

RTSAP



REGIONAL TRANSPORTATION SAFETY ACTION PLAN 2024



RTSAP

REGIONAL TRANSPORTATION SAFETY ACTION PLAN (RTSAP 2024)

DEVELOPED BY:



WITH ASSISTANCE FROM:



And



The RTSAP 2024 was made possible by a United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) grant and Federal Highway Administration (FHWA) technical assistance. This RTSAP 2024 plan supports the USDOT National Roadway Safety Strategy and their goal of zero roadway deaths using a Safe System Approach.

2024



SOURCE: MRMPO

ACKNOWLEDGMENTS

RTSAP 2024 Guidance Committees

The Mid-Region Metropolitan Planning Organization’s (MRMPO) policy board the Metropolitan Transportation Board (MTB) adopted a resolution (R-22-08 MTB) to prioritize safety in the development of MRMPO’s transportation plans, and as a part of that effort the Safety Steering Committee was formed. The Safety Steering Committee initiated the development of this plan and provided vision and oversight throughout the process. This plan was also guided by input from a Technical Team that was formed to assist the crash analyses and review strategies, projects, and programs.

Safety Steering Committee Members:

- Luis Melgoza, Federal Highway Administration Planner (Safety / Pavement)
- Councilor Tammy Feibelkorn, City of Albuquerque City Councilor
- Councilor Klarissa Pena, City of Albuquerque City Councilor
- Rachel Hernandez, City of Albuquerque Policy Analyst
- Martin Moore, City of Rio Communities Assistant to the City Manager
- Councilor Peggy Gutjahr, City of Rio Communities City Councilor
- Amy Lopez, City of Rio Communities Assistant to the City Manager
- Councilor Stuart Murray, Village of Corrales City Councilor
- Maria Rinaldi, Village of Los Ranchos Project Manager
- Josefina Dominquez, Albuquerque Public Schools (APS) District 6 Policy Committee Chair / Board of Education member
- Barbara Peterson, APS District 4 Policy Committee / Board of Education Member
- Richard Meadows, Bernalillo County Transportation Project Planner (Public Works)
- Mayor Kenneth Brennan, Town of Edgewood Mayor
- Rosa Kozub, New Mexico Department of Transportation Multimodal Planning & Programs Bureau Chief
- Sarah Young, Albuquerque Public Schools Grant Analyst
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Technical Team Members:

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- Jeff Hertz, City of Albuquerque Council Services
- Carrie Barkhurst, City of Albuquerque Transit Department (ABQ Ride)
- Luis Melgoza, Federal Highway Administration
- Avery Frank, Federal Highway Administration
- Alex Ochoa, Village of Los Lunas
- Senaida Anaya, Tarrant County
- Samantha O’dell, Tarrant County
- Martin Moore, City of Rio Communities
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- Tanya Lattin, Village of Corrales
- Dale Kleinsmith, Isleta Pueblo
- Nancy Perea, New Mexico Department of Transportation District 3
- Jason Coffey, New Mexico Department of Transportation Planning
- Sheri Bozic, Pueblo of Jemez
- Dennis Fulfer, Town of Mountainair
- Nick Ferenchak, University New Mexico
- Eric Tang, Vanasse Hangen Brustlin
- Roseanne Gomez, Sandoval County
- Jon Zaman, Sandoval County
- Jeanette Linville, Village of Cuba
- Mark Aasmundstad, Southwest Bike Initiative

Project Team

The RTSAP 2024 was produced by the Mid-Region Metropolitan Planning Organization (MRMPO) staff with assistance from the Mid-Region Regional Transportation Organization (RTPO) and support from Map It Consulting and Groundwork Studio. Map It Consulting provided guidance with the development of the document and crash analyses. Groundwork Studio provided support with the public engagement process. MRMPO led the development of the plan with support from member jurisdictions and multidisciplinary stakeholders. In addition to an extensive outreach process with key stakeholders and the public, the RTSAP 2024 was developed with the input and guidance from MRMPO’s advisory and technical committees, which include members from local and State agencies, schools, and other local organizations. The final document was brought to TCC and the MTB for approval in August of 2024.

Project Team Members:

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- Tara Cok, Mid-Region Metropolitan Planning Organization (MRMPO)
- Caerllion Thomas, Map It Consulting
- Amy Bell, Groundwork Studio
- Maren Neldam, Groundwork Studio
- Seth Tinkle, Mid-Region Regional Transportation Planning Organization (RTPO) / Regional Planner

Stakeholders

Stakeholder groups included local governments, Tribal governments, school and school district staff, public health officials, and advocacy groups representing vulnerable road users, particularly walkers, bikers, and people with disabilities. Contact lists were developed utilizing MRMPO and RTPO contacts and leveraged additional contacts from concurrent statewide planning efforts for the **New Mexico Department of Transportation Vulnerable Road User Safety Assessment**. Below is a snapshot of some key stakeholder groups that were included in the outreach and engagement activities:



A NOTE FROM THE DIRECTOR OF THE MID-REGION COUNCIL OF GOVERNMENTS

This Regional Transportation Action Plan (RTSAP 2024) sets forth an overarching action plan for improving roadway safety in our communities. It will take all of us together to put safety first and decrease the high number of fatalities happening on our roadways.

The Metropolitan Transportation Board (MTB) of the Mid-Region Metropolitan Planning Organization (MRMPO) adopted a resolution (R-22-08 MTB) in 2022 that declared MRMPO's commitment to improving transportation safety in the region. The Safety Steering Committee that came out of that resolution guided this plan through their oversight and their vision for safer streets. A Technical Team was also formed that provided detailed feedback on strategies, projects, and programs included in this plan.

Mid-Region Council of Governments (MRCOG) is grateful for the collaboration with local agencies and the Mid-Region Regional Transportation Planning Organization (RTPO), Tribal governments, school system representatives, and members of the public. The guidance from the committees and the feedback received from the outreach process that included focus groups and local community representatives made this plan a strong step towards improving safety in our region.

The RTSAP 2024 focuses on everyone being a part of systemic change that puts safety first on our roadways, and also checks the boxes for local agencies to be eligible for Safe Streets and Roads for All (SS4A) funding. Simply put, this plan is intended to be a shared regional vision to implement effective safety action items.

Please consider the Mid-Region Council of Governments (MRCOG) your ally and partner in the effort to reduce traffic fatalities to zero.

Sincerely,

Dewey V Cave

Dewey V. Cave

Executive Director

Mid-Region Metropolitan Planning Organization / Mid-Region Council of Governments



SOURCE: MRMPO

THE ROLE OF REGIONAL TRANSPORTATION PLANNING

The Mid-Region Metropolitan Planning Organization (MRMPO) is a section under the Mid-Region Council of Governments (MRCOG) umbrella and serves as a regional forum for transportation planning and programming. The MRMPO planning process is designed to enhance the safety, security, and mobility of all users and modes of the region’s transportation system. MRMPO maintains a variety of plans, reports, and initiatives that identify and promote safety related goals and outcomes. MRMPO regularly uses safety data to analyze crash data, identify emerging trends, and prioritize investments.

This plan is an update of the 2018 Regional Transportation Safety Action Plan (2018 RTSAP). The previous safety action plan focused on the Albuquerque Metropolitan Planning Area (AMPA), but this RTSAP 2024 expands the coverage of the plan to include the entire MRCOG area, which includes Bernalillo, Valencia, Sandoval, and Torrance counties, and the southern part of Santa Fe County.

The following map provides the boundaries for the transportation planning areas for the MRCOG, which includes both the MRMPO and the Mid-Region Regional Transportation Planning Organization (RTPO) that serves the non-metropolitan areas of the region. The RTPO is housed under the MRCOG’s Regional Planning Program (RPP). The RPP acts as an extension of local government staff, providing professional planning assistance and technical services to MRCOG’s member governments. Also illustrated on the map are the Albuquerque Large Urban Area, the Los Lunas Small Urban Area, and the rural and Tribal areas. These boundaries are important because they are used for crash analyses and they guide eligibility for federal funding.

The Mid-Region Council of Governments fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. For more information or to obtain a Title VI Complaint Form, please contact the MRCOG Title VI Coordinator, Claudia Patricia Merlo at (505) 724-3651 or email cpmerlo@mrcog-nm.gov.

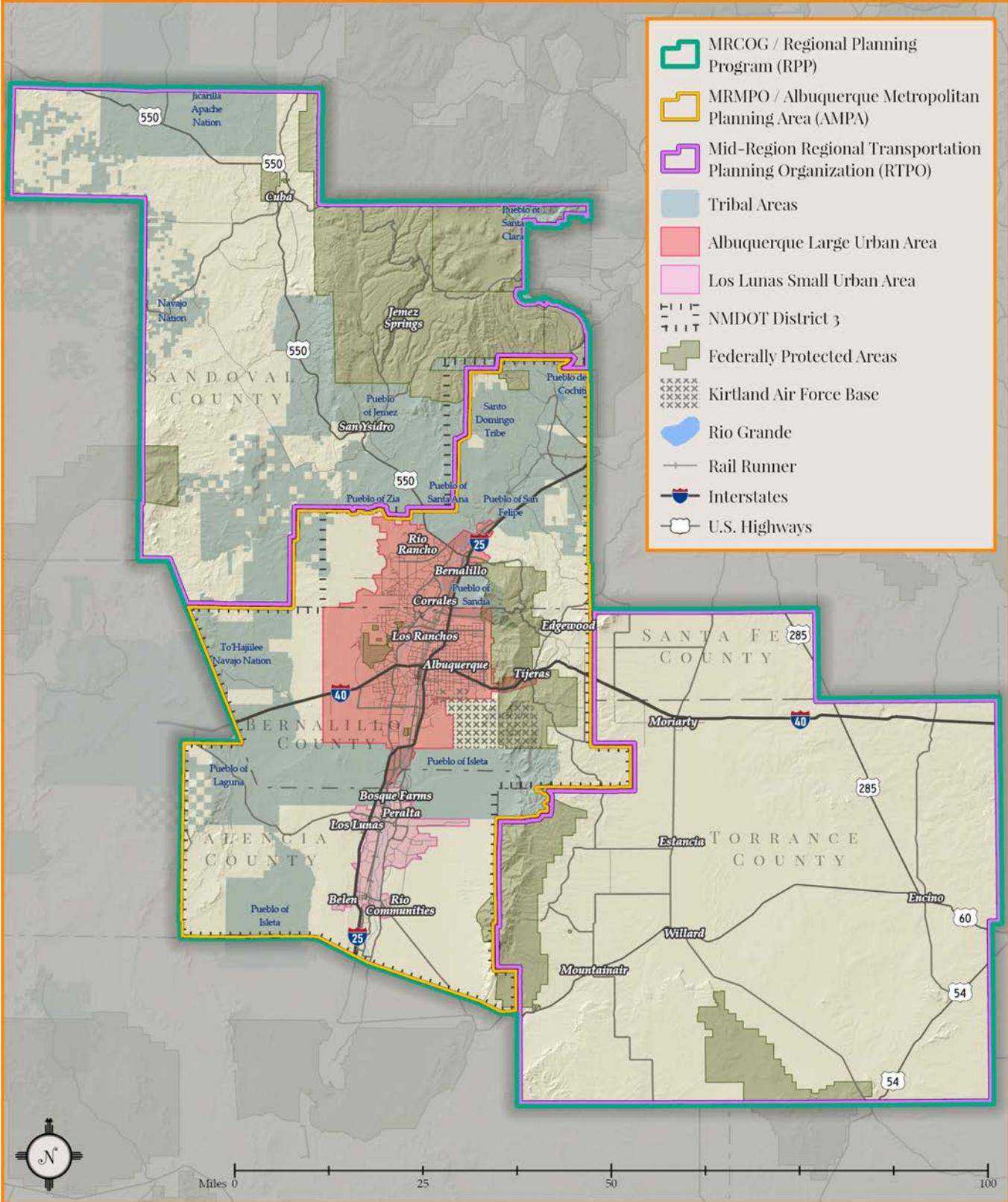


Figure 1. Mid-Region Council of Governments Planning Areas



SOURCE: MRMPO

OUR COMMITMENT

Any fatalities on our streets are unacceptable and the Mid-Region Council of Governments (MRCOG) has pledged to take action. This plan is the first step to guide transportation investments in a targeted manner to prioritize projects, programs, and strategies that best serve the goal of achieving zero traffic fatalities and life-altering serious injuries on our roadways. This includes moving forward in an equitable manner by elevating the importance of roadway safety improvements in historically disadvantaged communities.

As the Metropolitan Transportation Board (MTB) and members of local entities and organizations we are committed to:

1. Use the High Fatal and Injury Network (HFIN) and the Potential Road Diet Candidates as high-level planning tools to prioritize investments and meet the vision.
2. Support a new paradigm in transportation that is proactive and systemic: the Safe Systems Approach.
3. Actively participate in biking to work, Safe Routes to School, and other activities like CiQlovia that promote the vision.
4. Achieve equity in transportation by ensuring our historically disinvested communities are a priority, and have improved access to safe and efficient travel options.
5. Serve our community by being transparent and reporting on safety performance metrics and progress.
6. Prioritize and implement safe street design that puts multimodal roadway safety first over capacity and speed.
7. Develop and formalize partnerships with each other to collect and share information to implement strategies and projects that will most benefit roadway safety in the region.
8. Develop public information campaigns with community partners to address issues like speeding and substance use, and educate about new design features that support multimodal travel.

WHAT TO EXPECT IN THE RTSAP 2024

Chapter 1 Vision and Approach introduces the vision and goal, which is focused on reaching zero traffic deaths in the region and ensuring a proactive and collaborative approach to improving roadway safety. A direction is set forth in this Chapter for periodically evaluating safety improvements and data-driven performance measures. Chapter 1 also highlights what was heard from the outreach process, and reveals the harmful impact of roadway crashes on historically disadvantaged communities. Relevant local transportation safety plans are reviewed.

Chapter 2 Regional Crash Analyses focuses on the latest 2017 to 2021 crash data for the region. This chapter provides detailed information of the more severe crashes by mode of travel and evaluates the upward trend of fatalities despite decreased traffic volumes. The crash data is also analyzed with respect to the type of crash such as single vehicle crashes, the impact of the roadway character and purpose, and the results of factors like speed, travel behavior, and geographic location.

Chapter 3 Regional Safety Strategies summarizes the latest safety strategies recommended to prevent future crashes in an easy-to-use Safety Strategies Toolbox. This toolbox provides quick access to the appropriate conditions and locations for applying these strategies. Also provided is a list of Proven Safety Countermeasures (PSCs) primarily from the FHWA that have vetted studies showing their impact on reducing crashes.

Chapter 4 Selecting Safety Priorities describes how to thoughtfully use high-level planning tools such as the High Fatal and Injury Network (HFIN) and the Potential Road Diet Candidates to help select locations for safety improvements. These tools are not prescriptive but provide a guide for further investigation. A technical feasibility analyses must happen prior to implementation. Additionally, this chapter includes Area Safety Profiles for small urban, rural, and Tribal areas that contain crash data snapshots to supplement local planning efforts. The importance of multimodal street design and speed reduction strategies is emphasized. Chapter 4 culminates in a list of regional and local priority projects and programs (the Safety Project and Program List) and reviews guidance on pursuing Safe Streets and Roadways for All (SS4A) grants, including assistance that the MRMPO and the RTPO can provide.



SOURCE: MRMPO

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1. VISION AND APPROACH



VISION AND APPROACH

RTSAP 2024 PURPOSE

RTSAP 2024 is first and foremost meant to provide a vision and a toolbox to improve roadway safety in response to the exceptionally high number of deaths and serious injuries on our roadways. To do so, this plan was developed from the perspective that everyone has a role in improving roadway safety in the region and it must be a multi-faceted and systemic approach. This plan presents safety strategies that relate to policy, education, engineering and design. These strategies are data driven and informed by public and agency outreach. Priority programs and projects are also identified to support local planning.

CRASH DATA ORIGINS

The information contained in the crash data is originally compiled by the police officer at the scene of a crash. This plan uses the most recent crash data available from 2017 to 2021, unless otherwise noted.

The crash data is provided by University of New Mexico Geospatial Population Studies department, which geocodes crash record data compiled by the New Mexico Department of Transportation's (NMDOT) Traffic Safety Bureau from police records across the State of New Mexico.

A crash must involve at least one motor vehicle, occur on a public roadway, and result in at least \$500 of property damage or personal injury to be recorded.

This crash data, along with MRMPO's street network and traffic counts data, allow for the region's crash rates to be calculated.

CUSTOMIZED PLANNING TOOLS

Because there are unique concerns for large urban, small urban, rural, and Tribal areas, this plan addresses these different areas by offering customized crash analyses and recommendations. For example, this plan includes the development of important planning tools like the High Fatal and Injury Network (HFIN) and the Potential Road Diet Candidates. Other elements include a searchable toolbox of safety strategies (Safety Strategies Toolbox), crash profiles (Area Safety Profiles) for different geographic areas, and a prioritized list of projects and programs (Safety Project and Program List). The development of these elements was guided by public and agency input, five years of crash data analyses for the region (2017-2021), and an emphasis on equitable outreach and implementation. Equity is weaved throughout the plan from crash analyses to project selection.

FUNDING ELIGIBILITY

The final purpose of RTSAP 2024 is to serve as a federally eligible safety action plan for all of the local governments in the MRCOG area, especially the smaller communities, rural counties and Tribal governments that may lack the resources to prepare their own safety action plans. Consequently, RTSAP 2024 enables local governments to directly apply for implementation grants through the Safe Streets and Roads for All (SS4A) program, as well as other grant programs that may require safety action plans as a prerequisite. Nevertheless, RTSAP 2024 does not preclude a local government from preparing their own safety action plan.

WHY A SAFETY PLAN FOR OUR REGION?

AN UNACCEPTABLE AMOUNT OF DEATHS

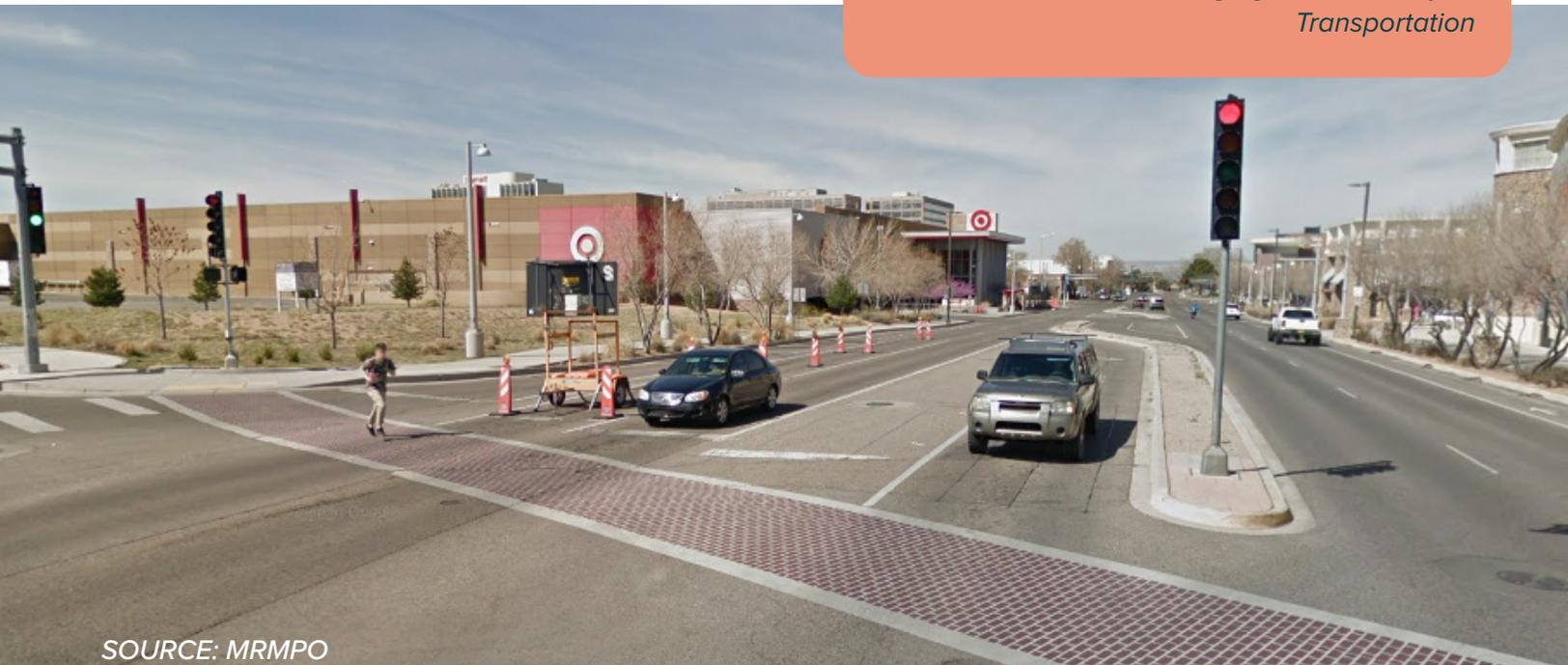
In the **Dangerous by Design 2024** report, produced by Smart Growth America, Albuquerque metropolitan area is ranked #2 among the most dangerous area in the nation for pedestrian fatalities, and New Mexico tops the list as the #1 most dangerous state to be a pedestrian. Unfortunately, large metro areas across the nation are significantly more dangerous for pedestrians than a decade ago, and our region is no exception.

Adding to these grim statistics, a disproportionate amount of people are being killed and seriously injured in historically disadvantaged communities. Albuquerque's International District, an area of concentrated poverty and persons of color, accounts for 5% of the metro area's population but 23% of the fatalities. Traffic deaths are particularly high for pedestrians in the metropolitan area and for rollover crashes in the rural areas.

We must come together to collaborate on ways we can reduce this unacceptable amount of deaths in our local communities. There has fortunately been some great steps toward reversing course such as the City of Albuquerque's Vision Zero efforts, Bernalillo County's Complete Streets work, Pueblo de Cochiti's transportation safety planning, and Albuquerque Public Schools Vision Zero initiatives, to name a few. Also, this plan aligns with the forthcoming NMDOT's Target Zero initiative, which focuses on making every trip safe from death and life-altering serious injury by preventing crashes from happening in the first place, and minimizing the harm caused when they do.

We need a change in mentality. We've become accustomed to accepting the unacceptable.

- Pete Buttigieg, US Secretary of Transportation



SOURCE: MRMPO

1. VISION AND APPROACH

TRAFFIC FATALITIES IN THE REGION

The latest crash data for the region show that traffic fatalities are continuing to rise to unprecedented levels. There were 184 total traffic fatalities in our region in 2021, which is up 47% over the past 5 years. What is most shocking is that over that time frame vehicles on our roadways declined due to the COVID-19 pandemic. One might expect with less vehicles there would be less fatalities, but the opposite is true.

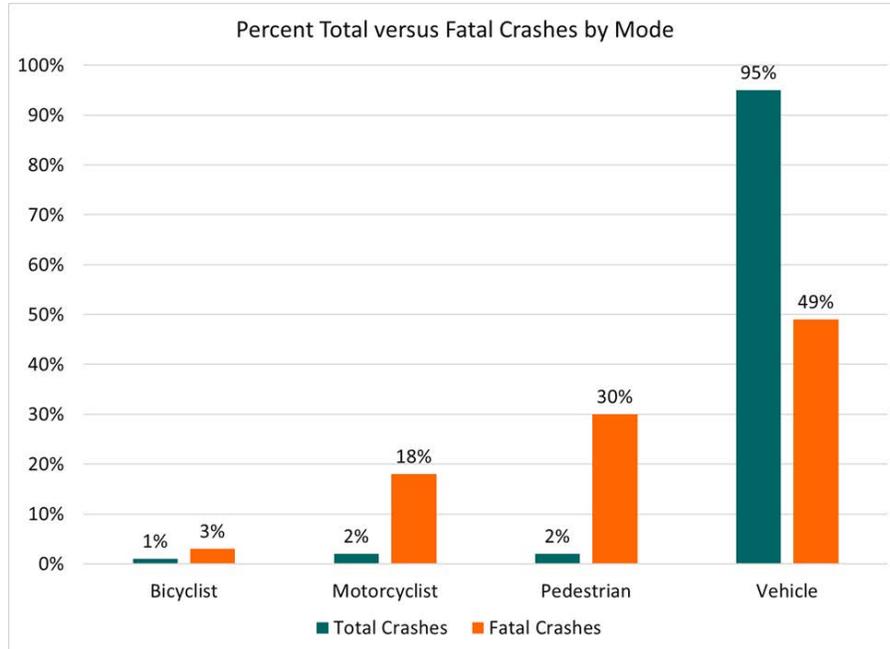


Figure 2. Percent Total Crashes versus Fatal Crashes by Mode (2017-2021)

Some shocking statistics from the crash data:

49% of the total fatalities are automobile occupants despite innovations in vehicle safety such as seat belts and airbags. Most of these deaths involve speeding, inattentive driving, or some type of alcohol or drug use.

Crashes involving pedestrians only account for 2% of the total crashes, but 30% of fatalities. 91% of the pedestrian fatalities are in the Large Urban Area.

Crashes involving motorcyclists only account for 2% of the overall crashes, but 18% of fatalities. Many of these are also single vehicle crashes.

20% of the population resides outside the Large Urban Area, but 25% of the fatal crashes occur here (mostly motor vehicle involved crashes) with a high portion of deaths from rollovers or hitting fixed objects.

THE SAFE SYSTEMS APPROACH

PLANNING FOR SAFE STREETS

There has been considerable movement in improving roadway safety in the region. The previous 2018 RTSAP encouraged agencies to adopt Vision Zero policies and to implement safer street design by using planning tools like the High Fatal and Injury Network (HFIN) and the Potential Road Diet Candidates (both presented in Chapter 4) to help target high priority locations for needed safety improvements. These tools have been more widely used by local agencies. Complete Streets and Vision Zero policies and programs have also been adopted since the first safety plan. Other efforts have experienced success as well, such as NMDOT's ENDWI campaign coupled with enforcement at high-risk locations, and events like CiQlovia funded by Presbyterian Health which supports active transportation and public health.



These policies and programs are a great first step towards safer roadways, but despite these efforts traffic fatalities continue to rise. A new approach is needed that addresses all elements of the transportation system from all agencies and departments that is proactive and systemic. Our priorities must change to support roadway design for safe speeds and provide ample opportunities to travel safely by all modes. Ultimately, this approach also needs to put safety first when it comes to allocation of resources and funding.

1. VISION AND APPROACH

THE SAFE SYSTEMS APPROACH

The Federal Highway Administration (FHWA) offers a new approach. The Safe System Approach, which is a human-centric approach that proactively identifies and addresses risks. This approach recognizes that although humans make mistakes and are vulnerable, fatalities and injuries can be prevented.

This approach differs from past efforts in that it sets forth a goal of zero fatalities and serious injuries and the onus to reach this goal is **not** put on individual road users (or victim blaming) but is best achieved through shared responsibility and approaches that stop fatal and serious injury crashes from happening in the first place. Following the principles of the Safe System Approach are essential to realizing the RTSAP 2024 vision, goal, and performance measures.

SS4A FUNDING

Furthermore, funding is attached to this approach. The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program with \$5 billion in appropriated funds over five years (2022-2026). The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries.



SAFE SYSTEM PRINCIPLES		
 <p>Death/Serious Injury is Unacceptable</p> <p>While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.</p>	 <p>Humans Make Mistakes</p> <p>People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.</p>	 <p>Humans Are Vulnerable</p> <p>People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.</p>
 <p>Responsibility is Shared</p> <p>All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.</p>	 <p>Safety is Proactive</p> <p>Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.</p>	 <p>Redundancy is Crucial</p> <p>Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.</p>

Figure 3. Safe Systems Approach Principles and Diagram
Source: FHWA

THE VISION, GOAL, AND PERFORMANCE MEASURES

THE RTSAP 2024 VISION

From policy to education, campaigns coupled with enforcement, and planning to engineering - we all share the responsibility to make safety the highest priority on our roadways. A systemic approach employs a variety of strategies and includes an evaluation of the entire transportation network to identify where there is higher risk, with the goal to prevent deaths and serious injuries. Crash analyses done in this plan demonstrate regional transportation safety concerns, and guide our way forward. Furthermore, the Safe Systems Approach and Vision Zero principles emphasize that humans make mistakes and crashes will happen, but that we need to work together to prevent the severity of these crashes. As a result of the grim local crash statistics and the need for a collaborative approach, a vision and goal are affirmed below.

VISION: THE REGION WILL BE PROACTIVE IN PREVENTING FATALITIES AND SERIOUS LIFE-ALTERING INJURIES, AND IN DOING SO PROVIDE SAFER MOBILITY FOR ALL MEMBERS OF OUR COMMUNITIES.

GOAL: ZERO TRAFFIC DEATHS BY 2040



SOURCE: MRMPO

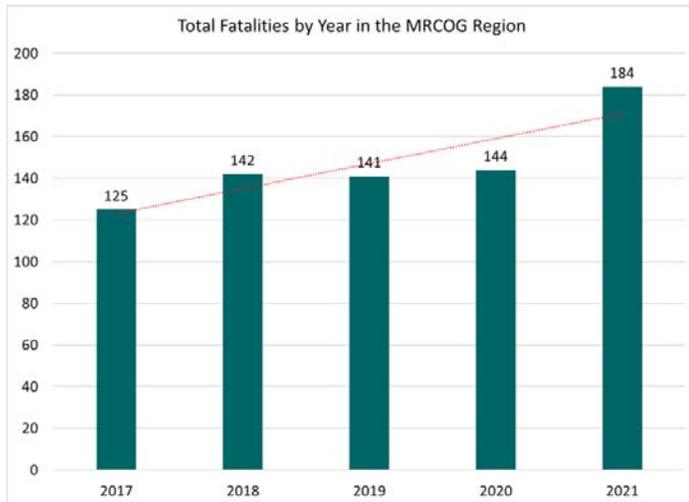
RTSAP 2024 GOAL

A vision of zero fatalities is an essential first step to improving safety on our roadways. Vision Zero is a movement that started in Sweden and has spread world-wide. This approach is based on the ethical principle that no one should ever be killed when using the transportation system. Historically, it has been the user of the transportation system that is considered at fault.

Vision Zero changes this dynamic by supporting a shared responsibility that includes implementing safety from policy to design. The City of Albuquerque is the only agency in the region that as a part of their Vision Zero program has committed to a goal of zero traffic deaths to be achieved by 2040. Mayor Keller signed the Executive Order in May of 2019. In agreement and support of Vision Zero, MRMPO is adopting that same goal.

1. VISION AND APPROACH

MRMPO is committed to working with local agencies to reduce traffic fatalities, and through monitoring will chart the region's success in interrupting the pattern of increased traffic deaths. MRMPO is committed to timely updates of the High Fatal and Injury Network (HFIN), Potential Road Diet Candidates, and an online crash dashboard. We must change this upward trend of roadway deaths in our region.



Public messaging from civic leadership about this new traffic safety vision must be omnipresent and overwhelming. Civic leadership must be seen as accessible and actively participating (leadership is riding the bus, biking to work, walking children to school, making public statements at Isotopes games prior to start of game, handing out freebies, etc.).

– Technical Team Member

Figure 4. Total Fatalities by Year in the Region (2017-2021)

RTSAP 2024 PERFORMANCE MEASURES

For the RTSAP 2024 to be successful it must include outcome-based metrics and be periodically evaluated for effectiveness. This allows for modifications to strategies, projects, programs, and investments to ensure continual improvement over the next five years.

The Infrastructure Investment and Jobs Act (IIJA) requires the implementation of five specific safety performance measures to assess fatalities and serious injuries on all public roads. The New Mexico Department of Transportation (NMDOT) adheres to this requirement by developing safety targets. MRMPO adopted these targets through resolution (R-23-01 MTB) and supports the five performance measures along with additional measures that are customized to this region.

NMDOT Data Methodologies and Assumptions

In setting the 2024 safety targets, NMDOT and stakeholders did not rely solely on the crash data forecasts. Instead NMDOT used the data in combination with other relevant factors including: the assessment of the potential safety impacts of various strategies and projects, as well as other policy and planning goals. NMDOT worked with UNM to determine methodologies and assumptions for the forecasts used in the target setting process.

2024 HSIP PM1 Target Report

1. VISION AND APPROACH

Table 1. Federal / State Performance Measures

FEDERAL/STATE PERFORMANCE MEASURES
Reduce number of fatalities
Reduce rate of fatalities per 100 million vehicle miles traveled (VMT)
Reduce number of serious injuries
Reduce rate of serious injuries per 100 million VMT
Reduce number of non-motorized fatalities and non-motorized serious injuries

MRCOG encompasses a diverse area, which results in different types of crashes contributing to fatalities and injuries. Because of this, there are different metrics provided for the metro area versus the small urban and rural areas.

Table 2. Regional Performance Measures

REGIONAL PERFORMANCE MEASURES
Decrease fatal rollover crashes in small urban and rural areas
Decrease fatal and injury pedestrian Involved crashes in the large urban areas (particularly in the more vulnerable communities identified in this plan)
Decrease alcohol/drug involved crashes
Decrease fatal and injury motorcyclist involved crashes
Decrease fatal and injury crashes for motorized and non-motorized travelers along high crash HFIN segments and at high crash HFIN intersections
Track number of items implemented from the RTSAP 2024 Safety Strategies Toolbox and Safety Project and Program List

A comparison of state crash data totals was done to provide information on the portion that is within the region. Using 2021 data, this comparison reveals that 60% of the non-motorized fatalities and serious injuries are within our region, and that 38% and 37% respectively of the total fatalities and serious injuries are within our region. This makes sense considering the population and area that the region encompasses. To support reaching the state performance targets the region needs to do their part. If we reduce the number of fatalities by 5% each year, we can reach zero fatalities by 2040.

Table 3. Comparison of 2021 Crash Data between State and Regional Totals

NMDOT STATE TOTALS	2020	2021	2022	2024 STATE TARGET	MRCOG 2021	% OF STATE 2021
Fatalities	398	483	467	450	184	38%
Serious Injuries	887	1044	1079	1019	397	37%
Non-motorized Fatalities and Serious Injuries	181	222	219	200	119	60%

COMMUNITY ENGAGEMENT PROCESS

Feedback from public outreach and stakeholder engagement played an important role in developing the RTSAP 2024. Outreach and engagement activities helped identify roadway safety concerns from communities impacted by transportation plans and projects, and tapped into local community members’ expertise to identify opportunities for safety improvements.

The RTSAP community engagement process organized outreach and activities into three categories according to the type and depth of involvement. The three categories are: Inform, Consult, and Collaborate. Each type of involvement was tailored to the target audience and the goals of engagement.

Community Input Informed:

- Critical safety issues affecting communities throughout the region.
- Local knowledge and perspective on the factors contributing to safety concerns.
- Potential strategies, policies, or projects to improve roadway safety in the region.
- Barriers to ensuring safety in the planning, design, and development of transportation infrastructure.

Table 4. MRMPO Engagement Process

	INFORM	CONSULT	COLLABORATE
GOAL	Provide transparency in the planning process.	Get feedback on safety issues and potential solutions for the RTSAP.	Provide a seat at the table when developing plans.
WHEN THE COMMUNITY IS INCORPORATED	Throughout the process stakeholders were informed about the RTSAP’s goals, timeline, and planning process.	Once the strategies for the RTSAP were identified.	At the beginning and throughout the follow up regarding how their input is used.
ENGAGEMENT TOOLS	<ul style="list-style-type: none"> • Newsletter • Brochures/Flyers • Social media • Webpages • E-communications 	<ul style="list-style-type: none"> • Surveys and polls (in-person or online) • Key person interviews 	<ul style="list-style-type: none"> • Focus groups and working groups (in-person and online) • “Pop-up events” and participatory planning tools that incorporate feedback • Walking tours • Working sessions (in-person or online)
ROLE OF COMMUNITY	Audience	Advisor	Stakeholder
ROLE OF AGENCY	Decision-makers	Planners	Leaders
ROLE OF EQUITY	Minimal	Targeted	Integrated

1. VISION AND APPROACH

OUTREACH OVERVIEW

Public outreach activities took place between October 2023 and February 2024. Approximately 696 people participated directly in focus groups and events, while 374 people took the online survey. RTSAP engagement opportunities were promoted heavily through social media, partner organizations, and the MRMPO newsletter. Recipients included in this distribution ranged from local agencies in the region to the Metropolitan Transportation Board (MTB) and MRMPO committees and subcommittees, as well as to the hundreds of members of the public who signed up for the MRMPO Travel Times e-newsletter over the past few years.

The survey and additional information about the RTSAP update were distributed in the following email campaigns:

- Fall 2023 Travel Times (842 sends)
- RTSAP Film Screening (990 sends)
- RTSAP survey boost (1,227 sends)
- Winter 2023 Travel Times (1,213 sends)



ONLINE SURVEY

The online survey tool was used to gather input from around the region. The survey was offered in English and Spanish and materials were produced in English and Spanish for distribution through emails, MRMPO newsletters, the Regional Planning Program (RPP) newsletter, social media posts, and a digital flyer distributed to families at 38 Albuquerque Public Schools (schools adjacent to roadway segments highlighted on the HFIN were prioritized for flyer distribution).



Figure 5. Snapshot of RTSAP 2024 Online Survey

WHAT WE HEARD FROM COMMUNITIES

Community input from the online survey, outreach events, and focus groups are woven throughout the plan. Participants shared a wide variety of approaches to addressing the problem of traffic safety in the region. In addition to guiding crash analyses, responses provided input on the Safety Strategies Toolbox (Chapter 3), geographic locations of concerns included in the Area Safety Profiles (Chapter 4), and the Safety Project and Program List (Chapter 4).

ENSURING EQUITY

Fatal and serious injury crashes disproportionately impact historically disadvantaged communities including people who are Black, American Indian, and Hispanic or Latino. According to a national report by the Governors Highway Safety Association (GHSA) for Black, Indigenous, and People of Color (BIPOC) there is a significant health disparity when it comes to traffic fatalities, and this concern is reflected in our region as well. In New Mexico, the highest number of traffic fatalities per capita are American Indian/Alaska Native (AI/AN), the second highest is Hispanic, and the third is Black persons.

Throughout the RTSAP public outreach process, the project team worked with leaders who represent historically disadvantaged communities to determine the best channels for communication and approaches to engagement. Establishing these communication channels helped garner meaningful feedback from communities impacted the most. As the following map shows, survey feedback was gathered from a variety of zip codes, and zip codes in historically disadvantaged areas had higher participation compared to other zip codes.



1. VISION AND APPROACH

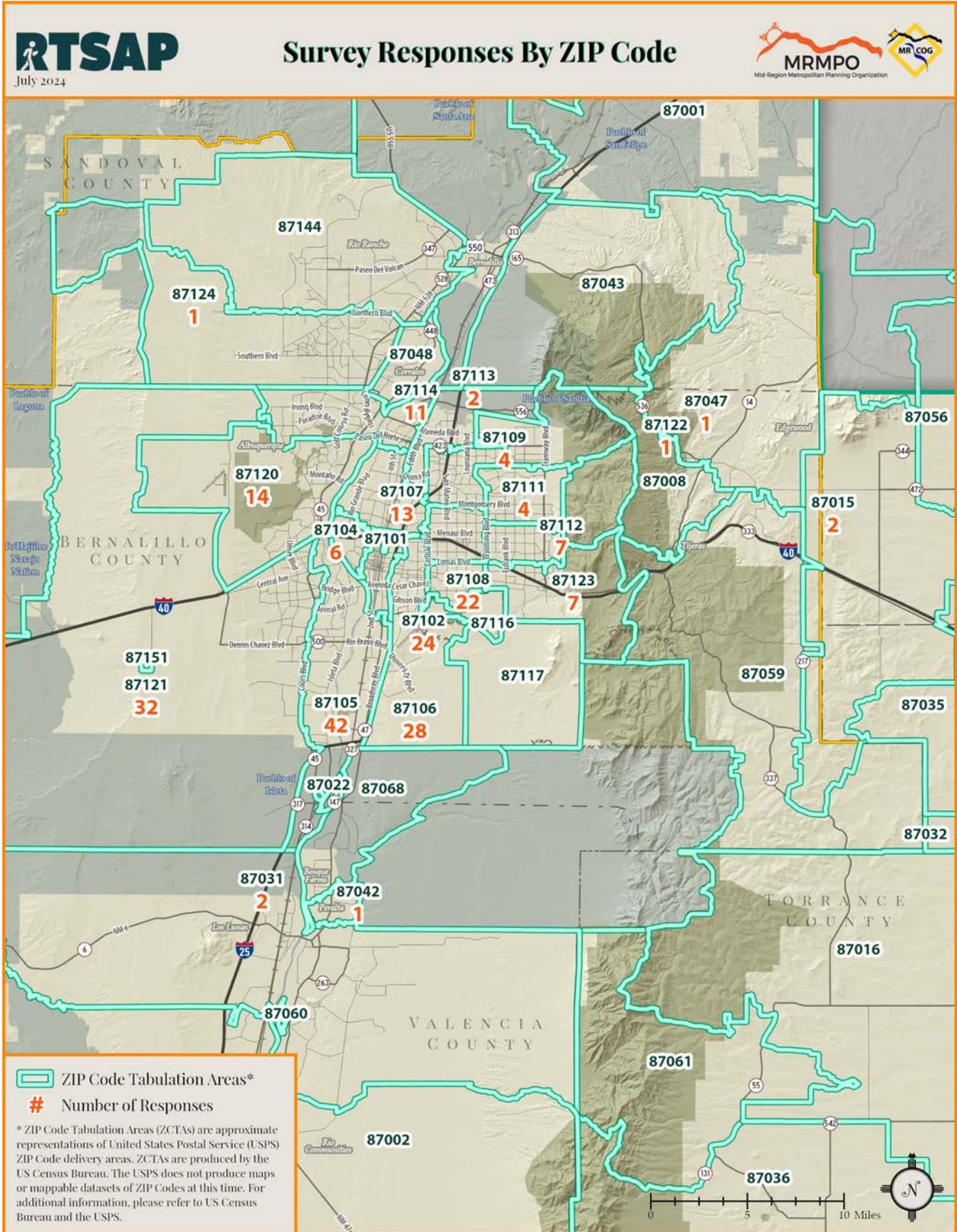


Figure 7. Survey Responses by Zip Code

1. VISION AND APPROACH

OPEN-ENDED QUESTIONS

A section of the survey containing open-ended questions invited participants to share their thoughts on why the region ranks so high for traffic deaths and injuries and what can be done to address the problem. The analysis of these responses provided a wealth of information. The open-ended questions were:

WHY DO YOU THINK THE REGION RANKS SO HIGH IN FATALITIES AND INJURIES?

Participants in the public engagement process pointed to a variety of different traffic safety concerns when responding to the question of why the region ranks so high in traffic fatalities and injuries. In written responses, participants most often blamed driver attitudes and behavior. Participants noted a general auto-centric culture and disregard for pedestrians and bicyclists that was reflected in driver behavior, planning priorities, and road infrastructure. Concerns over speeding, illegal racing, and distracted driving were common. Lack of enforcement, particularly for reckless driving and speeding, was also a frequently noted concern.

Table 5. Public Responses to High Fatalities and Injuries

WHY THE REGION RANKS SO HIGH	
1.	Dangerous or bad driving (98)
2.	Street Design (72)
3.	Speeding (52)
4.	Driving under the influence (42)
5.	Lack of enforcement (42)
6.	Distracted Driving (37)



HOW CAN WE BEST ADDRESS THE PROBLEM?

COMPLETE STREETS

Design and engineering strategies were most commonly recommended followed by enforcement, policies/programs, and education/campaigns. Participants indicated that improved roadway design would be the most effective strategy for reducing traffic fatalities and injuries. There was strong support for reducing speed through roadway design and increasing separation between cars and vulnerable road users. There was a slightly stronger focus on pedestrian improvements than bike facility improvements, but many spoke to the need for complete street improvements that provided safe facilities for all modes.

EDUCATION AND ENFORCEMENT

Many participants felt that increased traffic enforcement as well as education and campaigns would be the most direct ways to address dangerous driving and speeding. Many pointed to opportunities to increase enforcement of traffic laws, particularly red light running and speeding. Also mentioned were expanded education programs and campaigns to promote personal responsibility while driving. Other education initiatives mentioned educating roadway users on infrastructure improvements (i.e. roundabouts) and to make a shift beyond the auto-centric culture.

Road Design

There were nearly 140 comments related to issues of road design and engineering, particularly that roads are designed for speed and efficiency rather than safety and that there is missing or insufficient infrastructure for vulnerable road users on roadways throughout the region.

Design our streets and roads with safety as the number one priority. Develop cycling, walking and transit infrastructure and systems to make them attractive alternatives to driving. Protect them from cars, and reduce New Mexico's car dependency.

-Public Comment



WALKING SCHOOL BUS
SOURCE: MRMPD

PRIORITIES FOR IMPROVING TRANSPORTATION SAFETY

A section of the online survey invited participants to rank their top priorities for improving transportation safety. This section included ranking what respondents felt were the most important items to improve upon based on a list provided. The graph below represents the total number of times a priority was selected as one of the top 3.

Safe Crossings ranked #1 as the highest public priority. This is not surprising given that vulnerable users consistently indicated that they felt unsafe crossing a street or they were unable to cross due to a lack of safe crossing locations. Comments on Safe Sidewalks were generally that they are too narrow and too close to adjacent traffic.

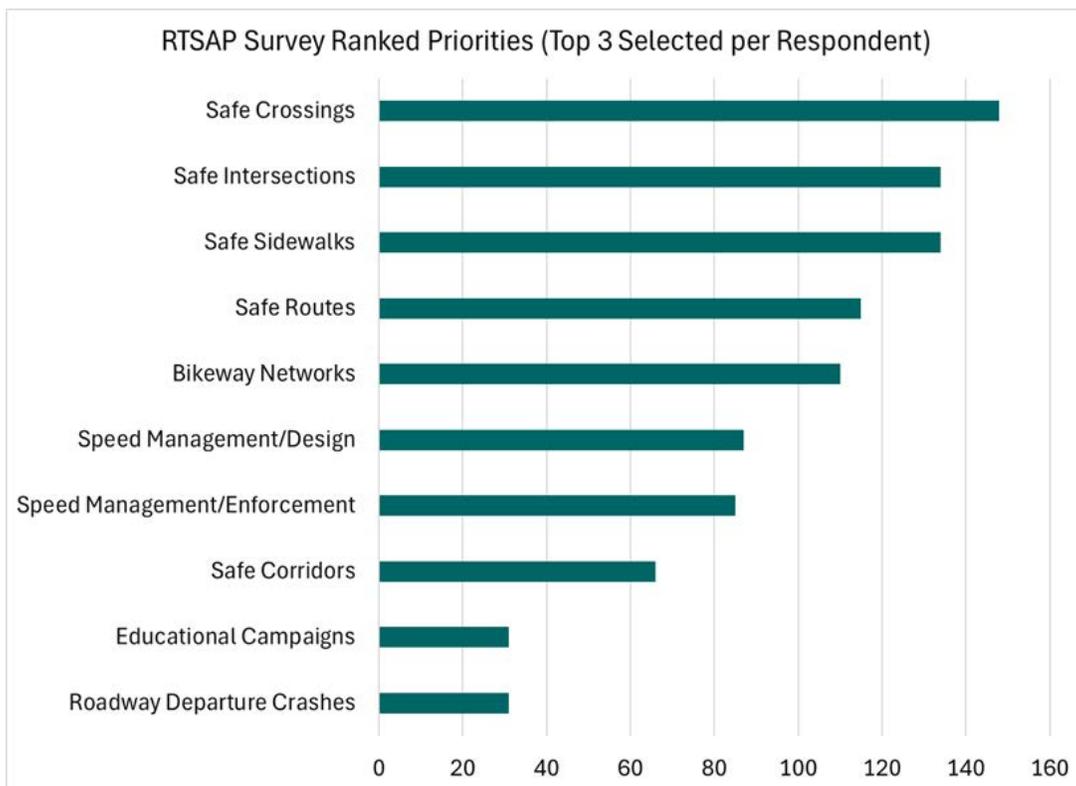


Figure 8. Ranked Priorities from Survey Responses

CHALLENGES BY MODE OF TRANSPORTATION

An interactive map tool allowed survey participants to zoom in on a map of the region and drag and drop icons to mark specific locations where they would like to see safety improvements. These responses were analyzed for the most common responses for each mode. When looking at the entire region, the results by mode show that an overwhelming majority of the markers placed on the map were for walking, cycling, or rolling.

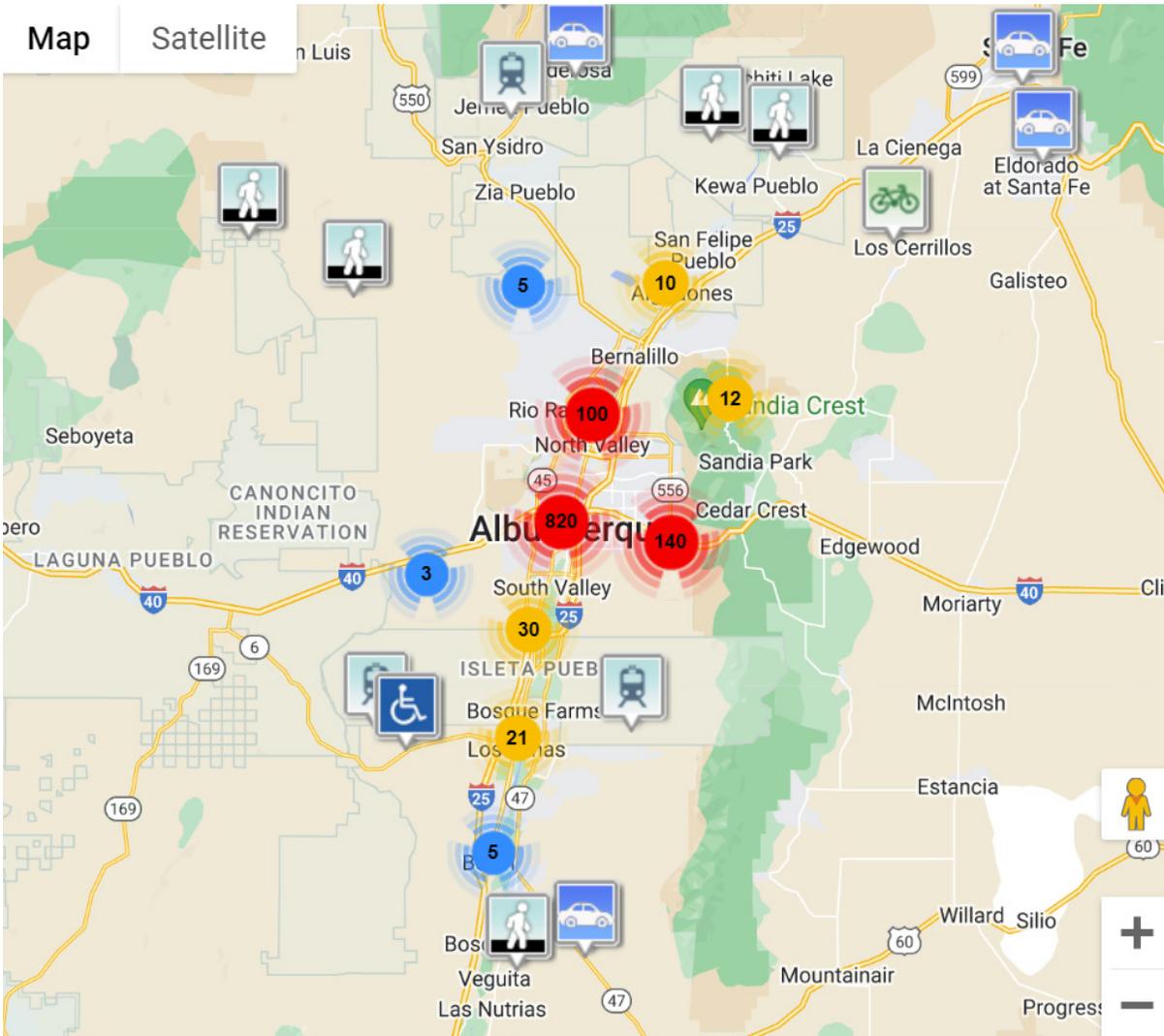
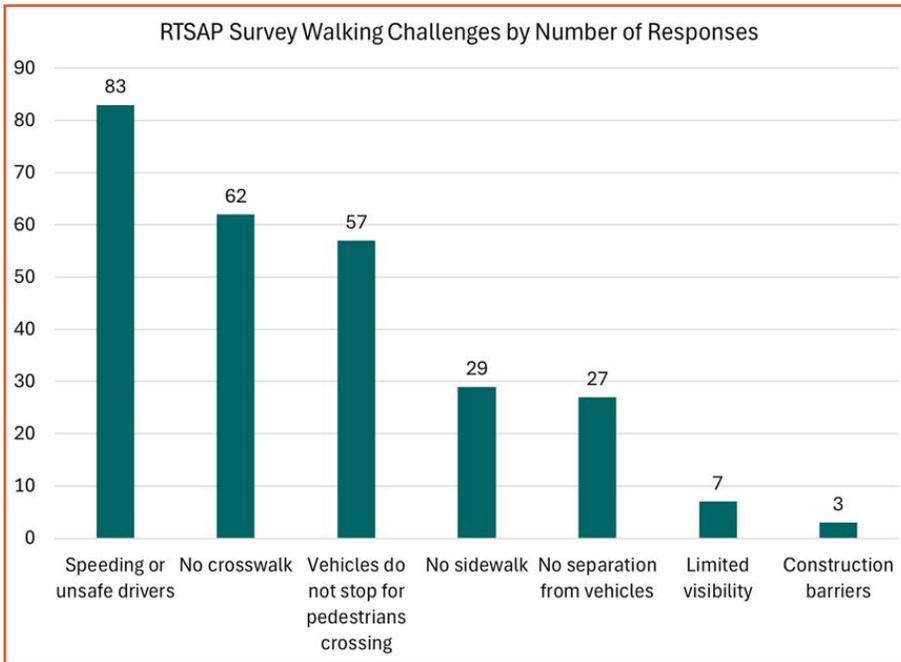


Figure 9. Survey Responses Interactive Map

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Challenges Encountered while Walking

Survey participants indicated that the top three challenges that they encountered while walking in locations around the region were speeding or unsafe drivers, no crosswalk, or vehicles not stopping for pedestrians crossing. This reinforces community input about concerns over driver behavior and road design. Also, the lack of safe places for pedestrians to cross is prevalent throughout the feedback received.

Figure 10. Challenges Encountered while Walking

Challenges Encountered while Bicycling or Rolling

By far, the top challenge survey participants encountered while bicycling or rolling was unsafe intersections. This was followed by not enough separation from vehicles, vehicles speeding or driving dangerously, and no bike lane. This reinforces community concerns more broadly about unsafe and challenging intersections and speaks to the desire to increase separation between vehicles and other modes of transportation. Often times a safe space for the bicyclist does not continue through the intersection.

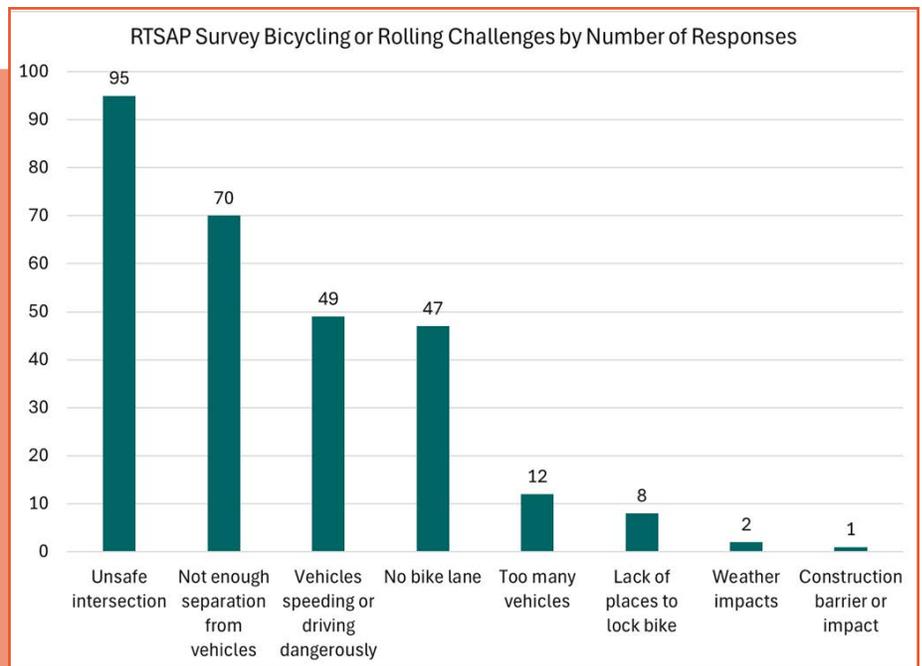
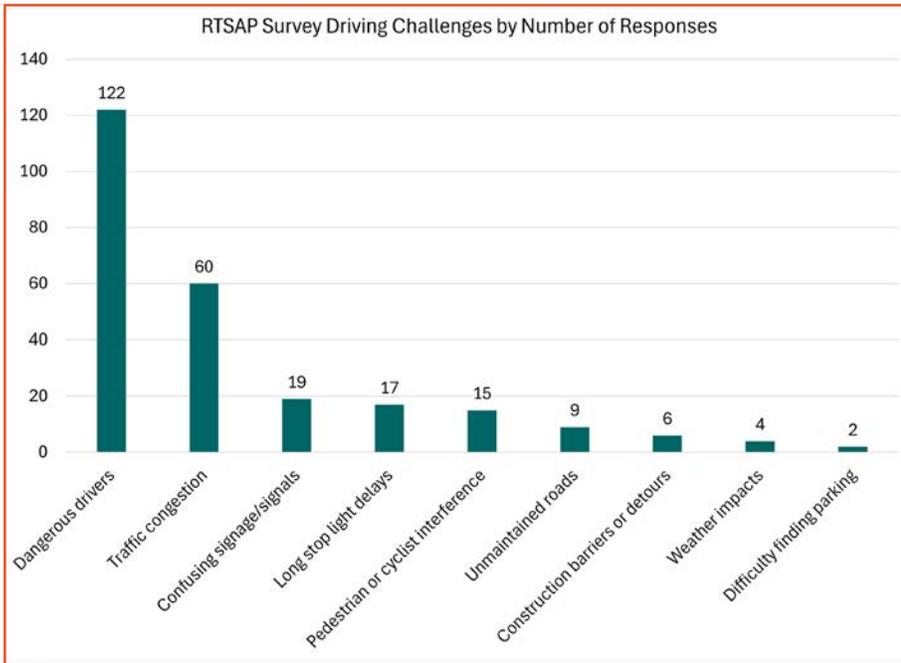


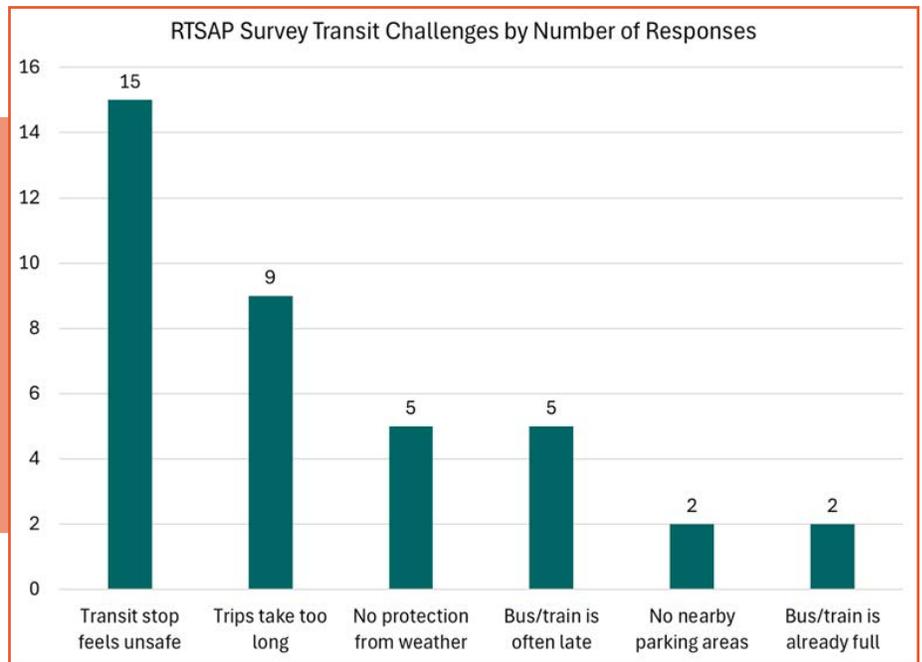
Figure 11. Challenges Encountered while Bicycling or Rolling

1. VISION AND APPROACH



Challenges Encountered while Driving
Dangerous drivers was selected more than twice as many times as the next most common challenge of traffic congestion. This reinforces consistent community feedback that driver behavior is a top concern and contributes to widespread feelings of lack of safety. This seems to be the case regardless of if you are a more vulnerable user or are more protected driving in a vehicle.

Figure 12. Challenges Encountered while Driving



Challenges Encountered with Transit
Transit stops feeling unsafe was the most common concern followed by trips taking too long. Community feedback from rural areas indicated that there was an interest in having more frequent service. The waiting areas at transit stops were identified as needing more protection from sunlight and heat.

Figure 13. Challenges encountered with Transit

THE IMPORTANCE OF EQUITY

INEQUITABLE PHYSICAL HARM

Crash data analyses reveal vast inequities regarding who is being killed in traffic crashes. There are substantial disparities for BIPOC communities (Black, Indigenous, and people of color) and for people living in lower income areas. For example, Albuquerque’s International District, an area of concentrated poverty and persons of color, contains 5% of the population in the metro area but is the location of 23% of pedestrian fatalities.

There have been decades of disinvestment in these communities despite traffic crashes continuing to be a significant public health disparity. According to the 2012 report, **Place Matters for Health In Bernalillo County: Ensuring Opportunities for Good Health for All** there is as much as a 20 year life expectancy difference between the Northeast Heights and South Valley in Bernalillo County.

This plan contains specific strategies and projects around equity. First and foremost is the assurance that resources are allocated to address pedestrian safety needs in disadvantaged communities, with the International District being a community of high priority. The South Valley is also an area identified as historically disadvantaged and where there are a high number of traffic fatalities. This means prioritizing planning in these areas, providing diverse representation in advisory committees and decision making, and the strategic implementation of proven safety countermeasures.

As a part of this plan:

1. An equity assessment for the region using MRMPO’s Vulnerability Index (MVI) along with the latest available crash data.
2. Public outreach prioritized to engage historically disadvantaged communities.
3. Projects and programs selected that integrate equity and highlight the needs of historically disadvantaged communities.

FEDERAL EXECUTIVE ORDERS

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994), directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects, including interrelated social and economic effects, on low-income or minority populations resulting from their programs, policies, and activities. Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (2021), affirms that the Federal Government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government.

MPO RESPONSIBILITIES

As the agency responsible for coordinating the transportation planning process, the State DOT or MPO must ensure that all segments of the population have been included in the planning process regardless of race, national origin, income, age, sex, or disability. State DOTs, MPOs, and public transportation providers must comply with agency-specific Title VI requirements when developing and implementing a Title VI Program. https://www.planning.dot.gov/planning/topic_transportationequity.aspx

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ACCESS TO TRANSPORTATION

Access to transportation options is a determinant of quality of life. Historically disadvantaged communities in the region have a higher proportion of households without access to a vehicle. Communities with less access to vehicles face serious transportation barriers in terms of how many jobs and services they can reach within a reasonable time. People then must rely more heavily on other modes of travel like walking, biking, and public transportation. Which in turn means they are more exposed to traffic deaths and injuries, particularly when they are needing to cross large busy streets to access transit, school, or places of employment.

Roads in our region and nationwide have traditionally been designed for quick and easy vehicular travel and as a result are more dangerous for people walking, bicycling, or using transit. Accessing destinations or a bus stop to take transit can be a dangerous proposition where the roads do not meet the needs of all roadway users. Disadvantaged communities must often contend with substandard infrastructure, like missing sidewalks or trails, poor lighting, or less frequent public transit service, to name a few. Communities that have suffered from underinvestment are undeniably more vulnerable to fatalities and injuries when navigating transportation options.

Nationally and locally there has been an inequitable distribution of pedestrian and bicycle infrastructure along with a higher proportion of high speed roads in more vulnerable communities. This has resulted in increased traffic deaths in these places.



*BUS RAPID TRANSIT ALONG CENTRAL AVENUE
SOURCE: MRMPO*

MRMPO VULNERABILITY INDEX (MVI)

MRMPO developed the MVI to identify the locations of the more historically disadvantaged (vulnerable communities) in the region. This index can be used to set priorities and evaluate roadway safety concerns. By doing so, transportation equity can be improved. Transportation equity refers to the intentional development of transportation options that do not limit users by their race, sex, age, gender, socio-economic status, or other demographic factors. The maps following provide an clear illustration of the association between the higher MVI scores with the total number of traffic fatalities.

Demographic indicators included in the MVI are as follows:

Socioeconomic Status

- Below 150% Poverty
- Unemployed
- Housing Cost Burden
- No High School Diploma
- No Health Insurance

Racial & Ethnic Minority Status

- Hispanic or Latino (of any race)
- Black and African American
- American Indian and Alaska Native
- Asian, Native Hawaiian, Pacific Islander
- Two or More Races; Other Races

Household Characteristics

- Aged 65 & Older
- Aged 17 & Younger
- Civilian with a Disability
- Single-Parent Households
- English Language Proficiency

Housing Type & Transportation

- Multi-Unit Structures
- Mobile Homes
- Crowding
- No Vehicle
- Group Quarters

Based on the Social Vulnerability Index of the Centers for Disease Control and Prevention, the MRMPO Vulnerability Index (MVI) score provides an indicator of the relative ability of communities to survive and thrive when confronted by external stresses on human health.

The MRMPO Vulnerability Index includes Census tract-level demographic information from the 2016-2020 American Community Survey (ACS).

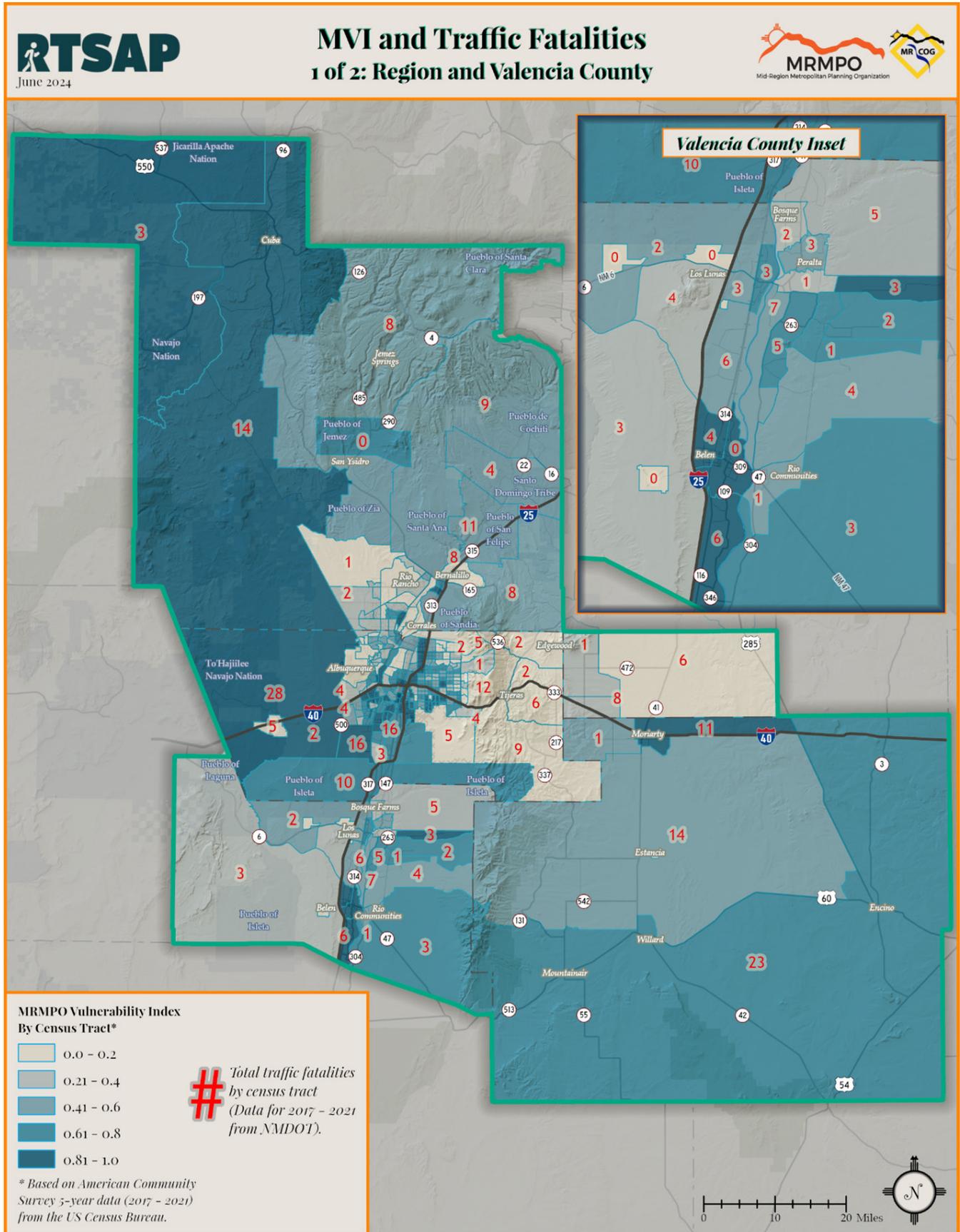


Figure 14. MRMPO Vulnerability Index (MVI) and Traffic Fatalities in the Region

1. VISION AND APPROACH

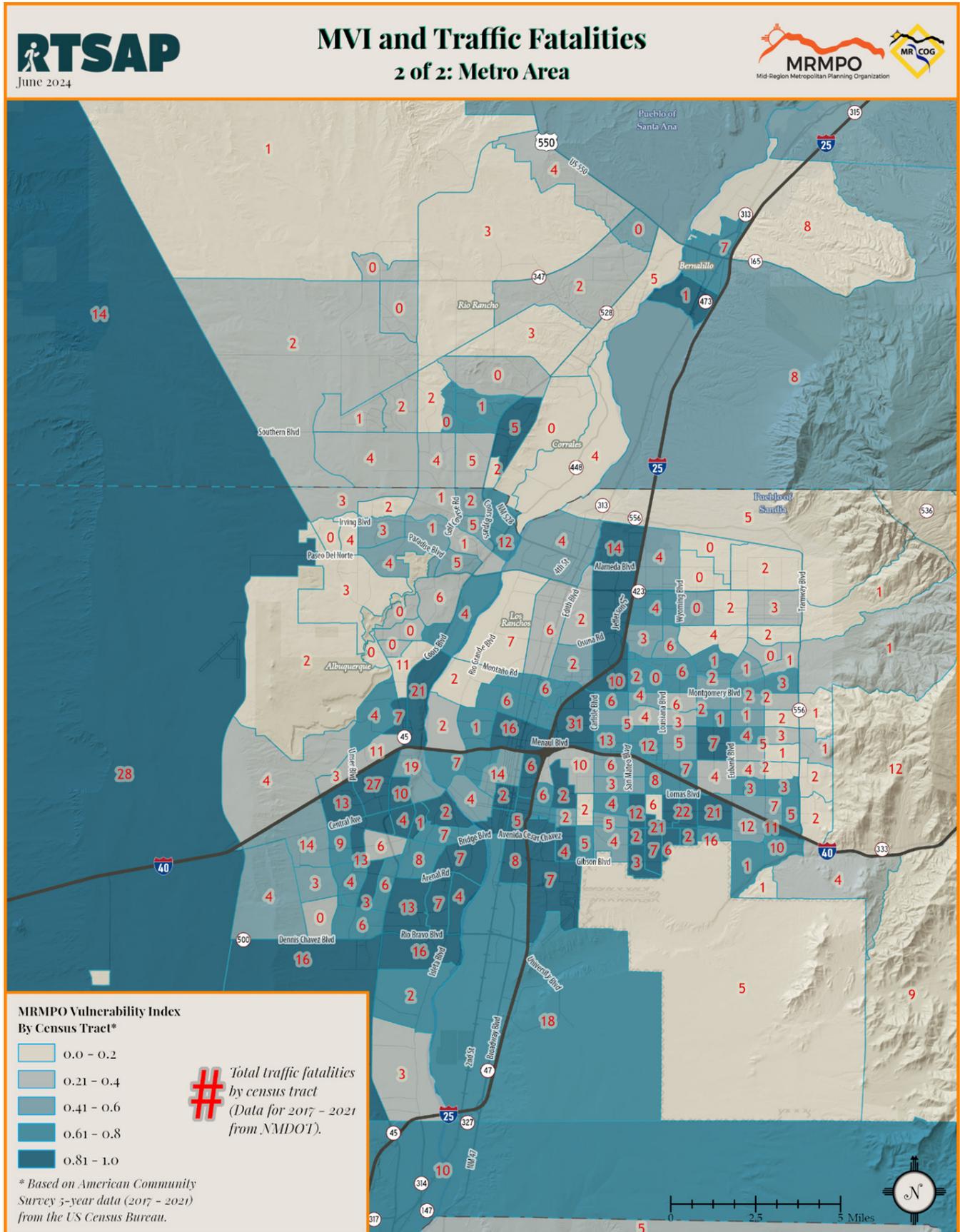


Figure 15. MRMPO Vulnerability Index (MVI) and Traffic Fatalities in the Metro Area

HEALTHY HERE AND THE ACTIVE LIVING WORK GROUP

MRMPO collaborated with the Healthy Here Coalition and met with the Active Living Workgroup to gain insight into the needs of some of the most historically disinvested communities in the region. The Healthy Here Coalition has conducted many walking audits to identify safety issues in different communities in the metropolitan area. These audits provide the group with an excellent understanding of the safety conditions faced by these communities.

COMMUNITIES OF CONCERN

There are three main communities that Healthy Here focuses on in the metro area: the 2nd and 4th Street Corridors, the South Valley, and the International District.

As a part of this plan, MRMPO developed an Area Safety Profile for the International District (in Chapter 4) that provides customized information regarding the most unsafe locations based on crash data analysis and derived from public input.

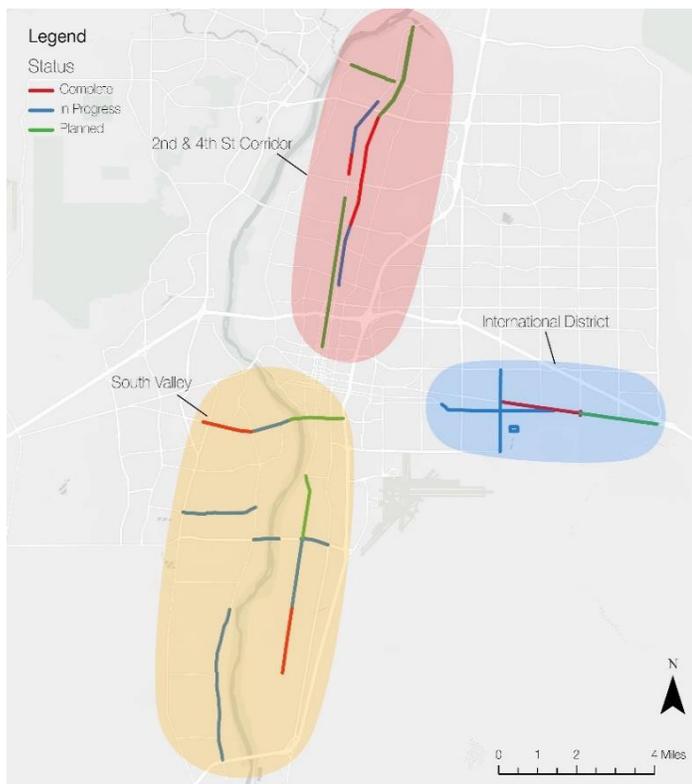


Figure 16. Healthy Here Communities of Concern

HEALTHY HERE COALITION (HHC) & ACTIVE LIVING WORKGROUP (ALG)

The HHC and the ALG is a community-based organization and partnership of residents and institutions engaged in the shared work of identifying and addressing the public health and racial disparities most impacting communities in Albuquerque. HHC is committed to shared and transparent institutional analysis and strategic and community informed efforts to eliminate policies, practices, and procedures contributing to disparities. Healthy Here is a collective of organizations and other community partners funded through the CDC and administered by Presbyterian which serves as the umbrella organization.

WALKING AUDITS CONDUCTED BY HEALTHY HERE

1. International District: Trumbull, La Mesa, and South San Pedro and San Mateo between Gibson and Zuni.
2. South Valley: 5-mile radius from First Choice.
3. North Valley: 5-mile radius from Los Griegos Community Center.
4. North Valley: 4 routes near Mountain Mahogany Charter school.
5. Westgate: Together 4 Brothers biking audits in neighborhoods.
6. Downtown: 5-mile radius from Encuentro on 4th St.

HEALTHY HERE PRIORITIES

Many of the comments received were about unsafe and uncomfortable walking conditions and the difficulty in crossing the street because of many travel lanes and the lack of crossings. Considerable concern was expressed regarding drivers speeding and the need to slow traffic down.

The Active Living Workgroup considers East Central a safety priority. The importance of addressing safety on Central Avenue in Bernalillo County is reflected in the public responses from the survey and from crash data for the region as well: East Central is one of the highest-ranking corridors on the High Fatal and Injury Network (HFIN).

Based on their work in these communities and the audits they have conducted, Healthy Here's highest priorities are included in the following list. Their priorities align with the Safety Strategies Toolbox in this plan and have been integrated into the Safety Project and Program List provided in Chapter 4.

1. Continued road safety audit activities
2. Free bus passes
3. NACTO street design trainings
4. Complete Streets / Vision Zero workshops
5. Road Diet trainings
6. Continued operation of the CiQlovía event in the International District
7. Development of pop-up / demonstration projects with Together 4 Brothers (T4B)
8. Input into updates of bicycle and pedestrian plans, particularly in Bernalillo County
9. Street lighting that improves visibility for pedestrians
10. Shade structures including increased tree planting (particularly at bus stops)

In addition to conducting walking audits, Healthy Here has been tracking linear miles of pedestrian and bike improvements, sites connected by safe routes, and active transportation plans and policies.



Figure 17. Active Living Group Responses

1. VISION AND APPROACH

NOTED PROJECTS

EAST CENTRAL

East Central has many conflict points with frequent driveways and turning movements that require better access management and safer infrastructure. East Central is also a candidate for a Road Diet because of lower vehicle volumes and the high amount of pedestrian and bicycling activity. As such, a re-striping that narrows or reduces travel lanes and the addition of bike lanes, bus lanes, or on-street parking would be a great first step. The City of Albuquerque is already working on identifying safety improvements for this stretch of Central through their Vision Zero work.

PEDESTRIAN SCALE LIGHTING

Lack of pedestrian scale lighting has consistently been a concern to the International District. MRMPO conducted analyses of pedestrian crash fatalities with respect to roadway light conditions finding that indeed a large portion occur in dark conditions. The Area Safety Profile for the International District contains more information on crashes related to the light conditions.

LET'S ENSURE EQUITY

Equity is a critical consideration when evaluating traffic crashes in our region. Roadway safety interventions must be targeted to address these areas first if we are to bring down the number of fatal crashes in an equitable way.

LAW ENFORCEMENT

An important issue to highlight with regards to equity is the strained relationship between BIPOC communities and law enforcement. Traffic enforcement agencies should engage with local advocates and community members when developing traffic enforcement programs to ensure they do not further exacerbate the already divisive situation.



SOURCE: MRMPO

ALIGNING WITH SAFETY PLANS AND POLICIES

Some of the more recent plans in the region that focus primarily on safety are highlighted in the following pages. In addition, a variety of plans for the region that contain a brief safety component, support the development of safer multimodal facilities, or enhance the development of roadways based on land use context are listed. These plans helped to guide the development of the Safety Project and Program List provided in Chapter 4.

BICYCLE AND PEDESTRIAN FACILITIES

Of the bicycle facilities and multiuse trails proposed by local agencies in the region, most have been integrated into the Long Range Bicycle Network (LRBS) that MRMPO develops in concert with regional agencies. The LRBS is updated regularly by MRMPO as local plans are updated. For pedestrian facilities, most agencies have an Americans with Disabilities Act (ADA) Transition Plan, which is required to bring pedestrian facilities in compliance. The challenge with ADA Transition Plans is having a comprehensive inventory of needs such as the location of sidewalks and their current condition. A prioritized method for upgrades based on safety is often lacking. These plans could be enhanced by prioritizing improvements based on the location of pedestrian crashes. Because of the limited inventory on sidewalk presence and condition, the MRMPO created a Pedestrian Composite Index (PCI) map that analyzes the demand for pedestrian facilities based on variables such as land use type and the location of transit facilities. The PCI is also an excellent tool in the interim for developing priority locations for improved pedestrian facilities.

A list of long range maps that contain proposed transportation networks including the LRBS and the PCI are provided in Chapter 4.



CITY OF ALBUQUERQUE AND VISION ZERO

The City of Albuquerque set the first Vision Zero goal, designated a staff member to lead Vision Zero, and set forth a prioritized plan to implement projects with a goal to eliminate traffic deaths and serious injuries by 2040. An Executive Order was signed in 2019 committing the City of Albuquerque to work toward zero traffic deaths, and a *City of Albuquerque Year-in-Review/Action Plan Update (YIR)* was unanimously passed by City Council in November 2023. The City’s approach is data-centric and uses the High Fatal and Injury Network (HFIN) developed by MRMPPO, but modified for their purposes to identify dangerous locations and set priorities. There is also an emphasis on prioritizing resources and infrastructure improvements in highly vulnerable communities.

The YIR provides examples of action items needed among local agency departments. It shows that the responsibility is shared to move the needle toward fewer deaths and serious injuries. For example, the City’s Annual Complete Street Maintenance program has been a successful approach to creating more multimodal streets during routine maintenance efforts. Some continuing challenges identified by the City of Albuquerque are lack of funding and staff capacity to design and implement meaningful projects. The YIR prioritized action items on the HFIN and within vulnerable communities are going to have the greatest impact to reach zero.



BERNALILLO COUNTY COMPLETE STREETS ORDINANCE

According to Smart Growth America, “Complete Streets is an approach to planning, designing, building, operating, and maintaining streets that enables safe access for all people who need to use them, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.” Therefore, the design of roadways must consider the surrounding land use context (context sensitive design), sociodemographics, and all modes of travel. This means a Complete Street in a small town center looks different than a Complete Street in a rural area with few destinations. Since the adoption of a Bernalillo County’s Complete Streets Ordinance in 2015, they have identified a list of Complete Streets projects that integrate sidewalks, trails, bike facilities, transit amenities, and safe crossings into their design, and that are expected to be completed in the upcoming calendar year.

Bernalillo County has been forward thinking in developing this list of Complete Streets projects for funding that draws from their local plans such as the **Pedestrian and Bicyclists Safety Action Plan** and crash analyses. This list includes both new projects and retrofit projects, and some maintenance activities. Furthermore, multimodal level of service is mentioned in this ordinance, a data driven concept that uses a set of indicators to evaluate the connectivity, convenience, and comfort of all road users rather than level of service which includes only driver convenience.

PEDESTRIAN AND BICYCLE SAFETY ACTION PLAN

An update is currently underway. This plan update will incorporate the FHWA Safe System Approach and will guide future pedestrian and bicyclist capital infrastructure projects.

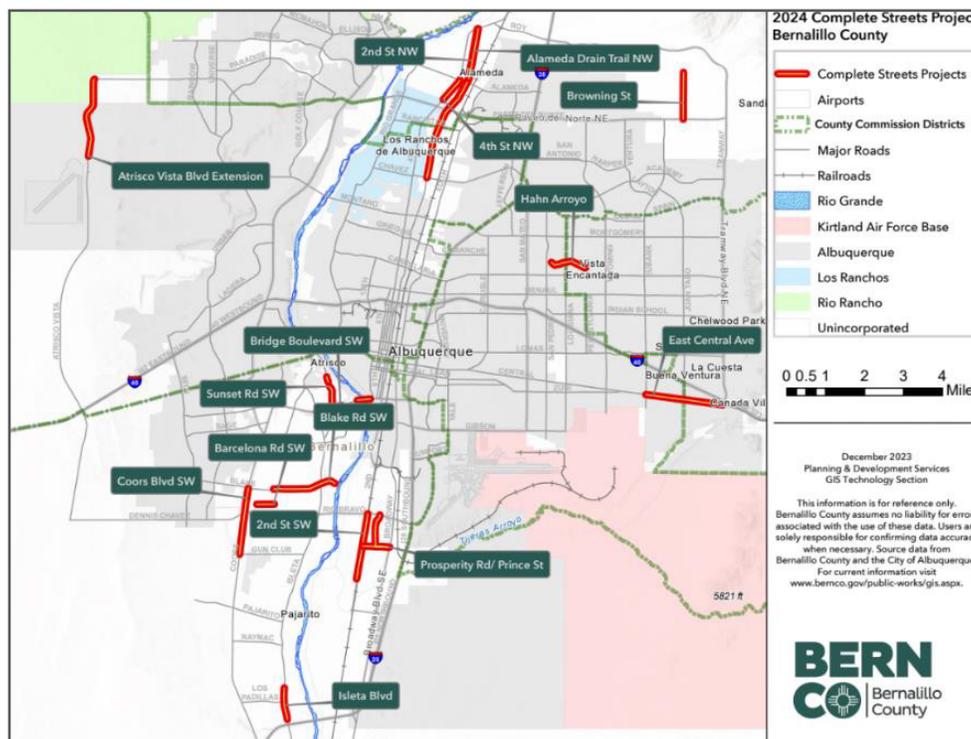


Figure 18. 2024 Bernalillo County Complete Streets Projects

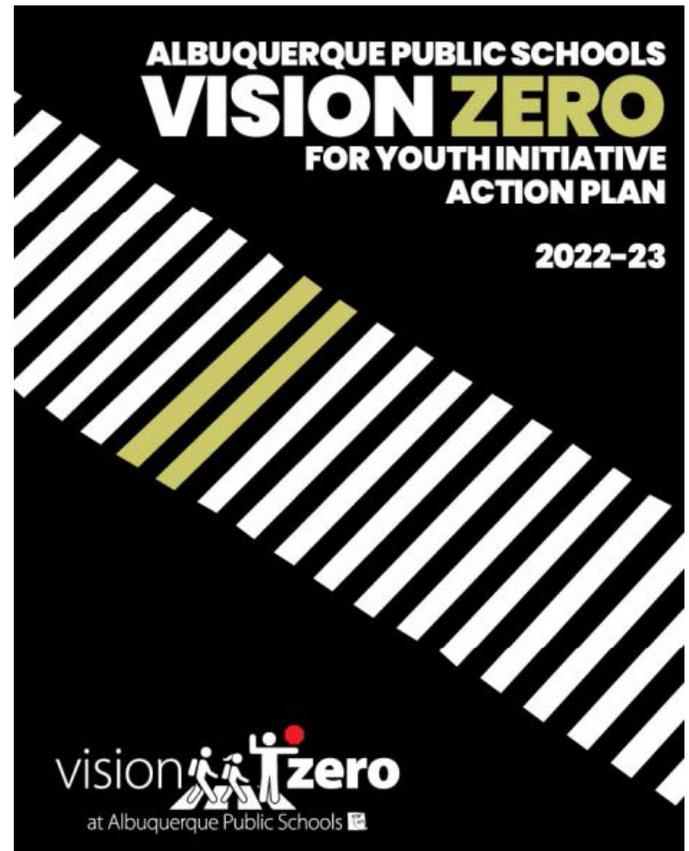
1. VISION AND APPROACH

ALBUQUERQUE PUBLIC SCHOOL (APS) AND VISION ZERO YOUTH INITIATIVE

This plan was developed in 2022 by Albuquerque Public Schools (APS) to, in part, bring attention to the vital need to coordinate between local municipalities and schools. Collaborating on the pick up and drop off locations and roadway design adjacent to schools is of particular importance for ensuring safe travel for all users. This initiative is set up to be a collaborative effort among APS and local governments. The plan seeks to fill two major gaps:

1. Incorporate roadway safety into the school curriculum.
2. Formulate and maintain a collaborative and ongoing public campaign component for drivers to be aware of pedestrians, especially around schools.

There are several actions contained in this plan that could be emulated by other school districts. As a part of this plan an APS Vision Zero Task Force was created to discuss the **APS Vision Zero for Youth Initiative** components. This task force provides input on the Traffic Safety Curriculum, reviews the APS Vision Zero Action Plan to evaluate implementation strategies, and develops ideas for the Traffic Safety Awareness Campaigns.



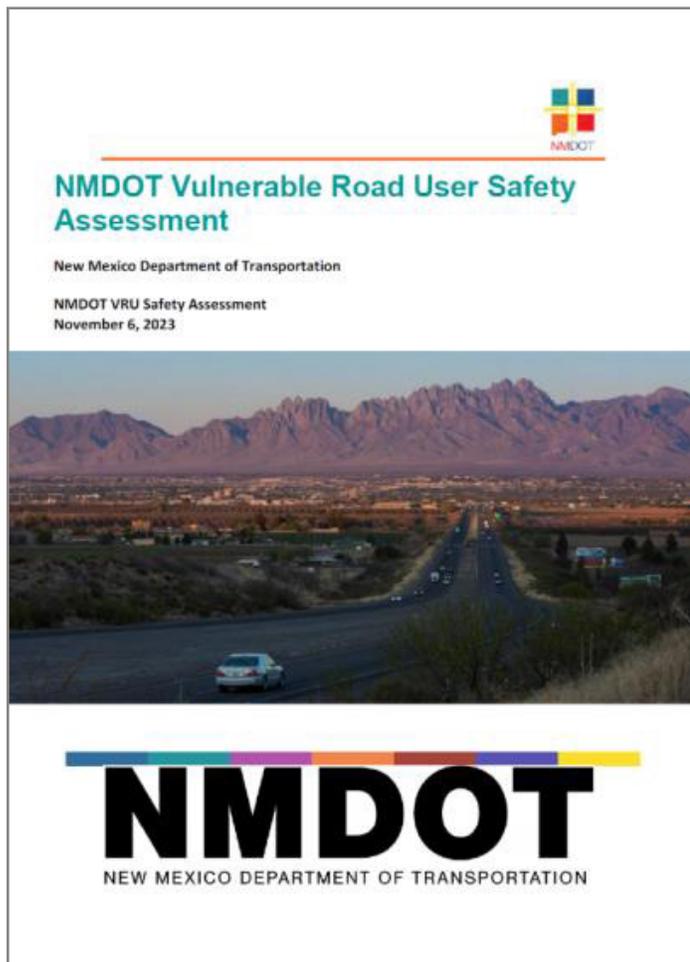
SOURCE: APS

NMDOT AND VULNERABLE ROAD USER (VRU) SAFETY ASSESSMENT

The recent **Vulnerable Road User Safety Assessment** plan adopted by the New Mexico Department of Transportation (NMDOT) in 2024 brings attention to the fact that New Mexico repeatedly ranks the highest in pedestrian fatalities per capita in the nation. This plan emphasizes that the safety of pedestrians and other vulnerable road users must become a higher priority and develops a High Injury Network (HIN) for the state. Additionally, the plan creates a typology (factors such as land use context, road capacity, speed limits, volumes and types of traffic) based on historical crash analysis for roadways and intersections that guides the type of safety countermeasure (specific action or physical improvement) that will be most successful in reducing crashes. The intention is for planners and engineers to use these in developing a “short list” of potential safety countermeasures appropriate for specific crash types and locations.

ADDITIONAL NMDOT PLANS AND FUNDING

NMDOT’s long-range statewide transportation plan, the **New Mexico 2045 Plan**, includes Complete Streets strategies and recommends updates to guidance manuals to incorporate Complete Streets principles. The **2018 New Mexico Prioritized Statewide Bicycle Network Plan** identifies safety countermeasures such as road diets, rumble strips, and lane narrowing. Most recently, the **2021 Pedestrian Safety Action Plan** recommends more proven safety countermeasures such as Pedestrian Hybrid Beacons and Leading Pedestrian Intervals.



NMDOT FUNDING SOURCES

The Highway Safety Improvement Program (HSIP) is a federal funding source facilitated by the NMDOT that's purpose is to reduce traffic fatalities and serious injuries. Projects submitted must be data-driven with performance measures. The 2021 New Mexico Strategic Highway Safety Plan (SHSP) establishes goals, strategies, and emphasis areas for reference.

The New Mexico Transportation Alternatives Program (TAP) is a federal reimbursement program also facilitated by the NMDOT that can be used for both bicycle and pedestrian activities and infrastructure. To see more information about eligible projects reference the NM Active Transportation and Recreational Programs Guide. NMDOT coordinates with local RTPOs and MPOs on soliciting TAP applications. Like the TAP, the NMDOT also facilitates Recreational Trails Program (RTP) funding, which focuses on recreational facilities for activities such as hiking, equestrianism, cross-country skiing, snowmobiling, and all-terrain vehicle riding.

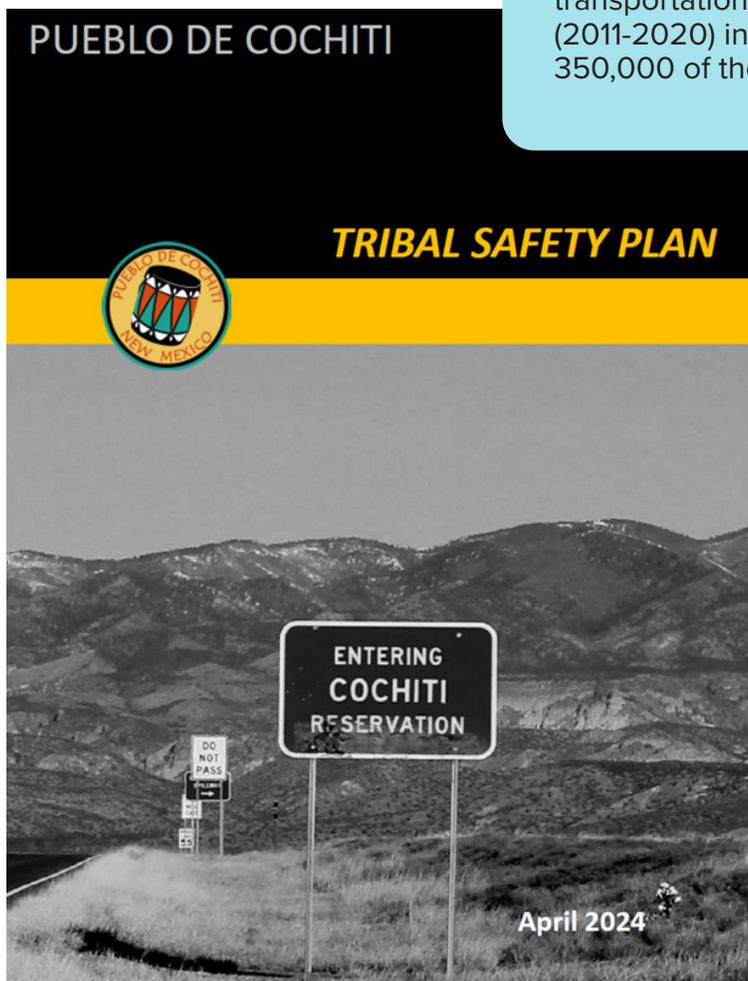
PUEBLO DE COCHITI TRIBAL SAFETY PLAN

This 2024 plan is a comprehensive transportation safety plan that identifies needed safety improvements based on crash data analyses and public input. The plan includes identified locations for Road Safety Audits, Complete Streets, and Safe Routes to School projects and programs. A handful of priority projects for roadways and trails are identified based on community concerns and staff-identified safety issues such as access to important community destinations, health clinics, and schools. Also within the plan are general engineering applications that could improve safety such as signage, striping, streetlights, and drainage issues.

Beyond general roadway safety planning and engineering, this plan highlights the importance of facilities for Emergency Medical Services (EMS) and EMS staff training. In fact, because Pueblo de Cochiti is far from medical services, improved response times are a priority such as helicopter landing locations for quick transfers to area hospitals. Additional action items include improved driver education and enforcement ranging from texting and driving campaigns to helmet-wearing encouragement, and training about the rights and responsibilities of all roadway users. This plan is thorough, extensive, and provides an excellent example of a local transportation safety plan with identified priorities for implementation.

More than 370,000 people died in transportation incidents over the last decade (2011-2020) in the United States. More than 350,000 of them died on our roads.

- USDOT



1. VISION AND APPROACH

Table 6. Plans with a Safety or Multimodal Component

PLAN NAME	DESCRIPTION	YEAR	AGENCY
Alameda Drain Trail and Master Plan	This plan provides a framework for improvements along the nine-mile corridor that runs from Interstate 40 to the northern end of 2nd St.	2016	Bernalillo County
Bernalillo County Complete Streets Ordinance	This ordinance establishes a framework for development on identified corridors that integrates sidewalks, trails, bike facilities, transit amenities, and safe crossings into their design.	2015	Bernalillo County
Bridge Boulevard Corridor Redevelopment Plan	This plan integrates current and future land uses along the corridor with transportation improvement projects.	2013	Bernalillo County
Complete Streets Projects 2022	Development of a list of Complete Streets projects for funding.	Ongoing	Bernalillo County
East Central Avenue Safety Study	Based on existing roadway conditions and the locations of crashes this study identifies design issues that create unsafe conditions along the corridor. This study identifies these safety issues and recommends improvements along East Central Ave corridor from Louisiana Blvd to Eubank Blvd. These issues have been integrated into the City's Vision Zero priorities.	2020	City of Albuquerque
El Camino Real NHT Development Concept Plan	This plan retraces 22 miles of the trail's historical alignment. The plan recommends several multimodal trail projects, trail amenities, and trail signage and interpretation connecting to and at public sites.	2022	Bernalillo County
Isleta Drain Master Plan	This trail starts at Central Avenue and extends to I-25. The plan outlines a proposal for the drain to serve as a multi-use trail and addresses drainage, flood control, and access issues as well as identifying a trail alignment and locations for amenities.	2022	Bernalillo County
Near South Valley Multimodal Study	This plan evaluates and identifies deficiencies in the existing network of streets, transit facilities, sidewalks, bike lanes, bike routes, and multi-purpose trails. The plan details some transit improvements on Bridge Boulevard and includes recommendations on connections for existing bicycle facilities. A list of high priority projects is included.	2017	Bernalillo County
Pedestrian and Bicyclist Safety Action Plan	An update is currently underway. This plan update will incorporate the FHWA Safe System Approach and will guide future pedestrian and bicyclist capital infrastructure projects. The previous plan provides a list of priority projects.	2012	Bernalillo County

1. VISION AND APPROACH

Plans with a Safety or Multimodal Component

PLAN NAME	DESCRIPTION	YEAR	AGENCY
Bernalillo County Parks, Recreation & Open Space Facilities Master Plan (PROS Plan)	This plan lays out priorities from 2015 to 2030. The Plan consists of policies and recommendations for improvements to facilities that will increase the quality of life of residents in all parts of the County including important multiuse trail connections.	2015	Bernalillo County
2021 Vision Zero Action Plan	This plan lays out steps that the City, working with agency and community partners, will take to reduce traffic fatalities to make the City of Albuquerque's streets safer.	2021	City of Albuquerque
ABQ Ride Forward Network Plan	This plan is in the process of reviewing the performance of the existing bus network. The plan will consider how best to meet goals and evolving needs as well as make the most efficient use of existing resources. A key question being answered are how to balance routes that are ridden by the greatest number of people (ridership) versus routes that cover the greatest geographic area (coverage). The plan will be integral in identifying locations for pedestrian improvements.	2024	City of Albuquerque (ABQ Ride)
Albuquerque & Bernalillo County (ABC) Comprehensive Plan	The ABC Comprehensive Plan is the City's Rank 1 policy document that guides planning throughout the city/county area. The plan identifies Centers & Corridors vision for community growth and priority areas to protect and enhance, such as the city's diverse and vibrant neighborhoods and unparalleled network of parks, open space, and trails. The identification of Corridor types are integral to developing safer multimodal roadways.	2017	City of Albuquerque
Albuquerque Vision Zero Year In Review/ Action Plan Update	This plan assesses progress made toward Vision Zero, including projects and programs that have been successful. The plan prioritizes thematic goals, actions, and corridors where the City should first focus on traffic safety efforts to have the greatest impact in reducing and eliminating traffic deaths and serious injuries by 2040. It also serves as an updated Action Plan for the City to implement Vision Zero efforts.	2023	City of Albuquerque
City of Albuquerque Bikeway& Trail Facilities Plan Update	In process of being updated will contain a prioritized list of facilities.	2024	City of Albuquerque
Executive Order	Mayor Keller made a commitment to Vision Zero and signed an Executive Order committing the City of Albuquerque to work toward the goal of zero traffic deaths by 2040.	2019	City of Albuquerque
Neighborhood Traffic Management Program	The goal of this program is to address speeding and cut-through traffic on local residential streets using a set of traffic-calming tools, such as lane narrowing, turn restrictions, and curb bulb-outs, as well as non-physical tools like radar speed signs and targeted enforcement.	2023	City of Albuquerque

1. VISION AND APPROACH

Plans with a Safety or Multimodal Component

PLAN NAME	DESCRIPTION	YEAR	AGENCY
City of Belen The Hub City 2022 Comprehensive Plan Update	This plan presents strategies for future development with a primary emphasis is on land use activities as an indicator of health, character, and municipal functions in the community. Recent economic development and growth, including new housing and retail growth are included.	2023	City of Belen
Jemez Springs Comprehensive Plan	The plan includes an action item for a master plan for recreational facilities with the support from the RTPPO. A Jemez Springs Main Street Program is identified, and general street improvements such as landscaping, lighting, and pedestrian accessibility. Other transportation safety related items are improved emergency response services and public transportation particularly for elderly populations.	2015	Jemez Springs
2021 New Mexico State Highway Safety Plan (SHSP)	This plan coordinates traffic safety programs across the state, identifies priorities and strategies, and provides a common approach for all roadway users. The purpose is to guide transportation project investment decisions to achieve a reduction in traffic fatalities and Class A injuries on all public roadways.	2022	NMDOT
Pedestrian Safety Action Plan	This plan provides a framework to address pedestrian safety, including: improving data to better understand crashes, addressing aspects of roadway engineering and design, advancing roadway user education, and implementing policy solutions over the next 5 years.	2021	NMDOT
Prioritized Statewide Bicycle Network Plan	This plan covers how to best provide both residents and visitors with a safe and connected bicycle network at the statewide level by 1) identifying locations where bikeway infrastructure would be most beneficial, and 2) providing design guidance that indicates the appropriate types of infrastructure by roadway context.	2018	NMDOT
Vulnerable Road User Safety Assessment and Strategic Highway Safety Plan	This plan was developed to improve the safety performance outcomes for vulnerable road users, and to meet the IIJA requirements.	2023	NMDOT
Rio Rancho Bicycle and Pedestrian Transportation Master Plan	This plan provides a blueprint for increasing bicycle and pedestrian safety, implementing bicycle and pedestrian improvements for “complete streets,” outlining community specific benefits for bicycling and walking as alternative modes of transportation, and identifying trail and sidewalk connectivity issues and solutions.	2011	Rio Rancho

1. VISION AND APPROACH

Plans with a Safety or Multimodal Component

PLAN NAME	DESCRIPTION	YEAR	AGENCY
Bernalillo Transit Oriented Development (TOD) Plan	This plan includes goals and objectives for areas near transit stations, circulation recommendations (including new streets, street improvements, and pedestrian and bicycle facilities), and public space and park recommendations. Land use concepts in the plan include commercial and residential uses, and the plan contains building design recommendations that reflect transit oriented development principles.	2007	Town of Bernalillo
Village of San Ysidro Comprehensive Plan	This plan includes local concerns for transportation improvements needed. Some of the safety issues identified in this plan include high speeds of vehicles traveling on NM4 evident in the crash data and expressed by local residents. Injury crashes have been increasing along this roadway. NM 4 is identified as a Designated Bike Corridor Street paving and road maintenance are also concerns and this plan aims to improve coordination among the NMDOT, MRCOG, Rio Metro, and the Village to realize transportation related projects, including public transportation needs.	2023	Village of San Ysidro
Town of Edgewood Comprehensive Land Use Plan	This plan includes an assessment of traffic conditions including crash data from 2013 to 2017. The crash data indicates an increase in the number and severity of crashes along with roadway speeds and traffic volumes. Crashes identified occurred primarily on the interstate (I-40), NM 14, and on major roads such as NM 344. The plan includes an action item to complete and adopt a Town of Edgewood Parks, Recreation, Open Space and Trails Master Plan. Also identified are improvements to the physical town center. This action item includes working with New Mexico Main Street to develop and adopt design guidelines.	2020	Town of Edgewood
Village of Corrales Master Trails Plan	This plan provides a review of existing facilities and conditions for pedestrians, bicyclists and equestrians, and a comprehensive list of potential trail facilities.	2024	Village of Corrales
Bicycle Master Plan Village of Los Lunas	The Village of Los Lunas currently utilizes three (3) main types of bicycle facilities: multi-purpose paths, bike lanes, and shared use roadways. This plan was developed to improve the connectivity between the existing bicycle facilities and to encourage designated bikeways where no such facilities currently exist.	2015	Village of Los Lunas

1. VISION AND APPROACH

Plans with a Safety or Multimodal Component

PLAN NAME	DESCRIPTION	YEAR	AGENCY
Los Lunas Master Transportation Plan 2035	This plan provides guidance for the development and function of the Village’s multimodal transportation system compatible with the local character and desires including appropriate land use assumptions to estimate travel and documentation of existing facilities and service needs.	2013	Village of Los Lunas
Los Lunas Route 66 Scenic Byway Corridor Management Plan (CMP)	Historic Route 66 extends is identified as an All-American Road and a National Scenic Byway. This designation requires a CMP that provides for conservation and enhancement while also promoting tourism and economic development. This plan is focused on the Los Lunas section and identifies the character-defining qualities unique to the area and presents strategies for maintaining and enhancing these qualities.	2015	Village of Los Lunas



SOURCE: CIQLOVIA

2. REGIONAL CRASH ANALYSES



CRASH DATA OVERVIEW

From 2017 to 2021, 736 people were killed in traffic crashes in the region and 46,375 people were injured. Of those 46,375 injuries, 2,207 were serious or incapacitating injuries (Class A). A particularly alarming statistic is that of the total number of fatal crashes in the region, 30% involve pedestrians and those numbers are not getting any better.

What is perplexing about trends over these 5 years of data is that the number of fatalities did not go down in 2020 despite a 23% reduction in the region’s vehicle miles traveled (VMT). This reduction in VMT is due to the onset of the COVID-19 pandemic and the ensuing work from home. In fact, the overall number of fatalities in the region increased slightly in 2020, and then increased the next year by another 28%. Pedestrian fatalities had a slight drop in 2020 before an unprecedented 60% surge in 2021.

THE IMPACT OF REDUCED TRAVEL

MRMPO tracks the fatal crash rate in the region from year to year. The fatal crash rate is calculated by dividing the number of fatalities by the sum of the vehicle miles traveled (VMT) in the same geography over the same period. The rate represents how many fatal crashes happened per 100 million vehicle miles traveled.

The rate stayed relatively flat from 2016 to 2019. Although 2020 saw a modest 2% increase in the number of fatal crashes, when combined with the dramatic reduction in VMT, this translates to a 31% increase in the fatality rate per 100 million VMT. When this trend was first noticed, many transportation professionals hoped it was an anomaly caused by the pandemic and that the fatal crash rate would decrease as traffic levels returned to pre-pandemic levels. In 2021, the Albuquerque metropolitan area VMT increased by about 18%, but the number of fatalities increased by 32%, further exceeding the elevated 2020 levels.

Many jurisdictions across the nation have noted the same trend in fatal crashes during 2020 and 2021. It is still unclear what the cause of this phenomenon is but there are several theories. COVID-19 may have created ideal conditions for risky driving behavior by taking a lot of traffic off the road. Some of the most dangerous corridors in the region have low traffic volumes.

Table 7. Fatality Rates in the AMPA (2015-2021)

Year	Fatal Crashes	AMPA VMT Annual (billions)	Fatality Rate per 100 Mil VMT
2015	72	7.49	0.96
2016	114	7.74	1.47
2017	110	7.83	1.41
2018	118	8.30	1.42
2019	127	8.62	1.47
2020	129	6.67	1.93
2021	171	7.86	2.18

Table 8. Total and Pedestrian Fatalities (2017-2021)

Year	Total Fatalities	Pedestrian Fatalities
2017	125	36
2018	142	44
2019	141	46
2020	144	35
2021	184	56
% change 2020 to 2021	28%	60%

ROADWAY CHARACTER AND PURPOSE

It is necessary to consider the surrounding land use context when designing roadways for safety. East Central and Alameda in the Large Urban Area are two roads different in character in many ways. Alameda is designated as a Regional Principal Arterial (per MRMPO’s Long Range Roadway System) meaning that its purpose is to carry traffic over long distances. Central on the other hand is designated as a Community Principal Arterial, meaning that its purpose is to connect people with goods and services and is likely to be destination rich and host more pedestrian activity. The land use that adjoins Central is rich in commercial activity (with a lot of direct access to Central via driveways) that generates many pedestrian, bicycle, transit, and car trips. Alameda is a river crossing, and for much of its length, has very limited roadway access. There is some commercial activity on Alameda as you near I-25, but there are intersecting roadways and driveways than on east Central.

The fact that fatal crashes increased in the region despite a reduction in vehicle miles traveled is not so shocking when you consider the case of Central east of Louisiana, which has 6 lanes, yet most segments host 20,000 to 30,000 vehicles per day. This is low in comparison to our region’s other 6 lane principal arterials like Montgomery or Coors. The low traffic volumes and wide roadway width along this section of Central could be encouraging people to speed and drive dangerously. These characteristics coupled with high access and increased risk-taking behavior during the pandemic have likely been major factors impacting the increase in fatal crashes.

Over 5 years, Alameda had 5 pedestrians injured while Central had 110. The difference between these corridors in crash outcomes sheds light on what types of roadways tend to be dangerous in the region: High speed, under-capacity, multi-lane, destination rich and often running through areas of persistent poverty.



COMPARING CONGESTED CORRIDORS

MRMPO’s Congestion Management Process (CMP) monitors traffic on the region’s congested network. 31 corridors have been identified by the CMP Committee as the key corridors for regional transportation in the region. The process of analyzing traffic data along these corridors includes a crash analysis and allows for ranking and comparing corridors. East Central, for example, has a very high number of fatalities despite having very low volumes compared to other 6-lane arterials in the region. In contrast, our region’s most congested corridor, Alameda, has some of the lowest crash rates despite high volumes.

Both sections in question are of similar length but have very different crash outcomes. Alameda has more VMT despite being 4 lanes for most of the corridor. East Central, between Louisiana and Tramway is 6 lanes, yet has 24% less VMT between 2017 and 2021. The 4.05-mile length of east Central hosted 80% more fatalities and 86% more Class A injuries than the 4.1 mile stretch of Alameda. East Central is home to the highest concentration of pedestrian crashes in our region. There were 17 pedestrian fatalities on this stretch of Central between 2017 and 2021, and none on Alameda.

CRASH OUTCOMES

These different crash outcomes suggest that traffic safety is much more complex than simply how much traffic uses a road. A comparison of Central east of Louisiana, and Alameda between Coors and I-25 provides an idea of what type of roadway characteristics can influence traffic safety.

Table 9. Comparing Alameda and Central in the Albuquerque Area (2017-2021)

Name	Miles	Location	Killed	Class A Injury	Injured	Pedestrians Killed	Pedestrians Injured	VMT 17-21 (millions)
Alameda Blvd	4.1	Coors to I-25	7	10	355	0	5	204.3
Central Ave	4.05	Louisiana to Tramway	36	73	965	17	110	164.5

This does not mean that all roadways should be designed like Alameda. Alameda serves its purpose well as a roadway that does not require access to multiple destinations. The challenge is evaluating the purpose of each roadway by looking at multimodal activity and surrounding land uses in addition to traffic volumes, and making the decision where warranted to intentionally slow down vehicles and prioritize safety over vehicular capacity.

STREET OR ROAD? WHEN YOU DON'T HAVE A CLEAR PURPOSE

The concept of ‘Stroads’ highlights how overlooking the intended function or nature of a road can lead to compromised safety for its users. Stroad is a term coined by Strong Towns, a non-profit supporting financial resiliency for cities, that indicates a mixture of a street and a road. A stroad tries to combine a road’s ability to move large volumes of traffic quickly over long distances with a street’s function of connecting people to goods and services. Central east of Louisiana is an example of a Stroad in our region. It is a 6 lane road with a speed limit of 35 mph that both tries to move vehicles fast and grant them access to adjoining land uses via driveways. Alameda, on the other hand, is a road. Its function is not to grant access to adjoining land use, but to move large volumes across the region quickly and efficiently without local access. Downtown Albuquerque provides us with examples of a street. The streets of downtown bounded by 8th Street to the west, 1st Street to the east, Coal to the south, and Lomas to the north, are low speed and prioritize connecting people with jobs, goods, and services. In this part of the city, there was one fatality between 2017 and 2021 despite having 6.8 centerline miles, more than the sections of Central and Alameda discussed earlier.

Table 10. Comparison of Crash Outcomes for a Road, Streets, and a Stroad (2017-2021)

Name	Type	Miles	Location	Killed	Class A Injury	Injured	Pedestrians Killed	Pedestrians Injured
Alameda Blvd	ROAD	4.1	Coors to I-25	7	10	355	0	5
Central Ave	STROAD	4.05	Louisiana to Tramway	36	73	965	17	110
Downtown Albuquerque	STREET	6.8	1st to 8th, Coal to Lomas	1	27	479	1	49

DECIDING ON A PURPOSE

There is wisdom in the Strong Towns warning about avoiding Stroads. Our crash statistics are evidence that we simply cannot move a high volume of vehicular traffic though an area while simultaneously and safely connecting people to local destinations. We must decide the purpose of our roadway infrastructure. If the intention is to connect people of all modes to local goods and services, then design and speed of our roadways should be set with safety at the forefront.



SOURCE: GROUNDWORK STUDIO

SAFER STREETS

Much of our region's roadway infrastructure was built at a time when high speed, high access roadways like east Central, San Mateo, Montgomery, and Menaul were the norm. For over 100 years planners, engineers, and elected officials all had a part in intentionally designing these roadways to prioritize high speed automobile travel over all other modes of travel, or local economic vitality. It will take an enormous collaborative effort to reverse this standard. Addressing safety on these roadways will be difficult, but it is possible. An effort must be made to make our region's Stroads either more like a road or more like a street depending on the current and future land use.

Case Study: La Jolla Blvd., San Diego, Ca.

In 2007, construction on a road diet began on La Jolla Blvd. through the Bird Rock Community of San Diego. Average speeds along the four lane thoroughfare were 40mph before the road diet. After the road diet, average speeds came down to 19 mph, while volumes stayed roughly the same (23,000 a day before to 22,000 a day after). After the road diet, there was a 90% reduction in traffic accidents, a 77% drop in noise levels, and a 30% growth in retail sales. Businesses report that the increase in sales is due to greater visibility due to the lower speeds and more on street parking. (Steuteville, 2018).



Source: CNU

Figure 19. Transforming a Stroad to a Street

Source: Center for New Urbanism (CNU)

The sections of Stroads in the region with the most pedestrian fatalities should be targeted first, and efforts to lower traffic speeds and reduce conflicts in those sections should be the priority. Roadways with high levels of transit use should also be prioritized. Decreased traffic volumes nor enforcement or speed limit signs alone will fix the problem, roadways must also be designed differently. Understanding the character and purpose of roadways provides insight into improving safety by designing them in harmony with the surrounding land uses and multimodal traffic.

EVALUATING INTERSECTIONS AND CORRIDORS

INTERSECTIONS VERSUS NON-INTERSECTION CRASHES

Major intersections, where two roads that have the functional classification of collector or above cross each other, are key conflict points between two heavy flows of traffic. This explains why most of the region’s crashes occur at these major conflict points. In the region, 54% of all non-interstate crashes occurred at major intersections between 2017 and 2021, however; 65% of fatal crashes occurred at least 100 feet away from major intersections. Furthermore, 68% of pedestrian fatalities occurred at least 100 feet away from major intersections.

The National Highway Transportation Safety Association (NHTSA) conducted a nationwide study of pedestrian fatalities and found a similar trend. NHTSA reported that 75% of pedestrian fatalities in 2021 occurred at locations that “were not intersections.” The study also found that 77% of the pedestrian fatalities occurred in dark conditions. Furthermore, not only is the number of pedestrian fatalities increasing each year, but they are making up a larger portion of the nation’s overall fatalities at 17%.

Table 11. Intersection versus Non-Intersection Fatalities and Injuries (2017-2021)

Crash Location	Fatalities	% of All Fatalities	Injuries	% of All Injuries	Pedestrian Fatalities	% of All Ped Fatalities	Total	% of Total Crashes
Intersection	207	35%	22,341	56%	57	32%	49,553	54%
Non-Intersection	381	65%	17,891	44%	122	68%	41,837	46%
TOTAL	588	100%	40,232	100%	179	100%	91,390	100%

MRMPO endeavored to provide several reasons why fatal crashes tend to happen away from major intersections while most overall crashes happen at major intersections. For instance, major road intersections mostly have traffic lights to control traffic conflicts. Traffic often proceeds through intersections slower as they often start from a full stop. Additionally, drivers are aware that major intersections are a conflict point and slow down as they navigate through the intersection. As drivers move away from intersections, they often pick up speed and are not as alert to potential conflicts with other road users as they are at intersections.



2. REGIONAL CRASH ANALYSES

MULTI-LANE ARTERIAL ROADWAYS

Multi-lane arterials allow cars to jockey and change lanes, and their view of potential conflicts with pedestrians can be blocked by other cars, making multi-lane arterials more dangerous. With speeding already being an issue, these roadways are even more dangerous when there are multiple lanes to weave in and out of traffic.

One hundred and twenty two (122) of 179 of our region’s non-interstate fatal pedestrian crashes happened at non-major intersection locations. Of these 122, 92 happened on 4 or 6 lane principal arterials. Forty four (44) pedestrian fatalities occurred on 6 lane arterials while 48 occurred on 4 lane principal arterials. To make a fair comparison the centerline miles were also calculated. There are 2.5 times as many centerline roadway miles on 4 lane arterials. Thus, in terms of pedestrian fatalities per mile, 6 lane arterials are more than twice as dangerous as 4 lane arterials and roughly 10 times as dangerous as 2 lane arterials. Unfortunately, MRMPO does not yet collect robust pedestrian count data, so we cannot gauge pedestrian exposure by facility type as we can with vehicles.

Six (6) lane arterials are exceedingly dangerous for pedestrians in our region. Many of our region’s 6 lane roadways serve as important transit corridors and host significant commercial activity that attract pedestrians. Crossing these roads is difficult for pedestrians as they are exposed to traffic for a long time. With more lanes, there is also the risk of a multiple threat crash.

Table 12. Comparison of Pedestrian Fatalities for Multi-lane Arterials (2017-2021)

Non-Intersection Crashes (Interstates not included)	Pedestrians Killed	% of Total	Miles	% of Total	Pedestrians Killed per Mile
6 lane arterial	44	36%	85.2	3%	0.52
4 lane arterial	48	39%	219.4	8%	0.22
2 lane arterial	9	7%	178.4	7%	0.05
Total	122	100%	2613.10	100%	0.05



LOUISIANA BLVD MULTI-LANE ARTERIAL ROADWAY
SOURCE: GOOGLE MAPS

2. REGIONAL CRASH ANALYSES

MULTIPLE THREAT CRASHES

Multiple Threat Crashes occur on roadways with multiple lanes of traffic per direction. A multiple threat crash describes an instance where at least one vehicle yields to a pedestrian who begins to cross the street, however a vehicle in the adjacent lane does not yield to the pedestrian and strikes them. The stopped car often blocks the pedestrian's vision of other cars approaching.

This situation occurred on Louisiana Boulevard with the tragic case of a 12 year old Cleveland Middle School student. Eliza Justine Almunia was crossing just in front of her school when she was fatally struck by a car. One driver stopped to allow her to use the crosswalk when a driver in the adjacent lane failed to yield and struck her. Improvements have since been made to the mid-block crossing in question, including the installation of a pedestrian hybrid beacon. Daylighting (not allowing parking near crosswalks) also helps prevent these types of crashes.



Figure 20. Multiple Threat Crash Risk at Bus Stop

PEDESTRIAN COMFORT AT INTERSECTIONS



Another reason fatal crashes primarily occur at non-intersections has to do with pedestrians' perceptions of safe crossings. Based on outreach for this plan, pedestrians in the region tend to prefer to cross mid-block, especially when there is a raised median present. Pedestrians can be overwhelmed by the heavy traffic, wide crossings with no safety island, and seemingly chaotic turning movements at major intersections. Pedestrians do not seem to trust that motorists will yield to them at major intersections particularly when turning and elect to cross mid-block where they feel safer and more in control of their fate.

Many pedestrians also feel that there are not enough places to cross or marked crosswalks, and they simply need a more direct line to their destination. People prefer quick access to where they are going regardless of what travel mode. Unfortunately, mid-block or unmarked crosswalks is where drivers least expect pedestrians. Pedestrians also may not be able to accurately gauge a driver's speed, or many drivers may be speeding, which can lead to a severe crash.

2. REGIONAL CRASH ANALYSES

LOCATION ANALYSIS FOR BICYCLE CRASHES

Bicycle facilities often stop at intersections and because of this many bicyclists will find other ways to navigate around a city. An analysis comparing the location of bicyclist crashes and the presence of bicycle facilities was conducted. When reviewing all fatalities and injuries that involve a bicyclist in the region, 69% are not at major intersections and 65% occur where there is not a bicycle facility. A further investigation into the most severe crashes (fatalities and serious injuries), reveals that of these 61 crashes, 59% are not at intersections and 52% are at locations without a bicycle facility. The location of the most severe crashes are primarily along 2nd Street, Bridge, Coal, Coors, Eubank, Montano, Moon, and Paseo Del Norte.

SOURCE: MRMPO



Because the presence of bicycle facilities includes designated routes, and many bike facilities that are not separated from vehicular traffic, it is hard to be confident about the impact of the presence or absence of a bicycle facility. The only bicycle facility designation that is likely to be directly related to improved safety is the buffered bicycle lane or paved trail. Of these locations there are 8 where a fatal and/or serious injury crash occurred out of 61 total fatal and serious injury crashes. All of them occurred in 2019 or before and along Lead/Coal and Martin Luther King west of the Interstate, Monte Vista, and Coors. Unfortunately, without knowing when exactly these facilities were finished it is difficult to draw strong conclusions.

Nevertheless, when looking at the data as a whole it seems as if the presence of quality bicycle facilities results in fewer fatalities and injuries. According to the **NMDOT Vulnerable Road User Safety Assessment** for the State of New Mexico, 95% of bicyclist fatalities occur on roadways without bicycle facilities, and 63% are along major or minor arterials.

RURAL ROADS AND SINGLE VEHICLE CRASHES

There has been an increase in single motor vehicle fatal crashes in the region between 2017 and 2021. Single vehicle fatalities involve only one vehicle and do not involve other road users. Oftentimes these crashes involve a vehicle leaving the roadway and striking a fixed object or overturning. **Single vehicle fatalities nearly doubled between 2017 and 2020.**

Single vehicle crashes are more common in rural areas, such as Valencia and Tarrant counties. Residents in rural areas drive longer distances to access goods and services than urban residents do. It is possible that rural residents suffer fatigue driving long distances, which increases the likelihood of a single vehicle crash.

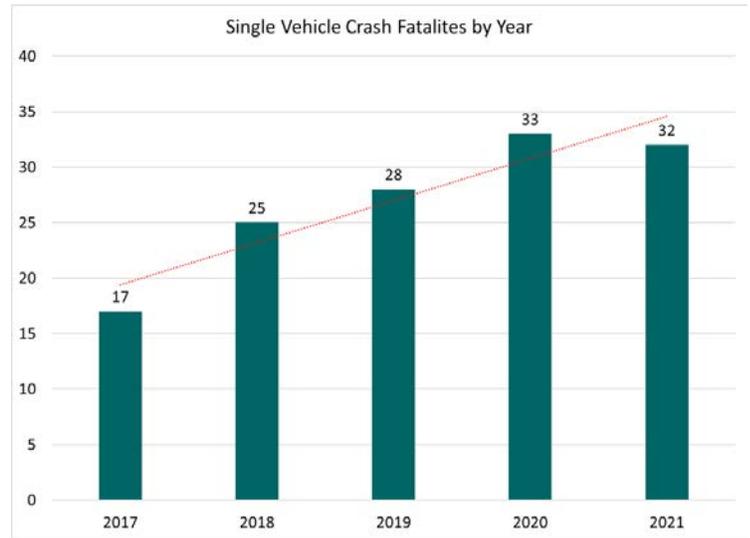


Figure 21. Single Vehicle Crash Fatalities (2017-2021)

TOP CONTRIBUTING FACTORS

These crashes may be due to an increase in speeding and reckless driving, distracted driving, or impaired driving. The top contributing factors (TCF) for single vehicle fatal and class A (incapacitating injury) crashes between 2017 and 2019 point to the type of risky behavior that often leads to these types of crashes. Thirty two percent (32%) of all fatal and class A single vehicle crashes involved alcohol, followed by excessive speed at 21%, and driver inattention at 11%.

Table 13. Top Contributing Factors for Single Vehicle Crashes (2017-2019)

Top Contributing Factor for Single Vehicle Crashes	Killed + Class A	% of Total
Alcohol/Drug Involved	77	32%
Excessive Speed	52	21%
Driver Inattention	27	11%

SANDIA CREST ROAD

A road where single vehicle crashes occur more often is NM 536, the Crest Road, from Sandia Park to the Sandia Crest in Bernalillo County’s East Mountains. Crest Road had 115 total crashes reported from 2017 and 2021 between NM 14 and the Sandia Crest. Of those 115, 100 involved only 1 vehicle. There were 2 fatalities and 5 Class A injuries reported and all were single vehicle crashes. Thirty eight percent (38%) of the single vehicle crashes along Crest Road were attributed to excessive speed. Crest Road is a curvy road that climbs the Sandia Mountains and is often driven by hobbyist drivers. Some drivers drive too fast and aggressively and lose control of their vehicles, often leaving the roadway and overturning or striking a fixed object. Single vehicle crashes that result in rollovers are common in many of the rural areas of the region and are an indication of unsafe behavior. The fact that these types of crashes are climbing in our region is troubling.

VULNERABLE ROAD USERS (VRU)

Pedestrians and bicyclists are the most vulnerable road users. In the event of a crash, they are unprotected and more likely to suffer a severe injury or death than a vehicle occupant. Pedestrians, bicyclists, and motorcyclists all suffer disproportionately when it comes to crashes that result in fatalities.

Only 5% of the MRCOG region’s overall crashes involve a pedestrian, bicyclist, or motorcyclist, yet these road users make up 51% of all fatalities.

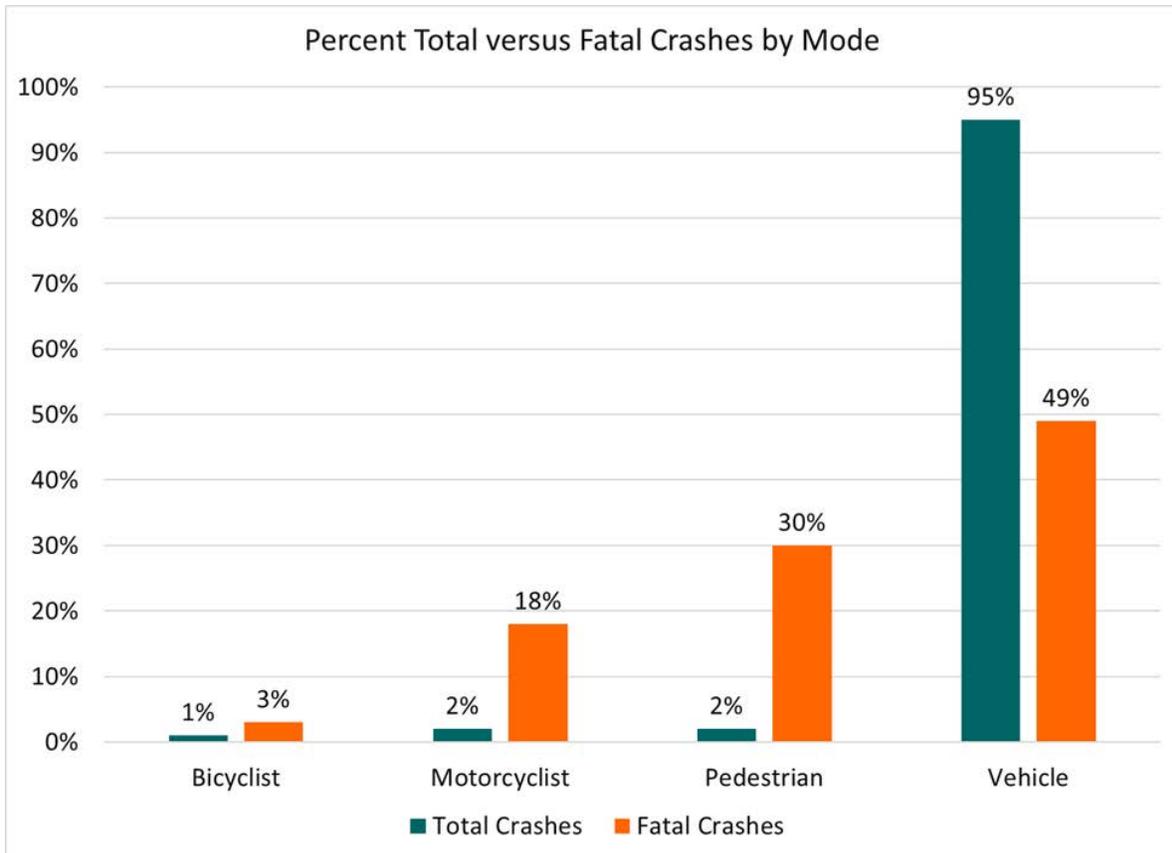


Figure 22. Percent Total Versus Fatal Crashes by Mode (2017-2021)

HUMANS ARE VULNERABLE

This disparity in outcome between automobile occupants and vulnerable road users demonstrates that in the event of a crash, the automobile occupants are much more likely to survive than a pedestrian, motorcyclist, or bicyclist. This inequity in outcome illustrates why it is so important to target vulnerable road user (VRU) crashes. There are relatively fewer VRU crashes than car crashes, but they result in more fatalities.

Successfully reducing these crashes would make a substantial difference in the overall number of fatalities in our region. Furthermore, the types of safety initiatives and changes made to streets to improve the safety of VRUs would result in fewer motor vehicle crashes resulting in fatalities as well. The reality is that speed kills and making it safer for pedestrians makes it safer for all modes.

2. REGIONAL CRASH ANALYSES

PEDESTRIAN FATALITIES AND EQUITY

Pedestrian fatalities have been edging upward in the region since 2017, with a severe spike in 2021. Pedestrian fatalities are concentrated in the region along East Central with 11% of the region's pedestrian fatalities occurring on Central between San Mateo and Eubank. Also, pedestrian fatalities often cluster in areas of persistent poverty. The MRMPO Vulnerability Index (MVI) identifies census tracts with higher levels of households in poverty and households without access to a vehicle. The Importance of Equity section in Chapter 1 provides a more detailed description of the MVI.

Seventy three percent (73%) of pedestrian fatalities occur in, or directly abut the poorest 30% of census tracts. This concentration may be because residents are less likely to have access to automobiles and rely more on walking, biking, and transit to access jobs and services.

Major arterials that pass through high poverty, high minority areas tend to exhibit a disproportionate number of pedestrian fatalities.

The City of Albuquerque prioritizes roadway interventions not only based on historical crash data and the High Fatal and Injury Network (HFIN), but on whether the roadway is in an historically disadvantaged community which includes an indicator of per capita income. It is essential that, in all areas of the region, roadways with high crash rates that pass through historically disadvantaged communities are prioritized for infrastructure improvements. Equity and roadway safety concerns are not only related to pedestrian fatalities. A high MVI score correlates with a higher number of fatalities for all modes.



SOURCE: MRMPO

2. REGIONAL CRASH ANALYSES

LIGHT CONDITIONS

One way to further evaluate crashes is by looking at the light condition information gathered by police officers when the crash occurred. Even with some kind of street lighting, 75% of pedestrian crashes that result in fatalities occur during the dark time of the day.

Of 59 Dark Not Lighted fatal crashes over a 5 year period, 12 are in the rural areas. Fifty five percent (55%) of the remaining Dark Not Lighted fatalities are primarily along Coors, West and East Central, Rio Bravo, and Candelaria near Menaul, and the others are disbursed throughout the metro area.

For vehicular, bike, and motorcycle fatalities this trend is not as severe. However, dusk is a time when there are considerably higher bicyclist deaths compared to all other modes. This may be due to poor visibility related to the angle of the sun.

Unfortunately, the lighting infrastructure that is available along the street tends to be geared towards vehicular traffic and does not provide adequate lighting for other modes of travel. This is particularly true for the location of sidewalks and for pedestrians crossing the street. Addressing this issue by providing pedestrian scale light infrastructure would make a great impact on reducing fatalities in our region.

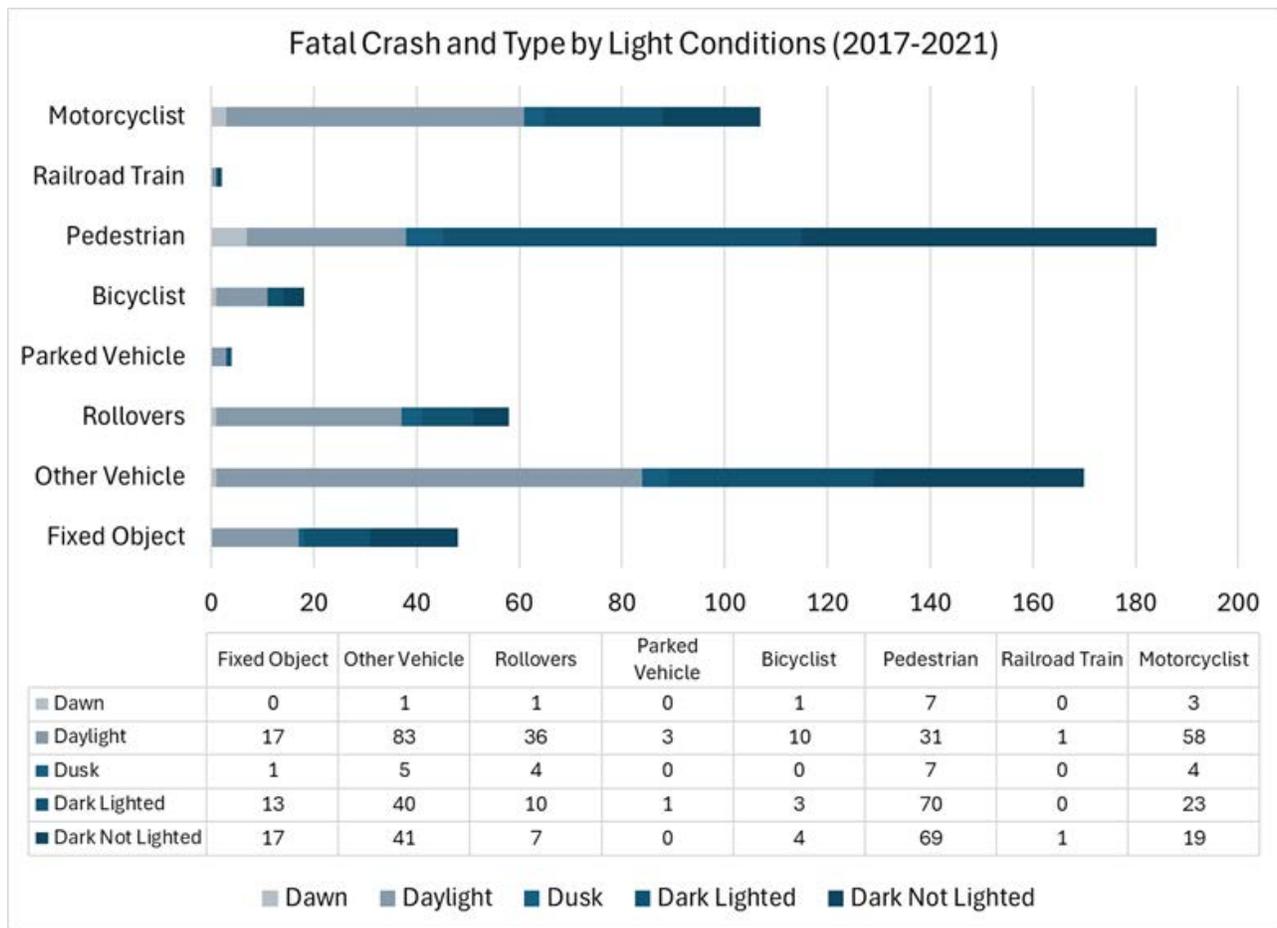


Figure 23. Fatal Crash and Type by Light Conditions (2017-2021)

PEDESTRIAN FATALITIES ON THE INTERSTATE

The number of pedestrian crashes on our interstate network has been increasing over the last 10 years (2011-2021). This is a difficult problem to address as pedestrian access is strictly prohibited on the Interstate. Conversations held with local law enforcement point towards this issue being linked with higher rates of those experiencing homelessness. Interstate ramps provide a refuge from the weather for the homeless.

If we are to reduce the number of pedestrian crashes on the interstate our region needs to address the growing social problem of people without housing. Furthermore, these fatalities point to the fact that addressing safety is not done in a silo. Traffic violence is a public health issue and requires improvements to services available to those that are impoverished or experiencing homelessness.

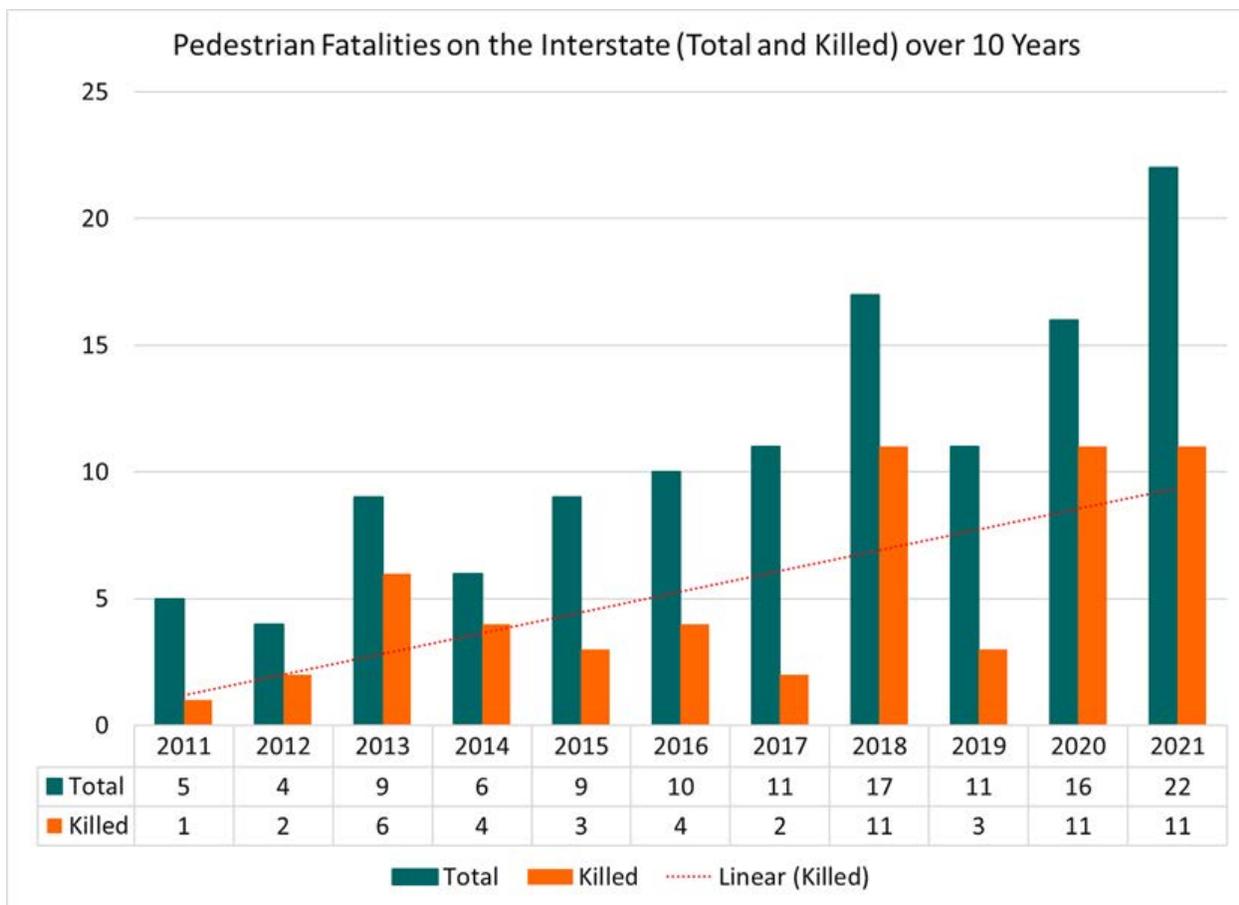


Figure 24. Pedestrian Fatalities on the Interstate (2011-2021)

2. REGIONAL CRASH ANALYSES

BICYCLIST CRASHES

Bicyclist fatalities are trending downwards from 2017 to 2021. This is good news for our region, however not well understood. It is possible the creation of more off-street bike infrastructure and bike boulevard options have enabled our region’s bicyclists to move around more safely. Alternatively, bicyclists may be choosing to use different routes and avoid any roadway that feels unsafe. This means that bicycling may be safer when there are alternative facilities, but it is not always an efficient or direct way to access destinations for practical matters.

Bike crashes are somewhat seasonal with fatal and Class A injuries being less common in the winter months. This is likely due to lower exposure as many bicyclists travel less, or not at all, in the winter months. Bicyclists, like pedestrians, tend to get hit in more vulnerable communities. Forty five percent (45%) of bicyclist fatalities and injuries occurred in the poorest 20% of census tracts.

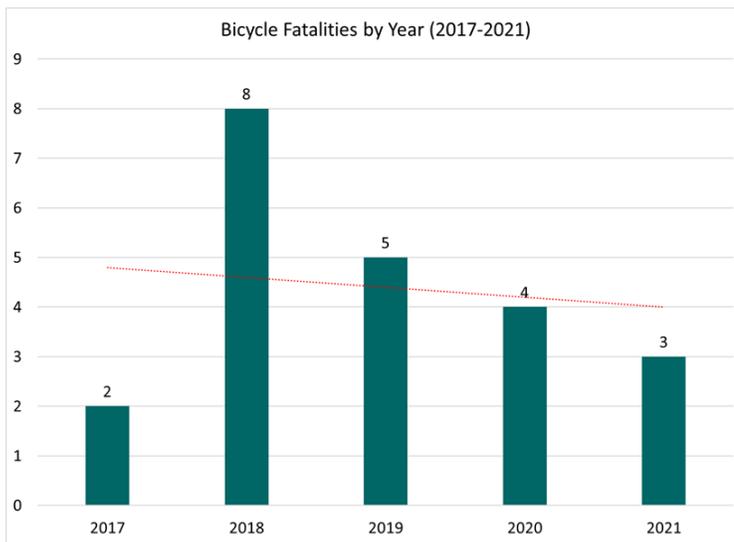


Figure 25. Bicycle Fatalities by Year (2017-2021)

The density map of bicycle crashes below shows that, like pedestrians, many bicyclists are struck along the Central Avenue corridor, especially in downtown Albuquerque and along East Central. Bicycle crashes stretch to the north along 4th Street and there is a hot spot at Menaul and San Mateo Boulevards.

There is a perception that most bicyclists in our region are strictly biking for leisure, but the heat map of bicyclist crashes suggests that many people are bicycling to access goods and services. The hot spots are consistent with areas of high activity density. This suggests that bicycle infrastructure is important on corridors that are destination rich and not only on off-street facilities.

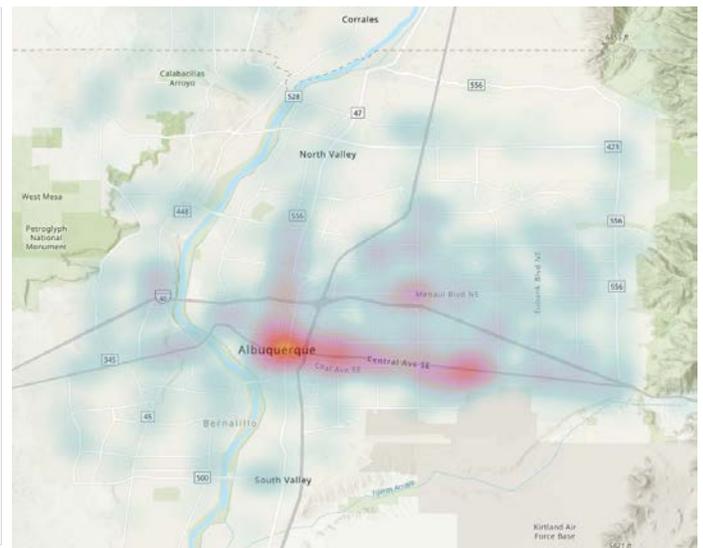


Figure 26. Bicycle Crash Density

2. REGIONAL CRASH ANALYSES

MOTORCYCLE CRASHES

Like bicycle crashes, motorcycle crashes are seasonal, with far fewer happening in the winter months. A large portion of motorcycle fatalities and Class A (serious injuries) are single vehicle crashes. In the entire region, 26% of all motorcycle fatalities and serious injuries are single vehicle crashes. Motorcycle crash fatalities stayed fairly even from 2017 until 2021 with an average of 24 a year. Then from 2020 to 2021 they increased significantly from 24 to 38 fatalities.

RURAL AREAS

Motorcycle fatalities that happen in rural parts of our region are far more likely to be single vehicle crashes. Of the motorcycle crashes that occurred in rural areas and resulted in a fatality or Class A injury, 60% of them only involved one vehicle. Single vehicle crashes are often an indication of speeding or other types of aggressive driving as drivers can lose control of their vehicle and leave the roadway when driving too fast.

Between 2017 and 2019, the top contributing factor for motorcycle fatalities and serious injuries was excessive speed. For rural areas in the region, this trend is even more pronounced, with nearly 40% of fatal and serious injury crashes being caused by excessive speed. It seems clear that speed plays a major role in the occurrence of motorcyclist crashes and especially single vehicle motorcycle crashes.

Table 14. Top Contributing Factors for All Motorcycle Fatalities and Class A Injuries (2017-2019)

Top Contributing Factor	Killed + Class A	% of Total
Excessive Speed	64	21%
Alcohol/Drug Involved	59	20%
Failed to Yield Right of Way	52	17%
Driver Inattention	27	9%
Disregarded Traffic Signal	19	6%
Following Too Closely	14	5%
Other Improper Driving	13	4%

Table 15. Top Contributing Factors for Single Motorcycle Fatalities and Class A Injuries (2017-2019)

Top Contributing Factor	Killed + Class A	% of Total
Excessive Speed	33	38%
Alcohol/Drug Involved	16	18%
Other Improper Driving	9	10%
Driver Inattention	7	8%



MOTORCYCLIST INVOLVED CRASH ON NM 314
SOURCE: JESSE JONES | NEWS-BULLETIN PHOTO JUNE 2023

ROADWAY SAFETY CULTURE AND BEHAVIOR

UNBELTED OCCUPANTS

In New Mexico and throughout the country, there has been an increase of vehicle occupants dying who were unrestrained by a seatbelt. The most significant jump in New Mexico came in 2020 when 65% of all vehicle occupants who died in crashes were not wearing seat belts.

Belted versus unbelted fatal crashes were close to 50-50 in 2017. Since then, there has been a shift. In 2020 and 2021, the chart depicts this divergence, with the share of fatalities where an occupant was wearing a seat belt decreased and the share of unbelted fatalities increased to 65%.

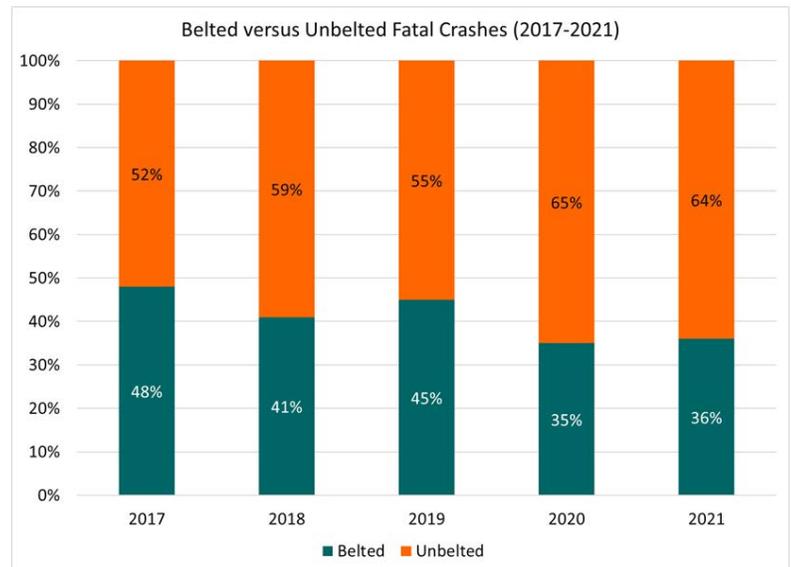


Figure 27. Belted versus Unbelted Fatal Crashes (2017-2021)

SURGE IN SPEEDING AND AGGRESSIVE DRIVING

Recent studies point to increased risk-taking on the nation's roadways. Fatal crashes surged not only in our region, but around the country during the COVID-19 pandemic. Many researchers and journalists point to speeding and aggressive driving as key factors in fueling the epidemic. Two Connecticut researchers published a study on speeding during the pandemic in **Science Direct**, a peer reviewed journal.

The researchers attribute the rise in speed to the following theories:

1. During the early stages of the pandemic, reduced traffic resulted in impairments in drivers' ability to accurately perceive their own speed, and thus control it. Drivers often use other drivers to gauge their own speed, and with fewer cars this was not possible.
2. Drivers seek "homeostasis of perceived risk." With fewer cars on the road, drivers perceive speeding to be less risky and are more likely to speed.
3. Low traffic volume is associated with increased boredom, and drivers may drive faster and more aggressively to counteract their own boredom.

The **Los Angeles Times** interviewed a Temple University professor of Psychology, Frank Farley, who remarked at the time that COVID-19 marked "a sea change in psychology". Farley views reckless driving as an attempt at "arousal breakout," or a form of rebellion against the restrictions of the early pandemic. "You've been cooped up, locked down, and have restrictions you chafe at, so if you can have an arousal breakout, you want to take it."

2. REGIONAL CRASH ANALYSES

The New York Times also published several articles on the rise in fatal crashes throughout the United States. Staff interviewed experts from different fields, including psychology, to better understand the phenomenon. The NYT investigators highlighted a study undertaken by the American University of Beirut titled **Measuring Aggressive Driving Behavior Using a Driving Simulator**. The study found that participants who reported low or moderate amounts of stress in their lives were less likely to drive aggressively in the simulator when presented with a stressful situation. Participants who did report more stress and anxiety in their personal lives were more prone to engage in risky behavior.

A researcher at the Johns Hopkins Bloomberg School of Public Health commented on this behavior in a *Los Angeles Times* article:

“We might decide: what does a seat belt or another beer matter, anyway, when we’re in the middle of a pandemic?”

The article links dangerous behavior on the road to “widespread feelings of isolation, loneliness and depression.” It also draws parallels between the rise in unbelted driving to other pandemic era trends, like a rise in drug overdoses and homicides around the country.

SINGLE VEHICLE FATALITIES

Single vehicle crashes are an indication of dangerous driving. As discussed earlier in the chapter, the top contributing factors for the region’s single vehicle fatal and serious injury crashes are alcohol/drug involved, excessive speed, and driver inattention. The fact that single vehicle fatalities nearly doubled between 2017 and 2020 is an indication that these types of behaviors are becoming more commonplace on our region’s roads.

Table 16. Top Contributing Factors for Single Vehicle Fatalities and Class A Injuries (2017-2019)

Top Contributing Factor for Single Vehicle Crashes	Killed + Class A	% of Total
Alcohol/Drug Involved	77	32%
Excessive Speed	52	21%
Driver Inattention	27	11%

ROAD RAGE

Fatal shootings related to road rage have doubled since 2018. Injuries have more than doubled in that same period. This data is for the entire nation, but an Everytown analysis includes the rate of people shot in road rage incidents per million residents in 2022. New Mexico had the highest rate in the nation, with 6.16 people shot in road rage incidents per million residents.

Road Rage Shooting Deaths and Injuries, 2018 to 2022

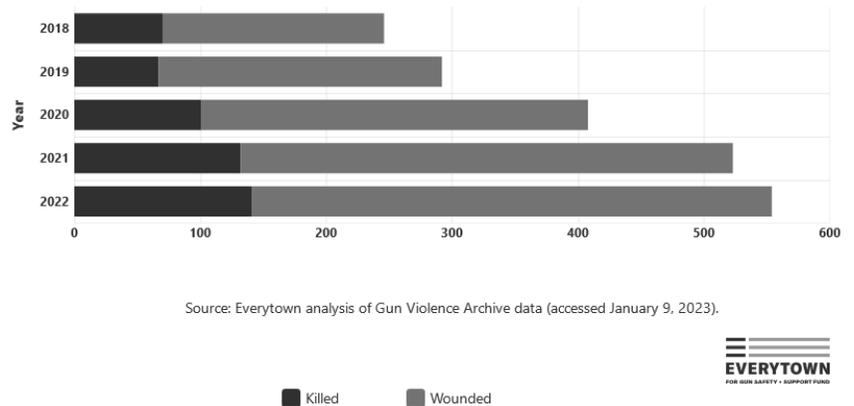


Figure 28. Road Rage Shooting Deaths and Injuries

TAKING RESPONSIBILITY TOGETHER

The frightening trend of increased road rage shootings is indicative of the fact that aggressive behavior on the road is rising. Aggressive and careless behaviors like speeding, reckless driving, and not wearing a seat belt endanger car occupants and other road users. Dangerous driving and high speeds are leading to a rise in fatalities in the region. People must treat driving as a serious endeavor that requires an attentive and calm operator. We need to work together and with the broader community to address the rise in unsafe behaviors like not using crosswalks or driving aggressively. NMDOT and the University of New Mexico’s “Look For Me,” educational campaign is a positive example of bringing awareness to safety and shifting people’s mindset.

Unfortunately, many of our streets are designed in a way that can increase the chances of a crash, when we really should be designing with safety at the forefront. Transportation professionals and elected officials alike have the opportunity to take responsibility for improving the inadequacies of our roadway infrastructure, and the communities disproportionately impacted by them. With support from multiple disciplines and local organizations we must endeavor to build a system that prioritizes safety for all users. Transportation policy and design should anticipate human error while addressing systemic inequities in access to quality and safe infrastructure.



Figure 29. Shared Responsibility for a Safe System
Source: Vision Zero Network

3. REGIONAL SAFETY STRATEGIES



DEVELOPING A SAFETY STRATEGY TOOLBOX

AGENCY AND PUBLIC INPUT

This chapter presents an extensive toolbox of safety strategies that local agencies can easily access to deploy appropriate and effective safety interventions in their area. The latest Federal Highway Administration (FHWA) proven safety countermeasures are included. The public, focus groups, and agency engagement process was structured to receive feedback about strategies and projects that would be most beneficial for their roadway safety concerns. Specifically, two open-ended questions asked why and how the region can best address the unacceptable number of high traffic fatalities and serious injuries. Local plans and programs in the region related to safety were also reviewed and safety strategies were compiled based on current best practices.

CONSISTENCY WITH THE SAFE SYSTEMS APPROACH

These strategies align with the U.S. Department of Transportation's Safe System Approach, which recognizes that although humans make mistakes and are vulnerable fatalities and injuries can be prevented. This approach emphasizes a shared responsibility among stakeholders to achieve the goal of zero fatalities. In addition to approaching transportation safety using this systemic method, five elements are included in the Safe Systems Approach. All these elements are addressed with safety strategies in this plan with added emphasis on Safe Road Users, Safe Vehicles, and Safe Roads. The five elements of the Safe Systems Approach are as follows:

SAFE SYSTEM ELEMENTS

Making a commitment to zero deaths means addressing every aspect of crash risks through the five elements of a Safe System, shown below. These layers of protection and shared responsibility promote a holistic approach to safety across the entire transportation system. The key focus of the Safe System approach is to reduce death and serious injuries through design that accommodates human mistakes and injury tolerances.

				
Safe Road Users	Safe Vehicles	Safe Speeds	Safe Roads	Post-Crash Care
<p>The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.</p>	<p>Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.</p>	<p>Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.</p>	<p>Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.</p>	<p>When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.</p>

Figure 30. Safe System Elements
Source: FHWA

3. REGIONAL SAFETY STRATEGIES

THE SAFETY STRATEGIES TOOLBOX

The Safety Strategies Toolbox is a customized inventory of safety strategies for the region and is intended to be comprehensive and easy to use. The strategies in the toolbox provide an array of options for an entity to peruse based on the type of crash they are trying to reduce and their unique project or program needs. Some of the strategies are specific to concerns heard throughout the engagement process. Specific agency priorities, and their corresponding strategies, are presented in the Safety Project and Program List in Chapter 4. From a regional transportation planning perspective, the strategies toolbox provides general guidance and resources at your fingertips for selecting and implementing well-vetted safety strategies. Built into the list are multiple searchable categories such as whether it is a policy, educational, pedestrian, or intersection related strategy. The list can be filtered by safety issue or type of strategy.

MAKE IT A MOVEMENT

Create an educational campaign in schools that begins to address transportation safety and driving culture.

Re-design roads to reduce speeds.

Increase separation and protection for pedestrians.

Improve sidewalks, bike lanes, and buffers along key corridors.

Use speed enforcement cameras, not as a revenue generating scheme, but to ticket people who are driving at excessive speeds.

Re-work signals on 6 lane roads so people can only take a left turn on green arrow.

-Public Comment

LOCAL GOVERNMENT SAFETY PROGRAM

Because this plan is developed from a regional planning perspective it is not as detailed as a local safety plan might be, however; this plan provides a general framework and sound recommendations for where to start. The **2023 Albuquerque Vision Zero Year-in-Review / Action Plan Update** document provides an excellent example of how a local governmental agency moves from adopting a roadway safety policy to a more detailed local roadway safety program.

RTSAP 2024 STRATEGY CATEGORIES

This easy-to-use list is helpful for both exploring what types of strategies are available to improve roadway safety and to address the underlying factors that result in fatalities and injuries. Included with each strategy is a short description, links to online resources, and some customized guidance. It is important to note that prior to implementation of a design strategy it is necessary to further investigate the types of crashes that are occurring, as well as characteristics of the roadway, to ensure the strategy selected is targeting the correct type of safety risk and is technically feasible.

3. REGIONAL SAFETY STRATEGIES

The Safety Strategies Toolbox is available in a stand-alone spreadsheet (Appendix A) that can be quickly filtered by multiple types of strategies. The types of strategies included are broken down into broad and more detailed categories. In this document they are sorted by broad categories. The intention of this strategy list is to provide an inventory primarily for local and Tribal agencies but also for the public and advocacy groups.

HIGHLIGHTING EQUITY STRATEGIES

Strategies specific to equity are included in the list. They are integrated with the strategies list by being explicit about when and where it is important to ensure processes are being equitably implemented. However, equity should play a role in the implementation of all strategies and be woven throughout any process. In addition to being noted in the strategies list, some key principles are necessary to ensure equity with project and program development. These are shown below.

SAFETY STRATEGIES

Broad Categories:

1. Data Collection and Analysis
2. Policies and Programs
3. Design and Engineering
4. Education and Campaigns
5. Traffic Technologies

Secondary Categories:

- a. Bicyclists
- b. Campaigns
- c. Education
- d. Enforcement
- e. Intersections
- f. Legislation
- g. Pedestrians
- h. Pedestrians / Bicyclists
- i. Planning / Engineering
- j. Railroad
- k. Roadways
- l. Schools
- m. Speed Management
- n. Transit

Table 17. Key Equity Principles for the Region

Enforcement	Ensure traffic enforcement programs are implemented with extensive engagement with local underserved communities or develop a program where police are not involved with traffic enforcement.
Investment	Prioritize planning and investment in underserved communities when creating and implementing transportation plans, programs, and projects.
Representation	Ensure diverse representation during the decision-making process on advisory committees and in leadership positions.
Engagement	Tailor the design of traffic education and campaigns with extensive input from underserved communities.
Public Health	Support public health approaches that would improve traffic crash prevention.

THE SAFETY STRATEGIES TOOLBOX

BROAD CATEGORIES

DATA COLLECTION AND ANALYSIS

Vision Zero and the Safe Systems Approach are data-driven to help prioritize investment and select the best strategies. Many different departments must work together to develop processes and compile the data needed to conduct strong analyses for selecting roadway safety improvements. Post analysis is also important to evaluate outcomes after applying safety strategies (such as narrowing lanes or introducing signals for pedestrian crossings) to determine their efficacy and appropriateness in other locations. Identifying and analyzing safety issues relies upon the collection of robust data ranging from crash data to speed data to infrastructure condition. For example, creating a High Fatal and Injury Network (HFIN) or Potential Road Diet Candidates map relies on accurate crash records, number of traffic lanes, and traffic volumes. In addition, safety countermeasures that address specific types of crashes require that the police officer captures the correct information in the police report so that data analysts can identify where and what safety improvements should be implemented. And, each record needs to be geocoded in a timely manner. There are many Tribal governments in New Mexico, and integrating the different sources of crash data into a state database is a challenge that continues to be improved upon.

POLICIES AND PROGRAMS

The adoption of new safety policies must often precede delivery of safety interventions because too often in daily practice, safety ends up not being the first priority when it pertains to developing or improving roadways. Adopting policies focused on safety, and then ensuring complementary design standards are implemented, is essential. There may also be the need to repeal policies or laws that hinder the development of safe roadways. For example, these might include policies that inhibit biking or walking in certain locations, that do not allow changes to speed limits, or that have a negative impact on people without homes. Once a policy has been adopted it will help to drive priorities and funding decisions. For example, Complete Streets and Vision Zero policies in the region have resulted in changes to design practice, created safety programs like post-crash evaluations, and integrated Complete Streets projects into local and regional funding sources. Bringing to light the values that are necessary to improve roadway safety through policy, and then backing that up with how funds and projects are prioritized, is key to creating communities that are safe for everyone. Policies also support many tools that impact safety such as access management plans, non-motorized traffic counts, and Safe Routes to Schools programs.

3. REGIONAL SAFETY STRATEGIES

DESIGN AND ENGINEERING

In general, it is more widely accepted to adjust posted speeds and bolster traffic enforcement than to decrease a roadway's capacity for the purpose of safety. If our goal is to prioritize safety, speed management strategies such as calming traffic by narrowing roadways, reducing lanes, or installing raised crosswalks must be prioritized where appropriate. There are other ways to improve traffic flow without putting people's lives in danger, and sometimes a little delay can save a person's life. These kind of traffic calming strategies are not as appropriate for Interstates, but rather are focused on arterials, collectors, and rural highways that people use daily to get around the region.



Figure 31. NMDOT / UNM Look For Me Campaign

EDUCATION AND CAMPAIGNS

Focused campaigns on alcohol involvement, texting while driving, or just being aware of all the different types of roadway users, are important for changing our roadway safety culture. Unfortunately, roadway safety has typically been addressed in a way that the victim is blamed. This approach needs to change as clearly there is an inequitable impact on who is dying on our streets. The NMDOT **Look For Me** campaign is an example of a way of bringing awareness to a roadway safety issue. In this campaign, all roadway users are responsible for looking out for each other and there is not one mode that is being blamed. On related note, despite some recent setbacks, New Mexico has seen substantial increases over time in seatbelt use. Like this behavior change, people can learn the rules of the road for all modes of travel and how to navigate different types of facilities on streets such as roundabouts, bicycle boulevards, pedestrian crossing signals, and shared roads. These strategies are geared toward educating and providing a more comprehensive understanding of all modes of travel, new types of roadway infrastructure, and each roadway user's legal rights and responsibilities.

3. REGIONAL SAFETY STRATEGIES

TRAFFIC TECHNOLOGIES

Management and operations strategies for improved traffic flow and safety rely heavily on advanced technologies that collect roadway data and support the processing and dissemination of information to traffic managers and travelers. Common traffic technologies include roadway sensors and cameras for speed and volume use, and weather-related equipment, both of which can provide information to be displayed on dynamic message signs and input for real-time travel apps on mobile devices. Of particular importance is the in-ground infrastructure needed for some of these technologies to function ranging from a pedestrian light to advanced signal management along a corridor.

The regional Intelligent Transportation Systems (ITS) committee has developed a prioritized list of types of ITS infrastructure needed in the region. More advanced traffic technologies include the use of real-time traffic signal control capability to remotely adjust signal timing along a corridor. These types of activities are typically conducted at centralized locations such as a Traffic Management Center (TMC). TMC staff are also keyed into law enforcement dispatch to provide critical support at crash locations and to reduce secondary crashes (crashes that result from the initial crash).



The Regional Transportation Management Center in Albuquerque, NM is “a multi-agency administrative center housing public safety and transportation departments from the City of Albuquerque, the New Mexico Department of Transportation, and Bernalillo County. Representatives from the City of Rio Rancho and the NM Department of Public Safety participated in the design process and may occupy space in the building sometime in the future.”

Source: <https://www.studioswarch.com/portfolio/regional-transportation-management-center/>

Table 18A. RTSAP 2024 Safety Strategies (Broad Category of Data Collection and Analysis)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Animal Collisions	Compile crash data on animal collision locations for wildlife crossing placements and evaluate potential crossings.	Planning / Engineering	There is a wildlife crossing project in our region being implemented by NMDOT on NM 550 that is in process.	https://largelandscapes.org/news/west-wide-study/
Crash Data Acquisition	Continue to enhance crash data acquisition timeliness and geographic accuracy.	Planning / Engineering	The TraCS project provides law enforcement statewide with access to an electronic collection and location tool for submission of the State’s uniform crash report, uniform traffic citation, commercial vehicle inspection form.	https://nmtrafficrocords.com/
Crash Diagram Software	Develop a program / process that diagrams crash data at intersections to provide system wide and specific applications for safety improvements at intersections.	Planning / Engineering	Consider using the High Fatal and Injury Network (HFIN) and MRMPO Vulnerability Index (MVI) as a starting point for locations.	https://highways.dot.gov/safety/local-rural/improving-safety-rural-local-and-tribal-roads-safety-toolkit/step-4-diagnose
Crash Modification Factors (CMF)	Utilize CMFs when developing both system wide programs and specific designs for roadway safety improvements.	Planning / Engineering	Consider post implementation evaluations to add to research on CMF research.	https://www.cmfclearinghouse.org/userguide_CMF.php
Crosswalk Inventory	Develop a geocoded inventory of both marked and unmarked roadway crosswalks.	Planning / Engineering	Consider using the High Fatal and Injury Network (HFIN) and MRMPO Vulnerability Index (MVI) as a starting point for locations.	https://www.pedbikeinfo.org/resources/resources_details.cfm?id=3960
FARS Data and Minorities	Investigate state level Fatality Analysis Reporting System (FARS) data analysis to help account for concentrations of certain minority groups in specific states.	Planning / Engineering	Approximately 52% of the total U.S. American Indian / Alaska Native population resides in just six states – one of them being New Mexico.	https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars
NEMSIS Data and Injuries	Examine the National Emergency Medical Services Information System (NEMSIS) database that collects State and Territorial EMS injury and fatality data from 911 calls. NEMSIS analysis could provide a broader examination of crash involvement by race and includes additional injury data.	Planning / Engineering	Many of the rural areas are in need of quicker EMS service and could benefit from preventive crash measures to reduce the need.	https://nemsis.org/
Non-Motorized Count Program	Develop a multimodal traffic count program to evaluate demand (including latent demand) for all modes of travel.	Pedestrians / Bicyclists	MRMPO is currently developing bicycle and pedestrian counts program that could be emulated.	https://www.pedbikeinfo.org/topics/countingestimating.cfm
Online Maps / Dashboards	Develop and maintain online maps or dashboards using most recent geocoded crash data, or other safety related infrastructure needs such as Intelligent Transportation Systems (ITS) applications.	Planning / Engineering	MRMPO is currently providing online crash data reports as new data becomes available.	https://mrmppo.maps.arcgis.com/apps/MapSeries/index.html?appid=ec395f5587744d778832207af7d86f93

Table 18A. RTSAP 2024 Safety Strategies (Broad Category of Data Collection and Analysis)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Post-Crash Evaluation	Develop a streamlined and consistent template for evaluating and following up on fatal and incapacitating crash incidents.	Planning / Engineering	Current committee exists that evaluates post fatal crashes including City of Albuquerque, Albuquerque Police Department, and MRMPO.	https://rosap.nhtl.bts.gov/view/dot/73538
Public Health Data	Determine the extent locally to which Black, Indigenous, and People of Color (BIPOC) are disproportionately represented in fatal traffic crashes, and whether certain subsets (e.g., specific races, genders, age groups) have especially high rates.	Planning / Engineering	Reference the Transportation and Health Tool (THT) developed by the U.S. Department of Transportation that examines the health impact of transportation systems.	https://www.transportation.gov/transportation-health-tool
Roadway Elements Inventory	MIRE, the Model Inventory of Roadway Elements, is a federally recommended listing of roadway inventory and traffic elements intended as a guideline to help transportation agencies improve their roadway and traffic data inventories to improve safety.	Planning / Engineering	Consider the supplemental data that includes items such as roadside fixed objects, signs, land use elements related to safety, railroad grade-crossing descriptors, pavement data, and ADA compliant improvements.	https://highways.dot.gov/safety/data-analysis-tools/mire-fde/model-inventory-roadway-elements-mire
Setting Speed Limits	Reevaluate the process of setting speed limits. Provide default speed limits, designate slow / speed zones, and look at conflict density and land use context. Manual on Uniform Traffic Devices (MUTCD) no longer requires using only the 85th percentile.	Speed Management	The National Transportation Safety Board (NTSB) has recommended an overhaul of how speed is managed on U.S. streets, including the way that speed limits are set: https://nacto.org/2017/08/15/federal-study-concludes-us-must-curb-speed/	https://nacto.org/wp-content/uploads/2020/07/NACTO_CityLimits_Spreads.pdf
Sight Distance Reviews	Investigate sight distance issues at intersections and curves with high crashes.	Planning / Engineering	Consider using the High Fatal and Injury Network (HFIN) and MRMPO Vulnerability Index (MVI) as a starting point for locations.	https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/visibility-sight-distance/
Uniform Crash Report	Ensure consistency with National Highway Traffic Safety Administration (NHTSA) guidance and usability for law enforcement officers to accurately capture crash data, particularly for pedestrians and contributing factors.	Planning / Engineering	Top Contributing Factor was replaced with First Harmful Event in New Mexico in 2020. Pedestrian Error is often used incorrectly because of misunderstandings of the law. Many fields are also left blank.	https://www.nhtsa.gov/traffic-records/model-minimum-uniform-crash-criteria

Table 18B. RTSAP 2024 Safety Strategies (Broad Category of Policies and Programs)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Access Management Plans	Inventory existing access management variables and develop a plan to make improvements that will reduce the number of conflicts between modes.	Planning / Engineering	Requires a comprehensive inventory of roadway elements.	https://ops.fhwa.dot.gov/access_mgmt/progplan.htm#toc4
ADA Transition Plans	Support the development and implementation of ADA transition plans. Supplement with a prioritization process.	Planning / Engineering	Most jurisdictions have some sort of ADA transition plan in process. Consider re-evaluating how these infrastructure improvements are prioritized by using both the High Fatal and Injury Network (HFIN) and the MRMPO Vulnerability Index (MVI).	https://highways.dot.gov/civil-rights/programs/ada/ada-transition-plan-and-inventory-map#:~:text=Accessible%20Transportation%20for%20All%20Americans&text=ADA%20Transition%20Plans%20are%20required, facilities%20for%20people%20with%20disabilities.
Barrier Removal Program	Develop a program to remove barriers from sidewalk access such as utility poles, and ways to ensure that there is no parking in bicycle lanes.	Planning / Engineering	Requires are comprehensive inventory of roadway elements or a prioritization process based on the HFIN and the MVI.	https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/chap4.cfm
Community Based Traffic Policing	An approach to traffic enforcement that supports education, collaboration, and shared priorities and responsibility between police and community members.	Enforcement	Equity concern.	https://www.americanprogress.org/article/safe-streets-for-all-an-opportunity-to-rethink-traffic-enforcement/
Complete Streets Policy	Work on developing a complete streets policy for your jurisdiction that can be adopted by elected officials.	Planning / Engineering	Complete Streets or Vision Zero are excellent places to start for moving towards prioritizing roadway safety.	https://smartgrowthamerica.org/program/national-complete-streets-coalition/policy-atlas/
Courtesy Patrols	Implement a program that provides quick support to crashes occurring on major roadways.	Roadways	NMDOT already has this type of program for the Interstates.	https://www.dot.nm.gov/travel-information/courtesy-patrol/
Crosswalks Policy	Develop a policy regarding unmarked or marked, spacing, and use of mid-block crossings that improves safety benefits for pedestrians.	Pedestrians / Bicyclists	See City of Rio Rancho or City of Albuquerque's mid-block crossing policy.	https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/crosswalks-and-crossings/
Emergency Medical Services (EMS) Response	A quick EMS response time can be the difference between life and death as there is a critical window of time in which people need treatment for serious injuries to stay alive.	Planning / Engineering	In rural areas the need to transport a person to the hospital within the "golden hour" time frame is essential.	https://www.ems.gov/resources/newsletters/spring-2023/3-ways-highway-safety-and-ems-can-work-together/
Enforcement Staff (Non-Police)	Build non-police first responder teams that focus on traffic and road safety not criminal law enforcement.	Enforcement	Equity Concern. Remove the authority of police to stop cars for minor traffic violations.	https://visionzeronetwork.org/re-thinking-the-role-of-enforcement-in-traffic-safety-work-city-to-city/

Table 18B. RTSAP 2024 Safety Strategies (Broad Category of Policies and Programs)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Fatal Crash Evaluations	Deploy a response team to investigate locations of fatal and Class A (seriously incapacitating) crashes for safety improvements.	Planning / Engineering	Develop a short memo to document the short and long term recommendations for the site.	https://visionzero.dc.gov/pages/crash-analysis
Ignition Interlock Programs	Provide continued support of Ignition Interlock programs. NM law mandates an ignition interlock on every vehicle driven by anyone in the State convicted of a DWI, including first-time DWI offenders. The NMDOT / Traffic Safety Department (TSD) is responsible for the licensing and certification of ignition interlock providers.	Legislation	This type of program already exists in NM but could be improved.	https://www.dot.nm.gov/planning-research-multimodal-and-safety/modal/traffic-safety/ignition-interlock-program/
Improve School Safety Zones	Improve school zone crosswalks and pick and drop off processes. Also ensure well-trained adult crossing guards.	Planning / Engineering	Includes a <i>Safety-based prioritization of schools for Safe Routes to School infrastructure projects: A process for transportation professionals.</i>	https://www.saferoutesinfo.org/
Legalize Idaho Stop (Bicyclists)	Allows bicyclists to yield at stop signs and proceed when safe rather than come to a complete stop.	Legislation	There are currently ~8 states with this type of law.	https://www.nhtsa.gov/sites/nhtsa.gov/files/2022-03/Bicyclist-Yield-As-Stop-Fact-Sheet-032422-v3-taq.pdf
Long Range Bicycle System (LRBS) Prioritization	Prioritize gaps in the long range bicycle system that will improve connections to important community destinations.	Planning / Engineering	MRMPO has developed a Long Range Bicycle System (LRBS) for the region and some of the larger jurisdictions have their own plans.	https://www.arcgis.com/apps/View/index.html?appid=59043be2fefe4d8599ce7c26ca53f303&extent=-106.9364,34.9553,-106.4893,35.1422
LPI Use by Bicyclists	Allows bicyclists to also use the Leading Pedestrian Interval (LPI) button.	Legislation	Likely requires changes in local or State legislation.	https://bklyner.com/lpi-bill-passes-allowing-bicyclists-to-follow-pedestrian-signals/
Motorcycle Helmet Laws	Support State policies that require motorcyclists to wear helmets.	Legislation	Currently in New Mexico persons under 18 must wear a helmet.	MV PICCS Intervention: Universal Motorcycle Helmet Laws Transportation Safety CDC
Multiple Threat Crashes	Develop a process to specifically target the reduction of Multiple Threat crashes.	Planning / Engineering	Consider starting at schools and using the High Fatal and Injury Network (HFIN) and MRMPO Vulnerability Index (MVI) as a starting point for locations.	https://www.pedbikeinfo.org/webinars/webinar_details.cfm?id=12
Public Health Organizations	Support projects and programs that are high priority for both local agencies and Public Health organizations.	Planning / Engineering	Coordinate with Healthy Here and other public health or active transportation organizations.	https://www.healthequitycouncil.net/healthy-here/

Table 18B. RTSAP 2024 Safety Strategies (Broad Category of Policies and Programs)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Public School Collaboration	Preemptive collaboration with Schools and Local Agencies prior to changes in roadway design that focus on safe pedestrian crossing and bicycle access to the School.	Schools	Develop consistent communication between local agencies and schools to coordinate future needs when investing in street infrastructure adjacent to school locations.	https://www.safekids.org/research-report/school-zone-research-report
Reevaluate Minor Traffic Stops	Develop a plan to eliminate traffic stops that do not support public safety by considering alternative approaches that include educational components or vouchers.	Enforcement	Equity Concern. For example, implement voucher programs for minor traffic violations as an alternative to enforcement.	https://lightsonus.org/about/
Repeat DWI Offenders	Strengthen State laws on repeat DWI offenders in the State of New Mexico.	Legislation	Requires State law changes. Currently there is a specialty court that handles repeat offenders.	https://seconddistrict.nmcourts.gov/services-programs/jsdp/jsdp-programs/felony-repeat-offender-dwi-court/
Safe Routes to Schools Programs	Develop and enhance programs at schools focused on improving routes to schools for walkers and bikers that are protected and continuous. In Albuquerque focus on highlights from the Vision Zero Youth Initiative.	Schools	Reference Santa Fe Routes to School Action Plan. Las Cruces, NM also has some extensive plans and activities.	https://www.aps.edu/capital-master-plan/documents/website-updates/vision-zero/action-plan
Safe Routes to Transit	Develop a plan to prioritize infrastructure that provides safe walking and bicycling routes to transit stations.	Transit	Consider starting with high ridership stops and using the High Fatal and Injury Network (HFIN) and MRMPO Vulnerability Index (MVI) as a starting point for locations.	https://highways.dot.gov/safety/pedestrian-bicyclist/safety-tools/chapter-6-safe-routes-transit-bicycle-and-transit
School Pick up / Drop off Plan	Evaluate and enhance school pick up/drop off plans.	Schools	Coordinate with local jurisdictions for roadway improvements.	http://guide.saferoutesinfo.org/dropoff_pickup/index.cfm
Senior Organizations	Work with organizations that support mobility for seniors and persons with disabilities.	Education	Funding is available from many national organizations that support the development of walkable communities.	https://www.aarp.org/livable-communities/network-age-friendly-communities/
Shared Micromobility Programs	Develop programs that provide lightweight vehicles like bicycles or scooters.	Planning / Engineering	Denver Council of Governments (DRCOG) has developed some extensive systems and regulations to oversee shared micromobility.	https://nacto.org/publication/shared-micromobility-in-2022/
Technical Assistance	MRMPO and RTPPO can provide small urban, Tribal, and rural areas with assistance for grant writing and crash data analyses.	Planning / Engineering	MRMPO and RTPPO can provide assistance.	https://www.fhwa.dot.gov/bipartisan-infrastructure-law/technical_support.cfm
TIA Safety Assessment	When new development occurs and the Traffic Impact Assessment (TIA) process is initiated add a safety assessment.	Planning / Engineering	Use the HFIN to determine if additional assessments are needed.	https://rosap.ntl.bts.gov/view/dot/55623

Table 18B. RTSAP 2024 Safety Strategies (Broad Category of Policies and Programs)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Traffic Stop Transparency	Expand transparency of decision making around traffic stops and searches.	Enforcement	Equity Concern. For example, require written consent from drivers before all traffic searches and report legal basis and actions taken. Maintain and report data to identify disparities.	https://www.vera.org/downloads/publications/alternatives-to-policing-traffic-enforcement-fact-sheet.pdf
Transit Fare Program	Reduce or eliminate transit fares.	Transit	Equity concern.	https://www.cabq.gov/transit/news/zero-fares-is-here-to-stay#:~:text=On%20Wednesday%2C%20November%208%2C%202023%2C%20City%20Council%20approved,the%20Sun%20Van%20Paratransit%20service%20in%20April%202023
Tribal Government Assistance	Work with Tribal governments to support their transportation plans and safety projects.	Planning / Engineering	MRMPO and RTPO can provide assistance.	https://highways.dot.gov/federal-lands/ott/study
Vision Zero with Training	Adopt Vision Zero policies and plans along with training.	Planning / Engineering	The Vision Zero Community of Practice (VZ CoP) through FHWA offers technical resources to assist local communities with reaching their goal of zero.	https://highways.dot.gov/safety/zero-deaths/vision-zero-cop/vision-zero-community-practice

Table 18C. RTSAP 2024 Safety Strategies (Broad Category of Design and Engineering)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Access Control / Diverters	An island placed at a neighborhood street intersection that prevents through and / or turning movements and decreases the number of drivers entering the street.	Roadways	Discourages or prevents drivers from cutting through neighborhood streets to decrease traffic and promotes the street for other road user types.	http://www.pedbikesafe.org/bikesafe/countermeasures_detail.cfm?CM_NUM=29
Active Railroad Grade Crossing	Active warning and control devices such as bells, flashing lights, and gates, in addition to passive warning devices such as crossbucks (the familiar x-shaped signs that mean yield to the train), yield or stop signs and pavement markings.	Railroad	The Federal Railroad Administration (FRA) Office or Railroad Safety develops and provides safety statistics.	https://railroads.dot.gov/program-areas/highway-rail-grade-crossing/highway-rail-grade-crossings-overview#:~:text=Active%20Grade%20Crossings%20have%20active,stop%20signs%20and%20pavement%20markings
Advanced Stop Bar / Lines	Stop bar or yield markings are placed in advance of a marked crosswalk to indicate where drivers are required to stop. A STOP HERE ON RED sign can be used to supplement the recessed stop line.	Pedestrians / Bicyclists	Consider the High Fatal and Injury Network (HFIN) and MRMPPO Vulnerability Index (MVI) as a starting point for locations.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=13
Automated Pedestrian Detection	Detects the presence of pedestrians as they approach the curb to initiate the walk signal without any action required on the part of the pedestrian.	Pedestrians	Focus on High Fatal and Injury Network (HFIN), high traffic volume intersections, and transit stations / bus stops.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=11
Automated Pedestrian Recall	Provides a pedestrian interval during each traffic cycle and eliminates the need for people to push a pedestrian button. Initially, these systems can be implemented during non-peak hours for drivers.	Pedestrians	Focus on High Fatal and Injury Network (HFIN), high traffic volume intersections, and transit stations / bus stops.	https://journals.sagepub.com/doi/abs/10.1177/03611981211002846
Bicycle Detection at Signalized Intersections	Detects the presence of a bicyclist either by push-buttons or by automated means (e.g., in-pavement loops, video, microwave, etc).	Bicyclists	Consider starting with the HFIN for Bicyclists for locations.	https://www.ite.org/technical-resources/topics/complete-streets/bicycle-signals/signal-detection-for-bicycles/
Bike Boulevards / Parallel Roadways	Providing alternative parallel routes that are safer than a main roadway for bicyclists. Includes signage and traffic calming.	Roadways	Reference MRMPPO Long Range Bicycle Map or local bike / trail plan.	https://nacto.org/publication/urban-bikeway-design-guide/bicycle-boulevards/
Bike Boxes and Two-Stage Turn Boxes	A designated area at the head of a traffic lane at a signalized intersection. Provides bicyclists with a safe and visible way to get ahead of traffic during the red signal phase.	Bicyclists	Consider starting with the HFIN for Bicyclists for locations.	https://nacto.org/publication/urban-bikeway-design-guide/intersection-treatments/bike-boxes/

Table 18C. RTSAP 2024 Safety Strategies (Broad Category of Design and Engineering)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Bus Turn-outs	A designated spot on the side of a road where buses pull out of the flow of traffic to pick up and drop off passengers.	Transit	There are some concerns to be aware with these as on heavily trafficked roads it can be difficult for buses to pull back into traffic.	https://nacto.org/publication/transit-street-design-guide/stations-stops/stop-configurations/curbside-pull-stop/
Business Access Transit (BAT) Lanes	Curbside lanes used only by right-turning vehicles and buses to help buses move more efficiently through traffic and provide better access to local traffic.	Roadways	Start with corridors that are destination rich.	https://www.ltd.org/business-access-transit-lanes/
Chicanes / Chokers / Pinch Points	A narrowing of the roadway width intended to decrease vehicle operating speeds in high multimodal traffic areas and/or through neighborhoods.	Speed Management	These are generally applied at local streets but can also be used for some Collectors and Bike Boulevards or parallel streets to a main thoroughfare.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=32
Contraflow Bike Lanes	Provide dedicated, on-road space for opposite direction bicycle travel on one-way streets.	Bicyclists	Use with care as there are a variety of considerations to consider before installing this type of facility.	http://www.pedbikesafe.org/BIKESAFE/countermeasures_detail.cfm?CM_NUM=15
Crossing Signs and Markings	Alert drivers to expect pedestrian or bicyclist crossing and indicate preferred crossing locations using signs and markings.	Pedestrians / Bicyclists	Important to develop a policy for crossing locations and use the HFIN.	http://guide.saferoutesinfo.org/engineering/marked_crosswalks.cfm
Curb Radii Reduction	Shorten crossing distances, reduce motor vehicle turning speeds, and improve visibility and sight distance at intersections.	Intersections	Consider starting with identified activity centers and Mainstreets.	https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/corner-radii/
Curb Ramps	Provide an accessible, above and beyond ADA compliant, route to transition between the sidewalk and the road.	Pedestrians	Consider the use of PROWAG requirements as they provide more safety benefits.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=3
Demonstration Projects	A temporary roadway infrastructure improvement that allows public agencies and people walking, bicycling, taking transit, and driving to evaluate improvements before investing in permanent changes.	Roadways	These types of projects can be particularly helpful when there is conflicting support for changing the roadway configuration by testing out different concepts.	https://www.transportation.gov/grants/ss4a/planning-and-demonstration-activities
FHWA Proven Safety Countermeasures System Wide	Systemically adopt the use of FHWA PSCs into existing infrastructure improvement programs.	Planning / Engineering	FHWA PSCs are ready-to-go applications with well vetted studies showing the safety benefits.	https://highways.dot.gov/safety/proven-safety-countermeasures

Table 18C. RTSAP 2024 Safety Strategies (Broad Category of Design and Engineering)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Floating Bus Stops / Bus Islands	Eliminates the conflict between bicyclists traveling in bike lanes and transit vehicles that must pull up to the curb.	Transit	Designs must plan for and provide easily navigable, safe access for visually impaired persons to the bus stop.	https://www.arlingtonva.us/Government/Programs/Transportation/Vision-Zero/Tools-and-Guidelines/Multimodal-Safety-Engineering-Toolbox-Web-Format/Floating-Bus-Stops-Bus-Islands
Four-way Stops / All-way Stops	Requires vehicles on all approaches to an intersection to stop before proceeding.	Speed Management	Look at where signals can be replaced with 4 way stops. Consider prioritizing existing bicycle lanes combined with high frequency transit services.	https://pubmed.ncbi.nlm.nih.gov/35131654/
Interim Public Plazas	A transformation of underutilized or unsafe areas of roadway into public spaces for surrounding residents and businesses. This transformation is done using low-cost materials, movable landscaping and flexible seating.	Roadways	Consider starting with identified activity centers and Mainstreets.	https://nacto.org/publication/urban-street-design-guide/interim-design-strategies/interim-public-plazas/
LED Lighting	LED lighting enhances visibility making it easier to see pedestrians, bicyclists, and other vehicles.	Roadways	Consider the High Fatal and Injury Network (HFIN) and MRMPO Vulnerability Index (MVI) as a starting point for locations.	https://highways.dot.gov/safety/other/visibility/roadway-lighting-resources
Left-Turn Phasing	A protected left-turn phase provides a green arrow for left turning vehicles while stopping both oncoming traffic and parallel pedestrian crossings.	Intersections	This may require ITS infrastructure upgrades.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=51
Mini Roundabouts / Neighborhood Traffic Circles	Raised circular islands constructed in the center of streets to reduce speed by directing drivers to maneuver around them.	Speed Management	Typically used for lower volume residential streets.	https://nacto.org/publication/urban-street-design-guide/intersections/minor-intersections/mini-roundabout/
Multi-Use Trails / Pathways	Create a dedicated route for pedestrians and bicyclists that is separate from vehicles.	Pedestrians / Bicyclists	See MRMPO Long Range Bicycle System or local plan for trail networks. Maintain existing infrastructure and fill gaps in the current trail system. Consider some of the pedestrian / bike crossing enhancements at conflict points.	https://www.arcgis.com/apps/View/index.html?appid=59043be2fefe4d8599ce7c26ca53f303&extent=-106.9364,34.9553,-106.4893,35.1422
No Right Turn on Red	Signs that prohibit right turns during red lights. Implementation reduces conflicts between turning vehicles and other road users at intersections.	Intersections	Provides a fairly simple low-cost measure.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=49
Parking Restrictions at Crossings	Improve sightlines between drivers and pedestrians or bicyclists crossing the street.	Intersections	Consider starting with school locations.	http://pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=9

Table 18C. RTSAP 2024 Safety Strategies (Broad Category of Design and Engineering)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Parklets	Changing the use of parking spaces into public seating platforms for adjacent businesses or the general public. The design usually incorporates seating, greenery and/or bike racks on neighborhood retail streets or commercial areas.	Roadways	Look for opportunities in areas with a mix of land uses like Downtowns and Main Streets.	https://globaldesigningcities.org/publication/global-street-design-guide/streets/pedestrian-priority-spaces/parklets/example/
Pedestrian Countdown Signals	A signal that shows a countdown of the remaining time to cross the road.	Pedestrians	Consider using the HFIN for Pedestrians.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=46
Pedestrian Crossing Signs In-Street	A yield to, or stop, for pedestrian sign that is set in the roadway or median ahead of a crosswalk. Indicates to drivers where to yield for people in a crosswalk.	Pedestrians	Consider using the HFIN for Pedestrians.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=69
Pedestrian Lighting	Pedestrian-level lighting placed over sidewalks to improve security and safety.	Pedestrians	Equity concern. Start with locations using the MRMPO MVI.	https://globaldesigningcities.org/publication/global-street-design-guide/utilities-and-infrastructure/lighting-and-technology/lighting-design-guidance/
Protected Intersections	Intersection design that improves safety by reducing the speed of turning traffic, improving sightlines and designating separate space for all road users thereby reducing conflict points between drivers, bicyclists and pedestrians.	Intersections	Consider a pilot project to test this type of intersection.	https://nacto.org/publication/dont-give-up-at-the-intersection/protected-intersections/
PUFFIN Crossing	Pedestrian User-Friendly Intelligent Intersections (PUFFIN) use detection of people walking in crosswalks to determine whether the pedestrian phase of a traffic signal should be extended or canceled.	Pedestrians	Provides extra time for people in a crosswalk or shortens a driver's wait time if no one is crossing to increase efficiency and compliance.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=11
Slip Lane Reconfiguration / Removal	Reconfigurations to intersections that close or redesign slip lanes for right-turning drivers.	Intersections	Promotes right-turning drivers to travel at safer speeds, improves visibility, and reduces the complexity of the intersection.	https://www.strongtowns.org/journal/2019/11/5/slip-lanes-would-never-exist-if-we-prioritized-safety-over-speed
Speed Hump and Raised Crossings	Raised area that reduces vehicle speeds, increase driver yielding and improves safety for people crossing.	Speed Management	Usually more suitable for Collectors and Local roadways.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=35

Table 18C. RTSAP 2024 Safety Strategies (Broad Category of Design and Engineering)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Speed Zones / Slow Zones	A section of roadway with a different posted speed limit than the statutory speed limit to reduce vehicle speeds to facilitate safer mobility for all roadway users.	Speed Management	Often used adjacent to schools but can be used in other areas as well such as adjacent to parks or community centers.	https://www.pedbikeinfo.org/resources/resources_details.cfm?id=4844
Transit Access Crossings	Locating bus stops at intervals that minimize crossing the street at unmarked mid-block locations. Provides transit riders with safe and convenient crossings to get to bus stops.	Transit	Some current guidance recommends bus stops are located at mid-block locations and intersections are spaced greater than 800 to 1,000 feet a mid-block crossing should be considered.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=15#:~:text=Place%20crosswalks%20behind%20bus%20stop,motorists%20can%20see%20the%20pedestrian
Transit Priority Lanes	Priority and transit only lanes to improve reliability, efficiency and reduce conflicts between buses and other modes of traffic.	Transit	Currently exist as a part of the Bus Rapid Transit on Central Avenue.	https://nacto.org/publication/transit-street-design-guide/transit-lanes-transitways/transit-lanes/
Transit Stations and Shelters	Create an accessible, identifiable, shaded and comfortable area for waiting, boarding, and alighting of bus passengers.	Transit	Consider starting with high ridership stops, the HFIN, and the MRMPO MVI for locations.	https://nacto.org/publication/transit-street-design-guide/station-stop-elements/stop-elements/small-transit-shelter/

Table 18D. RTSAP 2024 Safety Strategies (Broad Category of Education and Campaigns)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Anti-Speed Campaigns	Develop educational campaigns coupled with enforcement that emphasize the importance of not speeding.	Campaigns	Make sure choosing locations for enforcement are done in an equitable manner and include members of historically disadvantaged communities.	https://www.cabq.gov/council/find-your-councilor/district-3/news/city-launches-2018speeding-has-a-name2019-campaign-to-slow-speeding-drivers
Defensive Driving Courses	Expand availability of defensive driving courses in schools and places of employment, and ensure that they are addressing multimodal travel.	Schools	Reference Albuquerque Vision Zero Youth Initiative.	https://www.nsc.org/safety-training/defensive-driving/nsc-defensive-driving-courses
Distracted Driving Campaigns	Implement behavioral campaigns aimed at reducing distracted driving and texting while driving.	Campaigns	NMDOT currently has a DNTXT JUST DRIVE campaign.	https://hsc.unm.edu/medicine/departments/emergency-medicine/programs/cipre/cipre-programs/look-for-me/
Driver Education	Improve driver education to include information on new multimodal facilities, design elements and right-of-way laws.	Education	Recent updates from NMDOT Traffic Safety Division who manages this curriculum. The State Taxation and Revenue Department (MVD is in this department) manages the test.	https://rosap.ntl.bts.gov/view/dot/34736
Driving under the Influence	Educational campaigns coupled with enforcement that decrease driving while impaired. Coupling these campaigns with active education or enforcement makes them more effective.	Campaigns	NMDOT couples their driving under the influence campaign with the 100 Days and Nights of Summer enforcement program.	https://www.endwi.com/
High Visibility DUI Saturation Patrols	Highly visible locations along the roadway where drivers are stopped to ensure they are not under the influence. Combine all enforcement with educational campaigns.	Enforcement	Make sure choosing locations for enforcement are done in an equitable manner and include members of the BIPOC community.	https://www.dot.nm.gov/planning-research-multimodal-and-safety/modal/traffic-safety/impaired-driving-dwi-programs/
Motorcycle Helmet Campaigns	Develop campaigns to encourage motorcyclists to use helmets and for other drivers to watch out for motorcyclists.	Campaigns	Currently in New Mexico persons under 18 must wear a helmet.	https://www.mvd.newmexico.gov/helmet-law/
Move Over It's the Law Campaign	An educational campaign that emphasizes moving over to protect law enforcement officers and other first responders stopped on the roadway.	Campaigns	All but seven states have enacted <i>Move Over</i> laws.	https://ops.fhwa.dot.gov/publications/fhwahop09005/move_over.htm
Multi-jurisdictional Workshops and Trainings	Provide workshops and training on policies and design guidelines that support a safer transportation system such as the FHWA Safe Systems Approach, Vision Zero, Road Diets and Complete Streets.	Education	USDOT provides free Road Diet workshops.	https://nacto.org/event-type/training/

Table 18D. RTSAP 2024 Safety Strategies (Broad Category of Education and Campaigns)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Press Release with New Infrastructure	Coordinate press releases and educational campaigns with implementation of new multimodal infrastructure such as roundabouts or crossing signals.	Planning / Engineering	Could be a multi-jurisdictional effort.	https://www.rmm.gov/1411/Roundabouts
Public Information Meetings on Safety Designs	Provide outreach on safe roadway design to community organizations and schools.	Education	Consider prioritizing meetings with public schools and at community meetings. Prioritize historically disadvantaged communities.	https://journalofroadsafety.org/article/89365-how-to-successfully-engage-a-community-in-road-safety
Roadway Safety Education at Schools	Development of education materials and courses at schools around safe driving and multimodal traffic laws.	Education	Albuquerque Public Schools Youth Initiative is already working on developing curriculum related to roadway safety in their schools.	https://www.aps.edu/capital-master-plan/documents/website-updates/vision-zero/action-plan
Safety and Education Center	Consider the development of a safety educational center along with educational materials and services.	Pedestrians / Bicyclists	Reference Albuquerque's Esperanza Bicycle Education Center programs.	https://www.cabq.gov/parksandrecreation/recreation/bike/esperanza-bicycle-safety-education-center
Vision Zero Safety Culture	Actively share information and experiences with stakeholders such as bicycle advocates, public health representatives, and fellow government organizations to ensure there is a shared responsibility and vision.	Education	Toward Zero Deaths provides multiple resources and campaigns.	https://www.towardzerodeaths.org/traffic-safety-culture/

Table 18E. RTSAP 2024 Safety Strategies (Broad Category of Traffic Technologies)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Advanced Driver Assistance Systems (ADAS)	ADAS are vehicle-based safety technologies that work by alerting or assisting drivers to prevent or mitigate crashes.	Speed Management	In the Albuquerque metropolitan area consider the Intelligent Transportation Systems (ITS) Priority Corridors and consult the ITS Strategies Matrix.	https://www.itskrs.its.dot.gov/briefings/executive-briefing/vision-zero-and-its
Advanced Signal Timing / Smart Signals	Allocates right-of-way to intersection traffic based on mode and fluctuations in demand over the course of each day, week, and year.	Intersections	In the Albuquerque metropolitan area consider the Intelligent Transportation Systems (ITS) Priority Corridors and consult the ITS Strategies Matrix.	https://mrcog-nm.gov/259/Intelligent-Transportation-Systems
Advanced Vehicle Detection	Uses technology to acquire vehicle counts, speed of each individual vehicle, traffic analysis, and vehicle categorization.	Intersections	In the Albuquerque metropolitan area consider the Intelligent Transportation Systems (ITS) Priority Corridors and consult the ITS Strategies Matrix.	https://www.standards.its.dot.gov/ApplicationArea/10
Bicycle Signal Pilot Project	Install a bicycle light at intersections to test the viability.	Planning / Engineering	Existing infrastructure needs to be present for installation.	https://nacto.org/publication/urban-bikeway-design-guide/bicycle-signals/
Bus Queue Jump Signals / Signal Priority	Allows buses to easily enter traffic flow in a priority position using Advanced Vehicle Detection.	Transit	In the Albuquerque metropolitan area consider the ITS Priority Corridors and consult the ITS Strategies Matrix.	https://nacto.org/publication/transit-street-design-guide/intersections/signals-operations/
Dynamic Message Signs (DMS)	Electronic signs on the roadway that provide drivers with real time traffic alerts.	Roadways	Already used by NMDOT particularly for travel time and weather conditions.	https://www.standards.its.dot.gov/ApplicationArea/8
Emergency / Incident Management Plans	Develop and implement a plan that coordinates a multi-disciplinary response to traffic incidents and other emergency situations.	Planning / Engineering	Current update is in progress for the Albuquerque Traffic Incident Management Plan. The final draft is in circulation to the stakeholder agencies.	https://ops.fhwa.dot.gov/tim/
Emergency Signal Preemption Systems (ESPS)	ESPS are designed to disrupt the regular timing of traffic signals and grant a green light to emergency vehicles approaching intersections.	Intersections	This enables emergency vehicles to navigate through intersections quickly and safely to reach their destinations without delay.	https://www.itskrs.its.dot.gov/briefings/executive-briefing/vision-zero-and-its
Flashing Yellow Arrow	A signal with a flashing yellow arrow indicates that left turns are permitted, but you must first yield to oncoming traffic and pedestrians and then proceed with caution.	Intersections	This may require ITS infrastructure upgrades.	https://www.dot.state.mn.us/trafficeng/signals/flashingyellowarrow.html
Green Wave Systems / Coordinated Signals	Coordinated signal timing synchronizes traffic movements and manages the progression of drivers. Signals can be timed to a target speed limit to encourage drivers to drive at safer speeds.	Speed Management	Coordinated signal timing can limit drivers to safe speeds.	https://www.researchgate.net/publication/276497476_Green-Wave_Traffic_Theory_Optimization_and_Analysis

Table 18E. RTSAP 2024 Safety Strategies (Broad Category of Traffic Technologies)

Strategy	Description	Secondary Category	Guidance Notes (countermeasure percent, priorities, equity concerns, local initiatives, etc.)	Online Resources / PSC Information
Intelligent Lane Control Signs (ILCS)	Overhead signals that indicate whether a lane is open or closed due to various reasons such as traffic collision, breakdown, or reversed lanes.	Roadways	This may require ITS infrastructure upgrades.	https://ops.fhwa.dot.gov/publications/fhwahop12046/rwm17_minnesota1.htm
Rest on Red	Traffic signals that remain in the red phase in all directions until a driver is detected. Speed detection can be added, and if a driver is traveling above the speed limit the red phase can be held to stop the driver. Manage excessive driver speeds.	Speed Management	Currently being tested on Lead / Coal in Albuquerque.	https://trid.trb.org/View/61088
Signal Clearances	Evaluate the time between one direction of travel getting the red phase signal and the opposing direction getting the green phase signal.	Intersections	A longer clearance can be achieved by having an all-red phase to increase time for intersections to be cleared before opposing traffic.	http://www.pedbikesafe.org/pedsafe/countermeasures_detail.cfm?CM_NUM=45
Signal Phasing Modifications	Can reduce conflicting movements between turns, vehicles going straight, and/or pedestrian and bicyclist movements.	Intersections	This may require ITS infrastructure upgrades.	https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/traffic-signals/coordinated-signal-timing/
Smart Work Zones	Dynamic management of work zone traffic, such as queue warning, speed management, and lane merging.	Speed Management	There are multiple portable types of systems and configurations to evaluate.	https://ops.fhwa.dot.gov/wz/its/index.htm
Speed Feedback Indicator Signs	Manage driver speeds by comparing the driver's current speed with the speed limit.	Speed Management	Consider starting with the HFIN Corridors for pinpointing locations.	https://www.nhtsa.gov/book/countermeasures-that-work/speeding-and-speed-management/countermeasures/other-strategies-behavior-change/dynamic-speed#:~:text=Unstaffed%20speed%20display%20devices%2C%20also,some%20drivers%20to%20slow%20down
Traveler Information	Messaging signs that update drivers on current roadway conditions such as delays, incidents, weather, emergency alerts, and alternate routes.	Roadways	An example of capturing this information and providing a map display for reference in addition to dynamic message signs: https://nmroads.com/mapIndex.html?	https://ops.fhwa.dot.gov/travelinfo/about/aboutus.htm
Vehicular Technology Speed Detection	Continue to support vehicular technologies directly related to safety such as limiting speed and detecting other vehicles and people walking, biking, or rolling.	Speed Management	California recently introduced a bill that would require 2027 or newer vehicles built and sold within CA to have a speed limiter that could prevent them from going more than 10 mph over the speed limit.	https://www.nts.gov/news/press-releases/Pages/NR20231114.aspx#:~:text=Pasive%20ISA%20systems%20warn%20a,responsible%20for%20slowing%20the%20car

PROVEN SAFETY COUNTERMEASURES

Federal Highway Administration (FHWA) Proven Safety Countermeasures (PSCs) are included in the Safety Strategies Toolbox but emphasized here separately because of their well-vetted impact on reducing crashes.

PSCs are often used along specific roadway segments or intersections based on the types of crashes taking place. They are primarily physical roadway infrastructure improvements but also include signal operation and planning elements such as Road Safety Audits, Road Diets, and Local Safety Plans.

PSCs provided here include clear and brief information on their appropriate uses and their impact in easy-to-understand language. The stand-alone strategy list in excel provides online resources to all the criteria for when and where to implement these countermeasures. The valuable aspect of these countermeasures is that studies have been conducted that estimate the probability of an implementation to reduce crashes by a percentage measure, and therefore can predict safety outcomes. The percentage measure of changes is called the Crash Modification Factor (CMF). Installing multiple treatments at the same location can have complementary safety benefits.

The FHWA continues to expand these countermeasures and review new studies to support the benefits of specific countermeasures. As with any engineering application the land use context and other geometric and operations conditions need to be taken into consideration before implementation.

Through outreach efforts it was remarkably clear that the systemic application of safety countermeasures is important to both the public and local agencies.

There are many ways to implement countermeasures in a systemic way:

- As a part of every transportation infrastructure project.
- As a new program that evaluates where and when to start implementing them.
- As a priority at existing school crossings and/or high crash locations.
- As a demonstration project.
- As new plans from developers are received.
- As a part of regular maintenance programs.

True investment in changing infrastructure to slow vehicles down and elevate the experience of pedestrian, bike, and transit travel.

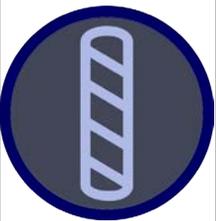
An actual dedication to this would involve removing driving lanes to create separated sidewalks and bike lanes that are actually worth using.

For example, imagine if Lomas was reduced to two lanes in each direction through UNM / North Nob Hill and had separated bike lanes and buffered sidewalks. It would be one of the most popular East / West travel routes in the city.

-Public Comment

3. REGIONAL SAFETY STRATEGIES

Table 19. Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Appropriate Speed Limits for all Roadway Users		Review current speed limits by looking at a range of factors such as pedestrian and bicyclist activity, land use context, and intersection and driveway density and establish non-statutory speed limits and designate reduced speed zones.	Traffic fatalities in Seattle decreased 26% after the city implemented city-wide speed management strategies and countermeasures, including setting speed limits on all non-arterial streets at 20 mph and 200 miles of arterial streets at 25 mph.	System wide process for reevaluating how speed limits are being set.
Backplates with Retroreflective Borders		Use backplates for Signal Heads that have retroreflective borders making them more visible and conspicuous. Also supports better orientation for older and color vision deficient drivers.	15% reduction in total crashes.	Low cost application.
Bicycle Lanes / Buffered Bicycle Lanes		Provide dedicated on-road space for bicycling. Buffered lanes provide dedicated on-road space for bicycling with additional marked space between vehicles and bicyclists.	Bicycle lane additions can reduce crashes up to 49% for total crashes on urban 4 lane undivided collectors and local roads and 30% for total crashes on urban 2 lane undivided collectors and local roads.	See MRMPO Long Range Bicycle System recommendations.
Bicycle Lanes: Separated		On road space for bicyclists that include a separated bicycle lane delineated with flexible posts or other barriers.	Converting traditional or flush buffered bicycle lanes to a separated bicycle lane with flexible delineator posts can reduce crashes up to 53%.	See MRMPO Long Range Bicycle System recommendations.
Centerline Hardening and Turn Wedges		The use of bollards and rubber curbs that prevent drivers from cutting across intersections at a diagonal, which reduces turning speeds and reduces conflicts with other modes.	46% for all crashes at raised medians (Bahar et al., 2007).	Can be constructed rapidly and inexpensively using markings and flexible delineators. The turning radius of trucks and buses should be considered when installing turn wedges.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Corridor Access Management		Design, application, and control of entry and exit points along a roadway, including other intersections and driveways. Ensure enhanced safety for all modes that facilitates walking and biking.	Reducing driveway density 5-23% reduction in total crashes along 2 lane rural roads. 25-31% reduction in fatal and injury crashes along urban/suburban arterials.	Manage spacing of intersection and access points. Limit allowable movements at driveways. Place driveways on an intersection approach corner rather than a receiving corner. Utilize designs such as roundabouts or reduce left-turn conflicts. Use lower speed one-way or two-way off-arterial circulation roads.
Crosswalk Visibility Enhancements		Increase visibility at crosswalks with lighting, signage, and pavement markings such as bar pairs, continental or ladder crosswalk patterns.	High-visibility crosswalks can reduce pedestrian injury crashes up to 40% intersection lighting can reduce pedestrian crashes up to 42%. Advance yield or stop markings and signs can reduce pedestrian crashes up to 25%.	Consider prioritizing locations based on crash data analyses (like the HFIN) and the location of disadvantaged communities.
Curb Extension / Bulb-Out		Extensions of the sidewalk or curb line into the parking lane to narrow roadway width.	A CMF has not yet been determined; initial research indicates this treatment may be effective at increasing driver yielding and improving pedestrian safety (Johnson et al., 2005; Thomas et al., 2016).	Consider prioritizing locations based on crash data analyses (like the HFIN) and existing Activity Centers and Mainstreets.
Daylighting		Removes / prevents parking right at the intersection (typically 20' of the intersection). Improves visibility of people crossing the street and also for drivers to safely see if there's oncoming traffic when making a turn.	30% for vehicle-pedestrian crashes (Gan et al., 2005).	Consider prioritizing locations along corridor rich destinations with existing parking, and near schools.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Dedicated Left- and Right-Turn Lanes at Intersections		Turn lanes that provide physical separation between slower turning traffic with adjacent through traffic.	Left-Turn lane: 28-48% reduction in total crashes. Positive Offset Left-Turn lane: 36% reduction in fatal and injury crashes. Right-Turn lane: 14-26% reduction in total crashes.	Ensure safety for all modes is being considered.
Enhanced Delineation for Horizontal Curves		A variety of strategies that can warn drivers of a change in roadway direction that can be implemented in advance of or within curves, such as chevrons or retroreflective signs.	Chevron Signs: 25% reduction in night-time crashes, 16% reduction in non-intersection fatal and injury crashes. Oversigned Chevron Signs: 15% reduction in fatal and injury crashes. Sequential Dynamic Chevrons: 60% reduction in fatal and injury crashes. In-Lane Curve Warning Pavement Markings: 35-38% reduction in all.	Consider prioritizing in areas with multiple roadway departures. Many of these are in rural areas.
Hawk Signals / Pedestrian Hybrid Beacons		A traffic control device designed to help pedestrians (and bicyclists) safely cross higher-speed roadways at midblock crossing and uncontrolled intersections.	55% reduction in pedestrian crashes. 29% reduction in total crashes. 15% reduction in serious injury and fatal crashes.	Consider prioritizing multiuse path crossings. Effective at locations with 3 or more lanes and above 9,000 AADT.
Leading Pedestrian Intervals (LPIs)		Provide pedestrians with a head start when entering an intersection.	13% reduction in pedestrian-vehicle crashes at intersections. Reduces conflict between pedestrians and bicyclists from vehicular turning movements.	Costs for implementing LPIs are very low when only signal timing alteration is required, but can be costly when the hardware is not already available.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Left-Turn Conflict Reduction		Improved geometric design at intersections that reduce the number of severe crashes associated with left-turn movements. Highly effective designs include U-turns to complete certain left-turn movements such as the Restricted Crossing U-turn (RCUT) or the Median U-turn (MUT).	Two-way stop-controlled to RCUT 54% reduction in fatal and injury crashes. Signalized intersection to Signalized RCUT 22% reduction in fatal and injury crashes. Unsignalized Intersection to Unsignalized RCUT 63% reduction in fatal and injury crashes. MUT 30% reduction in intersection-related injury crash rate.	The RCUT is suitable for and adaptable to a wide variety of circumstances, ranging from isolated rural, high speed locations to urban and suburban high-volume, multimodal corridors. It is a competitive and less costly alternative to constructing an interchange.
Lighting		Increase visibility for all road users, especially at crossings and intersections. Ensure adequate luminance levels and continuous lighting along roadway segments.	Lighting can reduce crashes up to 42% for nighttime injury pedestrian crashes at intersections. 33-38% for nighttime crashes at rural and urban intersections. 28% for nighttime injury crashes on rural and urban highways.	High concern for historically disinvested communities along destination rich corridors.
Local Road Safety Plans		Developing a plan that analyzes and prioritizes safety improvements on local roads.	25% reduction in county road fatalities in Minnesota. 17% reduction in fatal and serious injury crashes on county-owned roads in Washington State. 35% reduction in severe curve crashes in Thurston County, WA.	Particularly of importance in neighborhoods and rural and Tribal areas.
Longitudinal Rumble Strips and Stripes		Milled or raised elements on the pavement intended to alert drivers that their vehicle has left the travel lane. Rumble stripes are markings placed over the rumble strips.	Center Line Rumble Strips: 44-66% reduction in head-on fatal and injury crashes on 2 lane rural roads. Shoulder Rumble Strips: 13-51% reduction in single vehicle, run-off-road fatal and injury crashes on 2 lane rural roads.	Rumble strips are relatively low-cost, and economic analyses have indicated benefit/cost ratios that exceed 100.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Median Barriers		Longitudinal barriers that separate opposing traffic on a divided highway to reduce cross median crashes. Includes metal-beam guard rails, concrete, and cable barriers.	8% of all fatalities on divided highways are due to head-on crashes. Median Barriers installed on Rural 4 lane Freeways: 97% reduction in cross-median crashes.	Potential risk factors include: traffic volumes, vehicle classifications, median crossover history, crash incidents, vertical and horizontal alignment, median terrain configurations.
Medians and Pedestrian Crossing Islands		Pedestrian safety islands or refuges decrease pedestrian exposure in the intersections or when crossing the road.	Median with Marked Crosswalk: 46% reduction in pedestrian crashes. Pedestrian Refuge Island: 56% reduction in pedestrian crashes.	Highly recommended where pedestrians must cross multiple lanes of traffic in one direction.
Paved Shoulders		Paved area of a roadway between the travel lane and the edge of pavement. Provided for accommodation of stopped vehicles for emergency use, and for pedestrians or wheelchair use typically on rural roadways.	Paved Shoulders: 71% reduction in crashes involving pedestrians walking along roadways.	High priority for rural and Tribal areas.
Pavement Friction Management		Monitoring and maintaining pavement friction at locations where vehicles are frequently turning, slowing, and stopping. Pavement friction produces vibration and sound to prevent roadway departure, intersection and pedestrian involved crashes.	High Friction Surface Treatment can reduce crashes up to 63% for injury crashes at ramps, 48% for injury crashes at horizontal curves, and 20% for total crashes at intersections.	Horizontal curves; interchange ramps; intersection approaches; higher-speed signalized and stop-controlled intersections; steep downward grades; locations with a history or rear-end, failure to yield, wet-weather, or red-light-running crashes; crosswalk approaches.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Raised Crosswalks		Crosswalks that are elevated above roadway pavement in the form of an elongated speed hump with a flat section in the middle and at-grade with adjacent sidewalks.	45% for pedestrian crashes (Elvik et al., 2004). 51% for bicycle-vehicle crashes on entrances or exits to streets and driveways (Schepers et al., 2011).	Raised crosswalks are typically installed on 2 lane or 3 lane roads with speed limits of 30 mph or less and annual average daily traffic (AADT) below about 9000.
Rectangular Rapid Flashing Beacons (RRFBs)		RRFBs flash with an alternating high frequency when activated to enhance awareness of pedestrians at the crossing to drivers. Increases driver yielding to pedestrians and bicycles (or equines) at uncontrolled crossings.	RRFBs can reduce crashes up to 47% for pedestrian crashes. RRFBs can increase motorist yielding rates up to 98% (varies by speed limit, number of lanes, crossing distance, and time of day).	The RRFB is applicable to many types of pedestrian crossings but is particularly effective at multi-lane crossing with speed limits less than 40 mph.
Road Safety Audits		Conduct RSAs in key locations based on public feedback and crash data analysis. Consider prioritizing these in disadvantaged communities.	10-60% reduction in total crashes.	Consider prioritizing these in small urban, rural, and Tribal areas.
Roadway Reconfigurations / Road Diets and Lane Diets		Reduces the speed of traffic, crossing distances, and / or provides additional space for other uses of the roadway such as bicycle lanes or parking, and narrowing travel lanes.	4 lane to 3 lane, Road Diet conversions result in 19-47% reduction in total crashes.	Application that can be done along with pavement maintenance. See MRMPOs Potential Road Diet Candidates map.
Roundabouts		An intersection with a circular configuration that reduces vehicle speed and minimizes conflict points.	Signalized intersection to a roundabout: 78% reduction in fatal and injury crashes.	Effective intersection measure that supports speed management.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
SafetyEdgeSM		This technology shapes the edge of the pavement at approx. 30 degrees from the pavement cross slope. Particularly useful for rural road crashes involving edge drop-offs because they are 2-4 times more likely to include a fatality than other crashes on similar roads.	11% reduction in fatal and injury crashes. 21% reduction in run-off road crashes. 19% reduction in head-on crashes. Benefit-Cost Ratio Range 700:1 to 1500:1.	System wide on all new asphalt paving and resurfacing projects where curbs and/or guardrail are not present, while also encouraging standard application for concrete pavements.
Sidewalks / Walkways		Defined pathway adjacent to the roadway for pedestrian travel or use of a wheelchair. Consider wide separation from vehicular traffic and providing facilities that are beyond ADA requirements.	65-89% reduction in crashes involving pedestrians walking along roadways.	Implement with ADA plans in systematic matter prioritized by safety needs and disadvantaged communities.
Speed Cameras		A camera which may be mounted beside or over a road or installed in an enforcement vehicle or mobile device to detect speeding, vehicles going through a red traffic light, and other offenses.	Fixed units can reduce crashes on urban principal arterials up to 54% and 47% for injury crashes. P2P units (multiple agencies) can reduce crashes on urban expressways, freeways, and principal arterials up to 37% for fatal and injury crashes. Mobile units can reduce crashes on urban principal arterials up to 20% for fatal and injury crashes.	In New York City, fixed units reduced speeding in school zones up to 63% during school hours. Focus on major roads with high crash rates. See HFIN.
Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections		A package of multiple low-cost countermeasures, including enhanced signage and pavement markings at a large number of stop-controlled intersections.	10% reduction of fatal and injury crashes at all locations. 15% reduction of nighttime crashes at all locations. 27% reduction of fatal and injury crashes at rural intersections. 19% reduction of fatal and injury crashes at 2 lane by 2 lane intersections. Average Cost-Benefit Ratio 12:1.	Effective intersection measure that supports speed management.

3. REGIONAL SAFETY STRATEGIES

Proven Safety Countermeasures (PSCs)

STRATEGIES	FHWA ICON	DESCRIPTION	CMF INFORMATION	GUIDANCE
Variable Speed Limits (VSLs)		VSLs use current roadway conditions like traffic speed, volumes, weather, and road surface conditions to determine appropriate speeds and display them to drivers.	VSLs can reduce crashes on freeways up to 34% for total crashes, 65% for rear-end crashes, 51% for fatal and injury crashes.	Because humans are unlikely to survive high speed crashes, VSLs reduce speeds, so that human injury tolerances are accommodated in three ways: improving visibility, providing additional time for drivers to stop, and reducing impact forces.
Wider Edge Lines		Marking a wider roadway edge line to increase visibility to drivers.	Wider edge lines can reduce crashes up to 37% for non-intersection, fatal and injury crashes on rural, 2 lane roads. Benefit-Cost Ratio is 25:1 for fatal and serious injury crashes on 2 lane rural roads. 22% for fatal and injury crashes on rural freeways.	Potential risk factors for 2 lane rural roads include pavement and shoulder widths, presence of curves, traffic volumes, and history of nighttime crashes.
Yellow Change Intervals		Adequate timing on yellow signal following a green signal.	36-50% reduction in red-light running. 8-14% reduction in total crashes. 12% reduction in injury crashes.	Appropriately timed yellow change intervals can reduce red-light running and improve overall intersection safety.

3. REGIONAL SAFETY STRATEGIES



For more detailed information see <https://highways.dot.gov/safety/proven-safety-countermeasures>.

The Safety Strategies Toolbox stand-alone spreadsheet (Appendix A) includes these Proven Safety Countermeasures (PSCs). These safety countermeasures were adapted directly from the FHWA Proven Safety Countermeasures with added support from **Arlington, VA Multimodal Safety Engineering Toolbox**. Most of the icons are from FHWA. Below are essential websites for safety countermeasures that every transportation professional should have in their toolbox.

- <https://highways.dot.gov/safety/proven-safety-countermeasures>
- <http://www.pedbikesafe.org/bikesafe/>
- <http://www.pedbikesafe.org/pedsafe/>

REDUCING SPEEDING

THE 85TH PERCENTILE

Traditionally, speed limits along roadways were and are still predominantly established based on the 85th percentile speed. This means the speed limit is based on the theory that the speed at which 85% of people drive is a reasonable speed to be used for the highest safe speed for that road. However, this approach can perpetuate unsafe speeds without addressing safety.

The 85th percentile rule also prioritizes motor vehicles and does not consider the needs of other roadway users such as pedestrians or bicyclists. This approach to setting speed limits was originally intended for highways but ended up being used for all major roadways. When roadways enter cities and small towns the character is completely different and should not be treated the same. In 2017, the National Transportation Safety Board (NTSB) “concluded that excessive speed is one of the most significant causes of both crashes and fatalities on U.S. roadways.” This is similar to the impact that alcohol-related crashes have on our roadways but is something that needs to be addressed in a very different way. NTSB recommendations include:

- Modernizing how speed limits are set by using the Safe System Approach, which accounts for all road users – not just people in cars.
- Amending state laws to allow cities to use automated speed enforcement, a proven strategy to increase driver compliance with posted speed limits.
- Setting performance measures at the federal, state, and local level to track where speeding occurs, what measures are most effective at curbing it, and where progress is being made.
- Increasing attention at all levels on speed as a major national safety priority.

MUTCD POLICY CHANGE

The 85th percentile approach is widely regarded by the transportation planning and engineering community as outdated. In fact, in December of 2023, the Manual on Uniform Traffic Control Devices or MUTCD (which governs the implementation of speed related traffic control devices) deemphasized this practice by broadening what factors to look at when determining posted speed. Thus, the MUTCD update emphasizes the importance (especially in urban areas and main streets) of considering crash history, the roadway context and geometry, and multimodal travel safety instead.



U.S. streets have long been designed to promote speed at all costs, with deadly consequences.

- Former Executive Director of NACTO

SOURCE: MRMPO

PROVEN SAFETY COUNTERMEASURE FOR SPEEDS

One of the FHWA’s proven safety countermeasures is called Appropriate Speed Limits for All Road Users. This countermeasure is extremely clear on the fact that “speed control is one of the most important methods for reducing fatalities and serious injuries.” All non-limited access multimodal corridors need a new approach to reducing speeds which includes both reevaluating current posted speed limits and using design to slow down drivers. Often what seems like a reasonable speed to a driver can result in a higher probability of death for other road users and other drivers (or themselves).

SETTING SPEED LIMITS AND ZONES

When setting speed limits, agencies with the authority to do so need to consider more factors such as adjacent road characteristics, adjacent land use intensity and type, observed speeds, intersection and driveway spacing, pedestrian and bicycle facilities and use, complete streets concepts, and intersection sight distance requirements. Consideration should also be given to differentiating policy based on rural, small town, and metropolitan conditions. Designating speed zones in specific areas (like school zones) where there is heavy pedestrian traffic is also recommended.

Many Vision Zero cities have lowered city speed limits. Often, they have had to secure state legislative authority to do so. In 2014, New York City lowered the default speed limit from 30 mph to 25 mph unless otherwise posted. In early 2018, representatives from Portland, OR announced a speed reduction from 25 mph to 20 mph on residential streets, which comprise about 70 percent of the city’s streets. There is also an organization called 20’s Plenty for Us, which works toward assisting communities with setting mandatory 20 mph limit on most roads to create safer and more livable streets.

It is not just about speed limits though – the design of roadways also needs to change. In fact, design is essential to achieving desired speeds. The next section addresses design guidelines and priorities to be successful in improving safety on our roadways. Often, even when the posted speed is lower, the roadway design doesn’t give the driver any indication that they need to slow down. This is the difference that design speed makes rather than just changing the posted speed. Furthermore, ensuring adherence to posted speeds means continuous enforcement, which is both costly and highly impractical..

Some considerations to address speed include:

1. Reevaluate the process of setting speed limits.
2. Provide default speed limits in city and town centers.
3. Designate slow/speed zones.
4. Evaluate conflict density and land use context.
5. Use automated enforcement.
6. Redesign roadways.

Additional FHWA Resources

- FHWA Speed Management website.
- Self-Enforcing Roadways: A Guidance Report.
- Jurisdiction Speed Management Action Plan Development Package.
- Traffic Calming ePrimer.
- Safe Systems Approach for Speed Management



SOURCE: MRMPO

DESIGNING ROADWAYS

DESIGN MANUALS

To develop streets that are safe for everyone, local agency design manuals likely need to be updated and paired with informational campaigns on how to use new and safer roadway and intersection designs. Other strategies such as education and enforcement can supplement these efforts but need to be implemented with caution in historically disadvantaged communities and in a way that creates a shared responsibility and respect.

When it pertains to roadway safety, education in and of itself does not push the needle as much as slowing down traffic does. The reality is that putting the burden on vulnerable roadway users is not acceptable and changing driver behavior is not enough. There must be design changes in roadway infrastructure and advances in vehicle technology to make a significant difference in reducing deaths and serious injuries for all modes. Adopting some broad design principles is a first step for building or redesigning roadways (explained below) and the following table provides some excellent design standards using the latest best practices.

BROAD DESIGN PRINCIPLES

Many jurisdictions across the United States have adopted some form of broad design principles. These principles can help guide decision making processes for new roads, resurfacing, and re-striping projects. A significant impact can be made on improving roadway safety by approaching every project with these principles. For example, Chicago's Design Principles encourage safe speeds and minimize risk to all users by focusing on the follow items:

1. **Narrow Vehicle Lanes**
2. **Crossings that Provide Easy Access to Transit**
3. **Compact Intersections**
4. **Short Pedestrian Crossings**
5. **Separated Areas for Vulnerable Roadway Users**

There were ~140 comments related to issues of road design and engineering, particularly that roads are designed for speed and efficiency rather than safety and that there is missing or insufficient infrastructure for vulnerable road users on roadways throughout the region.

- *RTSAP 2024 Engagement Process*



SOURCE: DC DISTRICT DEPARTMENT OF TRANSPORTATION

Compacting an intersection with flexible posts and pavement markings. The pavement sticker is informative explaining how these barriers save lives.

3. REGIONAL SAFETY STRATEGIES

Table 20. Design Manuals.with Best Practices

NAME	DESCRIPTION	LINK
FHWA Bikeway Selection Guide	This document attempts to streamline the bikeway selection process, improve connectivity for bicyclists, accelerate project delivery, and improve safety for all users by helping transportation professionals make sound decisions on the selection of bikeway types. The selection process includes policy, the planning process, and bikeway type based on user and roadway context. The document also reviews real-world decisions on a range of common roadway types.	https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf
Don't Give Up at the Intersection	Focuses on improving comfort and safety by reducing vehicle conflict with bicyclists and pedestrians at intersections. Strategies to improve signalization are also included.	https://nacto.org/publication/dont-give-up-at-the-intersection/
Rural Roadway Departure Countermeasure Pocket Guide	Contains countermeasures related to minimizing crash severity and keeping vehicles on the roadway. This quick reference document is meant to be distributed to workers managing roadway safety. Costs are also provided.	https://safety.fhwa.dot.gov/FoRRRwD/RwDPocketGuide.pdf
Small Town and Rural Design Guide	Addresses unique issues in small towns and rural areas using existing national design guidance but also encourages innovation. Two emphasized treatments are Yield Roadways and Advisory Shoulders. An additional purpose is to advance more experimentation and research for multimodal design and flexibility in small towns and rural areas.	https://ruraldesignguide.com/
Speed Management Practices	Because of the lack of resources to address speeding and push back with changing speed limits, this document was developed to provide practitioners with some noteworthy practices from case studies that addressed speed management at local agencies. Includes automated enforcement, setting new speed limits, self-enforcing roadways, and more.	https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa20047/index.cfm
Transit Street Design Guide (NACTO)	On all types of streets, design can directly improve transit travel time, reliability, and capacity. Large projects like dedicated transit ways and smaller improvements like bus bulbs and signal timing can increase frequency and safety.	https://nacto.org/publication/transit-street-design-guide/transit-streets/

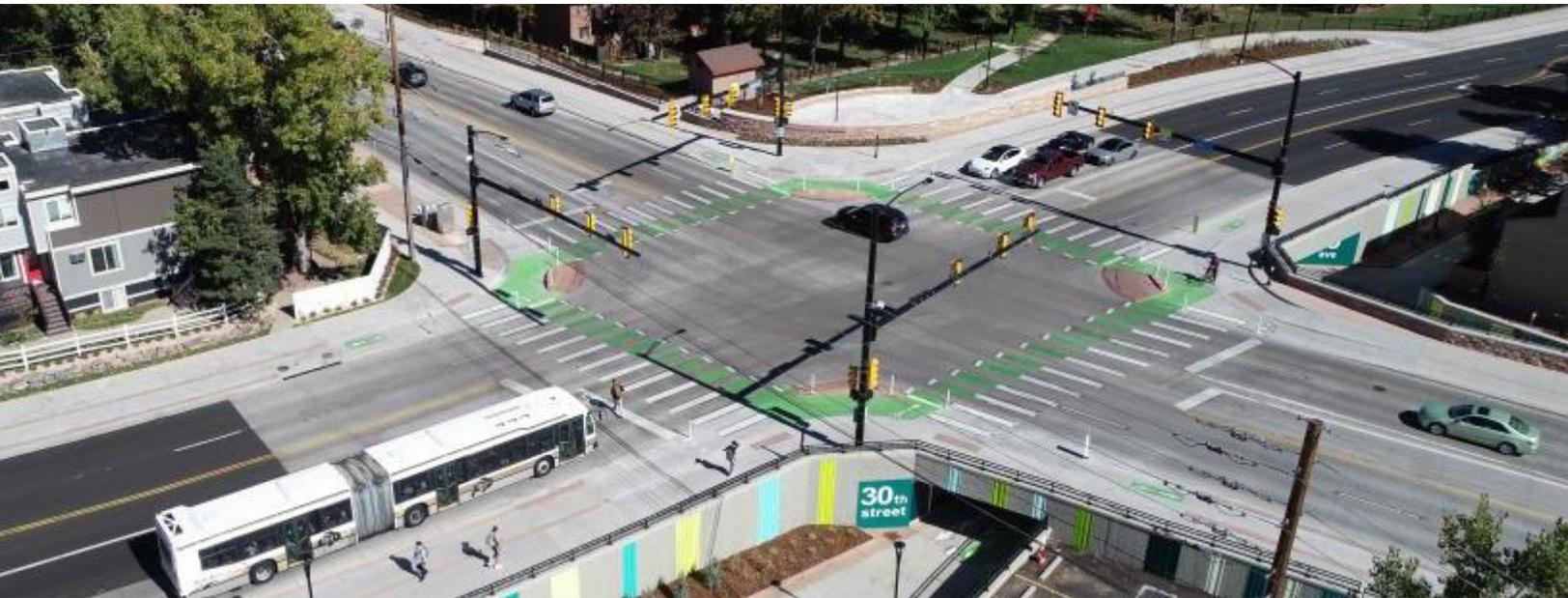
3. REGIONAL SAFETY STRATEGIES

CORRIDOR AND INTERSECTION SAFETY

INTERSECTIONS

Redesigning an unsafe intersection using more innovative intersection geometry improves safety for all modes of traffic. Bicyclists are particularly vulnerable at intersections that do not have a continuous protected space. According to NHTSA, 26 percent of bicyclist fatalities occurred at intersections in 2020. The **NMDOT Vulnerable Road User Safety Assessment** and **Strategic Highway Safety Plan (SHSP)** includes similar findings. Pedestrians and bicyclists feel unsafe at intersections particularly when there is no protected space and lots of vehicular turning movements.

There are many innovative intersection designs to choose from. Some excellent guidance is included in the NACTO **Don't Give Up at the Intersection** publication, which focuses on improving comfort and safety by reducing intersection conflicts between vehicles and bicyclists, pedestrians, and wheelchair users. Strategies to improve signalization are also included. One example is the protected intersection treatment that minimizes turning movements, includes a bike lane transition at the intersection to a more protected space, and mid-block crossing islands for pedestrians and other non-motorized travel. There are different variations of this design.



Protected Intersection: 30th Street and Colorado Avenue in Boulder, Colorado

Some more traditional items that can be done to improve intersections include the following treatments. PROWAG is the FHWA **Public Right-of-Way Accessibility Guidelines**.

- 1**
Automate the pedestrian phase of signals and allow enough time for slower users.
- 2**
Provide pedestrian median refuges and plan for one-stage crossings.
- 3**
Reduce turning radii to reduce speed of turn maneuvers.
- 4**
Provide a No Turn on Red phase to the signal plan with a dynamic sign.
- 5**
Provide a leading pedestrian interval (LPI).
- 6**
Add backplates with retroreflective borders to all signal heads.
- 7**
Use PROWAG to provide additional space in key locations for sidewalk space.

3. REGIONAL SAFETY STRATEGIES

CONTEXT SENSITIVE DESIGN SOLUTIONS (CSS)

CSS focuses on developing roadways that fit into their physical environment and improve safety and mobility. The Long Range Transportation System (LRTS) Guide developed by MRMPO provides recommendations for integrating land use context into the roadway design process by recommending that existing and future planned land use is evaluated when building or reconstructing roadways. Costly changes to the street in the future can be minimized by evaluating how the road will function in the future rather than having to retrofit it later.

The **Albuquerque & Bernalillo County (ABC) Comprehensive Plan** also identifies roadway types by looking at the current and future land use context adjacent to roadways. Their Centers and Corridors concept encourages growth in existing centers connected by corridors and aims to provide improved access and safer multimodal mobility. This comprehensive plan establishes five types of corridors for major roadways. These are Main Street, Premium Transit, Major Transit, Multimodal, and Commuter. According to the plan, the corridor types are “intended to balance the street system by identifying different streets that prioritize bicycling, walking, or transit use in and between Centers.” As a corridor moves through different land use contexts the design needs to change. Specifically noted in the plan is the reduction of travel speeds and improvement of pedestrian safety within Centers and next to low-density neighborhoods.

Local and Tribal governments in the region are encouraged to use the LRTS Guide in the design or redesign of their roadways, particularly if they have not already evaluated the land use context for the roadways within their jurisdiction.



Complete Street redesign on 4th Street in Los Ranchos

CROSSING THE STREET

There is a need throughout the region for providing guidance on how to select the best treatments or safety countermeasures for people crossing the street. Developing a method to prioritize where to locate these improvements is clearly a priority for the region. This is evident in the crash analyses illustrating the high number of pedestrian fatalities on wide arterials, and the overall concerns and interest in providing more and safer crossings for pedestrians and bicyclists. To that end, a couple of guidance documents are highlighted that provide recommendations for effective countermeasures and a process for selecting the best locations that will have the greatest impact on reducing severe crashes.

FHWA GUIDE FOR IMPROVING PEDESTRIAN SAFETY AT UNCONTROLLED CROSSING LOCATIONS

This guide focuses on selecting appropriate countermeasures for uncontrolled locations because uncontrolled pedestrian crossing locations correspond with higher pedestrian crash rates. Uncontrolled locations are where walkways intersect with a roadway where there is no traffic control (traffic signal or STOP sign). These are usually at a local intersection or mid-block.

The selection process is based on roadway conditions and crash factors such as number of lanes, vehicle speed limits, and traffic volumes. Or, in the case of crash types, includes factors such as failure to yield or excessive speed. The report recommends that priority locations be selected first and then each of the steps described in the guide be consulted. The guide was produced by the Federal Highway Administration (FHWA) as part of their Safe Transportation for Every Pedestrian (STEP) program. Some of the countermeasures promoted by the guide are:

- Crosswalk visibility enhancements
- Raised crosswalk
- Pedestrian refuge island
- Pedestrian Hybrid Beacon (PHB)
- Road Diet
- Rectangular Rapid-Flashing Beacon (RRFB)

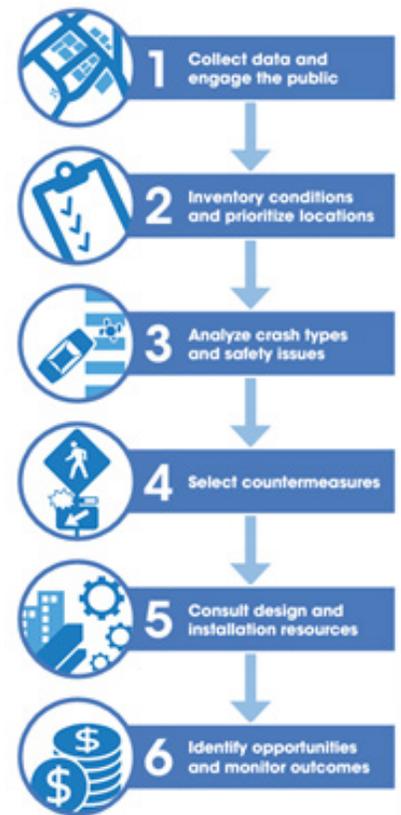


Figure 32. FHWA Process Selection Diagram for Uncontrolled Crossing Locations

CITY OF ALBUQUERQUE BICYCLE AND TRAILS CROSSINGS GUIDE

Multi-use trails and Bicycle Boulevards often intersect with wide, high speed arterial roadways, which requires a safe location to cross. In addition, long distances between intersections along an arterial limit safe places where pedestrians can cross. To help prioritize more frequent and safe crossing locations the City of Albuquerque developed the **Bicycle and Trails Crossing Guide**. The guide includes a three-step decision making tool on how to best provide crossing treatments based on the specific roadway context, and a description of countermeasures such as visibility enhancements or types of signals.

3. REGIONAL SAFETY STRATEGIES

Roadway context can include factors such as width, speed, and traffic volumes. Some of the elements that help determine the appropriateness of a location for a crossing include distance from other crossings, proximity to transit, and safety conditions. Before deciding on a project, the technical feasibility of the location must be assessed by an engineer.

Currently the City of Albuquerque’s **Development Process Manual (DPM)** takes into consideration the type of roadway as identified by their comprehensive plan and provides some recommending spacing of crosswalks. For example, designated corridors such as a Main Street or a designated Activity Center are intended to have more frequent pedestrian crossings (shown in the table below) compared to other locations in order to improve safety and access for more vulnerable users.

Location	Signalized Pedestrian Crossing	Designated Pedestrian Crossing
Downtown	660 FT	<400 FT
Activity Center	1,320 FT	<600 FT
Main Street	660 FT	<400 FT
Other Areas / Local Streets	2,640 FT	As Appropriate

Figure 33. City of Albuquerque Pedestrian Crossing Locations Guidance
Source: Table 2. DPM Guidance Pedestrian Crossing Locations

BICYCLE BOULEVARDS

As much as it is technically feasible, it is important to provide facilities for biking on major roadways. The safest type of bicycle facility is separated from vehicular travel. However, sometimes adding a facility for bicyclists on a major road is not feasible. Ample right-of-way to include separated facilities or wider sidewalks is not always available on main thoroughfares. Ultimately, the implementation of a bicycle facility requires study of the current roadway conditions and land use context to determine the appropriate type, and sometimes the best way to provide safer multimodal travel is to consider placing Bicycle Boulevards on parallel roadways.

Bicycle Boulevards can be implemented to improve safety for drivers and pedestrians as well. They provide safe and comfortable connections by slowing motor vehicle speeds and are usually along local roads with lower traffic volumes that still maintain access to important destinations. Sometimes local roadways can be quite wide and finding ways to narrow the street or the width of lanes for travel is already needed. Narrowing lanes or providing buffers will also improve the safety for pedestrians. These types of traffic calming elements are key to making these roadways that are parallel to major thoroughfares safer. Wayfinding signage is also important.

When developing these routes, the intersecting roadways that provide access to important destinations cannot be forgotten. Ultimately, a Bicycle Boulevard will intersect with a major roadway and pedestrians, bicyclists, and people using wheelchairs will need to cross these roads to reach their destination. Therefore, providing improvements to these busier intersections should be part of the development of these routes to provide continuous safety.

3. REGIONAL SAFETY STRATEGIES

UPTOWN TRANSIT ORIENTED DEVELOPMENT (TOD)

TOD is about designing places to bring people and activities together that are near frequent transit services and supported by well connected pedestrian and bicycle facilities. ABQ Ride, the region's largest transit provider, is working on major TOD project next to the Uptown Transit Center. ABQ Ride staff invited MRMPO staff to do a site visit to the area and assess the safety needs before redevelopment. The Uptown Connect Project plans to redevelop the Uptown Transit Center and adjoining park-and-ride lot into a vibrant mixed-use development and transit plaza. The mixed-use redevelopment will bring over 400 new dwelling units to uptown with over 200 of them being affordable. Improving walkability of the area will be crucial for safety. Uptown is one of the most destination rich neighborhoods in the region with jobs, goods, and services in a compact geographic area.

CROSSING THE STREET

Currently, Uptown Albuquerque is quite auto oriented and even local roads like Indiana are extremely wide to cross. At the site's northeast corner, there is no marked crosswalk to cross to Uptown Boulevard. Once the site is developed there will be increased desire to cross the street at this location. Several people crossed during the site visit. Some elements needed include bulb outs to make the crossing distances shorter for pedestrians and a median refuge for crossing such a wide roadway. The team questioned whether both Indian School and Uptown Boulevard required 4 lanes and suggested exploring whether a Road Diet would be appropriate on either street.

UPTOWN BOULEVARD AND LOUISIANA INTERSECTION

Shoppers and other pedestrians wishing to cross Louisiana do not have a signalized intersection to safely reach destinations on the other side of this high volume arterial. This will likely become a major desire line for pedestrians once the Uptown Connect project is complete and installing a formal crossing should be considered. Louisiana is 8 lanes near the Uptown Connect project and is intimidating to cross. Efforts to calm traffic on Louisiana Boulevard could be implemented through a Road Diet or perhaps automated speed enforcement. General enhancements all around the site are needed like widening sidewalks, removing street furniture, and reducing crossing distances for pedestrians. For a Road Diet to be implemented there will need to be additional feasibility studies done by the City of Albuquerque and MRCOG.



Existing conditions for pedestrian facilities and rendering of ABQ Ride development in Uptown.

3. REGIONAL SAFETY STRATEGIES

DATA DRIVEN PLANNING TOOLS FOR SAFETY IMPROVEMENTS

Implementing more innovative multimodal designs that put safety first is simply the direction the region needs to take to make an impact on reducing roadway deaths and injuries. MRCOG encourages local agencies to increase investment in projects and programs that prioritize roadway safety. The ripple effect of unsafe roadways is costly.

To that end, MRMPO has developed tools to support the selection of locations for safety improvements. The High Fatality and Injury Network (HFIN) corridors and intersections and Potential Road Diet Candidates are a good place to start for guidance regarding locations that will have the greatest impact on improving safety and reducing deaths and serious injuries. Further investigation into crash reports from police departments identifying more details about the circumstance of crashes, and further engineering evaluation, is needed to determine the best types of safety improvements.

This high-level planning analysis is an important first step in looking ahead towards a safer future. These tools use the latest data and analyses to identify where safety improvements are most needed. Area Safety Profiles, developed for small town, Tribal, and rural areas, also provide an evaluation of crash data and local safety concerns to help agencies target their efforts with regards to safety improvements. MRMPO is able to develop more Area Safety Profiles upon request. Chapter 4 includes several project selection tools and the Area Safety Profiles developed by MRMPO in order to inform future investment.



4. SELECTING SAFETY PRIORITIES



DEVELOPING THE SAFETY PROJECT AND PROGRAM LIST

Roadway safety planning tools such as the High Fatal and Injury Network (HFIN), the Potential Road Diet Candidates map, and the Area Safety Profiles provide a customized evaluation of the crash data and local safety concerns. By coupling these tools with the experience of the traveling public and local knowledge of agency leaders, these tools combine to create a detailed and location-specific picture of areas that warrant greater attention when it comes to safety. Further engineering level analysis should be conducted to determine which interventions are appropriate for specific locations.

The Safety Project and Program List (Appendix B) was created by reviewing current plans in the region and collaborating with stakeholders regarding safety priorities in their jurisdictions. Some of the safety strategies are included in the Safety Project and Program List because they emerged as particularly important through the engagement process. A handful of Site Visits were conducted based on high crash locations and responses from the Technical Team and Focus Groups, and these are also included in the List. In addition to integrating information from local plans, local agency input including school districts, public feedback, and focus group concerns were all used to develop the Safety Project and Program List.

SMALL URBAN, RURAL, AND TRIBAL CONCERNS

Oftentimes the crash data will skew towards highlighting the concerns of the more populated urban areas rather than the safety concerns for small urban areas such as Belen and Los Lunas, or more rural areas like Torrance County. Tribal areas are also often overlooked. In addition, the larger jurisdictions tend to be more advanced in their data analysis or have more capacity to do these types of safety analyses and plans. Therefore, to better capture potential safety priorities outside of the metropolitan area, the Area Safety Profiles focused mostly on these areas.

The Area Safety Profiles also address the fact that sometimes a data driven crash analysis does not always capture safety issues adequately. Local community knowledge can provide insight into locations that perhaps seem too dangerous to community members who may avoid the facility altogether. Fortunately, some of that local community knowledge was also captured in the Focus Groups.



4. SELECTING REGIONAL PRIORITIES

FOCUS GROUPS

Focus groups were hosted to facilitate more in-depth discussions with key stakeholders and to discuss topics that were relevant to the group. Participants shared about transportation projects and programs that are a high priority for the communities they serve and gave feedback on additional ways MRMPO can engage with communities in the transportation planning process. The following focus groups were identified.

SCHOOL FOCUS GROUP

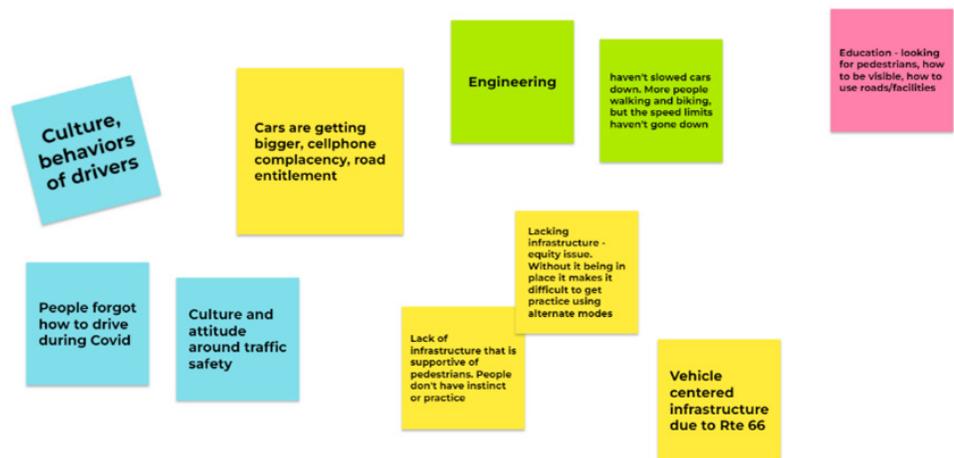
Priority projects and programs for schools included data-driven project prioritization and increased funding for projects that support convenient and safe multimodal connectivity to schools. **School districts would like to see greater collaboration with the MPO and other agencies to promote safe routes to schools.** There is interest in sharing data and working together to get traction on project design, funding, and implementation. School administrators expressed the importance of connecting with the Principal or Community School Coordinator if transportation projects come up in a school area. Schools are a great place to host discussions about the barriers families experience to walking and biking. Furthermore, school events and classrooms can provide opportunities to get diverse community input on surveys and educate about transportation safety projects.

TRIBAL FOCUS GROUP

Tribal focus group participants spoke about the unique challenges that Tribal communities face in terms of traffic safety. Many of the region's Tribal communities are in rural areas and have limited infrastructure to support walking, biking, and or using a wheelchair. **Improvements to roadway crossings, pedestrian facilities, and trail networks were listed as top priorities.**

Many Tribal governments are short-staffed and don't have internal capacity to oversee large federal grant implementation. Additionally, matching grant requirements can be a challenge to initiating projects. Focus group participants indicated that MRMPO and RTPO could better collaborate with Tribal communities through technical assistance and capacity building to develop construction ready projects and support successful grant administration and project implementation. Furthermore, participants noted that many priority projects are within the New Mexico Department of Transportation (NMDOT) right of way and the MRMPO and RTPO could help facilitate conversations and endorse these safety projects.

Figure 34. Focus Group Responses to High Fatalities and Injuries



4. SELECTING REGIONAL PRIORITIES

RURAL FOCUS GROUP

Rural focus group participants discussed challenges with lacking pedestrian infrastructure, roads in poor condition, and people driving at excessive speeds as main contributors to high rates of traffic fatalities and injuries. **There is a sense amongst rural communities that infrastructure investments aren't equitably distributed and that one of the best ways to impact driver behavior is through safer road design.**

Participants indicated they would like to see a more transparent follow-up process after plans are developed, and clear communication about how community concerns are being addressed. Additionally, it was noted by some members of the group that there is a lot of staff change in Tribal governments and it is important to make sure that MRCOG keeps contact lists up to date. Overall, increasing communication and regularly reaching out to staff and administration was recommended.

EQUITY FOCUS GROUP

Participants in the Equity Focus Group included members of the Bernalillo County Health Equity Council and the Active Living Workgroup hosted by Presbyterian Health. The group discussed road design as a barrier to the active living and health equity goals in their service areas with particular focus on the International District in Albuquerque and the South Valley in Bernalillo County. Due to road design, many people within these areas are less likely to walk or use their bikes unless necessary and are more likely to experience safety risks when doing so. **Wide arterials, designed for speed, with limited opportunities to cross were discussed as a key challenge.** Road diets, reduced speed limits, and mid-block crossings were top priorities.



COMMUNITY ENGAGEMENT AT CIQLOVIA

SOURCE: MRMPO

ROADWAY SAFETY PLANNING TOOLS

MRMPO safety planning tools provide a process for identifying the location of high-risk locations based on crash data, traffic volumes, and access to important destinations like schools. The primary safety planning tools are the High Fatal and Injury Network (HFIN) and the Potential Road Diet Candidates. Components of each of these are integrated into the Area Safety Profiles.

MRMPO LONG RANGE TRANSPORTATION NETWORKS

A look at safety priorities in the region also requires information about existing and proposed transportation networks, and the ability to access them. For this reason, information about the relevant long range transportation networks is summarized and provided on the next page.

These networks are regional in nature and derived through coordination with local agencies and advocates as a part of the development of their Metropolitan Transportation Plan (MTP). Further detail, particularly with respect to local roadways, may be provided in local plans. However, these long range networks help determine priorities because they identify information such as gaps in bicycle system facilities, locations of high pedestrian demand and premium transit, roadway character based on land use context, speeds along congested corridors, accessibility to healthcare facilities, and traffic technology infrastructure needs.

These networks, available on the MRMPO website, are designed to assist agencies with local planning efforts. Familiarity with these networks is essential for knowing where the priorities are for filling gaps in the transportation system or for selecting roadways that have a multimodal purpose when applying safety strategies. The Priority Transit Network (PTN) is not available online, but is shown in one of the following maps. This network was established by an MTB resolution (R-15-01 MTB) that identifies corridors for an increased transit mode share, and sub-allocates funding for projects that improve transit infrastructure.



SOURCE: MRMPO

4. SELECTING REGIONAL PRIORITIES

Table 21. Long Range System Maps and Reports

LONG RANGE SYSTEM MAPS: https://www.mrcog-nm.gov/544/Long-Range-System-Maps	
Long Range Roadway System (LRRS)	The LRRS shows the regional role for existing and future roadways which includes a distinction between arterials based on character and purpose such as whether a roadway is limited access with minimal land use diversity or whether it runs through an area with denser highly accessed destinations.
Long Range Bikeway System (LRBS)	The LRBS shows both existing and future bikeways and paved trails. Recommended types of facilities are presented such as a separated bike lane or bike boulevard.
Long Range Transit Network (LRTN)	The Long Range Transit Network is an aspirational transit network developed with input from our regional transit agencies – ABQ Ride and Rio Metro Regional Transit District. The LRTN supports the connection of regional activity centers and better frequency along mixed-use corridors. ABQ RIDE is currently working on an update of their transit network which will impact this aspirational network.
Pedestrian Composite Network (PCI)	The PCI shows roadway segments by level of potential non-motorized activity. The PCI was developed by evaluating what is adjacent to the roadway such as proximity to various land uses or transit stops.

These additional networks cover information about the most congested corridors in the region, needed ITS infrastructure or where connections need to be improved for people to be able to access jobs and services.

Intelligent Transportation Systems (ITS)	ITS infrastructure is essential for advanced and smart signal systems that are a part of the safety strategies list. This online map provides information on both the existing ITS infrastructure and the priorities for implementing new infrastructure. A regionally developed list of corridors is identified along with recommendations for specific types of ITS applications. https://arcg.is/1S6wyml
A Profile in Congestion	This interactive map gives detailed information on the most congested corridors in the region, and it also includes speed and crash information. https://mrmmpo.maps.arcgis.com/apps/MapSeries/index.html?appid=ed2774624f744787ad080725d712628e
Transportation Accessibility Analyses	This map series is a tool for evaluating the equitable development of regional public transportation systems. The maps include analyses of access to transit service, parks and open space, grocery stores, and healthcare facilities. https://www.mrcog-nm.gov/578/Planning-for-Equity

4. SELECTING REGIONAL PRIORITIES

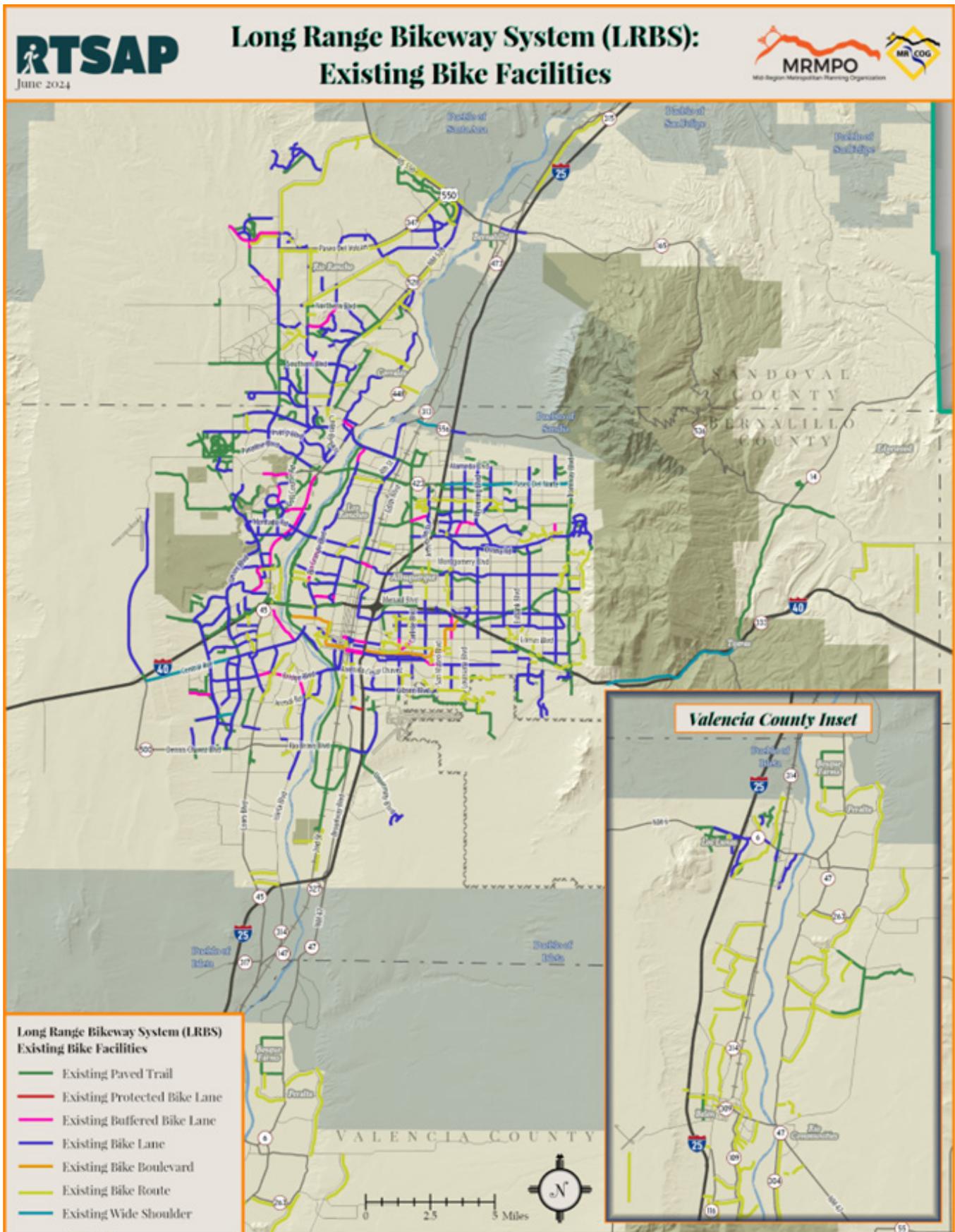


Figure 35. Existing Bike Facilities from the LRBS

4. SELECTING REGIONAL PRIORITIES

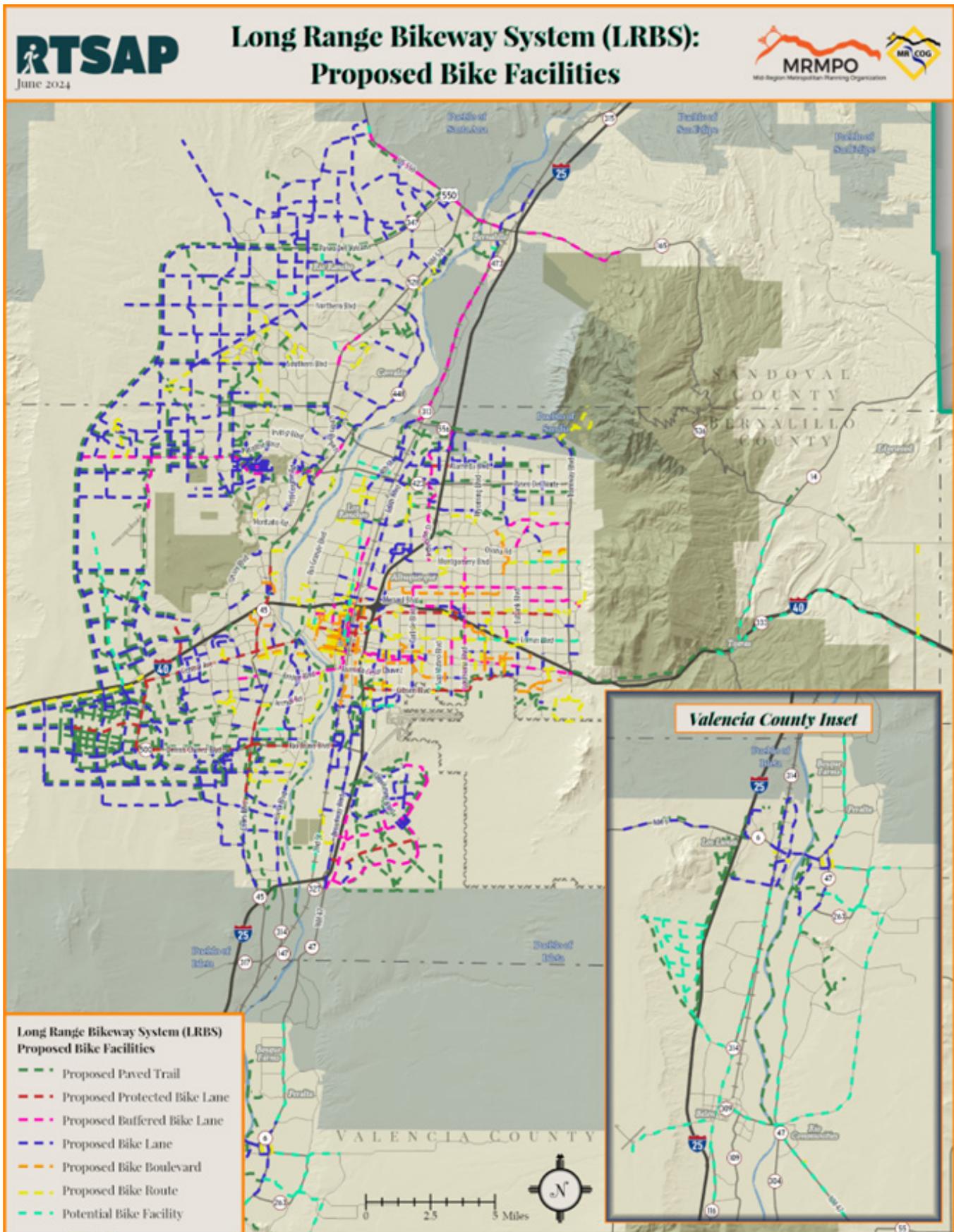


Figure 36. Proposed Bike Facilities from the LRBS

4. SELECTING REGIONAL PRIORITIES

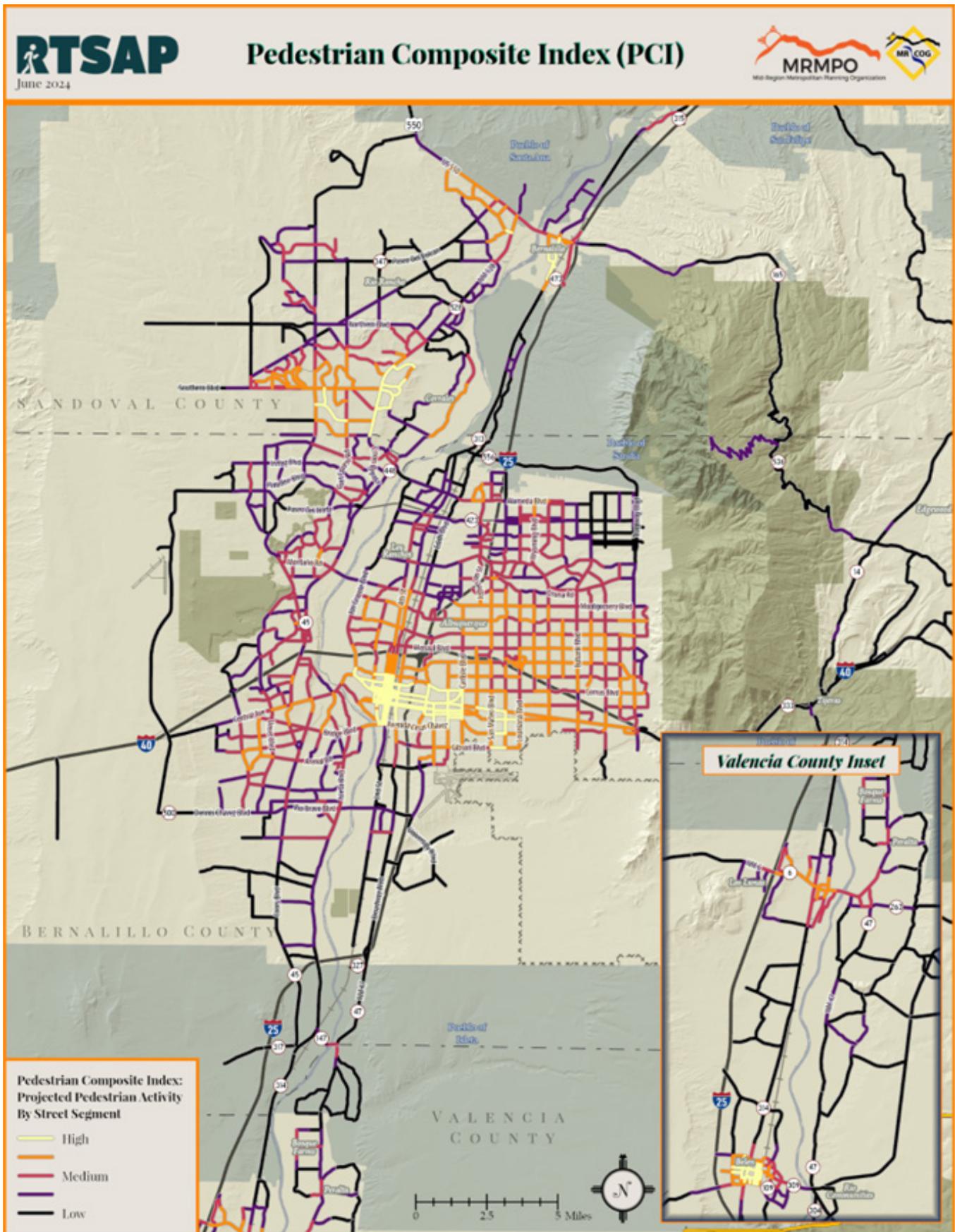


Figure 37. Pedestrian Composite Index (PCI)

4. SELECTING REGIONAL PRIORITIES

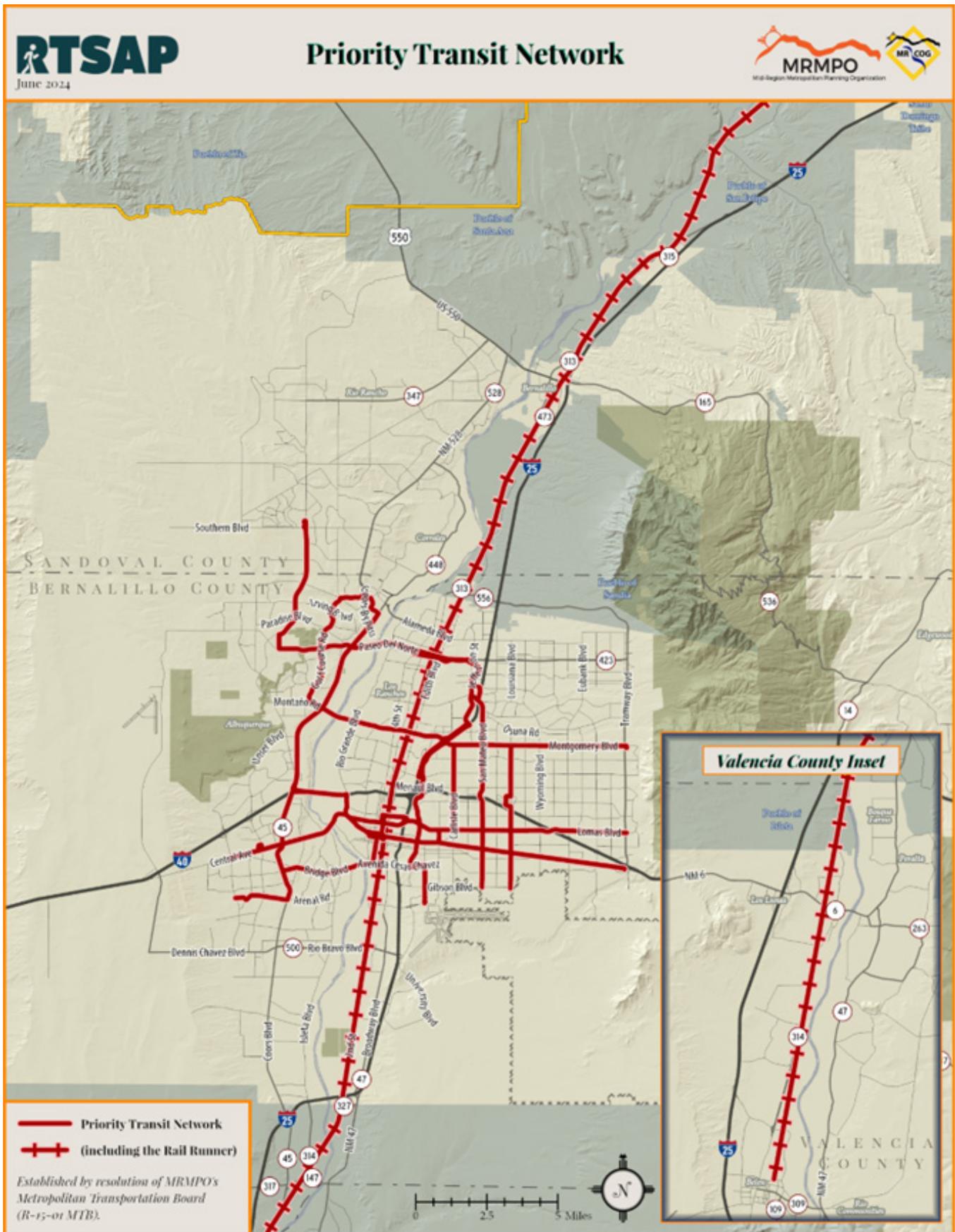


Figure 38. Priority Transit Network (PTN)

4. SELECTING REGIONAL PRIORITIES

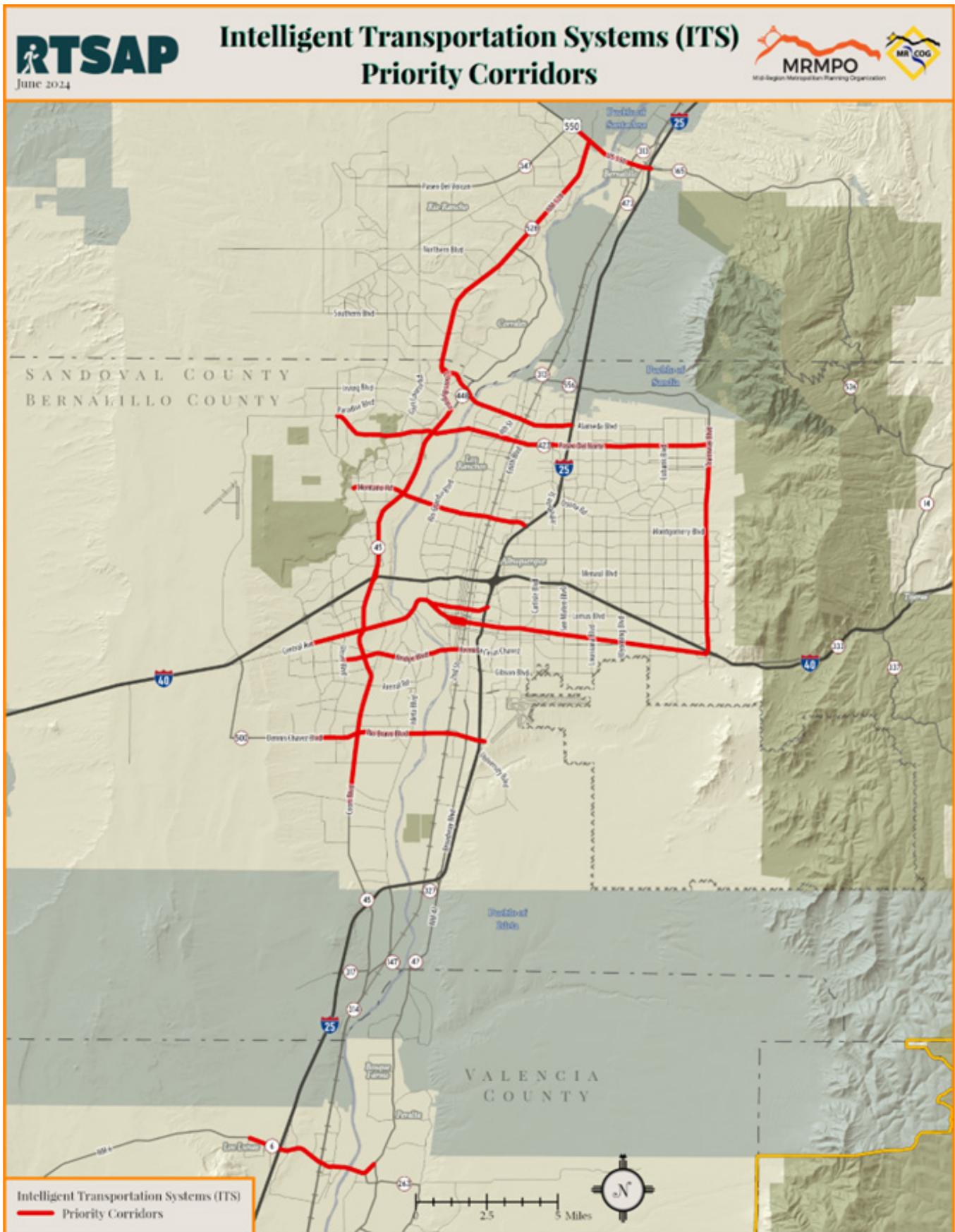


Figure 39. Intelligent Transportation Systems (ITS) Priority Corridors

ALBUQUERQUE PUBLIC SCHOOLS (APS) SAFETY ANALYSIS

Through APS Vision Zero efforts, APS officials have developed a process using planning tools for analyzing the location of their schools with respect to crash data and other sociodemographic information. Their analysis includes the High Fatal and Injury Network (HFIN), which helped identify the highest risk locations for prioritizing safety interventions. This school district is a large area to service and a significant generator of trips on the regional transportation system. In addition, many of these trips are being taken by children and young adults. The areas around schools that are being used to bike or walk to school are extremely important to the overall safety and health of all our communities. Because APS does not have right-of-way over local roadway networks surrounding schools, their priority is collaboration with partner agencies to address safety related concerns around schools such as speed management and crosswalks.

APS is the largest school district in New Mexico. It serves around 70,000 students and has approximately 13,000 employees. The APS District includes all or portions of the following jurisdictions: Bernalillo County, Sandoval County, City of Albuquerque, Village of Corrales, Village of Los Ranchos, Village of Tijeras, Village of San Antonito, Village of Edgewood, Sandia Pueblo, Laguna Pueblo, To'Hajilee, Isleta Pueblo, Chilli, and Atrisco Land Grant. Currently there are 84 Elementary Schools, 27 Middle Schools, 13 High Schools, 3 K-8th Grade Schools, 18 Schools of Choice/Magnet Schools, 33 APS Charter Schools, and 24 State Charter Schools.

Per APS, the following criteria were used in an analysis done by APS to prioritize school locations for safety improvements:

1. Percentage of students living within a school's Walk Zone.
2. Number of crashes located on the High Fatality Injury Network (HFIN) within a 1 mile radius of schools.
3. The City of Albuquerque School Crosswalk Study Designation.
4. Schools without crossing guards.
5. Percent of students at a school that receive Free & Reduced Lunch.
6. Schools that are not "Community Schools."
7. Schools with year round schedules and summer school.
8. School Geography.

As a results of the APS analyses, these Pilot Schools (K8) were selected:

1. Alamosa ES
2. Chaparral ES
3. Cleveland MS
4. Corrales ES
5. Coyote Willow Family School
6. Emerson ES
7. Eugene Field ES
8. Governor Bent ES
9. Hoover MS / John Baker ES
10. Janet Kahn K8
11. La Mesa ES
12. Lavaland ES
13. Longfellow ES
14. Lyndon B. Johnson MS
15. MacArthur ES
16. Monte Vista ES
17. Polk MS
18. Truman MS
19. Van Buren MS
20. Ventana Ranch ES
21. Whittier ES

HIGH FATAL AND INJURY NETWORK (HFIN)

The High Fatal and Injury Network (HFIN) is a map of the most dangerous corridors and intersections in the region based on the latest available crash data. Specifically, the HFIN illustrates the locations where an above average amount of people have been killed and injured. MRMPO developed this network as a planning tool in 2018 and updates the HFIN as new crash data become available. This type of evaluation helps target scarce funding and make more informed selections about where safety funds are spent.

HFIN corridors do not necessarily need to be prioritized over other locations, but rather the HFIN analysis suggests areas that warrant further investigation based on a high amount of fatal and injury crashes. Engineering review and analysis is needed to determine if the location is appropriate for specific types of safety improvements, as well as the time frame required.

WHY USE THE HFIN?

Following in the footsteps of Vision Zero efforts, this type of crash analysis and map visualization has become a common way throughout the United States to present crash data to help prioritize locations that contain the most fatal and injury crashes. This type of prioritized network helps identify recurring patterns and can provide evidence as to why crashes are happening. For example, in Chapter 2 crash analyses showed how the character of a roadway such as wide multi-lane arterials contain a higher number of fatal and serious injury types of crashes. The HFIN provides a clear visual tool to boost awareness of locations that need more attention.

The HFIN includes 5 years of crash data and is updated yearly, which provides insight into repeating patterns over time. When combined with the land use context, the Potential Road Diet Candidates, and other types of crash analyses it can be incredibly beneficial for identifying locations for safety improvements. Having some insight on the location and mode of crash can also be insightful for education and enforcement strategies. A deeper dive into characteristics of the roadway and the crash data reports is usually necessary for selecting the most beneficial safety strategies.

The following statistics make it clear as to why a targeted approach of improving the most dangerous roadways and intersections is recommended by Vision Zero and the Safety Systems Approach, and one of the most strategic approaches to enhancing roadway safety in the region.

The HFIN roadway segments with a score two times the regional mean or higher make up only 2.5% of the major roadway network but contain 26% of the fatalities and 40% of the injury crashes.

The HFIN roadway segments with a score simply above the regional mean make up only 8% of the major roadways but contain 47% of the fatal crashes and 64% of the injury crashes.

4. SELECTING REGIONAL PRIORITIES

HFIN DATA AND MAPS

For roadways, the HFIN features a per mile calculation for fatalities and injuries using the latest five years of available crash data. The roadway network consists of collectors and arterials. Interstates were not included because they are maintained and operated by the NMDOT and analyzed in the **State Highway Safety Plan**. Local roads are also not included in the analyses. For intersections, the HFIN features a rate, also using five years of the latest available crash data, and an average of the latest five years of approaching traffic volumes data. The intersections include those where two major roadways intersect. An average rate for both intersections and roadways are calculated for the region. More detail on these components are provided below.

Table 22. High Fatal and Injury Network (HFIN) Components

COMPONENT	DESCRIPTION
Data Period and Source	Five years (2017-2021) of crash data made available by NMDOT and geocoded by UNM. Five years of Average Daily Traffic (ADT) data for approaching intersections volumes (2017 to 2021) collected by MRMPO.
Severity and Weighting	Total number of fatal and injury crashes within 75 feet are used for intersection rates. Total number of fatalities and injuries for roadway segments within 100 feet. Fatalities were multiplied by 2 for roadway segments.
Roadway Network and Intersections	For roadway segments, all major roads were used except the Interstate. Interstates crashes were removed before selecting crashes. For intersections, major road intersections points were created.
Normalization	Roadway segments were normalized by roadway segment length or per mile. Intersections were normalized by the latest approaching traffic volumes (average of latest 5 years of data). The Bicycle and Pedestrian HFIN intersection crashes show total crashes and are not normalized by traffic counts.
Equity	The MPO developed a map showing where the HFIN overlaps with the MRMPO Vulnerability Index (MVI) and recommends using this as an equal factor when developing priorities.
Data Limitations	Sometimes the police officer will identify the location as the nearest intersection even when the crash may have taken place further away. Not all fields are filled out in the data. There are limited years of Top Contributing Factor data. Pedestrian Error is not always correct because the understanding of the law is limited with respect to unmarked crosswalks. Sometimes Pedestrian Error is selected when there is a bicycle involved. A majority but not a complete sample of all crashes is provided.

Most of crash data included in the HFIN is within the urban areas and this heavily influences the calculated mean derived for both roadway segments and intersections. Area Safety Profiles were created for the more rural and Tribal areas of the region to take a closer look at the crash data information relative to the local sample of data. The following maps illustrate the HFIN within the region.

*The formula for the HFIN Score for any given roadway segment is: (fatalities * 2) + injuries / length of segment in miles. The formula for the HFIN Score for any given intersections is: (fatal + injury crashes) * 100,000 / 365 * a 5-year average of Approaching Volumes.*

4. SELECTING REGIONAL PRIORITIES

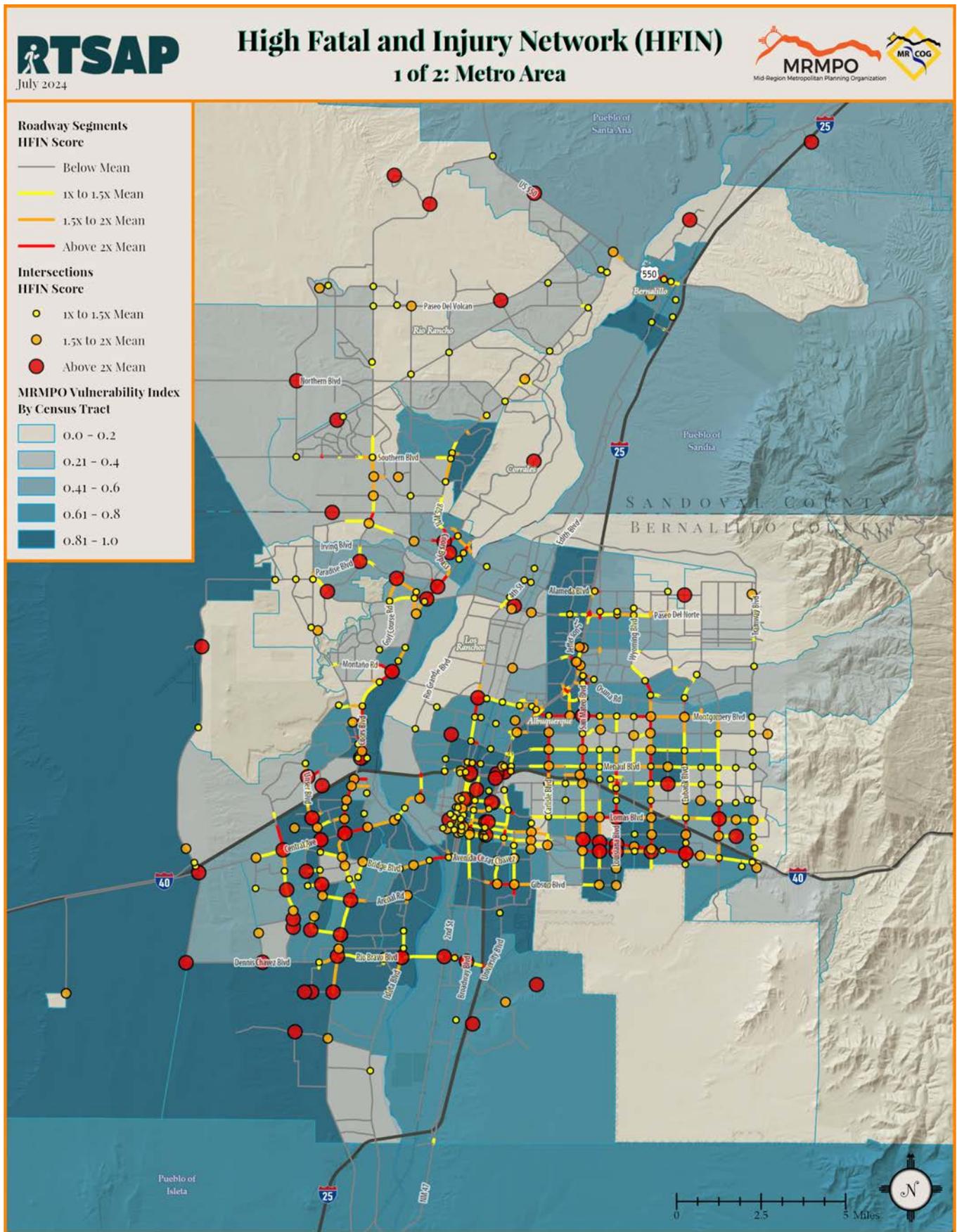


Figure 40. High Fatality and Injury Network (HFIN) in the Metro Area

4. SELECTING REGIONAL PRIORITIES

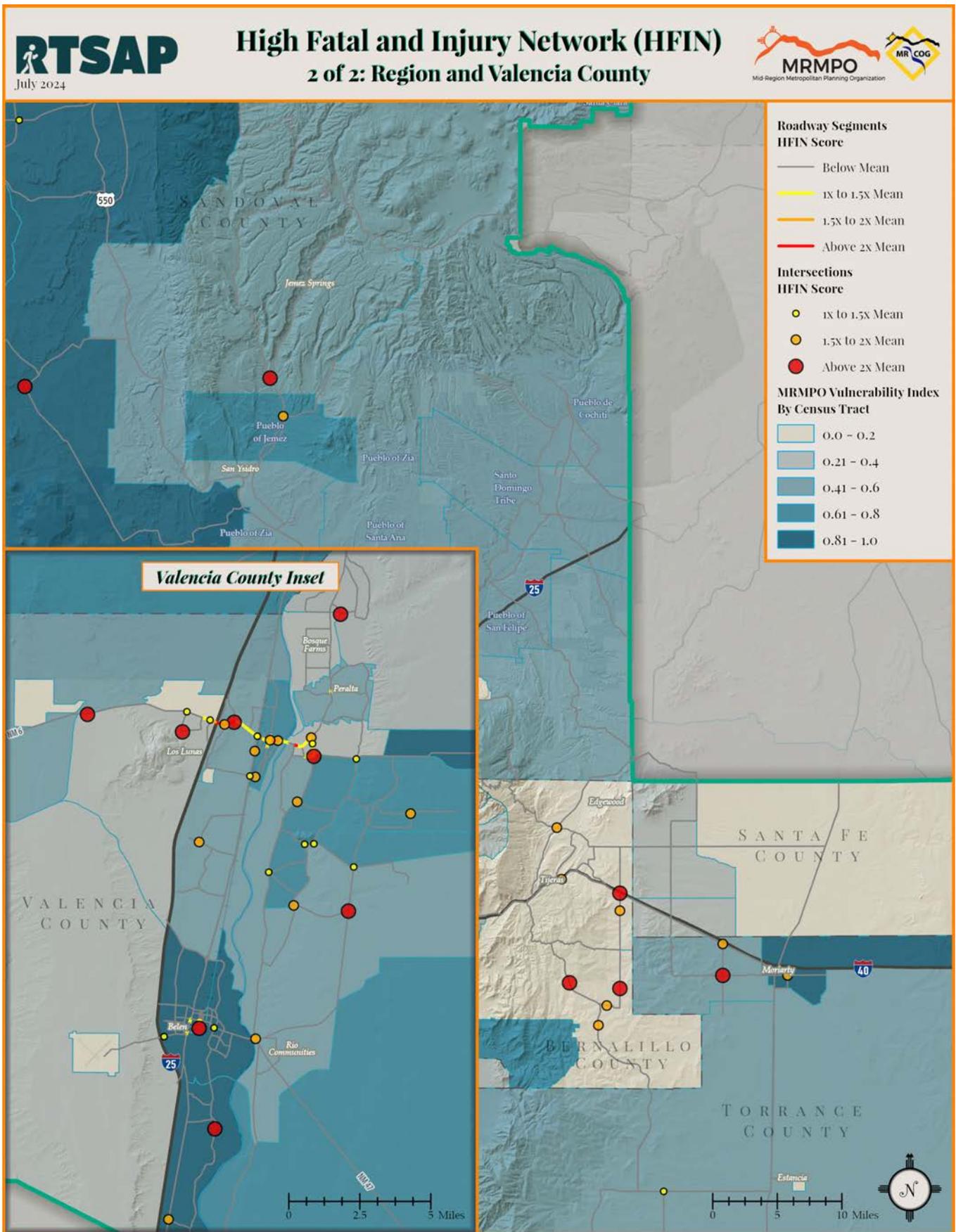


Figure 41. High Fatality and Injury Network (HFIN) in the Rural Areas

4. SELECTING REGIONAL PRIORITIES

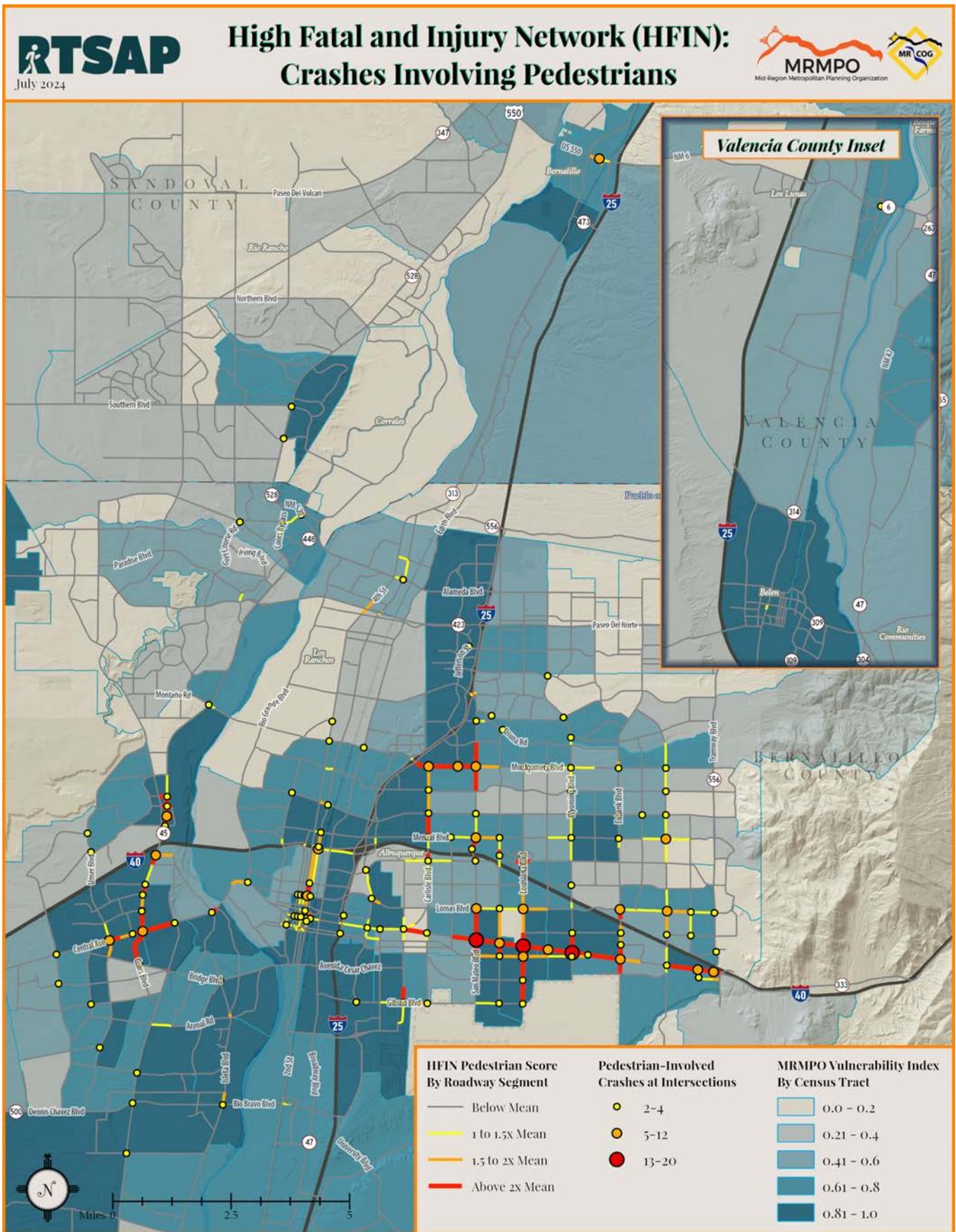


Figure 42. Pedestrian High Fatal and Injury Network (HFIN)

4. SELECTING REGIONAL PRIORITIES

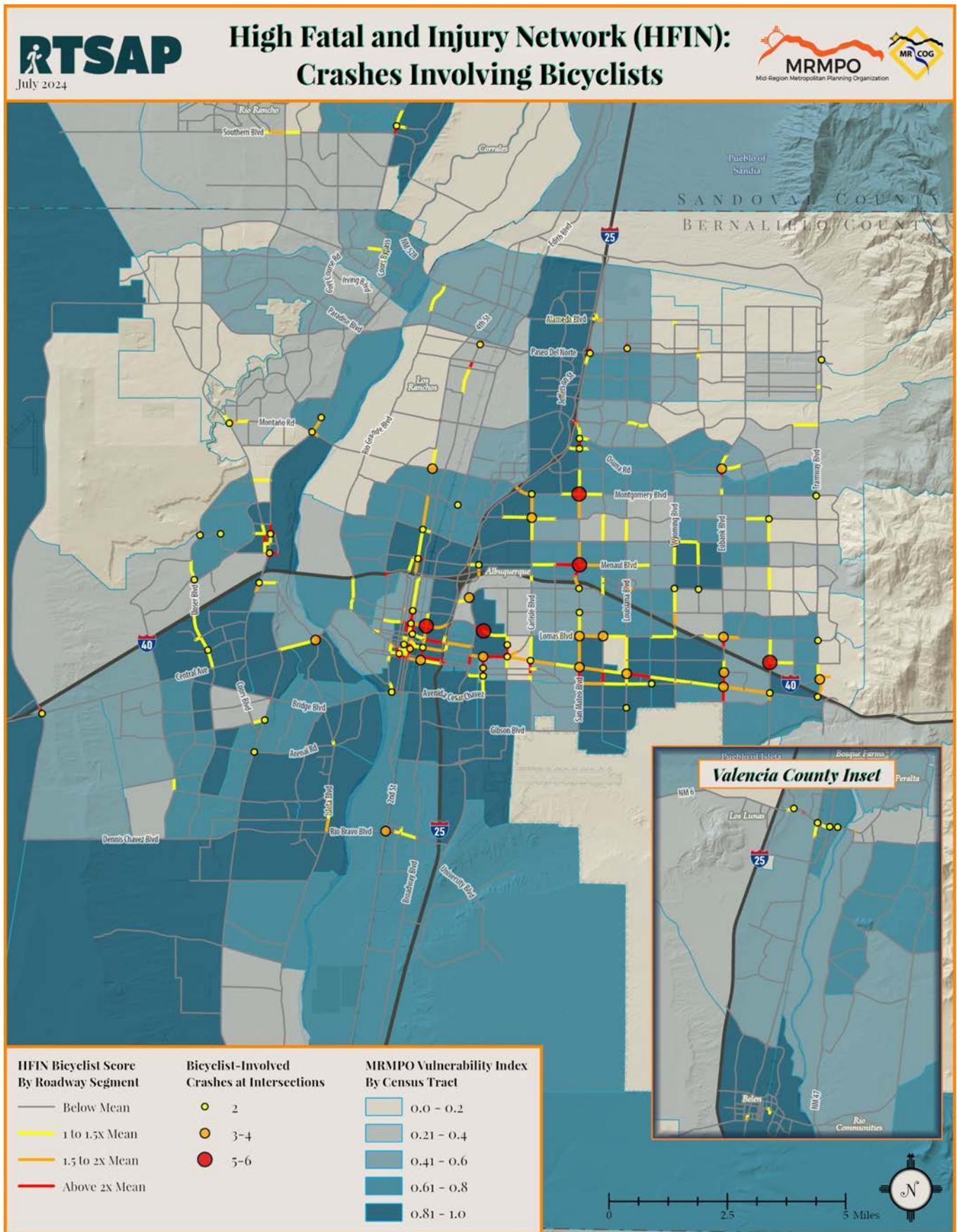


Figure 43. Bicyclist High Fatal and Injury Network (HFIN)

ROADWAY RECONFIGURATIONS

ROAD DIETS

Road Diets have proven to be an effective strategy for improving safety along a corridor. A Road Diet is essentially a reallocation of roadway space that aims to reduce speeding and improve infrastructure for other road users. The purpose of a Road Diet is to reconfigure streets to better serve the people who use them, whether they are motorists driving, shoppers walking, or people bicycling.

The most common type of Road Diet takes an undivided 4 lane roadway and reconfigures it into a 3 lane roadway with one travel lane in each direction and a two-way left turn lane in the center. This reconfiguration decreases conflict points and provides space for bicycle lanes or parking spaces in each direction of travel. The bike or parking lane also provides pedestrians with a traffic buffer increasing their comfort and safety on the roadside.

ROAD DIET INFORMATIONAL GUIDES

In 2014, the FHWA released its Road Diet Informational Guide, followed by the New Mexico Department of Transportation's Road Diet Guide in 2016. A Road Diet is an FHWA Proven Safety Countermeasure. In small urban areas with populations around 17,000 and roadways with traffic volumes up to 12,000 (daily volume), post-road-diet crashes dropped about 47%. In larger metropolitan areas with populations around 269,000 and roadways with traffic up to 24,000 (daily volume), the crash reduction was roughly 19%. **The combined estimate from the FHWA reviewed studies predict that accidents will decline an average of 29 percent after a 4-to-3 lane road diet.**



ROUTE 62 IN NEW YORK

SOURCE: PROJECT FOR PUBLIC SPACES

4. SELECTING REGIONAL PRIORITIES

ROAD DIET BENEFITS

Road diet benefits include an increase in bicycle and pedestrian traffic and sometimes a reduction in congestion. The addition of bike lanes and crossing islands can increase safety for bicyclists and pedestrians by improving crossing movements and providing a buffer from through traffic. Also, post-road diet vehicle speeds decline. This is especially true for speeders going more than five miles per hour over the limit. Traffic volumes, meanwhile, typically stay even in post road diet situations: some drivers are diverted to other parts of the street network.

Road Diets can be cost effective when compared to other more comprehensive types of retrofits. When timed with regular road maintenance and repaving where new lanes are re-stripped, they may be a lower-cost infrastructure improvement with a high impact on improving safety. Although not as cost-effective, road diets can also include reconstructing the road by moving curb lines and building or removing medians. On roads used by fewer than 20,000 vehicles per day, Road Diets have a minimal or even positive impact on vehicle capacity. Left-turning vehicles, delivery trucks, police enforcement, and stranded vehicles can move into a center lane or bike lane, which eliminates double-parking and reduces crash risks.

Central Avenue Road Diet

Central Avenue west of Downtown was given a Road Diet between 8th Street and San Pasquale in 2011. In the two years after the project was implemented, there was a two percent increase in overall crashes along the road diet corridor, but a **31% decrease in injury crashes**. For context, in the metro area as a whole, over the same time period the overall number of injury crashes in the region increased by 51%.

Most importantly, after the road diet, there were fewer crashes attributed to the most dangerous contributing factors, such as running red lights, speeding, and drivers improperly overtaking other motorists. Historical traffic data on the four segments subject to the reconfiguration show that average weekday traffic (AWDT) dipped slightly after the road diet (during a period coinciding with the Great Recession) and have since recovered to previous traffic levels.

4. SELECTING REGIONAL PRIORITIES

LANE DIETS

Improvements can sometimes also be made without removing travel lanes. In some cases, traffic lanes are wider than needed, which can induce speeding. In most urban areas, travel lanes may be as narrow as 9 feet, but it also depends on land use context and whether transit is present. By narrowing travel lanes more space can be provided for pedestrian buffers and wider bike lanes. A study done by Johns Hopkins Bloomberg School of Public Health found that narrower lanes in certain conditions can improve safety. In the speed class of 30-35 mph, “narrowing travel lanes is associated with significantly lower numbers of non-intersection traffic crashes.” Additionally, the study did not find evidence “that narrow lanes (9-foot and 10-foot) increase the risk of vehicle accidents.” More information about this study on the benefits of narrower lanes can be found here: <https://narrowlanes.americanhealth.jhu.edu>

BUSINESS ACCESS TRANSIT (BAT) LANE

A BAT lane is used along corridors with frequent transit service and provides increased transit reliability and improved access to businesses. The outside lane use is used for transit and business access. The BAT lane reduces conflicts during right-turn movements and, like Road Diets, creates a buffer between fast moving traffic and pedestrians.

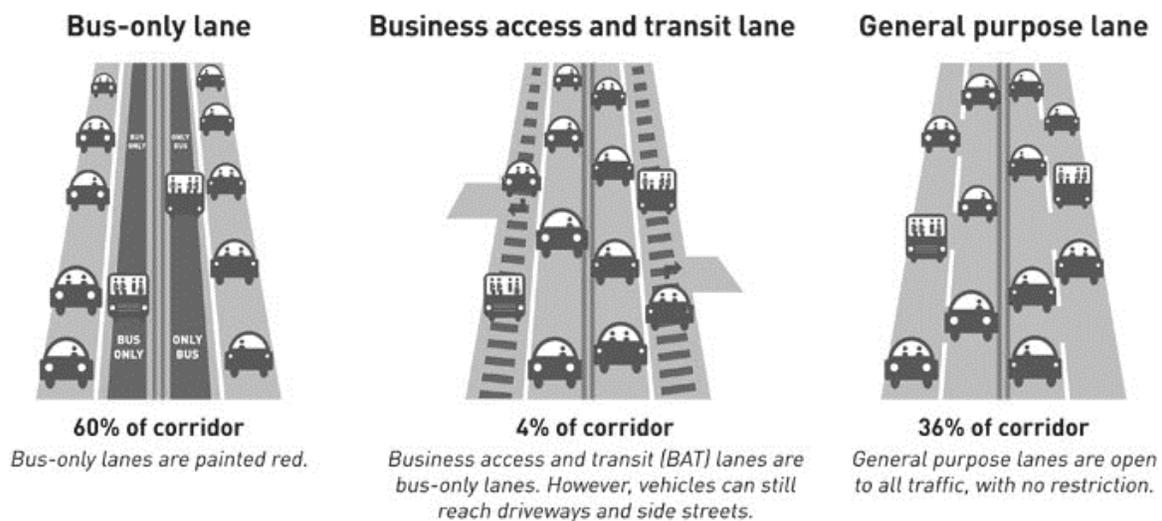


Figure 44. Bus-Only, Business Access Transit, and General Purpose Lanes

Source: <https://www.theurbanist.org/2016/08/15/how-to-earn-bus-rapid-transit-status/>

SELECTING ROAD DIET CANDIDATES

Each jurisdiction is likely to have a different land use context and roadway network that impacts the implementation of Road Diets. For example, some areas have a well-developed street grid that naturally supports travel for biking and walking and provides redundancy for driving, but in other locations there are limited travel options. Other challenges include community opposition or business access concerns. Strong leadership and knowledge of how these benefits may outweigh perceived negative impacts is needed to convey the benefits of Road Diets so that roadway safety can become a priority.

4. SELECTING REGIONAL PRIORITIES

The Potential Road Diet Candidates map included on the next page uses the latest available traffic volumes (2022). The determination of candidates is a data driven process that considers traffic volume and number of lanes on all major roads in the region. The Federal Highway Administration (FHWA) advises that roadways with 20,000 vehicles per day or less are appropriate candidates for road diets from 4 lanes to 3 lanes, but different agencies across the country have different thresholds that they find acceptable. MRMPO follows the FHWA suggestion of 20,000 Average Weekday Traffic (AWDT) as the upper limit for 4-to-3 lane changes but highlights roadways from 20,000 to 25,000 for 4 lane roadways as well. Many agencies throughout the U.S. have applied Road Diets to roadways up to 25,000 vehicles per day, and in some cases, like New York City, up to 30,000 AWDT.

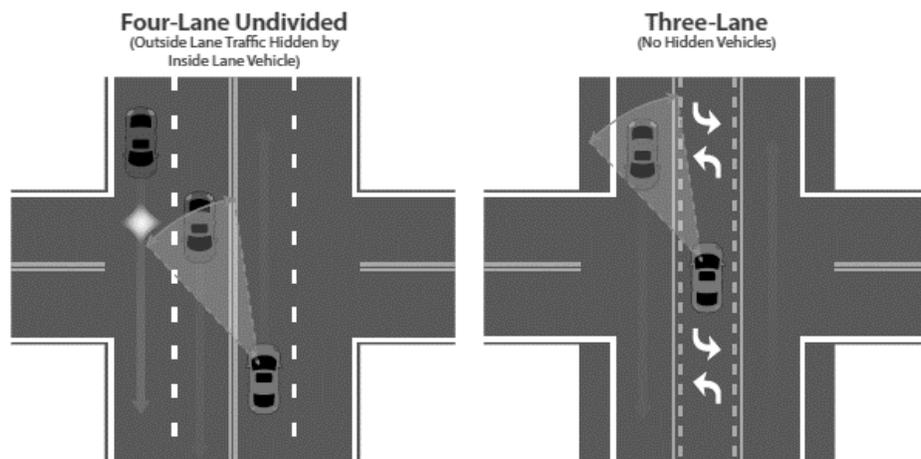


Figure 45. USDOT Four to Three Lane Road Diet

Source: https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch2.cfm

FIVE (5) LANE AND LARGER ROADWAYS

The FHWA does not have guidance on thresholds for converting 6 lane or larger roadways to 5 lanes (two lanes in each direction and a center turn lane). However, MRMPO analyses found that many 4 lane roads in the region support over 35,000 Average Daily Traffic (ADT). Furthermore, the average amount of traffic that existing 5 lane roadways holds in the region is 35,188 ADT. These two data points imply that converting a 6 lane roadway to a 5 lane roadway with 35,000 ADT is feasible. As a result, some considerations for reducing the number of lanes on 6 and 8 lane roadways to 5 lane roadways are provided using a threshold of a conservative 30,000 ADT.

PRIOR TO IMPLEMENTING A ROAD DIET

Before a Road Diet is undertaken, there should be further analysis of the corridor's suitability for roadway reconfigurations. Other considerations are the land use context, whether there is on-street parking or heavy transit use along the roadway, or if the project might fill a gap in the bike network. MRMPO recommends overlaying the HFIN corridors and intersections with the Potential Road Diet Candidates map and taking a look at proposed facilities on long range networks to develop priorities. Nevertheless, when a road does not experience above average crashes, implementing a road diet may still be a good decision to incur the benefits of facilities for bicyclists or transit, and more protection for pedestrians.

4. SELECTING REGIONAL PRIORITIES

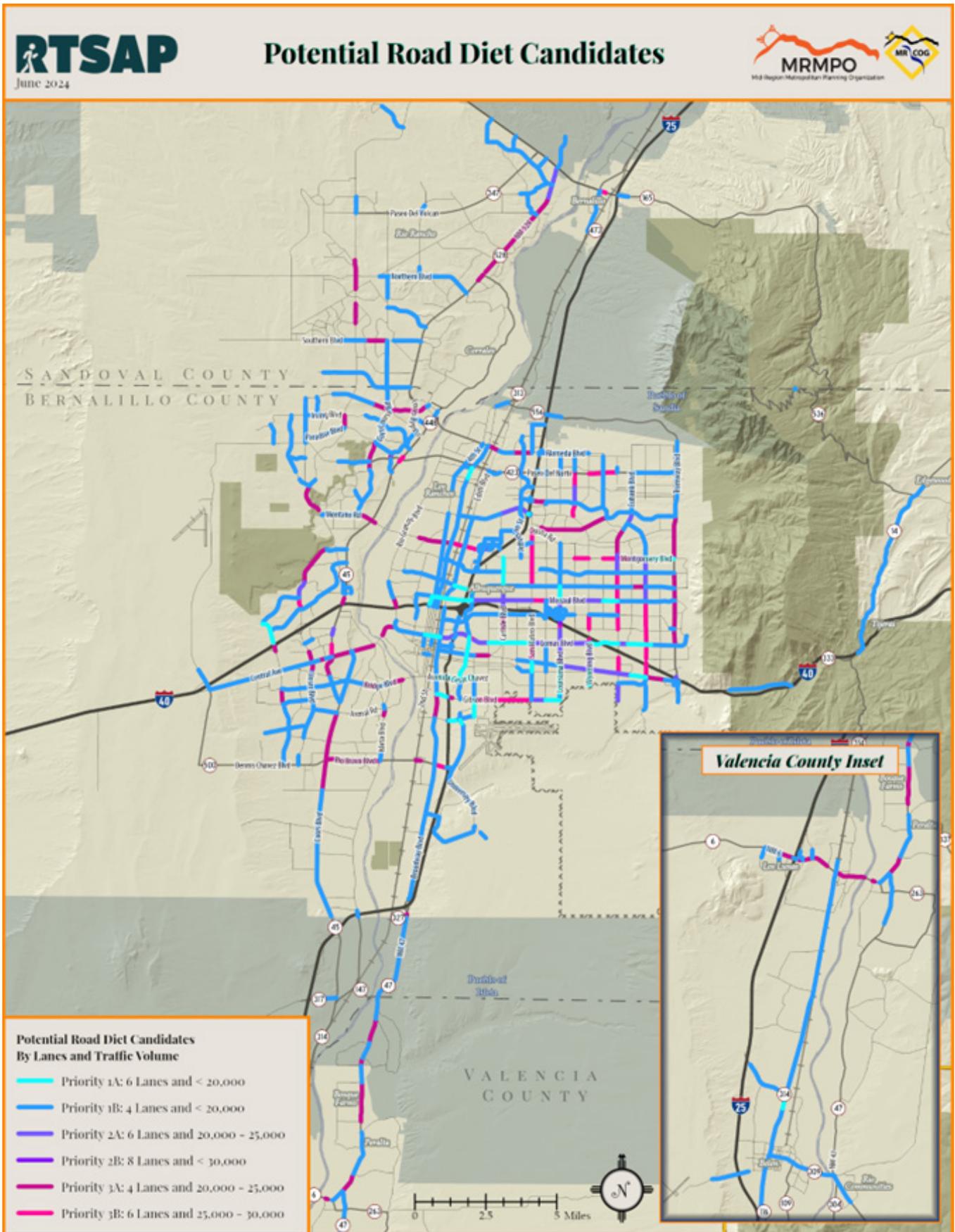


Figure 46. Potential Road Diet Candidates

AREA SAFETY PROFILES AND SITE VISITS

MRMPO developed these profiles to highlight local issues that emerged from the crash data for smaller areas. These profiles identify intersections, corridors, and contributing factors that might otherwise go unnoticed and include local knowledge of transportation safety issues. In some cases, site visits are incorporated when staff was invited to review a location identified as a local safety concern.

The following Area Safety Profiles do not reflect every community in the region, however; MRMPO is committed to continuing to provide this type of support to local communities. These Area Safety Profiles primarily focus on the more rural and Tribal areas of the region; however, a profile was also done in the International District to provide insight into equity concerns.

The current profiles include: City of Belen, Village of Corrales, Town of Edgewood, the International District, Village of Los Lunas, Pueblo de Cochiti, Pueblo of Jemez, Sandoval County, Torrance County, Town of Bernalillo, and Valencia County (Figures 47 to 57). Each profile provided in the following pages includes charts, tables, and accompanying maps that show crash data priorities and the location of community destinations that would ideally be supported by active transportation facilities.



Some information to note about the data follows. Class A injuries identified in these Area Safety Profiles are seriously incapacitating injuries where the person likely needed to be transferred to a hospital and it is unknown if they survived. Top Contributing Factor (TCF) data is only available for 3 of the 5 years of crash data. The term Auto in the following charts refers to small and large motorized vehicles. When priority intersections and corridors are identified they are selected from the HFIN, which is regional in nature so they focus on major roads and the intersections of these major roads. There may be safety concerns that are more local that aren't captured by the crash dataset used in this plan, but are contained in local knowledge or additional crash datasets not currently available to the MRCOG.

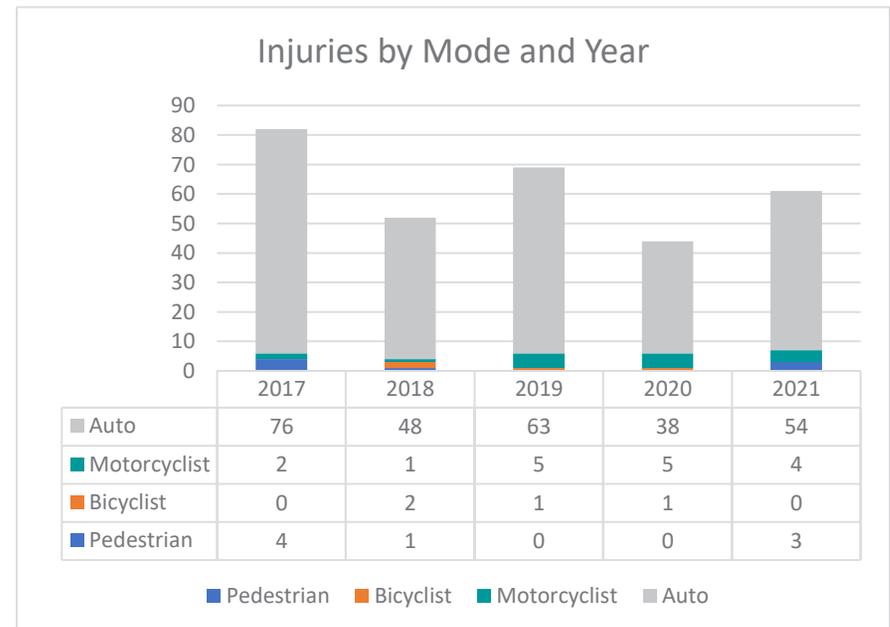
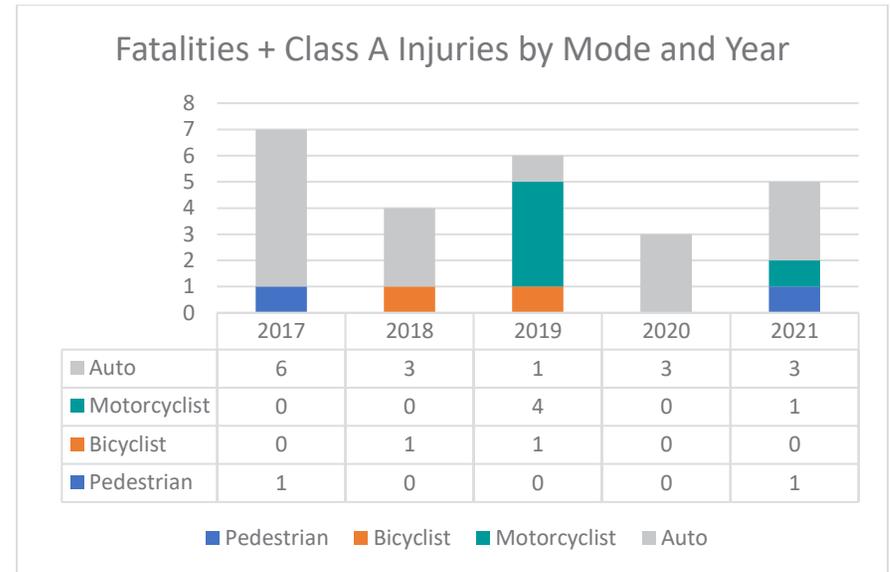
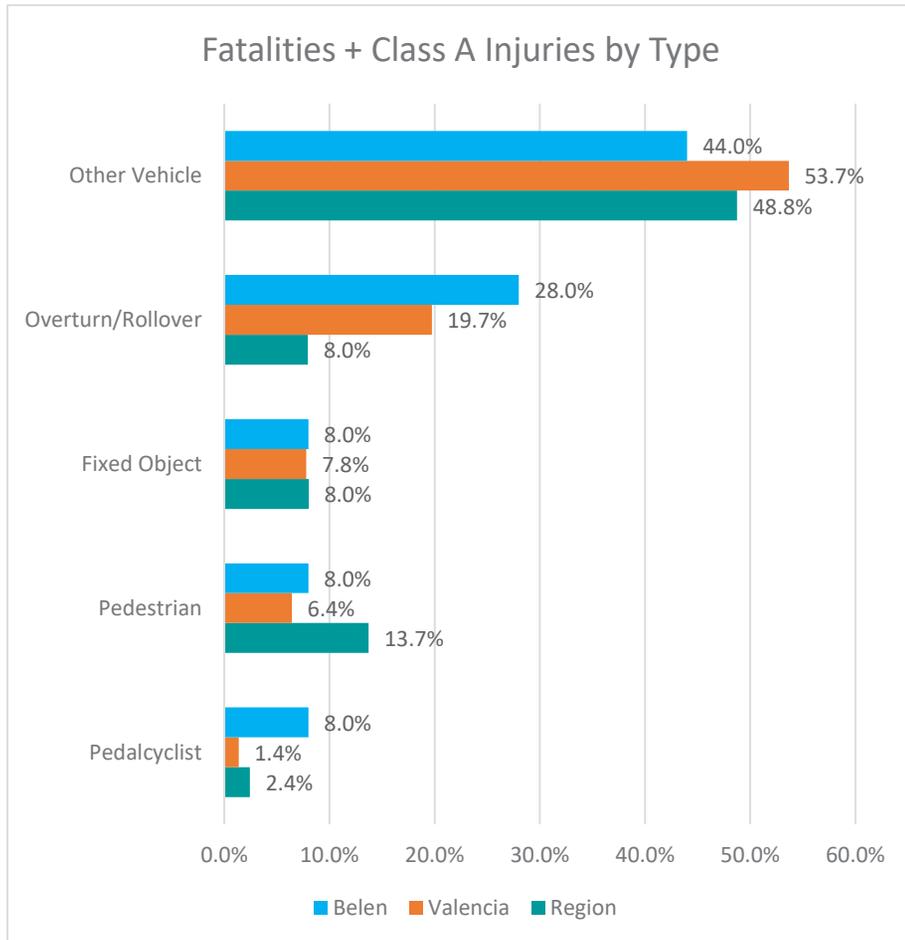
The following Safety Profiles are also presented as a stand-alone document in Appendix C.

City of Belen Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

Belen has witnessed five fatal crashes over the 5-year period spanning from 2017 to 2021. In both 2017 and 2019, these crashes were linked to excessive speeding – the first claiming the life of an automobile occupant, and the second resulting in the loss of a motorcyclist. In 2020, another fatality occurred due to a collision between two automobiles. The year 2021 includes two additional fatal incidents: the first involved a pedestrian struck by an automobile, while the second was a single-vehicle rollover that claimed the life of the driver. All these devastating crashes unfolded along the same stretch of road encompassing Main Street, N.M. 314, and I-25.

Compared to Valencia County and the surrounding region, Belen experiences significantly higher rates of fatalities and Class A injuries due to Overturns/Rollovers and crashes involving cyclists. Additionally, in 2019, Belen saw a spike in motorcyclist related fatalities and Class A injuries, while overall motorcyclist injuries increased as well.



Top Intersections and Corridors

The high-risk intersections are dispersed throughout the City of Belen. These locations include major intersections such as N.M. 116 and Main Street and Reinken and Main Street, as well as local roadway intersections like Baca Avenue and Third Street in addition to Camino Del Llano and Christopher.

Several severe (Class A) injuries took place on Main Street, Reinken Avenue and N.M. 309/Reinken – the primary corridors for the city. Many crashes occurred right around the conjunction of these roadways. The entire stretch of Main Street had a total of 223 injuries (10 of which were severe) and 3 fatalities. Along N.M. 309/Reinken, there were no fatalities but 117 injuries (6 of which were severe).

Potential Road Diet Candidates

Corridor	Road Diet Type
MAIN ST. (FAP LOOP)	Priority 1B: 4 Lanes under 20,000
N.M. 309/REINKEN AVE.	Priority 1B: 4 Lanes under 20,000
CAMINO DEL LLANO	Priority 1B: 4 Lanes under 20,000

High Priority Maps

The crash data map demonstrates how high-risk Main Street and N.M. 309/Reinken Avenue are, especially where they intersect. For both roadways, most of their segments are above 1.5 times the local High Fatal Injury Network (HFIN) mean. Many injury crashes are also at the intersection. Other dangerous corridors highlighted on the map include Aragon Road, Wisconsin Street, and Camino Del Llano, which have many segments exceeding 1.5 times the local HFIN mean.

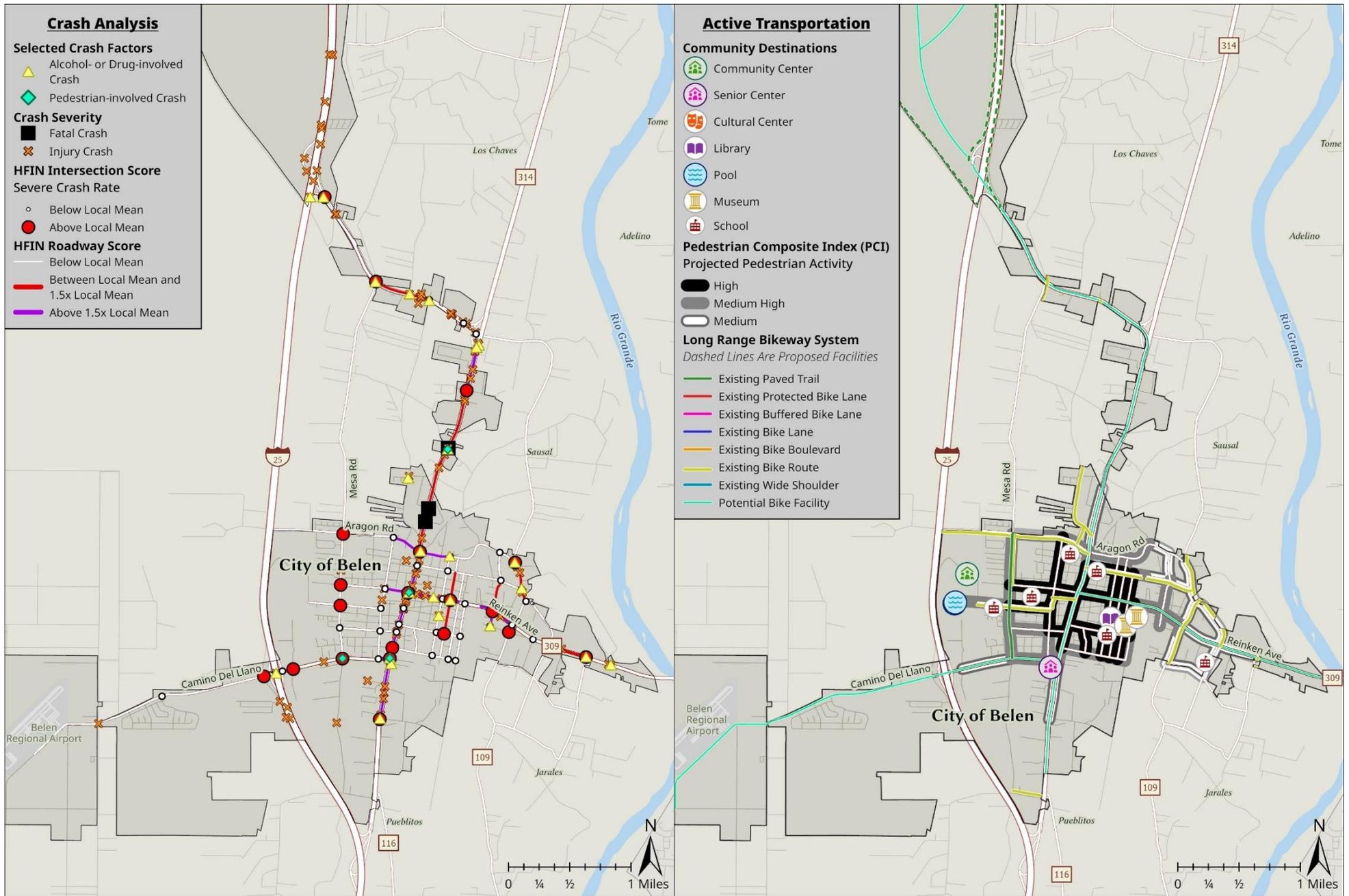
Belen has a large amount of foot traffic, bicycle facilities, and community destinations throughout the city. Given this prevalence of multimodal transportation options, various safety initiatives are needed to ensure Belen’s roadways are safe for all users.

INTERSECTIONS

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
BACA AVE	THIRD STREET	1	666	0.85
NM 109	E RIVER RD	2	2,169.5	0.51
CAMINO DEL LLANO	CHRISTOPHER	6	6,264.5	0.47
N.M. 116	MAIN ST.	6	7,371.5	0.38
REINKEN (N.M. 309)	MAIN ST.	19	25,605	0.34

CORRIDORS

Corridor	Location	Killed	Injuries	Speed	Lanes
MAIN ST. (FAP LOOP)	NORTH OF BECKER AVENUE - SOUTH OF REINKEN (N.M. 309)	0	25	45	4
MAIN ST. (FAP LOOP)	NORTH OF CAMINO DEL LLANO - SOUTH OF BERNARD AVE.	0	17	35	4
N.M. 309/REINKEN AVE.	EAST OF FOURTH ST. - WEST OF THIRD ST.	0	11	35	3
CAMINO DEL LLANO	EAST OF 10TH STREET - WEST OF MAIN STREET	0	12	30	2
N.M. 309/REINKEN AVE.	EAST OF MAIN ST. - WEST OF FOURTH ST.	0	34	35	4



Top Contributing Factors (TCF)

Between 2017 and 2019 Following Too Closely resulted in 2 deaths and 2 seriously incapacitating (Class A) injuries. This primary top contributing factor for severe crashes in Belen stands out as an anomaly compared to both Valencia County and the broader region. Additionally, Avoiding Contact and Passing Stop Signs were the second and third highest contributing factors leading to serious injuries, further deviating from the norm in Valencia and the surrounding area. Typically, the most common top contributing factors include Alcohol/Drug Involvement, Excessive Speeding, Failure to Yield Right of Way, or Driver Inattention. Belen’s unique pattern sets it apart from other jurisdictions in the region.

Top Contributing Factor	Belen				Valencia				Region			
	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of Total	Injured	% of Total
Following Too Closely	4	25.0%	12	5.9%	5	3.4%	182	10.7%	92	4.9%	3251	10.9%
Avoid Contact	3	18.8%	7	3.4%	1	0.7%	43	2.5%	45	2.4%	807	2.7%
Passed Stop Sign	3	18.8%	3	1.5%	1	0.7%	28	1.6%	29	1.5%	553	1.8%
Excessive Speed	2	12.5%	27	13.3%	20	13.7%	222	13.0%	215	11.4%	2626	8.8%
Failed to Yield Right of Way	1	6.3%	46	22.7%	24	16.4%	335	19.7%	271	14.3%	5828	19.5%
Driver Inattention	1	6.3%	35	17.2%	22	15.1%	293	17.2%	208	11.0%	6927	23.1%
Other	1	6.3%	8	3.9%	3	2.1%	52	3.1%	54	2.9%	594	2.0%
Drove Left Of Center	1	6.3%	4	2.0%	5	3.4%	44	2.6%	45	2.4%	253	0.8%
Alcohol Drug Involved	0	0.0%	28	13.8%	38	26.0%	149	8.8%	441	23.3%	1954	6.5%
Improper Driving	0	0.0%	13	6.4%	5	3.4%	147	8.6%	110	5.8%	1980	6.6%
None Identified	0	0.0%	11	5.4%	10	6.8%	118	6.9%	85	4.5%	1190	4.0%
Mechanical or Road Defect	0	0.0%	5	2.5%	3	2.1%	45	2.6%	30	1.6%	569	1.9%
Disregard Traffic Signal	0	0.0%	2	1.0%	4	2.7%	36	2.1%	165	8.7%	3034	10.1%
Pedestrian Error	0	0.0%	1	0.5%	5	3.4%	6	0.4%	95	5.0%	304	1.0%
Bicyclist Error	0	0.0%	1	0.5%	0	0.0%	1	0.1%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	1	0.1%	0	0.0%	16	0.1%
Total	16	100.0%	203	100.0%	146	100.0%	1702	100.0%	1890	100.0%	29945	100.0%

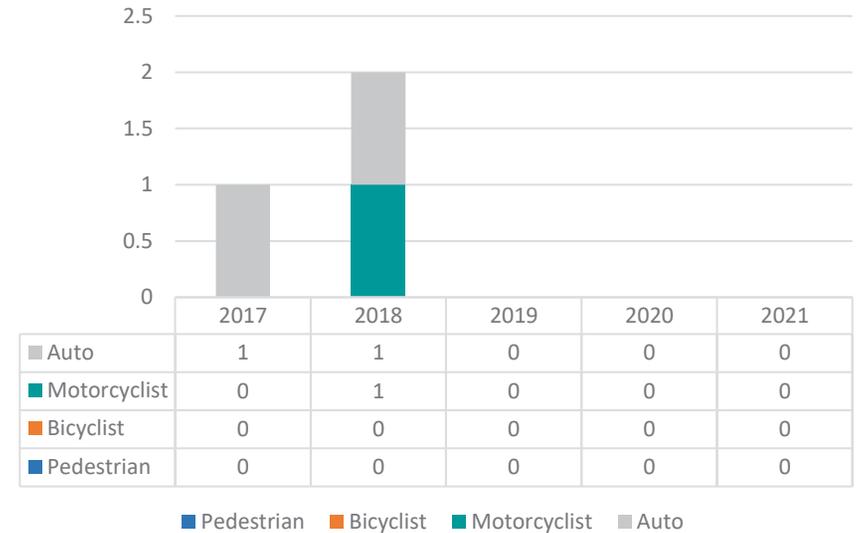
Village of Corrales Area Safety Profile

Fatal by Mode and Class (2017 to 2021)

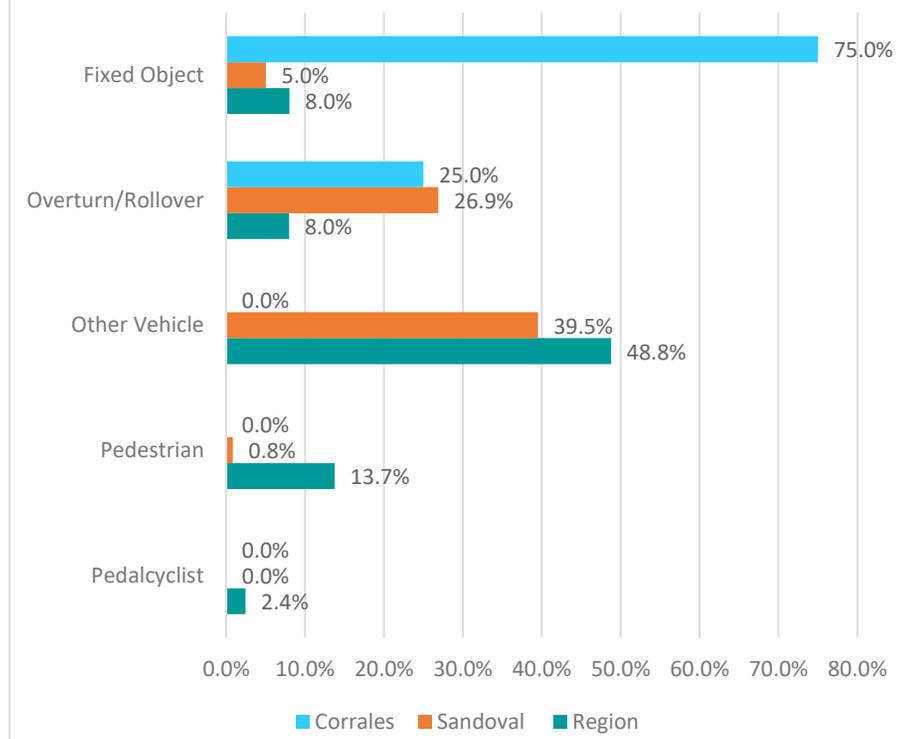
Corrales, with its modest population of 8,493 as per the 2020 Census, experienced three fatal crashes over a span of five years, each involving drugs and/or alcohol. All three were collisions with fixed objects. The first two involved vehicles and the third a motorcycle. All three fatalities occurred on Corrales Road.

Corrales has fewer severe crashes involving vehicle overturns or rollovers compared to the region. However, it has more collisions with fixed objects. The difference may be because of the road characteristics. Corrales has narrow roads lined with trees, walls, and other barriers. So, vehicles that veer off the road, for example, because of speeding or substance involvement are more likely to hit these objects instead of resulting in a rollover.

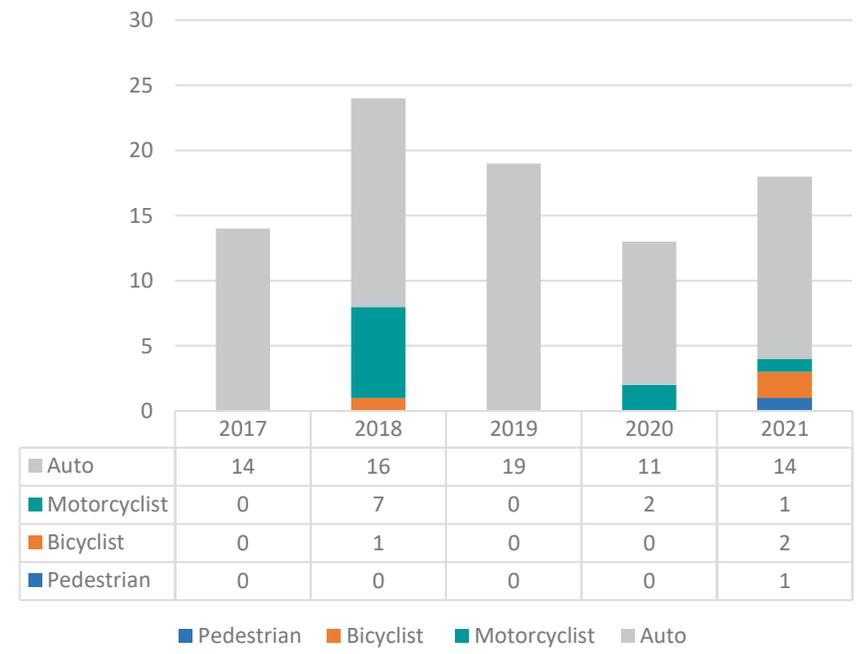
Fatalities + Class A Injuries by Mode and Year



Fatalities + Class A Injuries by Type



Injuries by Mode and Year



Top Intersections and Corridors

Corrales Road and Loma Larga Road are the primary locations for the most dangerous intersections. These intersections, particularly where they cross Meadowlark Lane, have more severe crashes. A total of 36 crashes occurred at these intersections, resulting in 8 severe injuries. These figures underscore the need for increased safety measures at these specific locations.

Certain corridors also stand out for their high number of severe crashes. Don Julio Road, for instance, has seen 40 injuries from crashes within a five-year period. Additionally, multiple segments along Corrales Road and Loma Larga Road have also reported a high number of injuries, with 51 and 9 injuries respectively.

High Priority Maps

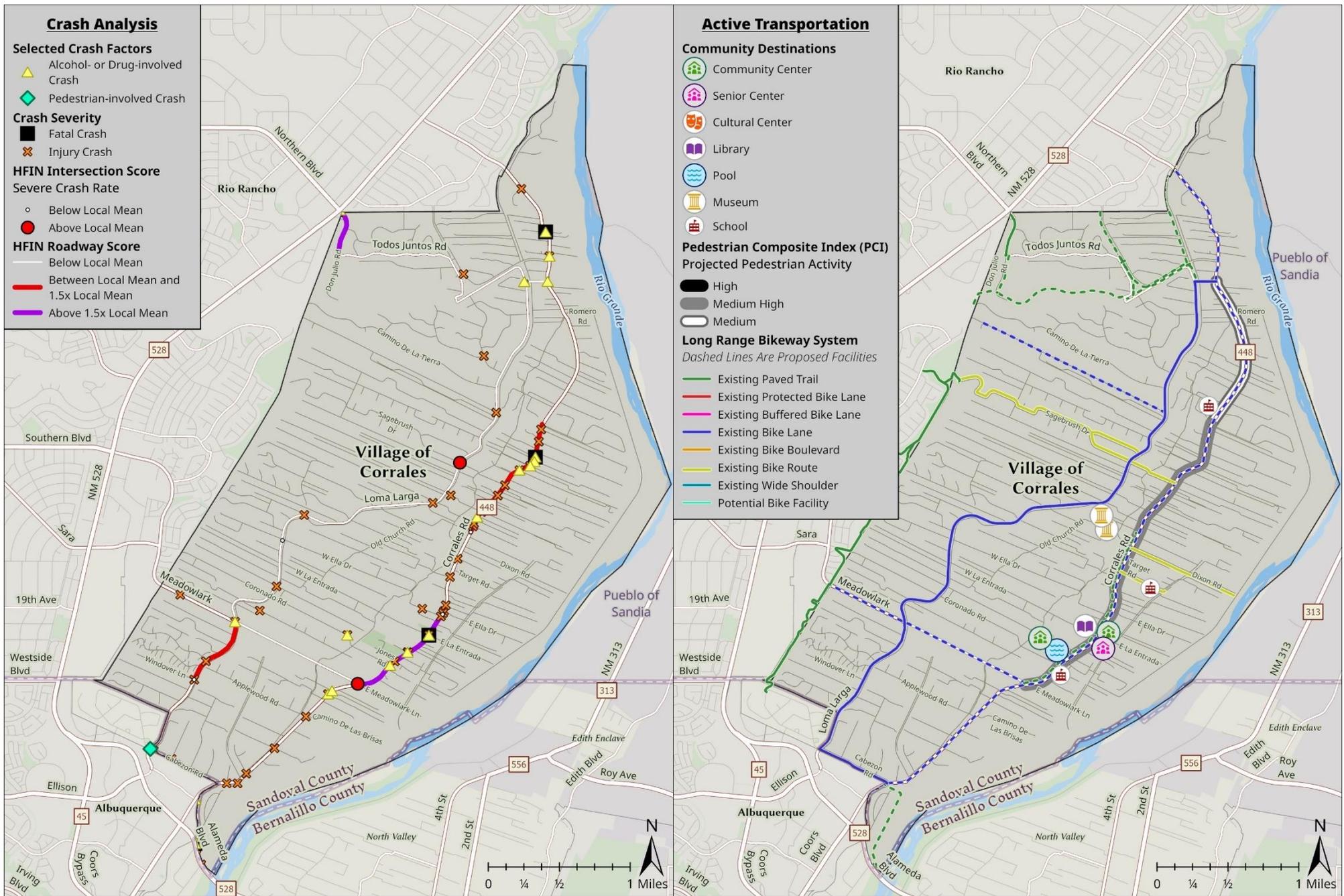
The map shows the High Fatal and Injury Network (HFIN) corridors and intersections that are above mean for the Village of Corrales. An analysis of crash distribution reveals that all fatal incidents, along with numerous severe (Class A) injuries, took place on Corrales Road. Loma Larga Road also accounted for a significant proportion of severe injuries. This pattern aligns with the fact that these two corridors contain most of the Village’s traffic. A couple of segments along Corrales Road stand out with a higher number of severe crashes. These corridors house numerous key destinations, including schools, museums, and cultural centers. Ensuring the safety of these bustling areas for pedestrians, cyclists, and drivers alike is of utmost importance for safety.

INTERSECTIONS

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
LOMA LARGA RD	SAGEBRUSH DR	3	1,898	0.86
CORRALES RD	MEADOWLARK LN	4	12,158.5	0.18
CORRALES RD	ELLA DR	3	5,601	0.16
LOMA LARGA RD	WINDOVER RD	2	7,160	0.15
MEADOWLARK LN.	LOMA LARGA RD.	2	9,172.5	0.12

CORRIDORS

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
DON JULIO RD.	NORTH OF TODOS JUNTOS RD. - SE OF N.M. 528	0	0	40	25	2
CORRALES ROAD	NORTHEAST OF MEADOW LARK - SOUTH OF WEST ELLA DR.	1	1	21	35	2
CORRALES ROAD	NORTH OF CALLE CUERVO - SOUTH OF MEADOW LARK	0	0	16	35	2
CORRALES ROAD	NORTH OF SAN YSIDRO - SOUTH OF CAMINO DE LUCA	1	0	14	30	2
LOMA LARGA	N. OF OLD BERN/SAND C.L. - SOUTH OF MEADOW LARK	0	0	9	30	2



Top Contributing Factor (TCF)

Between 2017 and 2019, 3 fatalities and 10 injuries were linked to drugs and/or alcohol, and 10 injuries were related to speeding, emphasizing the importance of comprehensive crash analysis and prevention strategies. The TCF (Top Contributing Factor) for fatal crashes is Alcohol / Drug Involved at 75%, with the remaining 25% identified as Following too Closely. Driver Inattention is identified as the Top Contributing Factor of crash related injuries, resulting in 17 injuries. Excessive Speeding is second, contributing to 10 injuries, while Following Too Closely is a close third with 9 injuries.

Top Contributing Factor	Corrales				Sandoval				Region			
	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of total	Injured	% of total
Alcohol Drug Involved	3	75.0%	10	11.5%	25	34.7%	56	13.5%	441	23.3%	1954	6.5%
Following Too Closely	1	25.0%	9	10.3%	2	2.8%	31	7.5%	92	4.9%	3251	10.9%
Driver Inattention	0	0.0%	17	19.5%	4	5.6%	62	14.9%	208	11.0%	6927	23.1%
Excessive Speed	0	0.0%	10	11.5%	17	23.6%	90	21.6%	215	11.4%	2626	8.8%
Improper Driving	0	0.0%	3	3.4%	4	5.6%	29	7.0%	110	5.8%	1980	6.6%
Other	0	0.0%	3	3.4%	7	9.7%	51	12.3%	54	2.9%	594	2.0%
Failed to Yield Right of Way	0	0.0%	2	2.3%	0	0.0%	21	5.0%	271	14.3%	5828	19.5%
None Identified	0	0.0%	2	2.3%	2	2.8%	35	8.4%	85	4.5%	1190	4.0%
Avoid Contact	0	0.0%	1	1.1%	2	2.8%	18	4.3%	45	2.4%	807	2.7%
Disregard Traffic Signal	0	0.0%	0	0.0%	0	0.0%	0	0.0%	165	8.7%	3034	10.1%
Pedestrian Error	0	0.0%	0	0.0%	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Drove Left Of Center	0	0.0%	0	0.0%	8	11.1%	9	2.2%	45	2.4%	253	0.8%
Mechanical or Road Defect	0	0.0%	0	0.0%	1	1.4%	13	3.1%	30	1.6%	569	1.9%
Passed Stop Sign	0	0.0%	0	0.0%	0	0.0%	1	0.2%	29	1.5%	553	1.8%
Bicyclist Error	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	4	100.0%	87	100.0%	72	100.0%	416	100.0%	1890	100.0%	29945	100.0%

Local Concerns

Based on feedback from local representatives for the Village of Corrales, it was noted that excessive speeding is a frequent issue and that there is a need to implement more traffic calming measures. Safety strategies, particularly for deterring lane departures, would also be beneficial. A significant number of crashes occur at the peripheries of Corrales, where vehicles frequently enter and exit.

The Village is home to a considerable older demographic. City officials are keen on promoting outdoor activities among these residents, with a particular emphasis on ensuring their safety during walks around the community.

Furthermore, there's an initiative to boost the currently low local bus ridership. As new facilities are being constructed, the need for safe passageways to these destinations becomes increasingly important.

Other public comments obtained through the RTSAP survey process included a concern for having enough space for bicyclists along roadways and for more pedestrian crossings.

Collaborative Effort

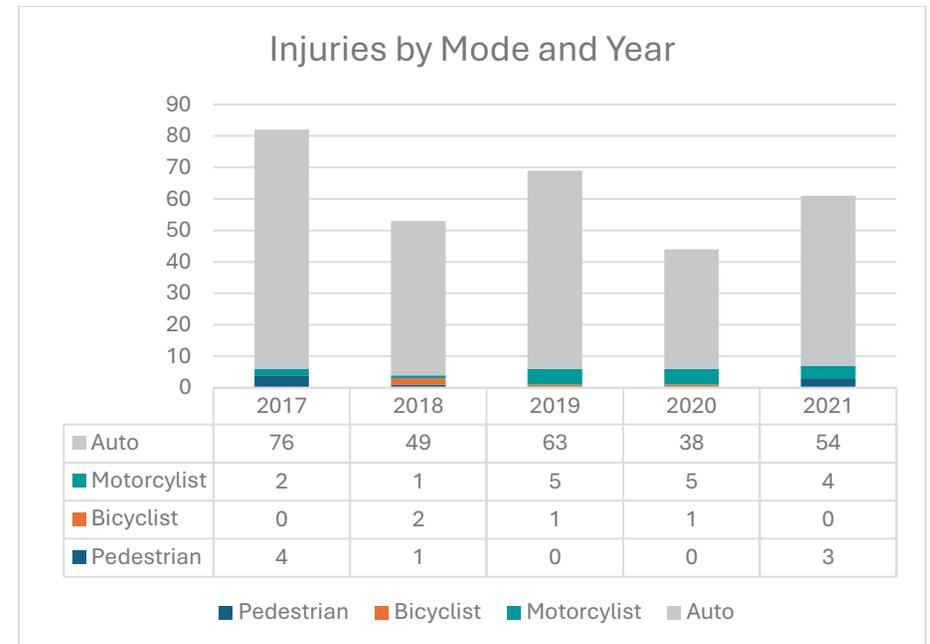
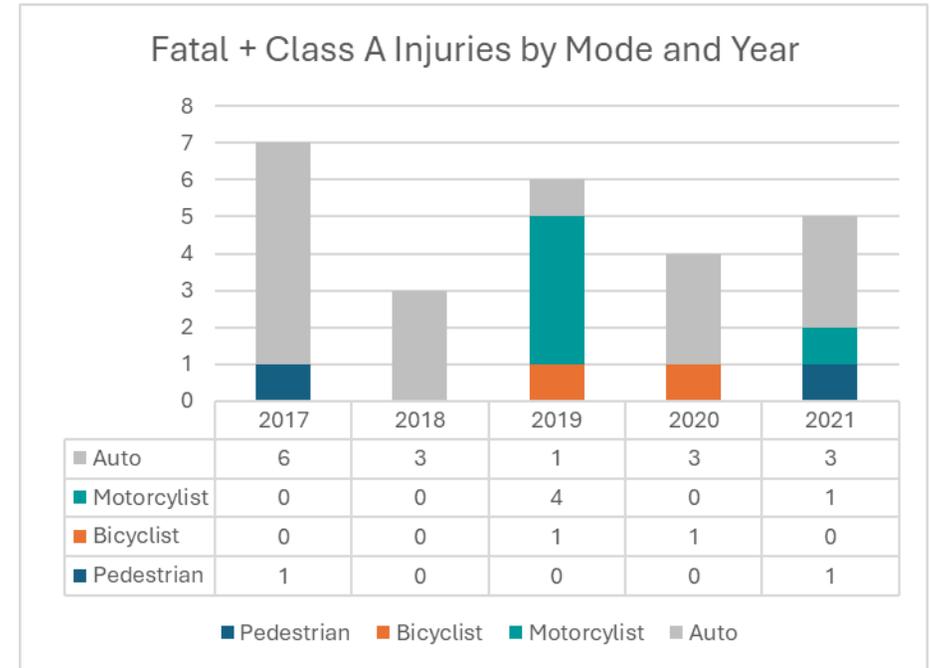
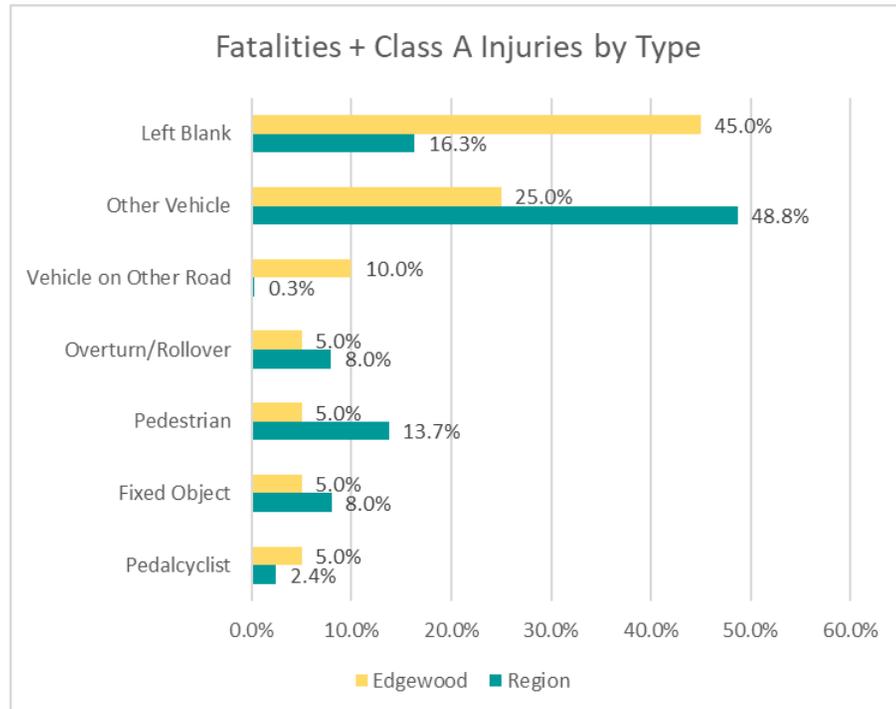
Corrales Road is owned by the New Mexico Department of Transportation and there are a few schools along this roadway, which means that for future safety strategies to be implemented there needs to be a coordinated effort among the NMDOT and the school administration. Entry and exit points to Corrales are owned by Rio Rancho to the West and North and Bernalillo County and the City of Albuquerque to the South.

Town of Edgewood Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

Crash data for the Town of Edgewood reveals some interesting trends. The first and most apparent observation is that 45% of the crashes have been left blank for their Class Type. This means that nearly half of the crashes in the town lack data. Notably, the class type Vehicle on Other Road stands out as a significant statistic for Edgewood, accounting for 10% of overall fatalities and Class A injuries.

Unlike other areas, Edgewood has experienced a very high rate of motorcyclist crashes. This trend is particularly evident between 2019 and 2021. In 2019, there were 4 motorcyclist fatalities/Class A injuries, constituting 66.6% of all fatalities and Class A injuries for Edgewood that year. Additionally, during the three-year period, 14 motorcyclists were injured, with an additional 2 incidents in 2017. Although motorcyclists represent a small share of overall traffic, these statistics highlight their high risk in this area.



Top Intersections and Corridors

The most at-risk locations in the Town of Edgewood are almost all along the highways or interchanges. These corridors are the only ones listed on the HFIN (High-Frequency Injury Network). According to the US Census Bureau, the Town of Edgewood had a population of 6,117 in 2022. Given this small population, it's likely that most traffic passing through the area is for commuting and primarily confined to the interstate. Consequently, it's no surprise that by far the most incidents have occurred on N.M. 333 and N.M. 344, the two main thoroughfares in Edgewood. Along N.M. 333, there have been 3 fatalities and 47 injuries (1 being Class A). Along N.M. 344, there has been 1 fatality and 41 injuries.

High Priority Maps

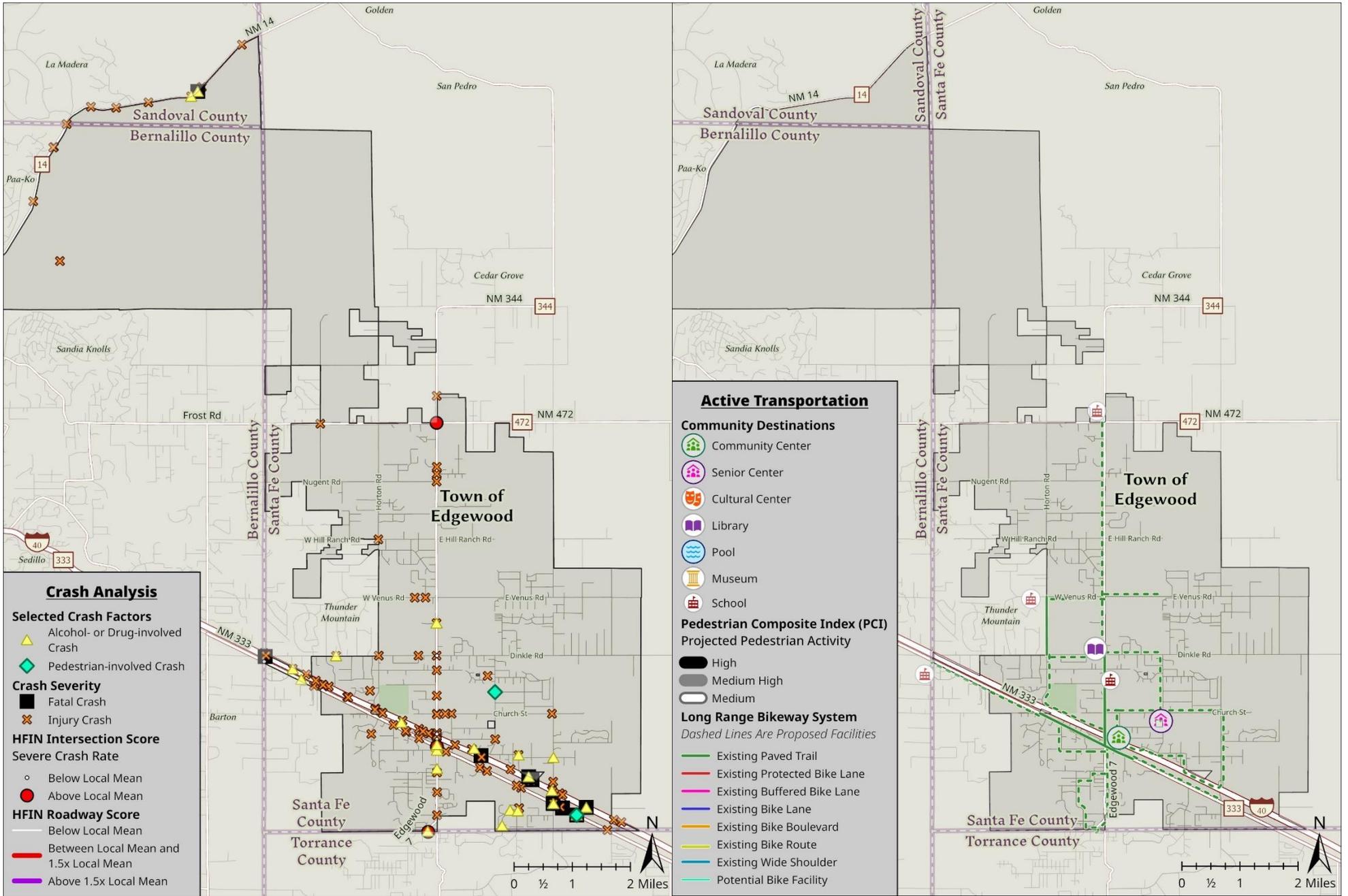
The Crash Analysis map shows the concentration of crashes along N.M. 333 and N.M. 344. The only stretch of roadway that exceeds the local HFIN (High-Frequency Injury Network) mean is the segment between N.M. 333 and I-40. It's important to note that while the majority of crashes in Edgewood occurred along I-40, these numbers are not reflected in the top HFIN intersections and corridors for the town because Edgewood lacks jurisdiction over the Interstate. However, traffic feeding into I-40 could be a significant contributing factor to crashes, as they appear to concentrate near the junction.

INTERSECTIONS

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
N.M. 333	N.M. 344	8	15,354	0.28
N.M. 333	N.M. 344	7	15,354	0.24
N.M. 472	FROST RD	1	2,454.5	0.19
	EDGEWOOD			
N.M. 344	INTCH	2	16,342.5	0.06
N.M. 344	DINKLE RD	1	12,684	0.04
	EDGEWOOD			
N.M. 344	INTCH	1	13,854	0.04

CORRIDORS

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
N.M. 333	SOUTHEAST OF N.M. 344 - SANTA FE/TORRANCE C.L.	3	1	29	55	2
N.M. 333	BERNALILLO/SANTA FE C.L. - NORTHWEST OF N.M. 344	0	2	18	55	2
EDGEWOOD D 7	NORTH OF MARTINEZ RD. - SOUTH OF N.M. 333	0	0	18	30	2
N.M. 344	NORTH OF DINKLE RD. - SOUTH OF N.M. 472	0	0	12	55	2
N.M. 344	NORTH OF N.M. 333 - SOUTH OF EDGEWOOD SOUTH RAMPS	0	0	12	55	2
N.M. 14	BERN/SAND C.L. - SAND/ SANTA FE C.L. (AMPA)	1	1	9	55	2



Top Contributing Factor (TCF)

Excessive Speeding, like in many other areas in the region, is the top contributing factor for both fatalities, Class A injuries, and overall injuries in Edgewood. This factor accounts for approximately a quarter of all fatal/injury crashes in the town, which is significantly higher than similar Excessive Speeding incidents in the rest of the region. Failure to Yield Right of Way is another factor that stands out. Although it hasn't contributed to any fatalities or Class A injuries, it has accounted for 14% of total injuries in Edgewood. Interestingly, Alcohol Drug Involved, which is typically the highest contributing factor for fatalities and Class A injuries, doesn't hold the same prominence here. It remains relevant but has much lower rates compared to other municipalities and tribal areas. Despite the smaller sample size, the top contributing factors reveal that many of Edgewood's crash trends align with the rest of the region. Excessive Speeding, Following Too Closely, Driver Inattention, and Alcohol Drug Involved remain the main concerns.

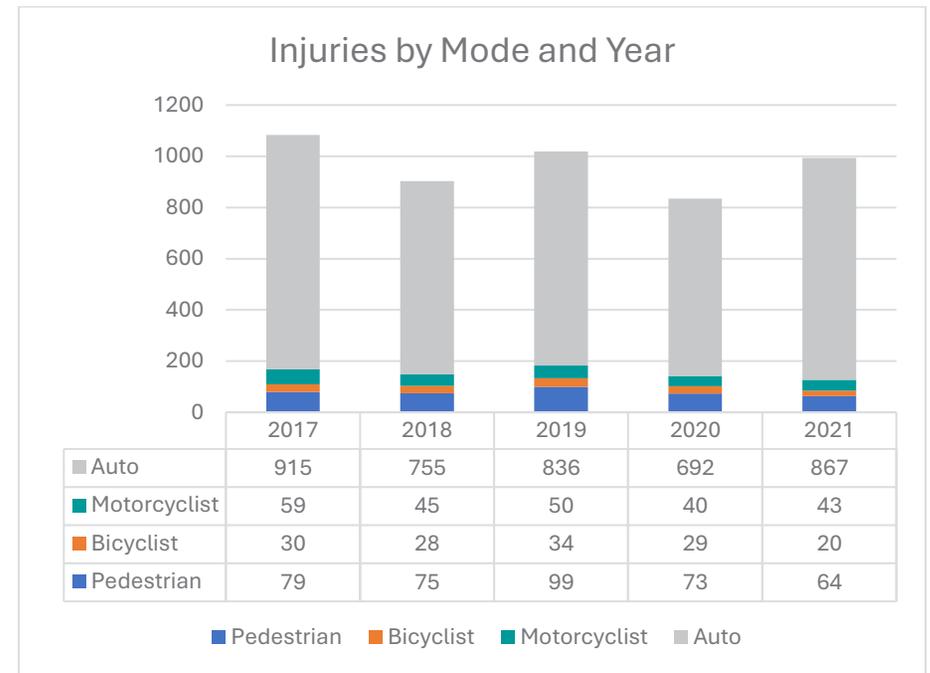
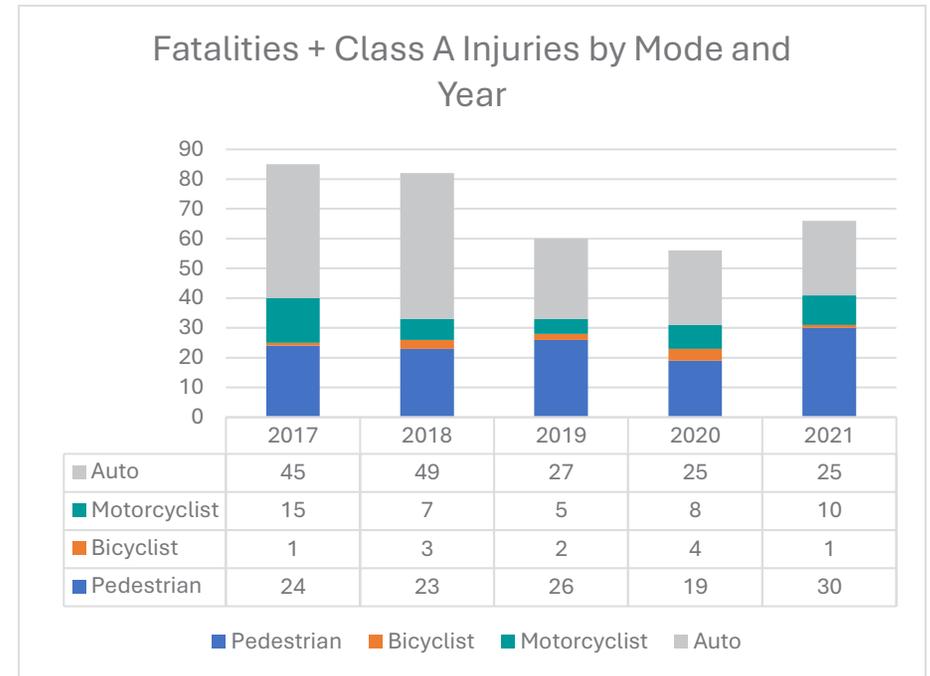
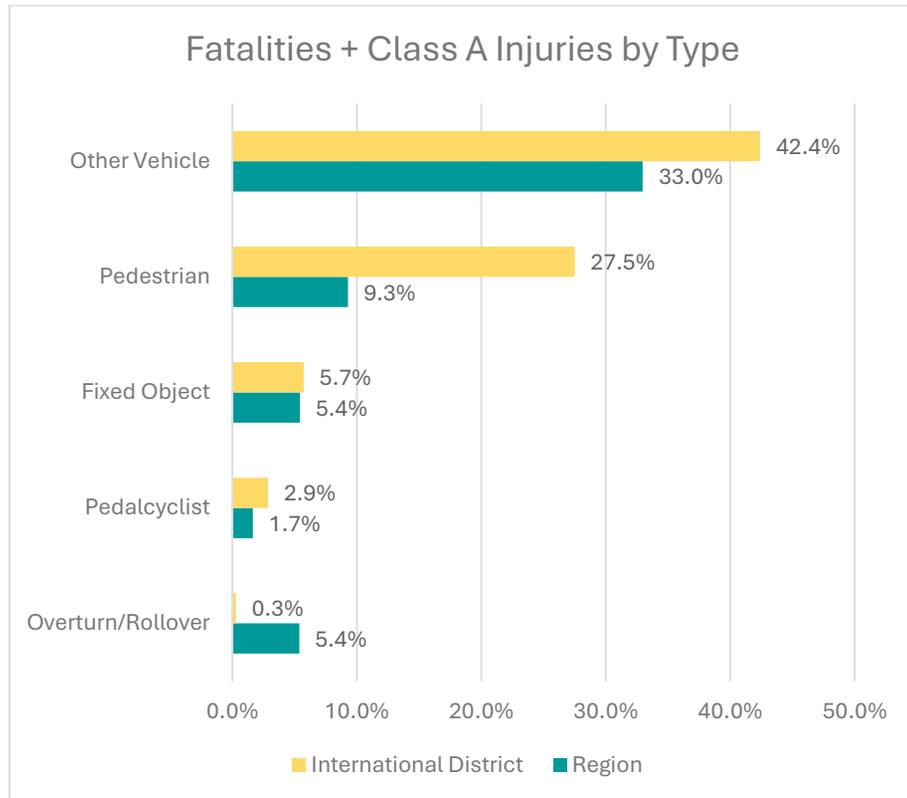
Top Contributing Factor	Edgewood				Region			
	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of Total	Injured	% of Total
Excessive Speed	2	25.0%	27	25.2%	215	11.4%	2626	8.8%
Following Too Closely	1	12.5%	11	10.3%	92	4.9%	3251	10.9%
Driver Inattention	1	12.5%	14	13.1%	208	11.0%	6927	23.1%
Alcohol Drug Involved	1	12.5%	8	7.5%	441	23.3%	1954	6.5%
Improper Driving	1	12.5%	8	7.5%	110	5.8%	1980	6.6%
Drove Left Of Center	1	12.5%	4	3.7%	45	2.4%	253	0.8%
Mechanical or Road Defect	1	12.5%	1	0.9%	30	1.6%	569	1.9%
Failed to Yield Right of Way	0	0.0%	15	14.0%	271	14.3%	5828	19.5%
Other	0	0.0%	5	4.7%	54	2.9%	594	2.0%
Avoid Contact	0	0.0%	4	3.7%	45	2.4%	807	2.7%
Passed Stop Sign	0	0.0%	4	3.7%	29	1.5%	553	1.8%
None Identified	0	0.0%	3	2.8%	85	4.5%	1190	4.0%
Disregard Traffic Signal	0	0.0%	3	2.8%	165	8.7%	3034	10.1%
Pedestrian Error	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Bicyclist Error	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	8	100.0%	107	100.0%	1890	100.0%	29945	100.0%

International District Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

The Albuquerque International District is the most dangerous area in the region, especially for vulnerable road users. This is reflected in the extremely high share of severe pedestrian crashes in the area – accounting for 27.5% of all fatalities and Class A (seriously incapacitating) injuries. This total is drastically higher than anything seen in other areas across the region.

Despite vehicular making up the largest share of crashes, in 2021, the number of crashes involving pedestrians exceeded the number for vehicles in terms of fatalities and Class A injuries. This problem has not been witnessed in many areas throughout the region; at this location, it is by far the worst. In 2019, a similar trend occurred where pedestrian fatalities and class A injuries fell just short of vehicular numbers by one.



Top Intersections and Corridors

The Albuquerque International District has many high-priority locations. Among these, the most dangerous intersections are along Central Avenue and Louisiana Boulevard, with the worst being at the intersection of these two corridors. These two roadways make up 6 of the top 10 most at-risk intersections in the area.

Central Avenue and Louisiana Boulevard, along with Wyoming, Tramway, and Eubank, are the riskiest corridors. While Wyoming has the highest HFIN (High-Fatality Intersection Network) total, Central Avenue is the worst corridor in terms of total incidents. It has by far the highest number of fatalities, class A injuries, and overall injuries. Even among the top 2 segments, Central accounts for 12 fatalities and 598 injuries (43 of which are class A). These very concerning numbers represent only a small percentage of all crashes along Central, highlighting just how dangerous this corridor is.

INTERSECTIONS

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
CENTRAL AVE.	LOUISIANA BLVD.	165	37,732	1.59
COPPER AVE.	CHELWOOD PARK BLVD.	23	7,721	1.03
LOMAS BLVD.	LOUISIANA BLVD.	126	47,493	0.99
CENTRAL AVE.	EUBANK BLVD.	141	53,367.50	0.9
ZUNI RD.	WYOMING BLVD.	52	18,792	0.87
ZUNI RD.	SAN PEDRO DR.	57	22,634	0.87
CENTRAL AVE.	SAN PEDRO DR.	75	26,581	0.85
ZUNI RD.	LOUISIANA BLVD.	55	28,929.50	0.8
CENTRAL AVE.	SAN MATEO BLVD.	81	37,353.50	0.8
LOMAS BLVD.	JUAN TABO BLVD.	87	43,502.50	0.79

CORRIDORS

Corridor	Location	Killed	Class A	Injuries	Speed	Lanes
WYOMING	NORTH OF ZUNI - SOUTH OF CENTRAL	5	8	125	35	6
LOUISIANA	NORTH OF ZUNI - SOUTH OF CENTRAL	0	21	246	35	5
TRAMWAY	SOUTH OF I-40 S. RAMPS - NORTH OF EAST CENTRAL	2	7	41	45	4
LOUISIANA	NORTH OF CENTRAL - SOUTH OF COPPER	1	13	185	35	6
WYOMING	NORTH OF LOMAS - SOUTH OF I-40 S. RAMPS	1	5	90	40	6
CENTRAL	EAST OF LOUISIANA - WEST OF PENNSYLVANIA	9	28	317	35	6
EUBANK	NORTH OF CENTRAL - SOUTH OF CHICO	2	14	188	40	6
EUBANK	NORTH OF SOUTHERN - SOUTH OF CENTRAL	1	12	179	40	4
CENTRAL	EAST OF SAN PEDRO - WEST OF LOUISIANA	3	15	281	35	4
SAN PEDRO	NORTH OF ZUNI - SOUTH OF CENTRAL	4	2	142	35	4

Lighting Conditions

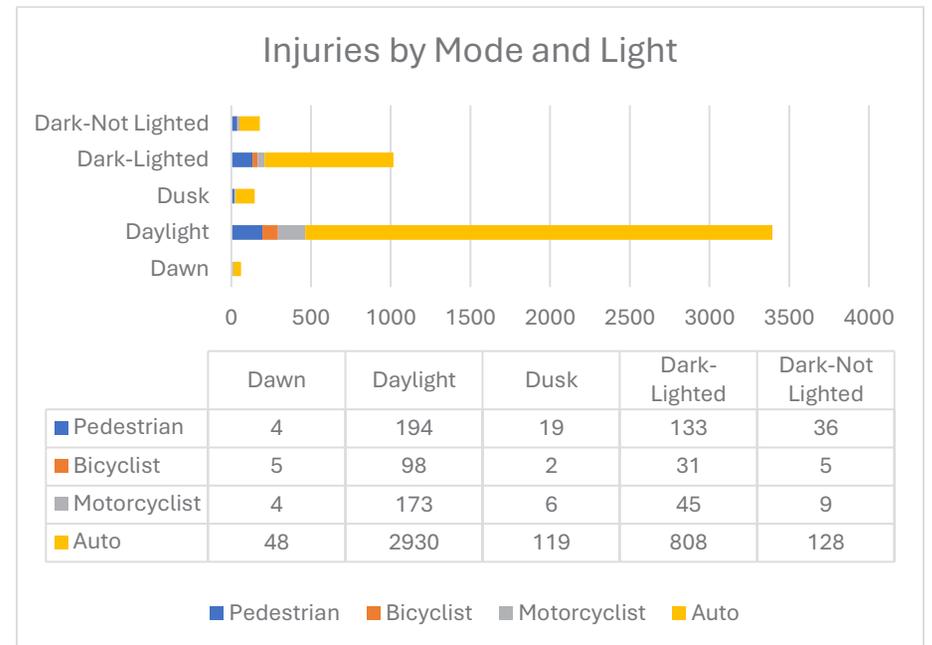
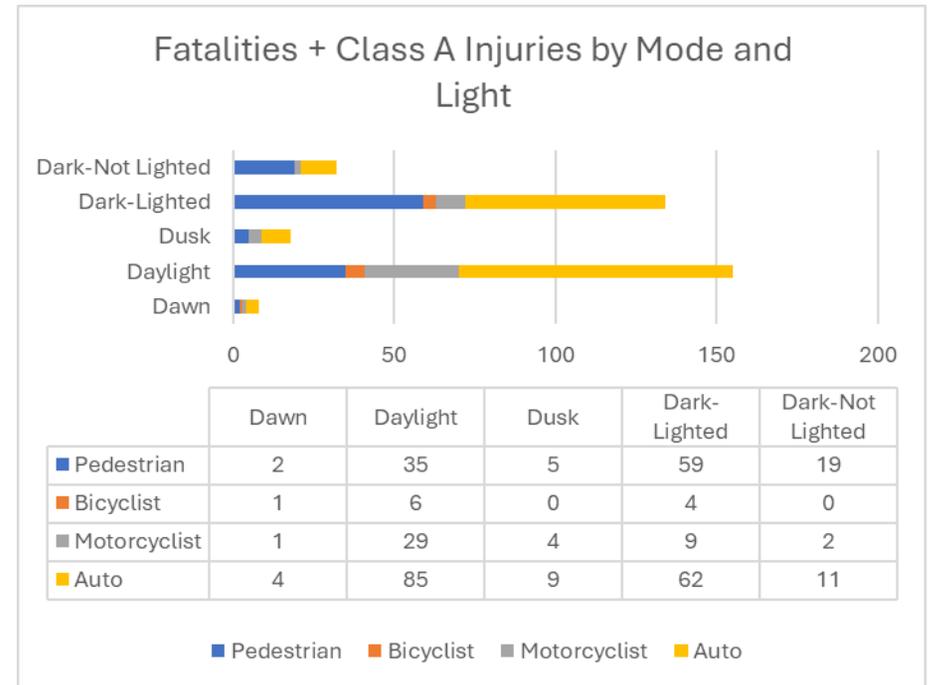
While most injury crashes occur during the day, dark conditions are where vulnerable road users face the highest risk, particularly pedestrians. In Dark-Lighted conditions, pedestrians account for 44% of fatalities and Class A injuries, while in Dark-Not Lighted conditions, they account for 59%. Motorcyclists, on the other hand, are most at risk during daylight hours. Despite constituting a small share of overall traffic, they account for 18.7% of fatalities and class A injuries during those hours.

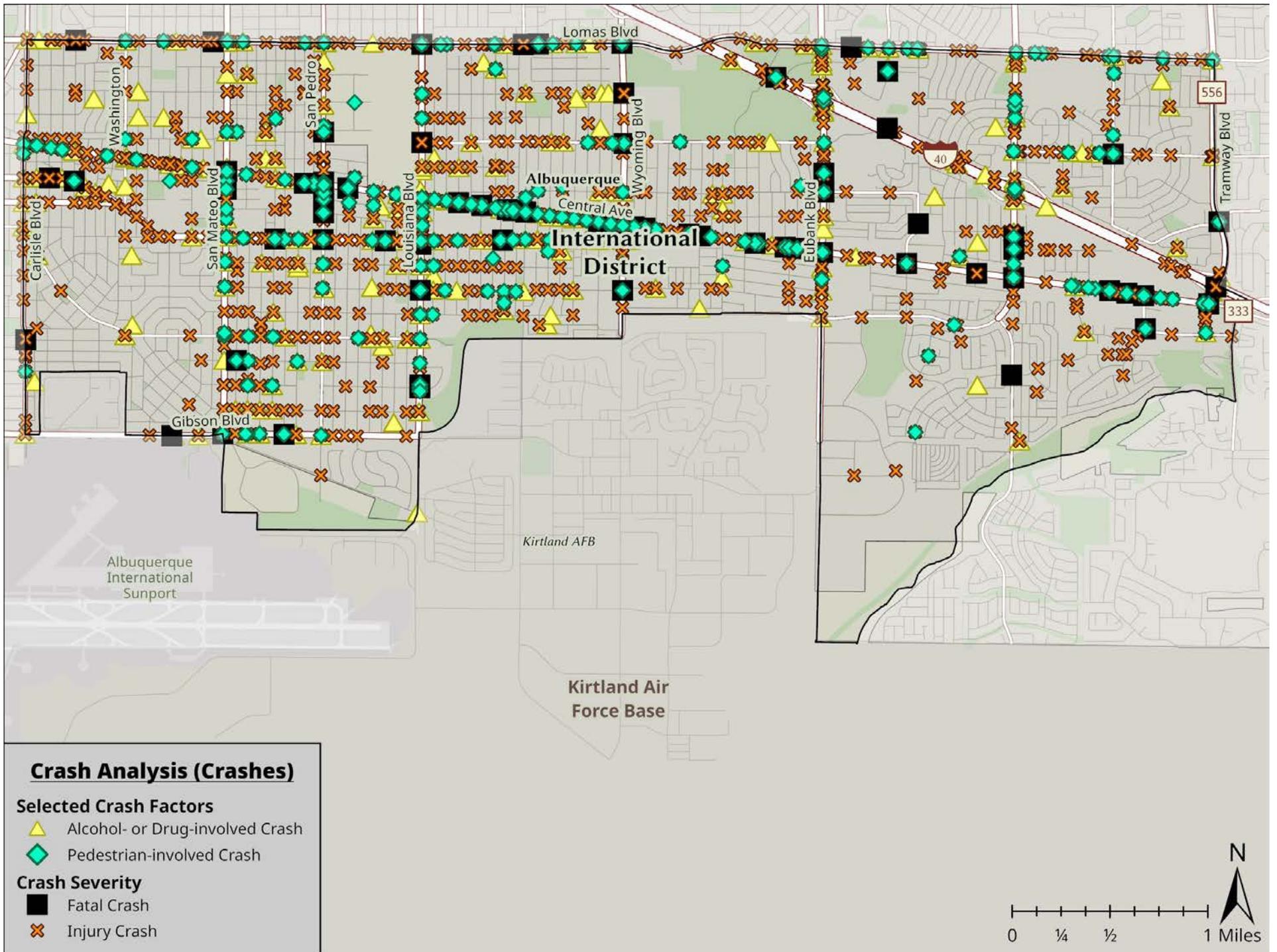
In the International District, bicyclist crashes do not peak at dusk as seen in other regions. This deviation could be due to residents in the area using bikes primarily for utilitarian purposes (such as commuting to work or running errands) rather than recreational riding.

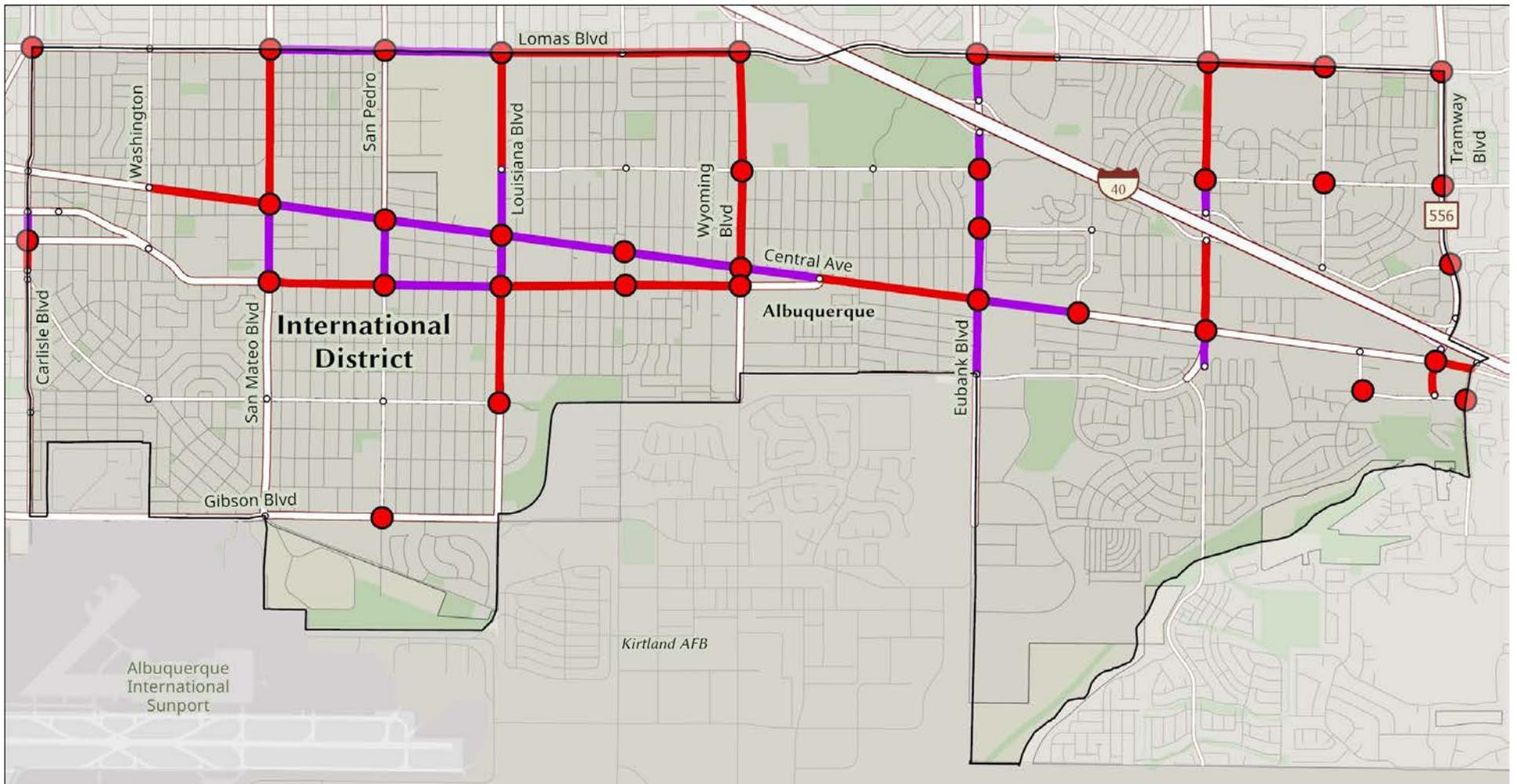
High Priority Maps

The crash analysis map for the Albuquerque International District once again illustrates how dangerous East Central is, particularly between San Mateo and Eubank. Almost the entire stretch is above 1.5 times the local mean for the HFIN (High-Fatality Intersection Network) total. Additionally, the map highlights increased risk at intersections along East Central. Every major intersection has a severe crash rate above the local mean for the area.

Many destinations are situated along East Central. A key location is Central and Washington, where three schools and a senior center are located. The International District Library is also situated along this corridor between San Pablo and Charleston. Overall, within the International District, there are 22 schools, 4 community centers, 4 pools, 3 libraries, 2 senior centers, 2 cultural centers, and numerous shops. Given this richness of destinations, ensuring safety for all road users in the area is crucial.







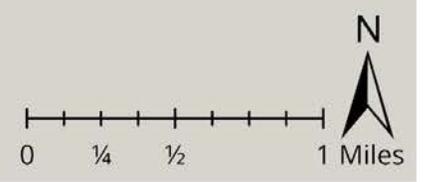
Crash Analysis (HFIN)

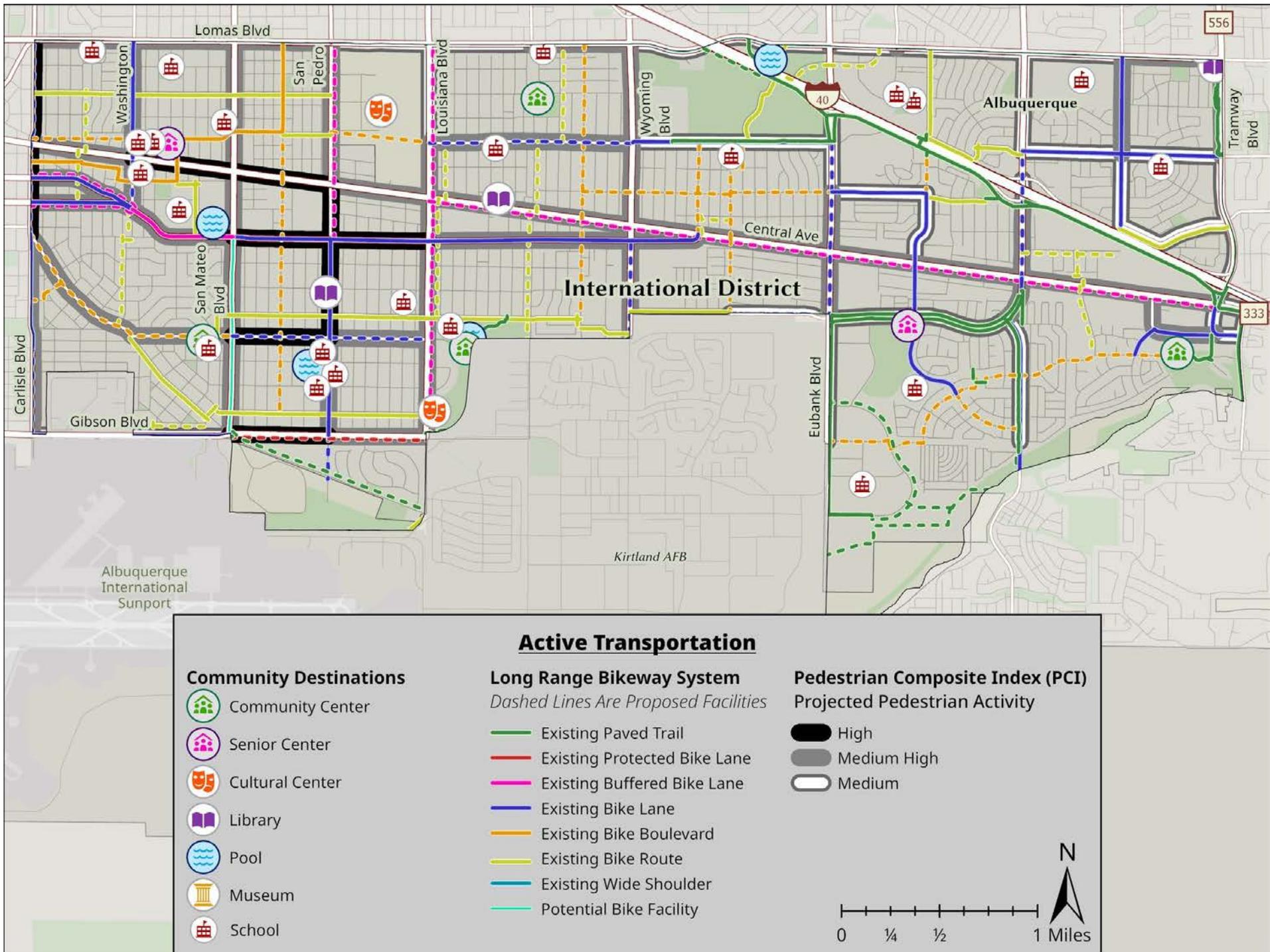
HFIN Intersection Score
Severe Crash Rate

- Below Local Mean
- Above Local Mean

HFIN Roadway Score

- Below Local Mean
- Between Local Mean and 1.5x Local Mean
- Above 1.5x Local Mean





Top Contributing Factor (TCF)

Alcohol/Drug-involved crashes are a significant issue in the Albuquerque International District. Between 2017 and 2019, there were 69 fatal and Class A crashes reported involving substances. This accounted for 15.6% of all Alcohol Drug Involved crashes regionally, despite the International District comprising only 5% of the region’s population. The next two top contributing factors for fatalities and Class A injuries in the region are Disregard Traffic Signal and Failed to Yield Right of Way. Coupled with the issue of Excessive Speeding, this poses a substantial risk for all road users.

The International District also experiences an unusually high rate of pedestrian error fatalities and class A injuries. While this factor tends to be less significant in other municipalities and Tribal areas, it is prevalent in this location. This situation demonstrates the issue of Central Avenue being a “stroad” – attempting to accommodate both high traffic volumes and serve as a destination-rich corridor. Consequently, the roadway faces multiple conflicts across all modes of transportation. Central Avenue sees significant pedestrian activity for shopping, entertainment, and access to adjacent residences. The combination of heavy road traffic and pedestrian movement raises concerns for vulnerable road users.

In line with the rest of the region, Failed to Yield Right of Way and Driver Inattention are the two primary factors contributing to injuries in the International District, accounting for approximately 10% of overall injuries caused by these factors.

Top Contributing Factor	International District				Region			
	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of total	Injured	% of total
Alcohol Drug Involved	69	30.4%	206	6.9%	441	23.3%	1954	6.5%
Disregard Traffic Signal	26	11.5%	386	12.8%	165	8.7%	3034	10.1%
Failed to Yield Right of Way	24	10.6%	609	20.3%	271	14.3%	5828	19.5%
Pedestrian Error	22	9.7%	91	3.0%	95	5.0%	304	1.0%
Excessive Speed	21	9.3%	189	6.3%	215	11.4%	2626	8.8%
Driver Inattention	16	7.0%	675	22.5%	208	11.0%	6927	23.1%
None Identified	12	5.3%	110	3.7%	85	4.5%	1190	4.0%
Improper Driving	9	4.0%	190	6.3%	110	5.8%	1980	6.6%
Following Too Closely	8	3.5%	198	6.6%	92	4.9%	3251	10.9%
Other	7	3.1%	48	1.6%	54	2.9%	594	2.0%
Passed Stop Sign	6	2.6%	149	5.0%	29	1.5%	553	1.8%
Avoid Contact	3	1.3%	73	2.4%	45	2.4%	807	2.7%
Mechanical or Road Defect	2	0.9%	53	1.8%	30	1.6%	569	1.9%
Drove Left Of Center	2	0.9%	12	0.4%	45	2.4%	253	0.8%
Bicyclist Error	0	0.0%	13	0.4%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	3	0.1%	0	0.0%	16	0.1%
Total	227	100.0%	3005	100.0%	1890	100.0%	29945	100.0%

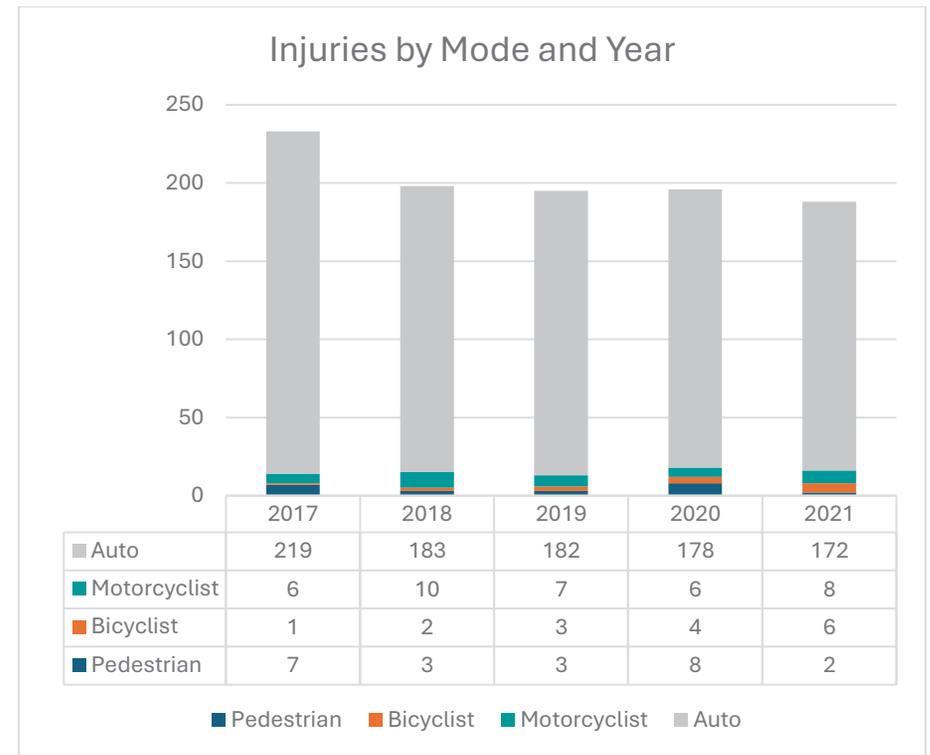
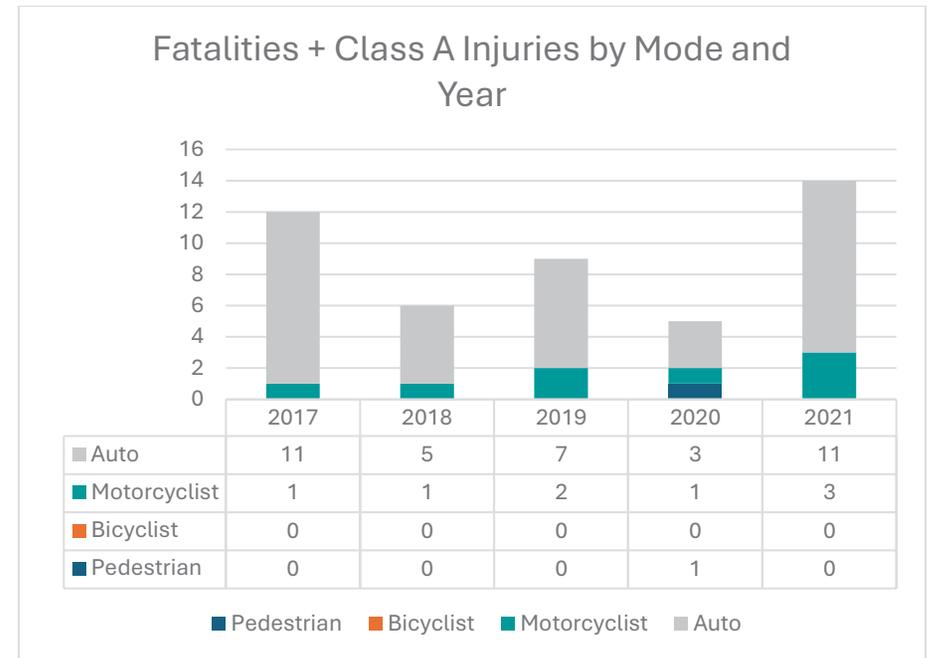
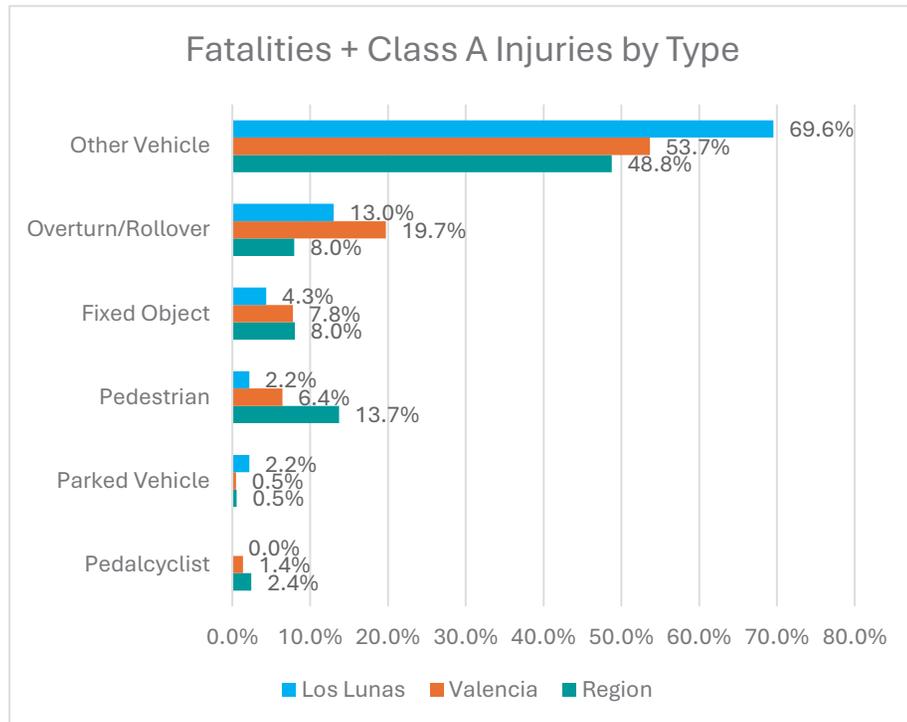
Village of Los Lunas Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

The Village of Los Lunas has a much higher share of Other Vehicle fatalities and injury crashes than most municipalities in the region. In Los Lunas, there were the same number of severe incidents involving Parked Vehicles as Pedestrians. The Parked Vehicle class type is not commonly seen, especially in cases that result in fatalities or Class A injuries.

Los Lunas has also experienced a high rate of severe crashes and injuries involving Motorcyclists. The highest number of Motorcyclist fatalities/Class A injuries occurred in 2021 (3 fatalities) and the most injuries were recorded in 2018 (10 injuries).

There was a prevalence vehicle-on-vehicle crashes, but the low numbers but low numbers for all other modes. 2020 was when crashes involving pedestrians, bicyclists and motorcyclists were at their highest in the 5-year period but overall, these vulnerable road user crashes have remained relatively flat over the years.



Top Intersections and Corridors

In Los Lunas, N.M., Route 6 stands out as the most dangerous roadway. This is, however, not surprising as it is the mostly heavily travelled roadway in the area. Between 2017 and 2021, N.M. 6 experienced 2 fatalities and 1065 injuries (42 of which were Class A) along this corridor, as well as 1 fatality and 403 injuries at the intersections. Additionally, there are a couple of local intersections that pose significant risks: Route 66 & Dalies Rd and Lonestar & Huning Ranch Loop. Due to their relatively high crash rate with lower traffic volumes, these two intersections still account for 4 and 3 fatalities/injuries, respectively, making them the first and second highest in severe crash rates within the village.

Potential Road Diet Candidates

Segments of NM 47 and NM 314 are recommended as potential Road Diet Candidates. These corridors have 4 lanes and are under 20,000 ADT.

N.M. Route 6 is also highlighted in some segments but of a lower priority because of the higher ADT along this roadway. As with any Road Diet, there needs to be additional engineering feasibility analyses prior to implementation.

High Priority Maps

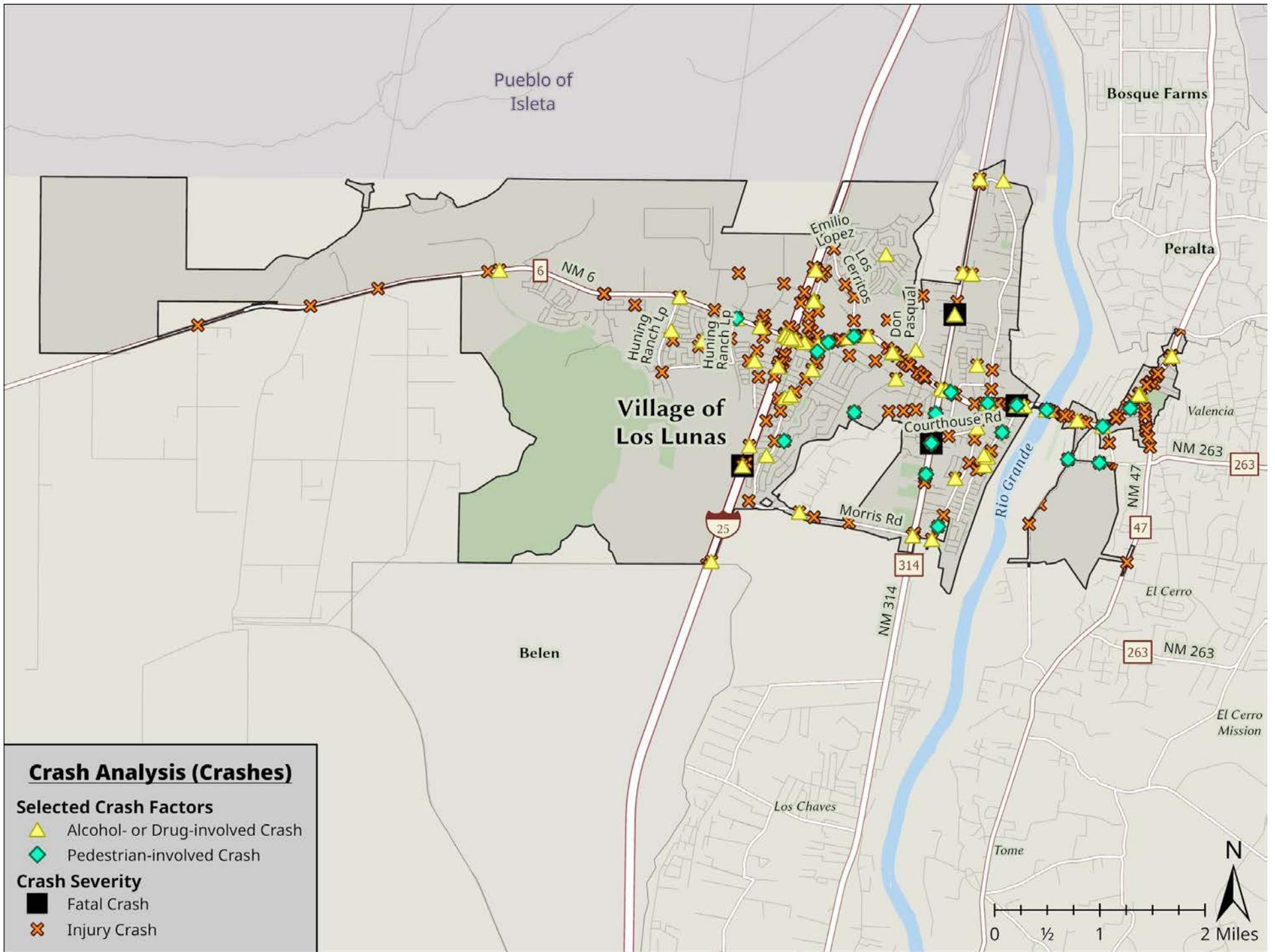
The majority of N.M. Route 6 is well above 1.5 times the local HFIN mean and is has a very high number of injury, alcohol/drug-involved, and fatal crashes. Every major intersection along N.M. 6 is also above the local HFIN intersection mean. N.M. 47 and Los Lentos Street are also high-risk locations, exceeding 1.5 times the mean. Although it's not above the local HFIN mean, Camelot (running next to I-25) is still a dangerous stretch of roadway with a high frequency of crashes.

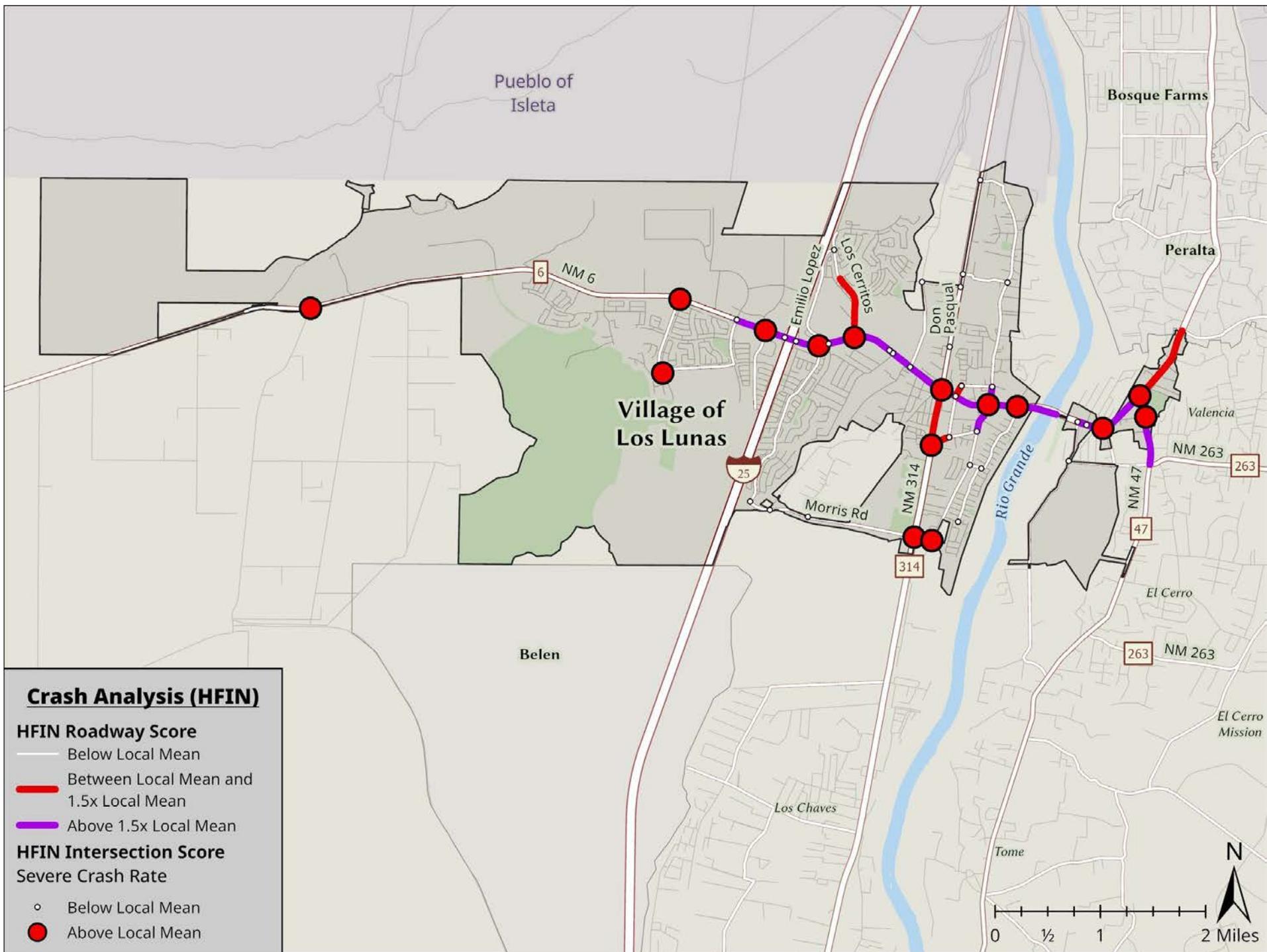
INTERSECTIONS

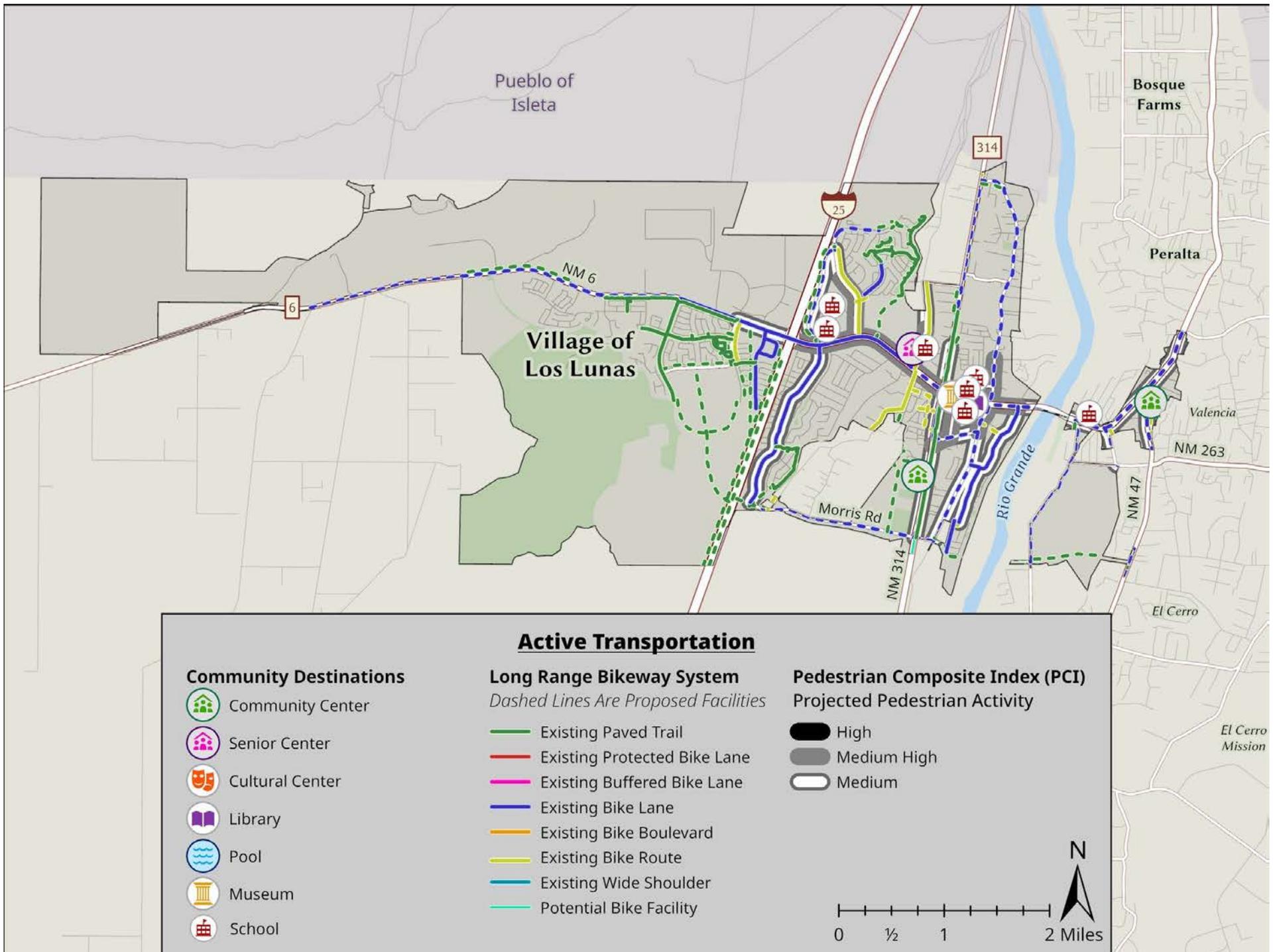
Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
ROUTE 66	DALIES RD	4	2,082.5	1.15
LONESTAR	HUNING RANCH LOOP	3	1,126.5	1.00
N.M. 6	LOS CERRITOS DR.	60	26,086	0.81
N.M. 6	CARSON DR.	44	27,868	0.70
N.M. 6	CAMELOT/EMILIO LOPEZ	51	30,804.5	0.69

CORRIDORS

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
N.M. 6	EAST OF CAMELOT/EMILIO LOPEZ - WEST OF GRANT BLVD.	0	2	68	45	4
N.M. 6	EAST OF N.M. 314 - WEST OF LUNA	0	1	65	45	4
N.M. 6	EAST OF LOS LENTES STREET - WEST OF CARSON DRIVE	1	3	100	35	4
N.M. 6	EAST OF EDEAL RD. - WEST OF MOUNTAIN LAUREL ST.	0	1	30	45	4
N.M. 6	EAST OF I-25 WEST RAMPS - WEST OF I-25 EAST RAMPS	0	2	38	45	2







Top Contributing Factor

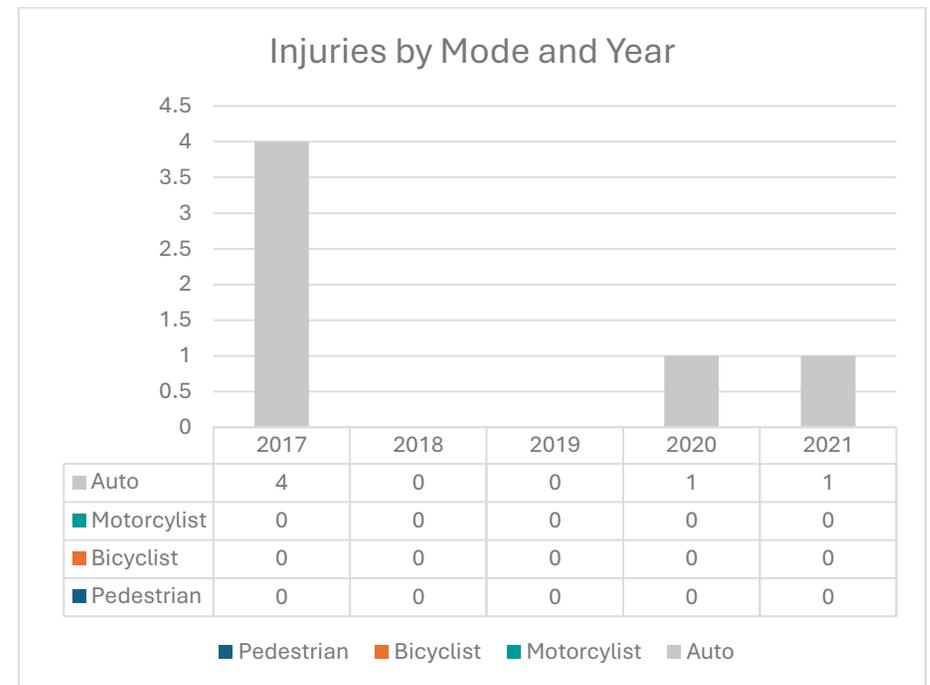
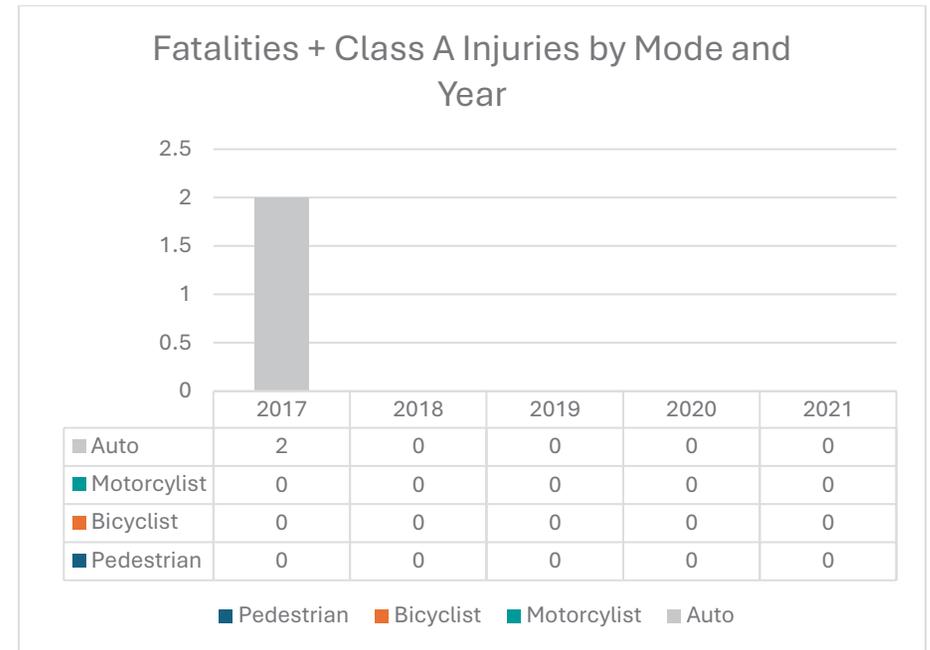
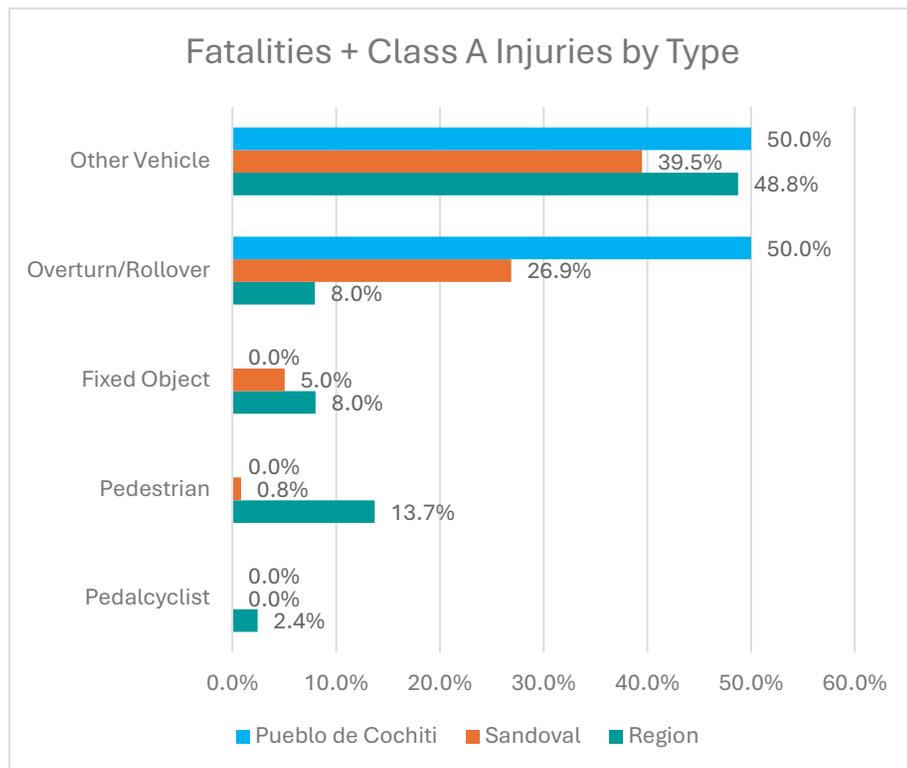
The top two factors contributing to fatalities and Class A injuries in the village are Failing to Yield Right of Way and Disregarding Traffic Signals. Failing to Yield Right of Way occurs at a much higher rate in both fatal/Class A crashes and injury crashes compared to Valencia County or the region. Alcohol/drug-involved crashes, which are typically prevalent, are relatively low in Los Lunas. Excessive Speeding is another contributing factor, but it remains less significant in the village, accounting for about 4% of both serious and injury crashes. On the other hand, Following Too Closely plays a much larger role in fatal/Class A injury crashes as well as the remaining injury crashes in Los Lunas compared to Valencia County or the region.

Top Contributing Factor	Los Lunas				Valencia				Region			
	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of Total	Injured	% of Total
Failed to Yield Right of Way	9	33.3%	165	26.4%	24	16.4%	335	19.7%	271	14.3%	5828	19.5%
Disregard Traffic Signal	4	14.8%	22	3.5%	4	2.7%	36	2.1%	165	8.7%	3034	10.1%
Driver Inattention	3	11.1%	121	19.3%	22	15.1%	293	17.2%	208	11.0%	6927	23.1%
Following Too Closely	3	11.1%	103	16.5%	5	3.4%	182	10.7%	92	4.9%	3251	10.9%
Improper Driving	3	11.1%	79	12.6%	5	3.4%	147	8.6%	110	5.8%	1980	6.6%
Alcohol Drug Involved	2	7.4%	25	4.0%	38	26.0%	149	8.8%	441	23.3%	1954	6.5%
None Identified	1	3.7%	33	5.3%	10	6.8%	118	6.9%	85	4.5%	1190	4.0%
Excessive Speed	1	3.7%	25	4.0%	20	13.7%	222	13.0%	215	11.4%	2626	8.8%
Other	1	3.7%	13	2.1%	3	2.1%	52	3.1%	54	2.9%	594	2.0%
Mechanical or Road Defect	0	0.0%	15	2.4%	3	2.1%	45	2.6%	30	1.6%	569	1.9%
Avoid Contact	0	0.0%	11	1.8%	1	0.7%	43	2.5%	45	2.4%	807	2.7%
Drove Left Of Center	0	0.0%	6	1.0%	5	3.4%	44	2.6%	45	2.4%	253	0.8%
Passed Stop Sign	0	0.0%	6	1.0%	1	0.7%	28	1.6%	29	1.5%	553	1.8%
Pedestrian Error	0	0.0%	2	0.3%	5	3.4%	6	0.4%	95	5.0%	304	1.0%
Bicyclist Error	0	0.0%	0	0.0%	0	0.0%	1	0.1%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	1	0.1%	0	0.0%	16	0.1%
Total	27	100.0%	626	100.0%	146	100.0%	1702	100.0%	1890	100.0%	29945	100.0%

Pueblo de Cochiti Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

The Pueblo de Cochiti (PdC) has a very small population of 483 according to the 2020 US Census. Between 2017 and 2021, there was one fatal crash and 6 injuries (one of which was Class A). All fatalities/Class A injuries were a result of Other Vehicle crashes or Overturns/Rollovers. This highlights the concern of an increased rate of single vehicle crashes in tribal, rural and small urban areas. While pedestrian or bicyclist involved crashes were not represented in these figures, Cochiti officials have stated that there is a high rate of pedestrian involved crashes that go unreported, and that those walking in the area are at high risk of being struck, especially with the lack of pedestrian scale lighting. Within this five-year timespan, 2017 had the most injury crashes and the only severe crashes (including the fatality), crashes seemingly decreased in 2018 and 2019, but then increased again in 2020. Even though 2020 only had two crashes, one resulted in an injury.



Top Intersections and Corridors

N.M. 22 has the highest number of severe crashes in the Pueblo de Cochiti. It serves as the main thoroughfare through the area and carries the largest traffic volumes. Despite hosting the majority of Cochiti’s traffic, N.M. 22 has the highest HFIN (High Frequency Intersection Network) totals and is the only intersection in the pueblo listed as an HFIN intersection. The highway is prone to issues of excessive speeding and distracted driving because it is an open roadway that encourages faster speeds with less concern for surrounding vehicles. Coupled with the lack of lighting, this environment makes it easy for incidents to occur. Many evening and night commuters also travel along N.M. 22 when returning from work or school, and tired drivers sometimes fall asleep behind the wheel, leading to lane departures.

“The Y” Intersection

The main intersection of concern, not shown on the report, is known as “the Y,” or more technically to NMDOT as “the T-intersection on N.M. 22 at milepost 12.2.” It leads into the pueblo and is located right next to the Cochiti Dam. This location has experienced numerous crashes, primarily due to drivers turning out onto the main highway and being struck by oncoming vehicles traveling at excessive speeds. In response to this concern, the Pueblo de Cochiti is actively planning a roundabout to help reduce speeds at this critical intersection.

INTERSECTION

Street A	Street B	Injury Crash	Approach Volume	Severe Rate
NM 22	CALLE ESCUELA VIEJA RD	1	1,898	0.30

CORRIDORS

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
N.M. 22	URBAN BOUNDARY - SOUTH OF ACEQUIA RD.	0	0	3	35	2
N.M. 22	NORTH OF PENA BLANCA POST OFFICE - SOUTH OF N.M. 16	0	0	1	30	2
ACEQUIA RD.	NORTH OF ARROYO LEYBA - WEST OF N.M. 22	0	0	1	25	2
INDIAN SERVICE RTE 85	NORTH OF SILE - SOUTH OF N.M. 22	0	1	2	25	2



Top Contributing Factor (TCF)

The Top Contributing Factors between 2017 and 2019 (amongst the available data) of Excessive Speeding, Avoiding Contact and Alcohol Drug Involved are the only three that led to crashes in Cochiti. The fatal incident in 2017 was identified as Avoiding Contact. The other severe crash was caused by Excessive Speeding. The other non-severe injuries were outcomes of Excessive Speeding and Alcohol Drug Involved factors. This further demonstrates that taking measures for traffic calming along N.M. 22 are warranted in Cochiti.

Top Contributing Factor	Pueblo de Cochiti				Sandoval				Region			
	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of Total	Injured	% of Total
Excessive Speed	1	50.0%	2	40.0%	17	23.6%	90	21.6%	215	11.4%	2626	8.8%
Avoid Contact	1	50.0%	0	0.0%	2	2.8%	18	4.3%	45	2.4%	807	2.7%
Alcohol Drug Involved	0	0.0%	3	60.0%	25	34.7%	56	13.5%	441	23.3%	1954	6.5%
Drove Left Of Center	0	0.0%	0	0.0%	8	11.1%	9	2.2%	45	2.4%	253	0.8%
Other	0	0.0%	0	0.0%	7	9.7%	51	12.3%	54	2.9%	594	2.0%
Driver Inattention	0	0.0%	0	0.0%	4	5.6%	62	14.9%	208	11.0%	6927	23.1%
Improper Driving	0	0.0%	0	0.0%	4	5.6%	29	7.0%	110	5.8%	1980	6.6%
None Identified	0	0.0%	0	0.0%	2	2.8%	35	8.4%	85	4.5%	1190	4.0%
Following Too Closely	0	0.0%	0	0.0%	2	2.8%	31	7.5%	92	4.9%	3251	10.9%
Mechanical or Road Defect	0	0.0%	0	0.0%	1	1.4%	13	3.1%	30	1.6%	569	1.9%
Failed to Yield Right of Way	0	0.0%	0	0.0%	0	0.0%	21	5.0%	271	14.3%	5828	19.5%
Disregard Traffic Signal	0	0.0%	0	0.0%	0	0.0%	0	0.0%	165	8.7%	3034	10.1%
Pedestrian Error	0	0.0%	0	0.0%	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Passed Stop Sign	0	0.0%	0	0.0%	0	0.0%	1	0.2%	29	1.5%	553	1.8%
Bicyclist Error	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	2	100.0%	5	100.0%	72	100.0%	416	100.0%	1890	1	29945	1

Local Concerns (Cochiti Officials)

Cochiti officials have emphasized the need for various infrastructure improvements to ensure safe passage for all road users. Key concerns include aging signage, working with NMDOT to provide more timely snow removal along critical corridors, and the absence of protective barriers or guardrails along many roadways. Additionally, sidewalks are lacking in many neighborhoods throughout the pueblo. Cochiti also is looking for federal funds to conduct another Road Safety Audit (RSA) within the new housing area.

Crash Data Acquisition Challenges

A significant challenge in crash analysis for the Pueblo de Cochiti and other tribal areas in the region is that crash reports are conducted by different agencies. This fragmentation makes it difficult to collect and analyze critical crash data consistently. As a result, the current crash information doesn't provide a complete picture of actual crash numbers and the affected parties. Currently, crashes on Cochiti land are reported by the NMDOT, Sandoval County Sheriff's Office (SCSO), and the Bureau of Indian Affairs (BIA). To improve data accuracy and reporting, it would be extremely valuable for Cochiti planners (as well as other tribal planners) if these three agencies collaborated to consolidate crash data. Streamlining processes for acquiring and analyzing crash data would greatly benefit tribal, small urban, and rural communities in their efforts to enhance safety. To improve internal crash data gathering, the PdC Planning Department developed an abbreviated crash report on January 22, 2024, for use by Pueblo officials, who are the first responders to pueblo-area crashes.

Public Transportation Safety Concerns (Via the Pueblo de Cochiti Tribal Safety Plan)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Unsafe, unmaintained roads IIII II | <input checked="" type="checkbox"/> Failure to use life jackets I |
| <input checked="" type="checkbox"/> Lack of school crossing(s) III | <input checked="" type="checkbox"/> Missing or inadequate road signage IIII III |
| <input checked="" type="checkbox"/> Talking on phone or texting while driving IIII IIII | <input checked="" type="checkbox"/> Lack of helmet use on ATV, bike or motorcycle II |
| <input checked="" type="checkbox"/> Talking on phone or texting while walking IIII I | <input checked="" type="checkbox"/> Excessive driving speeds IIII IIII |
| <input checked="" type="checkbox"/> Young drivers not knowing rules of road IIII IIII | <input checked="" type="checkbox"/> Driving/boating while intoxicated III |
| <input checked="" type="checkbox"/> Lack of trail marking(s) I | <input checked="" type="checkbox"/> Roadwork or road damage IIII I |
| <input checked="" type="checkbox"/> Lack of pedestrian or bike infrastructure I | <input checked="" type="checkbox"/> Pedestrian or bicycle safety IIII |
| <input checked="" type="checkbox"/> Pedestrian visibility and reflectivity IIII II | <input checked="" type="checkbox"/> Lack of seatbelt use IIII I |
| <input checked="" type="checkbox"/> Lack of emergency shelters I | <input checked="" type="checkbox"/> Road dust III |
| <input checked="" type="checkbox"/> Intersection safety IIII I | <input checked="" type="checkbox"/> Driver education IIII III |

Public Comments for Addressing Safety in Cochiti (Via the Pueblo de Cochiti Tribal Safety Plan)

- A four-way stop should be installed at the Tent Rocks intersection.
- A four-way stop should be installed at the Town of Cochiti Lake Town Hall's south parking lot entrance.
- Right before the ball fields, there is a huge tree, which could be of serious concern for a single vehicle lane departure that might occur there. Guardrail installation should be considered in that area.
- Reduce speed at the Hahn Center from 25 to 20 mph.
- Upkeep, and the installation of brighter lines and rumble strips.
- Post speed limits. Slower speeds with enforcement.
- People not being so careless.
- Timely maintenance and care of roadways; i.e., mowing, restriping, crack sealing, sidewalk repair, pothole patching, surface grading, and street sweeping.
- I would feel safer if parents didn't allow their kids, who do not have licenses to be driving.

Pueblo of Jemez Area Safety Profile

Fatal by Mode and Class (2017 to 2021)

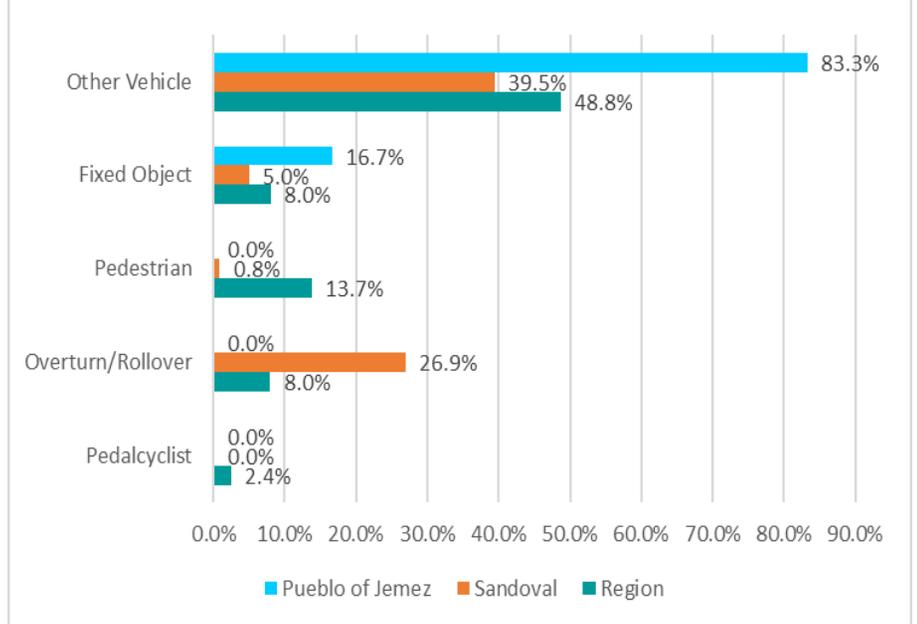
The Pueblo of Jemez has had three fatal crashes over the 5-year period between 2017 and 2021 – two in 2018 and one in 2019. All of which occurred along US 550 and involved vehicle on vehicle collisions. Each of these crashes resulted in multiple additional injuries. Although all three crashes only had two vehicles involved, every vehicle occupant was injured. Each of the 2018 crashes resulted in 5 injuries and the 2019 crash resulted in 4. Overall, vehicle-on-vehicle were the main class type in these crashes with fixed object being the second. This falls in line with the concerns of Fixed Object collisions in small urban, rural, and Tribal areas. Interestingly there were no Overturns/Rollovers seen throughout the period.

While most of the region witnessed an increase in fatal, Class A, and overall injury crashes in 2020 and 2021, the Pueblo of Jemez saw a decrease. In 2020 there were 6 injuries and in 2021 there were only 2, with no fatalities or class A injuries either year. The highest frequency of injury crashes and severe crashes was in 2019 with 12 injury and 3 fatalities + Class A injuries.

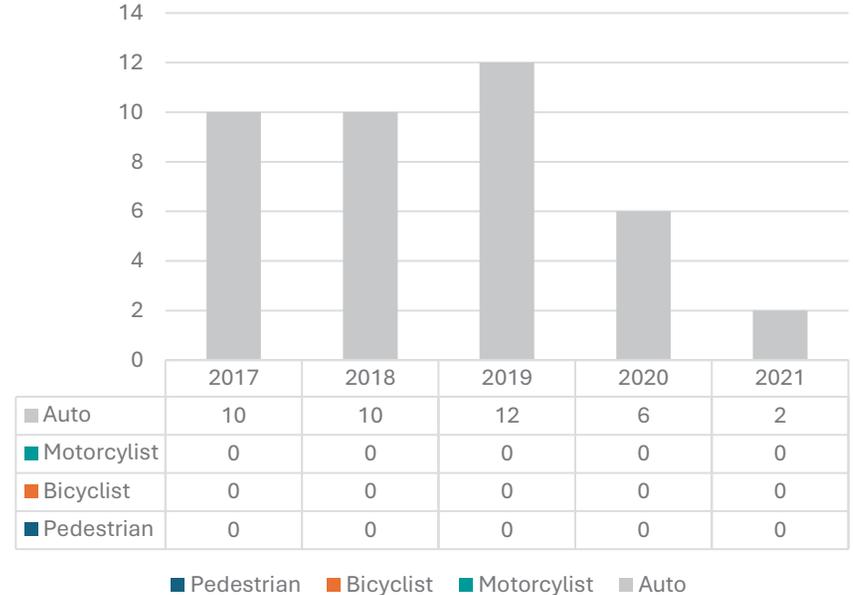
Fatalities + Class A Injuries by Mode and Year



Fatalities + Class A Injuries by Type



Injuries by Mode and Year



Top Intersections and Corridors

The main intersections and corridors of concern in the Pueblo of Jemez are along the busiest roadways. The main thoroughfares N.M. 4, U.S. 550, N.M. 290, and N.M. 279 are where the pueblo witnessed the most crashes as they are commuter routes for local and surrounding communities. The locations where the roadways cross are the most dangerous locations in Jemez with the most at-risk intersections being N.M. 4 and N.M. 290 along with U.S. 550 and N.M. 279.

It's important to reiterate that U.S. 550 is the corridor where all 3 fatal crashes occurred. The route also has the largest share of injuries at 35 (5 of which are Class A). N.M. has the next highest with a total of 10 injuries of the 5-year period. Day School Road is also a location of concern because of its issue with Excessive Speeding and a mix of modes such as walking and bicycling.

High Priority Maps

The crash analysis map shows that the most high-risk roadways in the Pueblo of Jemez are along N.M. 4 and U.S. 550, the two primary corridors providing access to the area. Almost all fatalities and injury crashes occurred along these two roadways. The sections of these roadways through the most populated areas are all above 1.5 times the local HFIN mean. The only intersection in the Pueblo of Jemez identified on the HFIN is the intersection of N.M. 4 and N.M. 290 which contained 3 injury crashes between 2017 and 2021.

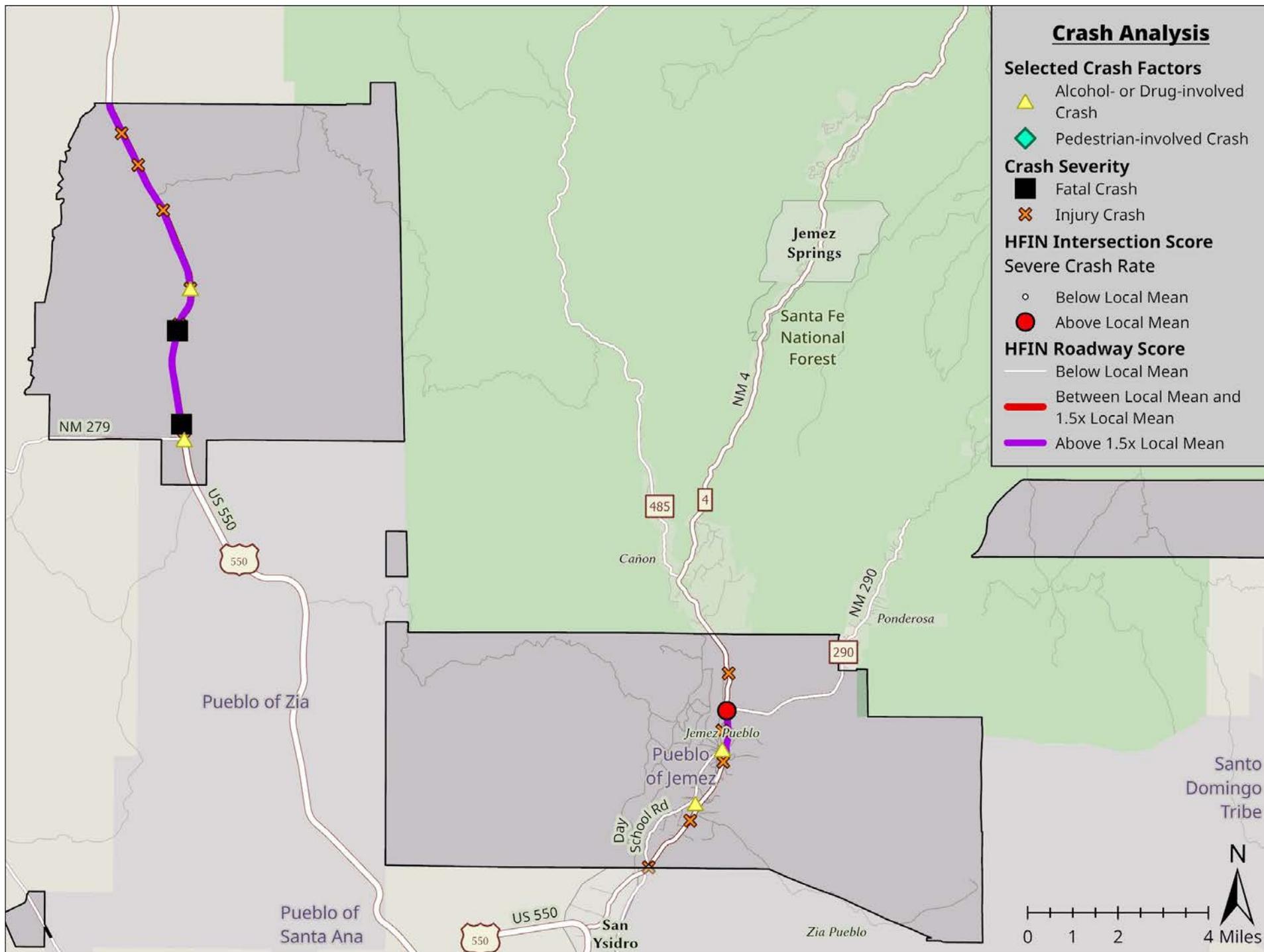
The active transportation map shows that almost all community destinations in the pueblo are concentrated along N.M. 4. The only destinations not adjacent to N.M.4 are San Diego Riverside Charter School and Jemez Day School.

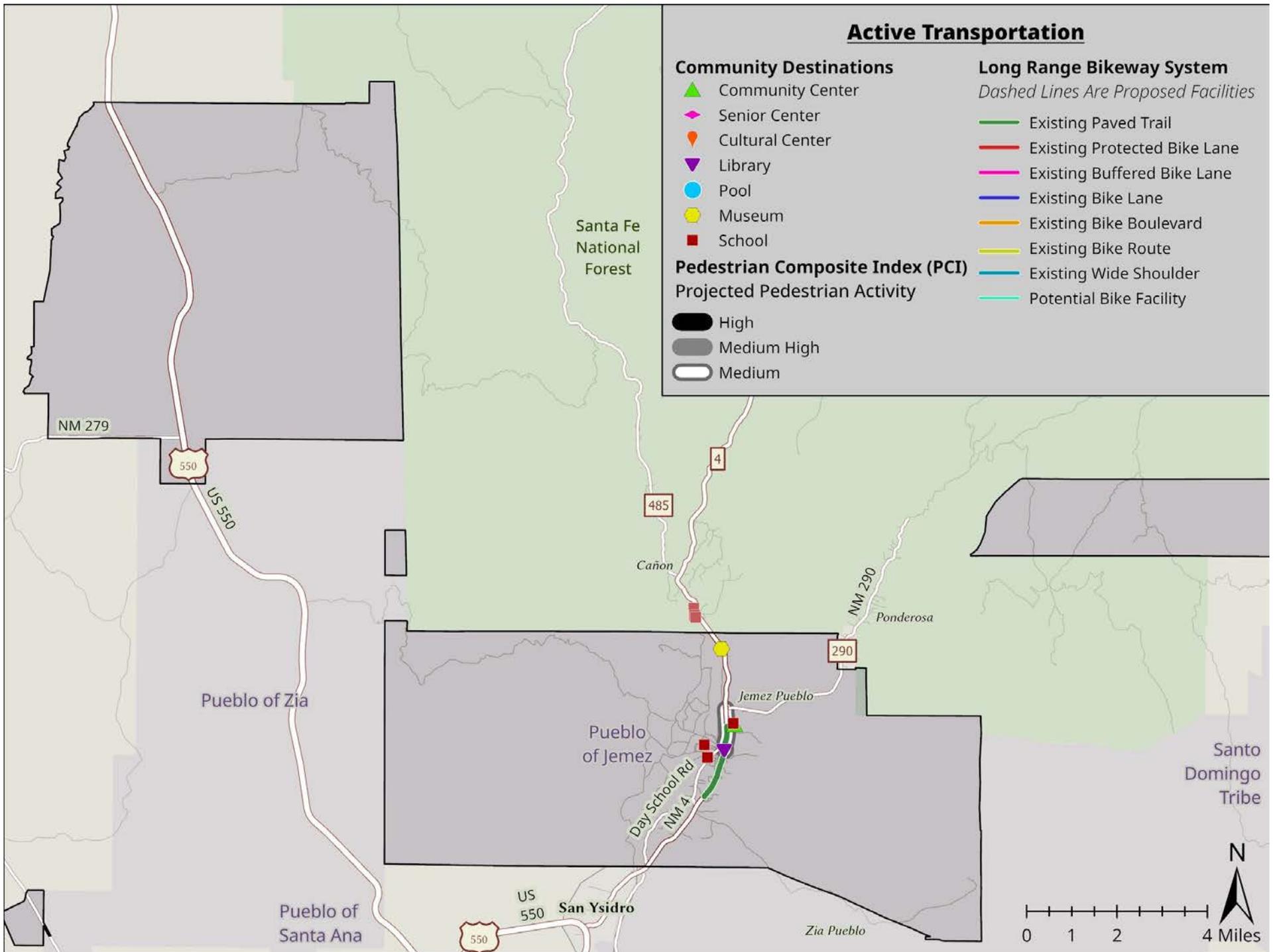
INTERSECTIONS

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
N.M. 4	N.M. 290	3	3447	0.61
U.S. 550	N.M. 279	1	10893	0.25
DAY SCHOOL RD	JEMEZ MOUNTAIN TRL	1	4253.5	0.14

CORRIDORS

Corridor	Location	Killed	Class		Injured	Speed	Lanes
			A				
U.S. 550	NORTH OF N.M. 279 - SOUTH OF CR 11	3	5		30	45	4
N.M. 290	EAST OF N.M. 4 - 6.9 MILES EAST OF N.M. 4	0	1		7	55	2
U.S. 550	NORTH OF JEMEZ RD. - SOUTH OF N.M. 279	0	0		5	70	4
N.M. 4	NORTH OF N.M. 290 - SOUTH OF N.M. 485	0	0		3	40	2
N.M. 4	NORTH OF DAY SCHOOL RD. (N.) - SOUTH OF N.M. 290	0	0		3	30	2





Top Contributing Factor (TCF)

The largest share of severe crashes in the Pueblo of Jemez has come from Driving Left of the Center. This resulted in 2 Class A injuries and one of the three fatalities along U.S. 550. The other two fatalities that occurred along the highway were due to Excessive Speeding – one in light conditions and the other in dark-not light conditions. Overall Excessive Speeding contributed to the largest number of injuries throughout the Pueblo of Jemez at 13. Both Drove Left of the Center and Excessive Speeding factors stand out compared to the rest of the region accounting for 50% of fatalities + Class A injuries and 40.6% of overall injuries respectively. Alcohol Drug Involved was the third major top contributing factor that resulted in injuries, including one severe.

Top Contributing Factor	Pueblo of Jemez				Sandoval				Region			
	Fatal + ClassA	% of Total	Injured	% of Total	Fatal + ClassA	% of total	Injured	% of total	Fatal + ClassA	% of Total	Injured	% of Total
Drove Left Of Center	3	50.0%	3	8.8%	8	11.1%	9	2.2%	45	2.4%	253	0.8%
Excessive Speed	2	33.3%	14	41.2%	17	23.6%	90	21.6%	215	11.4%	2626	8.8%
Alcohol Drug Involved	1	16.7%	5	14.7%	25	34.7%	56	13.5%	441	23.3%	1954	6.5%
Other	0	0.0%	4	11.8%	7	9.7%	51	12.3%	54	2.9%	594	2.0%
Driver Inattention	0	0.0%	3	8.8%	4	5.6%	62	14.9%	208	11.0%	6927	23.1%
None Identified	0	0.0%	3	8.8%	2	2.8%	35	8.4%	85	4.5%	1190	4.0%
Avoid Contact	0	0.0%	1	2.9%	2	2.8%	18	4.3%	45	2.4%	807	2.7%
Mechanical or Road Defect	0	0.0%	1	2.9%	1	1.4%	13	3.1%	30	1.6%	569	1.9%
Improper Driving	0	0.0%	0	0.0%	4	5.6%	29	7.0%	110	5.8%	1980	6.6%
Following Too Closely	0	0.0%	0	0.0%	2	2.8%	31	7.5%	92	4.9%	3251	10.9%
Failed to Yield Right of Way	0	0.0%	0	0.0%	0	0.0%	21	5.0%	271	14.3%	5828	19.5%
Disregard Traffic Signal	0	0.0%	0	0.0%	0	0.0%	0	0.0%	165	8.7%	3034	10.1%
Pedestrian Error	0	0.0%	0	0.0%	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Passed Stop Sign	0	0.0%	0	0.0%	0	0.0%	1	0.2%	29	1.5%	553	1.8%
Bicyclist Error	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	6	100.0%	34	100.0%	72	100.0%	416	100.0%	1890	1	29945	1

Local Concerns

The Pueblo of Jemez has identified traffic and pedestrian safety as top priorities in their Long-Range Transportation Plan, Transportation Safety Plan, and Pedestrian Trails and Bikeways Master Plan. The Pueblo is working on several transportation projects and initiatives to increase safety for drivers, pedestrians, and bicyclists and promote active transportation. The Pueblo recently completed the construction of the Hemish Path to Wellness, a 1.7-mile multi-use pedestrian path along the NM-4 highway. The Pueblo has implemented a safety campaign to promote safe driving practices, pedestrian safety, and use of bicycle helmets. The Pueblo is also conducting a road safety audit (RSA) for the N.M. 4 mileposts 6 through 8. The Pueblo hopes the RSA will result in recommendations to implement a Safe System Approach including the 1) installation of guardrail where there are steep slopes and no shoulders, 2) installation of pedestrian facilities and lighting at the Red Rocks area where there are substantial pedestrian crossings, and 3) reduction of the current speed limit from 50 MPH to 30 MPH in the commercial zone. The Pueblo of Jemez would also like to streamline the process of acquiring data from the New Mexico Department of Transportation (NMDOT) and the Bureau of Indian Affairs (BIA) to run better crash analyses, reduce work, and save time for their small staff.



Site Visit

MRMPO staff visited the Pueblo of Jemez to conduct a site visit on Mission Road. Mission Road is a constrained roadway that leads to the San Diego Riverside Charter School. The route walk was initiated at Mission Road's intersection with Eagle Wings. Many students use the road to walk between the charter school and the village, but because there is no sidewalk, pedestrians must walk in the roadway.

Sidewalks

The Pueblo would like to install sidewalks, or a sidewalk on one side of the road depending on the constraints that exist. The roadway passes above a culverted ditch that could make constructing a sidewalk above it more costly. A house on the north side of the road may restrict sidewalks to the south side only. However, Right-of-Way would likely need to be purchased from residents on the south side of the road to make building a sidewalk possible. The project may be complicated, but in no means impossible, and should be researched further. If sidewalks prove to be impossible, more traffic calming elements could be added to this stretch of roadway to ensure that cars and pedestrians can share it safely.



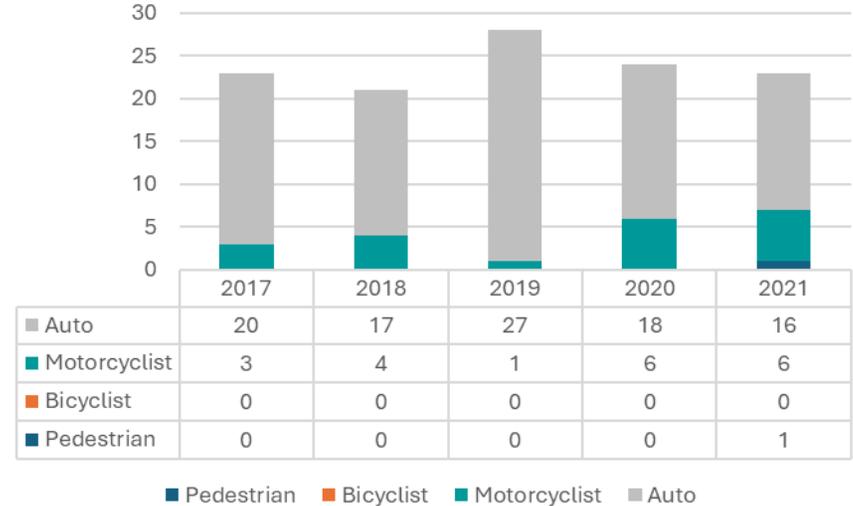
Sandoval County Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

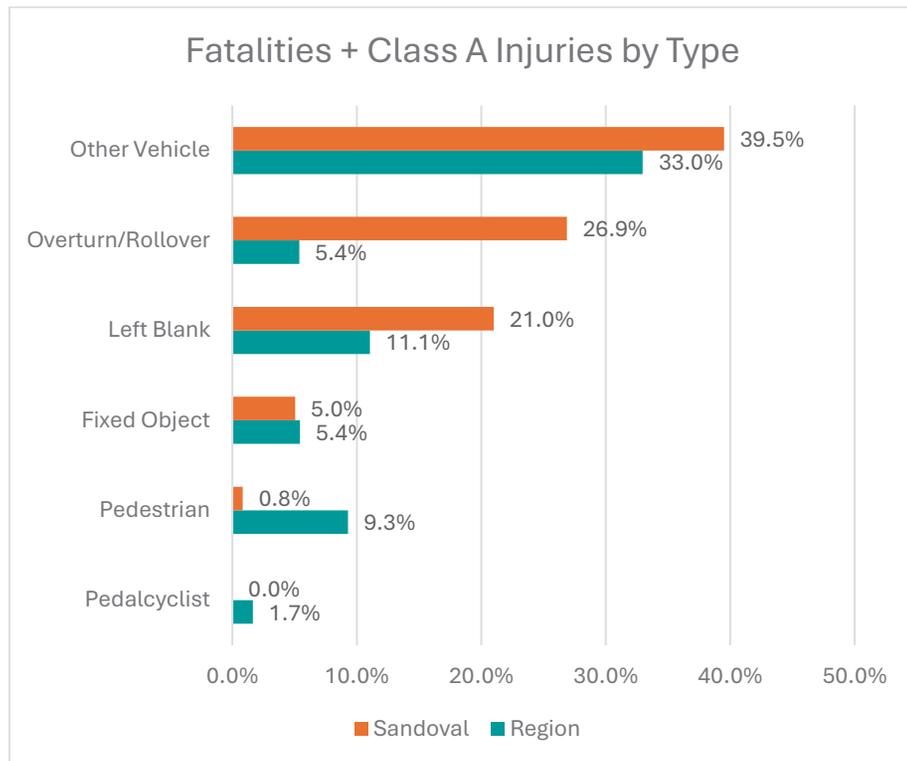
These statistics are for Sandoval County outside of Rio Rancho, the Town of Bernalillo and the Village of Corrales. There were 40 fatalities in Sandoval County. Crashes between vehicles fatalities total 34, motorcycle fatalities total 5, and pedestrian fatalities total 1. There were not any bicycle fatalities identified.

Fatalities and serious incapacitating (Class A) injuries resulting from Rollover crashes are more common in Sandoval County similar to the other rural areas in the region with 27% compared to 8% in the region. Eleven (11) of the Rollover crashes were off the major roadway network. Most of the rollovers take place at 6am and 2pm during the day. Unfortunately, quite a few attributes were left blank. Even though there are less Other Vehicle crashes than the region, there are more Other Vehicle crashes in Sandoval than Torrance or Valencia.

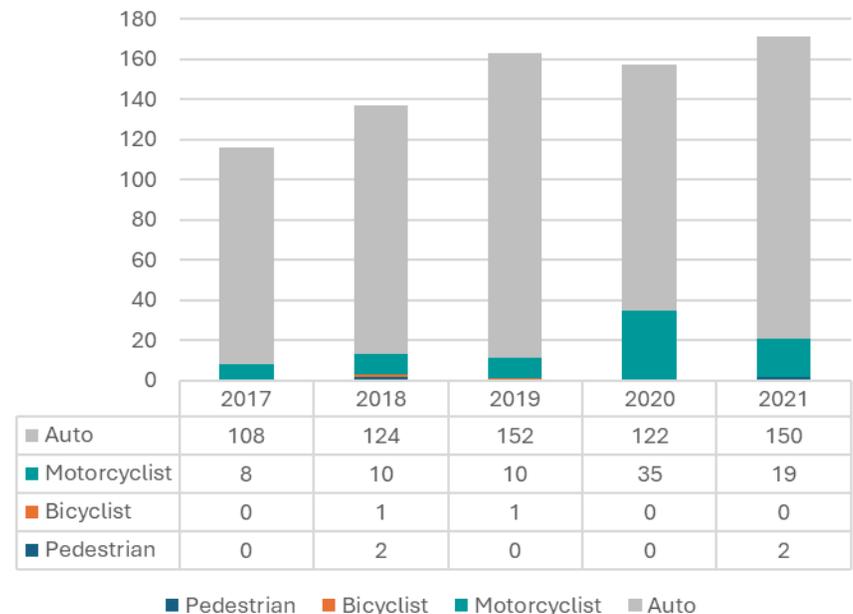
Fatalities + Class A Injuries by Mode and Year



Fatalities + Class A Injuries by Type



Injuries by Mode and Year



Top Intersections and Corridors

State highways make up the majority of high priority intersections and corridors. The locations where two state highways meet make up four of the top five highest risk intersections in Sandoval County. Most of the segments are along U.S. 550 for the top corridors. These sections are all one mile in length. These segments were used because of the extensive length of many of the roadways in Sandoval.

High Priority Maps

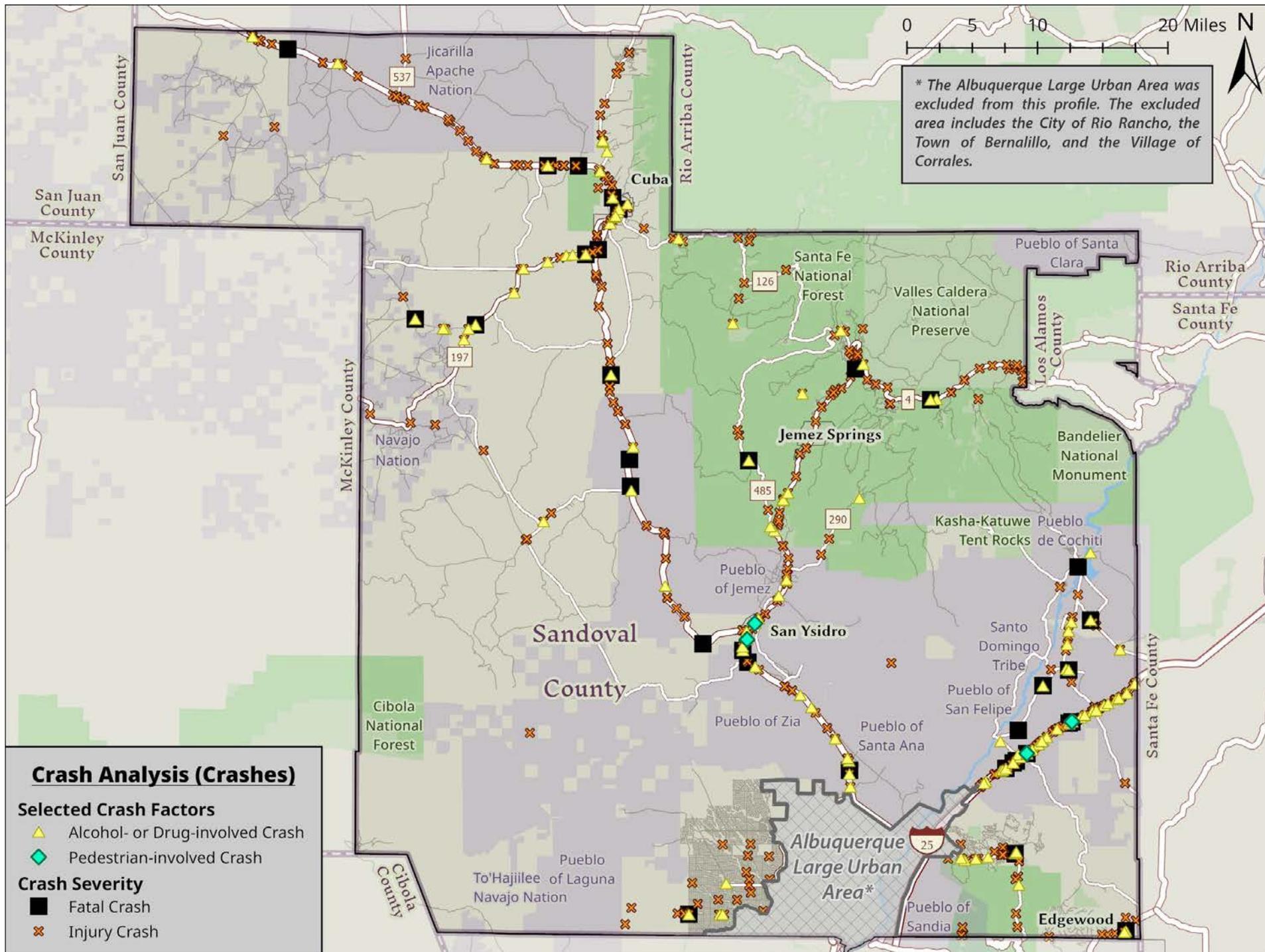
The crash analysis maps further demonstrate that the state highways in rural Sandoval County are the highest risk intersections and corridors. This is especially true for the segments feeding into Cuba, San Ysidro, and the Albuquerque metropolitan area. While I-25 and the other interstates are not displayed in the crash analysis, they are still included on the map to illustrate just how dangerous these high-speed roadways are. The high prevalence of alcohol/drug involved crashes can be seen on the map as well. While pedestrian involved crashes are much less common in rural Sandoval, there still have been a few cases in San Ysidro and along I-25. While the community destinations are limited throughout this rural county, most are adjacent to these high-risk roadways, with little protection offered for non-vehicular travelers.

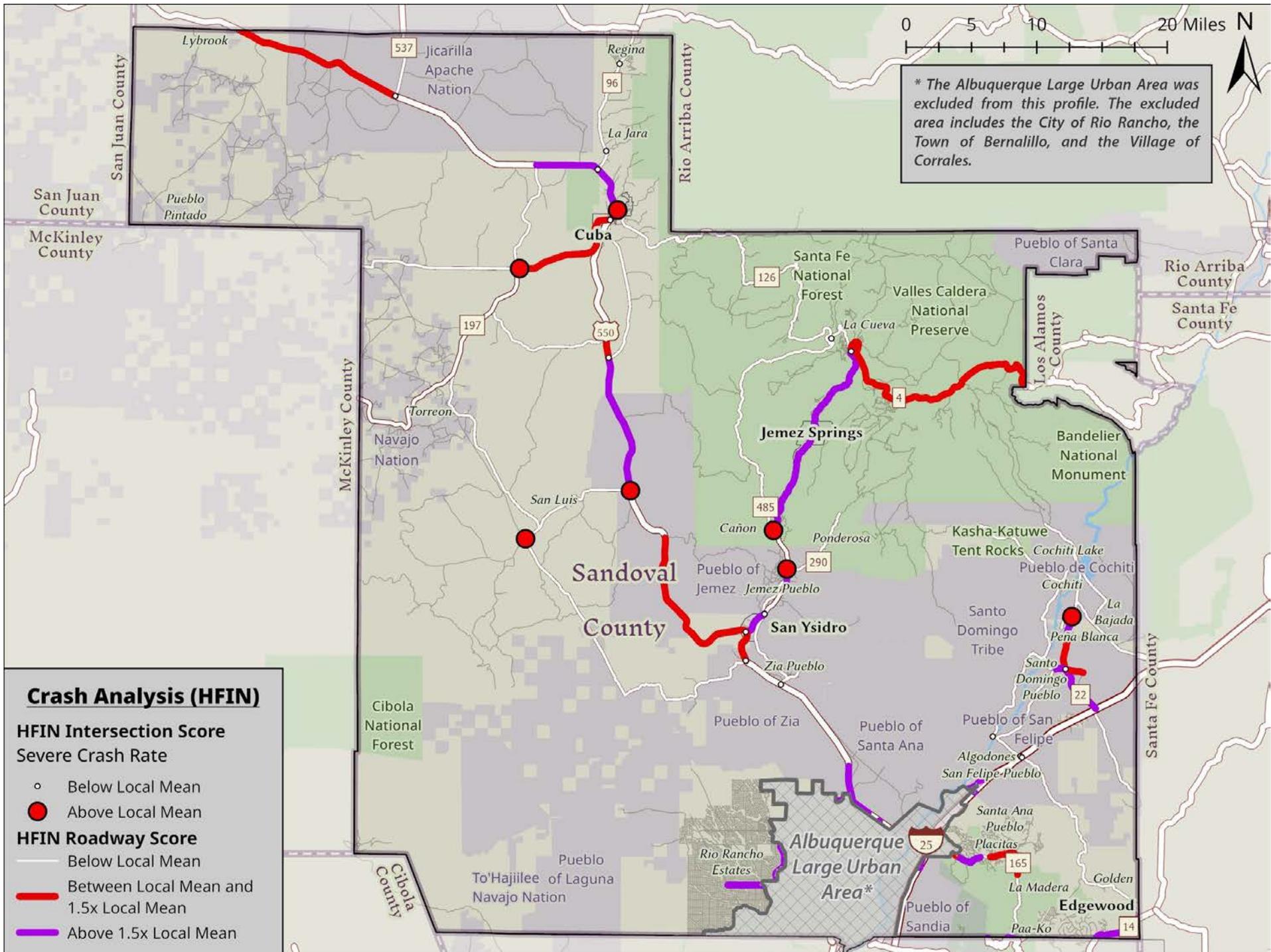
INTERSECTIONS

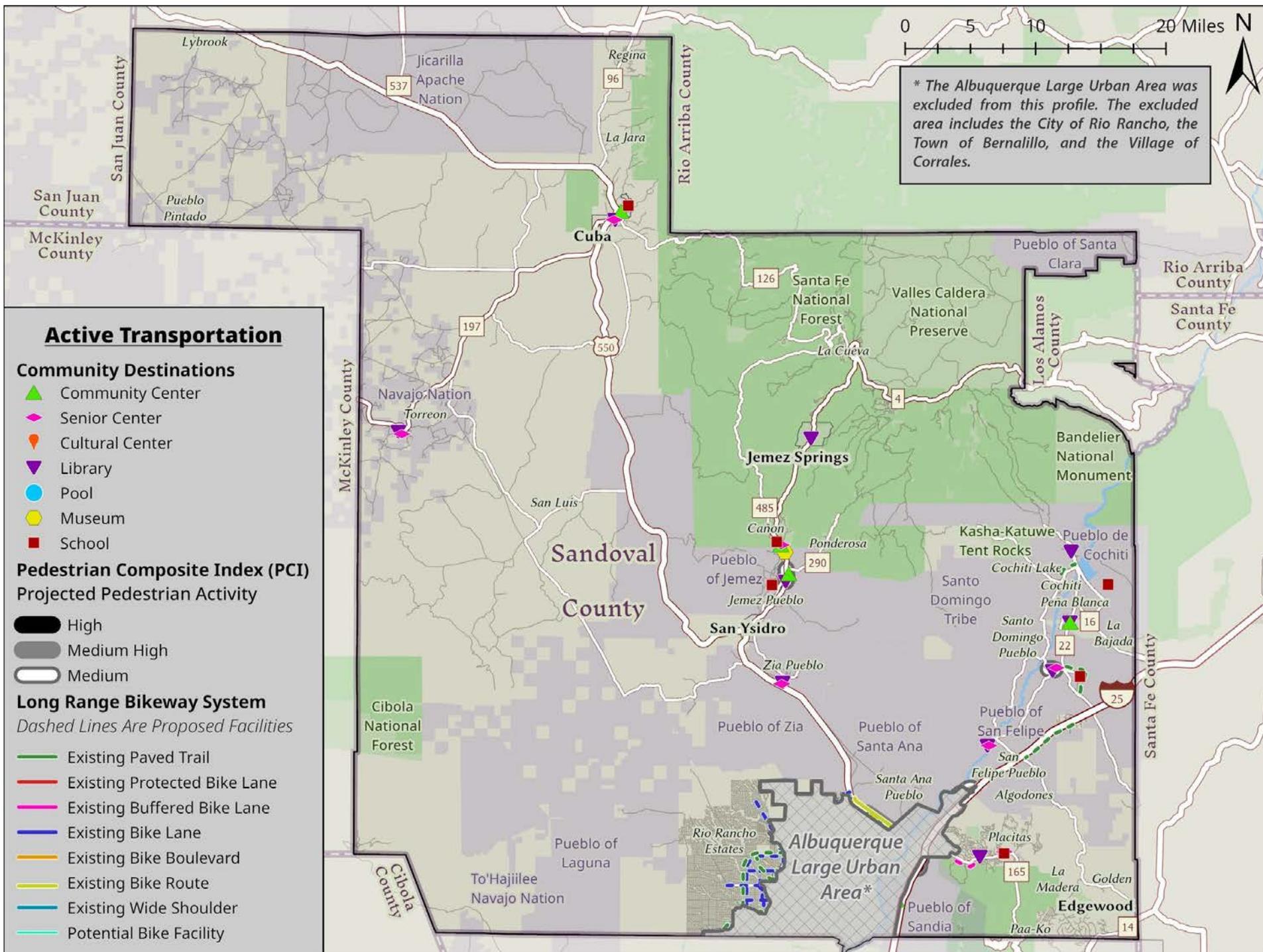
Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
CERRO DE LOS PINOS	NA	1	512.5	1.04
NM 4	NM 485	1	2,783	0.98
HIGHWAY 4	HIGHWAY 290	3	3,447	0.61
NM 197	PRENSOU LN	1	1,299	0.43
NM 22	CALLE ESCUELA VIEJA RD	1	1,898	0.30
US 550	NM 279	1	10,893	0.25
US 550	NM 126	3	7,921.5	0.20
DAY SCHOOL RD	JEMEZ MOUNTAIN TRL	1	4,253.5	0.145
US 550	537	1	6,436	0.09
NM 22	EL CAMINO REAL	2	6,867	0.08

CORRIDORS

Corridor	Location	Killed	Class A	Injuries	Speed	Lanes
N.M. 536	SANDOVAL/BERNALILLO C.L. - BERNALILLO/SANDOVAL C.L.	1	2	8	30	2
N.M. 4	EAST OF ZIA LAKE RD. - SOUTH OF DAY SCHOOL RD. (S.)	0	0	1	55	2
N.M. 126	EAST OF U.S. 550 - WEST OF COUNTY RD. 13	0	3	3	45	2
U.S. 550	NORTH OF N.M. 197 (CUBA) - SOUTH OF N.M. 126	0	3	5	35	4
U.S. 550	NORTH OF N.M. 126 - S.E. OF N.M. 96	0	4	19	35	4
N.M. 4	EAST OF U.S. 550 - WEST OF ZIA LAKE RD.	0	0	9	35	2
N.M. 536	SANDOVAL/BERNALILLO C.L. - EAST OF SANDIA CREST PARKING	1	1	15	40	2
U.S. 550	NORTH OF N.M. 279 - SOUTH OF CR 11	3	5	30	45	4
N.M. 4	NORTH OF DAY SCHOOL RD. (N.) - SOUTH OF N.M. 290	0	0	3	30	2
U.S. 550	WEST OF N.M. 96 - EAST OF CHUILLA	2	4	11	70	4







Top Contributing Factor (TCF)

Top Contributing Factor for Other Vehicle are Alcohol Involved (29%), Excessive Speed (19%), and Drove Left of Center (19%). Drove Left of Center is not as common in the region, but it is not clear why they were indicated as such. Not all years have TCF identified so the sample is smaller. Below are the top contributing factors for all the fatal and Class A crashes compared to the region. The data does seem to indicate that Excessive Speed along with Alcohol Drug Involved is a high concern in this area resulting in both rollovers and hitting other vehicle mid-way along long stretches of roadway.

Top Contributing Factor	Sandoval				Region			
	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of total	Injured	% of total
Alcohol Drug Involved	25	34.7%	56	13.5%	441	23.3%	1954	6.5%
Excessive Speed	17	23.6%	90	21.6%	215	11.4%	2626	8.8%
Drove Left Of Center	8	11.1%	9	2.2%	45	2.4%	253	0.8%
Other	7	9.7%	51	12.3%	54	2.9%	594	2.0%
Driver Inattention	4	5.6%	62	14.9%	208	11.0%	6927	23.1%
Improper Driving	4	5.6%	29	7.0%	110	5.8%	1980	6.6%
None Identified	2	2.8%	35	8.4%	85	4.5%	1190	4.0%
Following Too Closely	2	2.8%	31	7.5%	92	4.9%	3251	10.9%
Avoid Contact	2	2.8%	18	4.3%	45	2.4%	807	2.7%
Mechanical or Road Defect	1	1.4%	13	3.1%	30	1.6%	569	1.9%
Failed to Yield Right of Way	0	0.0%	21	5.0%	271	14.3%	5828	19.5%
Passed Stop Sign	0	0.0%	1	0.2%	29	1.5%	553	1.8%
Disregard Traffic Signal	0	0.0%	0	0.0%	165	8.7%	3034	10.1%
Pedestrian Error	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Bicyclist Error	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	72	100.0%	416	100.0%	1890	100.0%	29945	100.0%

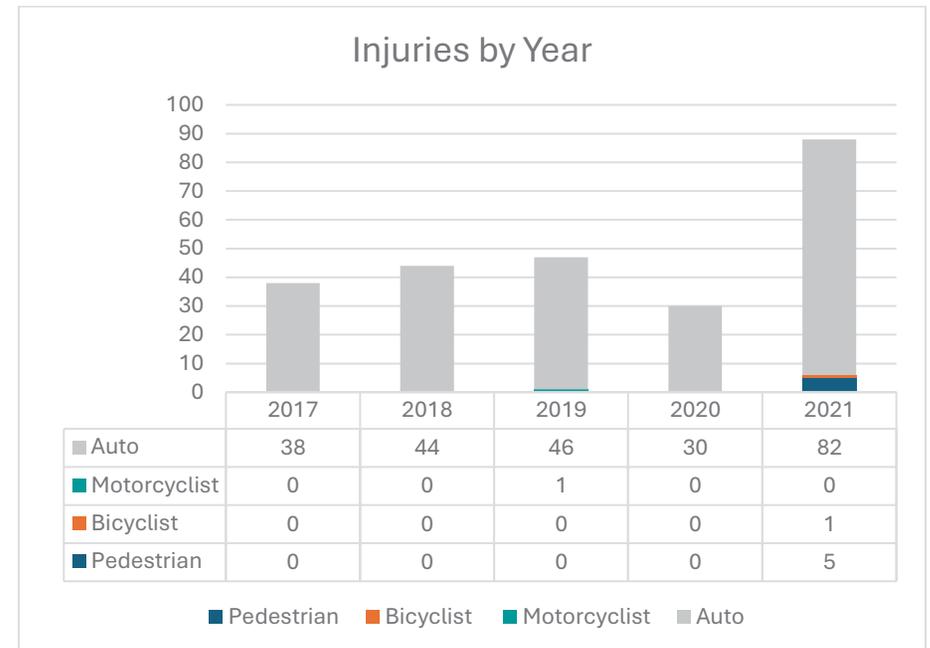
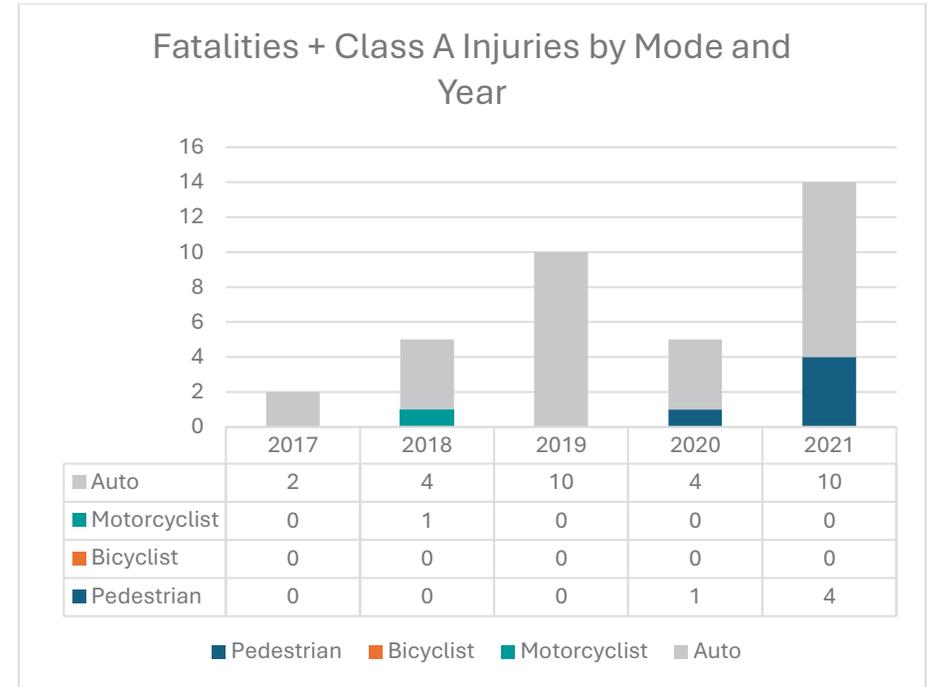
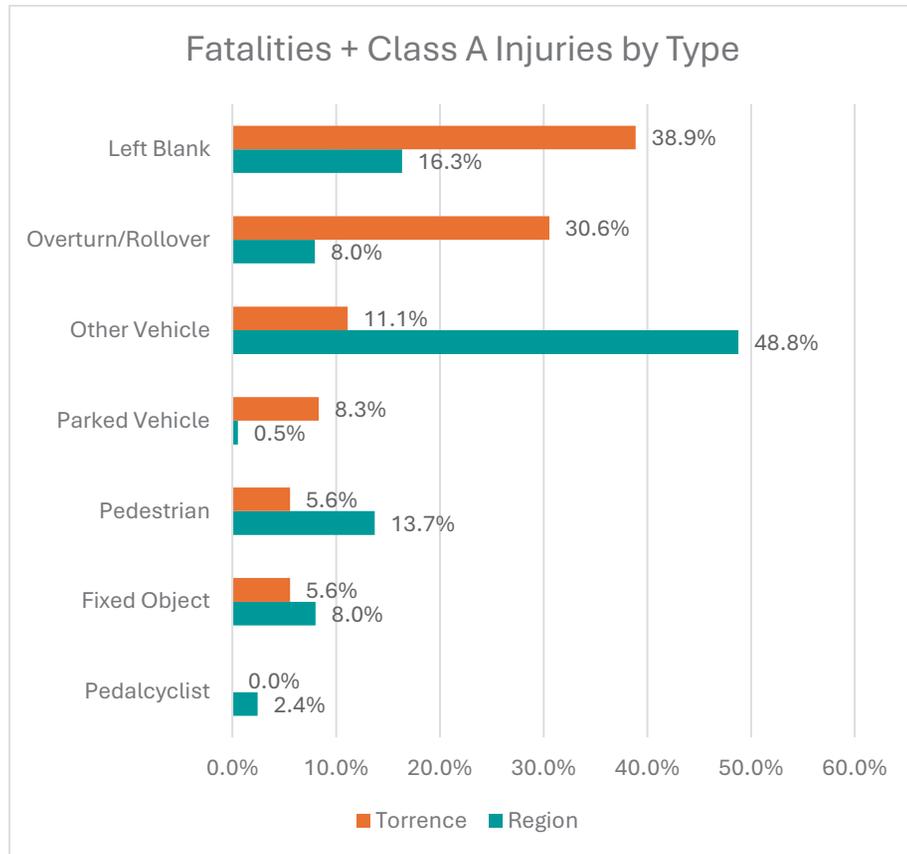
Santo Domingo Pueblo, San Felipe, and Pueblo de Cochiti

If we look at Sandoval County as a whole, there are 1676 crashes total and 40 fatalities. 2.4% of the crashes resulted in a fatality. Of the County's 40 fatalities, 6 occurred in San Felipe, Santo Domingo, and Cochiti Pueblo area meaning 15% resulted in a fatality in this area.

Torrance County Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

Torrance County has a small population of 15,045 people according to the 2020 census. There were 44 fatalities in the county, with 17 occurring on I-40. Of these fatalities, 3 were pedestrians also on I-40. Vehicular fatalities totaled 33, motorcycle fatalities were 3, and there was 1 bicycle fatality. Among the 7 pedestrian fatalities, 3 occurred on I-40, and 6 happened in dark conditions. The fatal bicyclist crash occurred west of Mountain Air. Rollover crashes resulting in fatalities and serious incapacitating (Class A) injuries are more common in Torrance County, accounting for 29.2% compared to 8% in the region. Most rollovers occur during the day, with higher numbers during afternoon rush hour traffic. While alcohol involvement plays a role, it is not higher than the regional impact.



Top Intersections and Corridors

Torrance is comprised of smaller urban and rural areas, resulting in the bulk of regional traffic passing through the county via state highways. Consequently, most crashes occur along these routes. This trend is evident in the top HFIN corridors, where all except Edgewood 7 are state highways. Although N.M. 285's high crash frequency isn't fully reflected in the HFIN total (due to its extensive length), it remains an important consideration – especially for its high number of rollover crashes.

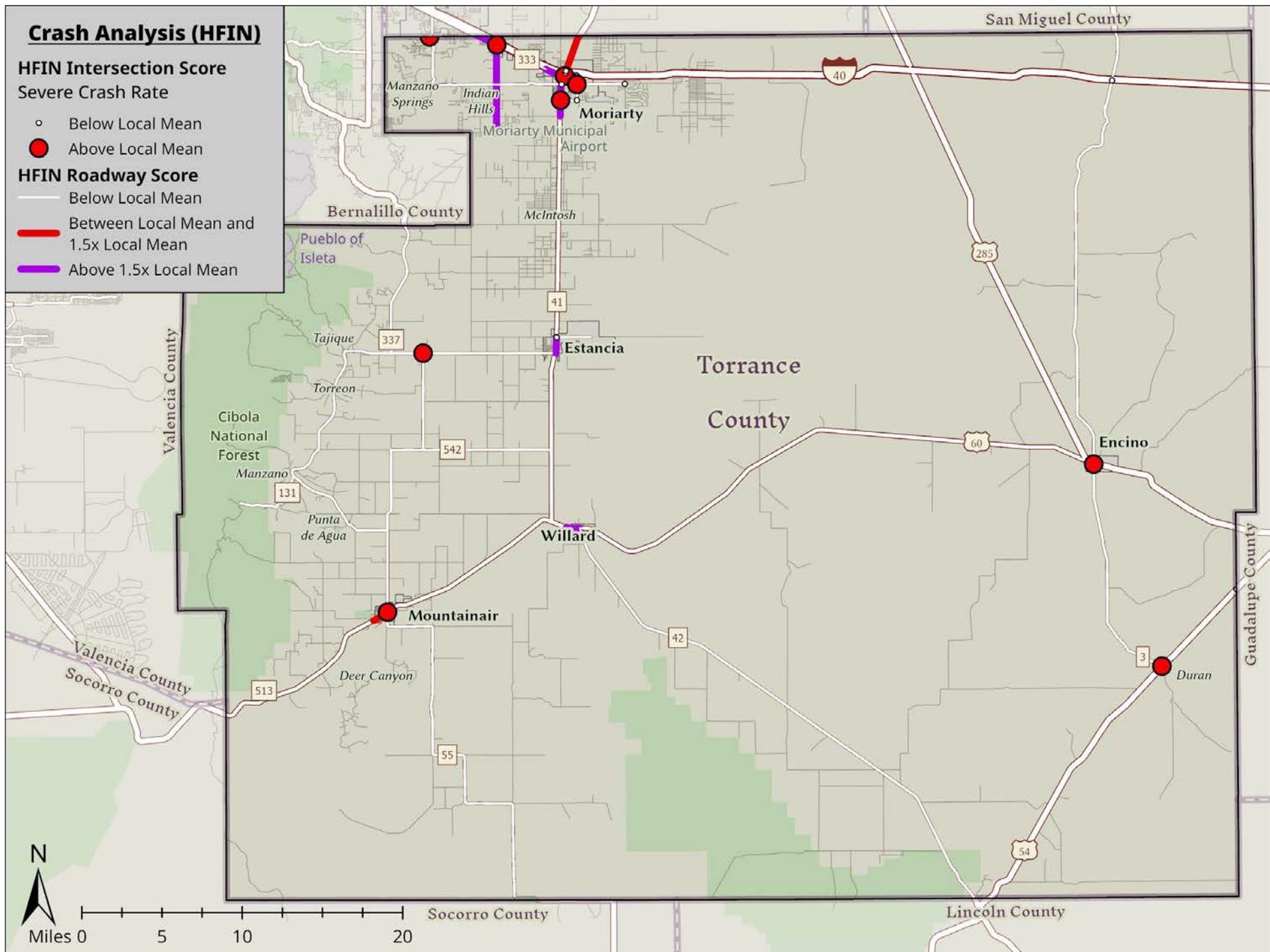
On the other hand, the top intersections are primarily within municipal areas, particularly Moriarty, Estancia, and Encino. Many of these high-risk intersections are also located along state highways and the main streets of small towns. While I-40 is not part of the Torrance County crash analysis, it's crucial to recognize the risk it poses. A significant number of fatal, injury, and pedestrian-involved crashes occur along the interstate. Areas lacking physical separation are particularly prone to severe crashes.

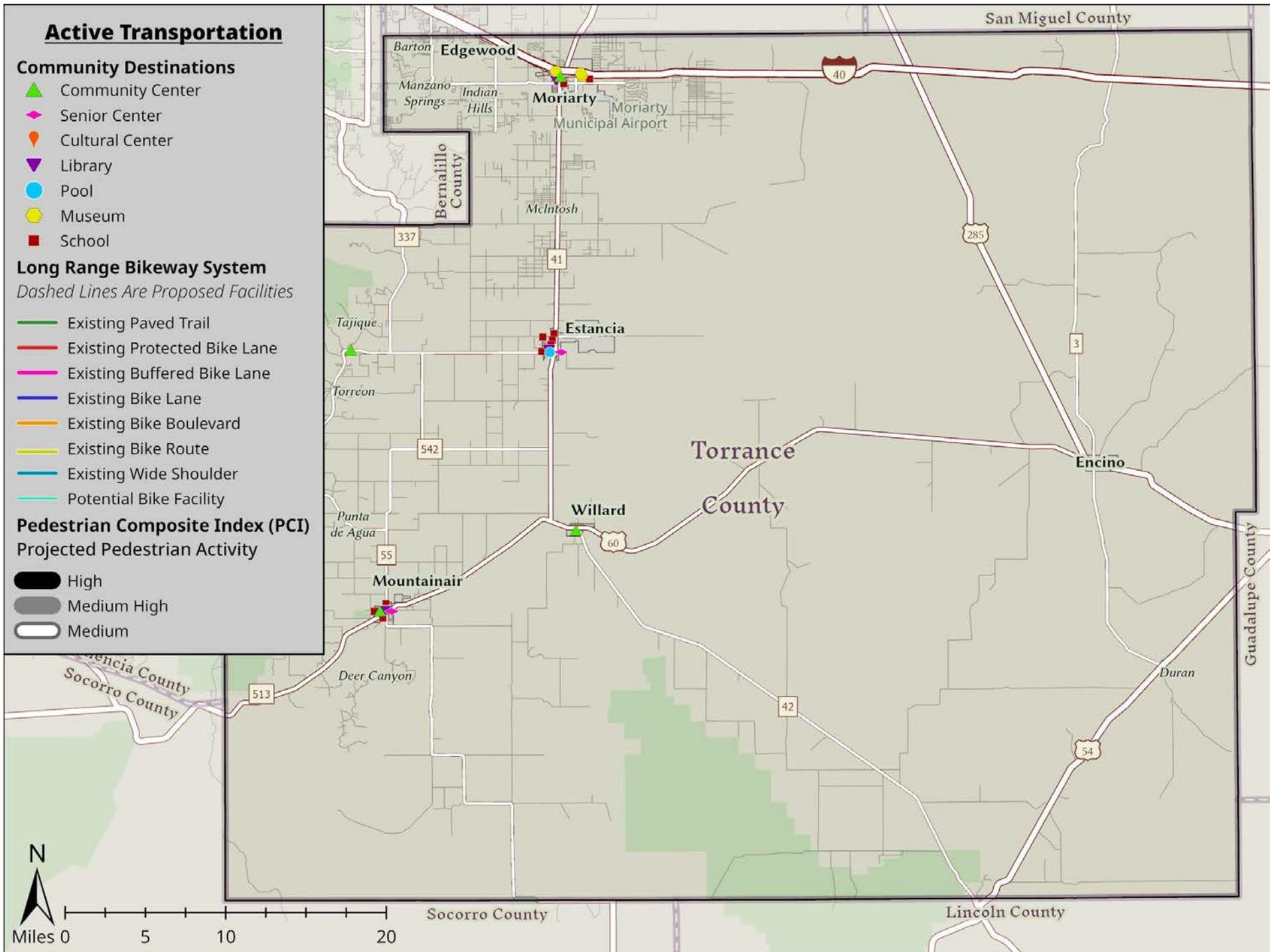
Main Streets

It is recommended that the small towns in Torrance County consider developing plans for improving their Main Streets and ask for funds from New Mexico Main Street. <https://www.nmmainstreet.org>

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
MARTINEZ RD	LEXCO RD	9	2,096.5	1.72
PASEO				
PONIENTE	MARTINEZ RD	4	1,274	0.64
ROUTE 66	LEXCO	10	3,803.5	0.58
NM 55	RILEY RD	1	1,068	0.52
US 54	NM 3	1	1,802	0.35
	HOWARD			
ROUTE 66	CAVASO BLVD	13	14,238	0.34
MARTINEZ RD	WINDMILL RD	1	1,850	0.26
HERITAGE LN	HIGHWAY 41	3	4,475	0.24
US 60	NM 55	1	2,740.5	0.20
NM 3	US 60	3	3,445	0.17

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
N.M. 41	NORTH OF L34 (ROUTE 66 HISTORIC - SOUTH OF I-40 SOUTH RAMPS	0	0	15	40	2
L34 (ROUTE 66)	EAST OF N.M. 333 - WEST OF N.M. 41	0	1	27	40	2
L34 (ROUTE 66)	EAST OF N.M. 41 - WEST OF PASEO PONIETE	0	0	14	40	4
N.M. 41	NORTH OF I-40 SOUTH RAMPS - SOUTH OF I-40 NORTH RAMP	0	0	2	40	2
N.M. 333	SANTA FE /TORRANCE C.L. - WEST OF LEXCO	0	0	15	55	2
EDGEWOOD 7	NORTH OF MARTINEZ RD. - SOUTH OF N.M. 333	0	0	18	30	2
N.M. 333	SOUTHEAST OF N.M. 344 - SANTA FE/TORRANCE C.L.	3	1	29	55	2
N.M. 41	NORTH OF N.M. 55 - SOUTH OF ALAN AYERS	0	1	6	35	2
U.S. 60	1.0 MILES EAST OF N.M. 41 - WEST OF N.M. 42 AT WILLARD	1	0	3	35	2
N.M. 41	NORTH OF MCNABB - SOUTH OF L34 (ROUTE 66)	0	0	14	55	2
U.S. 285	NORTH OF U.S. 60 AT ENCINO - SOUTH OF I-40 SOUTH RAMPS (PC)	3	3	25	45	4





High Priority Maps

The crash analysis map illustrates the concentration of crashes in Moriarty, with higher numbers occurring along state highways – particularly N.M. 41 and N.M. 285. Notably, N.M. 42 had 3 fatal crashes between 2017 and 2021, despite a lower overall crash rate. Although Mountainair and Duran are very small, they host high-risk intersections above the county HFIN mean, where state highways intersect. Fatal crashes are scattered throughout the rural regions of the county, once again highlighting safety concerns for these rural roadways. Factors such as excessive speeding, lighting conditions, road quality, and lack of signage play significant roles and can be addressed to reduce the number of crashes in these areas.

The active transportation map shows that community destinations in Torrance are primarily located in Moriarty, Estancia, and Mountainair. The county’s only other destinations are community centers in Willard and Tajique. Each of these locations is adjacent to intersections above the county HFIN mean and/or has experienced a fatal crash. In Moriarty, pedestrian-involved crashes are common near these community destinations. Additionally, there has been an abundance of alcohol/drug-involved crashes throughout Moriarty, demonstrating extra risk for all types of road users. These small towns in Torrance are situated along the state’s highways, with their main economic and activity centers right next to these higher-speed roadways. This situation puts local pedestrians, bicyclists, and other vulnerable road users in harm’s way when navigating these high-activity areas.

Top Contributing Factor (TCF)

The TCF data is limited to 2017-2019 but still provides some insight into why some of these crashes are occurring. Surprisingly Alcohol/Drug involved crashes (16%) is not the highest TCF rather Inattentive Driving is. Additional high ranked factors are Excessive Speed (14%) and Avoid Contact (10%). It is not clear if this is with other vehicles or animals.

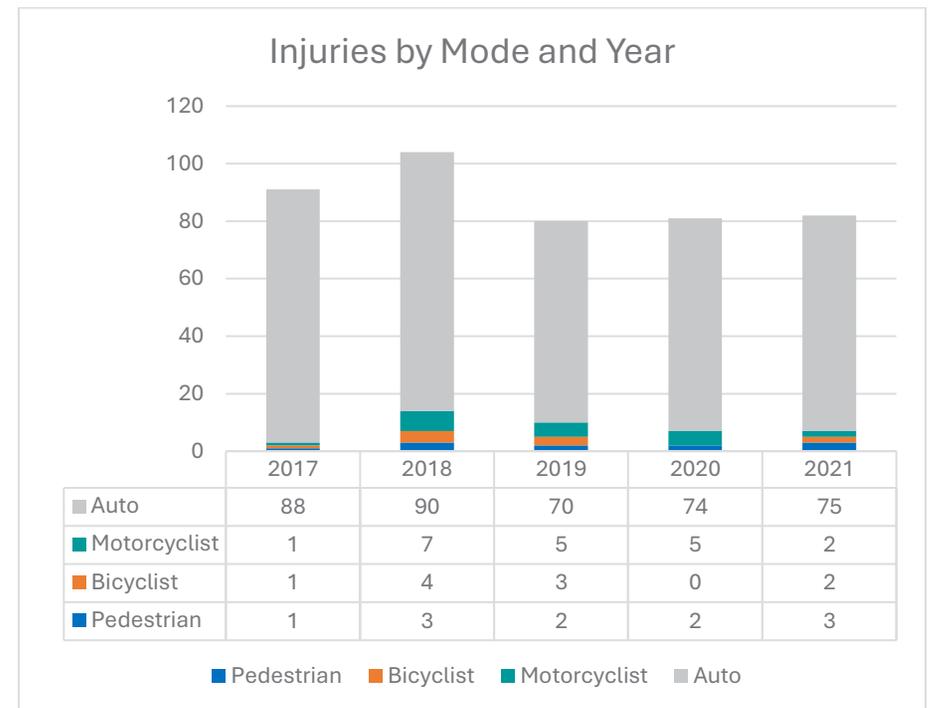
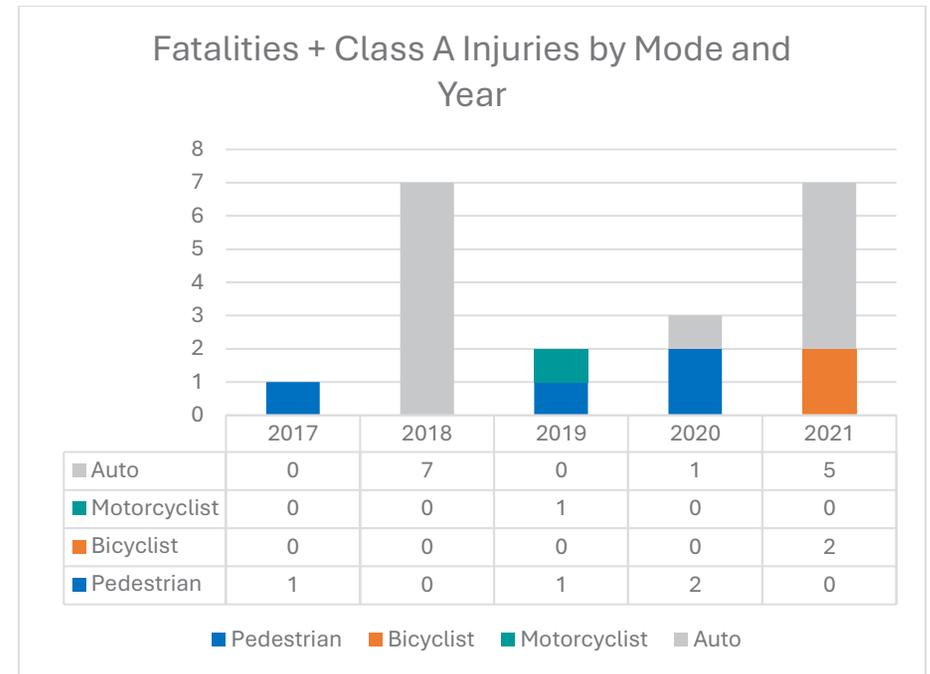
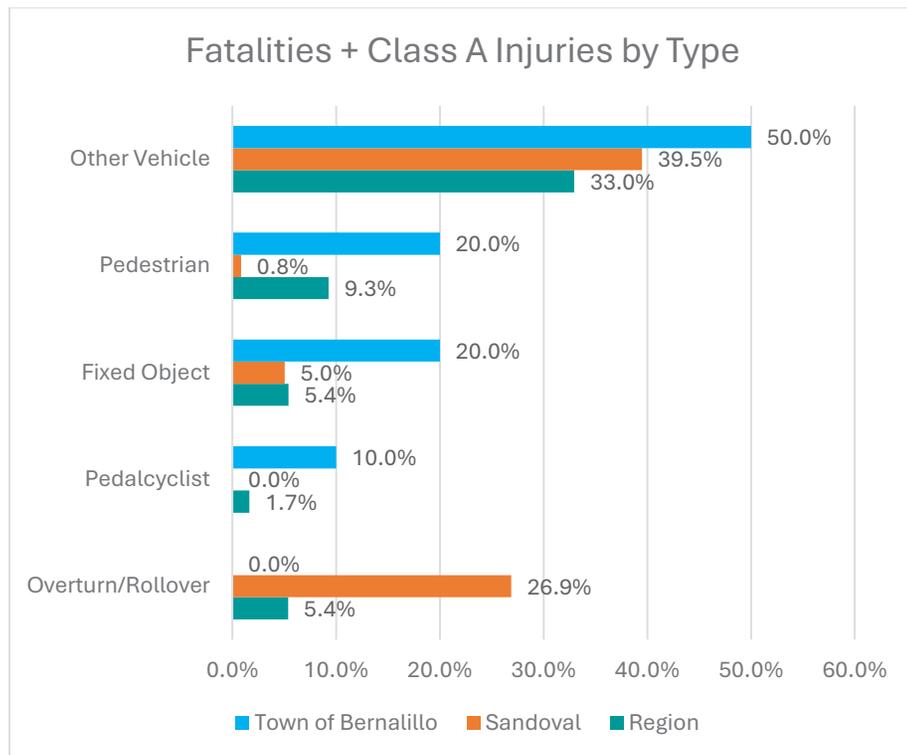
Top Contributing Factor	Torrance				Region			
	Fatal + ClassA	% of total	Injured	% of total	Fatal + ClassA	% of total	Injured	% of total
Driver Inattention	5	29.4%	44	34.1%	45	2.4%	253	0.8%
Excessive Speed	3	17.6%	16	12.4%	441	23.3%	1954	6.5%
Avoid Contact	3	17.6%	11	8.5%	45	2.4%	807	2.7%
Mechanical or Road Defect	2	11.8%	15	11.6%	29	1.5%	553	1.8%
Other	2	11.8%	6	4.7%	165	8.7%	3034	10.1%
Improper Driving	1	5.9%	16	12.4%	85	4.5%	1190	4.0%
Failed to Yield Right of Way	1	5.9%	2	1.6%	208	11.0%	6927	23.1%
None Identified	0	0.0%	8	6.2%	92	4.9%	3251	10.9%
Following Too Closely	0	0.0%	6	4.7%	110	5.8%	1980	6.6%
Alcohol Drug Involved	0	0.0%	4	3.1%	215	11.4%	2626	8.8%
Drove Left Of Center	0	0.0%	1	0.8%	54	2.9%	594	2.0%
Passed Stop Sign	0	0.0%	0	0.0%	271	14.3%	5828	19.5%
Bicyclist Error	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Disregard Traffic Signal	0	0.0%	0	0.0%	30	1.6%	569	1.9%
Pedestrian Error	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	17	100.0%	129	100.0%	1890	100.0%	29945	100.0%

Town of Bernalillo Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

In Bernalillo, crash statistics reveal some notable trends. The town experiences a higher rate of vehicle-on-vehicle crashes compared to both Sandoval County and the broader region. What stands out even more are the elevated rates of fatalities and Class A injuries involving pedestrians, fixed objects, and bicyclists. Interestingly, between 2017 and 2021, Bernalillo had no overturns or rollovers—a rarity in small urban, rural, and tribal areas. However, this absence is offset by a higher rate of fixed object collisions, reflecting the recent trend of increasing single-vehicle crashes.

Notably, 2018 marked a significant year for fatalities and injuries. Seven fatalities or Class A injuries occurred, along with a total of 90 injuries involving automobiles, leading to a spike in the number of crashes. It wasn't until 2021 that similar numbers were reported. This trend aligns with the overall increase in crashes observed across the region and the nation.



Top intersections and Corridors

The most high-risk locations for both intersections and corridors in the Town of Bernalillo are along U.S. 550 and N.M. 313. Despite adjusting for traffic volume and lengths, these two corridors still exhibit the highest severe crash rates and High Fatality and Injury Network (HFIN) totals. Among the top five intersections and corridors, U.S. 550 recorded 5 fatalities and 163 injuries (including 5 class A injuries), while N.M. 313 had 132 injuries. Notably, 57 of these injuries occurred at the intersections, highlighting safety concerns for both roadways.

Potential Road Diet Candidates

Corridor	Road Diet Type
N.M. 528	Priority 2A: 6 Lanes 20,000 to 25,000
N.M. 313	Priority 1B 4 Lanes under 20,000

High Priority Maps

The crash analysis map highlights that U.S. 550 and N.M. 313 are the roadways with the highest number of injury crashes in the Town of Bernalillo. N.M. 473 also experiences a significant number of injury crashes, exceeding the local HFIN mean. However, the most concerning corridor that surpasses the local HFIN along multiple segments is U.S. 550.

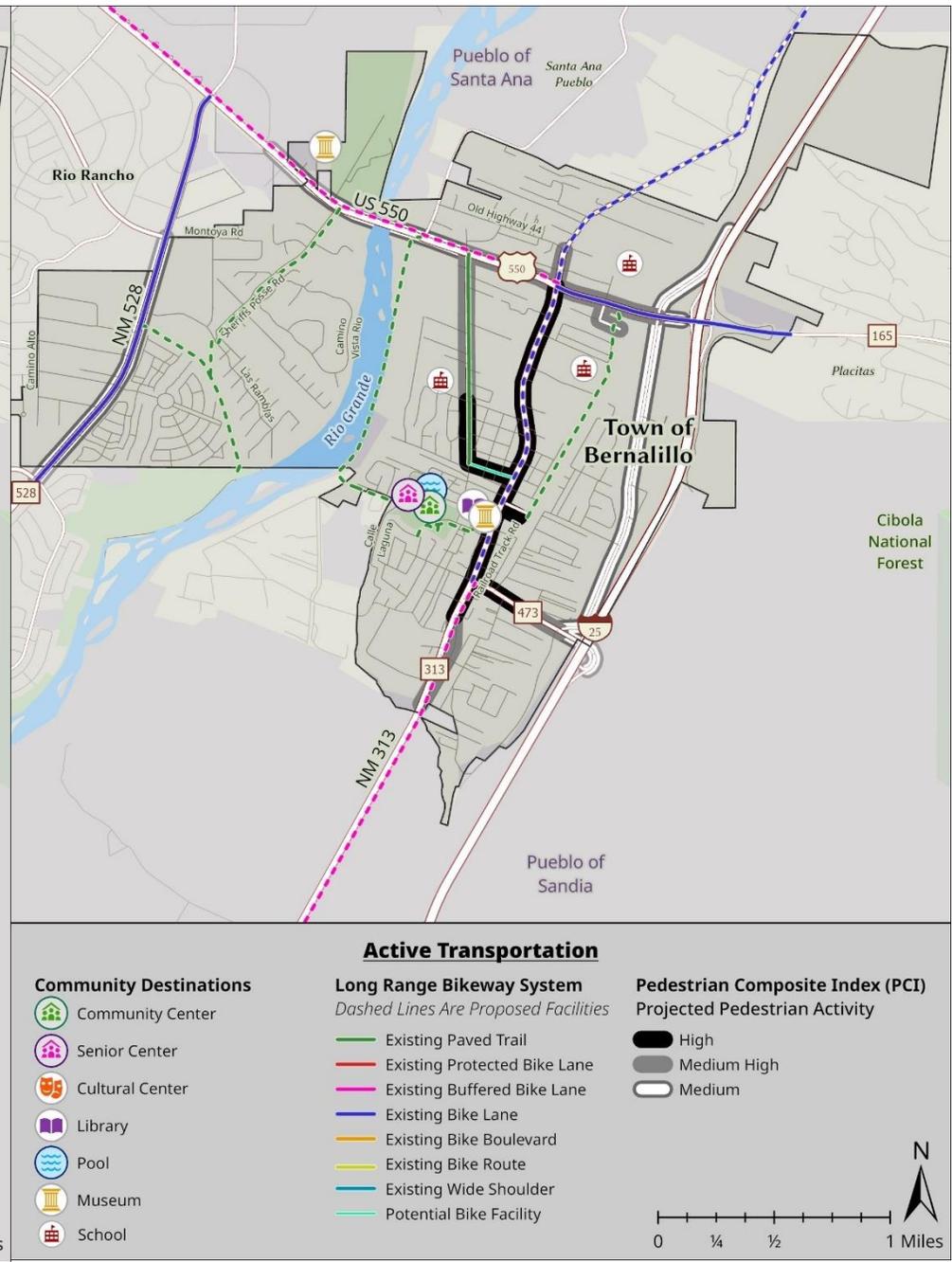
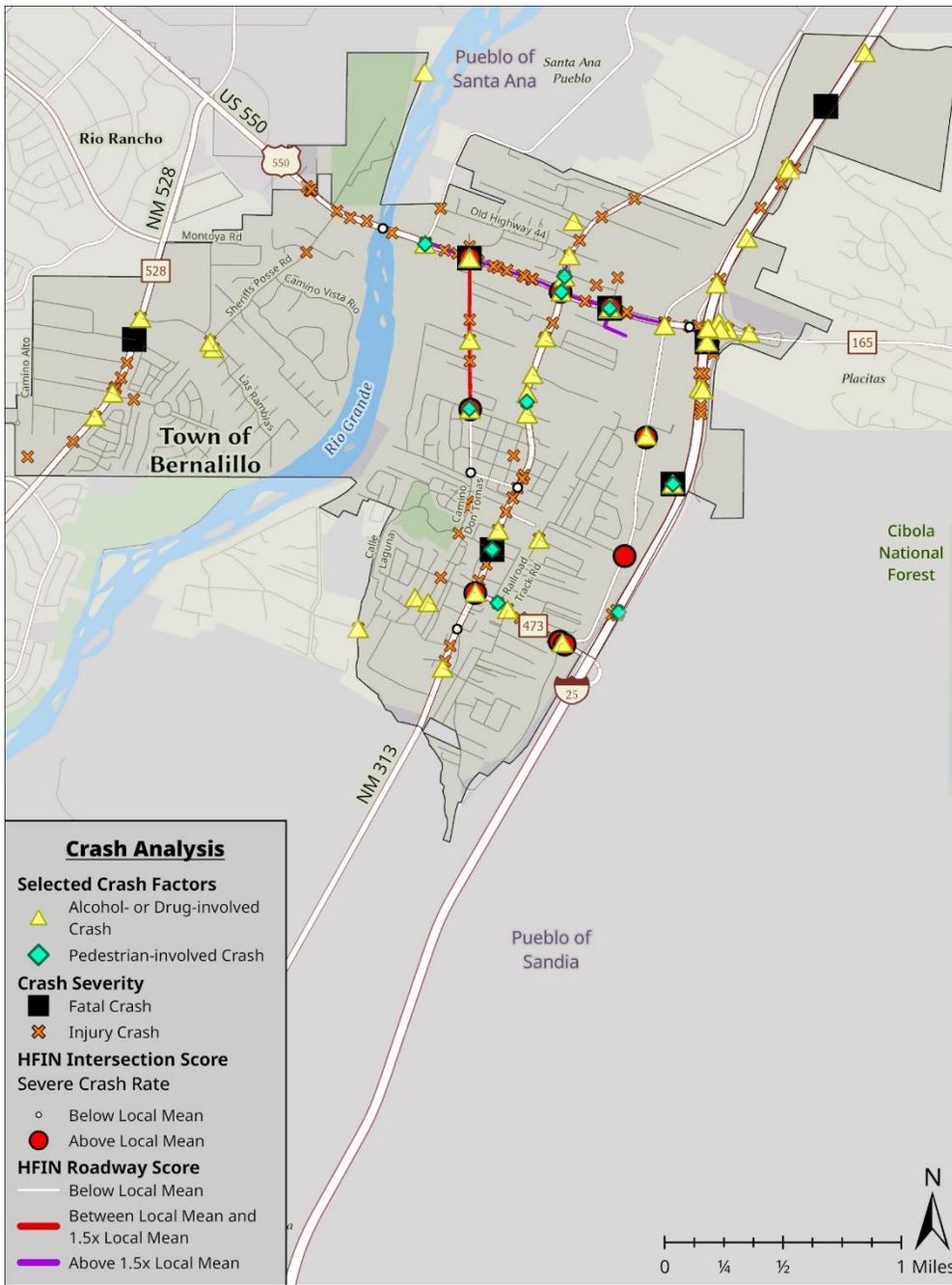
The active transportation map illustrates how much pedestrian activity is in the Town of Bernalillo, especially along N.M. 313, U.S. 550, and Camino Don Thomas. U.S. 550 is higher risk for pedestrians because it's HFIN score is over 1.5x the local mean and has the most crashes in the town along with N.M. 313. Both corridors are popular locations for residents of all modes but are the most dangerous locations for vulnerable road users.

INTERSECTIONS

Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
U.S. 550	CAMINO DON TOMAS	65	45,112	0.68
CALLE DEL NORTE	CAMINO DON TOMAS	6	4,400	0.66
U.S. 550	RAIL RUNNER AVE.	43	36,453.5	0.57
U.S. 550	N.M. 313	57	48,199	0.52
N.M. 473	N.M. 313	13	11,355	0.45

CORRIDORS

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
U.S. 550	WEST OF RAIL RUNNER AVE. - EAST OF N.M. 313	2	1	101	40	6
U.S. 550	EAST OF DON THOMAS - WEST OF SANTA ANA	1	2	81	40	4
N.M. 313	NORTH OF U.S. 550 - SOUTH OF YSIDRO SANCHEZ CIR.	0	0	62	35	2
U.S. 550	WEST OF N.M. 313 - EAST OF DON TOMAS	1	2	130	40	4
RAIL RUNNER AVE	RAIL RUNNER STATION - SOUTH OF U.S. 550	1	1	42	25	2
N.M. 528	NORTH OF IDALIA SOUTH OF ENCHANTED HILLS BLVD.	1	1	107	55	4



Top Contributing Factor (TCF)

In Bernalillo, Excessive Speeding contributes to a significantly higher rate of fatalities and Class A injuries compared to Sandoval County and the broader region. While overall injuries related to Excessive Speeding align more closely with the regional average, they remain notably lower than in Sandoval County. However, what truly stands out is injury crashes resulting from Failing to Yield Right of Way and Following Too Closely. These two factors account for 24% and 23.6% of all transportation-related injuries in Bernalillo, surpassing the corresponding figures in both Sandoval County and the region.

Top Contributing Factor	Town of Bernalillo				Sandoval				Region			
	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of total	Injured	% of total	Fatal + Class A	% of total	Injured	% of total
Excessive Speed	6	60.0%	26	9.5%	17	23.6%	90	21.6%	215	11.4%	2626	8.8%
Alcohol Drug Involved	2	20.0%	17	6.2%	25	34.7%	56	13.5%	441	23.3%	1954	6.5%
Driver Inattention	1	10.0%	29	10.5%	4	5.6%	62	14.9%	208	11.0%	6927	23.1%
Drove Left Of Center	1	10.0%	1	0.4%	8	11.1%	9	2.2%	45	2.4%	253	0.8%
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Avoid Contact	0	0.0%	9	3.3%	2	2.8%	18	4.3%	45	2.4%	807	2.7%
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Bicyclist Error	0	0.0%	3	1.1%	0	0.0%	0	0.0%	5	0.3%	59	0.2%
Pedestrian Error	0	0.0%	2	0.7%	0	0.0%	0	0.0%	95	5.0%	304	1.0%
Traffic Control Not Functioning	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	16	0.1%
Total	10	100.0%	275	100.0%	72	100.0%	416	100.0%	1890	100.0%	29945	100.0%

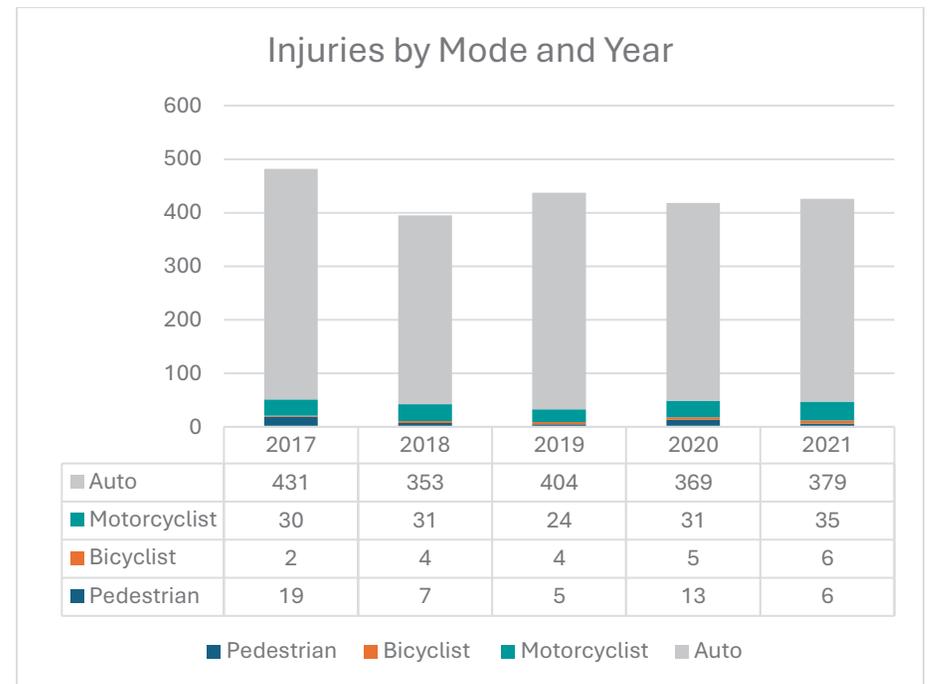
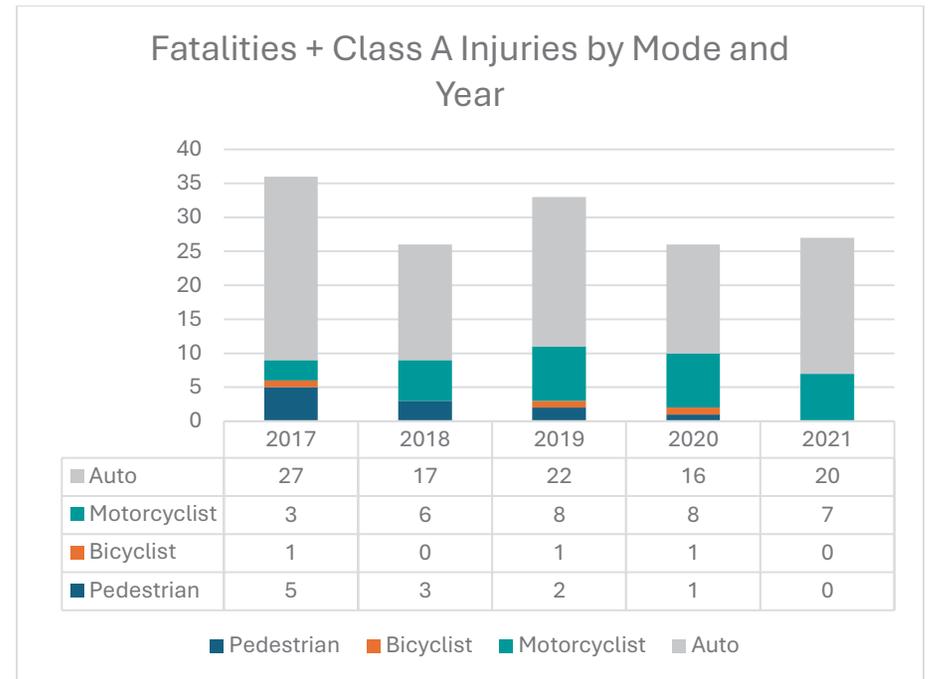
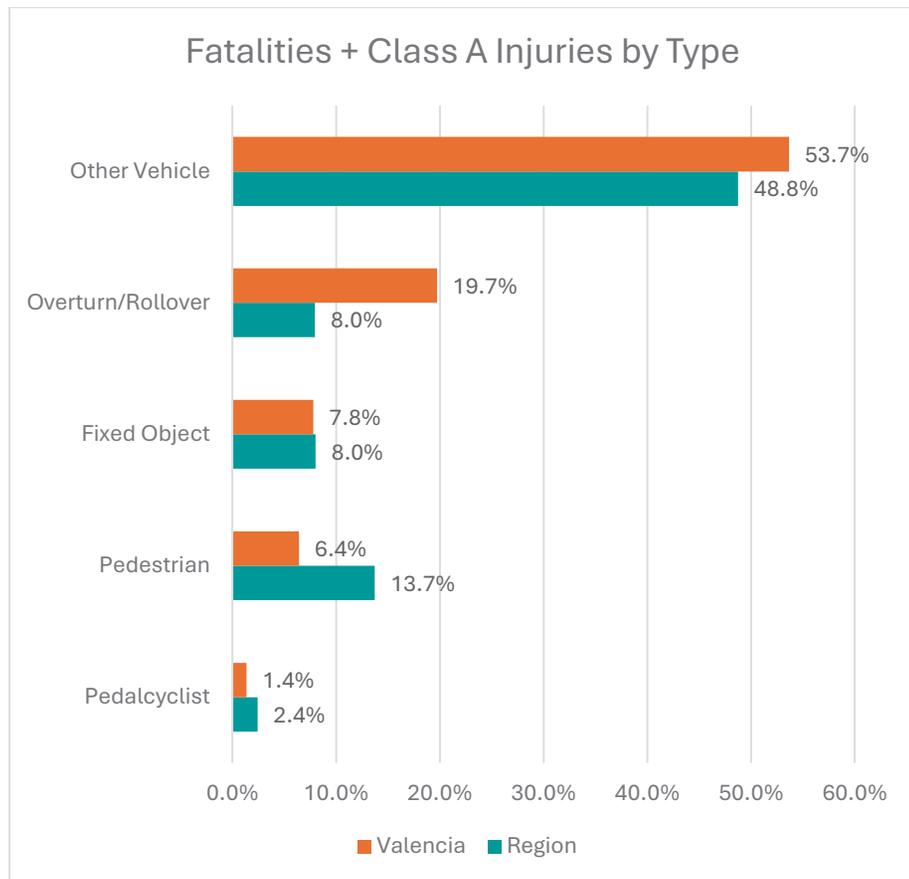
Local Concerns

Officials in the Town of Bernalillo have identified N.M. 313 as a corridor with persistent issues related to Excessive Speeding. Additionally, at the intersection of N.M. 473 (Avenida Bernalillo) and N.M. 313, there have been recurring problems with curb cutting during right turns—often caused by drivers speeding around the corner. This behavior has resulted in four minor injuries and the light pole being knocked over on multiple occasions. The same intersection poses challenges for truck drivers attempting sharp turns within limited space. Another problematic location is Sheriffs Posey, where Fixed Object collisions have been frequent. The road, lined with trees, has had many instances of inattentive drivers veering out of their lanes due to slight curves. Fire hydrants and fences have sometimes borne the brunt of these lane departures. A similar issue occurred on Old Highway 44, where drivers collided with cottonwood trees lining the road. To address these safety concerns, the town took action along the segment between N.M. 313 and Santa Ana Road. Some of the cottonwood trees were removed, and the street was repaved, incorporating speed humps. This project was completed in May 2024. The town aims to implement similar measures on other roadways experiencing excessive speeding and lane departure issues.

Valencia County Area Safety Profile

Fatal by Mode and Class Type (2017 to 2021)

The charts show fatalities by mode and compare the type of fatality and serious incapacitating injury (Class A) to the region. There were 48 fatal crashes and 50 fatalities in Valencia County. Auto only fatalities total 33, motorcycle fatalities total 12, and pedestrian fatalities total 5. There are not any bicycle fatalities. Fatalities and serious incapacitating (Class A) injuries resulting from rollovers are more common in Valencia County than the Region. Only 8% in the Region compared to 19.7% in Valencia County. This may be because of long rural roadways that are easy to speed on. Lane departure measures and speed limits or traffic calming to reduce speeds is important in this area.



Top Intersections and Corridors

The main roadway highlighted for both its severe crash rate at intersections and HFIN total along its corridors is N.M. 6. This state highway comprises 3 of the top 10 intersections and 7 of the top 10 corridors for the county. Following that is N.M. 47, which accounts for 3 of the top 10 intersections and one of the top corridors. These locations are not only concentrated in Los Lunas or Belen but also in many rural areas.

High Priority Maps

The majority of pedestrian-involved crashes are concentrated in Los Lunas and Valencia CDP. Belen, Meadow Lake, and El Cerro-Monterey Park also experienced many pedestrian and injury crashes. During this time frame, Bosque Farms, Peralta, and Jarales all had a high number of fatal crashes. The sheer number of crashes (of all types) along N.M. 6 can be visualized on the crash analysis map. N.M. 314 and N.M. 47 also stand out due to the frequency of crashes. The intersections in Valencia that exceed the county mean are mostly located in Los Lunas and Belen. Tome Adelino stands out for having many high-risk intersections. Rio Communities is another location with numerous injury crashes, a high-risk intersection, and a fatality.

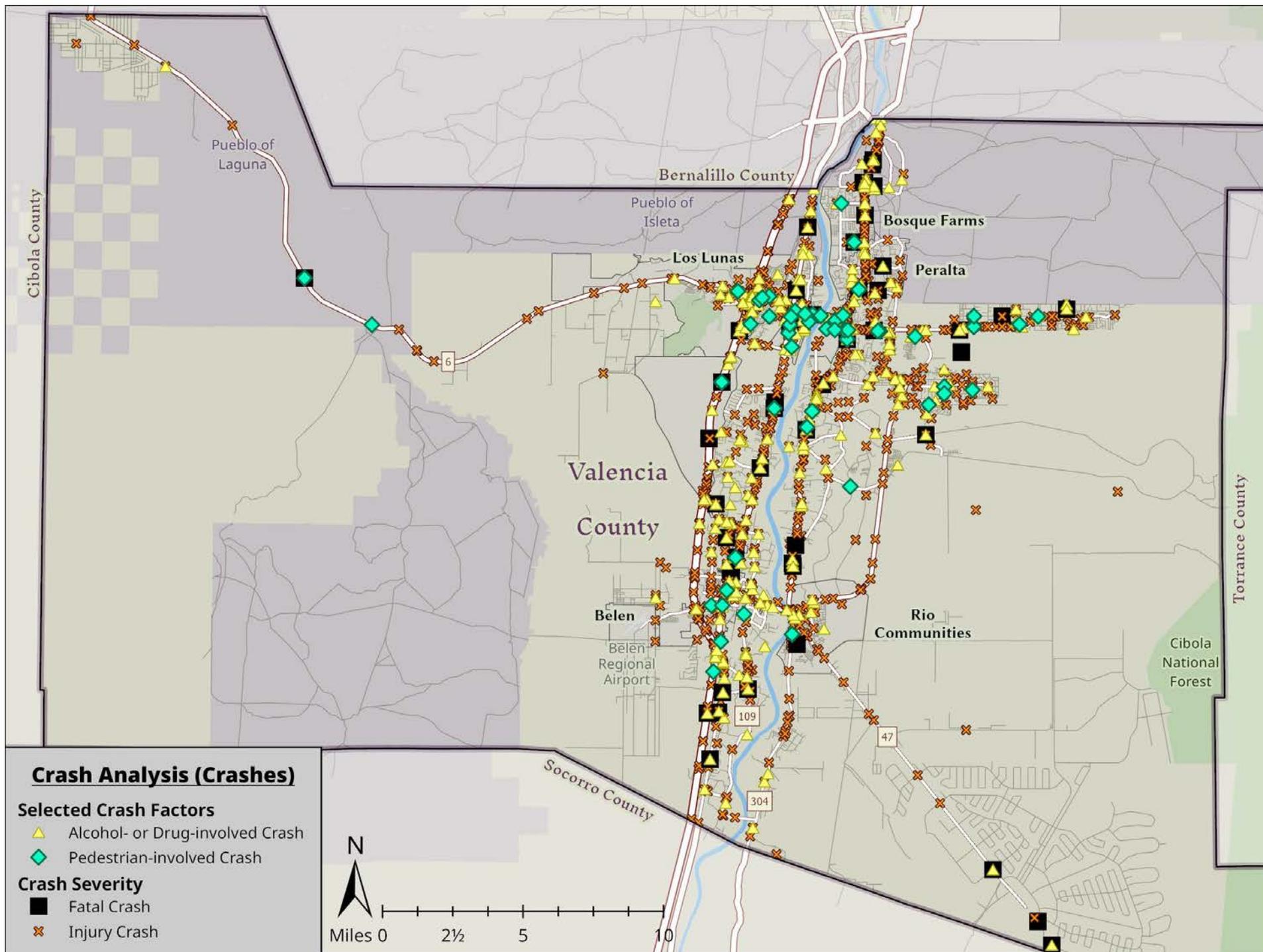
Most community destinations and schools in Valencia County are situated within Los Lunas and Belen. There are 5 schools in the Tome Adelino-Los Maravillas area, along with several others in the other CDPs throughout the county. Most of these community destinations and schools are near intersections or corridors with high HFIN values or locations that have many injury crashes and fatalities.

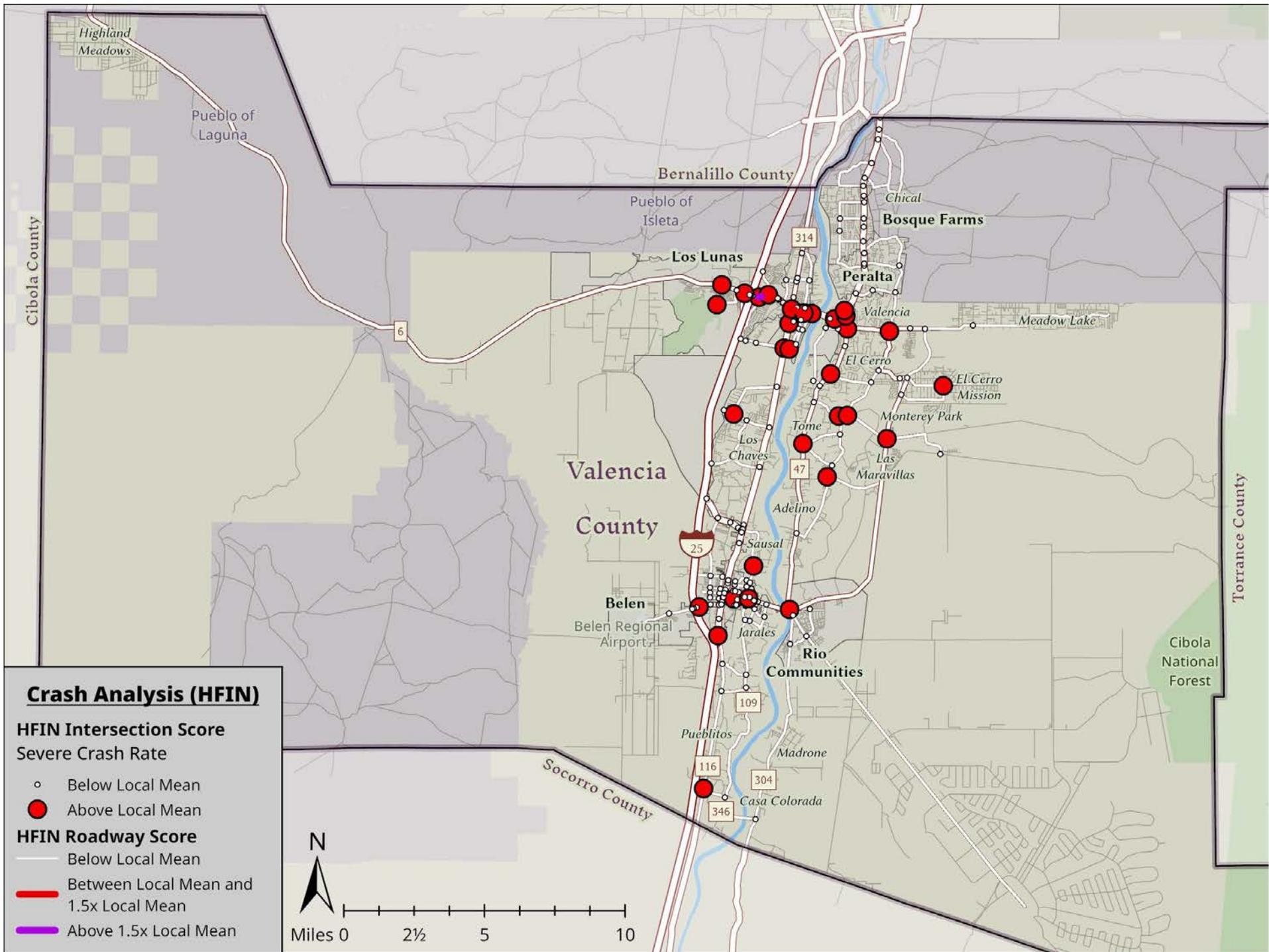
INTERSECTIONS

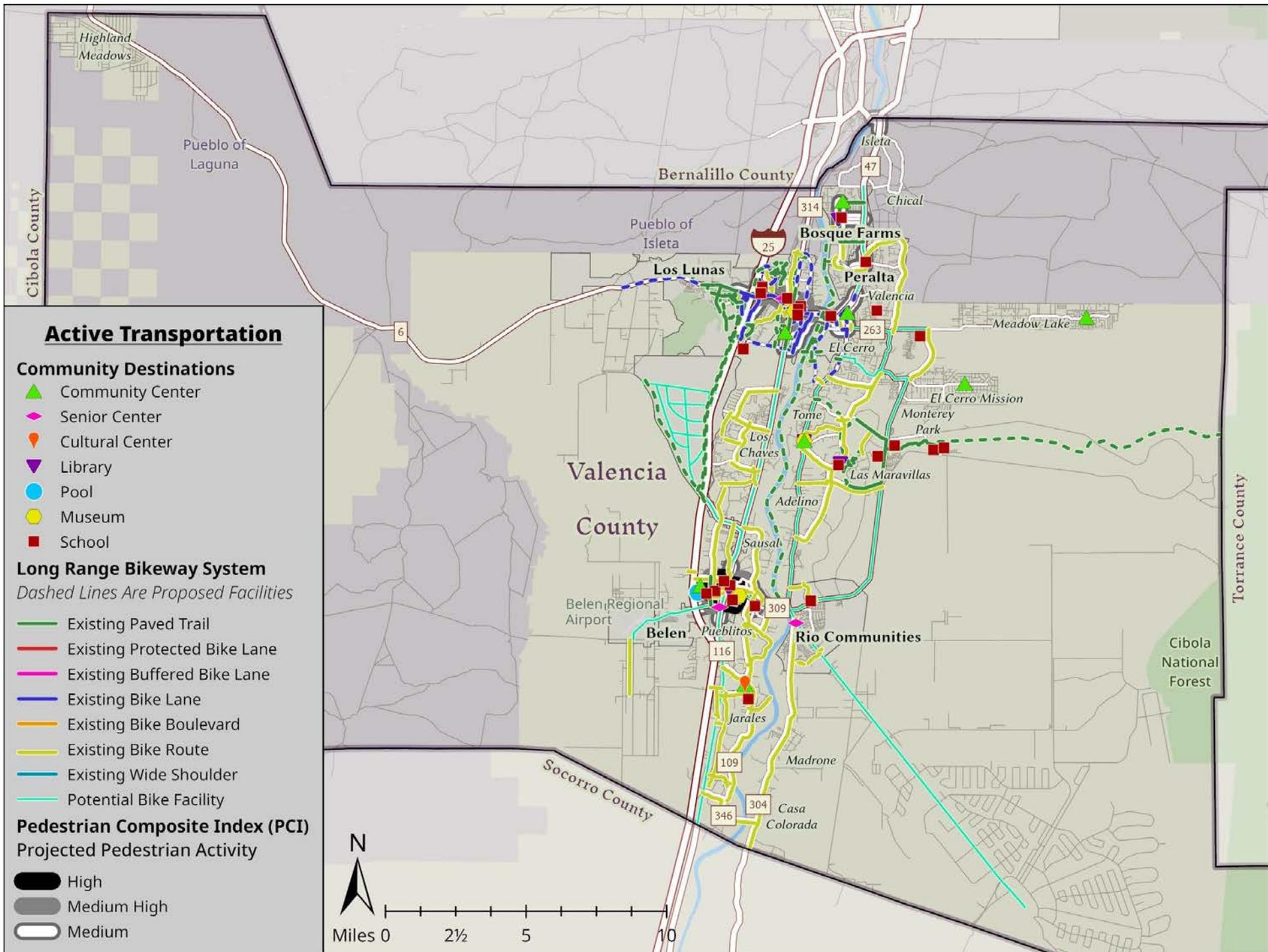
Street A	Street B	Killed + Injury Crashes	Approach Volume	Severe Rate
RIO DEL ORO LOOP	MANZANO EXPRESSWAY	15	3,027	1.34
ROUTE 66	DALIES RD	4	2,082.5	1.15
N.M. 6	LOS CERRITOS DR.	60	26,086	0.81
N.M. 263	N.M. 47	47	26,227.5	0.80
EL CERRO MISSION	VAN CAMP BLVD	8	3,796	0.75
N.M. 263	N.M. 47	22	10,062	0.74
N.M. 6	CARSON DR.	44	27,868	0.70
N.M. 6	CAMELOT/EMILIO LOPEZ	51	30,804.5	0.69
N.M. 6 (MAIN)	LOS LENTES RD.	48	28,093.5	0.69
N.M. 309	N.M. 47	32	18,658.5	0.67

CORRIDORS

Corridor	Location	Killed	Class A	Injured	Speed	Lanes
N.M. 6	EAST OF CAMELOT/EMILIO LOPEZ - WEST OF GRANT BLVD.	0	2	68	45	4
N.M. 6	EAST OF N.M. 314 - WEST OF LUNA	0	1	65	45	4
N.M. 6	EAST OF LOS LENTES STREET - WEST OF CARSON DRIVE	1	3	100	35	4
N.M. 6	EAST OF EDEAL RD. - WEST OF MOUNTAIN LAUREL ST.	0	1	30	45	4
N.M. 6	EAST OF I-25 WEST RAMPS - WEST OF I-25 EAST RAMPS	0	2	38	45	2
N.M. 6	EAST OF I-25 EAST RAMPS - WEST OF CAMELOT/EMILIO LOPEZ	0	2	72	45	4
N.M. 6	EAST OF GRANT BLVD. - WEST OF LOS CERRITOS	0	2	81	40	4
N.M. 47	NORTH OF LUJAN - SOUTH OF N.M. 6	0	3	66	45	4
N.M. 309/RIENKEN AVE.	RIO GRANDE BRIDGE - WEST OF N.M. 47	0	4	35	40	2
LOS LENTES STREET	NORTH OF N.M. 6 (MAIN) - SOUTH OF CORONADO STREET	0	1	49	30	2







Top Contributing Factor

Top contributing factor data was only available for the years 2017-2019. In this 3-year timespan, it was revealed that Alcohol Involved, like the region, is ranked highest for number of people killed. The additional contributing factors for fatalities and serious injuries primarily center around dangerous driving like Excessive Speed and Failure to Yield Right of Way. For injury crashes Following Too Closely and improper driving also play a role.

Top Contributing Factor	Valencia				Region			
	Fatal + Class A	% of Total	Injured	% of Total	Fatal + Class A	% of Total	Injured	% of Total
Alcohol Drug Involved	38	26.0%	149	8.8%	441	23.3%	1954	6.5%
Failed to Yield Right of Way	24	16.4%	335	19.7%	271	14.3%	5828	19.5%
Driver Inattention	22	15.1%	293	17.2%	208	11.0%	6927	23.1%
Excessive Speed	20	13.7%	222	13.0%	215	11.4%	2626	8.8%
None Identified	10	6.8%	118	6.9%	85	4.5%	1190	4.0%
Following Too Closely	5	3.4%	182	10.7%	92	4.9%	3251	10.9%
Improper Driving	5	3.4%	147	8.6%	110	5.8%	1980	6.6%
Drove Left of Center	5	3.4%	44	2.6%	45	2.4%	253	0.8%
Pedestrian Error	5	3.4%	6	0.4%	95	5.0%	304	1.0%
Disregard Traffic Signal	4	2.7%	36	2.1%	165	8.7%	3034	10.1%
Other	3	2.1%	52	3.1%	54	2.9%	594	2.0%
Mechanical or Road Defect	3	2.1%	45	2.6%	30	1.6%	569	1.9%
Avoid Contact	1	0.7%	43	2.5%	45	2.4%	807	2.7%
Passed Stop Sign	1	0.7%	28	1.6%	29	1.5%	553	1.8%
Bicyclist Error	0	0.0%	1	0.1%	5	0.3%	59	0.2%
Traffic Control Not Functioning	0	0.0%	1	0.1%	0	0.0%	16	0.1%
Total	146	100.0%	1702	100.0%	1890	100.0%	29945	100.0%

Pedestrian Fatalities 2022

Unexpectedly the number of pedestrian fatalities is increasing. In 2022, there were 6 pedestrian fatalities in Valencia County. This is more in one year than the total in the last 5 years. The following statistics are vital to consider:

- 1) All of them are in the Small Urban Area.
- 2) All of them took place in dark conditions.
- 3) All of them did not take place at intersections.
- 4) Two are alcohol or drug related.
- 5) Four are along state highways NM 47, NM 6, and NM 314.
- 6) Two are on major roadways (minor arterial and minor collector).

Rollovers by Time of Day

The rollover crashes that result in fatalities and Class A injuries mostly take place at 5am (12%) and in the even from 7pm to 11pm (42%). They are generally not located along the HFIN network but are mid-roadway. Alcohol drug involvement is indicated in 5 of the 14 fatal and Class A rollover crashes meaning it likely is a key factor in these single vehicle crashes.

Public Input from Mapping Exercise

Public input from a map exercise consisted of 27 responses. Most comments are about vehicular congestion, walking, or transit and are located along NM 6 and NM 314. Most people are doing errands or going to a family or friend's place, with the next most common destination is school. Driving / motorcycling comments are about traffic congestion, long stop light delays (NM 6), and dangerous drivers. Pedestrians' and bicyclists' comments include crosswalks not being present, vehicles not stopping for pedestrians crossing, and bikes not having enough separation from vehicles. Transit comments are about wanting the train to run more often and not having a nearby parking area. Based on high crash locations and local agency interest, MRMPO and representatives from this area completed some site visits to further investigate what could be contributing to the high number of incidents. The following information provides some potential recommendations.

Site Visit: Meadow Lake Drive

Meadow Lake is about 8.5 miles in length. There is a community center along the road with a Head Start program, and there is a lot of pedestrian activity when the church along the road hosts events. Bus stops are also present. There is speeding along the road and no lighting or sidewalks. Drainage issues also exist. Challenges include State land on the south side of the road and milling coming out. Top improvements identified include:

- 1) School zone enhancements (with overhead flashing lights).
- 2) Streetlights especially at curves and the community center and areas with more pedestrian activity.
- 3) Sidewalks, especially near areas with more pedestrian activity or generators.
- 4) Reconfiguration of High Mesa intersection.

Site Visit: NM 6 in Los Lunas

NM 6 is a highly trafficked road. Morris Road is being reconstructed and will have a bike path and hopefully take some cars off the road. Morris Road will take about 3.5 years if they stay on schedule, and then Los Lunas would like to focus on NM 6. A Road Diet is one idea for NM 6 because there is not much ROW to add on NM 6. The land use is diverse, and to improve safety the street needs wider sidewalks and traffic calming. There is a middle school with students crossing NM 6 and one new HAWK signal. Los Lunas hopes to put in more. Some challenges include that the ROW belongs to NMDOT. When NMDOT re-paved NM 6 a few years back, they took out the bike lane and made the travel lanes 12'.

USING THE SAFETY PROJECT AND PROGRAM LIST

The Safety Project and Program List (Appendix B) is comprised of transportation system improvement projects that affect roadways and trails, as well as programs such as re-evaluating speed limits, Safe Routes to School, the systemic application of Proven Safety Countermeasures, and educational campaigns. The list is categorized by agency, types, and time frame.

The development of the list was derived from public feedback, Focus Groups, the Technical Team and Safety Steering Committee, and an evaluation of existing plans and priorities. MRMPO solicited information from local agencies and conducted meetings as requested. The Metropolitan Transportation Plan (MTP) and the Regional Transportation Plan (RTP) project lists were also reviewed.

Additionally, the Safety Project and Program List contains information about the source of the project or program, and therefore why it is a priority because it addresses elements such as high-risk crash areas identified in site visits, is identified as a priority of a focus group or agency, or addresses a priority in an existing plan.

PROJECT OR PROGRAM

The list is set up so it is clear what is a Project versus a Program. The type of project or program is further delineated with information such as whether it is a corridor, intersection, primarily for pedestrians or bicyclists, or both. Or, if it requires further study, is a plan or audit, or relates to data collection. If the project or program is more extensive than just pedestrian or bicyclist facilities it will be identified as Active Transportation. Also provided is whether the project or program is related to safety issues such as speed management, ADA facilities, or signal timing, to name a few.

All of these distinctions are to ensure consistency with the Safety Strategies developed as a part of this plan, and to quickly identify the primary purpose of the project or program.

The Safety Project and Program List is provided as a stand-alone document in Appendix B.



A pop-up bike lane demonstration from CiQlovia.

SAFE STREETS AND ROADS FOR ALL (SS4A) FUNDING

SS4A has provided a total of \$5B in federal funding to allocate to communities for safety related transportation investments between 2022 and 2026. There are two broad grant categories of 1) Implementation, and 2) Planning and Demonstration. The United States Department of Transportation (USDOT) expects to announce the FY24 SS4A awards in August and November of 2024 with two more years of awards on the horizon.

Funds from SS4A are awarded on a competitive basis. Eligible applicants include city or township governments, public and state controlled institutions of higher education, Tribal governments (Federally recognized), special district governments, county governments, transit agencies, and independent school districts. Eligible applicants also include a Metropolitan Planning Organizations and a multi-jurisdictional group of entities. This plan was funded by a SS4A grant awarded to the MRMPO in 2022.

The SS4A grant program is just one of many discretionary funding sources that came out of the Infrastructure Investment and Jobs Act (IIJA). The SS4A program supports the U.S. Department of Transportation's National Roadway Safety Strategy and their goal of zero roadway deaths using the Safe Systems Approach. The purpose of these grants is to prevent death and serious injury on roads and streets involving all roadway users.

National Roadway Safety Strategy: <https://www.transportation.gov/NRSS>

GRANT TYPES

In order to receive grant funding for supplemental planning activities, demonstration grants, or implementation grants, eligible applicants must have a qualifying Action Plan. The 2024 RTSAP serves as a qualifying Action Plan and is intended to be leveraged by entities interested in seeking SS4A funding for safety improvements in their communities.

The Planning and Demonstration Grants provide funds to:

- Develop, complete, or supplement an Action Plan (includes well-defined strategies to prevent roadway fatalities and serious injuries).
- Supplement planning activities in support of an Action Plan.
- Provide demonstration activities in support of an Action Plan.

The Implementation Grants provide funds to:

- Implement projects and strategies identified in an Action Plan to address a roadway safety problem (infrastructural, behavioral, and/or operational activities).
- May also include supplemental planning and demonstration activities to inform an existing Action Plan, and project-level planning, design, and development activities.

Implementation Grant applicants are limited to one application per year. Implementation Grant applicants are encouraged to bundle requests for supplemental planning and demonstration activities into their Implementation Grant applications.

4. SELECTING REGIONAL PRIORITIES

SS4A IMPLEMENTATION PROJECTS

Some illustrative examples are provided by the FHWA for Implementation Grant eligibility. They include infrastructure, behavioral, and operation safety concerns and are included here.

Table 23. SS4A Implementation Projects

PROJECT TYPE	DESCRIPTION
Low-Cost Safety Treatments	Low-cost roadway safety treatments system-wide, such as centerline and shoulder rumble strips / stripes, wider edge lines, high-friction surface treatments, road diets, and enhanced delineation of curves through better signage along high-crash urban and rural corridors.
Network Risk Reduction	Identifying and correcting common risks across a network, such as improving pedestrian crosswalks by adding high-visibility pavement markings, lighting, and signage at transit stops, in a designated neighborhood, or along a busy public transportation route.
Complete Streets	Transforming a roadway corridor on a high-injury network (such as the HFIN) into a Complete Street with safety improvements to control speed, separate users, and improve visibility, along with other measures that improve safety for all users.
Pedestrian Safety Enhancements	Installing pedestrian safety enhancements and closing network gaps with sidewalks, crosswalk visibility enhancements, rectangular rapid-flashing beacons, pedestrian hybrid beacons, refuge islands, road diets, raised crosswalks, signal improvements including leading pedestrian intervals, and audible pedestrian signals for people walking, rolling, or using mobility-assisted devices.
Bike Network Development	The development of bikeway networks with bicycle lanes for different roadway volumes and speeds that are safe for people of all ages and abilities. A project to build off-road bicyclist and pedestrian facilities, including trails, would also be eligible if the separation of mode users from the existing road network is identified.
Speed Management	Speed management strategies such as implementing traffic-calming road design changes; addressing speed along key corridors through infrastructure; conducting education, enforcement activities, and outreach; setting appropriate speed limits; and making strategic use of speed safety cameras.
Safe Routes to School and Transit	Creating safe routes to school and public transit services through multiple activities that lead to people safely walking, biking, and rolling in underserved communities.
Safety Technologies and Strategies	Promoting the adoption of innovative technologies and strategies to promote safety and protect vulnerable road users in high-traffic areas where commercial motor vehicles, pedestrians, bicyclists, and motorcyclists interact.
Education Initiatives	Conducting education campaigns to accompany new or innovative infrastructure, such as roundabouts, pedestrian hybrid beacons, or pedestrian-only zones.
Roadway Departure Reduction	Reducing roadway departure crashes through enhanced delineation, shoulder widening, rumble strips, and roadside safety improvements.
Intersection Improvements	Evaluating and improving the safety of intersections by considering innovative design changes, improved delineation, and advanced warning.

**Be sure to include any relevant right-of-way acquisition needs in the “Project Readiness” portion of your narrative.*

4. SELECTING REGIONAL PRIORITIES

PROJECT READINESS FOR FEDERAL FUNDING

The safety project and programs list contains projects that are anywhere from “shovel-ready” to aspirational in nature. Applicants requesting funds for a project or program on this list must ensure that they are prepared to implement the project or program when applying for a grant.

For Planning and Demonstration Activities, the agency implementing the grant should be prepared for federal requirements with respect to matching funds, financial management, time frames for expending federal funds, staff capacity, and overall capacity to complete the activity in a timely manner.

For Implementation Projects the process is more involved because of the detailed amount of environmental review, design work, matching funds, and contract management needed when receiving federal funds. For example, it is important that your project is ready to be implemented within a specified amount of time. Not only should your project be ready to construct but there are often dates by which federal grant funds must be expended. The Notice of Funding Opportunity (NOFO) will state if the USDOT will be scoring your grant application based on “project readiness”. The intention of project readiness is so that funds are used efficiently, and grantees aren’t applying without being prepared.

Construction projects require several early phases of development such as planning and scoping, preliminary design, and full design, prior to actual implementation. Agencies must secure a preliminary project delivery schedule and cost estimate and all necessary formal agreements. For example, any construction project that receives federal funding must comply with federal environmental laws, such as the National Environmental Policy Act of 1969 (NEPA). Applicants need to be aware that in most cases this step must be complete before final design. Identifying the NEPA lead and understanding the time it will take to go through the environmental review and approval process is recommended prior to applying for an implementation grant.

SS4A Required Level of Detail

Applicants may apply for implementation grants intended to address broad, programmatic safety recommendations and goals from Action Plans. For example, if an Action Plan has an action item to review and address left-turn crashes that are resulting in fatalities throughout the jurisdiction, an appropriate Implementation Grant could be to study access restriction throughout the jurisdiction (or even a particular problem corridor) and install medians or make signal modifications that address the identified safety issue.

Non-Eligible Implementation Grant Activities

The following activities are not eligible for funding under an SS4A Implementation Grant:

- Projects and strategies whose primary purpose is not roadway safety.
- Projects and strategies not identified in an existing eligible Action Plan.
- Maintenance activities for an existing roadway primarily to maintain a state of good repair.
- Capital projects to construct new roadways used for motor vehicles.
- Development or implementation of a public transportation agency safety plan (PTASP).
- A project to widen a street to increase the number of lanes or expand capacity for motorists.

Source: <https://www.transportation.gov/grants/ss4a/implementation-grants>

4. SELECTING REGIONAL PRIORITIES

Other items to consider prior to applying for federal funds are whether matching funds are available. Having matching funds secured is highly recommended otherwise it can significantly slow down grant approvals. Depending on the NOFO the requirements may be different in terms of not just the match amount but also what can be counted as a match and how to calculate it. Finally, an agency needs to be ready with the necessary expertise and staff available to work on the project from beginning to end and fulfill the federal financial reporting and grant management requirements. USDOT will provide technical assistance resources to help navigate these requirements, but being prepared is vital to ensure a successful application and completion. MPOs and State DOTs can provide technical and administrative support but there will need to be a formal agreement completed with them.

SS4A SUPPLEMENTAL PLANNING ACTIVITIES

Supplemental planning activities provide further insight about specific items mentioned in the Safety Action Plan. For example, and Action Plan might identify general interventions that are proven to improve safety. A supplemental plan can fund a road audit to determine which interventions will be most effective on a specific corridor. Below is a list of supplemental planning activities.

Information in the following tables includes specific wording and summaries from <https://www.transportation.gov/grants/SS4A>. For an outside perspective of how to best apply for SS4A funds, review this resource from the Vision Zero Network which provides tips for grant applicants: <https://visionzeronetWORK.org/resources/safe-streets-for-all-grants/>

Table 24. SS4A Supplemental Planning Activities

ACTIVITY	DESCRIPTION
Complementary Safety Plan Development	Complementary safety plans focused on topics such as speed management, vulnerable road users, accessibility for individuals with disabilities, Americans with Disabilities Act of 1990 transition plans, health equity, safety-focused intelligent transportation system implementation, lighting, or other relevant topics.
Road Safety Audits	Conducting road safety audits to identify road safety issues at existing and/or future road intersections are eligible supplemental planning activities.
Equity Analysis	Targeted assessments that identify underserved communities and the impact of crashes on those communities, assess the impacts of proposed projects and strategies, establish prioritization criteria, and identify meaningful stakeholder engagement mechanisms.
Equitable and Effective Enforcement	Equitable police enforcement of the most dangerous driver behaviors (e.g., excessive speeding, impaired driving), speed safety cameras, civilian traffic enforcement, and alternatives to traffic enforcement as part of a holistic Safe System Approach.
Follow-Up Data Collection and Safety Analysis	New collision data analysis to identify updates to the high-injury network. Roadway safety-related inventories (such as sidewalk inventories) and road user counts (such as pedestrian/bike counts).
Progress Reporting	Progress reporting on Action Plan implementation for transparency to local stakeholders (e.g., data dashboards, summary reports of projects and strategies implemented/to be implemented) is an eligible supplemental planning activity.
Stakeholder Engagement and Collaboration	Stakeholder engagement and collaboration to inform Action Plan development are eligible supplemental planning activities.

4. SELECTING REGIONAL PRIORITIES

SS4A DEMONSTRATION ACTIVITIES

Demonstration activities do not include permanent roadway reconstruction but are temporary safety improvements. They can include things like paint, plastic delineator posts, water-filled plastic barriers, planters, traffic cones, raised line separators, and temporary speed humps/bumps. They are intended to test proposed project and strategy approaches. Potential benefits must be measured using data collection and pre and post evaluation. These can inform an Action Plan’s list of projects and strategies.

Table 25. SS4A Demonstration Activities

ACTIVITY	DESCRIPTION
Feasibility Studies	<p>Includes quick-build strategies that are low-cost and use temporary materials that have the potential to inform future permanent projects. Some examples:</p> <ul style="list-style-type: none"> • Implementing Road Diets • Creating curb extensions and shortening crosswalk distances • Creating roundabouts • Establishing bike lanes • Safety countermeasures that slow speeds
MUTCD Engineering Studies	<p>Includes the following but is not limited to:</p> <ul style="list-style-type: none"> • Setting safe speed limits and/or variable speed limits • Evaluating warrants for traffic signal installation and pedestrian hybrid beacons • Warrants for use of edge lines • Accessible pedestrian signal display installation • Rectangular rapid-flashing beacons for vulnerable road users • Mid-block crosswalk installations • High-visibility crosswalk markings • Bike lane treatments
Behavioral or Operational Activity Pilot Programs	<p>Includes the following but is not limited to:</p> <ul style="list-style-type: none"> • Pilot testing programs to better engage with community members on traffic safety in their neighborhoods, such as bus-stop engagements to collect feedback or setting up a booth at community events. • Pilot training focused on equitable and effective enforcement, including context-appropriate curricula for law enforcement to address the most dangerous driver behaviors (e.g., excessive speeding, impaired driving). • Pilot testing a ride share or alternative transportation program in an area that has a high rate of impaired driving crashes/fatalities. • Making trial changes to test how emergency medical services respond to crashes, including enhancing data collection efforts and piloting new operational plans for crash response or training for EMS staff responding to crashes.
New Technology Pilot Programs	<p>Eligible technologies must be commercially available, not yet adopted in the community, and at a prototype or advanced technological readiness level. Some examples:</p> <ul style="list-style-type: none"> • Variable speed limits • Speed safety cameras installations • Retrofitting public transit with dash cameras or Intelligent Speed Assist • Adaptive signal timing • Signal preemption for emergency vehicles • Vehicle-to-infrastructure technology, especially those that use the 5.905 – 5.925 GHz spectrum frequency

MRCOG ASSISTANCE

MRCOG is committed to providing assistance to its member agencies with these grant applications. Through this plan, staff developed a process for creating customized crash analyses for local agencies and organizations that they can provide to any member agency upon request. Furthermore, the Safety Project and Program List has the potential to be updated over the next year due to the timing of the development of MRMPO's Metropolitan Transportation Plan (MTP). Because the MTP is currently in process and develops long-range aspirational projects and programs for the region it is an important source for integrating safety specific transportation improvements.

The MTP, like the RTSAP 2024, has a comprehensive outreach process that can only further the confidence in identifying the region's safety priorities. In addition, the RTPO updates the Mid-Region RTP (Regional Transportation Plan), which also sets goals for the region and establishes performance measures to quantify the progress of stated goals. Improving safety and health for all system users is identified as a key goal in the RTP. Future updates to the RTP can further inform regional safety priorities.

IDENTIFIED REQUESTS FOR ASSISTANCE

Through the RTSAP 2024 outreach process, staff compiled specific comments from agencies about the kind of assistance they would like to see provided from the MPO and RTPO, including the following:

- Participate in discussions between local agencies and public schools regarding infrastructure surrounding school properties.
- Support discussions between Tribal governments and small towns with the NMDOT when roadways running through these areas are owned by the NMDOT.
- Provide assistance in not just applying for grants but some of the crash analyses that are required for safety plans and projects to be implemented.
- Collaborate and use existing information from Road Safety Audits conducted by the Active Living Group when developing new projects or programs.
- Participate in consistent meetings with Tribal Governments and make sure to keep up to date with contact lists as well as reach out regularly to connect with new staff / administration. Consider quarterly site visits.
- Work with Tribal Governments to help them seek funding and oversee implementation grants.
- Participate in Road Safety Audits as requested.
- Create more online data resources for local communities to allow for more usability and understanding of data.
- Assist local government members in utilizing safety data in project development.
- Provide technical assistance to local communities working on local plans to emphasize safety for the most vulnerable system users such as older citizens, children, pedestrians and bicyclists.

SS4A SELF-CERTIFICATION ELIGIBILITY WORKSHEET

Figure 58. SS4A Self-Certification Eligibility Worksheet

Action Plan Components

For each question below, answer "YES" or "NO." If "YES," list the relevant plan(s) or supporting documentation that address the condition and the specific page number(s) in each document that corroborates your response. This form provides space to reference multiple plans, but please list only the most relevant document(s).

1. Leadership Commitment and Goal Setting

Are **BOTH** of the following true?

- A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries; and
- The commitment includes either setting a target date to reach zero OR setting one or more targets to achieve significant declines in roadway fatalities and serious injuries by a specific date.

YES

NO

Note: This may include a resolution, policy, ordinance, executive order, or other official announcement from a high-ranking official and the official adoption of a plan that includes the commitment by a legislative body.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

2. Planning Structure

To develop the Action Plan, was a committee, task force, implementation group, or similar body established and charged with the plan's development, implementation, and monitoring?

YES

NO

Note: This should include a description of the membership of the group and what role they play in the development, implementation, and monitoring of the Action Plan.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)



SELF-CERTIFICATION ELIGIBILITY

5. Equity Considerations

Did the Action Plan development include **ALL** of the following?

- Considerations of equity using inclusive and representative processes;
- The identification of underserved communities through data; and
- Equity analysis developed in collaboration with appropriate partners, including population characteristics and initial equity impact assessments of proposed projects and strategies.

YES
 NO

Note: This should include data that identifies underserved communities and/or reflects the impact of crashes on underserved communities, prioritization criteria that consider equity, or a description of meaningful engagement and collaboration with appropriate stakeholders.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

6. Policy and Process Changes

Are **BOTH** of the following true?

- The plan development included an assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize safety; and
- The plan discusses implementation through the adoption of revised or new policies, guidelines, and/or standards.

YES
 NO

Note: This may include existing and/or recommended Complete Streets policy, guidelines for community engagement and collaboration, policy for prioritizing areas of greatest need, local laws (e.g., speed limit), design guidelines, and other policies and processes that prioritize safety.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)



SELF-CERTIFICATION ELIGIBILITY

7. Strategy and Project Selections

Does the plan identify a comprehensive set of projects and strategies to address the safety problems in the Action Plan, with information about time ranges when projects and strategies will be deployed, and an explanation of project prioritization criteria? YES NO

Note: This should include one or more lists of community-wide multi-modal and multi-disciplinary projects that respond to safety problems and reflect community input and a description of how your community will prioritize projects in the future.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

8. Progress and Transparency

Does the plan include **BOTH** of the following? YES NO

- A description of how progress will be measured over time that includes, at a minimum, outcome data.
- The plan is posted publicly online.

Note: This should include a progress reporting structure and list of proposed metrics.

If "YES," please list the relevant document(s) and page number(s) that corroborate your response.

Document Title	Page Number(s)

9. Action Plan Date

Was at least one of your plans finalized and/or last updated between 2019 and April 30, 2024? YES NO

Note: Updates may include major revisions, updates to the data used for analysis, status updates, or the addition of supplemental planning documents, including but not limited to an Equity Plan, one or more Road Safety Audits conducted in high-crash locations, or a Vulnerable Road User Plan.

If "YES," please list your most recent document(s), date of finalization, and page number(s) that corroborate your response.

Document Title	Date of Most Recent Update	Page Number(s)



5. APPENDICES

STAND-ALONE APPENDICES

The appendices identified below are intended to be living documents that will be updated as needed, therefore they exist separate from the main document. Information about their development and their initial state are provided in this main document, while future updates will be reflected in the Appendix only.

These stand-alone documents provide opportunities for further work on priorities once the MTP is finalized, and for easily adding, for example, new Proven Safety Countermeasures as they are developed and approved. There are other planning tools that are updated outside of this main document as well, including the High Fatal and Injury Network (HFIN) and the Potential Road Diet Candidates. These tools are redone as new data become available and provided by the MRMPO as interactive web maps.

These stand-alone appendices include the Safety Strategies Toolbox, the Safety Project and Program List, and the Area Safety Profiles and Site Visits. These stand-alone files are available in concert with this main document on MRMPO’s website. They are identified as follows:

Appendix A. RTSAP 2024 Safety Strategies Toolbox (with Proven Safety Countermeasures)

Appendix B. RTSAP 2024 Safety Project and Program List

Appendix C. RTSAP 2024 Area Safety Profiles and Site Visits



SOURCE: MRMPO



REGIONAL TRANSPORTATION SAFETY ACTION PLAN
(RTSAP 2024)