School Day (May). Since 2018, Santa Fe Public Schools, through its Sustainability Program, has taken a stronger interest in promoting walking and bicycling to school. At Chaparral Elementary School, for example, SRTS advocates conduct monthly ‘Walk and Roll to School’ days and have initiated an “SRTS Action Plan.” This plan includes data on the number of children walking and bicycling to school, information on educational and promotional efforts, analysis of walking and cycling conditions on campus and in the surrounding neighborhood, and proposed improvements. In 2019, Santa Fe Public Schools received TAP funds for two years to develop a district-wide SRTS program.



Figure 3.4: NMDOT has an ongoing media campaign with bus wraparounds, print, and PSAs to educate all users of the roads to look.
Source: NMDOT, Look For Me Campaign.

Safe Routes To Schools

Key Elements include:

- City transportation planning and engineering approaches that address built environment needs and ensure safe conditions for walking and biking
- Tools, guides, and resources to encourage participation in safe and active transportation
- Educational activities for students, parents, and community members about rules of the road and traffic safety
- Enforcement approaches to encourage safety and reduce unsafe behaviors among drivers, bicyclists, and pedestrians
- Evaluation activities to monitor and measure the impact of these programs.



Image 3.9: A Safe Routes to School Program has the potential to positively impact thousands to Santa Fe students.



ENCOURAGEMENT

Santa Fe is home to a dedicated and involved cycling community represented by individuals in public agencies, non-profit organizations, private businesses, and schools. These advocates actively promote bicycling through organized events and group rides, as well as by making bicycling more accessible with initiatives such as bike giveaways, maintenance classes, and other programs. This culture of bicycle encouragement has been recognized by the League of American Bicyclists.

PROMOTIONAL EVENTS

Bike-to-Work Week (www.biketoworksantafe.com) celebrations have been a major venue for education and encouragement of bicycling each May since the 1990s. As the City has taken a much smaller role in these events, the Community has stepped up. In 2018, the diverse planning group renamed Bike-To-Work Santa Fe to simply Santa Fe Bike Week and continues to plan and coordinate events for the third week of May each year. Along with the Santa Fe Metropolitan Planning Organization (MPO), planning for this event consists representatives from a growing number of public agencies, non-profits, and businesses, including but not limited to: Bicycle Technologies International (BTI), Santa Fe Trails - Transit, Rio Metro Regional Transit District, Santa Fe County Sustainability Office, NMDOT, Bike Santa Fe, Santa Fe Conservation Trust, the Pedal Queens, Seniors on Bikes (SOBs), and the Chainbreaker Collective. All members of the community are encouraged to participate and support the planning efforts for such events.

Bicycle transportation has been showcased as part of annual National Dump the Pump Day events since 2006. Other opportunities to celebrate the bicycle in Santa Fe have included National Trails Day (1st Saturday in June), Walk and Roll to School Day (held each October), and especially whenever new trail segments or bike lanes are inaugurated.

Another form of promoting bicycling is through organized group rides and events. Various cycling organizations hold recreational / charity rides or races in the Santa Fe area, including the Pedal Queens, SOBs, the New Mexico Touring Society, BTI, the Santa Fe Century Committee, Velo New Mexico, and various bicycle racing groups. The City's Recreation Department also organizes various recreational events involving bicycles, such as the Santa Fe Triathlon, and co-sponsors many more, including La Tierra Trails "Trail Jam" and the Santa Fe Century.

Long part of the bicycling scene in Santa Fe, the number, size, and popularity of these events have steadily grown. The Santa Fe Century, initiated in 1985, brings in thousands of riders. The Outside Bike & Brew, founded in 2014, showcases cycling in and around Santa Fe and celebrates the burgeoning craft beer industry. Beginning in 2019, the GFNY North American Championship (Gran Fondo) race will be hosted in Santa Fe.



Image 3.10: the annual Santa Fe Century, held the 3rd week in May, is one of the largest local bicycle races that in 2012 attracted over 2,900 riders.



Image 3.11: Chainbreaker Collective's annual Posolada event, where they distribute free bicycles for children and offer instruction on bicycle maintenance.



Image 3.12: Annual Bike to Work Week events offer venues across town to encourage bicycling. The kid's goathead pinata is part of this event.



Image 3.13: A free bicycle valet program is offered at area major events to facilitate bicycling and minimize congestion.



Transportation-oriented rides - specifically intended to increase knowledge of local bikeways, to introduce new or underrepresented riders to comfortable routes, and to inform and foster dialog on bikeway planning - include Bike-to-Work Week convoys organized by the City and other partners and “Community Cruises”. Organized and led by staff from the Santa Fe Conservation Trust, a local non-profit, the popular “Community Cruise” bicycle rides occur up to a half-dozen times or more throughout the year and introduce families, seniors, women and non-English speakers, among others, to safe trails and routes around town. These rides incorporate various cultural and environmental themes (e.g., Rail History, Tour de Mural, Acequia and River Cruise) as pretext to help participants experience and better understand Santa Fe’s mixed system of urban trails and on-road bikeways as well as the planning processes underway to continue to improve it.

Various other formal and informal group rides combine fun and education for cyclists and would-be cyclists. The ‘Loops: Santa Fe’ (@LoopsSantaFe) rides are informal fun rides each Monday evening that originate at the Santa Fe Plaza. Additional themed rides are organized by Loops such as the Full Moon Superhero Bike Ride and the annual Nearly Nude Bike Ride.

EQUITY AND ACCESS

Developing a bicycle network for all ages and abilities while prioritizing short trips is the first step in improving equity and access to bicycle transportation. A number of non-profit organizations in Santa Fe work to increase equitable access and promote bicycle transportation. The Chainbreaker Collective, an economic and environmental justice organization working to expand access to affordable transportation, offers classes in bicycle maintenance and conducts annual bike distributions for kids. Santa Fe Trails offers a bus pass rebate program with the purchase of a bicycle / bike gear, or through volunteer services in return for a bicycle.

For individuals not accustomed to bicycling, the Bike Buddies program is offered at no cost through the Santa Fe County Sustainability Office as a peer-to-peer service to guide a resident interested in bicycle commuting in-the-field along the best routes, outline safety recommendations, and assist with basic maintenance.

Local educational institutions such as St. John’s College offer a bicycle loan program to students and have a maintenance shop on campus.

A free and secure bike valet program, developed by Bike Santa Fe, enables car-free access to many popular and crowded local events, including the International Folk Art Market, Pancakes on the Plaza, Zozobra, and Music-on-the-Hill. This program has grown over the past few years as a more convenient alternative to finding adjacent parking or parking remotely.

LAB RECOGNITION BICYCLE FRIENDLY COMMUNITY

Community Rating:	
SANTA FE, NM	SILVER BFC
Bicycle Friendly Businesses:	
1 - BTI	PLATINUM
Bicycle Friendly Universities:	
0	
Bicycle Advocacy Groups:	
BIKE SANTA FE	
Local Bicycling Clubs:	
SENIORS ON BIKES	
League Cycling Instructors:	
6 Certified Instructors	

BICYCLE SHOPS & RENTALS

Mellow Velo Bicycles
The Broken Spoke
Rob and Charlie’s
New Mexico Bike & Sport
Sirius Cycles
Santa Fe REI
ECOmotive
Average of 1 bicycle retail shop per 15,000 residents

BIKE CLUBS

Pedal Queens
SOBs - Santa Fe Seniors on Bikes
Bike Santa Fe
Santa Fe Fat Tire Society
Santa Fe Road Riders
Loops



Image 3.14: Regular ‘Community Cruises’ are led by SFCT staff to introduce citizens to the trail system.



ENFORCEMENT

Beginning with basic laws and regulations that outline the rules of the road and safety for all road users, the next key issue is enforcement. Law enforcement officers must understand applicable laws, know how to enforce them, and apply them equitably. New Mexican bicycling advocates continue to pursue additional laws for more equitable treatment of bicyclists within the transportation system.

STATE LAW

As throughout the United States, bicyclists have for the most part the same rights and responsibilities as motorists on streets and highways in the Santa Fe MPO area. Most traffic law relating to bicycling comes from the Uniform Vehicle Code as adopted by the State of New Mexico, with some specific state revisions. Bicycling advocates have endeavored to revise or establish new state laws relating to bicycling, including five-feet-to-pass and increased penalties for distracted driving.

Under the state Child Helmet Safety Law, children and youth under 18 years of age are required to wear a helmet when using bicycles, tricycles, skateboards, scooters, or skates on public property.

LOCAL LAW

Within the City, an amendment to the City's Uniform Traffic Ordinance was approved in 2011 that updated a number of laws relating to bicyclists. Among the adopted provisions were: a "five-feet-to-pass" law, prohibition of driving a motor vehicle on a bike lane or path except under certain conditions, prohibition of harassment of bicyclists by motorists, inclusion of helmet-mounted lights to satisfy lighting requirements, a provision permitting the use of the right hand to signal a right turn, and prohibition of altering serial numbers on bike frames. The amendment also requires bicyclists to obey any prohibitions of bicycle traffic on roadways, including roadways along which cyclists may be required to ride on sidewalks or sidepaths.

Recent efforts by advocates include a resolution to replace "Share the Road" advisory signs with regulatory "May Use Full Lane" signs, which was adopted by City Council late 2018. This communicates bicyclists' rights to position themselves within the roadway or within a designated bicycle lane.

Enforcement in Santa Fe is conducted on bicycles by the Bike Team, which includes five full-time bicycle officers and a sergeant augmented by another 17 auxiliary bicycle officers. The Bike Team patrols regularly and enforces downtown areas with large pedestrian traffic as well as open space and trails throughout the city. Recent staff shortages have reduced full-time bike patrol staff down to two. Bike Team training includes basic NM Police Academy training and IPMBA (International Police Mountain Bike Association) police training.

FIVE FEET TO PASS

In 2019, HB 192 was introduced in the New Mexico Legislative session which stated "that a motorist must provide at least a five-foot distance when passing a bicyclist". It also allowed the motorist to cross a double yellow line to meet the clearance requirement, provided there was no oncoming vehicles in the opposing lane, and established a penalty for non-compliance. Although the bill was approved by both House and Senate, advocates urged the Governor to veto the bill due to provisions of an amendment that was at odds with the equitable treatment of bicycles.

It is anticipated that momentum exists to pass this legislation in a manner acceptable to advocates in the near future.



Recently approved signage in Santa Fe reinforces the state law designating bicycles as vehicles. These new signs will replace the previous yellow "Share the Road" signs.

Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle, except as to the special regulations within Sections 66-3-701 through 66-3-707 NMSA 1978.



EVALUATION + PLANNING

Beginning with a comprehensive Bicycle Master Plan, planning for bicycles is coordinated with the MPO and implemented through the City of Santa Fe's Public Works Department Engineering Division and Santa Fe County's Planning Department. In the absence of a designated 'Bicycle Planning Coordinator', MPO staff provides upper level plan review and serves as a spokesperson to ensure goals of the plan are advanced. Dedicated local advocates, in addition to the City's Bicycle and Trails Advisory Committee, play a large role in supporting bicycle improvements and encouragement.

The local 'Santa Fe Bike Summit' meeting, convened for the first time in early 2019, provided a forum for bicycle groups, advocates, non-profits, public agencies, and local bicycle businesses to introduce their initiatives and events. The intention of the summit was to increase awareness within the bicycle community of current initiatives and to better coordinate efforts around bicycle planning and advocacy. It is intended to be an on-going forum that meets periodically.

BICYCLE + TRAILS ADVISORY COMMITTEE

The City of Santa Fe's Bicycle and Trails Advisory Committee (BTAC) meets monthly and advises city staff and elected officials on bicycle-related infrastructure projects and planning that affects recommendations about bike planning and projects. BTAC members attend community and neighborhood meetings to advocate for bicycle-related planning. Comprised of up to nine members, BTAC's membership is geographically diverse and represents all social and economic groups.

METRICS

Metrics that track progress are essential to ensuring that goals of the plan are being met. Beginning with the 2012 BMP, a set of indicators were established to track facilities and programs as well as education, awareness and behaviors, among other items (see *Chapter 1: Progress Assessment*). Data being tracked currently includes: BFC ratings, type and length of bicycle facilities, bicycle commuting mode share, crash data / analysis, bicycles on transit, trail use, and bicycle use by law enforcement. Measures and best practices need to be put in place to establish baselines and track data for information on trail use, commuting, as well as other information requested as part of regular Bicycle Friendly Community applications. Advancing bicycling relies on the continued collection of data to track progress in these areas.

FUNDING

Dedicated funding to design and implement projects, in combination with the BMP and active citizen / organizational support, is fundamental to realizing a great bicycling community. Funding sources are outlined in Chapter 4.

ENGINEERING

Engineering and design is a critical element of the Plan, as reflected in Chapter 4: Implementation. The proper design and implementation of bike facilities encourages bicycling, reduces conflicts, and invites proper behavior. A Design Toolkit, outlined in Appendix A, provides guidance on bicycle facility designs for typical Santa Fe conditions in both urban and rural contexts. In addition, national publication should be used to guide designs, including:

- AASHTO Guide for the Design of Bicycle Facilities,
- NACTO Urban Bikeway Design Guide, and
- FHWA Separated Bike Lane Planning and Design Guide



IMPLEMENTATION PLAN 4





IMPLEMENTATION

Over the past seven years, Santa Fe has expanded and improved the extent of the bicycle network and implemented a number of the policies recommended in the 2012 Bicycle Master Plan. A strategic list of projects, organized into ‘Phase A, B, and C Projects,’ is laid out in the 2019 plan to guide continued progress toward meeting goals outlined in the plan. Implementing the recommendations of this plan will require coordination between a variety of agency representatives, advocates, non-profit organizations, and special interest groups within the Santa Fe metropolitan area. The implementation plan encourages publicizing and disseminating the plan recommendations to key public and private partners responsible for various facets of implementation. While the Santa Fe MPO assumes primary responsibility for advancing the BMP recommendations, partner agencies play a large role to help realize on-the-ground improvements to bicycle facilities. This Chapter outlines various agency responsibilities, proposes phased project implementation lists, and suggests potential funding mechanisms for implementation.

ADOPT THE PLAN

Adopting the plan is the first step towards implementation and represents MPO member agency commitment to bicycling. It also provides guidance for future capital investments and transportation decisions. Upon adoption by the Transportation Policy Board, MPO member agencies should pursue a formal adoption process to incorporate this plan as a supplemental document supporting existing agency comprehensive plans. This will add legitimacy to the plan recommendations and help facilitate funding opportunities that require potential projects to be part of an adopted plan.

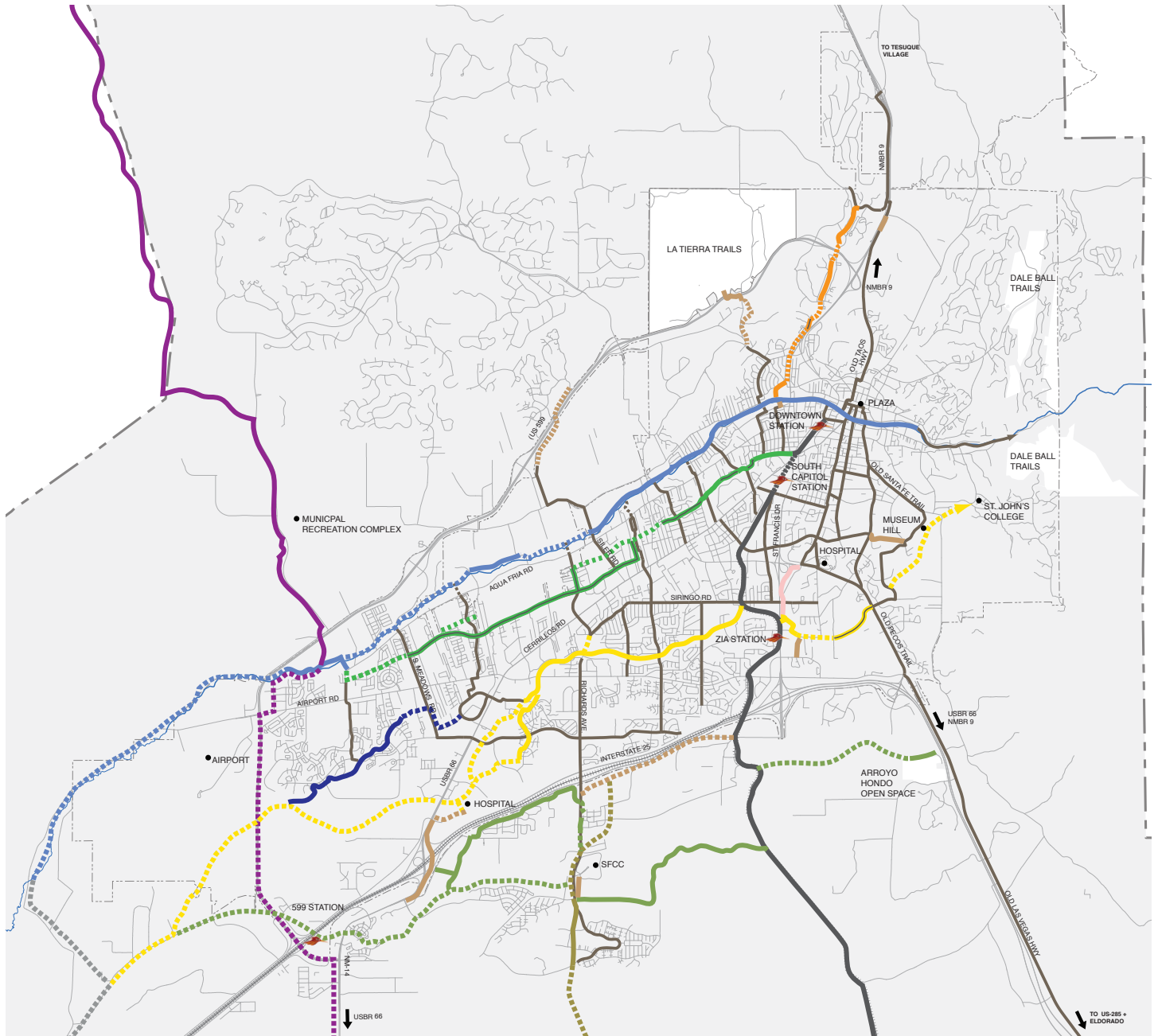
In conjunction with plan adoption, progress towards implementation should be tracked. Developing accountability by having MPO staff report on implementation progress on a regular basis would help reinforce the plan components. MPO staff should develop a work plan with appropriate agency staff including specific tasks and ways to measure progress toward accomplishing goals under the BMP. Every activity that represents progress toward the BMP goals should be closely documented for periodic reporting as well as measurement of overall progress.

CREATE BICYCLE COORDINATOR POSITIONS

The City of Santa Fe should establish a Bicycle-Pedestrian Coordinator position responsible for overseeing the diverse range of bicycling / pedestrian activities to support inter-agency coordination, enhance inter-departmental coordination, and streamline communications with community residents, BTAC, stakeholders, and the media. Included in the responsibilities will be educating elected officials and agency staff, “marketing” the BMP and providing regular workforce training. Training for local, tribal, and state government staff may range from a brief, general overview of the BMP to more intensive “in-service” training for members of key agency divisions.



Map 4.1: Santa Fe Metropolitan Area - VISION 2040 Bicycle Network



LEGEND

- Santa Fe Metropolitan Planning Area
- City of Santa Fe
- Santa Fe River
- Railroad Tracks
- TRAIL PLANNING CORRIDORS (LONG TERM PLANS)**
 - ATSF Regional Trail
 - NM Central Regional Trail
 - Bonanza Creek / Madrid Spur / NM14
 - Rio Grande Trail
- ON ROAD BICYCLE NETWORK**
 - Primary Network Connections
 - Primary Network Connections, Proposed

TRAILS KEY

- Existing Trail
- Existing Trail Route, On Road
- Planned Trail
- Connector Trail
- Acequia Trail
- Arroyo Chamiso Trail
- Arroyo Hondo Trail
- Cañada Rincon Trail
- El Camino Real Trail / Rio Grade Trail
- Santa Fe Rail Trail
- Santa Fe River Trail
- St. Francis Trail
- Tierra Contenta Trails

Note: Priority network alignments illustrated are diagrammatic and for planning purposes only. Actual alignments may be adjusted according to available easements, property acquisition, and other planning considerations.

Source Data: Santa Fe County, "Open Space, Trails and Parks Strategic Management Plan trail planning corridors;" Santa Fe MPO, "Bikeways, Bike Lanes, Trails, On Road and Proposed Trails / Future Trail Connections derived from Bikeways;" and Alta Planning, "2019: Rio Grande Trail preferred trail alignment."





BICYCLE DESIGN TOOLKIT

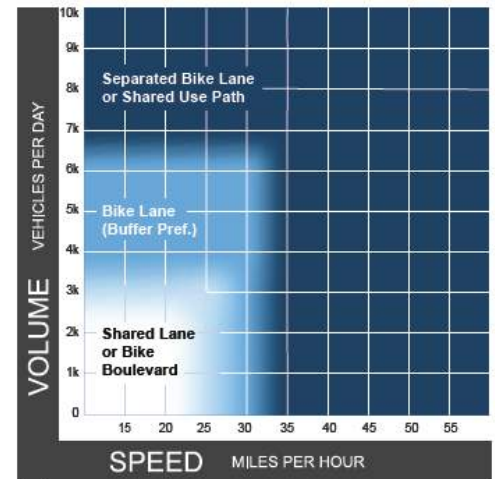
The development of the Santa Fe Metropolitan Planning Organization Bicycle Master Plan included defining guidelines for bicycle network planning, design, and implementation in a design toolkit—provided as *Appendix A | Toolkit*—for the Santa Fe Metropolitan region of New Mexico. While the toolkit is not intended to be a detailed design manual to address every design challenge on the ground, it does provide flexible guidance to encourage context-sensitive designs that incorporate the needs of all users.

The design toolkit may be endorsed by member agencies of the Santa Fe Metropolitan Planning Organization and can guide the future development of decision-making policies for bicycle network implementation. One of the goals of the guide is to provide consistent design standards for bicycle facilities across the region. While the design toolkit is not regulatory, its recommendations reflect national best practices for the planning and design of bicycle facilities that accommodate the Interested but Concerned bicyclists who represent a majority of potential bicycle riders. Successful bicycle facility implementation will require interjurisdictional coordination, dedicated funding sources, and adequate staffing.

A primary element of the design toolkit is its guidance for selecting bicycle facilities to create bikeways and bikeway networks for people of all ages and abilities. All ages and abilities bikeways accommodate bicycle travel by the Interested but Concerned bicyclist and are planned and designed to mitigate the negative impact of traffic volumes and traffic speeds on bicyclist safety and comfort. While other factors—such as land use context, driveway frequency, and the mix of heavy vehicles—should influence bicycle facility selection, traffic volumes and traffic speeds are the most important. Figure 4.1 presents bicycle facility selection guidance for urban and suburban contexts, while Figure 4.2 presents bicycle facility selection guidance for rural contexts. Figure 4.2 emphasizes designing for the Somewhat Confident bicyclist. Shared use paths are the preferred bicycle facility when designing for the Interested but Concerned bicyclist.

Toolkit I Facility Selection by Traffic Speed and Volume

Figure 4.1: Urban / Suburban Context - Preferred Bikeway Type

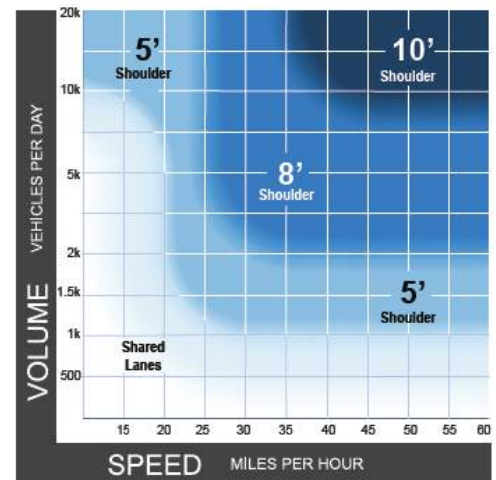


Notes

- 1 Chart assumes operating speeds are similar to posted speeds. If they differ, use operating speed rather than posted speed.
- 2 Advisory bike lanes may be an option where traffic volume is <3K ADT.
- 3 See Section 4.4 for a discussion of alternatives if the preferred bikeway type is not feasible.

Source: https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf

Figure 4.2: Rural Context - Preferred Shoulder Width



Notes

- 1 This chart assumes the project involves reconstruction or retrofit in constrained conditions. For new construction, follow recommended shoulder widths in the AASHTO Green Book.
- 2 A separated shared use pathway is a suitable alternative to providing paved shoulders.
- 3 Chart assumes operating speeds are similar to posted speeds. If they differ, use operating speed rather than posted speed.
- 4 If the percentage of heavy vehicles is greater than 10%, consider providing a wider shoulder or a separated pathway.

Source: https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf



The Santa Fe Metropolitan Bicycle Master Plan Design Toolkit comprises six major sections:

- The **Introduction** includes a discussion of the Interested but Concerned bicyclist, which represents a little over half of all Americans. Interested but Concerned bicyclists are people who would like to bicycle more for transportation and recreation but don't because of concerns around safety.
- The design toolkit describes **Linear Bicycle Facilities** (such as shared use paths, separated bike lanes, bicycle boulevards, paved shoulders, etc.); provides guidance for facility selection based on traffic volumes, traffic speeds, and land use contexts; and lists considerations for planning and designing these facilities.
- The toolkit's **Trail Crossing Treatments** section covers pavement markings, signs, and signals at trail intersections with roadways to enhance crossing safety. The section also presents guidance for rail-with-trail crossings of roadways.
- Similarly, the **Bikeway Intersection Treatments** section discusses pavement markings, signs, and signals for safely and comfortably facilitating the movement of bicyclists through street intersections. Additionally, the section includes guidance for protected intersection corner islands and rail crossings.
- The design toolkit recommends **Context-Specific Considerations** for transit stations and stops, schools, and trailheads, including unique design at bus stops, planning for children on bicycles at schools, and amenities at trailheads.
- Finally, the **Implementation** section explains strategies for constructing bicycle facilities, including installation as demonstration projects, leveraging annual street resurfacing, and incorporation into new roadway construction.

Toolkit I Bicycle Facility Types (examples)

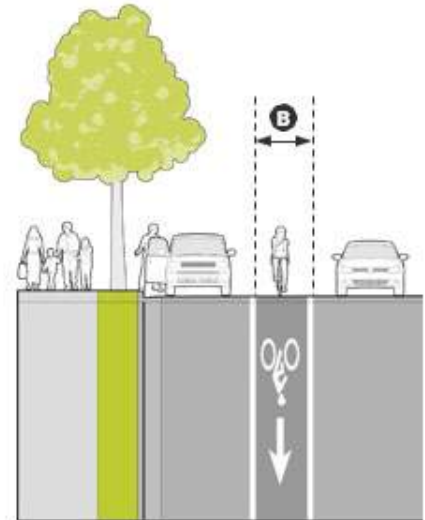


Figure 4.3: Bike Lane Adjacent to Parking
Source: Toole Design

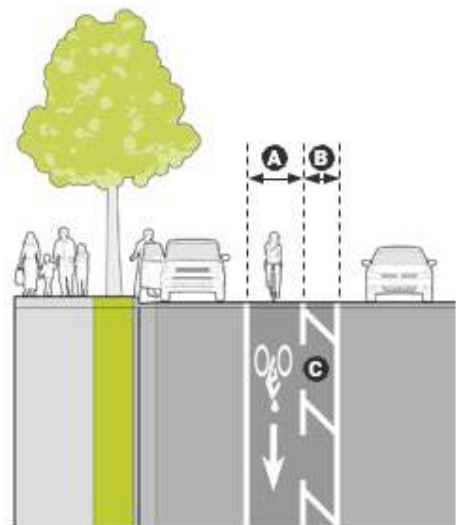


Figure 4.4: Buffered Bike Lane Adjacent to Parking
Source: Toole Design

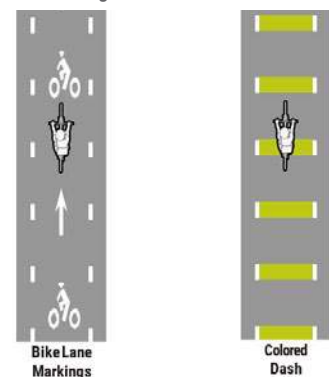


Figure 4.5: Bicycle Lane Pavement Markings
Source: Toole Design



IMPLEMENTATION STEPS

The following 'Implementation Steps' and supporting strategies, as refined by stakeholder groups, were prioritized through public input. These steps are intended to support the following goal:

Develop a complete bicycle network that is integrated, effective, and improves on existing bicycle facilities.

1 COMPLETE CRITICAL NETWORK CONNECTIONS FOR BICYCLISTS AND PEDESTRIANS

Design and construct bicycle network improvements to complete the primary network for all ages and abilities. Critical connections are identified as specific priorities in this plan while other connections call for site-specific analysis for private and public projects under consideration.

The MPO will work with member agencies to pursue the following strategies to create connectivity:

- Secure trail easements across public and private lands to complete critical network connections.
- Continue to strengthen the City's Chapter 14 code requirements and develop comparable County regulations to require network connectivity and bicycle-pedestrian access on trails and neighborhood streets.
- Use parks and open space to facilitate through-access for bicyclists and pedestrians. Routes dedicated for emergency access and/or maintenance access to neighborhoods and public facilities should routinely accommodate pedestrian and bicycle use as well.
- Connect multi-use trails directly to adjacent land uses (particularly retail centers, schools, neighborhoods, parks and other public facilities), as well as to other trails and roads. These connections can be included in trail design and construction and/or negotiated with private developers and landowners.
- Close critical gaps in the trail system through strategic, advanced planning based on priorities established in the Bicycle Master Plan. In many cases, the City and County will need to work with private landowners or public agencies to plan and secure desirable alignments prior to design and construction of related trail segments.
- Consider both pedestrians and bicyclists when improving crossings (e.g. curb extensions or bulb-outs). Bicycle access continuity should be maintained without eliminating or squeezing bicycle lanes and shoulders with intersection improvements.
(<http://www.pedbikesafe.org/pedsafe/>)



Image 4.1: Critical connections such as the bridge at Kathryn Street provides a link from neighborhood residential areas to the Acequia Trail.



Image 4.2: Provide continuous bicycle lane striping and pedestrian access at intersections for the safety of all users.



Figure 4.3: FHA web-based resources for Pedestrian Safety.



2 INCLUDE BICYCLE FACILITY UPGRADES AS PART ROADWAY RETROFITS

MPO members are encouraged to evaluate opportunities for including bicycle infrastructure as part of routine “retrofits”, resurfacing, and roadway reconstruction projects. Where appropriate, upgrades should consider a multi-modal approach in accordance with Complete Street guidelines that improve bicycle, pedestrian, and transit facilities.

The MPO will support the work of member agencies to:

- Identify upcoming road construction and reconstruction projects (resurfacing, restriping) to evaluate opportunities for including bicycle facility upgrades through: lane narrowing, lane reconfiguration (road diets), and roadway widening.
- Conduct a multi-modal level of service analysis, or other appropriate analysis, for roadway and intersection projects to determine equitable upgrade opportunities, including bicycle facility improvements.
- Complete bicycle facility upgrades as part of retrofit projects to meet AASHTO guidelines for bicycle facilities.
- Consider combined right turn lane, bike lanes, and sharrows when practicable with roadway retrofits. This treatment includes advising motorists and bicyclists of proper positioning within the lane.



Image 4.4: Road improvements projects are crucial opportunities to assess existing infrastructure for bicycle friendliness and adjust striping and surfacing for bike safety.

Santa Fe Roadway Retrofit Projects with Potential for Bicycle Facility Upgrades

- Agua Fria Street, westbound at Osage / Frenchy's Field
- Cerrillos Road (NM14) eastbound, east of Rodeo Road
- Alta Vista Street at St. Francis Drive
- St. Michaels Dr. (NM466) at Galisteo, Hospital, Arroyo Chamiso, et al.
- San Mateo Rd. at Pacheco and at St. Francis Dr. (eastbound)
- Pacheco St. at San Mateo Rd.

3 IMPROVE BICYCLE SIGNAGE AND WAYFINDING ON TRAILS AND ROADS

Bike Route signage and wayfinding should provide bicyclists with useful guidance on how to navigate around Santa Fe.

The MPO will work with member agencies to coordinate signage to:

- Develop a comprehensive bicycle wayfinding plan for the Santa Fe MPO area that coordinates between local jurisdictions and identifies all levels of routes (national, state, regional, local). Utilize bold graphics, “branding,” established conventions, consistent designs, and other means to communicate and reinforce routes.
- Improve and expand guidance for cyclists at trail junctions, intersections between trails and roads, along preferred on-road routes, and along bikeways that alternate between on-road and off-road segments.
- Install bike wayfinding signage to meet MUTCD standards that includes arrows, destinations, and distance (as possible).
- Install pavement markings to highlight routes and assist in wayfinding (e.g. sharrows, green bike lane, icons).
- Allocate resources to revise and distribute future Bikeway and Trails Map iterations in print and digital form.



Image 4.5: Example of MUTCD standard wayfinding signage for bicyclists. Consistent metro-wide designs for wayfinding signage is critical for effective guidance.



4 IMPLEMENT “COMPLETE STREETS” POLICIES FOR ALL ROADWAY CONSTRUCTION AND MAINTENANCE

Effective complete streets policies ensure that adequate bicycle facilities are included in all new construction and preserved or improved in all maintenance activities.

The MPO should work with member agencies to:

- Conduct level of service or other appropriate analysis to include all modes (motor vehicles, bicycles, pedestrian, transit) and provide for upgrades along roadways and at intersections to address the travel of all modes not only within typical road cross-sections but also through intersections.
- Meet AASHTO bicycle facility guideline recommendations to accommodate bicyclists, designated bicycle lanes, paved shoulders or wide curb lanes in the design, construction, and maintenance of roadways with higher motor vehicle speeds and volumes, typically including those classified as arterials or collectors.
- Legally adopt bike lanes or paved shoulders as standard on-road provisions for bicyclists on major roadways (arterials and major collectors), comparable to standards specified in the City’s Chapter 14, for construction and maintenance by public agencies as well as private developers.
- Maintain complete streets by providing a smooth surface along shoulders, bike lanes, and multi-use trails for use by bicyclists and keeping that surface reasonably free of sand, snow, and other debris in order to keep the bikeway system safely and conveniently operational throughout the year.
- Follow local codes that prohibit leaving pavement seams within the shoulder or along the edge of the travel lane.



Image 4.6: Good wayfinding signage is clearly identified, appropriate to the region, and reflects the scale of the user.

“Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.”

(Smart Growth America, 2019).



5 SUPPORT HIGHER-DENSITY, MIXED-USE DEVELOPMENT

Higher-density, mixed-use developments can significantly reduce the number and distance of vehicle trips and facilitate walking and bicycling as healthy, environmentally- friendly, and community-building transportation.

MPO members should continue to:

- Support transit, transit-oriented development, and specific planning initiatives that re-orient commercial and residential areas to better serve the community at a pedestrian scale.
- Support higher-density, mixed-use development adjacent or in proximity to the existing and proposed primary bicycle network, particularly when trail connections or improvements are made to the bicycle network.



Image 4.7: Transit Oriented Developments reduce dependency on vehicles and encourage pedestrian and bicycle use.

6 ADOPT ENGINEERING GUIDELINES FOR BICYCLE FACILITY PLANNING, DESIGN, CONSTRUCTION, AND MAINTENANCE

This plan recommends that each MPO member agency, and other entities in the MPO area:

- Adopt the latest AASHTO Guide for the Planning, Design, and Operation of Bicycle Facilities (current draft slated for adoption in 2019) as their own guidelines for the planning, design, construction and maintenance of all on- road and off-road bicycle facilities as well as additional provisions for cyclists, such as bike racks.
- Utilize the Toolkit (Appendix A) as a guideline for best practices for the design of bicycle facilities.
- Design and build roads as complete streets, following specific AASHTO guidelines.
- Construct multi-use trails as bicycle transportation corridors (i.e. “roads for bicycles”), according to AASHTO guidelines. Utilize the two-wheel trailer and its maneuvering space as the ‘design vehicle’ for multi-use trails, trail access points, and trail/road intersections.
- Coordinate and focus efforts to design safe and convenient points of contact between multi-use trails and roadways.
- Take caution in strict application of ADA Accessibility Guidelines (ADAAG) and best practices for ADA to multi-use trails. Designing for all users, including bicyclists, may require limiting use of handrails, switchbacks, flat spots, and other constraints that present significant inconveniences and hazards to bicyclists on multi-use trails.

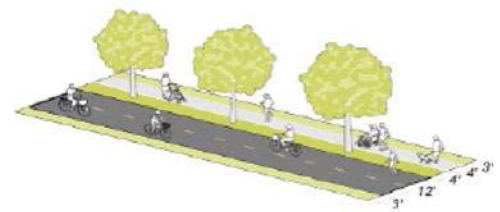


Figure 4.7: The Santa Fe Metropolitan Bicycle Design Toolkit acts as a framework for design, building on AASHTO standards for safety and the level of comfort of users. source: Toole Design



Image 4.8: The River Trail access point from Avenida Cristobal Colon is an example of a junction at a convenient location but is not suitable for bikes with two-wheel trailers / kid carriers.



7 COORDINATE BIKEWAY FACILITY PLANNING EFFORTS

Effective planning to support a metropolitan-wide transportation system for bicycles requires a comprehensive approach and coordinated effort between County, City, state, and tribal planning, and between other divisions within local entities.

This plan recommends that the MPO and its member governments work together to:

- Establish at least one full-time Bicycle Pedestrian Coordinator position at the metropolitan and/or local level and staff the position with a qualified individual in order to: advance initiatives outlined in this Plan, coordinate with existing bicycle / pedestrian committees (e.g. BTAC), review development applications for conformance with the Plan, collaborate with staff and other agencies to coordinate planning efforts, provide various levels of staff orientation and training, and act as a liaison to bicycle advocates.
- Pursue coordinated trail and roadway improvements in accordance with the program of prioritized projects, and also as opportunities arise through public or private development along desirable alignments.
- Develop advance planning and implementation activities such as strategic right-of-way acquisition and coordination with partners to ensure that non-motorized transportation needs are being met.

8 IMPROVE AND EXPAND BICYCLE PARKING

The MPO, local agencies, and community members, including the local art community, should take steps to increase the quantity and quality of available bicycle parking:

- Provide adequate quality and quantity of bicycle parking at all city, county, and state agency facilities.
- Continue to enforce bicycle parking requirements as per local codes.
- Complete and periodically update the bicycle parking inventory and map, particularly in high- demand areas.
- Continue to program installation of new bike racks in public spaces and to explore demand for bike lockers and other forms of bike parking at transit hubs, places of employment, and other locations.
- Encourage the creation of bike racks as art in public spaces.
- Provide incentives for private businesses to improve bicycle parking retroactive to development, or to provide enhanced bicycle parking as part of development.
- Require provision of attended bicycle parking ('bike valet') at outdoor events such as Zozobra, the Folk Art Fiesta, events at the plaza, and athletic events.



1 DEDICATED STAFF POSITION PER 36,000 RESIDETS

Figure 4.8: In order to achieve gold level status as a Bicycle Friendly Community the City of Santa Fe needs to have 2-3 staff members dedicated to a bicycle and trails program. Currently there is not a dedicated staff position at the City although the City partially funds a Trails Program Manager at the Santa Fe Conservation Trust. The MPO serves a minor role in trail planning for the region. source: The League of American Bicyclists.



Image 4.9: Bike rack by Art Racks Santa Fe.



Image 4.10: Bike valet services organized by Bike Santa Fe at Music on the Hill.



9 TARGET INVESTMENTS IN NEW INFRASTRUCTURE THAT MAXIMIZES COST EFFECTIVENESS TOWARD A BETTER BIKEWAY SYSTEM

Bikeway planning and development should focus on continuing to develop “arterial” trail alignments and on-road and off-road connections as outlined in the Vision 2040 Bicycle Network.

The MPO and its member agencies should coordinate efforts to:

- Dedicate funding towards infrastructure improvements that improve the bicycle network and complete streets.
- Prioritize the funding and construction of multi-use trail segments that function as direct, convenient, and reasonably safe transportation facilities to address all ages and abilities needs.
- Implement small connections and crossing improvements with potential significant impact on the bikeway system.
- Integrate bicycle facility improvements as part of roadway retrofit projects through restriping, particularly in conjunction with maintenance projects.
- Pro-actively adjust intersections and trail crossings to benefit on- and off-road bicycle traffic and to widen selected roadways to create bike lanes or shoulders.
- Examine bicycle-pedestrian bridge crossings on a case-by-case basis, in order to determine whether increased costs are justified in order to accommodate heavy motor vehicle use across bridges.



Image 4.11: Roadway retrofits could include green bike lane striping and/or narrowing vehicular lanes to accommodate a buffered bike lane.

10 GATHER DATA TO SUPPORT AND GUIDE BICYCLE PLANNING

Documentation of the use of bicycles and of the challenges and hazards that bicyclists face is important to justify and guide investments in bicycling in Santa Fe.

Local agencies, in coordination with the MPO, should:

- Collect and analyze crash data for pedestrians and bicyclists in order to inform local planning for safer facilities and fatality reduction. Provide training on data collection methods and follow up with hospital and emergency records to track injuries and fatalities.
- Collect biannual bicycle and pedestrian traffic counts according to an established methodology (e.g. National Bicycle and Pedestrian Documentation project) at designated intersections. Annual counting is typically mid-May and mid-September. Enlist the help of volunteers and bicycle advocates to assist with data collection.
- Continue to collect trail use data at existing locations and consider expanding the automatic counter program in response to trail network growth. Service counters annually to ensure data collection is operating correctly.



Figure 4.9: The Eco Counter 'Pyro' utilizes infrared sensors to record bicycle and pedestrian traffic.
Source: Eco Counter



Image 4.12: A cyclist completes a survey during a volunteer led collection day.



11 SUPPORT PRO-ACTIVE MAINTENANCE OF ON-ROAD AND OFF-ROAD FACILITIES WHILE MINIMIZING IMPACT TO USERS

The MPO and member agencies will work to:

- Allocate resources for regular maintenance of on-road and off- road bicycle facilities.
- Clear on-road facilities and replace or repair shoulder or bike lane surface, markings, and signage on a routine basis along with the rest of the roadway.
- Resurface full width of roadways, including bike lanes or paved shoulders to the edge of pavement.
- Inspect drainage grates and cattle guards routinely to assess need for repairs or replacement if there are hazardous longitudinal slots that may catch bicycle wheels. Some cattle guards in urbanizing areas may be removed entirely if they are found to be no longer needed.
- Integrate regular maintenance of the growing multi-use trail system as part of annual operational budgets and dedicate additional funding for larger maintenance or upgrade improvements such as asphalt resurfacing and re-decking of bridges.
- Engage community members to assist in the removal of noxious weeds, including “goathead” plants from identified problem areas on a seasonal basis.
- Limit use of motorized vehicles by maintenance staff on multi- use trails, even by authorized public agency staff.



Image 4.12: Seasonal bike and road infrastructure assessment and maintenance directly impacts user safety.



12 RESEARCH, CONSIDER, PROMOTE, AND IMPLEMENT BEST DESIGN PRACTICES

The MPO will work with member agencies to stay abreast of the latest research in the development of best practices for bicycle facilities to:

- Consider new striping options for bike lanes and shared lanes, use of shared-lane arrows, creation of bike boulevards, means of cyclist-actuated traffic signals, and general street design for pedestrian and bicycle safety, including traffic calming and intersection design (corners, medians, ramps, and signals).
- Follow best practices with respect to trail crossings, mid-block crossings, and at-grade crossings and connections, as promoted by FHWA and AASHTO.
- Use existing conditions in the pursuit of grade-separated trail crossings, especially where it may be possible to utilize excess capacity of concrete box culverts or bridge underpasses.

Suggested Best Practices for Creating an Attractive Urban Environment

The following checklist was suggested by a member of this Plan's Citizens Advisory Group as a way to ensure aesthetic considerations are applied to all activities during the implementation of the Bicycle Master Plan:

- Inclusion of "aesthetic impact" as one of the criteria for early development of bicycle project planning at the City and County levels.
- Use of online and outside private resources in exploring creative and attractive new (or replacement) bicycle facilities developed in other regional, national as well as international locales;
- Review of Requests for Proposals to ensure that attractive design is included as part of the evaluation process;
- Coordination among agencies to ensure that aesthetic elements are implemented and properly maintained;
- Coordination with other public and nonprofit agencies, such as Warehouse 21, Santa Fe Art Institute, granting organizations, or the City Arts Commission, to maximize available resources that can be used for beautification. Resources could include not only grants and subsidies but creative talent and manpower.
- Collaboration with public and nonprofit agencies to sponsor such events as design competition for facilities or other means to elicit realistic creative responses to defined needs.
- A recognition that while the cost of beauty (versus pure functionality) may be small, the benefits in civic attractiveness and pride may be great.



Figure 4.10: The 'bicycle box' allows a bicyclist to take a position in front of motor vehicles at an intersection which improves motorist awareness.
Source: Toole Design Group



PROJECT PRIORITIZATION

Santa Fe MPO member agencies are responsible for the efficient, effective, and values-driven expenditure of taxpayer dollars. With limited funds and resources, bicycle-related infrastructure improvements must compete with other municipal expenditures, capital improvements, and services, as well as with one another. In order to maximize public investments and provide the greatest benefit, a prioritized approach toward project implementation has been initiated. First introduced in the 2012 BMP, the project scoring and phased project list (Phase A, B, and C Projects) has been updated to reflect the goals and objectives outlined in this plan. Each project has been assigned a score and ranked according to its ability to address specific criteria.

PROJECT RANKING

Project scores were generated for each proposed Phase A, B, and C projects identified according to the following criteria, which were equally weighted. The ranking system and list of criteria was initiated by the MPO to address major issues affecting bicycle infrastructure as part of the plan update. Scores range from 1 as the lowest to 10 as the highest score, with a total of 50 possible points.

ANTICIPATED DEMAND

Anticipated demand for the improvement is based on existing / projected population density and type of development in the immediate area. Mixed-use areas or those connecting with mixed uses are a plus.

SYSTEM CONNECTIVITY

Connectivity reflects the degree to which people can get where they want to go on the bike network. It is composed of two key factors: access and coverage. Access reflects the degree to which people can get to key destinations on the network, and coverage reflects the ease with which all destinations can be accessed on the network.

SAFETY AND LEVEL OF COMFORT CONSIDERATIONS

Extent to which the project eliminates and/or reduces safety conflicts, or, in limited cases, increases conflicts with motor vehicles and maximizes separation from traffic.

FEASIBILITY

Projects that fall within existing public right of way, on public lands, or within existing established easements are evaluated according to difficulty and ranked higher than those on private lands. The anticipated level of public or agency opposition to the project affects the score.

EQUITY OF ACCESS

An evaluation of equitable spatial distribution of infrastructure that considers the number of *Transit Dependent Residents* within ½ mile of proposed improvement.

COST CATEGORY ASSUMPTIONS

Relative magnitudes of cost were generated for each proposed Phase A, B, and C project. Many factors influence project costs, including land ownership, design complexity, extent of utility relocations, grading and drainage issues, materials, etc. As projects proceed into planning and more detailed design, more accurate cost assumptions can be made for budgeting purposes. The cost range key at right reflects anticipated costs for proposed Phase A, B, and C projects.

Key	Cost Range
\$\$\$\$\$	> \$2 million
\$\$\$\$	\$1-\$2 million
\$\$\$	\$500K-\$1 million
\$\$	\$100K-\$500K
\$	<\$100K



PHASE A, B, C PROJECTS

With limited resources to design and implement improvement projects, it is necessary to phase projects over time in a way that best supports the vision and goals of the plan; addresses safety issues and network gaps; and provides orderly, logical, and equitable network expansion. Using a combination of project ranking, cost estimates, programmed capital improvements, available funding, and other information, recommended projects have been grouped into the following three distinct project phases:

- Phase A, representing a five-year horizon (2019-2024),
- Phase B, representing 5-10 years out (2025-2030), and
- Phase C, or long term, representing 10-20 years out (2030-2040).

Each recommendation is conceptual and subject to more detailed feasibility analysis by each implementing agency. It is also important to note that recommended project phasing should not restrict the development of projects outside their identified phasing term if opportunities arise to move a project forward.

Within each phase, proposed projects are broken down by prospective lead agency and type of project. The project tables also provide a “planning-level” cost estimate range for each recommended improvement, based on standardized unit costs and other cost considerations.

The three implementation phases reflect not only project priority but the need to logically sequence improvements to achieve maximum impact. Some projects that ranked high in the impact and feasibility analysis may be phased back in order to allow time for parallel processes or to conserve scarce funding for other projects.

This list of public projects within the Phase A, B, and C project tables on the following pages is as comprehensive as possible but is not exhaustive. New priorities for trail alignments, connections, crossings, and road improvements will continue to arise as the metropolitan area develops and as bicycle use expands. The MPO and its member agencies will need to continue to strive to anticipate future needs and take advantage of opportunities that arise relating to private developments as well as public projects. Implementation of projects within this BMP requires some flexibility. The contents of these Phases will be revisited and revised by the MPO and its member agencies as implementation proceeds.

INTERACTIVE MAP

In 2018, as part of the Bicycle Master Plan update, the Santa Fe MPO initiated the development of an interactive web-based mapping application. This application transforms a static plan into an online, interactive map, with tables, timelines, cost information, and performance indicators to show real-time progress as new bikeways and trail infrastructure is completed. Set up as part of the Bicycle Master Plan, the interactive map is intended to serve as a tool for multiple agencies to track improvements. Multiple agencies assisted with its development, including It also establishes a user-friendly platform for the public to access maps, infrastructure progress, and provide feedback on site-specific infrastructure issues.

The maps on the following pages are static screen shots that illustrate proposed bicycle infrastructure improvements by phase. The intention is that the interactive map will be regularly updated to reflect the most current information regarding infrastructure improvements.

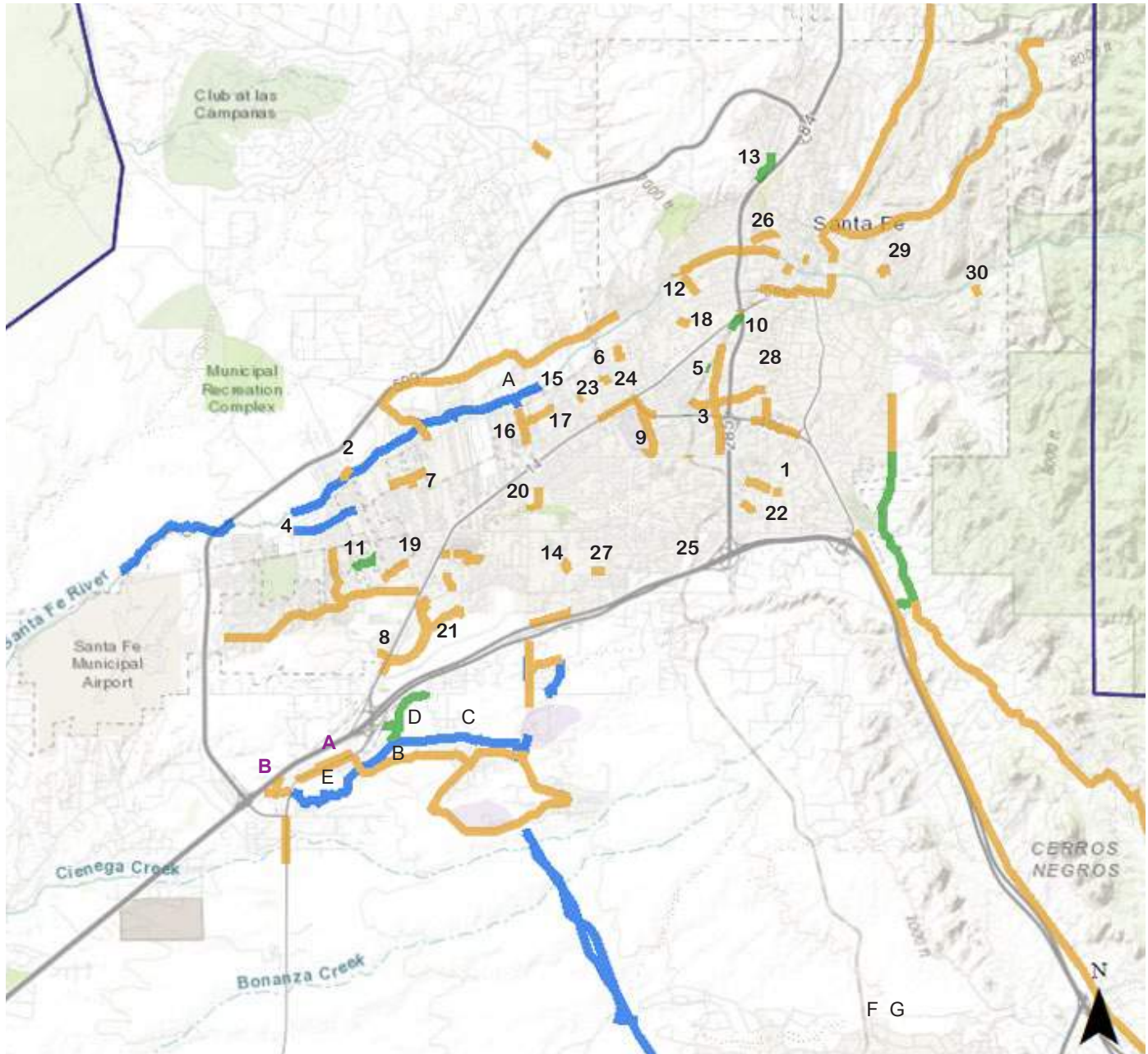


PHASE A PROJECTS: TRAIL IMPROVEMENTS

	Type of Improvement	Improvement	Score	Miles	Cost Category
(1) City-Lead Trail Improvements (in rough order of priority)					
1	Multi-Use Trail	GAIL RYBA TRAIL: Zia to Zia Connection	30	0.2	\$\$
2	Multi-Use Trail	RIVER TRAIL Connection between Cottonwood Village and El Camino Real Academy (S Meadows)	39	0.14	\$\$
3	Underpass	RAIL TRAIL: Underpass at St Michael's Dr.	38	0.10	\$\$\$\$\$
4	Multi-Use Trail	ACEQUIA TRAIL: Rufina to San Felipe, with connector and X-walk at Agua Fria (<i>designed and funded</i>)	38	1.00	\$\$\$
5	Multi-Use Trail	RAIL TRAIL Connection to Monterrey (<i>designed and funded</i>)	35	0.05	\$
6	Multi-Use Trail	ACEQUIA TRAIL: Otowi to La Cieneguita via Maclovía and Hermanos Rodríguez Parks	34	0.36	\$\$\$\$
7	Multi-Use Trail	ACEQUIA TRAIL: Rufina to Atajo/Las Acequias Park (pending Cielo Azul development)	34	0.20	\$\$
8	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Existing NM 14 Underpass w. to Herrera Dr. at X-walk to Walmart	34	0.14	\$\$\$
9	Multi-Use Trail	MID-TOWN CAMPUS TRAIL: Using east boundary easement, from Siringo to driveway near St. M's Dr., w/connections to LaFarge Library, Middle School, St. Michael's Village W. shopping center	34	0.70	\$\$\$\$
10	Multi-Use Trail	RAIL TRAIL: Pen Rd. to Alta Vista St. (<i>designed and funded</i>)	34	0.40	\$\$\$\$
11	Multi-Use Trail	TIERRA CONTENTA (A.C.) TRAIL: Buffalo Grass to S. Meadows (<i>designed and funded</i>)	34	0.38	\$\$
12	Multi-Use Trail	ACEQUIA TRAIL: Connection into Larragoite Park and to Agua Fria St.	33	0.10	\$\$
13	Multi-Use Trail	CAMINADA RINCON TRAIL: Calle del Viento to Camino Francisca (@Zocalo) (<i>designed and funded</i>)	33	0.20	\$\$\$
14	Multi-Use Trail	NM CENTRAL RAIL TRAIL: Pinon Elementary School to Pueblos del Sol Trails	33	0.20	\$\$\$
15	Multi-Use Trail	RIVER TRAIL: Connect Ramps between sidewalk and Siler Rd. (x2)	33	0.00	\$
16	Multi-Use Trail	RIVER TRAIL: Connection south between Frenchy's & Siler (#1) - Boylan / El Rio	33	0.10	\$\$\$
17	Multi-Use Trail	ACEQUIA TRAIL: Siler Rd. to Henry Lynch Rd.	32	0.60	\$\$\$
18	Multi-Use Trail	FLAGMAN WAY: Westbound Connection to Baca St.	32	0.03	\$
19	Multi-Use Trail	TIERRA CONTENTA (A.C.) TRAIL: Along S. Meadows and to Camino Entrada, via School Crossing & 1 of 2 city-owned corridors to Camino Entrada	32	0.60	\$\$\$
20	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Connection north to Richards Ave. (via emergency route)	31	0.25	\$\$
21	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Las Soleras to NM 14 and south to DDI trail at Beckner	31	0.20	\$\$
22	Multi-Use Trail	ARROYO EN MEDIO TRAIL: Completing route from Zia to Sawmill	31	0.25	\$\$\$
23	Multi-Use Trail	ACEQUIA TRAIL: Harrison to Calle de Comercio	30	0.05	\$
24	Multi-Use Trail	ACEQUIA TRAIL: Maclovía Park to Carmelita St. via Cielo Vista Park	30	0.10	\$
25	Multi-Use Trail	RAIL TRAIL CONNECTIONS: Rodeo Park E. (x2-3)	30	0.10	\$
26	Multi-Use Trail	ARROYO MASCARAS TRAIL: Consider improvements from San Francisco St. to Paseo de Peralta	29	0.30	\$\$
27	Multi-Use Trail	PUEBLOS DEL SOL TRAILS: Utility Line to Camino Carlos Rey	28	0.20	\$\$
28	Soft-Surface Trail	ARROYO DE LOS CHAMISOS TRAIL: Museum Hill (Cristobal Ln.) to St. John's College (with on-road wayfinding to W. Zia via Calle de Leon, Fort Union Dr., and E. Zia)	29	2.00	\$\$\$\$
29	Easement / Trail	ARROYO VERDE TRAIL: Connecting Gonzales Rd. to La Vereda/Palace Ave.	27	0.14	\$\$
30	Easement	ARROYO POLAY: From Upper Canyon Rd. to Dale Ball and Dorothy Stewart Trails	24	0.16	\$
-	Crossings (at-grade)	RAIL TRAIL: Mark Crossings at Alta Vista, 2nd St., Siringo; Improve Paseo de Peralta markings; consider Manhattan, Alcaldesa	-	-	\$
-	Multi-Use Trails in Parks	City Park Bicycle-Pedestrian Access Improvements: Frenchy's (remove bridge bollards); Larragoite & Swan (replace gate-arms); Ragle (to corner Zia/Yucca); MRC (to Caja del Rio/Oro; Rugby Field to CRT)	-	-	\$
(3) County-Lead Trail Improvements (in rough order of priority)					
A	Multi-Use Trail	RIVER TRAIL: Siler Rd. to San Ysidro Crossing, with connection to Henry Lynch Rd.	34	1.13	\$\$\$\$
B	Multi-Use Trail	ARROYO HONDO: NM 599 -R. Viejo Blvd Fr Station Trailhead connection to Fire Place Rd Seg. 1	33	1.00	\$\$\$\$
C	Multi-Use Trail	ARROYO HONDO (south branch): Rancho Viejo Blvd. to w. of Richards Ave. Seg.3	31	0.75	Funded
D	Multi-Use Trail	ARROYO HONDO: R. Viejo Fr St to Dinosaur Trail Rd & DDI Trail, inc bridge ovr arroyo Seg.4	30	0.40	Funded
E	Multi-Use Trail	ARROYO HONDO: Turquoise Trail to R. Viejo Fr Station to Richards Seg. 2	28	1.00	Funded
F	Soft-Surface Trail	COUNTY RAIL TRAIL: Avenida Eldorado to Spur Ranch Rd Seg. 5	28	1.50	Funded
G	Soft-Surface Trail	COUNTY RAIL TRAIL : Spur Ranch Road to NM 285 Seg. 6	27	1.60	\$\$\$
(5) NMDOT-lead Trail Improvement					
A	Multi-Use Trail	NM14 Side-Path, on north side, continuing DDI Trail, from Rancho Viejo Blvd. to Fire Place	33	0.47	\$\$\$
B	Multi-Use Trail	ARROYO HONDO: Abandoned I-25 on ramp to Fire Place	32	0.25	\$\$



Map 4.2: Implementation Plan - Phase A Projects: Trail Improvements (Interactive Map, June 2019)



LEGEND

- Bikeway Improvement, In Design
- Bikeway Improvement, Fully Funded + in Progress
- Bikeway Improvement, Completed
- Bikeway Improvement, Proposed

JURISDICTION

- # City, Trail Improvement
- # City, Road Improvement
- A County, Trail Improvement
- a County, Road Improvement
- A NMDOT, Trail Improvement
- a NMDOT, Road Improvement

Note: See the Santa Fe MPO Bicycle Master Plan Project Map at [www.https://bike.santafempo.org](https://bike.santafempo.org) or the most up to date version.
Source Data: Santa Fe MPO, "Projects Map 2019, Projects List 2019"



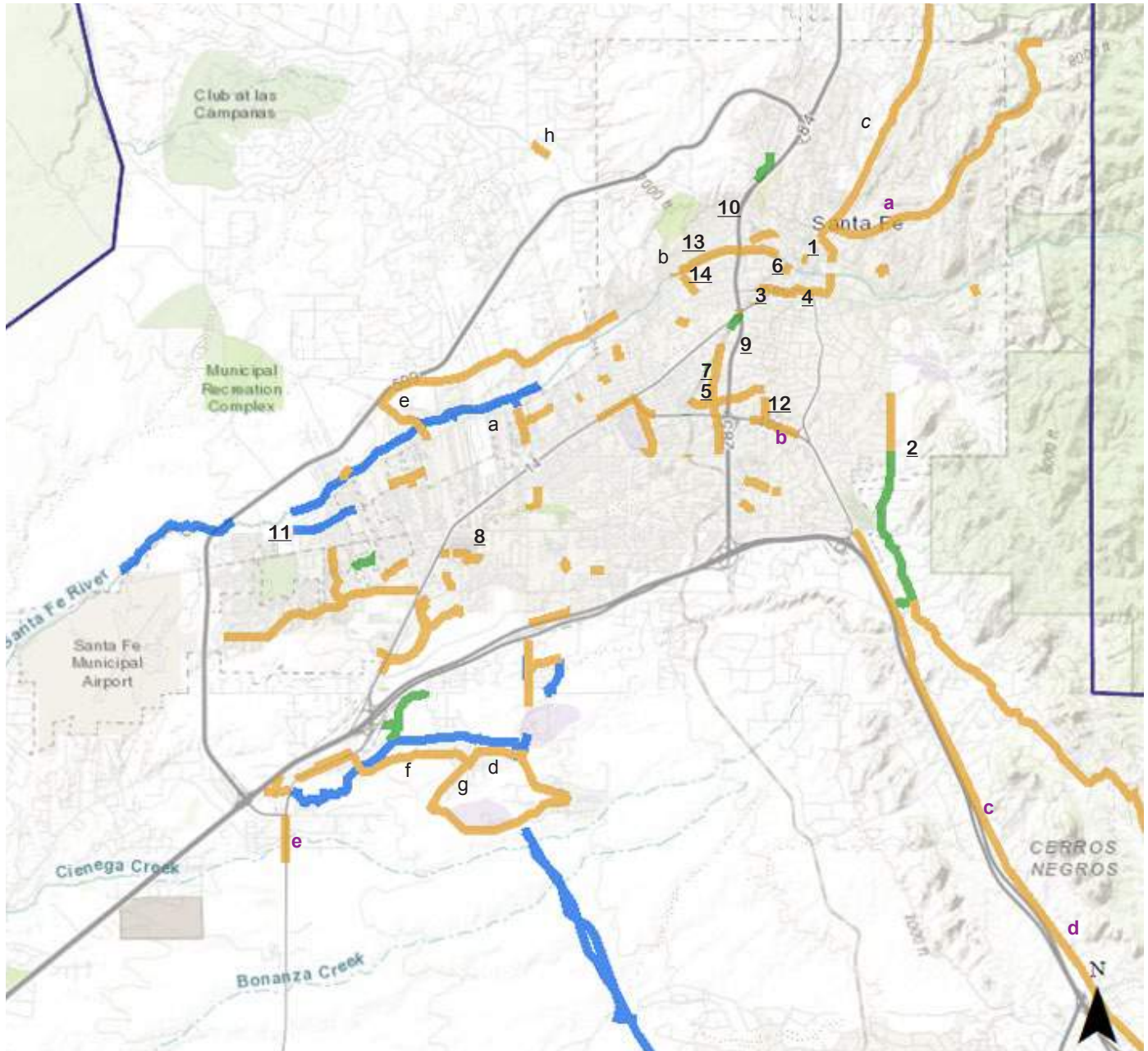


PHASE A PROJECTS: ON-ROAD IMPROVEMENTS

Type of Improvement	Improvement	Score	Miles	Cost Category	
(2) City-Lead On-Road Bikeway Improvements (in rough order of priority)					
1	Stripe Bike Lane	W. San Francisco: Permit contra-flow traffic from plaza to a bike lane from Don Gaspar to Galisteo	33	0.10	\$
2	Bike Lanes - Widen	Widen Old Santa Fe Trail: from E. Zia Rd. south to city limits	32	1.10	\$\$\$
3	Stripe Bike Lane	Alcaldesa: Contra-flow bike lane from Chili Line Rd. to Market St. (with rail crossing gate)	32	0.10	\$\$
4	Stripe Bike Lanes	Paseo de Peralta: Lane Reduction via Restriping, W Alameda to Old Santa Fe Trail (w ped. refuges)	31	0.40	\$\$
5	Stripe Bike Lanes	San Mateo: Study and Implement Bike Lanes where feasible, St. Francis Dr. to Rail Trail at 2nd St.	31	1.00	\$
6	Stripe Bike Lane	Sandoval: Southbound bike lane, Alameda to Montezuma, with wayfinding to Railyard	31	0.15	\$
7	Stripe Bike Lanes	Pacheco St.: Study and Implement Bike Lanes where feasible (n. of San M to Siringo)	30	1.00	\$
8	Stripe Bike Lanes	Wagon Rd.: Restripe with Bike Lanes (if not sharrows)	30	0.10	\$
9	Stripe Bike Lanes	Alta Vista St. (Bike Route 66): RR tracks to Salvador Perez Park, orig. crosswalk, prioritize eastbound	30	0.27	\$
10	Stripe Bike Lanes	Calle Mejia, Viento Dr. to cul-de-sac at Reserve	29	0.17	\$
11	Bike Lanes - Widen	Widen San Felipe Rd., Airport Rd. to Agua Fria St.	29	0.30	\$\$
12	Stripe Bike Lanes	Hospital Dr., Lupita to St. Michael's Dr.	28	0.28	\$
13	Stripe Bike Lanes	W. Alameda: Striped shoulders eastbound and westbound from St. Francis Dr.; prioritize eastbound as uphill & buffer for River Trail, to ped X-ing; sharrow/bike lane in rt.turn lane by Burger King	27	0.22	\$
14	Stripe Bike Lanes	Camino Alire, Paso de la Conq. to Agua Fria: Both sides or southbound bike lane only (uphill)	26	0.26	\$
-	Rt.-Turn Lane trtmnts	Various sharrows or bike lane in right turn lanes leading to bike lane, per NACTO	-	-	\$
-	Signage	Bicycle Wayfinding on Roads & Trails	-	-	\$
(4) County-lead On-Road Bikeway Improvements (in rough order of priority)					
a	Bike Lanes - Widen	Henry Lynch Rd.: Add shoulders	29	0.44	\$\$
b	Bike Lanes	STUDY: West Alameda St. Bike Lanes w/City	28	4.50	\$
c	Bike Lanes	Study: Feasability Bishops Lodge Road Bike Lanes	26	4.00	\$
d	Bike Lanes	Ave del Sur between Rancho Viejo Blvd. and Richards, integrating existing bike lanes in front of Amy Biehl School and unused parking bays to east	29	0.42	\$\$
e	Bike Lanes	Caja Del Oro - Agua Fria to NM599 Frontage	27	2.00	\$
f	Bike Lanes	Rancho Viejo Blvd	24	3.00	\$\$\$
g	Bike Lanes	STUDY: Richards Avenue, A Va Nu Po and Avenida del Sur Bike Lane Loop	25	6.00	\$
h	Bike Lane	Camino la Tierra - northbound (uphill), mailboxes to Wildflower	28	0.23	\$
-	Signage	Bicycle Wayfinding on Roads & Trails	-	-	\$
(6) NMDOT-lead On-road Bikeway Improvements (in rough order of priority)					
a	Bike Lanes - Widen	Widen Hyde Park Rd. (NM475) where possible, Artist Rd. to Little Tesuque Cr., esp. uphill direction	36	3.50	\$\$\$\$\$
b	Rt.-Turn Lane trtmnts	St. Michael's Dr. (NM466), Galisteo St. to Arroyo Chamiso	29	0.50	\$
c	Stripe Bike Lanes	Old Las Vegas Highway from Paseo de la Luz to Ojo de la Vaca Rd. (Bike Route 66): Lane Reduction	28	0.60	\$
d	Shoulders - Rehab.	Old Las Vegas Highway from US285 to Paseo de la Luz (Bike Route 66): Rehabilitate Shoulders	26	1.60	\$\$\$\$\$
e	Stripe Bike Lane	NM14 northbound, from w. of Fire Place to Rancho Viejo Blvd.: Re-Stripe or widen with bike lane	25	0.60	\$



Map 4.3: Implementation Plan - Phase A Projects: On-road Improvements (Interactive Map, June 2019)



LEGEND

- Bikeway Improvement, In Design
- Bikeway Improvement, Fully Funded + in Progress
- Bikeway Improvement, Completed
- Bikeway Improvement, Proposed

JURISDICTION

- # City, Trail Improvement
- # City, Road Improvement
- A County, Trail Improvement
- a County, Road Improvement
- A NMDOT, Trail Improvement
- a NMDOT, Road Improvement

Note: See the Santa Fe MPO Bicycle Master Plan Project Map at [www.https://bike.santafemipo.org](https://bike.santafemipo.org) or the most up to date version.
Source Data: Santa Fe MPO, "Projects Map 2019, Projects List 2019"





PHASE B PROJECTS: TRAIL IMPROVEMENTS

(1) City-Lead Trail Improvements (in rough order of priority)

1	Multi-Use Trail	RIVER TRAIL: Don Gaspar to Camino del Campo, with underpasses of Sandoval and Guadalupe & bridge w. of Defouri St.	37	0.40	\$\$\$\$
2	Multi-Use Trail	ACEQUIA TRAIL: Lopez Lane to Atajo	33	0.13	\$\$
3	Multi-Use Trail	ARROYO CHAPPARAL TRAIL: from Arroyo Chamiso Trail under Zia to Chapparal E.S. (to ped. bridge)	32	0.50	\$\$\$\$
4	Multi-Use Trail	Mid-Town Campus Wall Trail: Continue East side easement trail to north, connect to Lujan St.	32	0.18	\$\$
5	Multi-Use Trail	RIVER TRAIL: Connection to Closson St., rebuild ramp on south side	32	0.00	\$
6	Multi-Use Trail	RIVER TRAIL: San Felipe to E. of S. Meadows (at AFTC line)	35	1.25	\$\$\$
7	Multi-Use Trail	TIERRA CONTENTA (A.C.) TRAIL: Camino Entrada / Cerrillos Rd. side path from Cristo's to Wagon Rd.	32	0.35	\$\$
8	Multi-Use Trail	CAÑADA RINCON TRAIL: Parallel to Camino Francisca from Zocalo to s. of NM599 Underpass	29	0.57	\$\$\$
9	Multi-Use Trail	CAÑADA RINCON TRAIL: From s. of NM599 to existing trail n. of NM599 (<i>funding in escrow</i>)	31	0.21	\$
10	Multi-Use Trail	PUEBLOS DEL SOL TRAILS: N-S Connector across Gov. Miles	31	0.10	\$\$
11	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: from Gov. Miles to Las Soleras	30	0.10	\$\$
12	Multi-Use Trail	ARROYO DE LOS PINOS TRAIL: Fifth St. @ Cam. Lado to Llano St.	30	0.25	\$\$
13	Multi-Use Trail	ARROYO DE LOS PINOS TRAIL: Llano St. to Mid-Town Campus Trail @ Yucca & Siringo	30	0.15	\$\$
14	Multi-Use Trail	River Trail: Connection to Calle Atajo(w/bridge @ Martin Mora Rd)	31	0.20	\$\$\$
15	Multi-Use Trail	GAIL RYBA TRAIL: East to Botulph Side Path, w/ St. M's connection	30	0.40	\$\$\$
16	Multi-Use Trail	Mid-Town Campus Wall Trail: Continue from Lujan Connection to State Library, Franklin Miles Park	30	0.36	\$\$
17	Multi-Use Trail	MRC TRAIL: From Soccer Fields to Caja del Rio Rd.	30	0.20	\$\$
18	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Herrera Dr. Crosswalk to City Utility Easement connecting to Nina Otero Community School	29	0.32	\$\$
19	Multi-Use Trail	ARROYO DE LOS PINOS TRAIL: Through Herb Martinez Park and west to Richards Ave. Extension Trail	29	1.00	\$\$\$
20	Multi-Use Trail	MRC TRAIL: From Airport Rd. to Acequia Trail (and/or improve connection via Thomas Rd.)	29	0.25	\$\$
21	Multi-Use Trail	ARROYO CHAPPARAL TRAIL: through Candlelight Park to streets to Zia RR Station	28	0.50	\$\$\$\$
22	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Cross arroyo at SFHS/Vo-Tech to Candelero St. and/or Zia Rd. across from trail & bridge to Chaparral	29	0.20	\$\$\$\$
23	Multi-Use Trail	RIVER TRAIL: Connection south between Frenchy's & Siler (#2) - Jardin Ln. (may be soft surface)	28	0.10	\$\$
24	Multi-Use Trail	ST. FRANCIS DR. TRAIL: Continue south to sidewalk directly in front of Albertson's	28	0.10	\$
25	Multi-Use Trail	CAÑADA RINCON TRAIL: Alamo to Calle del Viento (@ Calle Mejia)	27	0.50	\$\$\$
26	Multi-Use Trail	RAIL TRAIL / WEST SPUR: Rail-to-Trail on Old Railbed from Rodeo Rd. south along Galisteo Rd.	27	0.50	\$\$\$
27	Multi-Use Trail	RIVER TRAIL / Route, Patrick Smith Park to Hydroelectric Plant Park	27	0.05	\$\$\$
28	Multi-Use Trail	ARROYO CHAPPARAL TRAIL: from Chapparal E.S. (ped bridge) to Candlelight Park	25	0.50	\$\$\$\$
-	Crossings (at-grade)	Improve Cerrillos Rd. crossings from Railyard Park at Whole Foods, Gilmore, and/or Early/Alarid, including pedestrian median refuges (see 2012 BMP)	-	-	\$\$

(3) County-Lead Trail Improvements (in rough order of priority)

A	Multi-Use Trail	RIVER TRAIL: Caja del Oro Grant Rd. west to AFTC line (w/con. n. to S. Meadows and Martin Mora)	35	0.75	\$\$\$\$
B	Soft-Surface Trail	COUNTY RAIL TRAIL: US285 to Lamy	26	2.50	\$\$\$\$

(5) NMDOT-lead Trail Improvement

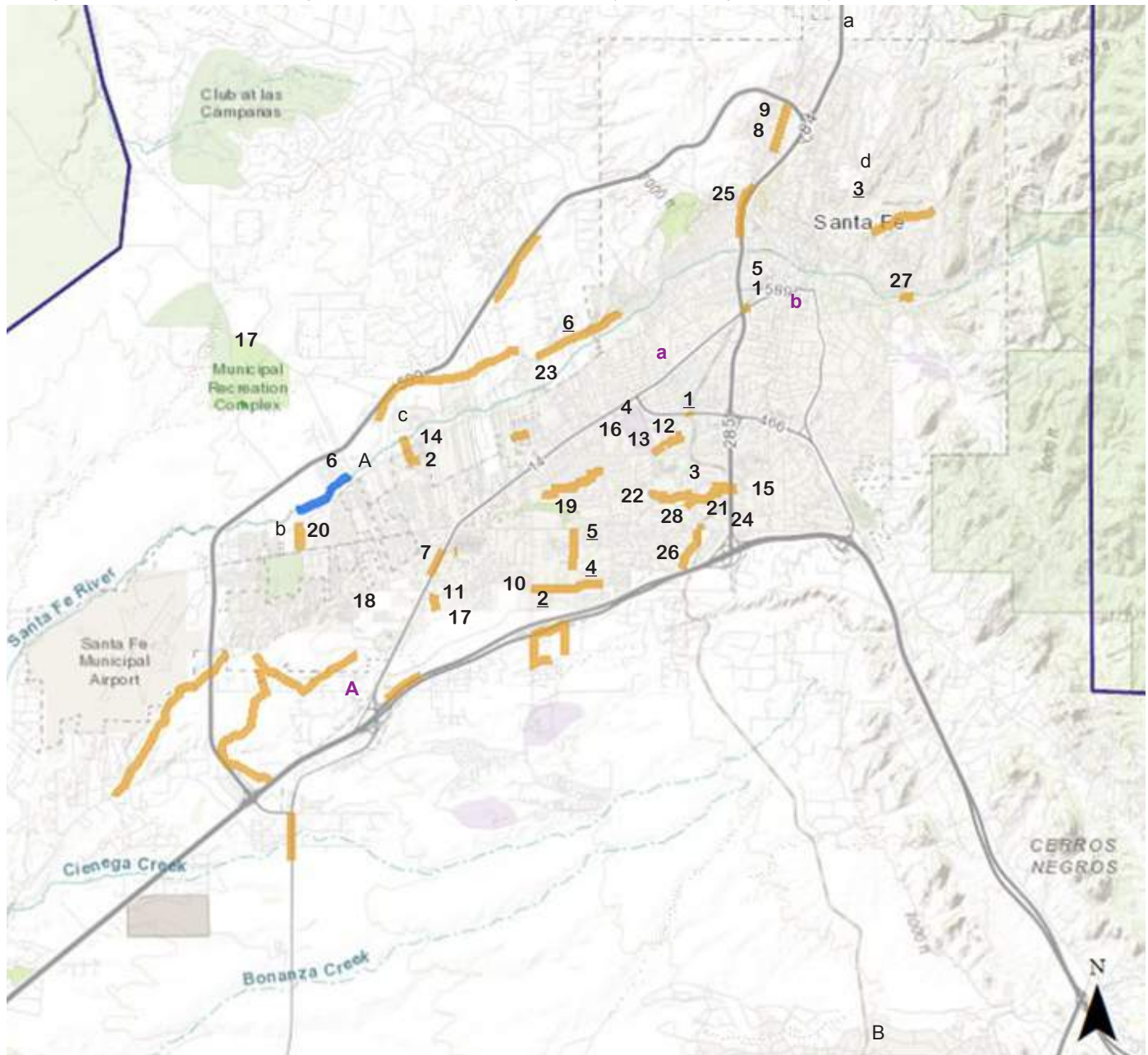
A	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL/West Frontage Rd. side path, NM14 to New Mexican Plaza	27	0.68	\$\$\$
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PHASE B PROJECTS: ON-ROAD IMPROVEMENTS

	Type of Improvement	Improvement	Score	Miles	Cost Category
(2) City-Lead On-Road Bikeway Improvements (in rough order of priority)					
1	Re-build / Re-stripe	St. Michael's Road Diet, w. of St. Francis Dr.: reconstruction with bike lanes, following road exchange to City	34	1.50	\$\$\$\$
2	Bike Lanes - Widen	Widen Gov. Miles Rd. from Richards Ave. to Pueblos del Sol	27	0.50	\$\$
3	Stripe Bike Lanes	Bishop's Lodge Rd. in City, esp. uphill side	26	2.50	\$\$\$\$
4	Stripe Bike Lanes	Gov. Miles Rd., within Pueblos del Sol (Camino Carlos Rey to west of playground)	25	0.72	\$
5	Stripe Bike Lanes	Camino Carlos Rey south of Zia to Gov Miles	25	0.76	\$
6	Bike Lanes - Widen	Widen W. Alameda: Calle Nopal to Siler Rd.	25	1.25	\$\$\$\$
(4) County-lead On-Road Bikeway Improvements (in rough order of priority)					
a	Bike Lane - Widen	Tesuque Village Rd., Tesuque Village n. to US84/285	27	0.55	\$\$\$
b	Bike Lane - Widen	Lopez Ln., Cerrillos Rd. to Agua Fria St.: Add shoulders if developed	26	1.10	\$\$\$\$
c	Bike Lane - Widen	County Rd. 63 (Caja del Oro Rd.), Agua Fria St. to NM599 frontage road: Add shoulders	33	0.80	\$\$\$
d	Bike Lane - Widen	Bishop's Lodge Rd., esp. uphill side, City limits to Bauer Rd.	25	0.50	\$\$
(6) NMDOT-lead On-road Bikeway Improvements (in rough order of priority)					
a	Stripe Bike Lane	Cerrillos Rd.: Westbound Bike Lane at S. Francis Dr., from rail crossing to NM599, including green bike box (see 2012 BMP)	25	0.10	\$
b	Stripe Bike Lanes	Paseo de Peralta (NM475) Retrofit through reduction of number and/or width of travel lanes	25	0.92	\$\$\$



Map 4.4: Implementation Plan - Phase B Projects: Trail and On-road Improvements (Interactive Map, June 2019)



LEGEND

- Bikeway Improvement, In Design
- Bikeway Improvement, Fully Funded + in Progress
- Bikeway Improvement, Completed
- Bikeway Improvement, Proposed

JURISDICTION

- # City, Trail Improvement
- # City, Road Improvement
- A County, Trail Improvement
- a County, Road Improvement
- A NMDOT, Trail Improvement
- a NMDOT, Road Improvement

Note: See the Santa Fe MPO Bicycle Master Plan Project Map at [www.https://bike.santafempo.org](https://bike.santafempo.org) or the most up to date version.
Source Data: Santa Fe MPO, "Projects Map 2019, Projects List 2019"





PHASE C PROJECTS: TRAIL IMPROVEMENTS

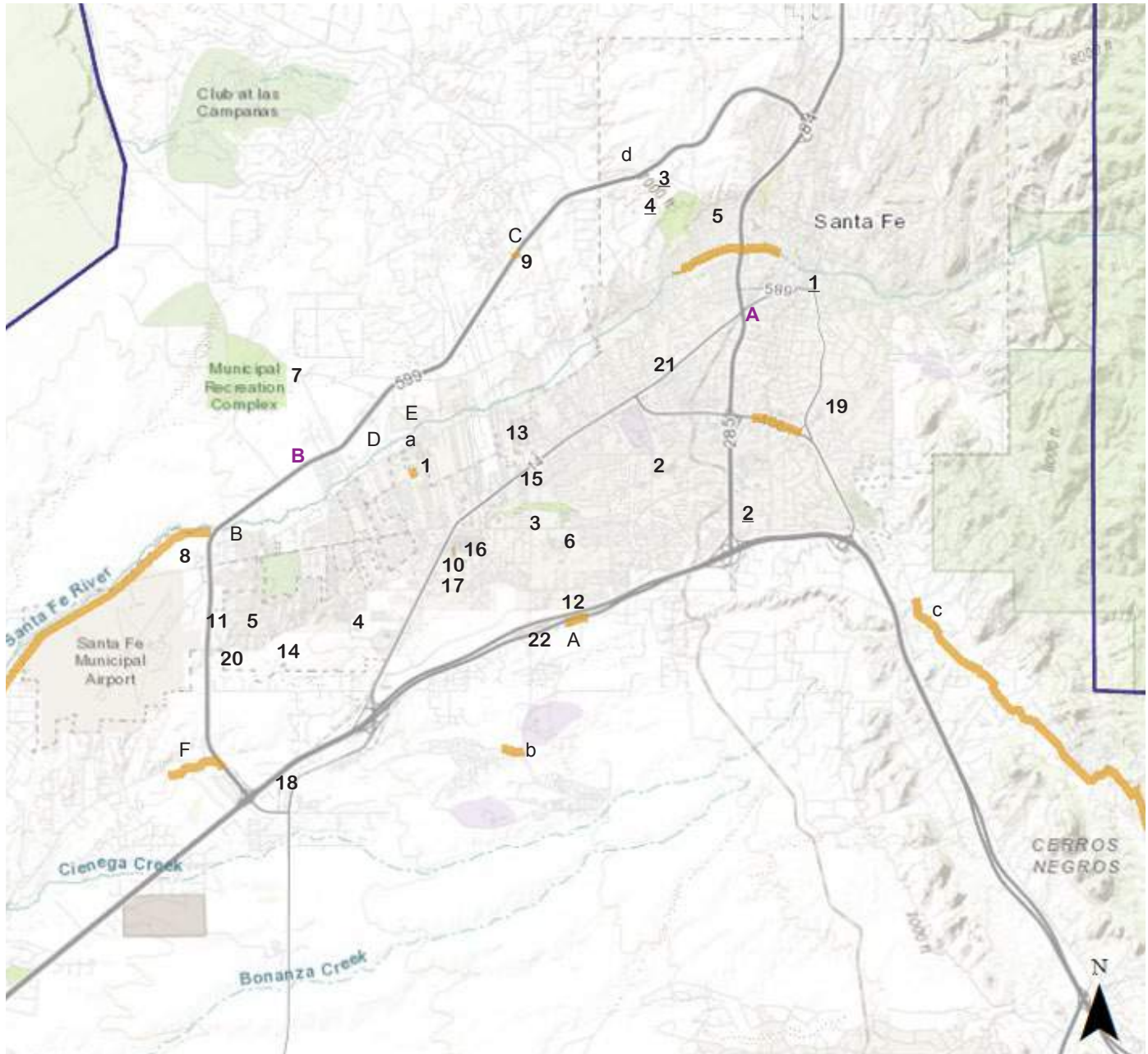
	Type of Improvement	Improvement	Score	Miles	Cost Category
(1) City-Lead Trail Improvements (in rough order of priority)					
1	Multi-Use Trail	Las Acequias Park Phase 4: E-W trail along acequia from Atajo to Cielo Azul Development	30	0.20	\$\$
2	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: South side of arroyo from Vo-Tech to Rail Trail	29	0.48	\$\$\$\$
3	Multi-Use Trail	NM CENTRAL RAIL TRAIL: Arroyo Chamiso Trail/GCCC to Rodeo Rd.	27	0.20	\$\$
4	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Los Cuatro Milpas to Tierra Contenta Trail e. of SWAN Park	26	0.51	\$\$\$
5	Multi-Use Trail	CAÑADA RINCON TRAIL: Camino de las Crucitas to Alamo	26	0.40	\$\$\$
6	Multi-Use Trail	NM CENTRAL RAIL TRAIL: Rodeo Rd. to Pinon ES	26	0.80	\$\$\$\$
7	Multi-Use Trail	MRC TRAIL: From Soccer Fields to Caja del Oro Rd. (pending gate)	26	0.20	\$\$
8	Multi-Use Trail	PASEO REAL Sidepath: From NM599 / Aviation Dr. along N. Edge of Airport to Santa Fe River	25	1.20	\$\$\$\$
9	Multi-Use Trail	ARROYO DE LAS GALLINAS: from NM599 underpass to a street with access to W. Alameda	26	1.00	\$\$\$
10	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Along Wagon Rd. Office Complex, cross Arroyo @ Emblem Rd.	25	0.30	\$\$\$
11	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Swan Park to NM599	25	0.50	\$\$
12	Multi-Use Trail	I-25 NORTH FRONTAGE: Rail Trail / West Spur to Camino Carlos Rey & Pueblos del Sol Trails	25	0.80	\$\$\$\$
13	Multi-Use Trail	ACEQUIA TRAIL: from Henry Lynch Rd. to Ave. de Montoya	24	0.20	\$\$
14	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: City Utility Easment to Los Cuatro Milpas	24	1.18	\$\$\$\$
15	Multi-Use Trail	ARROYO DE LOS PINOS: Richards Ave. Connector to Camino de los Arroyos	24	0.50	\$\$\$
16	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: West from Villa Linda Soccer Field to Office Complex	24	0.20	\$\$
17	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Emblem Rd. through Grant Property to Gov. Miles Rd.	23	0.20	\$\$
18	Multi-Use Trail	ARROYO HONDO TRAIL: NM599 Station to NM599 frontage road via I-25	28	0.25	\$\$\$
19	Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Explore Options btw Botolph Rd. & existing Trail above Conejo Dr.	21	1.30	\$\$\$\$
20	Multi-Use Trail	ARROYO HONDO TRAIL @ NM599 to ARROYO CHAMISO near SWAN Park	20	1.25	\$\$\$\$
22	Crossing (Underpass)	ACEQUIA-RAIL CONNECTOR under Cerrillos Rd. at NMDOT/Railfan Rd. (pending redevelopment)	32	0.10	\$\$\$\$\$
23	Crossing (Underpass)	NM CENTRAL RAIL TRAIL: Under I-25 and Rail Runner	23	0.10	\$\$\$\$\$
(3) County-Lead Trail Improvements (in rough order of priority)					
A	Multi-Use Trail	STUDY Rabbit Rd. / I-25 Sidepath or Bk/Lanes	28	0.39	\$
B	Multi-Use Trail	RIVER TRAIL: Constellation to Paseo Real	28	1.00	\$\$\$\$
C	Multi-Use Trail	STUDY: ARROYO DE LAS GALLINAS: frn NM599 udrpass near Aldea to frontage road, e.g. at Via Tesslera	27	0.10	\$
D	Multi-Use Trail	RIVER TRAIL: San Ysidro to CR62/Caja del Oro/Romero Park	34	0.50	\$\$
E	Multi-Use Trail	RIVER TRAIL: Connect to CR62 (Caja Del Oro Grant Rd.) Pave existing	33	0.50	\$\$
F	Multi-Use Trail	STUDY: ARROYO HONDO TRAIL FUTURE CONNECTION and under NM599 and west	23	0.25	\$

PHASE C PROJECTS: ON-ROAD IMPROVEMENTS

(2) City-Lead On-Road Bikeway Improvements (in rough order of priority)					
1	Reconstruct	Paseo de Peralta: Road Diet Old Santa Fe Trail to RR tracks (through reconstruction)	29	0.69	\$\$\$\$
2	Bike Lanes - Widen	Rodeo Rd. east of St. Francis Dr.	24	1.00	\$\$\$
3	Bike Lanes - Widen	Camino de los Montoyas, Buckman Rd. to NM599	24	0.52	\$\$
4	Bike Lanes - Widen	Buckman Rd., Camino de las Crucitas to beyond BURRT driveway	22	1.32	\$\$\$\$
(4) County-lead On-Road Bikeway Improvements (in rough order of priority)					
a	Bike Lane - Widen	Widen W. Alameda: from E. of Chicoma Vista to NM599 frontage road	24	0.38	\$\$
b	Bike Lane - Widen	Rancho Viejo Blvd.	24	1.75	\$\$\$\$
c	Bike Lane - Widen	Old Santa Fe Trail, El Gancho to Two Trails	24	1.75	\$\$\$\$
d	Bike Lane - Widen	Camino la Tierra, mailboxes north to Ave de las Campanas (selected locations with built median)	24	-	\$\$
(5) NMDOT-lead On-road Bikeway Improvements (in rough order of priority)					
A	Bike Lane - Widen	Cerrillos Rd. at St. Francis, Continue bike lane from RR tracks to Early St. (see BMP 2012)	24	0.10	\$\$
B	Bike Lane - Widen	I-25 and Relief Route frontage roads	24	-	\$\$\$\$



Map 4.5: Implementation Plan Map - Phase C Projects: Trail and On-road Improvements (Interactive Map, June 2019)



LEGEND

- Bikeway Improvement, In Design
- Bikeway Improvement, Fully Funded + in Progress
- Bikeway Improvement, Completed
- Bikeway Improvement, Proposed

JURISDICTION

- #** City, Trail Improvement
- #** City, Road Improvement
- A** County, Trail Improvement
- a** County, Road Improvement
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Note: See the Santa Fe MPO Bicycle Master Plan Project Map at [www.https://bike.santafempo.org](https://bike.santafempo.org) or the most up to date version.
Source Data: Santa Fe MPO, "Projects Map 2019, Projects List 2019"





PRIVATE DEVELOPMENT PROJECTS

Private development is a cornerstone of bikeway improvements in the city and the county. Improvements that are anticipated through private development are not included in the project lists, but are critical to the prioritization and phasing of associated publicly-funded projects. The list below provides an overview of some “developer-driven” bikeway segments that are anticipated which directly influence public project implementation timelines. The anticipated timing of these developments and of public initiatives such as river restoration, development of parks and open space, other major public projects, as well as planned annexation, has significant impact on phasing decisions for individual projects on Phase A, B, and C lists.

In addition to playing a role within the greater bikeway system, privately-funded facilities respond to needs generated by private developments themselves. Planning for and programming these improvements must therefore remain flexible. This list is not an attempt to reflect all bikeway needs that may be met through private developments but rather an illustration of expectations of the role that private development may play in creating, extending, or connecting into major bikeways in the MPO area.

Significant Bikeway Projects Anticipated through Private Development

Multi-Use Trail	Connection from Rail Trail to Camino Lado (Cerro del Norte Subdivision)	30	0.05	City
Multi-Use Trail	Connection from Mid-Town Campus Trail toward Llano St. (through Thomas Property)	31	0.10	City
Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: from s. of Gov. Miles to Las Soleras Park	29	0.67	City
Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Under NM599 and west to La Cienega area (Pavilion Development)	32	2.00	City
Multi-Use Trail	I-25 NORTH FRONTAGE: Pueblos del Sol to Richards Ave. (Desert Sage)	31	0.50	City
Multi-Use Trail	Richards Ave. East-Side Sidepath: from I-25 underpass toward SFCC (Saleh subdivision)	30	0.25	County
Multi-Use Trail	NM CENTRAL RAIL TRAIL: Rabbit Rd. north to I-25 (Saleh Subdivision)	29	0.30	County

SOFT-SURFACE TRAIL CONNECTIONS

In tandem with the Phase A, B, and C urban trail and on-road bicycle facility projects, there has been a groundswell of interest in developing soft-surface single-track trails that can provide greater off-road bicycle, hiker, and equestrian connectivity to area trails. A new organization, the Grand Unified Santa Fe Trail Organization, or GUSTO for short, is spearheading the conceptual planning of a series of future trails as well as assisting with the construction of single-trail trail segments. GUSTO envisions a non-motorized loop around the greater Santa Fe area as well as connections between the urban center and the periphery. Conceptual future soft-surface trail projects include:

Significant Bikeway Projects Anticipated through Private Development

Multi-Use Trail	Connection from Rail Trail to Camino Lado (Cerro del Norte Subdivision)	30	0.05	City
Multi-Use Trail	Connection from Mid-Town Campus Trail toward Llano St. (through Thomas Property)	31	0.10	City
Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: from s. of Gov. Miles to Las Soleras Park	29	0.67	City
Multi-Use Trail	ARROYO DE LOS CHAMISOS TRAIL: Under NM599 and west to La Cienega area (Pavilion Development)	32	2.00	City
Multi-Use Trail	I-25 NORTH FRONTAGE: Pueblos del Sol to Richards Ave. (Desert Sage)	31	0.50	City
Multi-Use Trail	Richards Ave. East-Side Sidepath: from I-25 underpass toward SFCC (Saleh subdivision)	30	0.25	County
Multi-Use Trail	NM CENTRAL RAIL TRAIL: Rabbit Rd. north to I-25 (Saleh Subdivision)	29	0.30	County

Future Soft-Surface Trail Concepts in MPO area: Not necessarily to be “engineered” as bikeways (in alphabetical order)

Soft-surface trail	AT&SF TRAIL	6.00	County
Easement	CHILI LINE: Connection SW corner of La T. Trails to Pipeline Rd. Trail & Thistle Lane	0.80	County
Soft-surface trail	LA TIERRA TRAILS / Dog Park Connector Phase 2	0.20	City
Soft-surface trail	LA TIERRA TRAILS: Connection from NM599 Underpass west to NM599 frontage road	0.13	City
Soft-surface trail	LA TIERRA TRAILS / Chili Line & MX Spectator Walking Path	0.75	City
Soft-surface trail	NM CENTRAL RAIL TRAIL: Rabbit Rd. to Oshara/Arroyo Hondo	0.20	County
Soft-surface trail	NM CENTRAL RAIL TRAIL: Oshara/Arroyo Hondo to Burnt Water Rd. side path	0.50	County
Soft-surface trail	NM CENTRAL RAIL TRAIL: Rancho Viejo to Eldorado	4.00	County
Soft-surface trail	NM CENTRAL RAIL TRAIL: Eldorado to Galisteo	10.00	County
Soft-surface trail	NM599 Side path, west side from I-25 frontage road to Arroyo Chamiso within Pavilion development, pending AC underpass	1.30	City
Soft-surface trail	Petchesky Ranch (Old Dinosaur Trail to BTI)	1.25	County
Soft-surface trail	RIVER TRAIL: Wastewater Treatment Plant to La Cienega	10.00	County
Soft-surface trail	SANTA FE TRAIL / BR66: Cañoncito to Glorieta via BNSF RR, Galisteo Creek, Old 66, and/or FS trails	8.00	County
Soft-surface trail	SARAH WILLIAMS TRAIL: Cross of the Martyrs Pk. to Gonzales Rd. along Hyde Park Rd.	1.00	City
Soft-surface trail	SARAH WILLIAMS TRAIL: Gonzales Rd. to Dale Ball Trails along Hyde Park Rd.	0.90	City
Soft-surface trail	SARAH WILLIAMS TRAIL: Dale Ball Trails to Little Tesuque Creek	1.00	County



IMPLEMENTATION APPROACH

Implementation of projects and initiatives outlined in this Bicycle Master Plan will require a diverse and creative approach towards funding. Where feasible, an effective method for implementation is the parallel inclusion of bikeway facilities within existing funded transportation projects (e.g. road reconstruction, rehabilitation, and repaving projects) at all jurisdictional levels. Recurring capital funds (e.g. GRT) can be leveraged as local funds to secure matching external funding for projects in order to maximize the return on investment. With public support, larger funds can be secured through public bonds. Local agencies must be flexible and responsive to capitalize on partnerships, in-kind matches, and other non-traditional opportunities to secure funding for project implementation. Private development can also play a significant role in implementing projects, by constructing requiring bicycle facility improvements as part of private developments - as required by City and County land use and development review. The following section provides an overview of funding sources that can be utilized.

FUNDING

Federal and State Funding Sources

The federal government has numerous programs and funding mechanisms to support bicycle and pedestrian projects, most of which are allocated by the US DOT to state, regional, and local entities. In many cases, state and regional entities administer these funds to local agencies through competitive grant programs. In order to clearly convey the roles and responsibilities of all agencies in the administration and spending of federal transportation funds, the New Mexico DOT works with the Santa Fe MPO to outline resources for funding exploration, project development, and procedural compliance.

FIXING AMERICA'S SURFACE TRANSPORTATION (FAST) ACT

In 2015, the FAST Act was signed into law, authorizing \$305 billion in transportation infrastructure planning and investment for a five-year period from 2016-2020. Multiple programs have been carried over from the previous transportation bill, Moving Ahead for Progress in the 21st Century, or MAP-21. Funding for FAST Act programs available to Iowa City is allocated to the MPOJC based on apportionment formulas determined at the federal and state levels. These programs are described below.

TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

The Transportation Alternatives Program (TAP) was authorized by MAP-21 in 2012 and has been continued by the FAST Act, through federal fiscal year 2020. Eligible project activities for TAP funding include a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, and community improvements such as historic preservation, vegetation management, and some environmental mitigation related to storm water and habitat connectivity. The TAP program replaced multiple pre-MAP-21 programs, including the Transportation Enhancement Program, the Safe Routes to School Program, and the National Scenic Byways Program. Approximately every two years, NMDOT coordinates with the state's RTPOs and MPOs to solicit TAP applications.

CONGESTION MITIGATION AND AIR QUALITY (CMAQ) PROGRAM

This program funds highway/street, transit, bicycle/ pedestrian, and other projects or programs which help maintain New Mexico's clean air quality by reducing transportation-related emissions. Eligible highway/ street projects must be on the federal-aid system, which includes all federal functional class routes except local and rural minor collectors. Approximately every two years, NMDOT solicits applications from the state's RTPOs and MPOs for eligible non-mandatory CMAQ projects that improve air quality and reduce congestion.



HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The Highway Safety Improvement Program (HSIP) is intended to achieve significant reduction in traffic fatalities and serious injuries on all public roads (including non-State-owned public roads and roads on tribal lands) by funding projects, strategies and activities consistent with a state's Strategic Highway Safety Plan (SHSP). Approximately \$22 million per fiscal year is available to the NMDOT to be programmed through the MPO / RTPO planning process.

RECREATIONAL TRAILS PROGRAM

The Recreational Trails Program maintains and awards federal funding through the National Recreational Trails (NTP) Program. The program was originally established as part of the Inter-modal Surface Transportation Efficiency Act (ISTEA) in 1991 and has been incorporated into all subsequent transportation bills, even if under different titles. Trail projects can include hiking and walking, bicycling, cross-country skiing, snowmobiling, horseback riding, canoeing, and off-highway vehicles.

NATIONAL HIGHWAY PERFORMANCE PROGRAM (NHPP)

The FAST Act continues the National Highway Performance Program, which was established under MAP-21. The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS. Eligible activities for this funding program include bicycle transportation and pedestrian walkways in accordance with 23 U.S.C. 217.

LAND AND WATER CONSERVATION FUND (LWCF)

The goal of the Land and Water Conservation Fund is the creation and maintenance of high quality recreation resources through the acquisition and development of public outdoor recreation areas and facilities. The program, operated by the New Mexico State Parks Department, requires a 50 percent local match from the project sponsor. After the funding is awarded and the project is completed, the local agency receives a reimbursement of 50 percent of the actual project costs. Since its inception in 1965, New Mexico has received \$37.8 million from LWCF to acquire, develop, and improve area outdoor recreational resources and facilities. (<https://www.emnrd.state.nm.us/SPD/Landandwater.html>)

BUILD DISCRETIONARY GRANTS PROGRAM

In 2018, the US Department of Transportation's BUILD grant program replaced the Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program. The program was created as part of the American Recovery and Reinvestment Act of 2009 with the purpose of funding road, rail, transit and port projects that achieve critical national objectives, including livability, economic competitiveness, environmental sustainability, and safety. Ninety one projects were awarded funding in 2018 for a combined total of nearly \$1.6B. The 2018-awarded project in New Mexico was \$1.6M towards constructing a maintenance facility, wash bay, and fueling facility for NCRTD buses in Espanola.



NEW MEXICO FEDERAL LANDS ACCESS PROGRAM (FLAP)

The Federal Lands Access Program (Access Program) was established in 23 U.S.C. 204 to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. The Access Program supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators. The Program is designed to provide flexibility for a wide range of transportation projects in the 50 States, the District of Columbia, and the Commonwealth of Puerto Rico.

The Access Program is funded by contract authority from the Highway Trust Fund and subject to obligation limitation. Funds will be allocated among the States using a statutory formula based on road mileage, number of bridges, land area, and visitation. Projects are selected by a Programming Decision Committee (PDC) established in each State. The PDCs request project applications through a call for projects. The frequency of the calls is established by the PDCs. The interactive map below provides the status of the call for projects.

Santa Fe County was able to take advantage of a New Mexico FLAP grant during the 2014 funding cycle with a \$3.4 million award. The now built El Camino Real Trail is a 13.25 miles multi-use trail accessing the United States Forest Service. The NMDOT in partnership with the Santa Fe MPO made application for the 2019 funding cycle for the design and construction of shoulders/bike lanes along 8 miles of Hyde Park Road. The NMDOT was not successful during this round and we encourage the NMDOT and supporting agencies continue efforts to seek funding for this well needed roadway improvement.

NEW MEXICO STATE FUNDING OPTIONS

A number of New Mexico state funding options are available to assist with bicycle facility design and capital improvements. These include the following:

- Capital Outlay
- Local Government Road Funds (LGRF)
- Special Legislative Funding Initiatives (General Fund Projects)



GLOSSARY

All Ages and Abilities Bicycle Network: A bicycle network that would appeal to people of all ages and abilities, such as the very young and very old. The network is composed of protected bicycle lanes, quiet streets, and urban trails (*2014 Austin Bicycle Plan*).

Bicycle (or Bike): A pedal-powered vehicle upon which the human operator sits. The term “bicycle” for this publication includes three- and four-wheeled human-powered vehicles, but not tricycles for children. In some states, a bicycle is considered a vehicle, while in other states it is not (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed. 2012.*).

Bicycle Boulevard: A street segment, or series of contiguous street segments, that has been modified to accommodate through bicycle traffic and minimize through motor traffic (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed. 2012.*).

Bicycle Facilities: A general term denoting improvements and provisions to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Bicycle Commuters: A person that uses a bicycle to commute from their home to a place of work or study.

Bicycle Infrastructure: Transportation infrastructure such as roads, road markings, urban trails, bike racks that are specifically designed for the use of bicyclists.

Bicycle Lane: A portion of roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and, if used, signs. It is intended for one-way travel, usually in the same direction as the adjacent traffic lane, unless designed as a contra-flow lane (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Bicycle Rack: A stationary fixture to which a bicycle can be securely attached (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Bicycle Route: A roadway or bikeway designated by the jurisdiction having authority, either with a unique route designation or with Bike Route signs, along which bicycle guide signs may provide directional and distance information. Signs that provide directional, distance, and destination information for bicyclists do not necessarily establish a bicycle route (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Bike Box: A designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase (NACTO, 2019).

Bikeway: A generic term for any road, street, path, or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Buffered Bicycle Lane: Conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane (NACTO, 2019).

Complete Streets: Complete Streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities (*Smart Growth America, 2019*).

Egalitarianism: Relating to or believing in the principle that all people are equal and deserve equal rights and opportunities.

Highly Confident Bicyclist: A person that is confident sharing the road with motorized vehicles and navigating challenging environments.

Interested But Concerned Bicyclist: A person that prefers to use bicycle specific infrastructure, like urban trails, when riding a bicycle and is not comfortable riding near vehicles.

Mode share: A percentage of people using a type of transportation (such as bicycles, buses, or trains) as their primary mode of travel.

Multi-use Trail: A shared use paths are either hard-surface or loose-surface trails designed for the use of pedestrians, bicyclists and people using other non-motorized forms of transportation for both transportation and recreational use (*2014 Austin Bicycle Plan*).

Not Able or Interested Bicyclist: A person that prefers not to use bikes when given the option.



Rail Trail: A shared use path, either paved or unpaved, built within the right-of-way of a former railroad (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Regional Trail: A long distance trail that serves transportation, recreation, and health purposes for non-motorized transportation (*Regional Trails Plan 2012: Salem-Manchester-Concord*).

Right-of-Way: A general term denoting land, property or interest therein, usually in a strip, acquired for or devoted to transportation purposes (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Safe Routes to School: Safe Routes to School is a movement that aims to make it safer and easier for students to walk and bike to school (*Safe Routes to School, 2019*).

Separated (Protected) Bikeway: A protected bicycle lane is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A protected bicycle lane is physically separated from motorized traffic and distinct from the sidewalk. Protected bicycle lanes have different forms but all share common elements—they provide space that is intended to be exclusively or primarily used for bicycles and are separated from motor vehicle travel lanes, parking lanes, and sidewalks (*2014 Austin Bicycle Plan*).

Somewhat Confident Bicyclist: A person that is comfortable riding a bicycle on residential streets or short distances with motorized vehicles but is apprehensive in certain road sharing conditions and prefers bicycle facilities.

Shared Roadway (or Shared Lane): A roadway that is officially designated and marked as a bicycle route, but which is open to motor vehicle travel and upon which no bicycle lane is designated (*MUTCD for Streets and Highways. 2009*).

Sharrow: A shared lane marking adopted by MUTCD 2009, consisting of a bicycle symbol preceding a directional chevron indicating a shared bicycle and vehicle lane and the appropriate bicycling position in the lane (*paraphrased from the Santa Fe Metropolitan Bicycle Master Plan, 2012 and the 2014 Austin Bicycle Plan*).

Shared Lane: A lane of a traveled way that is open to both bicycle and motor vehicle travel (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Shoulder: The portion of the roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use, and lateral support of subbase, base, and surface courses. Shoulders, where paved, are often used by bicyclists (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Sidepath: A shared use path located immediately adjacent and parallel to a roadway (*AASHTO Guide for the Development of Bicycle Facilities. 4th ed., 2012*).

Urban Trail: A non-motorized, multi-use pathway that is used by bicyclists, walkers and runners for both transportation and recreation purposes and adheres to AASHTO trail guidelines.

Wayfinding: The process or activity of ascertaining one's position and planning and following a route.



PHOTOGRAPHY CREDITS

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Image 0.1: Tim Rogers, Santa Fe Conservation Trust

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Image 1.3: Google Streetview

Image 1.4: Wikipedia, [https://commons.wikimedia.org/wiki/File:NM599_South_Sign_Evening_\(36379746660\).jpg](https://commons.wikimedia.org/wiki/File:NM599_South_Sign_Evening_(36379746660).jpg)

Image 1.5: Wikipedia, https://en.wikipedia.org/wiki/New_Mexico_State_Road_14

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Image 1.7: Santa Fe MPO

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Image 1.18: Greenmatters, <https://www.greenmatters.com/parenting/2017/06/15/Z1QAJ14/biking-family>

Image 1.19: Tim Rogers, Santa Fe Conservation Trust

Image 1.20: I am Living It, <https://www.iamlivingit.com/cycling/best-cycling-apps-iphone-android>

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Image 2.24: Trung Vo, Toole Design

Chapter 3 - Bicycle Policy Recommendations

Image 3.1: KRQE, <https://www.krqe.com>

Image 3.2: League of American Bicyclists, <https://www.bikeleague.org/>

Image 3.3: New Mexico Department of Health, <https://nmhealth.org/about/erd/ibeb/ipp/>

Image 3.4: Albuquerque Journal, <https://www.abqjournal.com/624530/sfpd-turmoil-over-police-chief-is-nothing-new.html>

Image 3.5: Albuquerque Journal, <https://www.abqjournal.com/639022/getting-public-on-board-with-bikeshare-system.html>

Image 3.6: Brian Kreimendahl

Image 3.7: Bike Santa Fe, <http://www.bikesantafe.org/>

Image 3.8: Santa Fe Fat Tire Society, <https://santafefattiresociety.org/>

Image 3.9: Tim Rogers, Santa Fe Conservation Trust

Image 3.10: Santa Fe Century, <http://santafecentury.com/>

Image 3.11: Chainbreaker Collective, <https://chainbreaker.org/>

Image 3.12: Santa Fe Conservation Trust, <https://sfct.org/>

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Chapter 4 - Implementation Plan

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Image 4.2: Google Streetview

Image 4.3: Federal Highway Administration

Image 4.4: National Association of City Transportation Officials

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Image 4.6: Golden Gate National Parks Conservancy, <https://www.parksconservancy.org/projects/parkwide-wayfinding-signage>

Image 4.7: The Opus Group, <https://www.opus-group.com/News/Transit-is-at-the-Center-of-Creating-Livable-Urban-Communities>

Image 4.9: Santa Fe MPO

Image 4.10: Bike Santa Fe, https://www.facebook.com/pg/bikesantafe/photos/?tab=album&album_id=10160423111045304

Image 4.11: The Mercury News, <https://www.mercurynews.com/2017/05/18/watch-out-for-those-armadillos-and-bollards-on-city-streets/>

Image 4.12: Intertwine Trail Use Snapshot: An analysis of National Bicycle and Pedestrian Documentation Project data from 2008 to 2010



APPENDIX

See appendix document