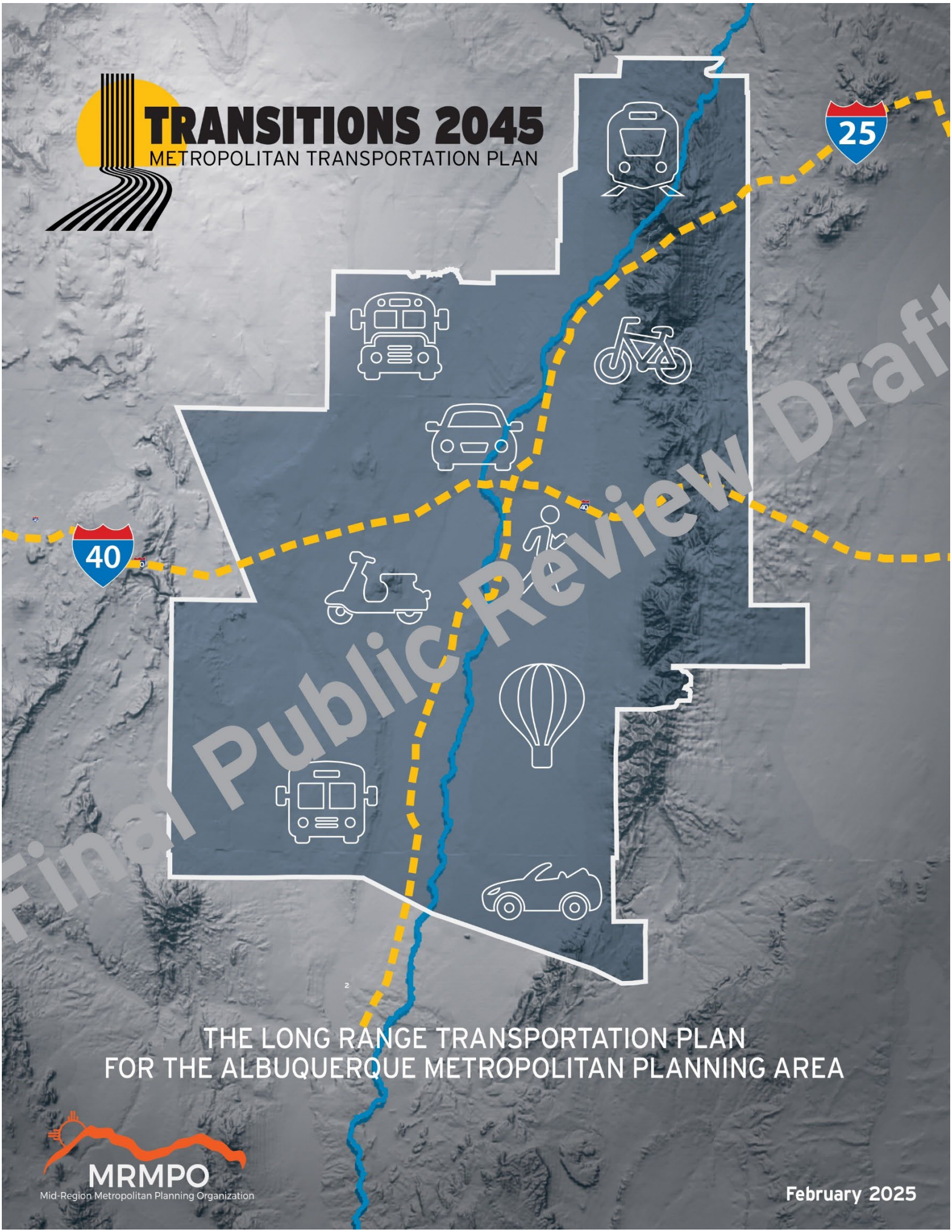
TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN
25
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Final Public Review Draft
THE LONG RANGE TRANSPORTATION PLAN
FOR THE ALBUQUERQUE METROPOLITAN PLANNING AREA
MRMPO
Mid-Region Metropolitan Planning Organization
February 2025

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

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TRANSITIONS 2045

Final Public Review Draft

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CHAPTER 1 INTRODUCTION

The ***Transitions 2045 Metropolitan Transportation Plan*** **(*Transitions 2045 MTP*)** is the long-range transportation plan for the **Albuquerque Metropolitan Planning Area (AMPA)**. The MTP identifies transportation challenges that the greater metro area will face over the next 20 years and presents strategies for addressing them. The *Transitions 2045 MTP* includes a list of transportation projects planned to address anticipated needs over the coming decades and their inclusion in this plan makes them eligible for federal funding. MTPs are required by statute to be updated at least every five years, and the *Transitions 2045 MTP* updates the previous MTP for the region (*Connections 2040 MTP*).

As our region grows and evolves, it is imperative that we understand how our transportation system will function in getting people where they need to go safely and conveniently by whatever mode they choose. **The purpose of the *Transitions 2045 MTP* is to provide a cooperative framework for establishing regional priorities, and to invest in multimodal transportation infrastructure and programs that support mobility, the economy and environment, equity, and active transportation.**

Transportation systems are interrelated with many aspects of society and the built environment; therefore, the *Transitions 2045 MTP* broadly addresses subjects such as new technologies, wildlife habitats, public health, housing, pedestrian fatalities and environmental justice, among other topics. The **Mid-Region Metropolitan Planning Organization (MRMPO)** considers all these issues and works with partners in the region to develop a long-range plan that will assist in making transportation decisions that benefit our metropolitan area.

The MTP is not just a product and a means of disseminating information, but it is also *a process* that brings together regional stakeholders and the public to develop a vision for the future and continually work toward achieving that vision. This process provides an ideal opportunity to consider how the region is growing and how those growth patterns affect the way people live and travel throughout the region.

Our ability to safely and conveniently access daily destinations such as jobs, schools, services, and recreational activities impacts the quality of our lives and the vitality and economic competitiveness of our region. Therefore, it is important to understand how our community currently functions, and how it is expected to grow in the future. The Transitions 2045 MTP identifies existing conditions, anticipates future needs, and prioritizes investments that support the goals and objectives of the plan.

The *Transitions 2045 MTP* establishes a vision for the future of our metropolitan transportation systems based on feedback gathered during outreach and engagement efforts with stakeholders throughout the metropolitan area. This vision sets the course for our work together and guides our transportation planning efforts.

Our people-centered transportation system provides safe, comfortable, and easy access to daily destinations for all.

1.1 The Metropolitan Planning Organization

MRMPO is a government agency that leads the continuous, cooperative, and comprehensive metropolitan transportation planning process in collaboration with regional partners and stakeholders as well as the public. MPOs are federally-required organizations for urbanized areas with a population greater than 50,000. MRMPO is the designated MPO for the **Albuquerque Metropolitan Planning Area (AMPA)**, which includes the Albuquerque urbanized area and the Los Lunas urbanized area in central New Mexico.

1.1a Albuquerque Metropolitan Planning Area

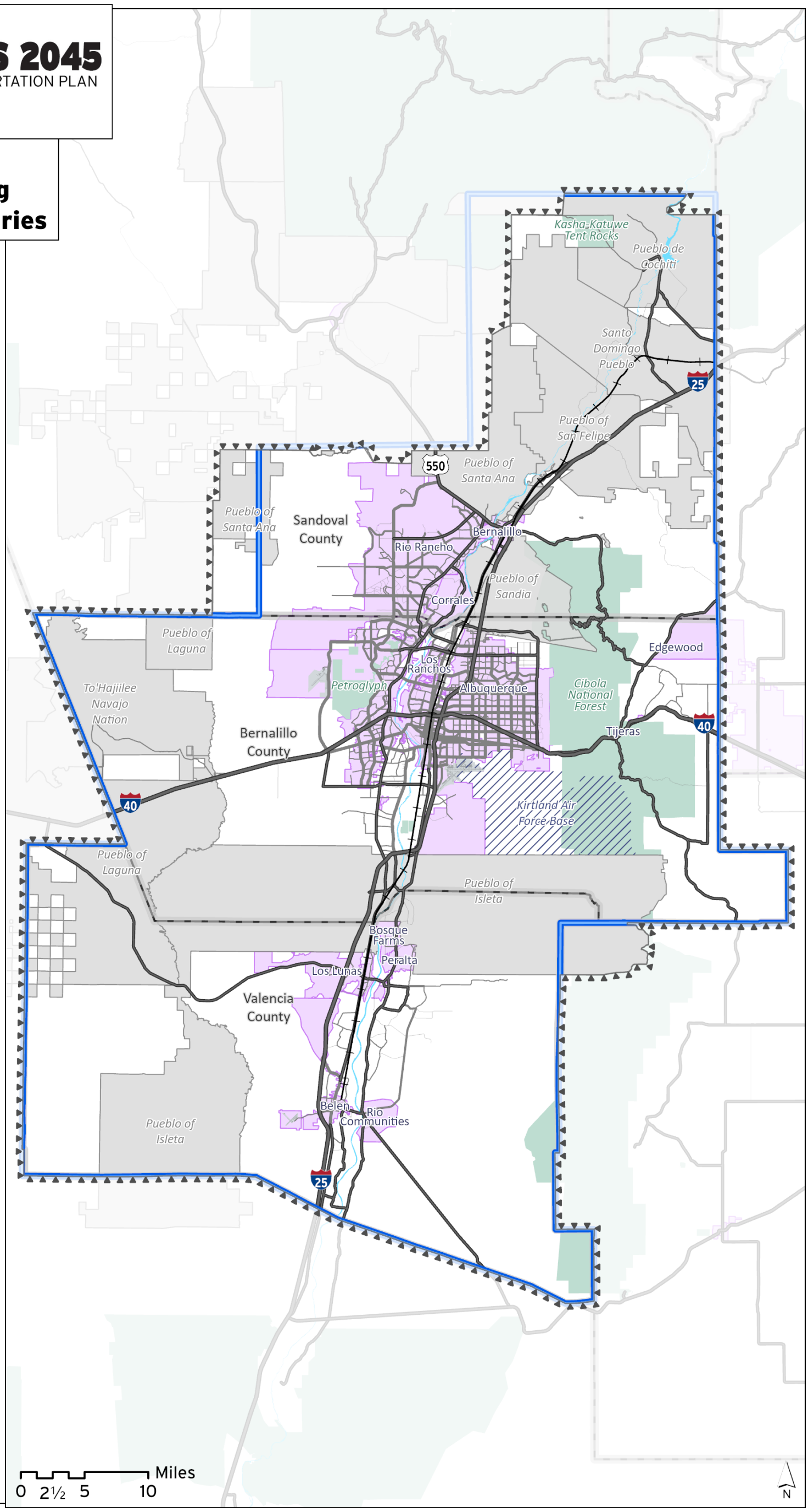
The planning area boundaries for MRMPO and the *Transitions 2045 MTP* are defined by the AMPA and are shown below.

Map 1: Albuquerque Metropolitan Planning Area (AMPA) Boundaries

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

Albuquerque Metropolitan Planning Area (AMPA) Boundaries

- AMPA Boundary
- Tribal Area
- NMDOT District 3
- County Boundary
- Municipality
- Interstate
- US Highway
- State Highway
- Other Road
- Rail Runner
- Airport
- Kirtland Air Force Base (KAFB)
- Rio Grande
- Nationally Protected Areas (National Forests, Monuments, Parks, and Wildlife Refuge)



Map Data Sources: See Appendix I.

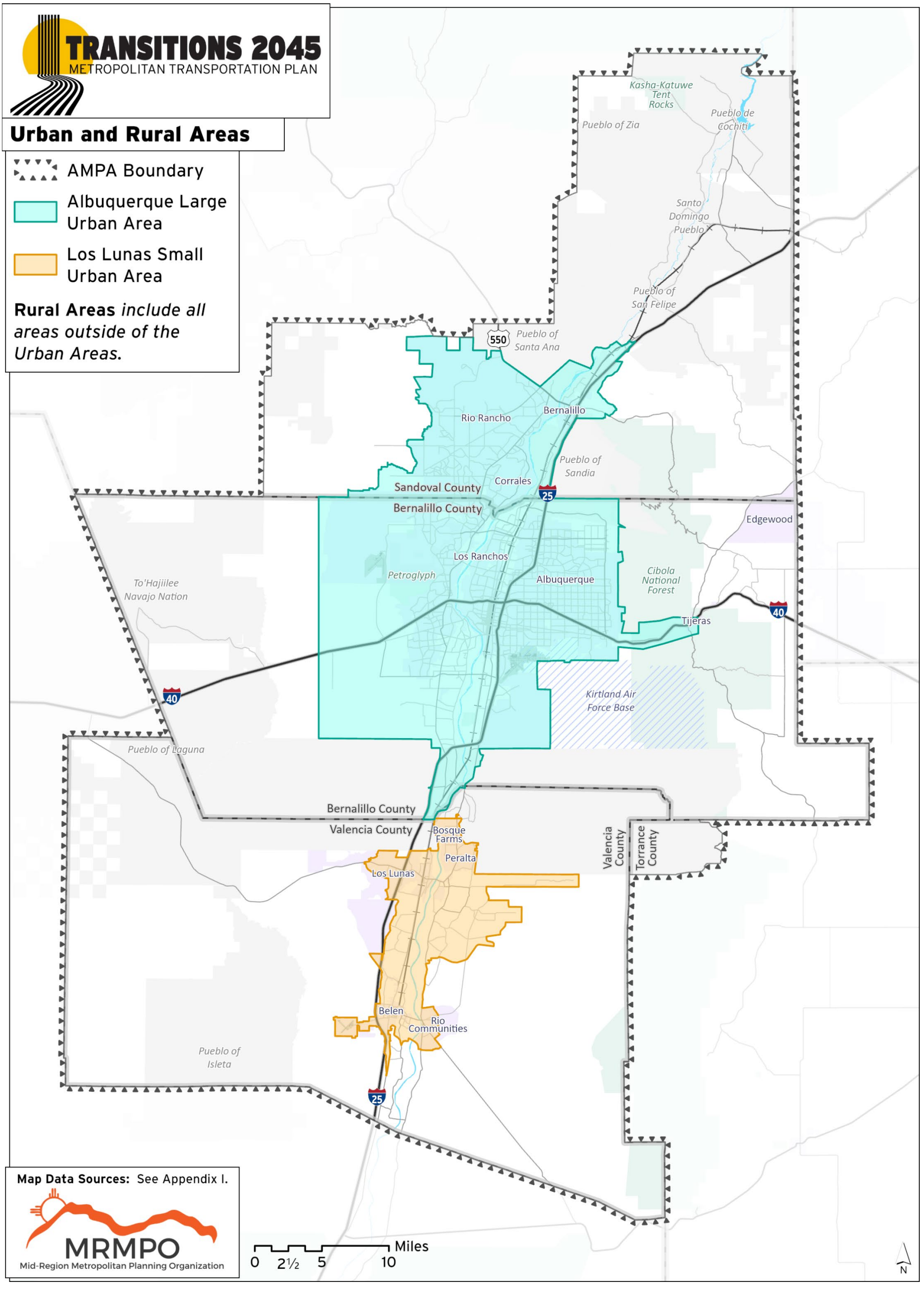
MRMPO
Mid-Region Metropolitan Planning Organization

The AMPA is situated in central New Mexico and includes all of Valencia County, Bernalillo County, and the most developed part of southern Sandoval County. Approximately one-sixth of the land within the AMPA is protected open space including city or county open spaces, state parks, and lands owned and managed by federal agencies such as the U.S. Fish and Wildlife Service, National Park Service, and U.S. Forest Service. The Rio Grande runs through the middle of the region and supports the Bosque ecosystem, irrigates farmland, and carries water for household consumption. The AMPA also includes all, or portions of, several Tribal reservations and land grants. Within the AMPA's 3,095 square miles, there are 11 incorporated communities, seven Tribal areas, and the To'hajiilee chapter of the Navajo Nation. The AMPA includes two urbanized areas as defined by the US Census Bureau: the Albuquerque Urbanized Area and the Los Lunas Urbanized Area. The following map shows these boundaries.

The Region Versus the Metro Area

Throughout this document you will see different geographic terminology used. In general, The Region refers to the area served by the MRCOG which includes Bernalillo, Sandoval, Torrance, and Valencia Counties plus the greater Edgewood area in southern Santa Fe. The area served by MRMPO is The Albuquerque Metropolitan Planning Area (AMPA); which is also referred to as the Albuquerque Metropolitan area or the metro area. The AMPA is a subset of the Region and contains Bernalillo and Valencia Counties and the urban portion of Sandoval County. In general, when "The Region" is used it is in reference to the broader area, and when "Metro Area" is used it refers to the urban areas within the Region. While MPO's are responsible for overseeing transportation planning within the AMPA, these activities naturally affect the greater region.

Map 2: Urban and Rural Areas



1.1b MRMPO Planning Partners

MRMPO worked with many partners during the development of the *Transitions 2045 MTP*. These partners are those shown below:

Table 1: List of MTB Members and Advisory Agencies

Bernalillo County	Village of Tijeras
City of Albuquerque (includes ABQ RIDE)	Valencia County
City of Belen	Albuquerque Public Schools
City of Rio Rancho	Belen Consolidated Schools
City of Rio Communities	Bernalillo Public Schools
Navajo Nation – To'Hajiilee	Los Lunas Public Schools
New Mexico Department of Transportation	Rio Rancho Public Schools
Pueblo de Cochiti	Albuquerque Metropolitan Arroyo & Flood Control Authority
Pueblo of Isleta	East Sandoval County Arroyo & Flood Control Authority
Pueblo of Laguna	Southern Sandoval County Arroyo & Flood Control Authority
Pueblo of San Felipe	Middle Rio Grande Conservancy District
Pueblo of Sandia	City of Albuquerque Aviation
Pueblo of Santa Ana	Albuquerque/Bernalillo County Air Quality Control Board
Pueblo of Santo Domingo	Federal Highway Administration
Rio Metro Regional Transit District	Federal Transit Administration
Sandoval County	Kirtland Air Force Base
Town of Bernalillo	NM State Transportation Commission
Village of Bosque Farms	US Bureau of Indian Affairs
Town of Edgewood	US Forest Service
Town of Peralta	US Fish and Wildlife Service
Village of Corrales	US National Park Service
Village of Los Lunas	US Bureau of Land Management
Village of Los Ranchos de Albuquerque	Various Economic Development Agencies

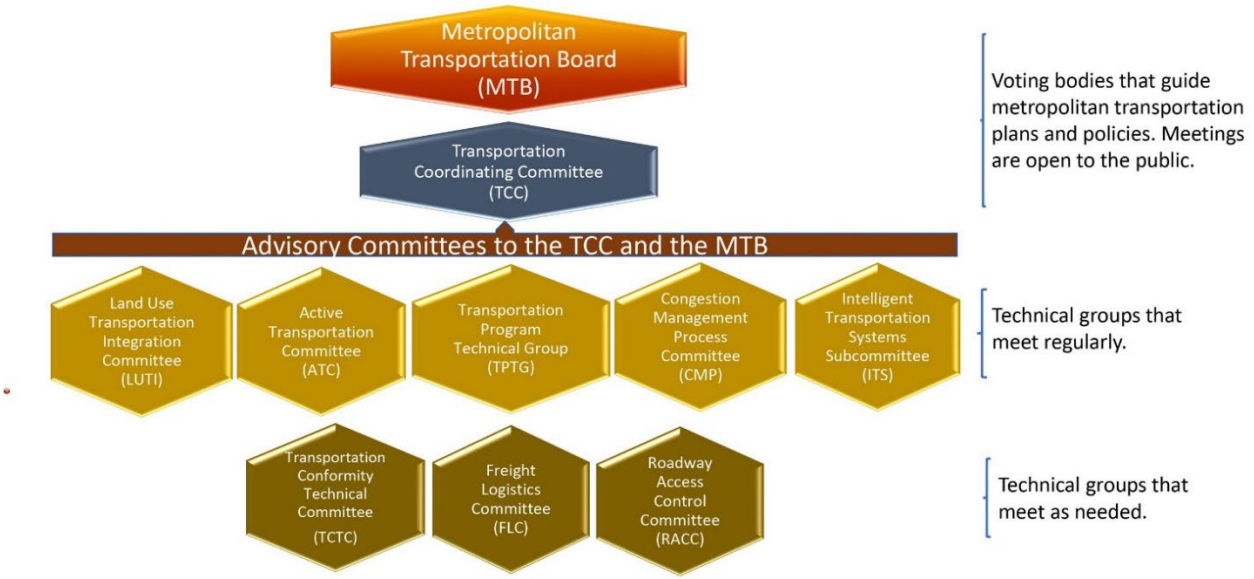
In addition to the local government agencies and Tribal governments shown in Table 1, other stakeholders such as developers, environmental stakeholders, members of the advocacy community, and the general public were engaged as well.

Feedback from all these partners is a critical piece of the MTP development process.

1.1c MPO Structure

MRMPO is housed within the **Mid-Region Council of Governments (MRCOG)** and is governed by the **Metropolitan Transportation Board (MTB)**, a board of elected officials and appointees from the different jurisdictions and member agencies in the AMPA. The board is supported by several technical and advisory committees comprised of agency staff professionals. The board and committee hierarchy are shown below. Further information on the committees can be found on the MRCOG website.

Figure 1: MRMPO Board and Committee Structure

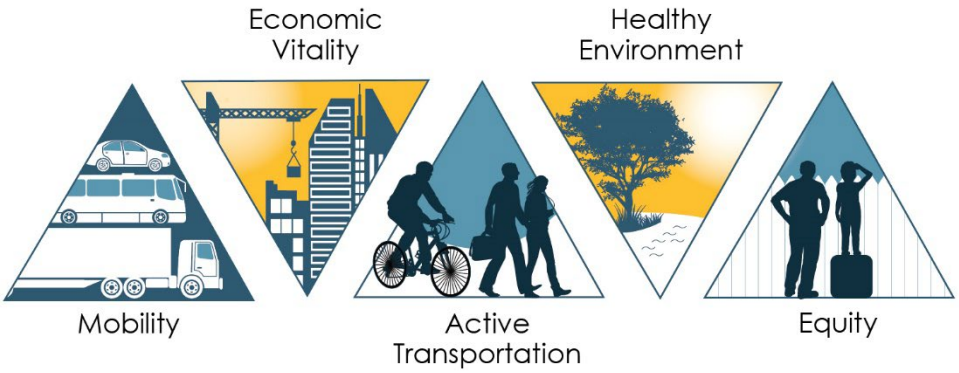


It is important to note that MRMPO is not an implementation agency, meaning it does not own any right-of-way and therefore cannot build or maintain infrastructure projects. Rather, the role of MRMPO is to facilitate regional discussion that includes identifying transportation needs and strategies for addressing those needs.

1.2 MTP Goals and Objectives

The *Transitions 2045 MTP* presents five guiding goals that establish a framework and general priorities for the MTP. These goals can be used to assess the performance of the region's transportation system; they also are considered during the prioritization of transportation projects selected for funding. The goals of the *Transitions 2045 MTP* are shown below:

Figure 2: Transitions 2045 Goals



Objectives for each goal guide the MRMPO's work toward achieving these goals. The public weighed in on the objectives through a public survey disseminated as part of the plan (see Chapter 1.4 and Appendix E). The objectives that received the most positive feedback are shown in bold.

Table 2: Goals and Objectives for the Transitions 2045 MTP

Goals and Objectives for the Transitions 2045 Metropolitan Transportation Plan	
Goal	**Objective**
Mobility	**Prioritize safety for all users of the transportation system**
Promote the safe and efficient movement of people and goods throughout the region.	Preserve and enhance existing infrastructure
	Enhance Transportation System Management & Operations
	Support frequent transit service
	Advance emerging technologies in transportation
Active Transportation	**Improve safety for bicyclists and pedestrians**
Ensure safe and convenient ways to travel for people who cannot or choose not to drive.	Build connected bike and pedestrian travel networks
	Coordinate land use and transportation planning
Healthy Environment	**Protect and enhance the natural environment**
Incorporate climate change and environmental considerations into transportation planning and decisions.	Prevent disproportionate environmental impacts to low-income neighborhoods and communities of color
	Reduce transportation contributions to climate change
	Protect public health and safety from the impacts of climate change
Economic Vitality	**Invest in creating vibrant places**
Strategically invest in high-quality transportation systems that support the economic health of the region.	Support regional freight, logistics, and goods movement
	Encourage diverse housing options
Equity	**Provide safe and reliable routes to daily destinations**
Improve safe and reliable transportation systems in traditionally underserved communities.	Increase access to green space and outdoor recreational opportunities
	Improve access to economic opportunity
	Expand access to affordable housing

The development of the goals for the *Transitions 2045 MTP* began with the goals from the last MTP (*Connections 2040 MTP*). These goals were updated with input from MRMPO's committees, local agencies, and the public. The intention is to convey a shared commitment to provide affordable and

convenient transportation options to all members of the traveling public. The goals and objectives shown in Table 2 were approved by the MTB and incorporated into this plan.

1.2a Core Concepts of the Transitions 2045 MTP

"Transitions" was selected as the title for this plan update because it reflects the dramatic changes experienced during and following the recovery from the COVID-19 pandemic. Regional challenges include the slowing rate of population growth in the region; different travel behaviors caused by more people working from home; a greater awareness of the need for equity in transportation; a deepening housing affordability crisis; and escalating transportation project costs. Other issues addressed in the plan include rapidly evolving technologies in the transportation sector and the critical need for safer transportation conditions, especially for pedestrians.

The *Transitions 2045 MTP* continues to recognize a core concept that has been carried through from previous MTPs: that transportation and land use are integrally linked. That is, the way in which our transportation system functions depends on the fabric of land uses found across our area as well as the intensity of those uses. For example, transit usually does not operate efficiently in areas with low population density because there are not as many people who might use the bus service. This results in inefficient service that relies on longer routes and higher fuel usage while capturing lower ridership and less revenue than transit service in more densely populated areas.

Conversely, transportation can affect how land uses develop. For example, a new highway built in a rural area can promote development, such as new housing; new housing then attracts the services and facilities to serve those new residents.

The *Transitions 2045 MTP* prioritizes the maintenance of existing infrastructure over building new infrastructure. In light of slower growth and rising project costs, it is especially prudent to budget appropriately and to invest in the upkeep of today's transportation network before expanding our transportation system, which increases the maintenance needs in future years.

1.3 Federal Requirements for an MPO

1.3a MPO Core Documents

MRMPO staff are responsible for producing a wide array of plans and programs that guide transportation planning in the AMPA. In particular, the four products outlined below are critical to ensure that the MPO's core functions are carried out and meet federal guidelines.

Metropolitan Transportation Plan (MTP)

The MTP is the region's long-range transportation plan which determines how federal transportation dollars will be spent over a 20-year horizon period. The MTP highlights existing transportation conditions and future growth forecasts in order to ensure that multimodal transportation investments occur where they will be needed most.

Transportation Improvement Program (TIP)

The TIP is the metropolitan area's short-range transportation program. It lists, in detail, all transportation projects that will receive federal transportation funds over the next six years. The TIP

is developed with the guidance of a competitive process that is carried out collaboratively among all member agencies.

Unified Planning Work Program (UPWP)

The UPWP is the mechanism for listing and organizing the MRMPO's transportation planning activities that will be undertaken over a two-year time period. The work plan is developed by MRMPO in cooperation with its member agencies.

Public Participation Procedures (PPP)

MRMPO is committed to conducting a robust outreach process to accompany its planning activities and products. The PPP outlines the methods and techniques for outreach purposes which favors going to where people are rather than asking them to come to us, as well as increased efforts to reach underrepresented populations.

1.3b Federal MTP Requirements

Federal requirements for MTPs are detailed in the current federal surface transportation law, the Infrastructure Investment and Jobs Act (IIJA), also referred to as the Bipartisan Infrastructure Law (BIL), signed by President Joe Biden in 2021. Administrative regulations for the BIL are found in Title 23 of the Code of Federal Regulations, Part 450.

MTPs are living documents intended to be continually revisited as urban areas grow and change, funding situations evolve, new data and analytical methods become available, and different transportation needs and priorities are identified. For this reason, MTPs must be updated every four or five years.[1] The *Transitions 2045 MTP* is an update to the *Connections 2040 MTP*, which was adopted in 2020. MTPs must have a planning horizon of at least 20 years. The *Transitions 2045 MTP* has a horizon year of 2045.

1.3c Fiscal Constraint

Fiscal constraint means that anticipated project costs for the transportation projects listed in Appendix A cannot exceed expected revenues within the timeframe of this plan. Achieving fiscal constraint occurs through a collaborative process, facilitated by MRMPO, working with member agencies wishing to receive federal funds for transportation projects. MRMPO staff meet with agency representatives to estimate future project costs and revenues. If the expected costs of the complete list of projects is expected to exceed revenues, member agencies work together to establish priorities and determine which projects should get funded over the next 20 years. All projects and programs contained in the MTP must identify a lead agency and have an identified funding source.

Metropolitan agencies within the AMPA have a long history of working collaboratively to elevate projects and programs that best align with the shared goals outlined in this plan. This has never been more critical than now, as costs of construction have risen substantially over the past several years. Fiscal constraint is discussed further in Chapter 10.

[1] MPOs without air quality maintenance violations can update their plans every five years. MRMPO's plan must now be updated every five years because it is currently in carbon monoxide (CO) attainment status.

1.3d Federal Planning Factors and Goals

Title 23 of the Code of Federal Regulations includes planning factors that must be considered as part of the metropolitan transportation planning process (23 CFR 450.306(b)), as well as specific elements that must be included in an MTP (23 CFR 450.324). The detailed planning factors and plan requirements that must be addressed in a long-range transportation plan are included in Appendix L. MRMPO's planning process is consistent federal regulations and the *Transitions 2045 MTP* includes all necessary and required elements for metropolitan transportation plans.

In addition, the BIL requires performance-based planning and programming that supports national planning goals (23 USC 150(b)). Federal performance measures, which assess progress toward safety, system reliability, and infrastructure condition goals, and regional performance measures, are discussed in Chapter 11.

The *Transitions 2045 MTP* goals are consistent with the national goals, as shown in Table 3:

Table 3: Connection between National Goal Areas and MTP Goals

National Goals	*2045 MTP* Goal(s)
Safety: To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Active Transportation, Mobility
Infrastructure Condition: To maintain the highway infrastructure asset system in a state of good repair.	Mobility, Economic Vitality
Congestion Reduction: To achieve a significant reduction in congestion on the National Highway System.	Mobility, Economic Vitality, Healthy Environments
System Reliability: To improve the efficiency of the surface transportation system.	Mobility, Active Transportation, Economic Vitality
Freight Movement and Economic Vitality: To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.	Economic Vitality, Mobility
Environmental Sustainability: To enhance the performance of the transportation system while protecting and enhancing the natural environment.	Healthy Environments
Reduced Project Delivery Delays: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.	Economic Vitality

1.3e Air Quality

MRMPO must meet the Clean Air Act and **Environmental Protection Agency (EPA)** conformity regulations. Currently, the region conforms with federal air quality regulations. MRMPO must make a conformity determination on its MTP and the **Federal Highway Administration (FHWA)** and **Federal Transit Administration (FTA)** must also make a conformity determination. In addition to

federal air quality regulations, the MTP must conform to the Albuquerque/Bernalillo County Air Quality Control Board transportation conformity regulations (New Mexico Administrative Code [NMAC] Title 20, Chapter 11, Part 3). Regional air quality is discussed further in Chapter 8, Healthy Envrionments.

1.3f Title VI and Environmental Justice

MRMPO conducts planning and public input processes to comply with **Title VI of the Civil Rights Act of 1964** and the Environmental Justice Orders. Title VI prohibits discrimination on the basis of race, color, or national origin and specifies that recipients of federal funds must certify nondiscrimination. Environmental Justice requirements direct every federal agency to make environmental justice part of its mission by identifying and addressing all effects of programs, policies, and activities on minority and low-income populations. Evaluation of environmental justice as it applies to the regional transportation system is addressed in Chapter 9.

1.3g ITS Regional Architecture

Figure 3: New Mexico 2045 Plan

MRMPO must ensure that transportation projects comply with the Regional ITS Architecture. This includes any project with ITS elements such as communications, traffic and operational management, or travel messaging that informs travelers about congestion, incidents, detours, or weather conditions that may affect travel decisions. This requirement, referred to in 23 CFR as Rule 940, is in place so that these communications and data collection systems are integrated in a planned and coordinated manner that facilitates the optimal delivery of these critical transportation information services.

1.3h New Mexico 2045 Plan and Strategic Highway Safety Plan

Federal transportation law requires **New Mexico's Department of Transportation (NMDOT)**, MPOs, and **Regional Transportation Planning Organizations (RTPOs)** to coordinate their long-range plan development processes. Coordination means that these organizations' plans must be mutually consistent with respect to demographic assumptions, travel demand forecasts, and revenue forecasts. To help ensure this consistency, NMDOT, MPOs, and the RTPOs update their long-range plans on roughly the same timetable and participate in exchanges of data, information, and ideas at critical stages. The *Transitions 2045 MTP* is consistent with the current statewide planning document, the *New Mexico 2045 Plan*. NMDOT also develops a statewide ***Strategic Highway Safety Plan (SHSP)*** that establishes emphasis areas, goals and strategies to improve

safety performance on all New Mexico roadways. An update to the plan will be completed in 2025 with collaboration from partners in the state.

1.4 Public Engagement

Public engagement efforts for this MTP update were guided by the *Transitions 2045 MTP's Public Participation Plan* and comply with MRMPO's *Public Participation Procedures (PPP)* (Appendix M). MRMPO's overarching goal for public participation is to effectively engage as many community members and stakeholders as possible, with a focus on reaching out to populations typically underrepresented in the planning process, such as low-income and minority populations, tribal and pueblo members, young adults, the disabled community, and transit- dependent individuals.

1.4a Public Engagement Goals and Objectives

MRMPO's is committed to increasing public engagement through new methods, to increasing efforts to reach underrepresented groups, and to put more effort into going to *where people are* as opposed to having them come to where we are. Appendix E contains a list of public presentations, locations where outreach was conducted, and additional survey results. In its outreach efforts, **MRMPO's focus has shifted away from simply *presenting* information** to **also *gathering* valued information and ideas** from the public, agency members, and stakeholders. As this information is gathered, staff integrates feedback into the applicable plans. Outreach strategies used for the *Transitions 2045 MTP* include the following:

Figure 4: Public Engagement Goals for Transitions 2045

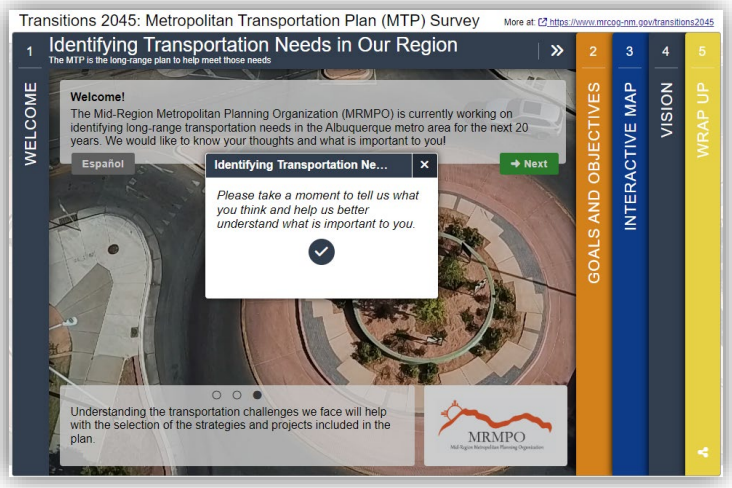
- Interactive online surveys (available in English and Spanish)
- Public meetings and open houses, including new methods and techniques to better engage participants
- Attending community events and meetings to hand out information and gather feedback in geographically varied locations
- Social media, electronic newsletters, and email blasts

- Presentations to existing and new advocacy and tribal planning groups, non-profits, and communtiy organizations
- Use of the updated Transtions 2045 MTP video to help explain the MTP planning process and products

1.4b Methods for Collecting Public Input and Feedback

To collect public input and feedback for the Transitions 2045 MTP, staff used a variety of methods including two online interactive surveys that allowed participants to provide feedback on the MTP. Some of these results are detailed below. Additional survey results are provided in Appendix E.

Figure 5: First MTP Survey



MRMPO also held four official public kick-off meetings for this MTP and made a concerted effort to supplement these meetings with other opportunities for the public and key stakeholders to weigh in on the plan.

MTP Surveys

The *Transitions 2045 MTP* surveys were made available online in both English and Spanish. The first survey was open from October 2023 until February 2024. There were a series of questions and exercises, including mapping exercises, that were designed to collect respondents' feedback on the updated MTP goals, their concerns and suggestions by mode of transportation, and their vision for the region. Two hundred eighty-eight people filled out the surveys (see a summary of survey results in Appendix E).

What did we gather?

- 1,600 comments from outreach events and surveys
- 662 survey participants
- 1,314 mapped data points
- 25 outreach events and meetings

Key takeaways from the surveys included:

- Strong support for the MTP goals and objectives that deal with increasing safety for pedestrians and cyclists
- A desire to reduce the environmental impacts of transportation
- A focus on improving transit and equity outcomes

Top concerns reported from the mapping exercise for each mode were revealing:

- Vehicle – poor roadway design

- Transit – infrequent service
- Walking – no sidewalk/inadequate sidewalk
- Bicycle – no bike facilty/ not enough separation from vehicles

While people's visions for transportion varied in interesting ways, there was a core theme for the majority of comments received. The vision exercise demonstrated a strong desire for increased bike, pedestrian, and transit infrastructure, a reduced reliance on single occupancy vehicles, and the priortization of safety for all modes. This can be seen in the following examples:

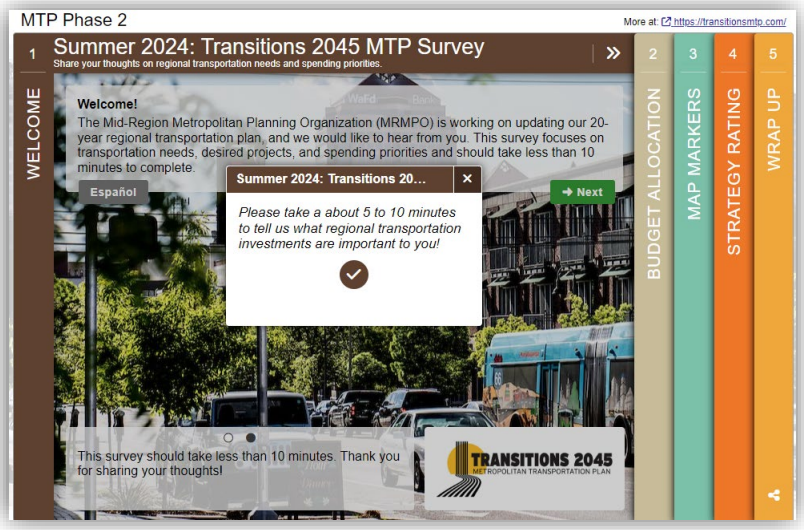
- "Well paved bike paths and safer bike lanes."
- "Improved bus service. Including late night and weekends to accommodate people who work."
- "Where accidents are minor and every method of transportation is accessible and equal."
- "Safer streets and a healthier environment for all."

A second MTP survey was open from June 2024 until August 2024. It was comprised of questions and exercises that were designed to collect respondents' feedback on project funding, mapping their dream transportation projects, and rating the key MTP strategies. Three hundred seventy-four people participated and filled out the second survey.

Key takeaways from the surveys included a prioritization of transportation spending categories as shown below in order:

1. Public transit
2. Pedestrian and bicycle improvments
3. Road maintenance and preservation
4. Roadway safety

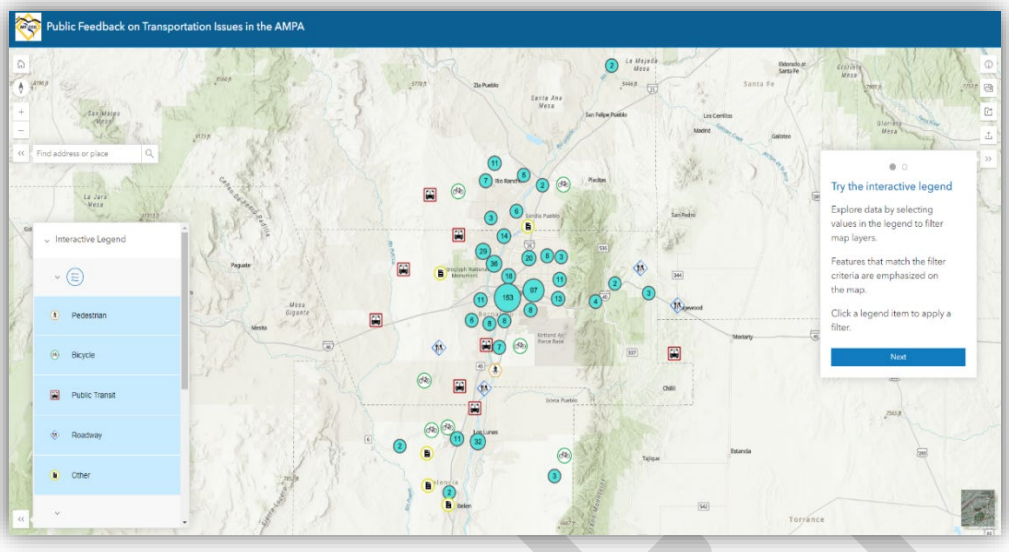
Figure 6: Second MTP Survey



Interactive Map Exercises

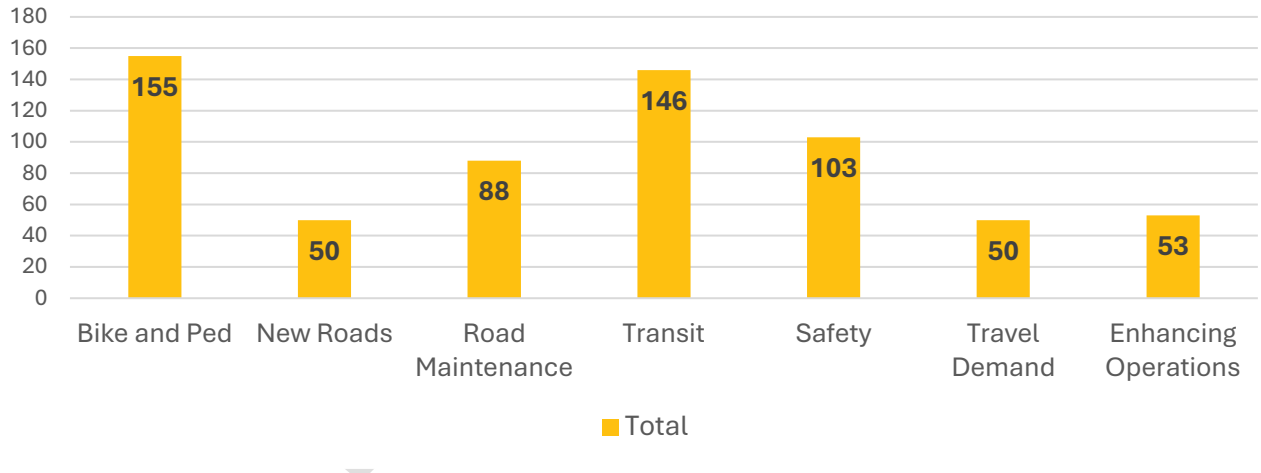
Both surveys included interactive map exercises. The first survey allowed people to indicate where there were transportation challenges and potential solutions for walking, rolling, biking, driving, motorcycling, and taking public transit. These results were turned into an online map (Figure 7) and shared with the participants of the exercise, as well as MRMPO member agencies, who were encouraged to use the information to inform the project list update for the MTP.

Figure 7: Transportation Challenges by Location



The second survey asked participants what transportation projects they would like to see in the region based on the MTP transportation project types. There was a total of 631 map markers collected. The results are displayed in Figure 7.

Figure 8 : Public Input on Desired Transportation Projects by Type



What Was Done Differently

To help guide the outreach efforts, the *Transitions 2045 MTP Public Participation Plan* was developed in conjunction with MRMPO's *Public Participation Procedures (PPP)*. This allowed for new approaches and best practices to be adopted while continuing to employ effective outreach methods from the previous MTP update. For example, MRMPO placed a new emphasis on attending meetings convened by our stakeholders for various planning purposes. This helped expand our reach while maintaining the MPO's goal of going to "where people are." MRMPO also placed a heavier focus on using virtual engagement techniques to allow for more flexibility and opportunities to connect with people who may not attend an in-person workshop. There was also a greater emphasis on iterative evaluation during the outreach process, where MRMPO staff reflected on the effectiveness of various strategies in gathering quality feedback and pivoting where necessary. This effort involved developing tools to better track progress and perform internal audits to ensure that outreach goals and targets were met. These tools are available in Appendix E.

How Feedback Was Integrated

The outreach process resulted in the collection of valuable and meaningful data that has assisted the MTP development. Integral aspects of the *Transitions 2045 MTP* such as the goals, strategies, funding priorities, vision, safety and equity concerns have been developed in tandem with the public, member agencies, community organizations, advocacy groups, and a variety of other stakeholders. Transportation project suggestions gathered from the mapping exercise in the first survey were developed into an interactive web map for MRMPO member agencies to access. This map was shared during the project list development to provide an additional layer of feedback that could be used to prioritize investments. All comments received from the public and agency partners on the MTP drafts were considered and integrated where possible. MRMPO is grateful for the time and effort that public and agency members put into reading and commenting on the plan, as the feedback undoubtedly improved the final product. It is our hope that stakeholders recognize their input reflected among the pages.

1.5 Contents of the MTP

Document Organization and Chapter Summaries

The *Transitions 2045 MTP* begins with a discussion of the current state of the region and expectations for the future before delving into chapters that are organized around the goals and key themes of the MTP. The MTP concludes with a look at plan financials, implementation, and evaluation.

Table 4: Document Organization and Chapter Summaries

Chapter 1: Introduction to the long-range transportation plan and the role of the MRMPO, plan requirements, and public outreach performed for the plan.
Chapter 2: Current State of the Region for socioeconomic, transportation, and land use trends.
Chapter 3: Regional Forecast for population and employment growth in the next 20 years and how our transportation system is expected to perform.
Chapter 4: Mobility including how the roadway and transit systems are performing, congestion management activities, and an overview of new and emerging technologies affecting transportation.
Chapter 5: Safety challenges in the region as well as actions being taken to address safety for the traveling public.
Chapter 6: Active Transportation travel conditions and efforts to improve conditions for bicycle and pedestrian modes of travel.
Chapter 7: Economic Vitality and the ways in which transportation and economy intertwine. Housing affordability and goods movement are also discussed.
Chapter 8: Healthy Environments and environmental concerns including climate change, conservation of resources, and air quality.
Chapter 9: Equity and environmental justice considerations such as access to destinations via transit and accessible sidewalks for different populations.
Chapter 10: Financial Analysis of expected costs of projects, revenues, and financial requirements for MPOs. Describes financial aspects of the plan including federal funding, fiscal constraint, revenue projections, and maintenance and operations costs. NOTE: this chapter is still under development.
Chapter 11: Plan Implementation and Evaluation, including ways in which the plan is implemented and MTP and TIP projects are evaluated. Strategies for achieving the MTP goals are highlighted.
Supplemental materials are included in the Appendix, including the MTP project list.

CHAPTER 2 CURRENT STATE OF THE REGION

The **Albuquerque Metropolitan Planning Area (AMPA)** is home to New Mexico's highest concentration of population and jobs. As of 2020, there were approximately 891,000 people and 403,000 jobs[2], which represents 42 percent of the state's population and 48 percent of its jobs. The metro area hosts New Mexico's largest city, the City of Albuquerque (population 564,584); its fastest growing municipality, Los Lunas (by 10 percent since 2020); and the city with the largest numeric growth, Rio Rancho (adding 6,227 people since 2020).[3]

The AMPA is home to several major educational institutions, including the **University of New Mexico (UNM)**, **Central New Mexico Community College (CNM)**, and **Albuquerque Public Schools (APS)**; major hospitals including University of New Mexico Hospital and Presbyterian Hospitals; and other large employers such as Sandia National Laboratories, Intel Corporation, and Kirtland Air Force Base.

This chapter sets the stage for the elements contained in each *Transitions 2045 MTP* chapter and provides a general overview of regional trends affecting transportation programming and policy. The chapter compares the current state of the region to past trends to identify shifts in population and employment, travel patterns, and housing affordability.

The chapter will also discuss the region's progress towards achieving the Target Scenario, which was developed and refined over the last three MTPs (approved in 2011, 2015, and 2020). The Target Scenario was a vision for the future that imagined strong centers of economic activity, an improved balance of jobs and housing west of the Rio Grande, and the preservation of open space, agricultural land, and rural communities.

As the region has made substantial progress towards realizing the Target Scenario over the years, the **Mid Region Metropolitan Planning Organization (MRMPO)** must now focus its attention on addressing new needs brought about by significant shifts in its economic, social, and transportation fabric over the past five years. These include the COVID-19 pandemic, shifts in travel behavior, flattening population growth, and the increasing cost of infrastructure. This chapter highlights these changes and their impact on the AMPA's transportation needs.

2.1 Transitions Since the Connections 2040 MTP

Three major factors have emerged in the past five years that have affected infrastructure needs in the future:

- **The COVID-19 pandemic** fundamentally changed the way residents and workers travel throughout the region.
- **Overall population growth** in the region has essentially stalled which has resulted in reduced expectations for future growth.

[2] MRMPO's definition of employment includes all jobs covered by unemployment insurance as well as an estimate of agricultural workers, military, and self-employment.

[3] Annual Estimates of the Resident Population for Incorporated Places in New Mexico: April 1, 2020 to July 1, 2023. Source: U.S. Census Bureau, Population Division Release Date: May 2024

- **The cost of infrastructure** has increased substantially, raising the price tag on transportation projects by 20 to 30 percent or more.

2.1a COVID-19 Pandemic

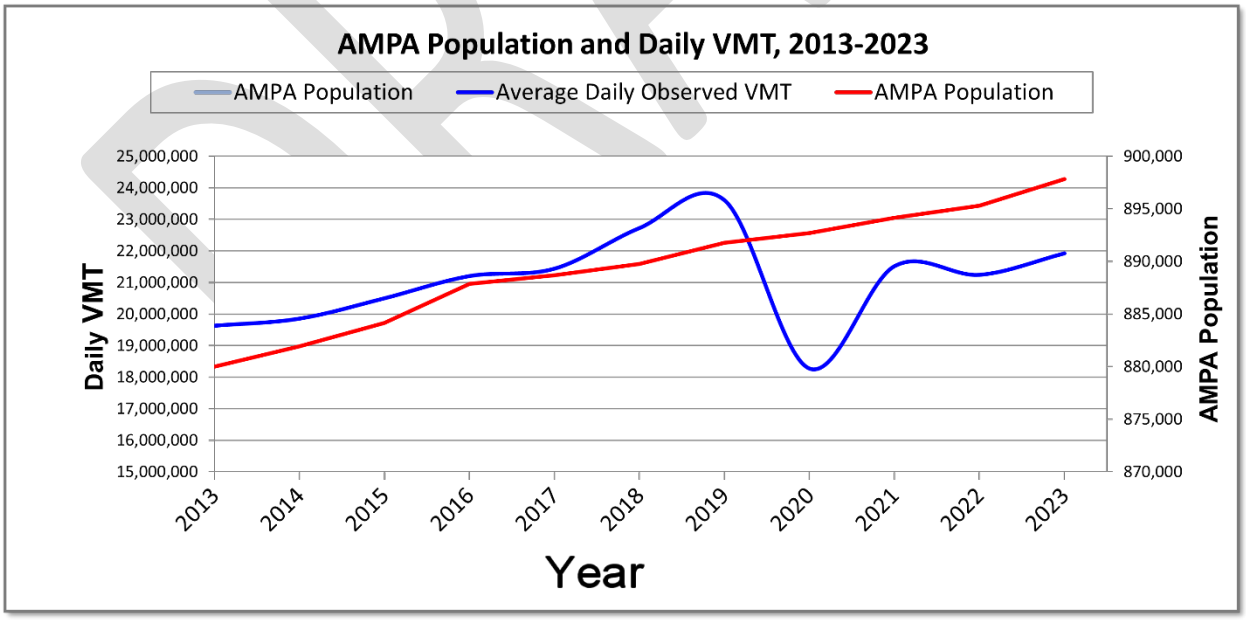
The COVID-19 pandemic changed daily life in the AMPA in substantial ways. While the loss of community members was the most direct and damaging effect of the pandemic, its residual effects continue to shape the landscape of the region, especially as it relates to transportation. These effects include shifts in travel demand and peak times of travel, an increase in working from home and virtual meetings, changes to transit ridership and service, and an emergence of new transportation technologies.

Decrease in Vehicular Travel Demand

The impacts of the pandemic have been felt across all aspects of daily life. Although it is unclear if post-pandemic trends will be long-lasting, the pandemic caused notable changes in travel demand and travel patterns in the AMPA, including:

- An immediate drop in regional traffic volumes in 2020. In the years following, traffic volumes have increased but have not returned to pre-COVID levels.
- An increase in employees working from home (including full time remote or hybrid in-person/remote) and increased flexibility in traditional work hours.
- An increase in virtual shopping, classrooms, medical appointments and other purposes that had been typically attended in person.

Figure 9: Traffic Volumes



Source: MRCOG Traffic Counts Program

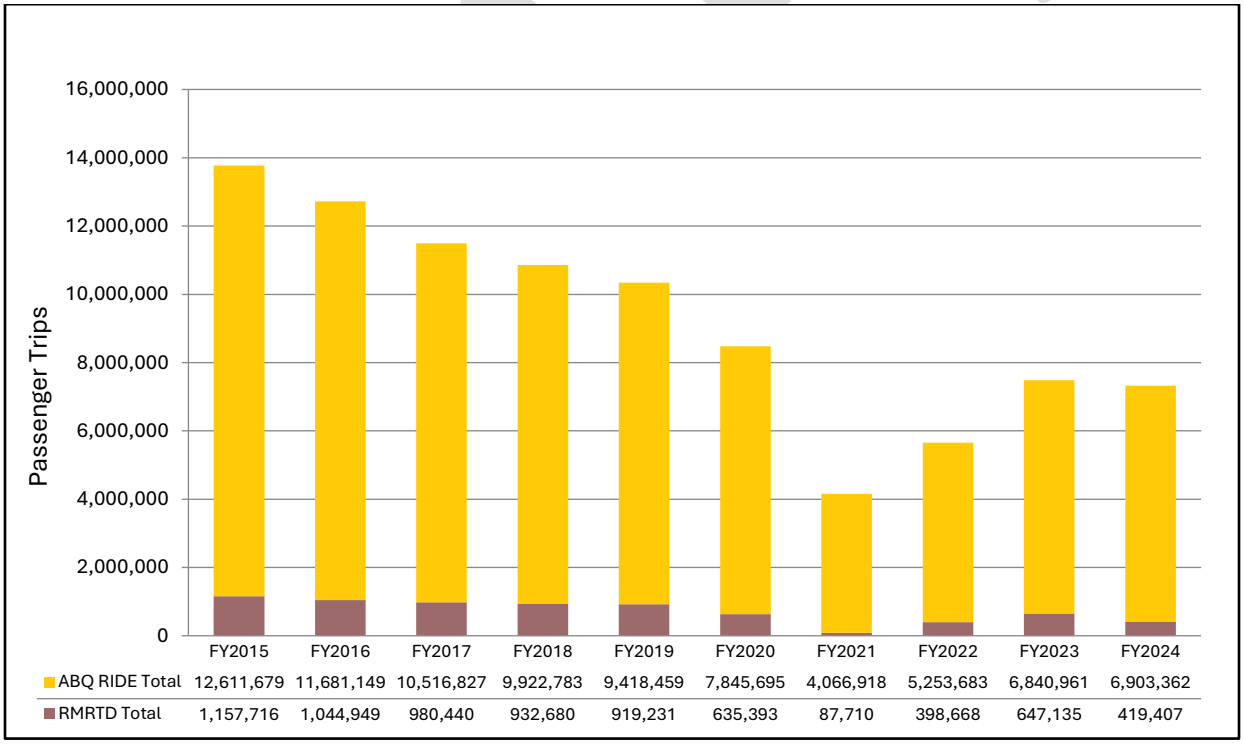
The annual number of Vehicle Miles Traveled (VMT) dropped significantly in 2020, the first year of the pandemic. This is explained by work from home policies and business closures intended to combat the spread of the coronavirus. After the first year, volumes began to slowly edge up again. In 2021, traffic volumes were below 23 percent below pre-pandemic levels, 10 percent in 2022, and 8.4 percent in 2023. Today, traffic volumes still remain considerably lower than five years ago and appear to be on a new and lower growth trajectory than prior to the pandemic.

Decrease in Transit Service

The COVID-19 pandemic of 2020 created an instant shock to the transit system. Between April 2019 and April 2020, transit ridership in the United States decreased by 81 percent, according to an FTA report.[4]

ABQ RIDE, the City of Albuquerque's transit agency, significantly cut back service during the pandemic, especially on commuter routes. Restoring pre-pandemic levels of service has proven to be difficult. ABQ RIDE has been able to restore only 81 percent of the bus network due to a shortage of bus drivers and maintenance technicians. Albuquerque passenger trips in 2024 have reached just 71 percent of 2019 numbers. Similarly, passenger miles traveled in 2024 are at 61 percent of the levels in 2019.

Figure 10: Rio Metro and ABQ RIDE Passenger Trips, FY2015-FY2024



	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
ABQ RIDE Total	12,611,679	11,681,149	10,516,827	9,922,783	9,418,459	7,845,695	4,066,918	5,253,683	6,840,961	6,903,362
RMRTD Total	1,157,716	1,044,949	980,440	932,680	919,231	635,393	87,710	398,668	647,135	419,407

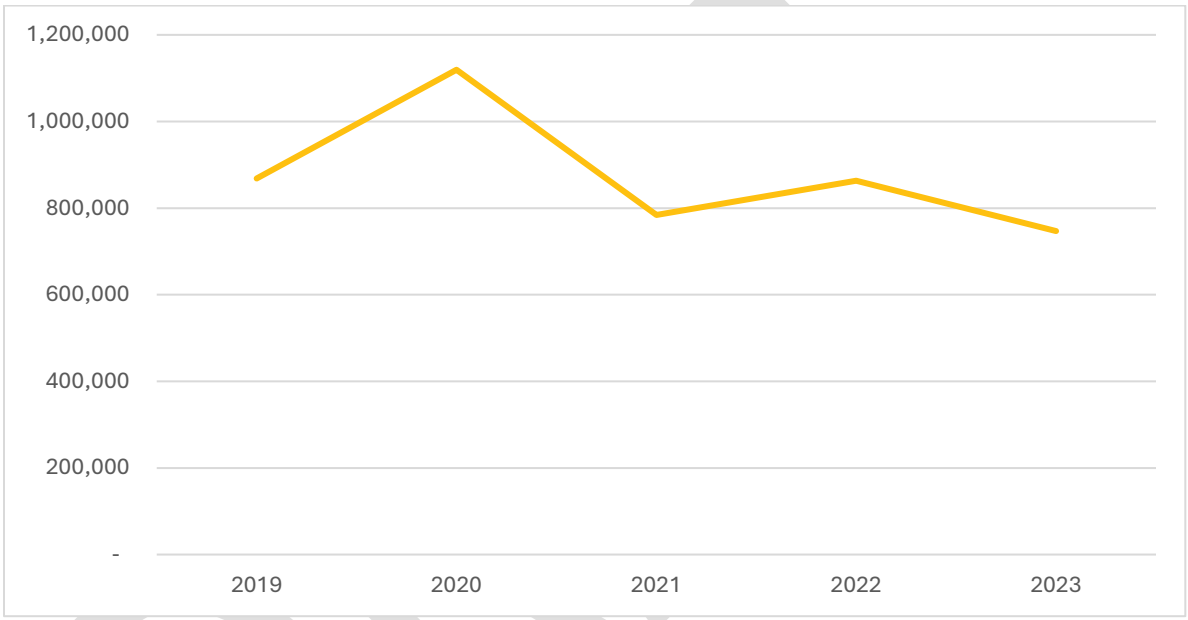
Source: ABQ Ride and Rio Metro RTD

[4] https://www.transit.dot.gov/sites/fta.dot.gov/files/2024-08/FTA-Report-0268-Effects-of-the-COVID-19-Pandemic-on-Transit-Ridership-and-Accessibility.pdf&ved=2ahUKEwja2Y7H6LiJAxXo48kDHUclFh4QFnoECA0QAQ&usg=AOvVaw1E-l6HOm2BYSDCKSZB5pCO

Increase in Active Transportation

While vehicular travel on the AMPAs roadways dropped during the pandemic, bike and pedestrian trips recorded on multiuse trails in the region increased by about 29 percent from 2019 to 2020. In addition, bike and pedestrian trips within the AMPA recorded on the popular fitness app Strava increased by 80 percent from 2019 to 2020. While long-term trends from the pandemic remain to be seen, the increase observed in walking and biking during the pandemic was encouraging in that it showed how greater use for those modes is possible. For more information on active transportation in the AMPA, reference Chapter 6.

Figure 11 : Annual Pedestrian & Bicycle Trips on Multi-Use Trails in the AMPA, 2019-2023



Source: MRMPO

Transitions in Work-Related Travel

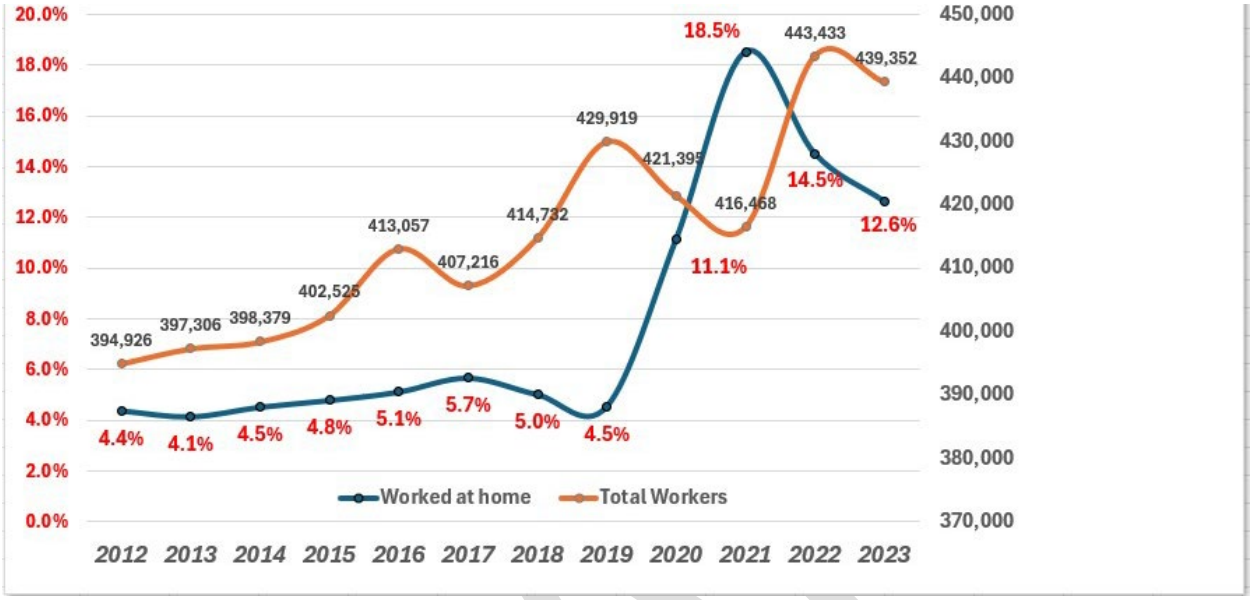
The pandemic demanded a swift adaptation to working conditions, especially for white collar jobs that can often be completed remotely with remote work technology. Even following the lift of pandemic-related in-person work restrictions, there has been a noteworthy, and perhaps permanent, increase in workers who continue to work from home, have more flexible hybrid work schedules, and/or conduct remote meetings in lieu of in-person meetings. These trends have had an impact on travel behavior within the AMPA.

Work From Home

The COVID-19 pandemic resulted in a dramatic increase in working from home: In 2023, there were 36,000 more workers working from home than in 2019, representing about one out of every seven

workers in the AMPA. While the workforce for all industries increased by just two percent post-COVID, workers working from home increased by 180 percent to total 55,000 workers.[5]

Figure 12: Total Workers, Percent Working at Home



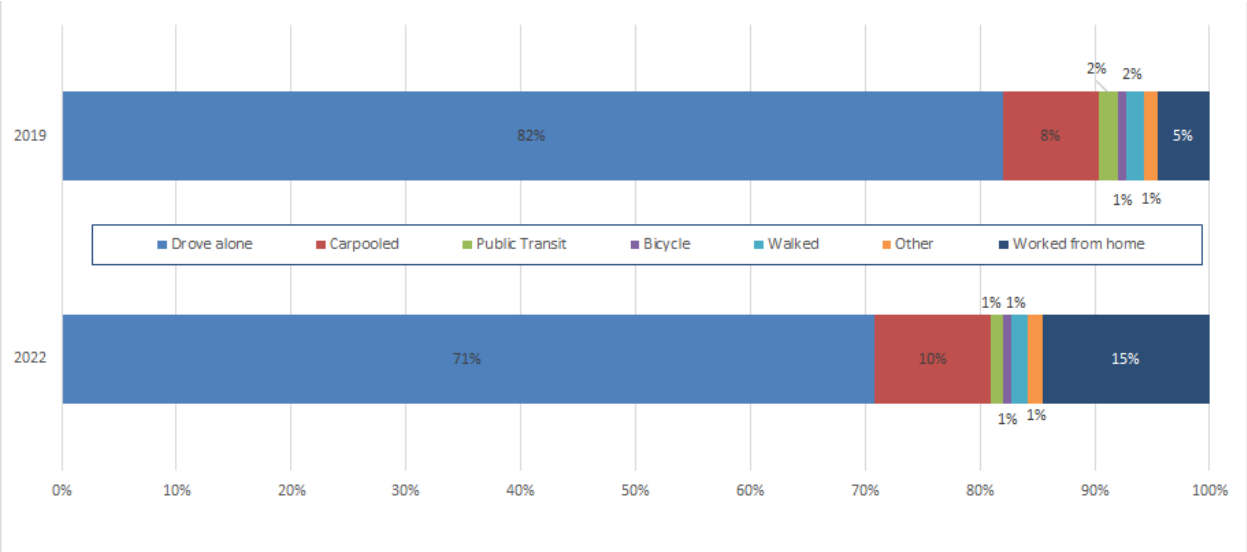
Source: US Census Bureau's American Community Survey

In the metro area, remote work trends have predictably shifted commuter patterns. By 2022, workers driving alone to work decreased by 11 percent, or nearly 40,000 workers since before the pandemic. Where single occupancy vehicles represented 82 percent of commuters, this mode now accounts for 71 percent of commuters.[6] The largest explanation for the decrease in driving alone is the growth in remote work, which increased from five percent to 13 percent of the workforce in the AMPA by 2023.

[5] U.S. Census Bureau. "Means of Transportation to Work by Industry." American Community Survey, ACS 1-Year Estimates Detailed Tables, Table B08126, 2023, https://data.census.gov/table/ACSDT1Y2022.B08126?t=Commuting&g=310XX00US10740&y=2023. Accessed on July 30, 2024.

[6] U.S. Census Bureau. "Means of Transportation to Work." American Community Survey, ACS 1-Year Estimates Detailed Tables, Table B08301, 2022, https://data.census.gov/table/ACSDT1Y2022.B08301?t=Commuting&g=310XX00US10740&y=2022. Accessed on July 30, 2024.

Figure 13: Means of Transportation to Work (Pre- and Post-Pandemic)



Source: US Census Bureau's American Community Survey

Flexible Schedules and Shifts in Traffic by Time of Day

Peak periods of travel have also shifted since 2020, likely due to the flexibility now afforded to travelers with dynamic work schedules.

Pre-COVID morning traffic volumes historically peaked between 7 a.m. to 8 a.m., and afternoon traffic volumes peaked between 4 p.m. to 6 p.m. Currently peak volumes are lower overall than before the pandemic and are more spread out in the afternoon between 2 p.m. to 6 p.m. This effect is known as "peak-hour spreading" and in some instance can help manage congestion during the busiest times of the day.

Moving forward, it is possible that travelers will maintain flexibility in travel times, and variations may also emerge in travel for different days of the week. For example, it is now more common to work three days in the office and two days at home, also known as a 3:2 hybrid schedule. The variety of days workers may choose to work in the office or at home can lead to reduced traffic throughout the work week.

Techniques to improve the efficiency of the transportation system, primarily by reducing the number of single-occupancy vehicles (especially during peak hours), is referred to as **Travel Demand Management (TDM)**. TDM strategies have historically included flexible work schedules that reduce the number of days reporting to the workplace, or shift working hours to avoid peak commute times. Schedule adjustments require no infrastructure to implement, are low cost, and are very popular among workers. Further discussion on TDM is included in Chapter 4.

Virtual Meetings

Nationally, remote meetings increased 60 percent since the pandemic began.[7] Remote work and other online activities have proven convenient for many while also reducing VMT. Many public and

[7] Think Remote (January, 2023)

private sector employers have since expanded their offerings of virtual/telework meetings considerably; all contributing to the observed reductions in area VMT. In addition, remote medical appointments and virtual classrooms also contribute to lower traffic volumes.

Pandemic Impacts on New Technology

The pandemic ushered in advances in technology that changed the way people and goods move throughout the metropolitan area. An increase in online shopping and grocery delivery resulted in fewer trips for shopping but an increase in delivery trips. Other technologies, such as alternative refueling stations and connected vehicle-compatible infrastructure have served to improve efficiency in people and goods movement. Further discussion of new and emerging technologies and their associated impacts on mobility in the region can be found in Section 4.1c.

2.1b Flattened Growth and Demographic Shifts

Another factor that has influenced transportation in the metropolitan area is flattening population growth and shifts in the demographic and economic makeup of the AMPA region. This section presents the current state of the region in terms of population, housing and employment dynamics.

Population

Between 2020 and 2023, the three counties within the AMPA gained approximately 5,180 people. Table 5 presents total population change in the metropolitan area between 2020 and 2023. While overall population growth is essentially flat at 0.6 percent, there are important differences between the jurisdictions. Sandoval County has continued to see sustained growth and Bernalillo County has experienced population decline. At the municipal level, the table shows that **the metropolitan area's largest city, Albuquerque, has seen a net loss in population, while its second largest city, Rio Rancho, grew by approximately 6,600 people. The third largest municipality, the Village of Los Lunas, saw the fastest population growth with a gain of 10.7 percent since 2020.**

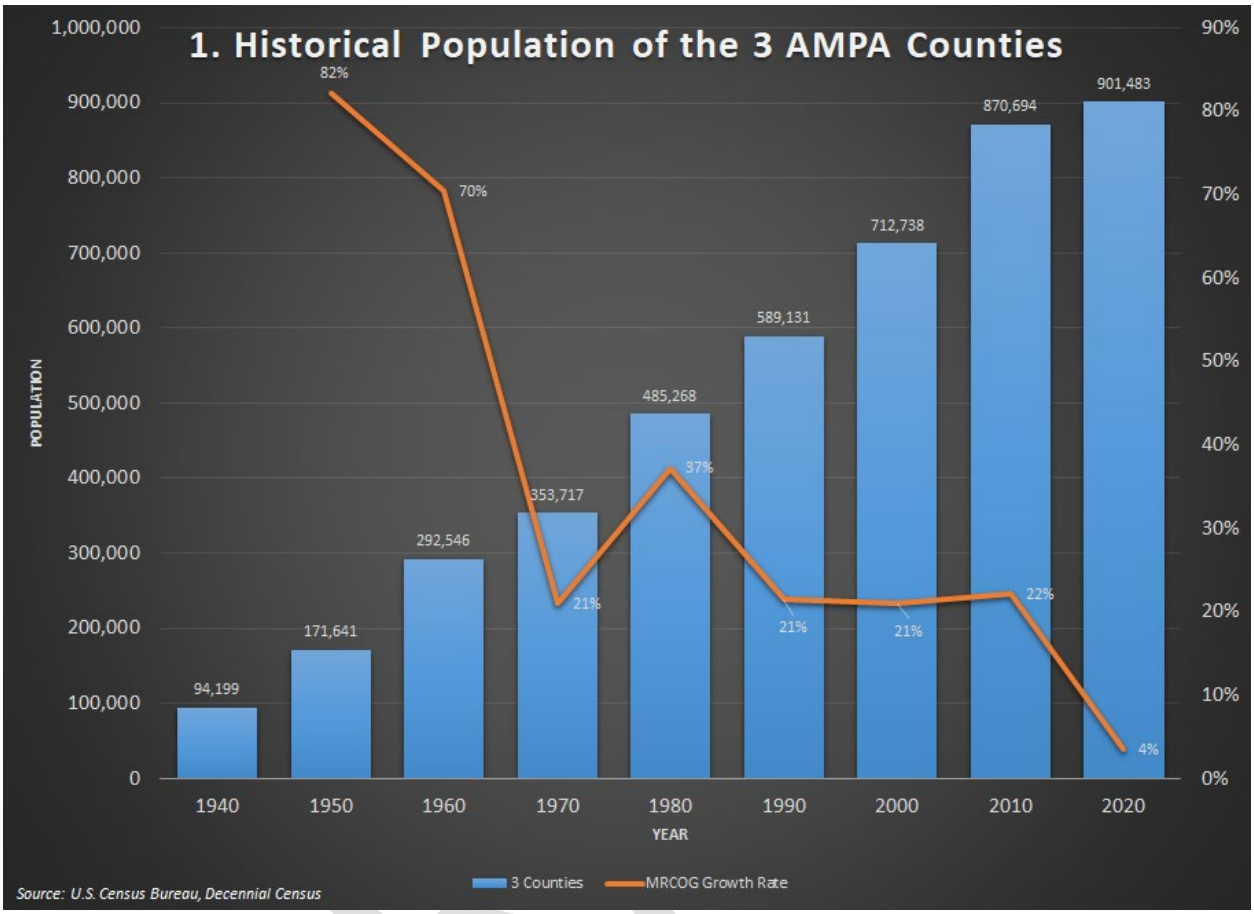
Table 5: Recent Population Change within the AMPA's 3 Counties: 2020, 2023

	2020	2023	Numeric Growth	Percent Change
Bernalillo County	676,444	671,586	-4,858	-0.7%
Albuquerque	564,559	560,274	-4,285	-0.8%
Los Ranchos	5,874	5,828	-46	-0.8%
Tijeras	465	463	-2	-0.4%
Remainder of Bernalillo County	105,546	105,021	-525	-0.5%
Sandoval County	148,834	155,936	7,102	4.8%
Town of Bernalillo	8,977	9,114	137	1.5%
Corrales	8,493	8,616	123	1.4%
Rio Rancho	104,046	110,660	6,614	6.4%
Remainder of Sandoval County	27,318	27,546	228	0.8%
Valencia County	76,205	79,141	2,936	3.9%
Belen	7,360	7,474	114	1.5%
Bosque Farms	4,020	4,076	56	1.4%
Los Lunas	17,242	19,079	1,837	10.7%
Peralta	3,342	3,424	82	2.5%
Rio Communities	4,926	4,907	-19	-0.4%
Remainder of Valencia County	39,315	40,181	866	2.2%
AMPA Estimate	901,483	906,663	5,180	0.6%
New Mexico	**2,117,525**	**2,114,371**	**-3,154**	**-0.1%**

Source: US Census Bureau, Decennial Census, Population Estimates Program

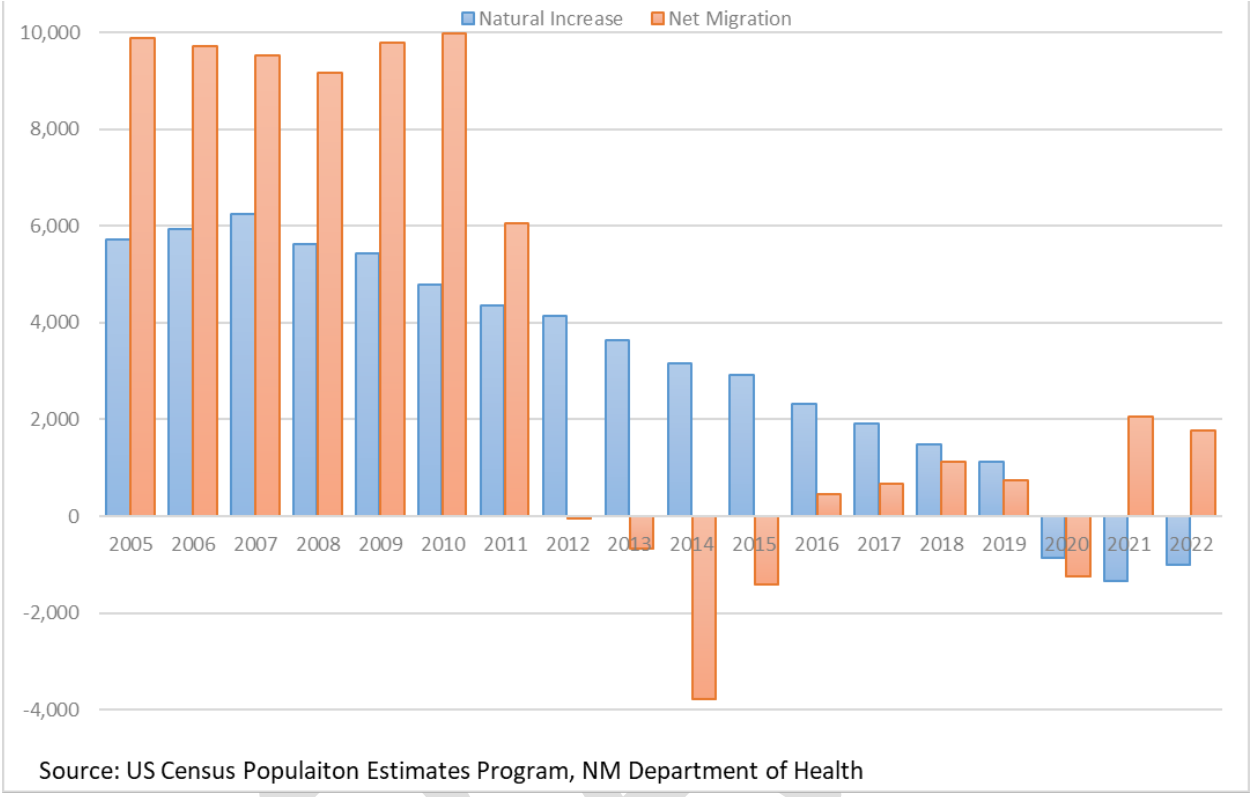
Slow population growth is a fairly recent trend for the metropolitan area. Figure 14 illustrates the historical population growth of the three counties within the AMPA (Bernalillo, Sandoval, and Valenica Counties). Historically the metro area has seen robust growth by over 20 percent for the three decades preceding 2010.

Figure 14: Historical Population of the Three AMPA Counties



The recent slowdown in population growth was precipitated by the Great Recession and amplified by the pandemic. Figure 15 shows the primary components of population change; natural increase (births and deaths) and net migration (people moving in and out of the region). It shows that over the past decade, the AMPA experienced declining births and increased deaths. This is consistent with national demographic shifts; people are choosing to delay having families, have fewer children, and the population is aging (due to the large baby boomer generation that were born post World War II). Migration into the metropolitan area also slowed over the past decade, although recent data indicates that trend might be changing.

Figure 15: Components of Population Change (Three-County Area, 2005-2022)



Migration is a key component of population growth, particularly in the Albuquerque metropolitan area, which has been an attractive destination for migration both from within the state and from outside of it. Bernalillo County has led the state in attracting international migration, which is a key component of growth. Figure 15 shows the crucial role of migration in the overall growth of the AMPA. In 2021 and 2022, the region returned to positive net migration, with more people moving in than out. However, since 2020, births have been outpaced by deaths, and therefore insufficient to sustain the existing population. The takeaway is that without positive migration, the metropolitan area's population would be in decline.

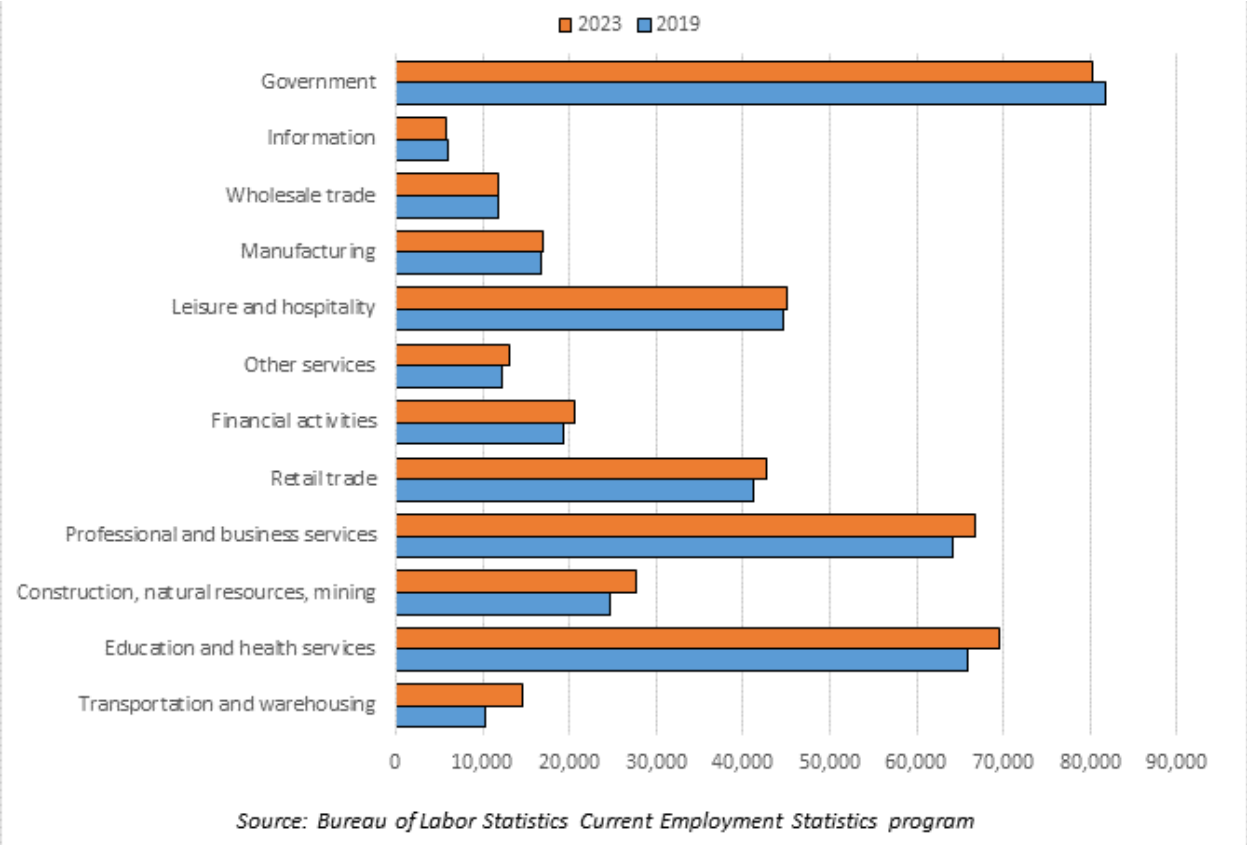
Employment

Following the COVID-19 pandemic, the region lost approximately 25,000 jobs. However, by 2022, employment had rebounded to exceed pre-pandemic figures. As of April 2024, there were 419,700 non-agricultural jobs in the Albuquerque Metropolitan Statistical Area (MSA) and the unemployment rate was 3.1 percent.[8]

Figure 16 illustrates employment levels in major sectors before and after the pandemic.

[8] The Albuquerque MSA encompasses Bernalillo, Sandoval, Torrance and Valencia Counties. The non-farm employment figure is from NMDWS Labor Market Review, April 2024, and is not seasonally adjusted.

Figure 16: Employment by Industry (Pre- and Post-Pandemic)



Source: Bureau of Labor Statistics Current Employment Statistics program

The region's largest employer continues to be the government, followed by Education and Health Services, and Professional and Business Services. However, since 2019, the largest increase in employment was in Transportation and Warehousing, which gained 4,000 jobs for a 36 percent increase. This growth reflects the rise of consumer demand for fast and reliable shipping, a trend that was accelerated by the pandemic. Transportation support activities for aviation, rail, and freight fall within this category, as well as facilities that store goods on route to their final destination. The Transportation and Warehousing industry sector is increasing in importance in the region; its most visible example is the recent Amazon facilities located in the City of Albuquerque and the Village of Los Lunas. Industry sectors and transportation needs are further discussed in Chapter 7: Economic Vitality.

Age

It is important for MPOs across the county to consider age as a component of transportation planning activities, in large part due to the differences in mobility needs and preferences and challenges in different age groups. By highlighting age as a component in transportation planning, the AMPA will be better positioned to create and/or influence the development of regional transportation systems that are inclusive, accessible, and adaptable for people of all ages and abilities.

Figure 17: Age Distribution Over Time: Historical and Forecast

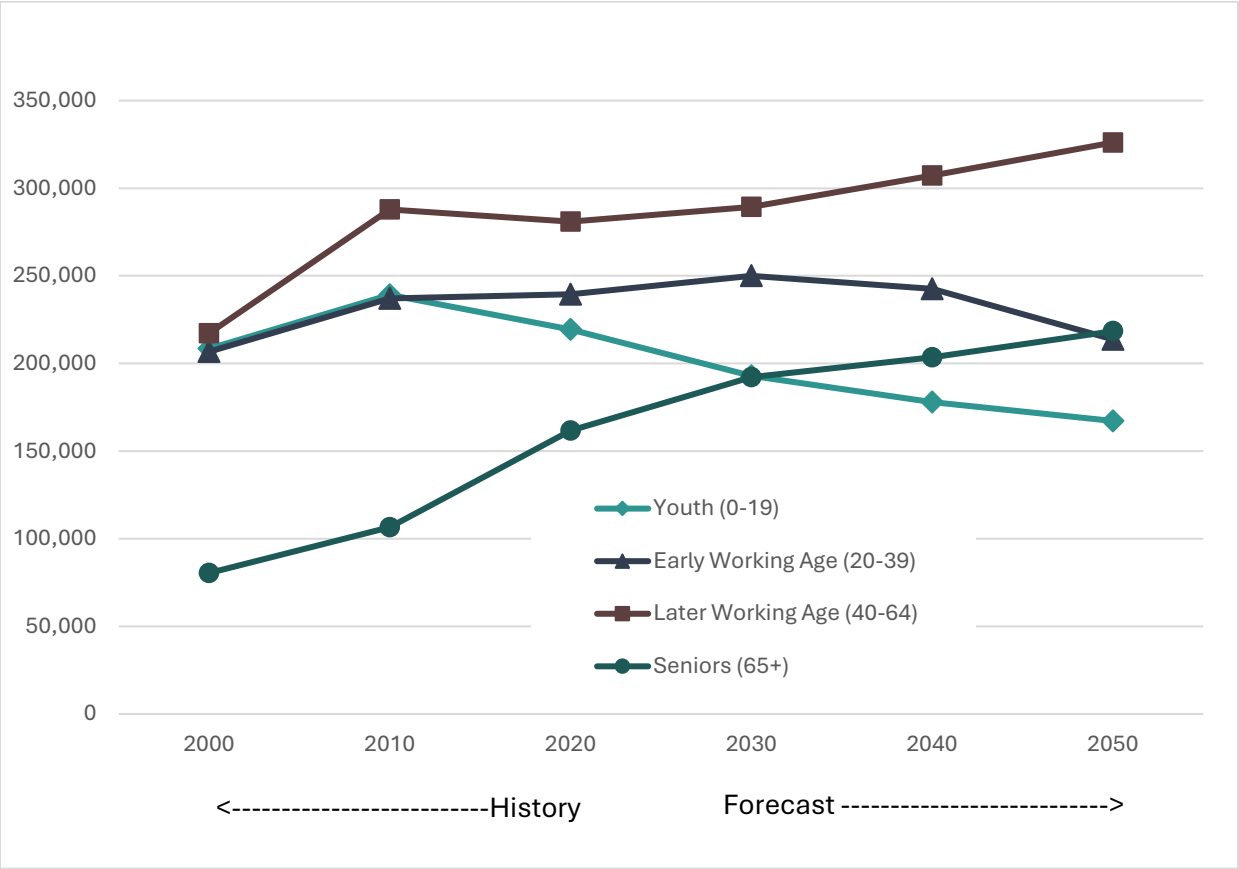


Figure 17 highlights anticipated shifts in age distribution over the next three decades. The number of youth will continue to decline as people continue to have fewer children. This has implications for school enrollment, which has been declining for the past decade. This trend is expected to fuel important conversations that are already happening today about reuse of existing school buildings in areas seeing decline and how to adjust districts appropriately to most efficiently transport children to school.

The figure also shows the dramatic rise in seniors aged 65+. It is expected that we will gain approximately 60,000 more seniors by 2045, increasing their share from 18 percent to 22 percent of the population. This will have impacts on travel as aging seniors may be more likely to face challenges accessing healthcare, groceries, transit, and other key destinations. As this age cohort advances it will be critical that senior care providers consider access when choosing a location, as well as safe and accessible pathways for pedestrians and people with disabilities.

The working age population between 20 and 65 years of age will hold constant at about 58 percent of the total population over time. This may mean a flattened future demand for travel during peak commute times. It also may result in a plateau in the number of workers, although people are also remaining in the workforce later in life. In addition, the workforce itself is aging. The implications of this may mean higher payrolls, greater institutional knowledge, and workers who may have greater flexibility without young children at home.

Spotlight on Aging

Seniors face unique transportation challenges that can significantly impact their well-being. Maintaining independence, accessing healthcare, social engagement, and essential services like grocery shopping all depend on having access to reliable transportation options. For those unable to drive personally owned vehicles, these options may be very limited depending on residential location and income level. The even greater lack of transportation options in rural areas can lead to social isolation, which can have serious consequences for both physical and mental health.

Several issues may hinder the effectiveness of public transit for seniors. For those needing to travel to medical appointments or other essential services outside of peak hours or in less densely populated areas of the city, long wait times and the need for multiple transfers can make public transit impractical for older adults. Real-time information about bus arrivals and potential delays is also crucial for navigation, but not always readily available or user-friendly for this demographic.

Concerns about personal safety, particularly at night or in less populated areas, can also deter seniors from using public transportation. Bus stop placement, the distance to and from stops, and the physical challenges of boarding and alighting buses can be difficult for seniors, especially those with mobility limitations. While improvements are being made, accessibility remains a concern. Accessible transportation options are often extremely limited or non-existent in rural areas.

Access to paratransit services like Sun Van are essential for individuals with disabilities; but eligibility requirements, limited availability, and the need for advance booking can create challenges for seniors. All permanent Sun Van riders must be ADA-certified through an interview process at the Transit Department Administrative Offices and must submit an online or printed application.

The Department of Senior Affairs offers shared, ADA-accessible van transportation within Bernalillo County to individuals ages 60 and older to medical appointments, for errands like grocery shopping, or to meal sites at City of Albuquerque and Bernalillo County senior and multigenerational centers within a five-mile radius, with priority given to those with medical appointments.[9] To utilize meal site transport services, individuals can register directly with their center site. Seniors age 60+ who are unable to cook for themselves, have no one else to cook for them, and are unable to attend a meal site may be eligible to receive a home-delivered meal on a donation basis.[10] Rides for appointments must be scheduled seven days in advance. "On-demand" shared rides can be requested for non-medical errands scheduled three days in advance, with return rides scheduled within two hours from initial pickup time.

[9] https://www.cabq.gov/seniors/senior-services/senior-transportation
[10] https://www.cabq.gov/seniors/senior-services/senior-meals

While ride-sharing services and taxis offer more flexibility, the cost can be prohibitive for many seniors living on fixed incomes, especially for frequent trips. Subsidized ridesharing or taxi vouchers can make these options more affordable for seniors, although again, the reliance on smartphones for ride-hailing can be a barrier for those less comfortable with technology.

Addressing the transportation challenges facing elderly residents requires a multi-faceted approach. Recommended strategies may include:

- ***Mixed-Use Development:*** *Creating neighborhoods where residential, commercial, and recreational spaces are in proximity reduces the need to travel long distances for everyday needs. This can make walking, biking, or using public transportation more feasible.*
- ***Transit-Oriented Development****: Focusing development near public transportation hubs like bus and train stations provides easy access to public transportation, allowing seniors to travel independently and affordably.*
- ***Age-Friendly Zoning:*** *Encourages the development of smaller, more manageable housing options like apartments, accessory dwelling units (ADUs), and co-housing, which can be more suitable and affordable for seniors.*
- ***Complete Streets:*** *Promoting the development of well-connected streets with good lighting, sidewalks, and crosswalks, also makes it easier for seniors and everyone to get around safely.*
- ***Universal Design Principles:*** *Designing housing and public spaces that are accessible to people of all ages and abilities ensures that housing and public spaces are comfortable and safe for seniors with mobility limitations. This can include features like ramps, grab bars, wider doorways, and easy-to-navigate layouts.*

By addressing these challenges, communities can create environments that support the mobility and independence of seniors, allowing them to age in place comfortably and safely.

Housing Affordability

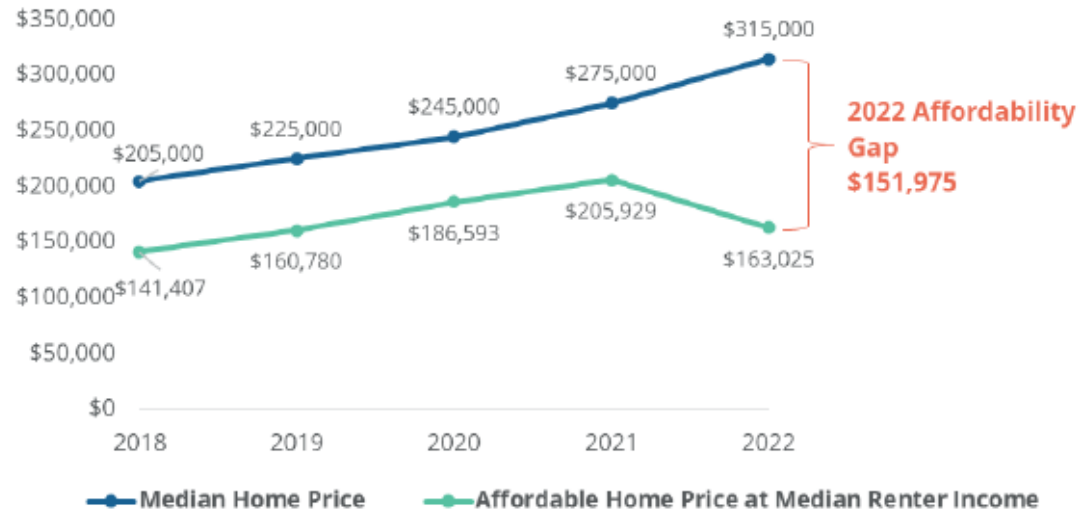
Many households in the region are affected by high housing costs relative to income. Thirty-one percent of households in the region are cost-burdened, meaning that they spend more than 30 percent of their income on housing costs. Fifty-one percent of renters in the region are cost-burdened compared to 22 percent of owners. The percentage of owners who are cost-burdened decreased from 2010 to 2022 (from 29 percent to 22 percent) while the percentage of renters who are cost-burdened increased from 49 percent to 51 percent. The decrease in owner cost burden might be attributed to the drop in mortgage interest rates in 2020, which allowed mortgaged owners to lower their housing costs through refinancing.[11]

Although homeownership is an important strategy for wealth-building, buying a home is not affordable for the majority of renters. Figure 18 compares the median home price to what would be affordable to a renter earning the median renter income in the AMPA. In 2022, a household making

[11] Albuquerque Region Housing Needs Assessment, 2024

the median income of a renter would only be able to purchase a home costing $163,000, which is $150,000 less than the 2022 median home price of $315,000. The combination of higher interest rates and elevated home prices in the region as of 2024 makes homeownership largely unattainable for households with income below 100 percent area median income (AMI) without subsidies.[12]

Figure 18: Median Home Price v. Affordable Home Price, Region, 2018-2022



Note: Affordability estimates assume a household spends 30% of their income on housing and assume a 30-year mortgage with a 10% downpayment, 30% of monthly payment is used for property taxes, utilities, insurance. Interest rates used are the historical 30-year fixed rate average from Freddie Mac from 2018 to 2022.

Source: HMDA, Freddie Mac, ACS 5-year estimates, and Root Policy Research.

Housing costs are affected by the supply of housing units. According to the recent *Housing Needs Assessment* conducted by Root Policy Research for the MRCOG region in 2024 at least 55,100 additional housing units will be needed by 2045 to keep up with housing demand and new household formation.[13] Of these housing units, between 11,600 and 12,700 rental units and between 19,600 and 21,300 ownership units need to be affordable to low- and moderate-income households earning 120 percent AMI or less. Housing affordability and other regional housing-related challenges are further discussed in Chapter 7.

2.1c Cost of Infrastructure

The rising costs of construction coupled with slow population growth create significant challenges for implementing transportation improvements. Agencies must carefully consider the high upfront capital costs associated with new construction projects as well as the long-term costs of maintaining those facilities over their lifetime.

[12] Albuquerque Region Housing Needs Assessment, 2024

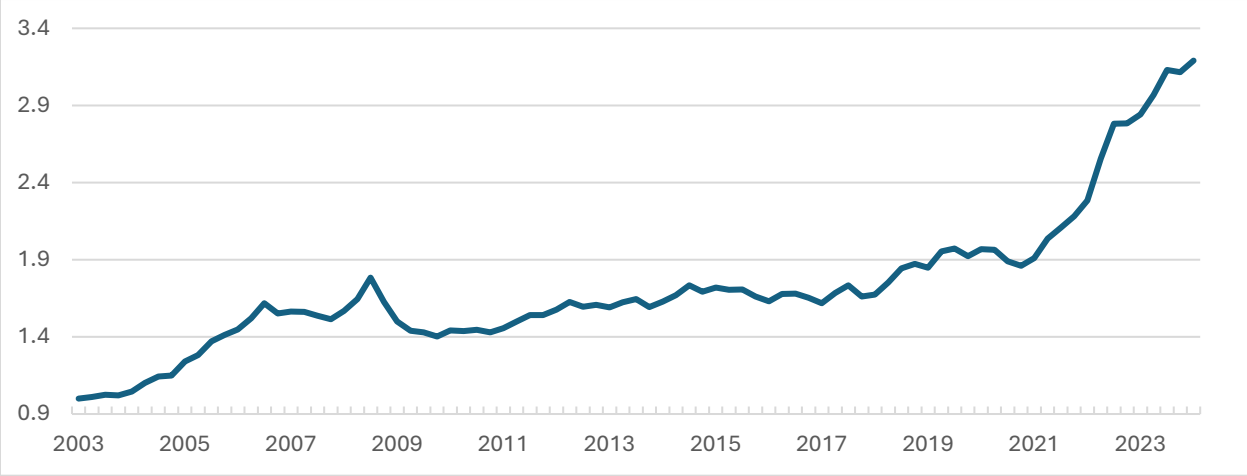
[13] The Housing Needs Assessment projections are based on a methodology developed separately from this plan by Root Policy Research. This study can be found at https://www.cabq.gov/health-housing-homelessness/documents/albuquerque-region-2024-hna.pdf

Higher Construction Costs

High inflation is one significant cause of higher infrastructure costs. This is both a regional and national trend. Figure 19 shows the National Highway Construction Cost Index (NHCCI), a price index used to track construction costs over time. The NHCCI has increased 62 percent between the first quarter of 2020 and 2024.[14] The largest factors driving this increase are the higher costs of asphalt and oil.

In New Mexico, the DOT has noted 20 percent cost escalations for construction bids per year since Fiscal Year 2020.[15] **Transportation Demand Management (TDM**) and **Transportation Systems Management and Operations (TSMO)** strategies may become even more attractive options that can help serve anticipated travel demand in less-costly and more efficient ways.

Figure 19: National Highway Construction Cost Index



Lower Tax Revenues

Gas tax revenue has declined in recent years, in part due to more fuel-efficient vehicles and the shift to electric vehicles. In 2021, gas tax made up 25 percent of the NMDOT's state road fund recurring revenue sources, but the Department of Transportation forecasts that it will only make up 22 percent of revenue by 2025.[16] Other revenue sources include special fuel tax (26 percent), weight distance tax (21 percent), vehicle registration (18 percent), motor vehicle excise tax (two percent) and other sources (eight percent).[17] While the NMDOT forecasts a decrease in gas tax revenue, special fuel tax revenue is projected to increase.

[14] https://data.transportation.gov/Research-and-Statistics/NHCCI/r94d-n4f9/about_data
[15] https://www.nmlegis.gov/Sessions/24%20Regular/firs/HB0003.PDF
[16] https://www.nmlegis.gov/handouts/TIRS%20061721%20Item%204%20Sandoval.pdf
[17] https://www.nmlegis.gov/(X(1)S(xrraljo22wt0uigx0hz3ynjf))/handouts/RSTP%20070522%20Item%206%20Transportation%20Revenue%20Sources%20Distributions%20State%20Comparisons.pdf

In addition, slower population growth affects revenues from gas taxes, vehicle registration and licensing fees, gross receipt taxes, and property taxes. If these revenue sources decline and infrastructure costs continue to rise, implementing agencies will not be able to provide infrastructure at the same rate as previous years.

Timely Project Delivery

The escalation of project costs has led to concerns about the timely delivery of projects. State and local implementing agencies have sought out avenues for 'gap financing' and other creative solutions to 'keep projects whole' at the time of construction. In cases when this isn't possible, the project scope might be scaled back, or a project is broken into separate phases. Implementing agencies have been resourceful to identify new funding sources or expand revenue from current funding sources to maintain current levels of infrastructure spending. Discretionary grants that are available through IIJA are one funding source that member agencies are increasingly accessing to help fund projects that might not otherwise be constructed.

With the precipitous increase in project costs and the delays in development timelines, it is essential that agencies leverage all the resources at their disposal. MRMPO plays an important role by convening the **Transportation Program Technical Group (TPTG)** where member agencies check in on project status and identify needs or delays. Efforts to expand inter-agency coordination have also been pursued. For example, there have been periodic joint meetings between FHWA, NMDOT, and MRMPO to identify barriers and strategies to assist member agencies with on-time project delivery and reduce costs where possible.

2.2 The Target Scenario

The Target Scenario is a future vision for growth that emphasizes the successful integration of land use and transportation planning. This scenario promotes targeted investments based around three primary elements:

- Strengthen regional activity centers, support a core transit network, and promote safe bicycle and pedestrian connections.
- Provide a better balance of jobs and housing east and west of the Rio Grande.
- Preserve and protect open space, agricultural land, and rural communities.

Through its modeling tools, MRMPO demonstrated that by forwarding these concepts the region could achieve transportation benefits which included fewer vehicle miles traveled, increased transit ridership, lower vehicle emissions, and less travel delay when compared with a Trend Scenario. Importantly, the modeled Target Scenario projected a 43 percent reduction in vehicle hours of delay across the river when compared with the Trend Scenario.

Table 6: Modeled Transportation Benefits of the Target Scenario

PM Peak Hour	Base Year 2016	Trend 2040	Target 2040	% Difference Target v Trend
Vehicle Miles Traveled	1,673,908	1,937,337	1,913,356	-1%
Vehicle Hours Traveled	58,700	75,503	71,224	-6%
Vehicle Hours Delay	23,131	33,999	30,244	-11%
VMT Over Capacity	81,245	125,376	110,058	-12%
Congested Lane-Miles	56.8	91.8	81.9	-11%
Average Speed	29.8	25.9	26.1	1%
River Crossings Vehicle Hours of Delay	924	2,767	1,571	-43%

The 2040 Target Scenario was approved by the MTB in April of 2020 as an aspirational vision which the planning partners in the region could work toward together. This section describes the Target Scenario, how it was developed, and the progress the region has made towards attaining the goals of the Target Scenario.

2.2a History of the Target Scenario

The Albuquerque Metropolitan Planning Area underwent its first scenario planning effort over a decade ago through the development of the *2035 Metropolitan Transportation Plan*, which was approved in 2011. On the heels of the housing boom the region was expected to continue to see high population growth and traffic congestion, which was projected to result in quadrupling vehicle hours of delay and single digit speeds across the river during afternoon peak commute times. In response, MRMPO produced "The Compact Land Use Scenario" presented as an appendix to the 2035 MTP.

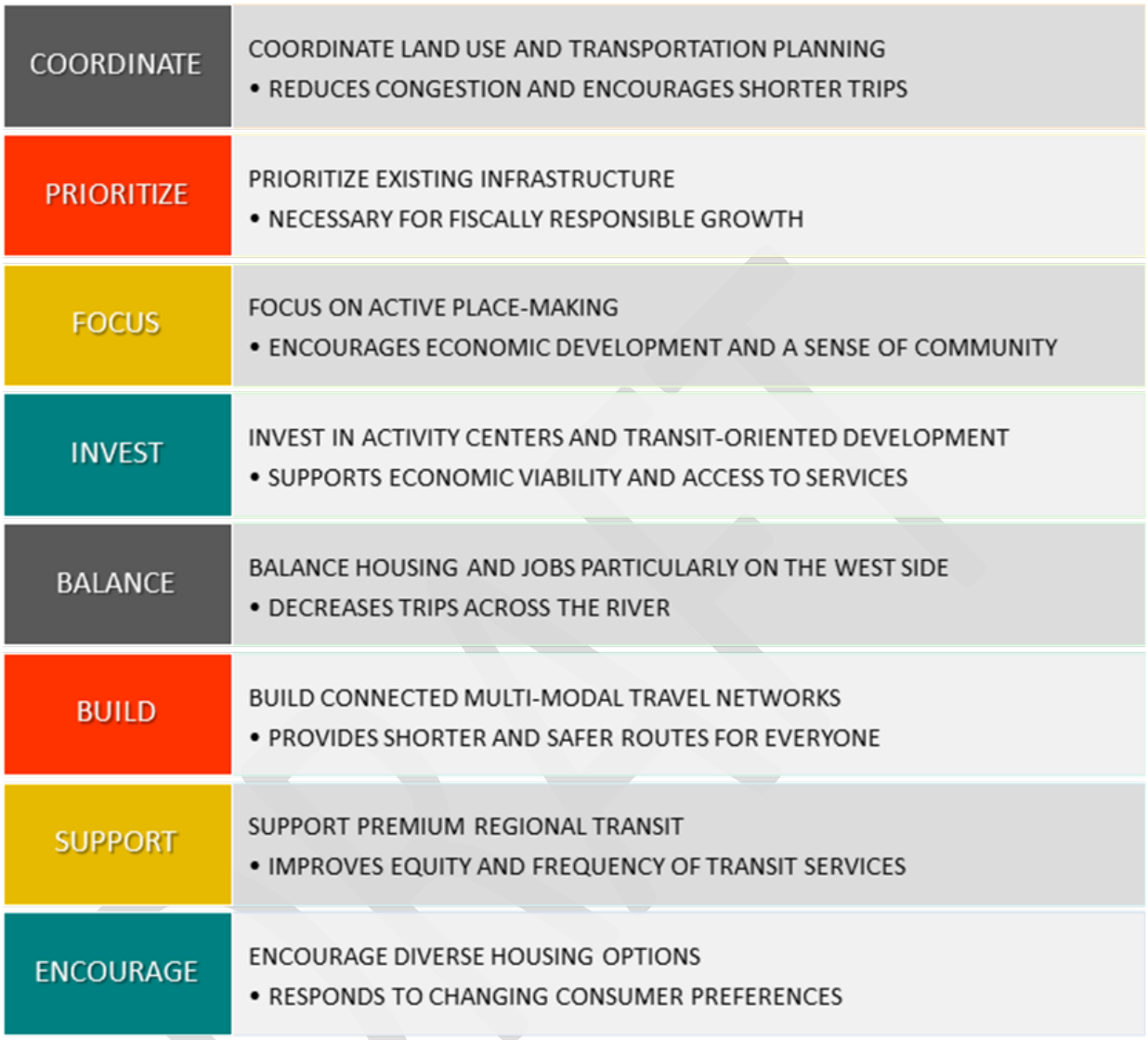
Understanding the potential for severe degradation of mobility throughout the region under intense growth pressure, MRMPO recognized that it simply was not feasible to build our way out of congestion through the construction of new roads. MRMPO member governments requested that

MRMPO investigate alternative solutions to help mitigate future congestion. The Compact Scenario was a 'what if' scenario that modeled the shift in travel demand if future growth was concentrated within areas served by existing infrastructure. It showed that by incentivizing development in areas with excess roadway capacity in the urban core, the region could reduce future vehicle miles of travel by 17 percent and increase average speeds by 16 percent.

At further request of member agencies, the *Futures 2040 Metropolitan Transportation Plan*, approved in 2015, built upon the Compact Scenario by elevating scenario planning efforts into a multi-year, multi-agency process. MRMPO was the recipient of two grant awards from the Federal Highway Administration (FHWA) and the Volpe Resource Center to design and conduct a rigorous planning process including wide community engagement, refined modeling tools, and extensive analytical capabilities. In the end, regional stakeholders agreed on an alternative scenario, called the "Preferred Scenario" that represents an aspirational transportation and land use future for our region. The Preferred Scenario was officially adopted as a future target for growth by MRMPO's governing body, the **Metropolitan Transportation Board (MTB)**.

The *Connections 2040 MTP*, adopted in 2020, carried forward the Preferred Scenario as the regional target and as such, it was aptly renamed "The Target Scenario." Connections 2040 retained the original vision for the Target Scenario as an intentional integration of land use and transportation and outlined eight guiding principles intended to achieve it.

Figure 20: Guiding Principles of the Target Scenario



The *Connections 2040 MTP* demonstrated that by advancing these guiding principles, the region could achieve better access between people and common destinations, growth in areas of targeted investment, and more moderate development in communities that desire to protect and preserve their rural character.

Many of the benefits of the Target Scenario are being realized by the member agencies within the Albuquerque metro area. The planning analysis and subsequent recommendations put forward by MRMPO throughout the past several Metropolitan Transportation Plans has happened in parallel with the local planning and implementation efforts of its member jurisdictions. The success of the Target Scenario relies on a regional planning process that is both iterative and cooperative as has been the case for well over a decade of forward- thinking regional planning and policymaking.

2.2b Target Scenario Leadership

The Land Use and Transportation Integration Committee (LUTI) is the steering committee for the development of the Target Scenario. The LUTI Committee is comprised of representatives from the member agencies of MRMPO who are responsible for implementing plans and policies in the metropolitan area. Participants include land use planners, school planners, city council planners, policy analysts, transit professionals, and transportation engineers from different member agencies within the region. While MRMPO provides technical analysis and planning support, it is the member agencies who have the power to make the Target Scenario a reality.

LUTI was formed in 2012 for the purpose of better integrating land use and transportation decisions and has become the guiding body for integrating scenario planning into the MTP. LUTI led the scenario planning process for the Connections 2040 MTP and has continued to be instrumental in the development of the *Transitions 2045 MTP*.

During the *Transitions 2045 MTP* planning process, LUTI was integral to updating the goals, strategies, Key Centers, and socioeconomic forecast in the following ways:

1. Members provided information regarding how their agencies have adopted policies consistent with the guiding principles of the Target Scenario.
2. Members updated locations for the Key Centers map based on areas that are currently designated for targeted investments (see Chapter 7).
3. Members provided input on development activity, local plans and projects, and development regulations including allowable uses and densities to support the socioeconomic forecasts.
4. Members provided recommendations to supplement the MTP strategies with priorities and policies from their local planning processes.

While the development of the MTP goals, strategies, Key Centers, and socioeconomic forecast was facilitated by MRMPO, it was developed by and for its member governments.

2.2c Target Scenario Implementation

Since the *Connections 2040 MTP* was approved in 2020, there have been updates to local comprehensive plans, centers for targeted investments, new bike and trails plans, a new transit plan, and much more. The guiding principles of the Target Scenario are reflected in planning efforts throughout the metropolitan area. A sample of these major planning efforts are shown below:

- The City of Albuquerque's 'Areas of Change,' adopted through the update of the Albuquerque Bernalillo County Comprehensive Plan to target investment in areas appropriate for more intense development.
- Rio Rancho's recently approved Affordable Housing Study, which guides future actions to improve the availability of affordable and quality housing in the City.
- The Village of Los Lunas's commitment to transit-oriented development and the Rail Runner Station Area Plan as emphasized in the recently updated 2040 Comprehensive Plan.

- Bernalillo County's emphasis of a 'Centers and Corridors' approach to planning in their recently approved Comprehensive Plan Update.
- Albuquerque Public School's Vision Zero for Youth Initiative to navigate safe routes to school for its students.
- ABQ Ride Zero Fares program to make transit accessible to all through free transit service.
- The City of Belen's updated Comprehensive Plan (2023), which prioritizes mixed-use and infill development and promotes a mix of housing types.

Zoning

Zoning is an important tool to achieve the Target Scenario, as zoning determines where higher-density housing can be built as well as where and how activity centers can be developed. Traditionally, zoning in the region focused on separating residential uses from commercial uses in order to curb nuisances caused by non-residential uses. However, zoning reform efforts seek to promote a mix of uses that enable residents to better access commercial services as well as employment opportunities.

AMPA member jurisdictions have worked to reform their comprehensive plans and zoning codes to promote a mix of housing types, development of activity centers, and improved access to destinations. Below are some zoning tools that have been implemented within the metropolitan area that support the goals of the Target Scenario:

- Allowing the development of Accessory Dwelling Units in residentially zoned areas
- Converting hotels into multi-family and transitional housing
- Increasing allowable densities in centers and corridors and areas of economic activity
- Removing parking minimums or reducing parking requirements where appropriate
- Preserving commercially zoned land to achieve better jobs-to-housing balance
- Reducing building footprint requirements in some areas
- Encouraging tiny home developments or smaller lot sizes
- Expediting permitting and waiving fees for beneficial developments
- Reducing restrictions on building conversions and adaptive reuse

Transit Investments

Investing in transit supports the Target Scenario by reducing congestion, promoting travel choices, and encouraging dense development patterns. The region has seen numerous important efforts and investments in its transit system in recent years, including:

- ABQ Ride Zero Fares Program: The Zero Fares program removed transit fares, creating a completely free transit system. The program began as a pilot during the pandemic but was adopted into permanent policy in 2023. Albuquerque is one of the largest U.S. cities to implement a free fares program.
- ABQ Ride Forward Study: The study, which included extensive public engagement, developed new transit routes and schedules to maximize existing resources to provide improved high-frequency transit in the AMPA. The study has released a final route network, although it has not yet been formally adopted.

- Uptown Connect Project: The City of Albuquerque received a $25 million federal Department of Transportation grant to make improvements to the Uptown Transit Center, including developing affordable and market-rate multifamily housing, hotel rooms, commercial space, and a transit plaza. This project represents investment not only in the region's transit, but also in an important Key Center.

Pedestrian and Bicycle Connections

One of the key elements of the Target Scenario is emphasizing connected multimodal networks. MRMPO uses a variety of tools to ensure that bicycle and pedestrian transportation investments are directed towards locations that will create a complete multimodal network and address the region's most severe safety problems. These tools include the Long-Range Bikeway System, Pedestrian Composite Index, Road Diet Candidates Map, and High Fatal and Injury Network. For more information on these tools, reference Chapters 5 and 6.

The region has also invested in a variety of planning activities to improve pedestrian and bicycle safety and networks, including the Bernalillo County Pedestrian Safety Action Plan, Village of Los Lunas Bicycle Plan, City of Albuquerque Bikeway and Trail Facilities Plan Update, and the MRMPO Regional Transportation Safety Action Plan.

Several new bicycle and pedestrian projects have been implemented in the AMPA that represent investments in active transportation.

- Bernalillo County and key partners have completed construction on portions of the Alameda Drain Trail, a nine-mile paved trail that runs from Interstate 40 to the northern end of 2nd St. Other trail sections will be completed in the next several years.
- Bernalillo County is reconstructing Bridge Boulevard from Coors Blvd to 8th St. The project adds bike lanes and pedestrian infrastructure with the goal of creating a main street environment along the corridor.
- The Louisiana Boulevard Vision Zero Project implemented a road diet from Central Avenue to Gibson Boulevard and installed the City of Albuquerque's first protected bike lanes. The project's main goal was to improve safety for people walking, biking, and riding transit along one of the region's highest crash corridors.

For more information on active transportation investments, reference Chapter 6.

2.2d Target Scenario Evaluation

While it takes time for local planning efforts and land use policy changes to demonstrate measurable impacts, this section is intended to evaluate if the region is moving in the right direction towards the Target Scenario. This section looks at the three key elements of the Target Scenario and uses available data to monitor progress. It evaluates the time period following the formal adoption of the Target Scenario (2016 to present); however, the dates of analysis vary due to differences in data availability. This evaluation serves as a starting place and is not expected to fully represent the impacts of recent policy changes (e.g., the City of Albuquerque's Integrated Development

Ordinance did not take effect until 2018). Therefore, it will be important to revisit these metrics once there has been more time to realize the benefits of new policies, plans, and programs.

Element #1: Strengthen regional activity centers, support a core transit network, and safe bicycle and pedestrian connections.

Supporting centers of activity is promoted by the Target Scenario to foster catalytic economic growth, as well as an efficient way to target future transportation investment toward safe and connected multi-modal networks. The decision to intentionally invest in centers of activity is codified in local plans as a means for economic development and community vitality. This is an example of alignment between regional and local planning efforts that receives wide support.

Because this is a metropolitan plan, it highlights activity centers that serve a broad market and are critical to the community where they are located. In this plan they are referred to as Key Centers. Key Centers represent centers that have already been identified by local jurisdictions as important areas for targeted investment. The LUTI Committee was instrumental in identifying the Key Centers. (See Chapter 7)

Measure: Share of development in Key Centers

Key Centers are areas that policy makers have determined are desirable locations for economic growth. These are also areas to target for supportive infrastructure including safe and accessible roads, bicycle, pedestrian and transit facilities. This measure monitors the success of these efforts by looking at the share of the overall building permits that have been issued for new residential and commercial construction within Key Centers.

Figure 21: Percent of Building Permits for New Construction in Key Centers, 2016-2022

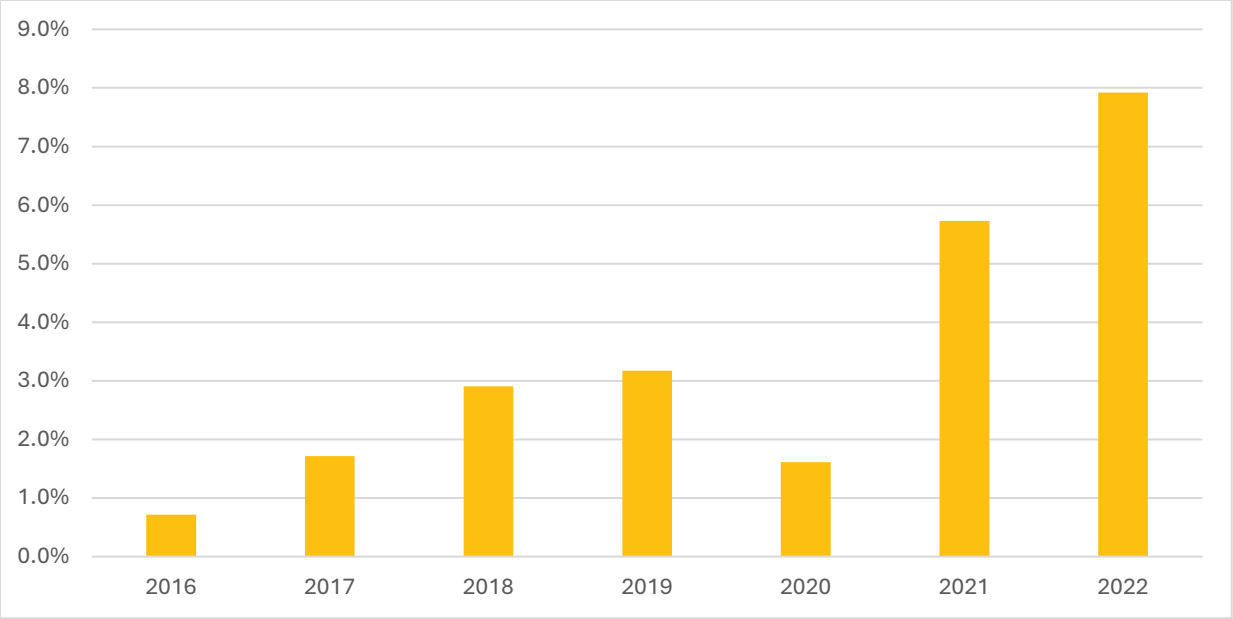


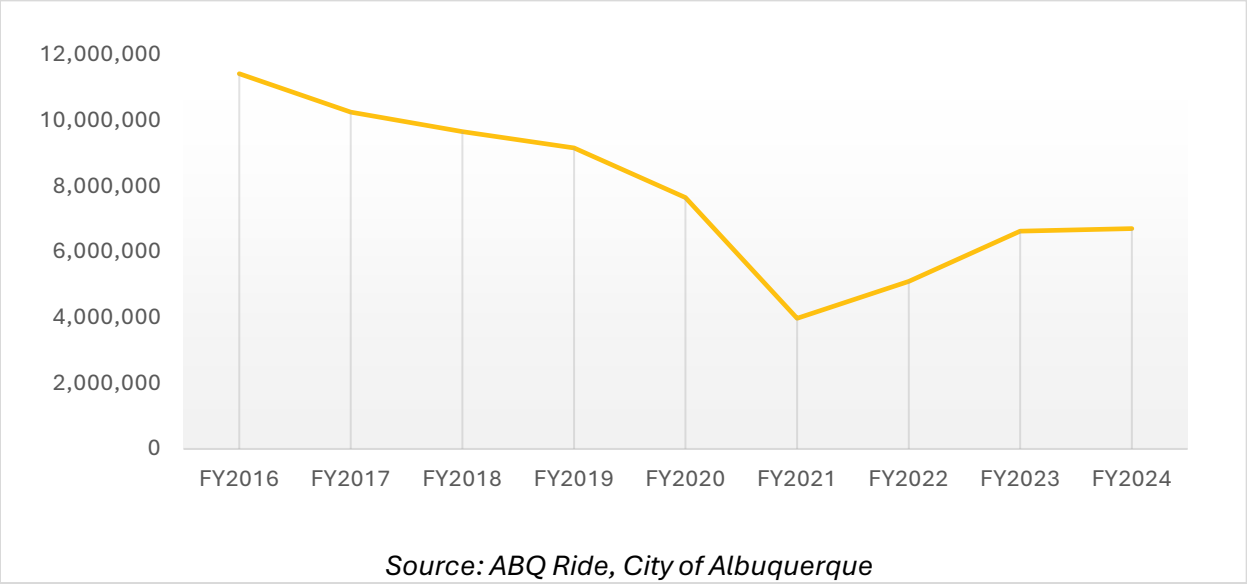
Figure 21 illustrates the percentage of commercial and residential units that were permitted within the boundaries of a Key Center. Between 2016 and 2022 investment in Key Centers has risen

considerably as a share of total permits, from under one percent in 2016 to nearly nine percent in 2022.

Measure: Transit ridership

The Target Scenario envisions a core network of transit routes that are frequent, accessible and reliable. The graph below depicts ridership along ABQ RIDE's fixed routes.

Figure 22: Bus Ridership, 2016-2022



Source: ABQ Ride, City of Albuquerque

Transit ridership had trended down at the end of last decade and hit a low following the COVID-19 pandemic. These trends are described in detail in Chapter 4 of this document. Since 2021, transit ridership has been rising as service has increased, and in 2024 it is almost back to pre-COVID ridership levels. While it is still far below previous years, ridership is trending in the right direction, and efforts towards a recovery network of service over the coming years hold promise for continued improvements.

Measure: Miles of buffered bike lanes

The Target Scenario supports multi-modal transportation networks that allows the traveling public safe and accessible alternatives to their vehicles for daily trips. This measure looks at buffered bike lane miles to assess if these options are increasing for bicyclists.

Table 7: Buffered Bike Lanes, 2016 & 2022

Year	Lane Miles
2016	57.49
2020	73.28
% Change	27.5%

Source: MRMPO Member Agencies

Between 2016 and 2022 the region added almost 16 miles of bike lanes, increasing the total by 27.5 percent.

Element #2: A healthy balance of jobs and housing east and west of the Rio Grande.

A key aspect of the Target Scenario is to promote job growth on the west side of the Rio Grande and higher density residential development in proximity to major destinations on the east side. Achieving a balance of jobs to housing on either side of the river aims to ease congestion on river crossings and reduce trip lengths and travel time. As such, these measures look at the overall jobs-to-housing ratio east and west of the river, commercial growth west of the Rio Grande, and multi-family construction east of the river.

The geography described in this section includes the following:

- West AMPA: Bernalillo and Sandoval County west of the Rio Grande.
- East AMPA: Bernalillo and Sandoval County east of the Rio Grande.
- Valencia County: This part of the AMPA is evaluated as a whole county. While there is river crossing congestion in Valencia County, the east-west travel patterns are distinct from the northern part of the AMPA.

Measure: Jobs to housing ratio east and west of the Rio Grande

Table 8 shows housing, jobs, and the jobs-to-housing ratio (jobs/housing) in 2010 and 2020. A ratio of 1.0 would indicate that there is one job per housing unit. A ratio of under 1 means there is less than one job per home, signifying that workers are likely to commute out of that area to work.

Table 8: Jobs-Housing Ratio in the AMPA (2010 and 2020)*

	2010	2020	Growth
East of the Rio Grande - Bernalillo and Sandoval County in AMPA	1.49	1.54	
Housing	202,666	210,104	7,438
Jobs	302,057	323,704	21,647
West of the Rio Grande - Bernalillo and Sandoval County in AMPA	0.57	0.53	
Housing	129,155	143,609	14,454
Jobs	73,099	76,269	3,170
Valencia County	0.57	0.69	
Housing	30,085	29,929	(156)
Jobs	17,293	20,522	3,229
Total Albuquerque Metropolitan Planning Area	1.08	1.10	
Housing	361,906	383,642	21,736
Jobs	392,449	420,495	28,046
Source: US Census, NM DWS, MRCOG			

* Note that housing and job growth that has occurred after 2020 is not reflected in these figures.

- Taken as a whole, the AMPA has a healthy jobs/housing ratio of 1.1 jobs per housing unit. Jobs and homes in the AMPA increased at the same rate between 2010 and 2020 at around seven percent.

- On the west side of the AMPA, housing unit growth far outpaced job growth between 2010 and 2020 and the jobs-to-housing ratio declined.
- On the east side of the river, job growth increased faster than housing. The jobs-to-housing ratio in 2020 was 1.54, slightly higher than in 2010.
- Valencia County saw the fastest job growth in the region at 19 percent, which improved the county's jobs-to-housing ratio from 0.57 to 0.69 between 2010 and 2020.

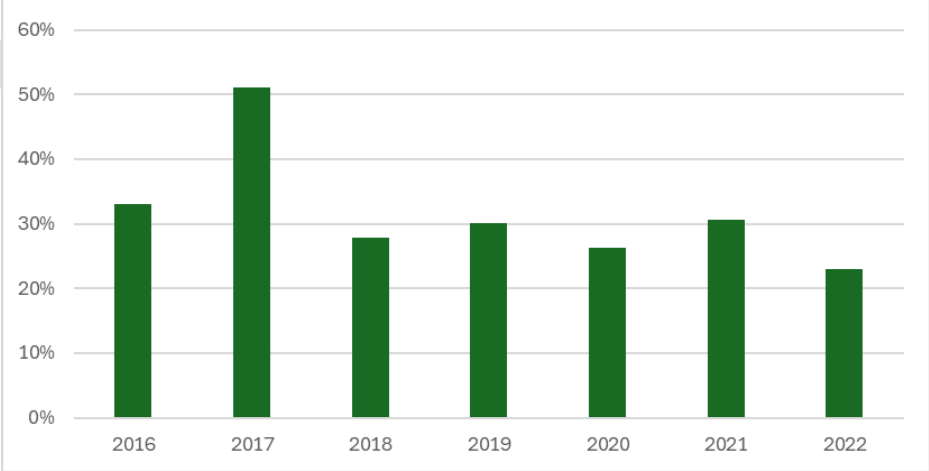
These statistics suggest that the metro area is not moving in the right direction towards balancing housing and jobs west of the river, where household growth continues to outpace job growth. This contributes to the need for residents to travel longer distances and increases the demand for trips across the river. While these data are somewhat discouraging, the benefits of policies and development projects take a long time to realize. For example, the west side has seen some important job gains following 2020. This measure will continue to be monitored in years to come.

Measure: Commercial Permits issued west of the Rio Grande

There is growing pressure on jurisdictions to rezone land on the westside from commercial to residential due to the demand for new housing. The point can certainly be made, particularly given the housing shortage, that new housing anywhere is of regional benefit. However, the unintended consequence of allowing the conversion of commercial land (particularly in designated westside centers) is that it exacerbates the jobs/housing imbalance and magnifies the traffic strain across the transportation network. An important strategy in this plan is promoting a healthy jobs-to-housing balance west of the river through the preservation of commercially zoned land and incentives for commercial developers to locate there.

While commercially zoned acreage by year is not a readily available statistic, building permit data can serve as a proxy for employment activity west of the Rio Grande.

Figure 23: Share of Commercial Permits West of the Rio Grande, 2016-2022



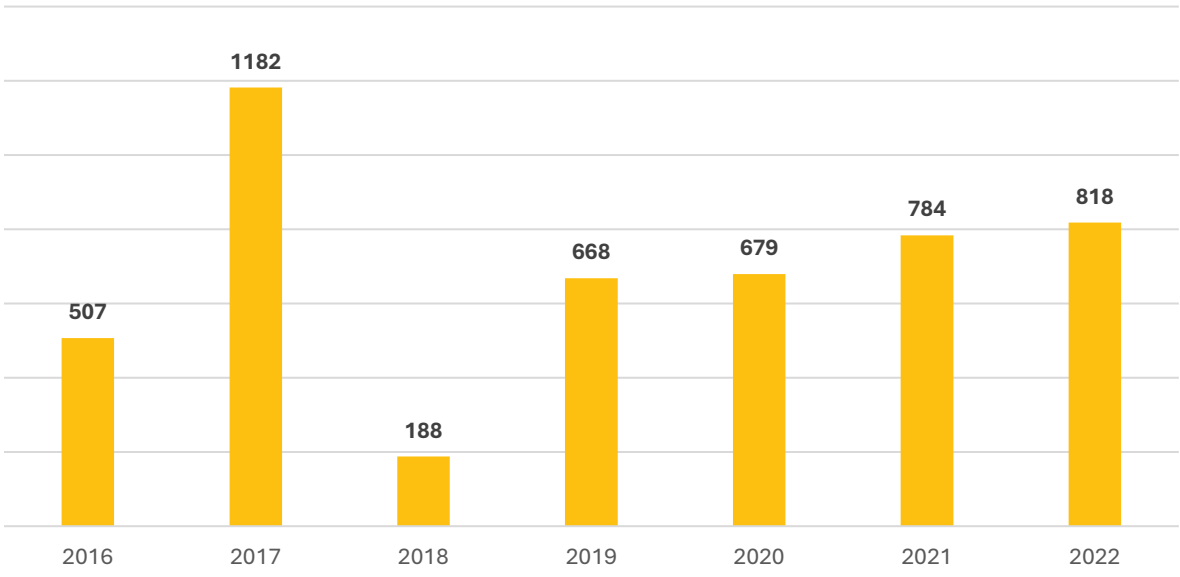
Commercial permits on the west side have remained relatively stable as a share of total permits in the AMPA. With the exception of 2017 when 70 permits were issued, the number of permits for new

commercial construction on the west side range from 30 – 40 permits. Ideally that number would be larger and increasing as a share of total permits. It is important to note that some of the westside construction has been substantial, however. For example, constructed in 2021, the new Amazon buildings on Atrisco Vista would only amount to two permits but employs well over one thousand workers.

Measure: Multi-family housing construction east of the Rio Grande

The Target Scenario envisions more diverse housing choices and in particular, mixed use and multi-family development along transit corridors and within key centers. Considering that 80 percent of all jobs in the AMPA are located east of the Rio Grande, constructing multi-family housing particularly east of the river has the dual benefit of maximizing existing transportation infrastructure and improving access to jobs and other goods and services.

Figure 24: New Multi-Family Homes East of the Rio Grande, 2016-2022



Source: Building Permits issued by individual jurisdiction permitting entities.

Figure 24 shows a steady rise in multi-family construction east of the Rio Grande since 2016. The year 2017 shows a spike in multi-family units due to the construction of some large complexes built in that year. Multi-family construction in general has been rising as a share of all residential permits since 2010, averaging approximately one of every three units constructed since 2016. The majority of multi-family homes have been built east of the river (see Map 4 showing the location of multifamily construction).

Element #3: Preservation and protection of open space, agricultural land, and rural communities.

The Target Scenario emphasizes the preservation of rural communities and low impact development that protects open spaces and agricultural lands. This has the dual purpose of supporting the use of existing infrastructure over the need for costly new facilities, as well as ensuring that the natural landscape and rural character are protected in appropriate places. The following measures evaluate the amount of space allocated to these uses over time.

Measure: Acres of Open Space

Open space refers to all parks and public open space. The Target Scenario envisions that this land is protected and enhanced. These data are acquired by federal, state, and locally available datasets and verified by MRMPO staff through aerial images and interviews.

Table 9 : Acres of Open Space, 2012 & 2020

Year	Acres
2012	162,439
2020	185,104
Percent Change	14.0%
Source: MRMPO Land Use Data	

This measure is positive, showing that open space land has increased by 14 percent between 2012 and 2020. This is likely due to the dedication of land to building new parks and the purchase of open space by local jurisdictions for preservation.

Measure: Acres of Agricultural Land

This measure sums the acreage of agricultural land in the AMPA. These data are acquired through aerial photography and verified with local jurisdictions by MRMPO staff.

Table 10: Acres of Agricultural Land, 2012 & 2020

Year	Acres
2012	34,176
2020	41,887
Percent Change	22.6%
Source: MRMPO Land Use Data	

Agricultural land in the AMPA has increased by 22 percent. This may be due to the conversion of land for farming as well as improvements in the data collected.

Measure: Development in Rural Areas

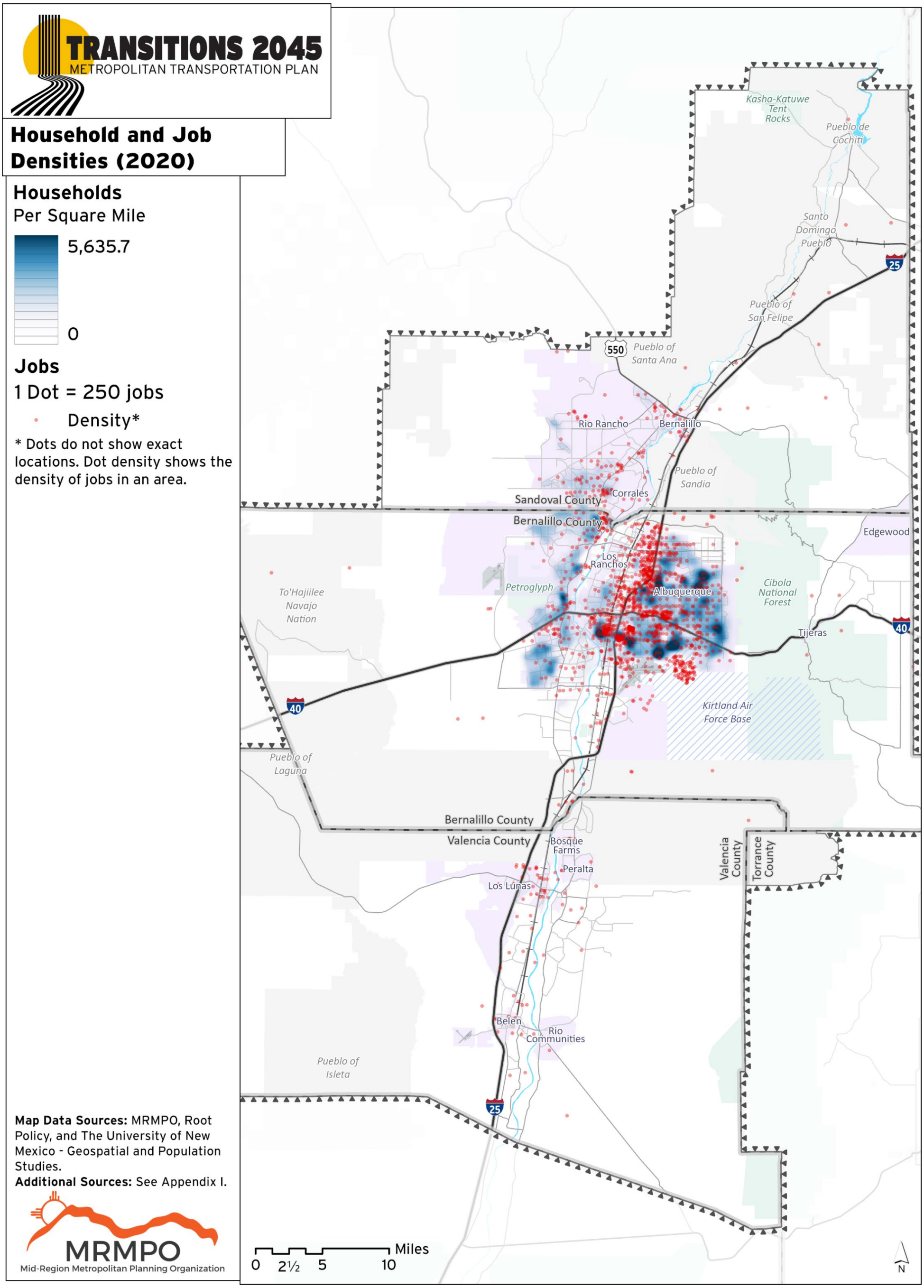
The measure below shows the number of homes per acre in portions of the AMPA that are considered 'rural' and 'urban'. These are formal census designations measured by density thresholds set by the Census Bureau.

Table 11: Housing Units Per Acre , 2010 &2020

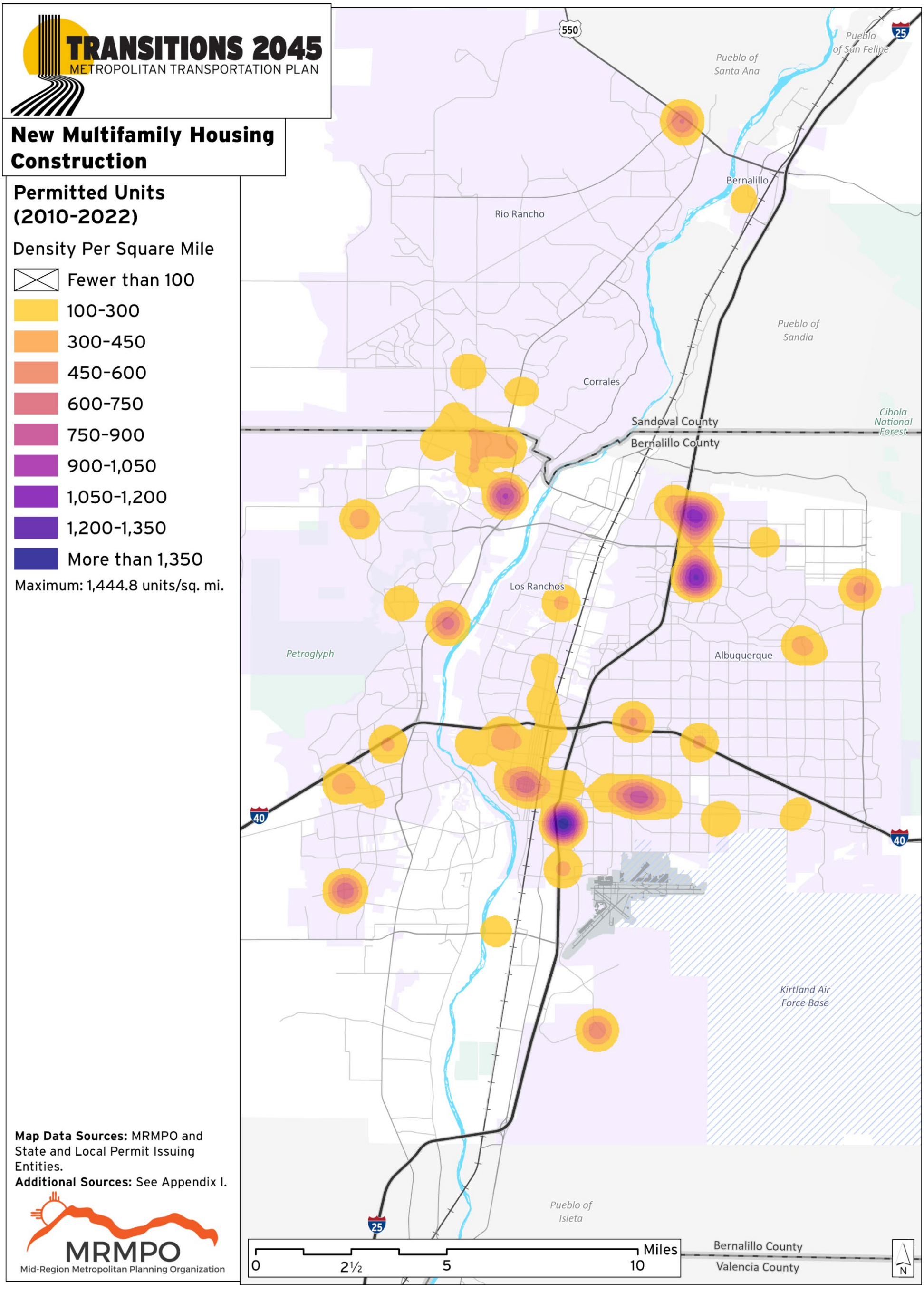
	2010	2020
Rural	0.01	0.02
Albuquerque Urban Area	1.93	1.97
Los Lunas Urban Area	0.56	0.84
Source: US Census Bureau		

Urban areas have increased in density of homes as development has continued, particularly in the Los Lunas Urban Area. This has also increased in rural areas, although to a lesser degree.

Map 3: Household and Job Densities (2020)



Map 4: New Multifamily Housing Construction



Map 5: New Single Family Housing Construction

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

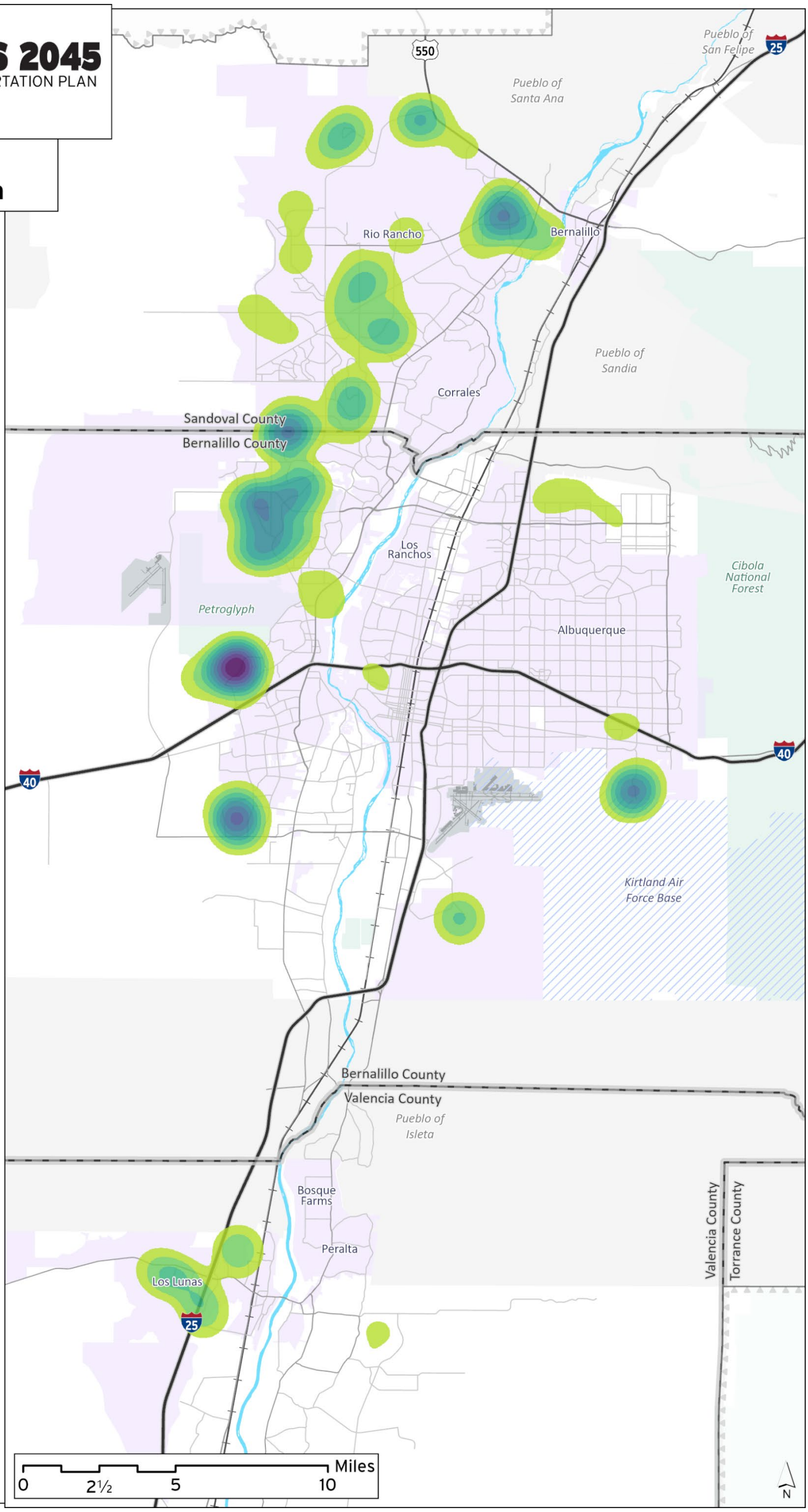
New Single Family Housing Construction

Permitted Units (2010-2022)

Density Per Square Mile

- Fewer than 80
- 80-160
- 160-240
- 240-320
- 320-400
- 400-480
- 480-560
- 560-640
- 640-720
- More than 720

Maximum: 804.1 units/sq. mi.



Map Data Sources: MRMPO and State and Local Permit Issuing Entities.
Additional Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization

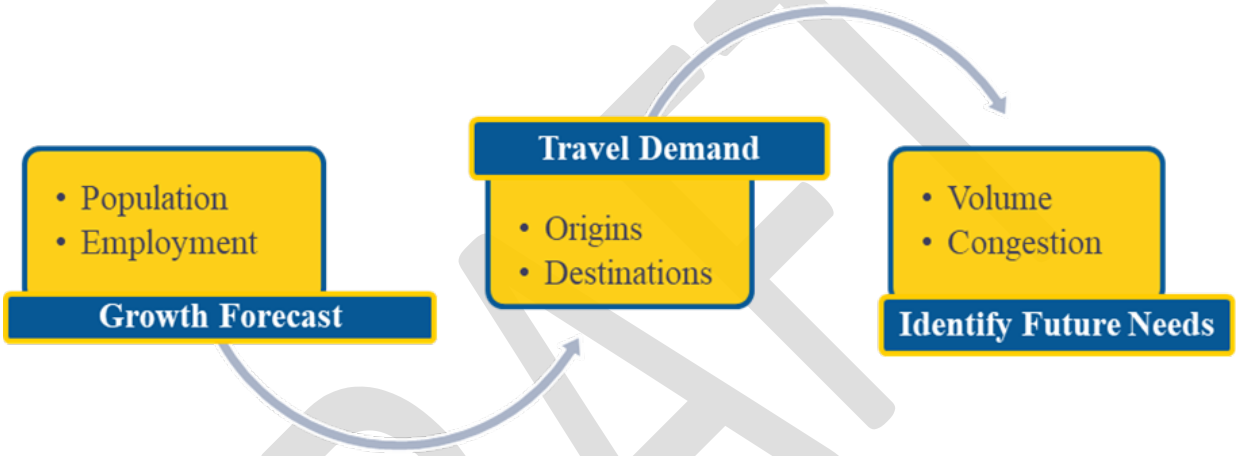
2.2e Target Scenario Moving Forward

With many of the principles of the Target Scenario becoming a reality, LUTI members discussed the future role of scenario development in the region. Agency representatives agreed that while the development of a new Target Scenario may no longer be necessary, particularly given reduced growth expectations, continuing to strive towards the goals of the Target Scenario should remain at the forefront of transportation and land use planning. The integration of transportation and land use is no longer the alternative, but rather the gold standard for how to plan for the future.

Given the immersion of Target Scenario principles throughout local plans, policies and practices, MRMPO proposed to its governing body that these principles be interwoven with the goals and objectives of the *Transitions 2045 MTP*, and the Metropolitan Transportation Board (MTB) concurred. **As such, the guiding principles of the Target Scenario are no longer part of an 'alternative scenario' but rather form the very foundation of the goals of this plan.** In addition, strategies to achieve the Target Scenario put forward in the *Connections 2040 MTP* are now included as strategies of the Transitions 2045 MTP. Indeed, the Target Scenario is no longer an aspirational goal; rather, it reflects the best practices currently found throughout transportation and land use planning in the AMPA.

CHAPTER 3 REGIONAL FORECAST

Understanding how and where the region is expected to grow is integral to planning for the future of our transportation systems. MRMPO produces a 2045 socioeconomic and travel demand forecast to assist with this understanding. The primary purpose of MRMPO's socioeconomic forecast is to identify the most likely future trip origins (homes) and destinations (work, shopping, etc.) to help planners and decision-makers anticipate future infrastructure needs and prioritize transportation investments accordingly. The beginning of this chapter presents the socioeconomic forecast, which is then followed by a description of the travel demand forecast.



3.1 Socioeconomic Forecasts

MRMPO begins its socioeconomic forecasting process by collecting the latest available data regarding population, land use, and employment.

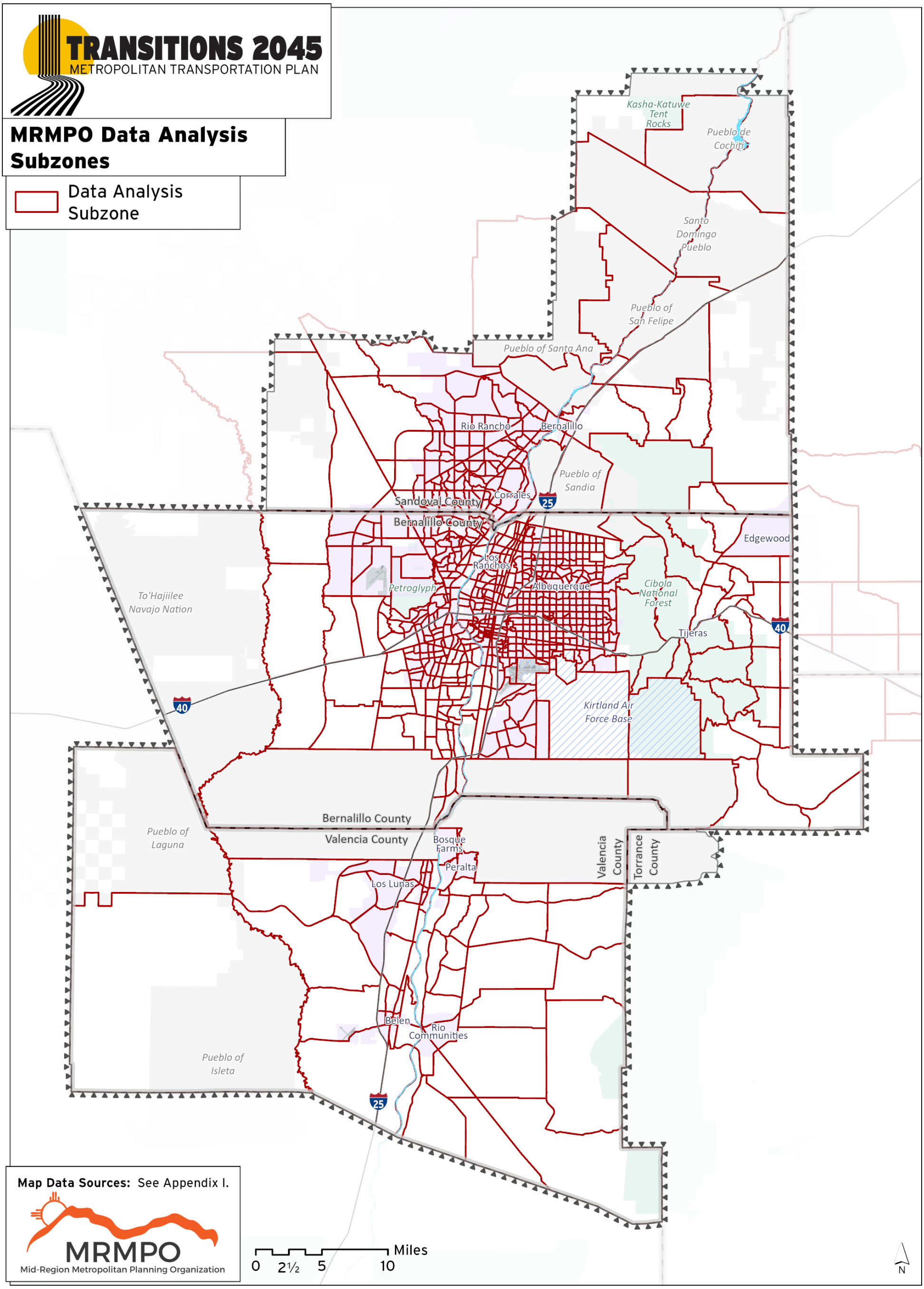
POPULATION - The population forecast begins with the most recent population projections by county from the demographer at the University of New Mexico's Geospatial Population Studies (GPS) group. GPS projections are based on a demographic forecasting technique called the cohort-component method. These projections are based on population counts from the US Census Bureau and projected forward based on age and sex cohorts, fertility and death rates, and historical migration trends at the state level which are then distributed to county.

LAND USE - A clear picture of existing land use, available land, allowable uses and densities, and development constraints is important to produce a forecast that is rooted in reality; that is, forecast growth adheres to local land use policies and does not exceed capacity in any area. MRMPO collects land use information, zoning codes, and development projects and plans from local agencies. MRMPO also hosts its own land use information including a regional historical database of building permits as current as 2023. In addition, MPO staff interview developers, planners, and local experts in order to evaluate its land use assumptions and ensure that small area forecasts are aligned with existing development trends.

EMPLOYMENT - The employment forecast is based on a combination of sources including the short-range forecast from the University of New Mexico's Bureau of Business and Economic Research (BBER) and a Regional Economic Model (REMI) operated by MRMPO. These sources are based on existing data from the Quarterly Census of Employment and Wages (QCEW) and the Bureau of Labor Statistics (BLS) among other sources. The employment forecast is based on 2-digit sectors as defined by the North America Industrial Classification System (NAICS) and are expanded to include self-employment, agricultural jobs, and the military.

Equipped with the most up-to-date information possible, MRMPO has developed a forecast future growth by small geographic areas referred to as 'data analysis subzones' (DASZs). There are 926 DASZs throughout the region. Forecasting at this small geographic level allows MRMPO to better simulate location-specific travel demand throughout the transportation system. A more detailed methodology is found in Appendix I.

Map 6: MRMPO Data Analysis Subzones



MRMPO's forecasts are available to public, private and governmental entities for their own use. They are used by transportation planners and decision-makers as they perform project planning and develop local land use and transportation policy. They are also used to support other planning endeavors pertaining to issues such as housing, public health, and economic development. Since the socioeconomic forecasts have broader applications than the MTP, they are developed for the whole region as illustrated in Map 1, rather than just the metropolitan area.

MRMPO's forecasts are based on existing policies, local development plans, and the most up-to-date data available at a single point in time. Changes to any one of these factors will inevitably impact the forecast. As such, the forecast is not a definitive future, but a likely picture of growth given today's land use and planning assumptions.

3.1.a Population Forecast

The Transitions 2045 socioeconomic forecast encompasses the MRCOG Region, which includes the four counties of Bernalillo, Sandoval, Torrance and Valencia Counties plus the greater Edgewood area in southern Santa Fe County.

The region is anticipated to grow by almost 38,000 people over the next 25 years. This is less than the *Connections 2040 MTP*, which expected a population growth of 194,000. The difference lies in the updated figures for births, deaths, and migration, which are the primary drivers of population change. The US Census Bureau and the New Mexico Department of Health show a hastened decline in birth rates, increase in death rates, and flat migration (with the same number of people are moving in as moving out of the region). The demographic assumptions do not include data from 2020 forward so trends unique to the pandemic are not considered in the long-range projections.

Table 12: Population Forecast in the MRCOG Region (2045)

Year	Population
2020	926,877
2045	964,873
Numeric Growth	37,996
Percent Growth	4.1%

Source: UNM-GPS, MRMPO

Of note, an analysis performed by UNM-GPS reveals increased outmigration of women in their childbearing years which, combined with the aging of the baby boomer generation, is expected to result in fewer children who might eventually start their own families. This trend essentially ensures flat growth into the future unless there is a sustained attraction of young people moving into the region or a reduction in the outmigration of young people. While projections must be rooted in real data, it is important to keep in mind that these figures are estimates and could change based on unforeseen influences such as new policies or major employer locations which could serve to boost growth, and migration in particular.

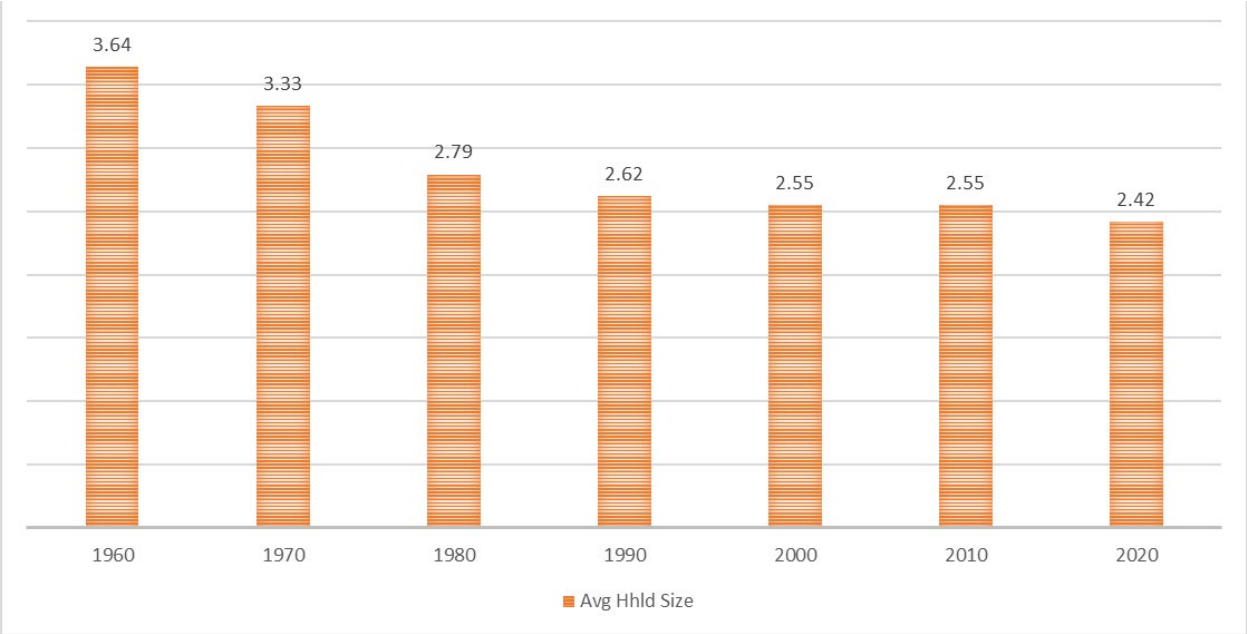
3.1.b Housing Forecast

Despite slow population growth, the demand for new housing is expected to be sustained into the future. The primary explanation is smaller household sizes and the aging of the population.

The estimated share of the population aged 65 and over increased from 12 percent in 2010 to 18 percent in 2022 and is expected to represent almost 22 percent of the population by 2045. In

contrast, the population under 25 is expected to decrease its share of the total population from roughly 29 percent in 2022 to 25 percent by 2045. The aging of the population, in addition to other factors, has led to decreases in the average household size, which is projected to continue.

Figure X: Average Household Size, MRCOG Region



The decrease in household size has significant implications for housing demand. For example, at a total population of one million, a reduction in the average household size from 2.1 to 2 (a decrease in household size of 0.1), requires around 23,800 additional homes to house the same one million in population. As such, even if population growth is minimal, the need for new housing remains critical to accommodate the population. The forecast anticipates a demand for 43,000 new homes by 2045.

Just as the population forecast is highly dependent on fluctuations in migration, housing demand is influenced by changing economic conditions. For example, growth in key employment sectors may attract new workers which will increase activity within the housing market. If residents experience a boost in household incomes due to rising wages, consumer confidence grows which encourages new households to form as children decide to move out from their parents' homes or new couples decide to invest in their first home. Lower interest rates or improved housing affordability also increase housing demand. Therefore, if economic conditions grow stronger, the region may need even more homes than are currently projected

3.1.c Employment Forecast

The region is projected to gain an additional 60,000 jobs by 2045. Employment growth is expected to outpace population growth due to several factors. Labor force participation may expand as aging members of the workforce stay in their jobs longer. Workers holding jobs later in life is the result of longer life expectancies, and it is also shaped by financial conditions and lifestyle preferences. In addition, higher demand for services caused by an aging population (e.g., healthcare, home deliveries, etc.) means more job opportunities even if the existing population remains stable.

The Healthcare and Social Assistance sector is projected to see the largest increase in employment by 2045 (16,500 jobs), followed by Professional, Scientific, and Technical Services and Transportation and Warehousing. Construction jobs will continue to rise due to the need for the maintenance and rehabilitation of existing infrastructure and new job growth.

Table 13: Employment Forecast in the MRCOG Region (2045)

Year	Employment
2020	425,828
2045	485,476
Numeric Growth	59,648
Percent Growth	14.0%

Source: UNM-BBER, REMI, MRMPO

3.1.d Socioeconomic Forecast by Subarea

Similar to historical trends, future growth will occur unevenly throughout the region. **The DASZ level forecast presented in this section is currently in draft form pending further evaluation and member agency review and will be finalized upon the adoption of the *Transitions 2045 MTP*.**

- Sandoval County will lead the region in pace of population growth at 12 percent to 2045 and will build almost 10,000 new homes. Most of this growth will be located in the City of Rio Rancho in master planned areas. Rio Rancho will also gain approximately 5,800 new jobs to sustain population growth.
- Valencia County is expected to gain approximately 2,500 new homes and over 3,700 new jobs. This reflects current expectations for continued job growth in Los Lunas in particular.
- Bernalillo County will gain just over 20,000 new people, primarily in areas that are targeted for redevelopment and higher uses as multi-family will continue to be in demand. Primarily located in the City of Albuquerque, the County will gain approximately 50,000 jobs increasing its employment by 14 percent.
- Torrance County and the greater Edgewood area are anticipated to essentially remain flat and are not expected to gain significant population or jobs.

Map 7: 2045 Forecast: Household Growth

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METROPOLITAN TRANSPORTATION PLAN

2045 Forecast: Household Growth

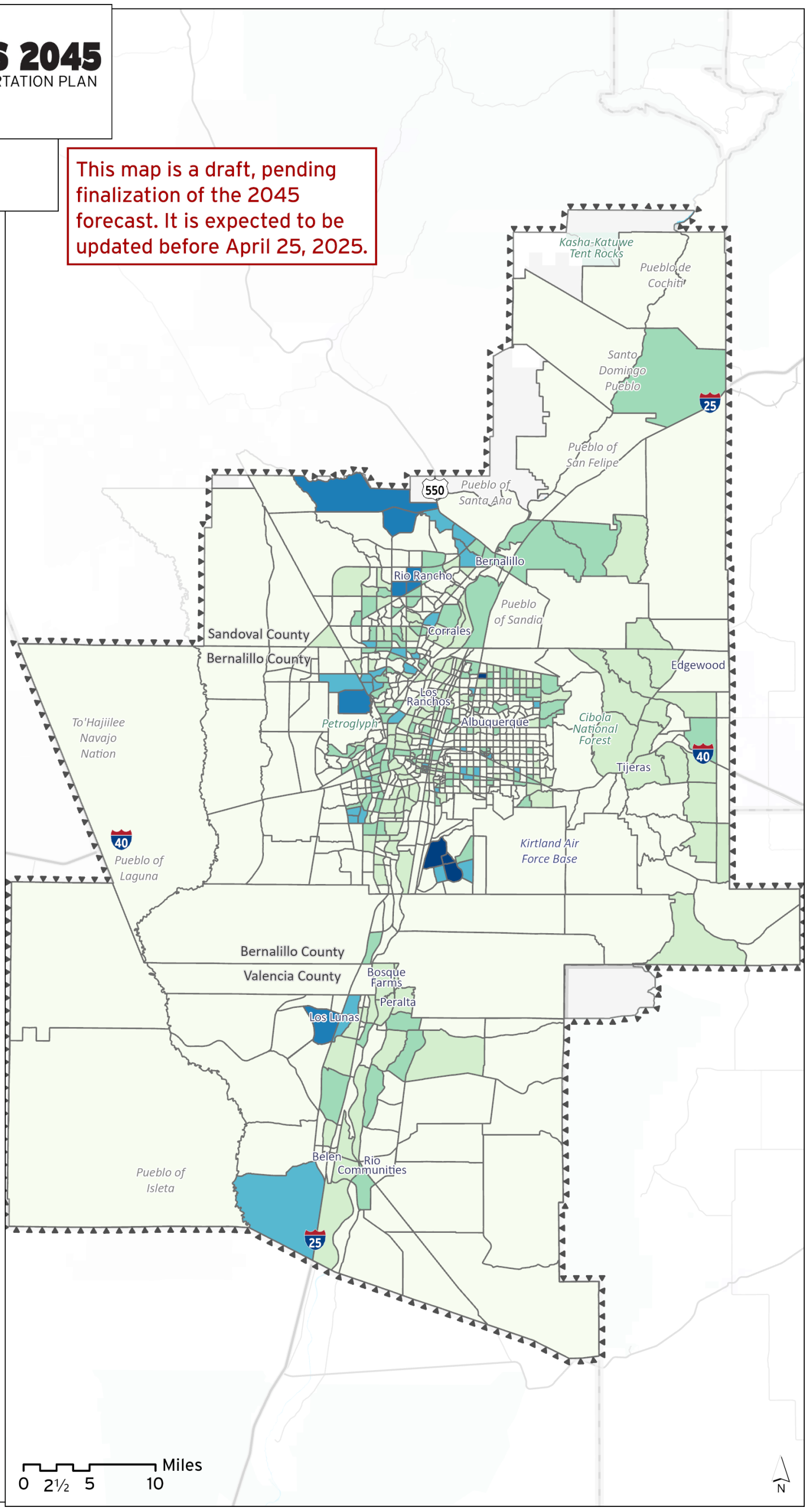
This map is a draft, pending finalization of the 2045 forecast. It is expected to be updated before April 25, 2025.

New Households

By DASZ

- Low or No Growth
- 6-25
- 26-250
- 260-500
- 510-1,000
- 1,100 or more

Maximum: 3,085 households.



Map Data Sources: MRMPO, Root Policy, and The University of New Mexico - Geospatial and Population Studies.
Additional Sources: See Appendix I.

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Map 8: 2045 Forecast: Employment Growth

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

2045 Forecast: Employment Growth

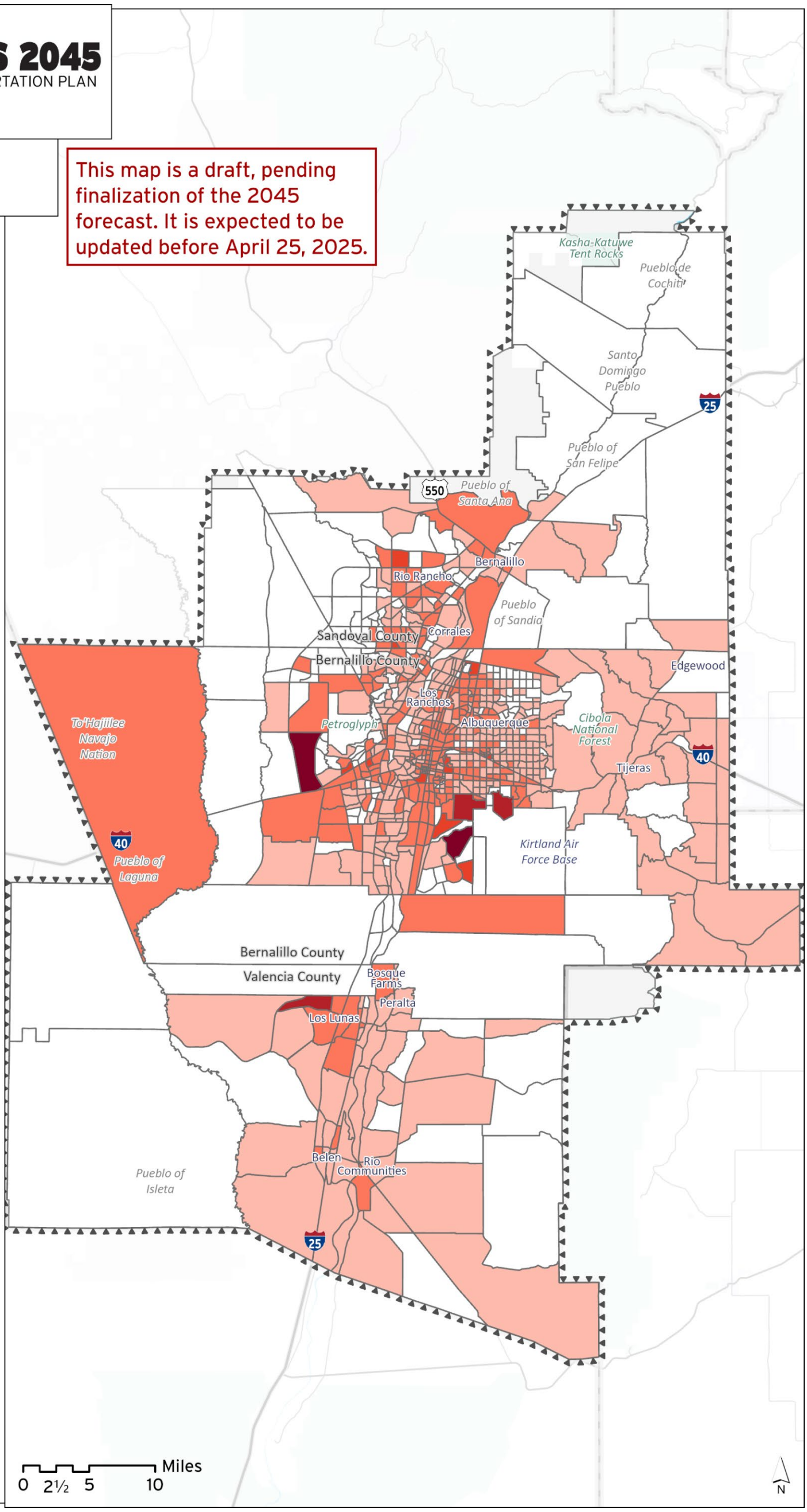
This map is a draft, pending finalization of the 2045 forecast. It is expected to be updated before April 25, 2025.

New Jobs

by DASZ

- No Growth
- 50 or fewer
- 51-500
- 501-1,000
- 1,001-2,000
- 2,001 or more

Maximum: 4,100 jobs.



Map Data Sources: MRMPO, Root Policy, and The University of New Mexico - Geospatial and Population Studies.
Additional Sources: See Appendix I.

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3.2 Travel Demand Baseline and Forecast

A primary purpose of the MTP is to anticipate and program the transportation infrastructure required to serve the mobility needs of future growth in population and jobs. To do so most effectively, MRCOG uses a travel demand model to forecast future conditions (see Appendix I).

The travel demand model incorporates a combination of transportation networks and socioeconomic data. Specific scenarios are created for the base year (2020 baseline), and the horizon year (2045 trend), including a "No Build" Scenario which examines how the baseline transportation network would operate with no additional transportation investments made beyond those currently programmed. The model is validated using locally based travel behavior gathered via a travel survey on trip making behavior for different trip purposes such as work, shopping and school trips. The model operates based on the socioeconomic forecast by zone with data such as population, housing by type, and jobs by industry; these data formulate the trip origins and destinations. The model combines these inputs to generate travel demand, which is then used by MRMPO and agency project teams to evaluate projects necessary to serve the new travel demand efficiently.

The travel demand model output includes travel volumes, speeds, delay and traffic distribution across the roadway network. The roadway volumes are compared with roadway capacity using a volume-to-capacity ratio. The distribution pattern of the travel demand is used to evaluate roadway network connectivity and the need for additional connections to serve the travel demand in a more direct and efficient manner.

It is important to note that project cost is always a consideration in the evaluation of infrastructure needs; agencies strive to incorporate cost savings into all aspects of project development and implementation. It is also important to note that while the travel demand model is useful in analyzing roadway infrastructure, it is not sensitive to transit, pedestrian and bicycle networks. Therefore, while travel demand analyses focuses on vehicular travel, other sections of this plan address the additional critical components of the traveling public, bicyclists; pedestrians; transit riders; and other modes. A multimodal approach must always be considered in the planning of transportation projects.

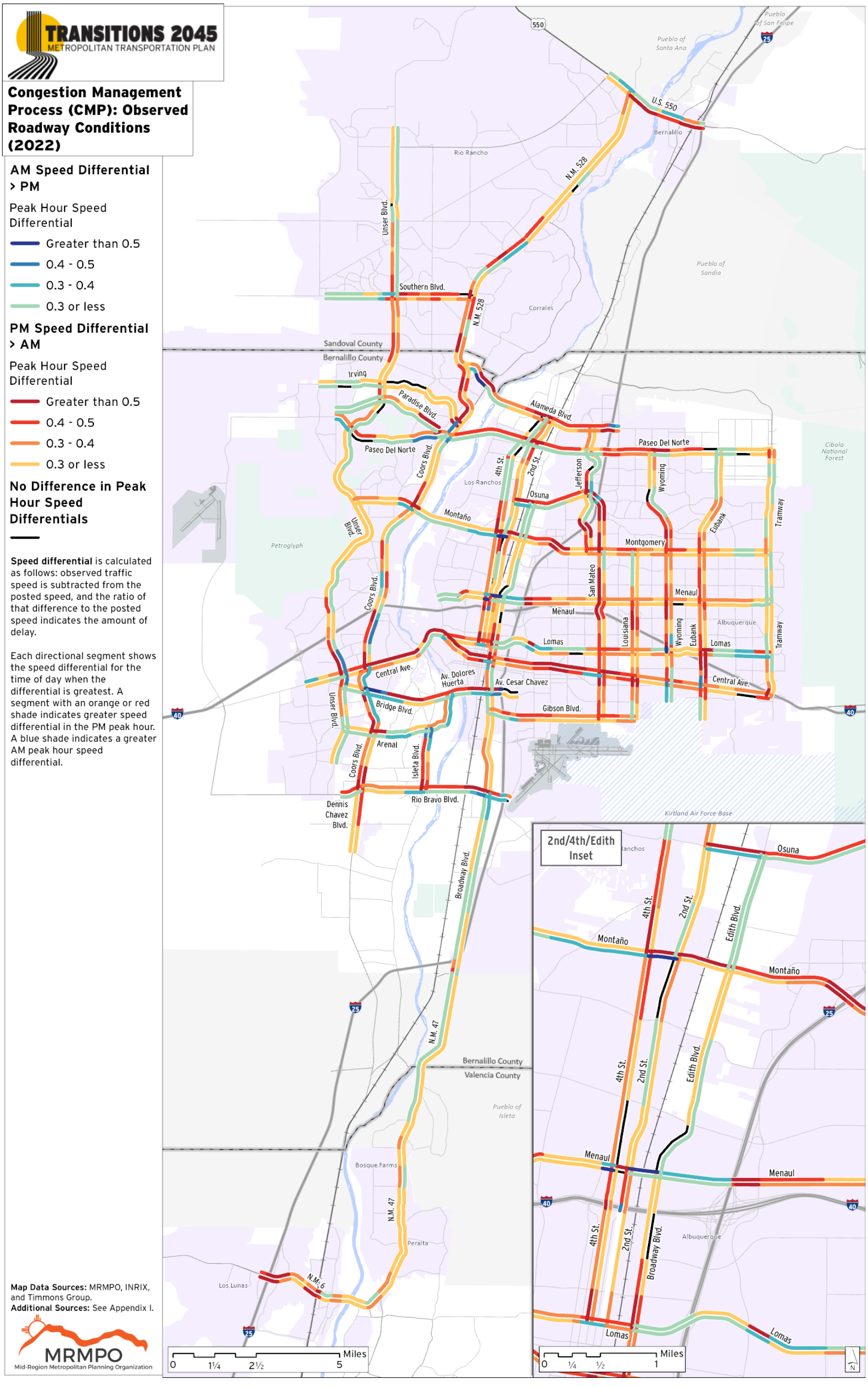
Table 14: Travel Demand Model Results

AMPA Stats	2020 Base	2045 No-Build	2045 Trend	Percent Diff. No-Build vs 2020 Base	Percent Diff. Trend vs 2020 Base	Percent Diff. Trend vs No Build
Daily VHT	675,860	749,655	701,548	*11%*	*4%*	*-6%*
Daily VMT	20,089,643	22,819,023	22,028,909	*14%*	*10%*	*-3%*
Average Speed	29.7	30.4	31.4	*2%*	*6%*	*3%*
PMPH VHD	35,172	28,610	30,437	*-19%*	*-13%*	*6%*
PMPH VHT	75,625	81,079	71,828	*7%*	*-5%*	*-11%*
PMPH VMT	1,893,797	2,095,575	2,002,437	*11%*	*6%*	*-4%*
Av PMPH Speed	25.0	25.8	27.9	*3%*	*11%*	*8%*

3.4.a 2020 Baseline

The 2020 Baseline Scenario is established in the modeling environment to provide comparative conditions from which the infrastructure needed for anticipated growth can be evaluated. The transportation network reflects the roadways in place in 2020, including lane configurations, functional classification, and connectivity. The following map shows actual observed speeds from MRMPO's Congestion Management Program (CMP) to represent existing roadway conditions.

Map 9: Congestion Management Process (CMP) - Observed Roadway Conditions, 2022

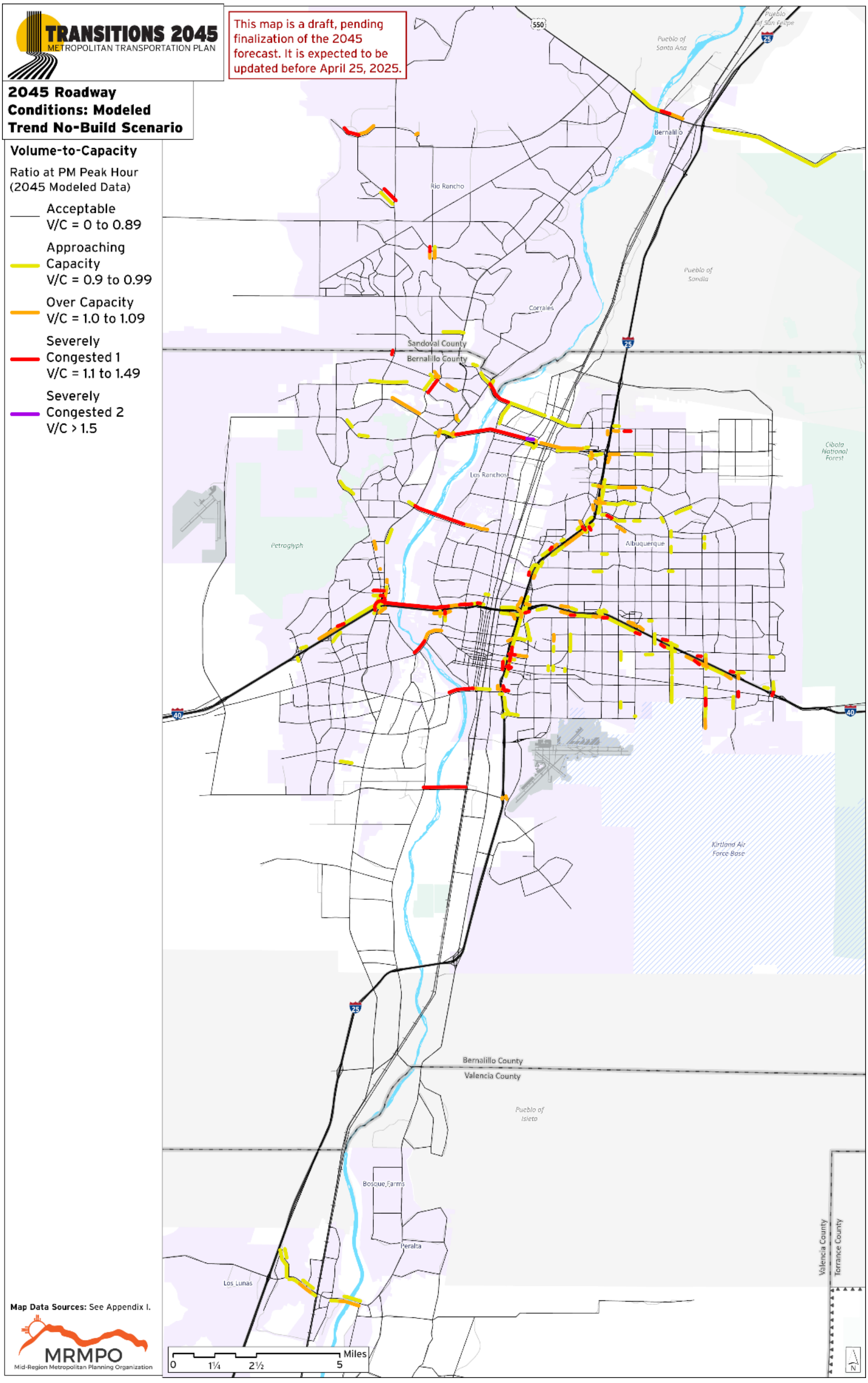


3.4.b 2045 No-Build: Future Conditions without Additional Transportation Investments

The 2045 No-Build Scenario shows the impacts of anticipated socioeconomic growth on the "No Build" roadway network, which represents what might happen were there to be no improvements to the infrastructure beyond the projects included in the 2020 Baseline. The No Build is intended to identify network deficiencies, which assists in the identification of future projects included in this plan.

Congestion is anticipated in select locations across the network, and noteworthy congestion is shown at most of the river crossings, including NM 6 in Los Lunas. In response to this congestion, member agencies have programmed projects to address these areas as well as additional areas to provide increased connectivity.

Map 10: 2045 Roadway Conditions - Modeled Trend No-Build Scenario



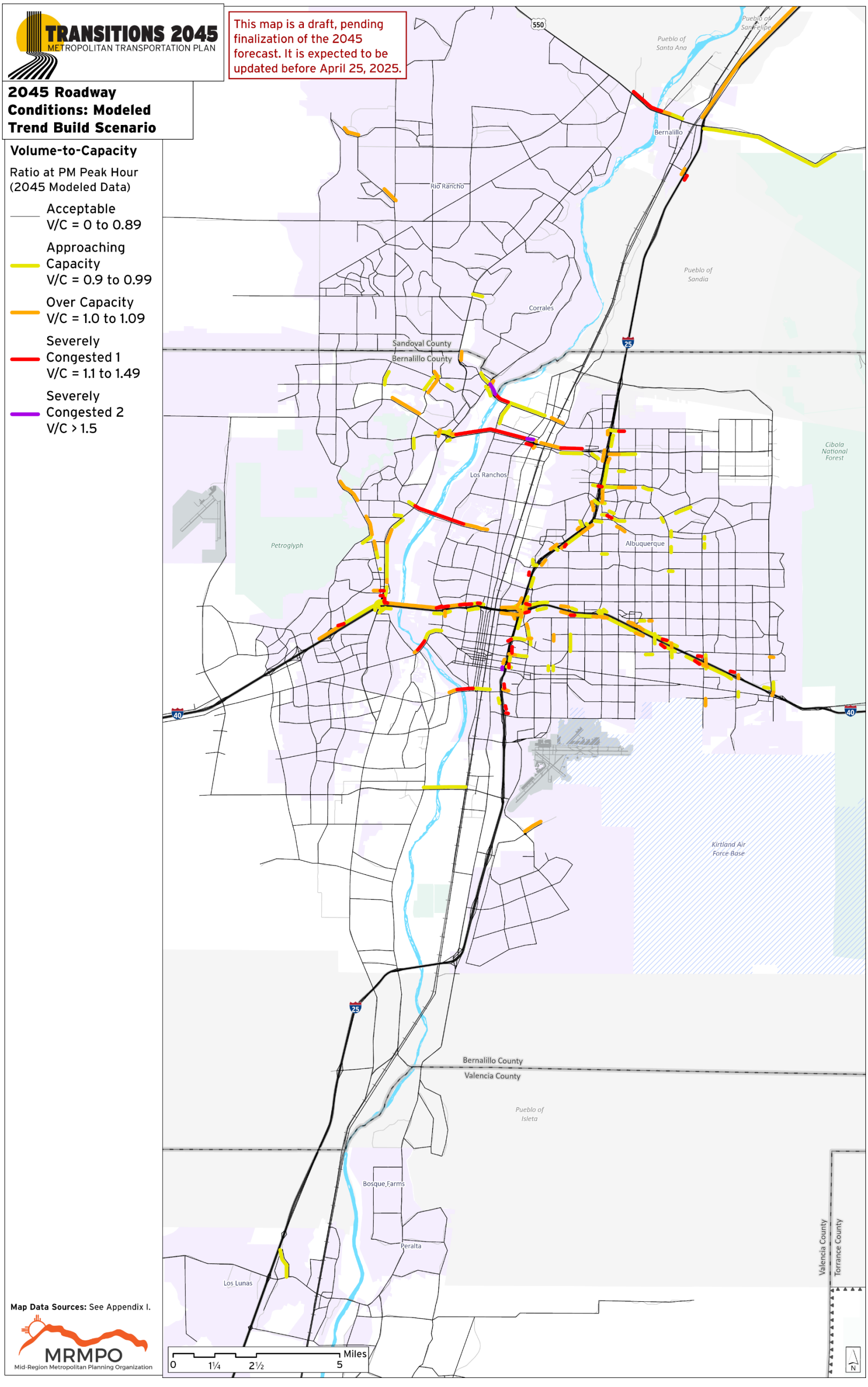
3.4.c 2045 Trend: Future Conditions with Transportation Investments

The 2045 Trend Scenario represents the performance of transportation network assuming the construction of the programmed roadway investments from 2020 to 2045 in this plan.

The transportation projects contained within this plan are anticipated to serve future growth in an improved manner over the No Build Scenario. The Trend Scenario results in less congestion and increased mobility. Assuming construction of the programmed projects, daily VMT is increased by 10 percent, but both regional vehicle hours of delay (VHD) and vehicle hours of travel (VHT) in the PM Peak hours are reduced by 13 percent and five percent respectively. This is likely attributable to improved efficiency and connectivity that the collective of roadway expansion projects provide for the travelers in the AMPA.

Although most areas of congestion seen in the No Build Scenario remain, the severity of congestion has been reduced significantly in most locations. This is especially apparent when considering the impacts regionally, as shown in Table 14. When combined with other transportation improvements in this MTP that occur outside of the travel demand modeling framework, the metropolitan area is expected to see even greater improvements systemwide.

Map 11: 2045 Roadway Conditions - Modified Trend Build Scenario



CHAPTER 4 MOBILITY

Mobility across regional transportation networks is crucial for fostering economic growth, enhancing quality of life, and promoting access between communities. Finding ways to move people and goods smoothly, safely, and efficiently throughout a region is the primary focus of a **Metropolitan Planning Organization (MPO**). Effective mobility solutions contribute to reduced traffic congestion, lower environmental impact, and improved social inclusion by ensuring equitable access to destinations. As the **Albuquerque Metropolitan Planning Area (AMPA)** grows and evolves, investing in and maintaining robust transportation infrastructure is essential for providing and enhancing mobility.

This chapter highlights key programs and infrastructure that contribute to improved mobility in the metro area on roadways networks and transit systems.

4.1 Roadway System Performance

The vast majority of trips within the AMPA are currently taken by people driving motor vehicles, and the roadway network serves the majority of travel within the metropolitan area. The roadway network must be suited for local and regional trip-making, with adequate capacity and connectivity to minimize bottlenecks and mitigate congestion while limiting rerouting in response to delays that add unnecessary distance to trips.

The following section discusses overall travel demand on the roadway network, demand at key locations such as river crossings, travel origins and destinations, and the functional classification system.

4.1a The State of Roadway Travel in the AMPA

Vehicle Miles Traveled (VMT) measures the total number of miles driven on the transportation system. The measure is often used to monitor how well the transportation system performs in terms of efforts to reduce trip-making, not only in the quantity of trips, but also the length of the trips made. VMT data are collected as part of the **MRCOG Traffic Counts and Monitoring Program**.

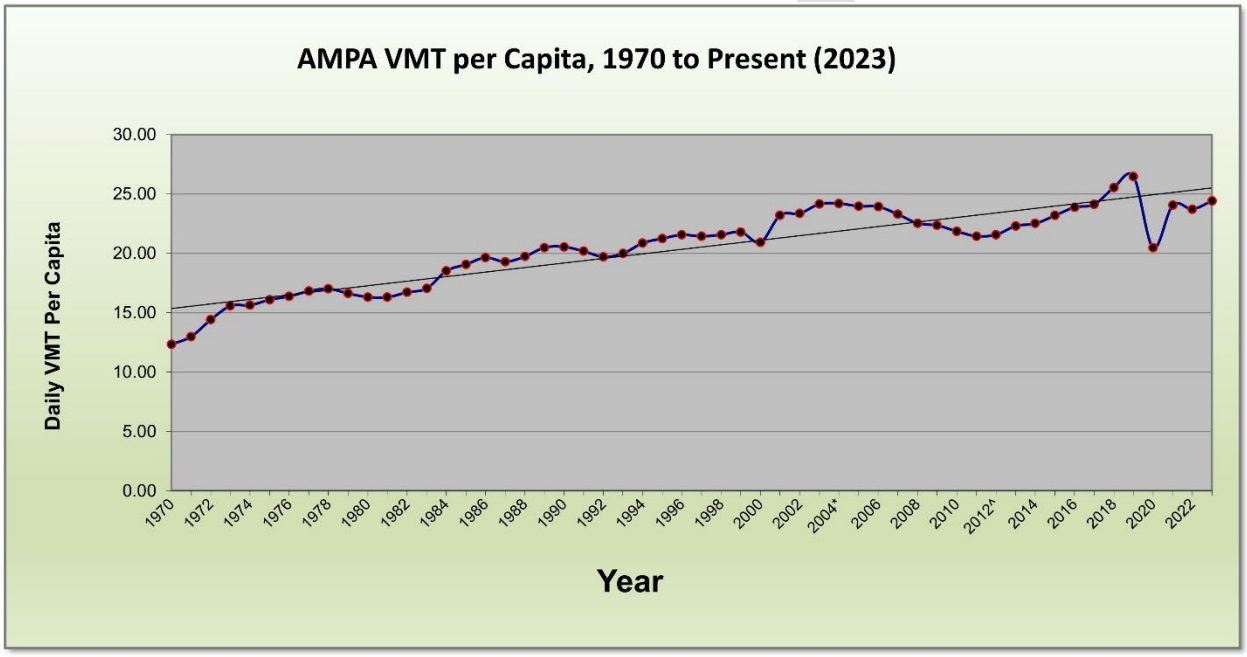
While VMT in the AMPA was steadily increasing prior to 2019, VMT dropped drastically during the COVID-19 pandemic and has not returned to pre-

MRCOG Traffic Counts and Monitoring Program

Traffic counts are conducted on all federal-aid eligible roadways in the counties of Bernalillo, Torrance, Sandoval, Valencia, and Southern Santa Fe and are coordinated through the MRCOG Traffic Counts and Monitoring Program. Within the AMPA, there are over 1,600 miles of roadway network with over 3,000 individual roadway segments. Traffic segments are counted on a periodic three-year cycle with approximately 1,000 counts being conducted annually. Roadway volumes, classification, and spot speeds are counted and include locals, collectors, arterials, and lower volume interstates shown on the current highway functional classification system. The MRCOG Traffic Counts Program monitors current travel conditions including trends and patterns, and is used by the CMP to identify congestion hotspots.

pandemic levels (see Figure 23). Although regional VMT appears to have leveled off in recent years, variation in traffic volume growth within the AMPA creates some uncertainty surrounding whether less travel on our roadways is a new norm or if historical growth trends will eventually resume. VMT per capita, which measures the number of miles driven on a per person basis, also seems to be stabilizing as shown in Figure 25, as population growth has slowed alongside vehicle trips. This has the effect of reducing or minimizing the growth in VMT per capita, which has long been a goal of transportation planning efforts.

Figure 25: AMPA VMT Per Capita



Source: MRCOG

In addition to lowering overall regional VMT, the pandemic has affected peak periods of travel. Travel demand during the afternoon peak period, which has historically been the time of highest travel demand, is now lower overall and spread throughout the afternoon hours. Analysis has shown that this phenomenon is tied closely to surrounding land use characteristics and geographic location. For example, many areas with the highest job concentrations have seen the largest peak hour travel reductions.

Although long-term trends are not yet certain, a reduction in travel demand could have profound implications for roadway planning and system performance, creating opportunities for improving mobility and safety without costly capacity-adding projects.

For further discussion on the COVID-19 pandemic's impact on travel demand, see Chapter 2.1a. For information on future travel demand forecasts, reference Chapter 3.

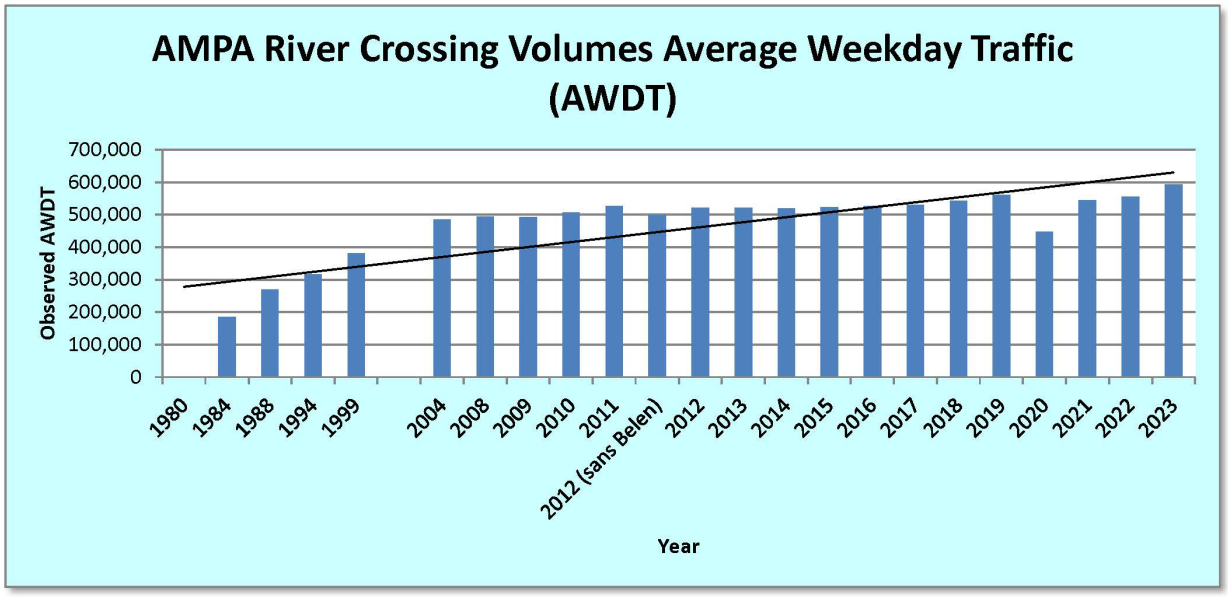
River Crossings

The 16 bridges spanning the Rio Grande are critical to the AMPA's transportation network, allowing travelers to cross the river while separating traffic from the Rio Grande cottonwood forest that runs

through the Rio Grande Valley. However, the bridges have limited roadway capacity and traffic congestion at some locations is common. The request for additional bridges occurs occasionally, and the Village of Los Lunas has programmed the construction of a new river crossing south of NM 6. However, aside from that project no agency has stepped forward to sponsor a new river crossing. The construction of a river crossing incurs many challenges that include extraordinary financial expense, potential environmental degradation, and disruption to affected neighborhoods in the form of substantial increases in traffic, among other issues.

The table below shows the historic traffic volumes on the AMPA bridges. It is noteworthy that, although overall travel remains below pre-pandemic levels, river crossing volumes have surpassed pre-pandemic levels in 2023. This is likely related to the continued imbalance of housing and jobs on the west and east sides of the river (see Chapter 2 section 2).

Figure 26 : AMPA Rivers Crossing Historical Trend



Source: MRCOG

Regional Vehicle Trip Intensity

Vehicle position and speed data from cell phones are now available to MRMPO and can be used to identify trip origins of travel activity. The heat map in Map 11 shows areas of intensity in trip origins, with the warmer colors having a higher number of trip origins and cooler colors showing less trip activity. Map 11illustrates regional vehicle travel markets that serve the majority of travel in the region.

Map 12 : Regional Vehicle Trip Intensity

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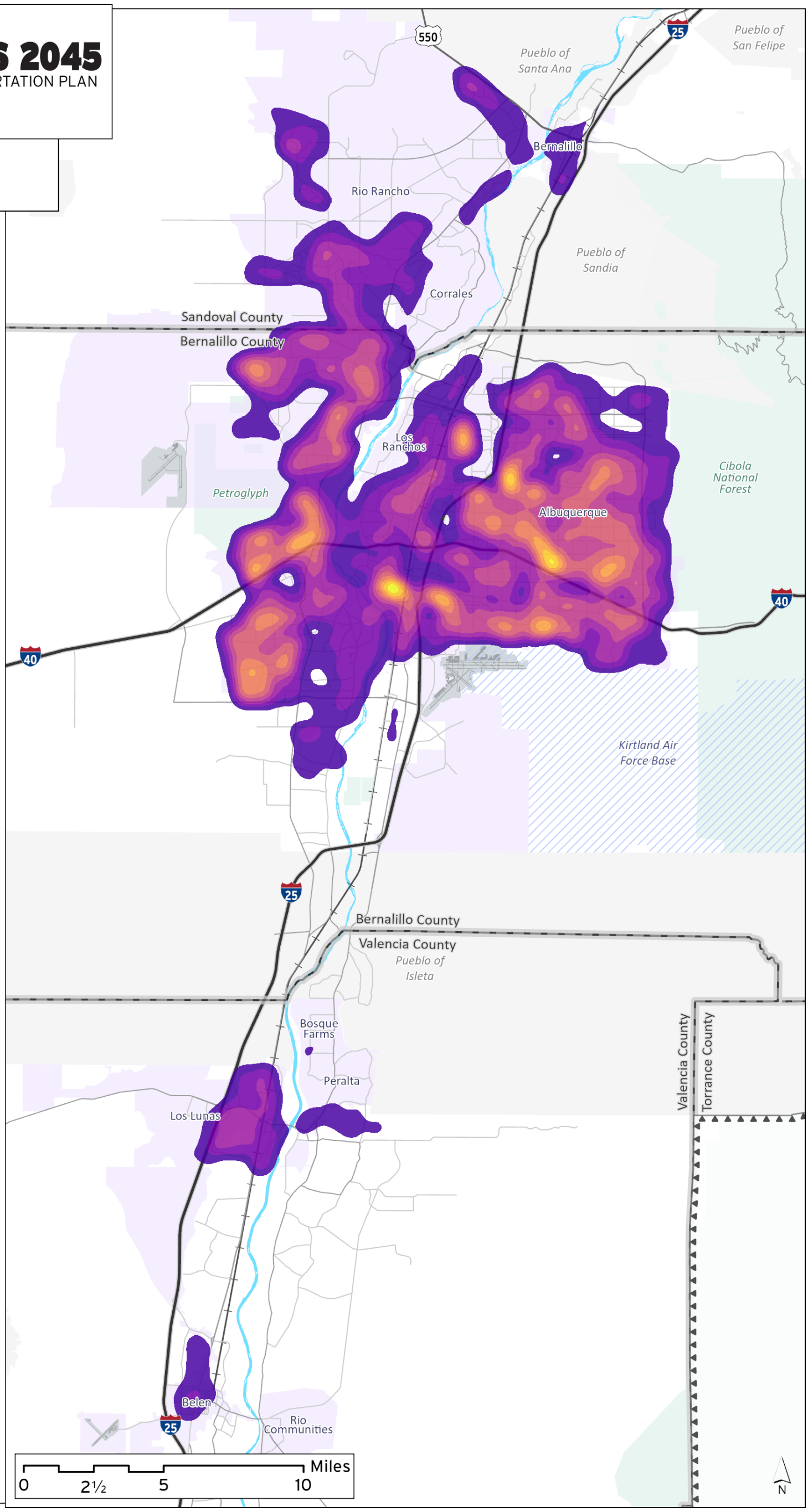
Regional Vehicle Trip Intensity

Home-to-Work Trip Origins

Density per Square Mile

- 200 or fewer
- 200 - 400
- 400 - 600
- 600 - 800
- 800 - 1,000
- 1,000 - 1,200
- 1,200 - 1,400
- 1,400 - 1,600
- 1,600 - 1,800
- More than 1800

Maximum: 1950.2 origins/sq. mi.



Map Data Sources: MRMPO and Teralytics.
Additional Sources: See Appendix I.

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Functional Classification System

The functional classification system is a framework used to categorize roadways based on their role and function within a transportation network. This system classifies roads into different categories based on their capacity, connectivity, and purpose. Arterials are major roads designed for long-distance travel and high traffic volumes, while collectors gather traffic from local roads and distribute it to arterials. Local roads primarily serve residential and small-scale local traffic.

MRMPO coordinates with the **New Mexico Department of Transportation (NMDOT)**, the **Federal Highways Administration (FHWA)**, and member agencies that own or maintain the roadway system, to develop the functional classification of roadways in the AMPA. Factors considered include a roadway's VMT and the length of trips it serves, which determine design elements such as the spacing of intersections and driveway access limits, roadway width, speed, and other technical details. It is updated in conjunction with the 10-year U.S. Census, which helps the metro area update new roadways, growth areas, or change in use of a roadway. The Functional Classification System is important to MRMPO's planning process because it establishes a hierarchy within the network to support regional and local movements, plus it helps define which roadways are eligible to receive federal funding.

The Transitions 2045 MTP currently carries forward the Connections 2040 MTP's Functional Classification network (see Map 12) in its originally approved state in April 2020. The next Functional Classification review and update is scheduled for the fall of 2025, following the adoption of this MTP. As such, this plan provisionally adopts the Connections 2040 MTP networks until the revised Functional Classification System Map is complete, at which time the updated map will be amended into this plan. Because the Long-Range Roadway System Map (Map 13) is based on Functional Classification, it will also be updated following the approval of this plan.

Map 13: Roadway Functional Classification and National Highway System

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METROPOLITAN TRANSPORTATION PLAN

Roadway Functional Classification and National Highway System

A roadway functional classification review is scheduled for local jurisdictions and the NMDOT in the fall of 2025, after the adoption of the Transitions 2045 Metropolitan Transportation Plan (MTP).

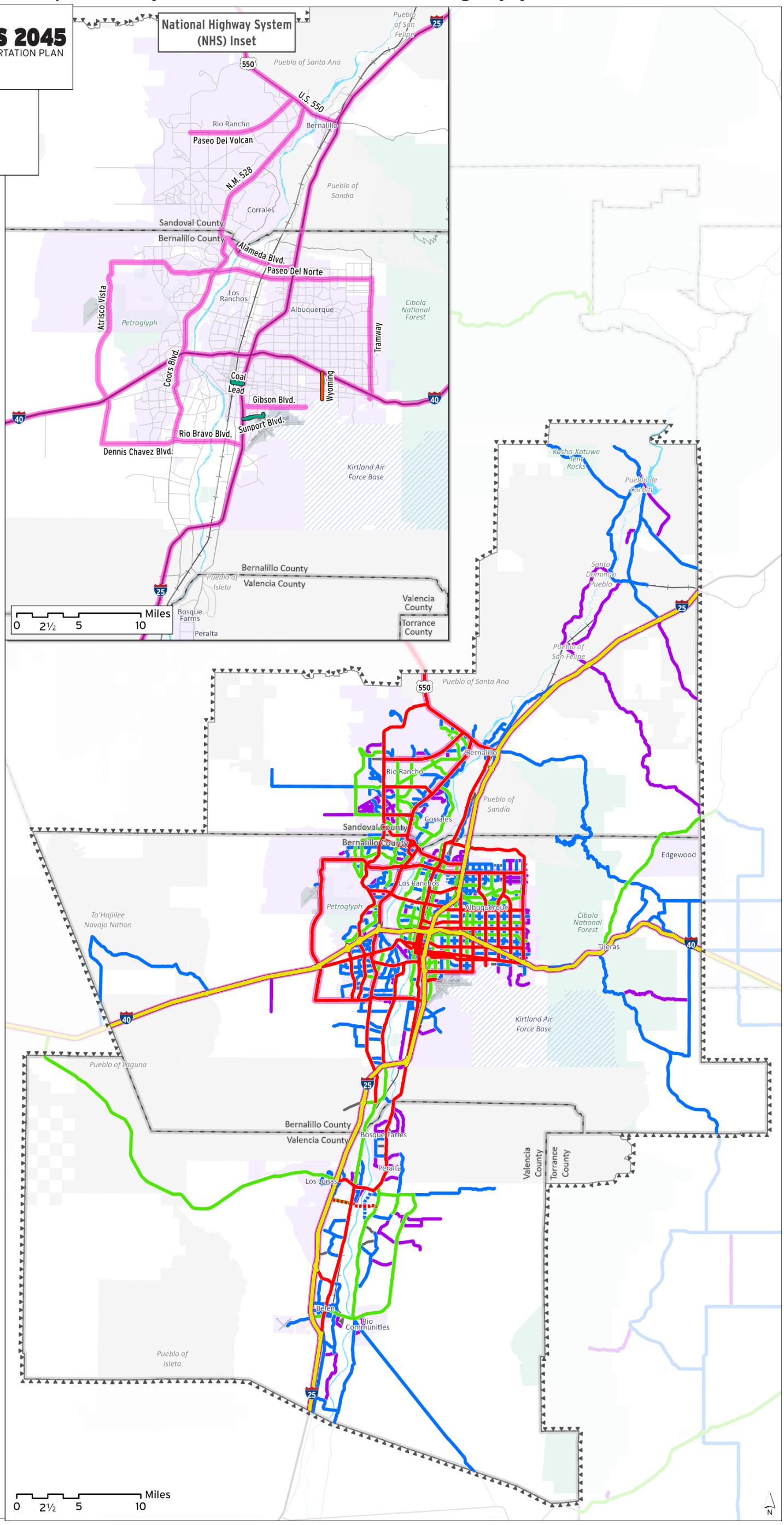
This plan provisionally adopts the functional classification network from the 2040 Connections MTP. This map will be updated upon completion of the functional classification review and amended into 2045 MTP.

Roadway Functional Classification

- Interstate
- Principal Arterial
- Proposed Principal Arterial
- Minor Arterial
- Proposed Minor Arterial
- Major Collector
- Proposed Major Collector
- Minor Collector
- Local

National Highway System (NHS)

- NHS
- NHS Connector
- NHS STRAHNET



Map Data Sources: See Appendix I.

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Map 14: Long Range Roadway System (LRRS)

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Long Range Roadway System (LRRS) (Connections 2040)

The Transitions 2045 MTP provisionally adopts the Long Range Roadway System (LRRS) from the 2040 Connections MTP as it was originally approved in April 2020. This network will be updated through the development of the Long Range Transportation Systems Guide, which is scheduled for completion in 2026. Following that process, the LRRS map will be updated and amended into the 2045 MTP.

Long Range Roadway System

Roadway Function

- Interstate
- Regional Principal Arterial
- Community Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

Future Roadways*

- Potential Future Route
- Proposed Regional Arterial
- Proposed Community Arterial
- Proposed Minor Arterial
- Proposed Major Collector
- Proposed Minor Collector

Interchanges*

- Proposed Interchange
- Proposed Grade-Separated Crossing
- Proposed Interchange Beyond 2040

* Potential and proposed roadways are financially unconstrained and their development may extend beyond the 2040 horizon year.

Map Data Sources: See Appendix I.

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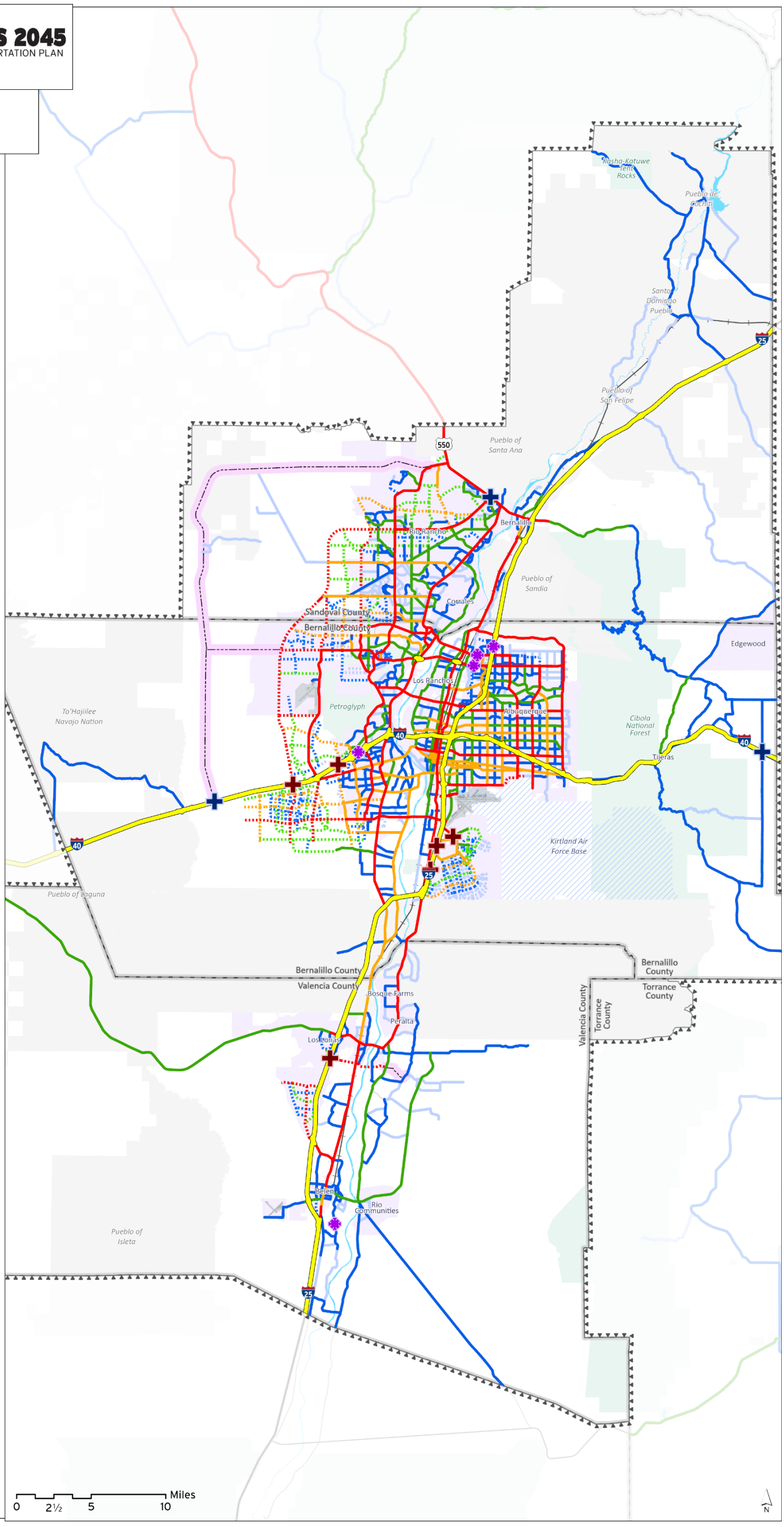


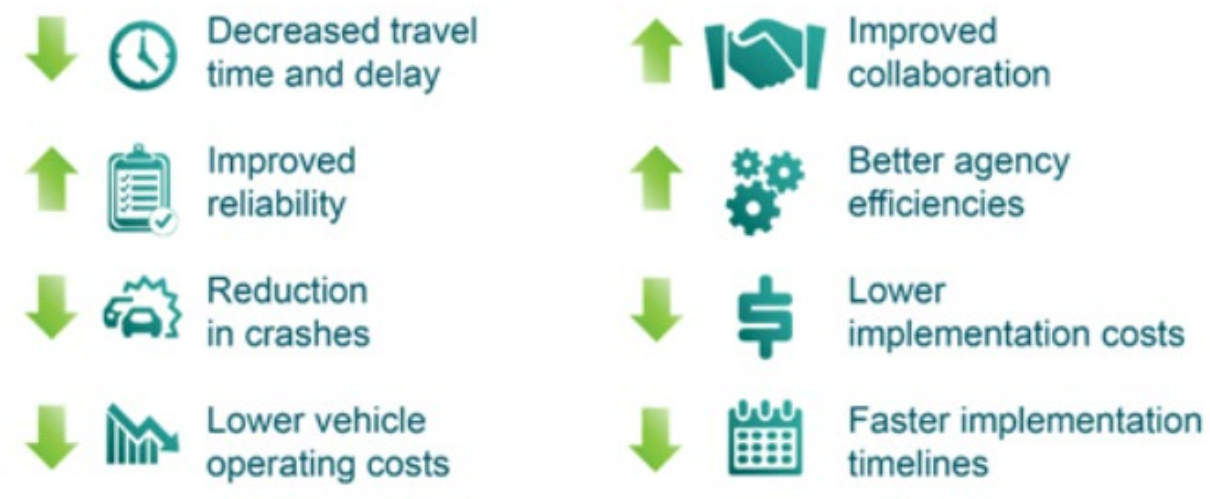
4.1b Transportation Systems Management and Operations (TSMO) and Intelligent Transportation Systems (ITS)

Transportation Systems Management and Operations (TSMO) is a set of integrated strategies that focus on operational improvements that help to improve the performance of the existing transportation system.

TSMO strategies are designed to make effective use of the existing transportation network by directly addressing both recurring and nonrecurring congestion. Recurring congestion is related to daily travel patterns, while nonrecurring congestion is caused by temporary disruptions like crashes or roadway construction. TSMO strategies include planned multi-agency coordination and operations strategies such as integrated management of arterials and work zones, real-time conditions and traveler information, and incident management. Deployed individually or collectively, these approaches contribute to smooth, reliable, and safe traffic flow on our roadways by improving network efficiency often at relatively low costs when compared to widenings and are an optimal strategy to achieve mobility goals and objectives. TSMO is considered on nearly all roadway improvement projects and is considered a cost-effective operational strategy to be investigated before committing to the high cost of roadway widening.

Benefits of TSMO are shown in Figure 27.

Figure 27: Transportation Systems Management and Operations Benefits



Source: ITS JPO, 2024

Intelligent Transportation Systems (ITS)

One of the most effective and widely used TSMO strategies is Intelligent Transportation Systems, or ITS. This category of TSMO augments traditional TSMO approaches by integrating advanced communications technologies into vehicles and infrastructure resulting in improved transportation operations, efficiency, and reliability. ITS can be thought of as the key to enabling TSMO to be "smart." The state of the practice in TMSO has seen massive progress in recent years driven by the ongoing integration of advanced technologies and communication systems with ITS.

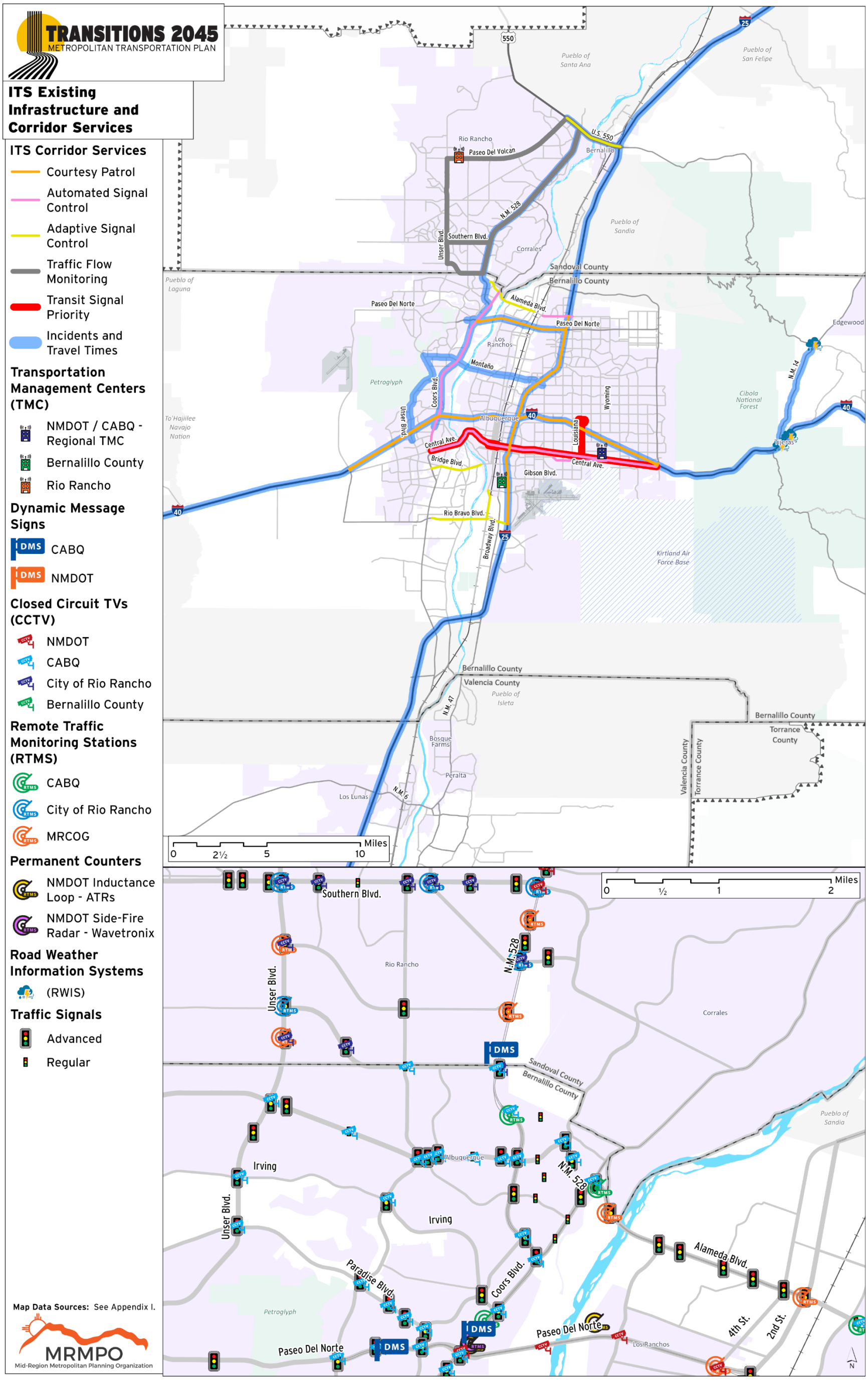
Simply put, ITS improves travel throughput and system capacity without new construction. It does this by monitoring roadway flow conditions, providing real-time updates to travelers, and facilitating integrated coordination of data across jurisdictions. Due to the complexities of collecting and sharing data between agencies, ITS benefits greatly from the federally mandated Regional ITS Architecture, which ensures that ITS elements are deployed in a robust and coordinated manner.[18] A wide range of ITS strategies are currently active in the AMPA, and several are described below.

ITS Real-Time Services

Real-time monitoring of roadway conditions is carried out through various roadside detection and cloud-based data with active management by roadway operators. This enables real time traveler information messaging via cell phone routing apps, message displays on overhead boards, traffic signal timing adjustments, effective coordination with agencies and first responders, and crucial travel information such as time estimates and hazardous conditions. AMPA agencies manage a range of ITS devices and services, including CCTV, third-party speed data, and dynamic message signs, which provide live data to travelers and other stakeholders. Messages are provided far enough in advance so that travelers are alerted to downstream conditions and have time to divert to a different route and avoid the congested area entirely.

[18] Regional ITS Architecture is required by the FHWA Final Rule, 23 CFR 940, to implement Section 5206(e) of the TEA-21 which requires that ITS projects funded through the Highway Trust Fund conform to ARC-IT and applicable standards. AMPA ITS Architecture: https://www.consystec.com/ampa2023/web/index.htm

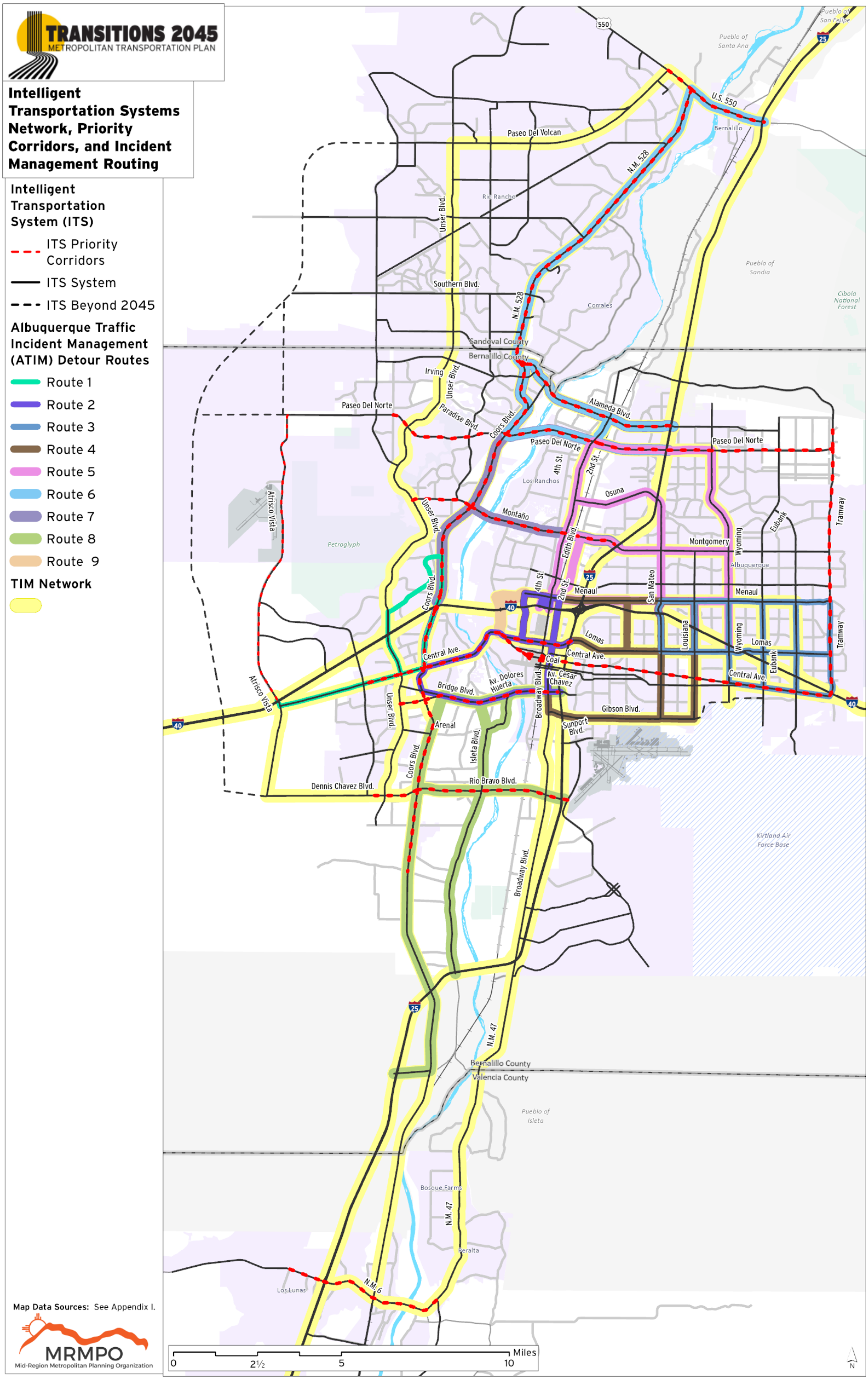
Map 15: ITS Existing Infrastructure and Corridor Services



ITS Corridors

The ITS Corridors map highlights existing and planned ITS corridors and allows local governments and agencies to identify opportunities for ITS improvements. MRMPO's ITS Subcommittee further designates priority corridors for use in detailed project development. An evaluation matrix ranks corridors based on the value and viability of each ITS service. These prioritized corridors align with the Congestion Management Process (CMP), which is described later in this chapter, and promote ITS enhancements on critical travel routes in the region.

Map 16: Intelligent Transportation Systems Priority Network Incident Detour Routes



Smart Mobility

Figure 28 : Smart Mobility Devices within the AMPA

Advancements in communications, including cell phones, travel apps, and in-vehicle technologies, now offer unparalleled access to travel data. Most new vehicles since 2016 are equipped with communication devices used in ITS to enhance traffic flow and improve safety and the travel experience. Real-time data traffic congestion and roadway hazard information is now widely available to travelers and agencies. Technologies in near-term development will enable vehicles to exchange information with other vehicles on travel conditions detected by on-board devices, as well as with traffic signals on items such as signal timing phases, other vehicles entering the intersections, pedestrians in the walkways, and other roadway-conditions information.

The convergence of new mobility technologies supporting advanced data collection, evolutions in transportation agency operations management strategies, and the ubiquitous presence of mobile devices and communications is creating what is referred to as "Smart Mobility." Examples of ITS Smart Mobility applications in the AMPA include advanced traffic signal control systems and speed monitoring and management systems.

ITS/TSMO Examples in the AMPA

Traffic Incident Management Plan (TIM)

The *Traffic Incident Management Plan for the Albuquerque Metropolitan Planning Area (2022)* is a coordinated plan to address disruptions in traffic flow resulting from crashes, secondary crashes, adverse weather conditions, and special events.[19] Traffic incident planning and response involves law enforcement, fire, emergency medical services, towing and recovery, transportation/traffic communications, public media, and hazardous material response teams. The TIM includes a Concept of Operations that outlines the roles and responsibilities of all involved to ensure a coordinated response to incidents.[20]

[19] https://www.mrcog-nm.gov/DocumentCenter/View/6225/Incident-Management-Plan-Final-ATIM
[20] https://www.mrcog-nm.gov/DocumentCenter/View/6224/ATIM-Concept-of-Operations-Final

Figure 29 : Regional Traffic Management Center (RTMC)

Regional Transportation Management Center (RTMC)

The Regional Transportation Management Center (RTMC) was developed to assist with coordination between multiple jurisdictions and agencies. The RTMC houses multiple-agency transportation operations in a single co-located facility. The center consolidates monitoring and transportation management activities across jurisdictional boundaries, including:

- A single-room video wall comprised of Closed-Circuit Televisions (CCTVs) for shared viewing and monitoring of roadway conditions among all agency staff.
- Coordinated reporting of speeds and travel times during peak travel periods.
- Coordination of emergency response for traffic incidents or other hazards.
- Reporting of hazardous travel conditions such as inclement weather, crashes, or construction-ahead notifications.

For every one minute a lane is closed there is a resulting six minutes of delay. The likelihood of secondary crashes (crashes resulting from the initial crash) increases by 2.8 percent for each minute the primary incident continues to be a hazard.

FHWA Traffic Incident Management Performance Measures Final Report

The RTMC, combined with the NMDOT's HELP Courtesy Patrols, can shorten emergency response times by as much as 25 percent on the interstates according to NMDOT's Highway Operations, resulting in reduced impacts of incident-related events and closures.

NMDOT HELP Courtesy Patrols

NMDOT's **Highway Emergency Lender Program (HELP)** Courtesy Patrol provides roadside assistance to stranded motorists with the goal of promoting safety and maintaining traffic flows.

The area of coverage includes sections of I-25, I-40, and Paseo del Norte. HELP Courtesy Patrol is administered by NMDOT District 3, which relies on dispatch from the District 3 offices and the RTMC.

Figure 30: NMDOT Courtesy Patrol

Enhanced Rest in Red

The City of Albuquerque piloted an **Enhanced Rest in Red** strategy on Lead and Coal Avenues to address speeding and crashes along these corridors. The system uses advanced signals combined with approaching vehicle speed detection. If the system determines an approaching vehicle is over the speed limit, the signal will quickly turn red, forcing the vehicle to slow down and stop at the intersection. Once the vehicle is stopped, the signal turns green. When the approaching vehicle's speed is within the speed limit, the signal remains green, the traveler does not have to stop, thereby incentivizing travel at posted speeds.

The Enhanced Rest in Red system has been in place since early 2023. While it is too early to make a full assessment, so far there are indications of significant speeding reduction and safety improvements, some of which is likely also attributable to speed cameras installed along the corridor in the same year. The City of Albuquerque intends to expand the system to other corridors of the roadway network.

TSMO Planning Framework and Federal Programs

AMPA Regional ITS Architecture

The *AMPA Regional ITS Architecture Plan (2023)* supports coordinated efforts among various regional stakeholders to plan, design, deploy, operate, and maintain ITS. The ITS Subcommittee manages and maintains the AMPA's Regional ITS Architecture for use in local transportation planning. Periodic updates performed in close coordination with NMDOT, and local stakeholders ensure that the document is current with regional and agency projects and priorities, as well as with the National ITS Architecture Standards.

ITS projects seeking federal assistance programmed in the TIP are subject to the United States Department of Transportation (USDOT) Systems Engineering certification and NMDOT project requirements. Systems Engineering for ITS involves a technical process that focuses on agency and system functional needs and outcomes. To assist member governments in meeting this federal requirement, MRMPO along with the NMDOT ITS Bureau and FHWA developed online training resources available through the MRCOG and NMDOT websites. MRMPO's Project Selection Process (PSP) requires that any project with ITS must have Systems Engineering Certification or be included in the ITS Regional Architecture.

The **ITS Subcommittee**, which is comprised of planning, engineering, and operational representatives from public sector agencies, is the primary planning technical group for ITS within the AMPA. The committee serves a crucial role in the review and formulation of Transportation Improvement Program (TIP) projects related to ITS. The committee evaluates all projects submitted for inclusion in the TIP and MTP to determine if they include ITS elements and how they might fit within the overall ITS architecture in the region.

Federal Programs

USDOT and the ITS Joint Program Office combined with the National Highway Traffic Safety Administration (NHTSA) have been in full support of expanding TSMO/ITS through several programs. Agencies in the AMPA participate in the Strategic Highway Research Program (SHRP2), Everyday Counts Program (EDC), and the Real Time System Management Information Program (RTSMIP). These programs are summarized in Appendix G.

4.1c Mobility and Emerging Technologies

Advances in mobility technology can lead to improved resiliency, efficiency, and safety in the AMPA's transportation system, though local agencies often struggle to keep pace with rapidly evolving innovations. Emerging technologies include connected vehicles (CV), autonomous vehicles (AV), Smart Mobility, and automated freight and shipping.

These technological advancements will further evolve during the MTP 20-year horizon period, and the regional leaders must proactively adapt to these changes when considering improvements across the transportation system. Shifts in transportation infrastructure will be necessary, such as alternative refueling stations, connected vehicle-compatible infrastructure, modified land use and building design, and reallocations of how roadway space is used by all modes and users. Additionally, the AMPA must weigh these innovations alongside safety considerations.

Electric Vehicles

Electric vehicles are a relatively newer technology that the AMPA has embraced. Federal policy requires a shift to electric transportation that, according to the Electrification Coalition (2024), is expected to "create new jobs, reap financial savings for consumers and fleet operators, improve air quality, and reduce greenhouse gas emissions[21]".

NMDOT has been actively planning and investing in electric vehicles across the state under the National Electric Vehicle Infrastructure program (NEVI), setting the tone by first prioritizing the infrastructure needs for a robust and connected charging network to ensure that all roadway users in electric vehicles will have reliable charging facilities available. Efforts are being mimicked by AMPA agencies that will support existing charging infrastructure already put in place by private companies such as Tesla, and others. Accordingly, MRMPO member agencies have followed suit and have developed or are developing their own plans, prepping the AMPA for a sustainable and efficient energy source for mobility needs well into the future.

Key stats for AMPA member agencies:

- Near term funding commitments by NMDOT approach $120 million by summer 2025.
- The New Mexico Environmental Improvement Board (EIB) under the Clean Cars Rule requires that by 2026, 42 percent of dealer fleets in New Mexico be Zero Emissions Vehicles (ZEVs), and by 2032, 82 percent must be ZEVs. ZEVs include EVs, hydrogen fuel cell, and plug-in hybrids.
- City of Albuquerque's Zero Emissions First policy commits to replacing old city vehicles with EVs. Partnerships with local stakeholders provide public charging stations across the region.
- The City of Albuquerque has numerous local programs in support of EV deployments, including the Green Sticker Program for reduced parking fees for EVs and an Electrified Dealer Program to support EV purchase and ownership.
- Bernalillo County is currently expanding its fleet of EVs and is now including the installation of charging stations.

- Bernalillo County Fire and Rescue recently acquired the state's first electric fire truck, planned for deployment in late 2024 or early 2025.
- The City of Rio Rancho supports EVs and has five public EV charging stations at high visibility locations across the municipality.

[21] https://electrificationcoalition.org

Connected Vehicles (CV)

Connected Vehicles refer to internet-equipped cars with advanced sensors that communicate with infrastructure, other vehicles, and cloud-based mobility applications. Early technological advancements include travel routing applications available through cell phones or installed in vehicles, enabling travelers access to real-time travel conditions and route planning capabilities. Since 2016, standard vehicles are equipped to interact with roadways and other vehicles through the following technologies: [22]

Vehicle to Vehicle (V2V) – V2V is a wireless direct communication between vehicles, enabling them to exchange information and data with each other. This type of communication enhances a driver's perception by connecting them to the surrounding physical environment including proximity to other vehicles, speeds of other vehicles, and conditions data collected from other vehicles.

Vehicle to Infrastructure (V2I) - V2I Communications for Safety is the wireless exchange of critical safety and operational data between vehicles and highway infrastructure, intended primarily to avoid motor vehicle crashes and enable a wide range of other safety, mobility, and environmental benefits.

Vehicle to Everything (V2X) - Vehicle-to-Everything (V2X) is where a vehicle can share the information from its sensors, cameras and internal systems with other vehicles, nearby pedestrians, road infrastructure, and Smart City systems using wireless data connectivity. They generally encompass vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-pedestrian (V2P) communications, collectively known as “V2X.”

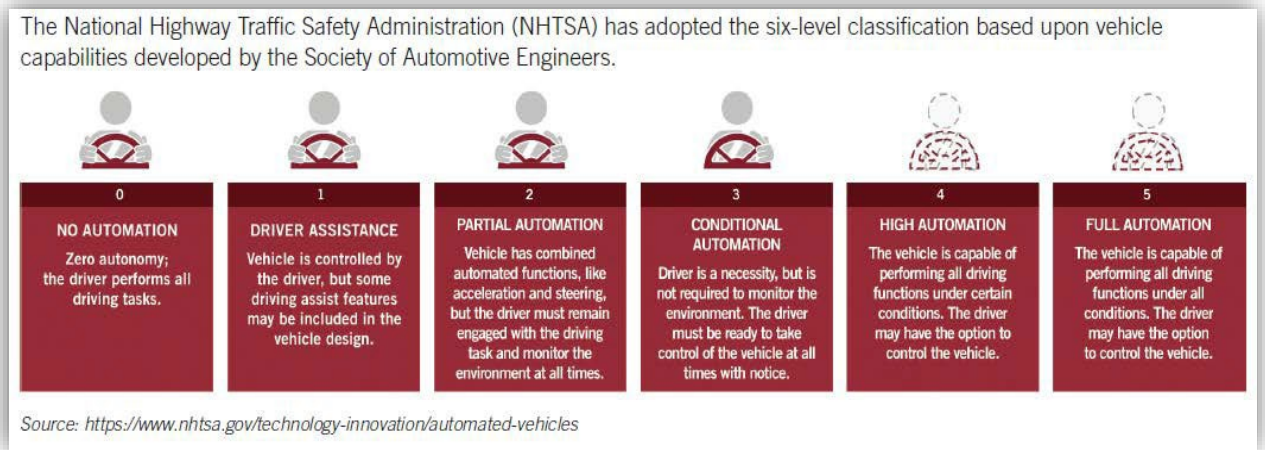
Connected vehicles also contribute to environmental sustainability by optimizing driving efficiency and reducing emissions.

Autonomous Vehicles (AV)

Autonomous Vehicles have varying levels of automation. The USDOT through the Society of Automotive Engineers (SAE) has established six levels of automation for AVs ranging from fully manual to fully automated, which correspond to the amount of driver interaction required to operate the vehicles.

[22] https://www.transportation.gov/research-and-technology/how-connected-vehicles-work

Figure 31: NHTSA Established Automation Levels



Level 4 is the most advanced classification currently being developed and tested, while Levels 2 and 3 are the most advanced options available for purchase.[23] Key features of Level 3 include more extensive driver assistance systems, collision detection, lane departure warnings, and adaptive cruise management.

The autonomous vehicle market size has grown exponentially in recent years, according to a report by The Business Research Company in 2024. The report states it will grow from $54.6 billion to $73.5 billion in 2024.[24] The Insurance Institute for Highway Safety predicts 4.5 million self-driving vehicles on U.S. roads by 2030.[25]

A report by the National League of Cities indicates that more than 50 percent of US cities are currently preparing to host AVs in their future.[26] MRMPO member agencies are following suit incrementally with signal equipment modernization, installation of advanced camera detection, and expansion of infrastructure communications. Additional advancements include pilot projects of advanced signal-to-vehicle communications that transmit signal timing and cycle phase information to vehicles to alert of pending signal phase changes.

The Smart Mobility Ecosystem

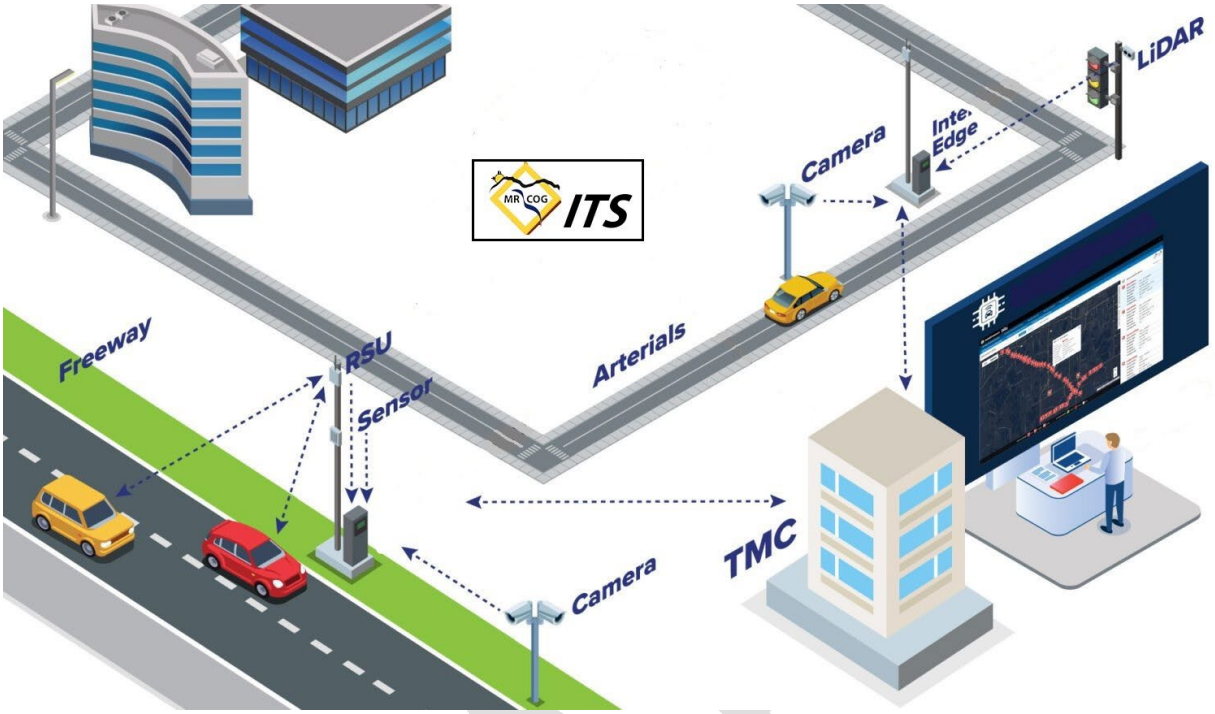
Smart Mobility refers to the integration of technology into the transportation system to create a more efficient, sustainable, and accessible ecosystem. Strategies discussed earlier in this section such as ITS/TSMO and AVs/CVs are considered Smart Mobility.

[23] *Autonomous Vehicles*. University of Oregon Urbanism Next.

[24]The Business Research Company,2024 (*https://www.thebusinessresearchcompany.com/report/autonomous-vehicle-global-market-report#:~:text=Autonomous%20Vehicle%20Market%20Size%202024,(CAGR)%20of%2034.7%25).*

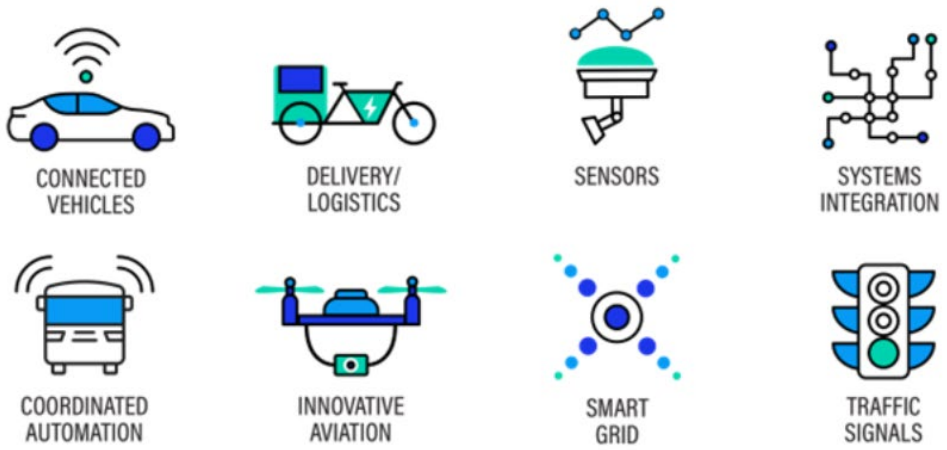
[25] National Insurance Institute for Highway Safety. Autonomous Vehicles. Retrieved from https://content.naic.org/insurance-topics/autonomous-vehicles

[26] https://www.nlc.org/wp-content/uploads/2018/10/AV-MAG-Web.pdf



Below are key components of the USDOT's SMART Grants Program (Strengthening Mobility and Revolutionizing Transportation), which provides grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems to improve transportation efficiency and safety:

Figure 32: USDOT SMART Grants Program Components



Source: FHWA Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program, 2022-26

Other elements of fully integrated Smart Mobility in the near and long term future include:

- **Shared Mobility**: Shared Mobility refers to the sharing of transportation resources, such as car-sharing, bike-sharing, and ride-sharing services. These services aim to reduce the number of cars on the roads, thereby reducing congestion and pollution.
- **Electric Mobility**: Electric Mobility refers to the use of electric vehicles (EVs), such as electric cars and electric bikes, to reduce emissions from transportation. This includes the continued development and expansion of charging infrastructure and the promotion of electric vehicles and bicycles.
- **Active Mobility**: Active Mobility refers to the promotion of walking and cycling as modes of transportation. This includes the development of bike lanes, pedestrian-friendly streets, and other infrastructure to encourage active transportation. It often includes advanced technologies such as mobile phone apps, connected sensors with infrastructure and vehicles (V2I and V2V). Active transportation is discussed in further detail in Chapter 6.
- **Mobility as a Service (MaaS)**: MaaS refers to online platforms that allow transportation to be purchased on a per-ride or subscription basis. MaaS can integrate various modes of transportation, such as public transport, car-sharing, and bike-sharing into a single platform to provide a seamless and user-friendly transport experience.

By incorporating Smart Mobility elements into the Project Selection Process (PSP) for project programming at MRMPO, the AMPA is on the path to integrate Smart Mobility solutions, and additional opportunities for expansion will emerge in both the public and private sectors. Realistically, opportunities for Smart Mobility are within reach in the next five to 10 years.

Freight and Shipping

Automation in Freight and Shipping

Freight companies have already begun to test and deploy automation. Due to a lack of national regulation, automated vehicles (including freight) are permitted in nearly all states, including New Mexico, unless specifically prohibited.

Torc Robotics has been testing autonomous self-driving freight in the AMPA for the past several years. Several key suppliers, including Amazon, Walmart, FedEx, UPS, and others, have also initiated automated freight transport for goods and services. Some estimates ambitiously predict that fully autonomous trucks will appear on highways by 2027.[27] Automated rail-to-truck and freight-to-warehouse operations may also be deployed in the near term.

Electric Vertical Take Off and Landing (eVTOLs) and Air Vehicles

EVTOLs are aircraft that use electric power to hover, take off, and land vertically. They are being tested for deployment as taxis, delivery vehicles, and for other applications. The Dallas Fort Worth International Airport plans to introduce eVTOLS as Air Taxis by 2026. Preliminary discussion at the Albuquerque Sunport in their Master Plan development is considering similar language and effort. For more information on eVTOLs, reference the 7.4: Goods Movement section.

[27] The Library of Congress "The Trucking Industry: Research Guide, Autonomous Trucking"

Figure 33: eVTOL electric vertical take-off and landing aircraft, is a small, electric-powered aircraft that can take off and land vertically

4.1d Roadway Maintenance and Asset Management Requirements

Roadways play a crucial role in the metro area because they provide access to employment, health, education, recreation, and social services. Poorly maintained infrastructure increases costs, and deferring maintenance escalates the costs and risks associated with an aging transportation network. Investment in maintenance of transportation infrastructure today lowers the future cost of repair or replacement.

For the region to remain competitive in the national and global economy, it is essential that maintenance is prioritized above projects that add capacity to the network. Poor pavement and bridge conditions result in higher vehicle operating costs, delays in goods movement, increased commute times and increased fuel consumption and vehicle emissions. It is estimated that the U.S. has a backlog of $830 billion in highway repairs, highlighting the importance of discretion when making the decision to add to the existing roadway network.[28]

State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs) are federally required to integrate pavement management into their roadway management and maintenance operations. Pavement performance management is now integrated into the transportation planning process, and all states must utilize nationally defined performance measures for pavement and bridges on the National Highway System (NHS). DOTs and MPOs must report their pavement and bridge performance targets to the FHWA, which assesses progress towards state targets. MPOs are given the option to either adopt the NMDOT's performance targets or adopt their own. MRMPO has decided to adopt the NMDOTs targets to ensure that the investment priorities pursued in the development of the AMPA TIP are consistent with those of NMDOT. See Chapter 11.2 for more information on federal performance measures and targets.

[28] https://highways.dot.gov/sites/fhwa.dot.gov/files/2023-05/FHWA_Strategic_Plan_05.25.23.pdf

NMDOT Transportation Asset Management Plan (TAMP)

The NMDOT's *Transportation Asset Management Plan (2022)* includes:

1. Inventories of pavement and bridge conditions.
2. Identification of management objectives and measures.
3. Financial and investment strategies to address deficiencies across the system and sustain a desired state of good repair.
4. Periodic updates with 2 and 4-year performance targets and annual monitoring reporting to the FHWA.

The requirement applies only to the National Highway System (NHS); however, NMDOT monitors conditions on all NMDOT-managed roadways on the federal aid system (see roadways map in section 4.1). MRMPO coordinates with NMDOT to prioritize pavement and bridge management projects through its Project Selection Processes (PSP) discussed in Chapter 11.

NMDOT Data Collection

Although federal regulations specify that TAMPs involve at a minimum the interstates and the National Highway System (NHS), the NMDOT took this opportunity to collect condition data on the entire roadway transportation system for the year 2022. This dataset is ideal for a regional assessment as it presents a uniform and consistent methodology across all jurisdictional boundaries. MRMPO uses this dataset to assess pavement and bridge condition in the region. MRMPO coordinates with member agencies and the NMDOT to integrate asset management and life cycle performance targets into local project selection and programming.

Local Agency Actions

Local agency pavement management systems are established within respective public works departments to monitor conditions and ensure that timely maintenance treatments can be deployed to avoid roadway deterioration. Agencies within the region are varied in their approach to pavement management systems. However, performance condition targets have been established by the NMDOT for monitoring purposes, and MRMPO has integrated maintenance of existing infrastructure into its PSP in support of meeting the targets.

Current Roadway and Bridge Condition

The NMDOT maintains an asset management database for all roadways and bridges, which was last updated in 2022. As of 2022, 88.1 percent of NMDOT-maintained roadways in the AMPA were assessed to be in fair to good condition, while 97.5 percent of bridge structures in the region are ranked as structurally sufficient. Only 2.5 percent of bridges are rated as either in need of rehabilitation or need replacement entirely.

Table 14: AMPA Roadway Pavement and Bridge Condition, 2022

	AMPA-Maintained Roadways Pavement Condition	AMPA -Maintained Bridge Condition:
Good	38.9%	27.6%
Fair	49.2%	66.5%
Poor	11.9%	2.5%

According to the American Society of Civil Engineering's *Report Card on America's Infrastructure,* one-third of all roadways in America are in poor to mediocre condition, and more than a quarter of all bridges are either structurally deficient or functionally obsolete.[29] It is far more cost effective to fix a roadway or bridge in fair condition than once it has degraded into poor condition. Moreover, the safety of the traveling public becomes increasingly at risk the longer upgrades are delayed. For these reasons, system preservation is a top priority as stated in the Transitions 2045 MTP goals.

4.2 Public Transit

Transit offers people increased mobility and health, environmental benefits, and a stronger economy through improved access to daily destinations such as jobs, schools, medical facilities, and parks. Additionally, well-designed public transportation systems, particularly those that have dedicated lanes, can reduce travel time and increase predictability. Public transportation also contributes to healthier communities by using the existing infrastructure and preserving undeveloped land, supporting pedestrian-friendly areas, and reducing the need for cars. There are many reasons to prioritize transit to improve mobility.

4.2a Benefits of Transit

Safety and Security

There are safety and security benefits for transit, too. Studies indicate that accident, injury, and fatality rates for public transit users are significantly lower than those for private vehicle users. According to the American Public Transportation Association (APTA), an individual can lower their chance of being in a crash by 90 percent when taking a train or bus. In emergencies, public transportation can swiftly evacuate passengers and transport rescue workers, saving lives.

Equitable Transportation

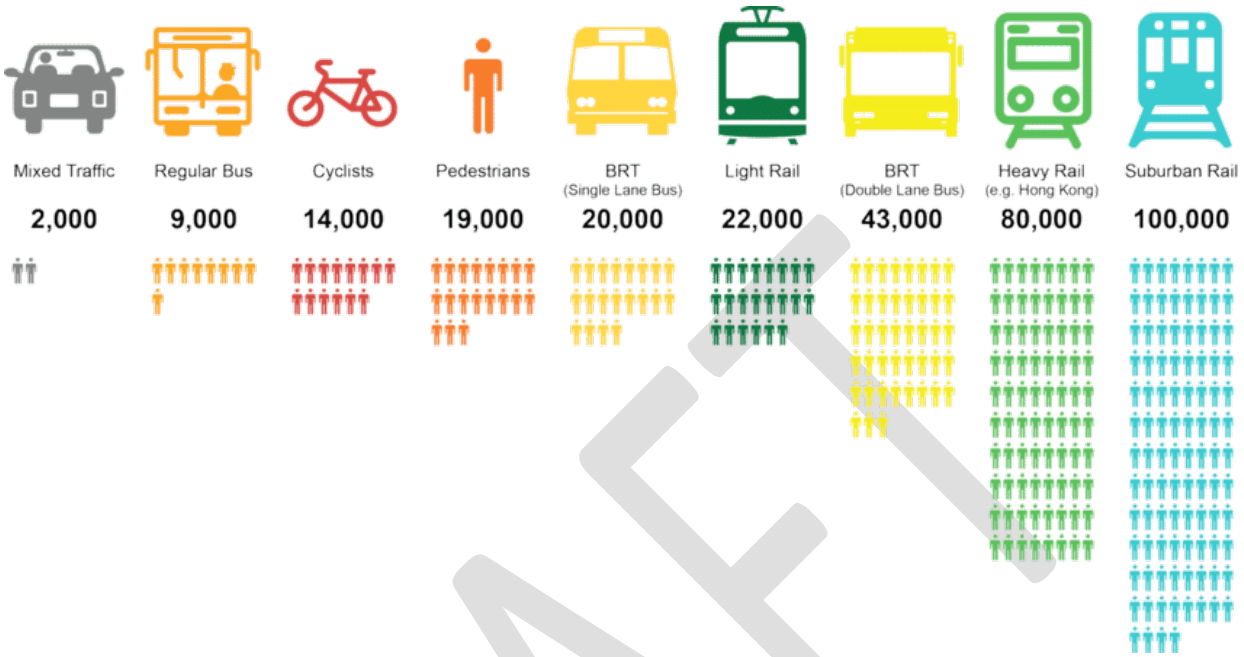
Transit is a more affordable and equitable mode of transportation because it does not require initial capital investment from users. Area residents already realize many of the benefits that transit can provide such as savings from lower gas and vehicle-related expenses. Furthermore, transit is crucial for those who don't have access to a car or other private transportation, and it provides reliable access to daily destinations for historically disadvantaged communities and people who are not able to drive.

Efficient People Movement

Transit reduces greenhouse gases by moving more people with fewer vehicles and requires less road space to move people than cars, therefore reducing traffic demand and benefiting people who primarily drive to their destinations. In fact, transit is one of the most space efficient means of transportation. See below for a representation of how many people can be moved per hour in one traffic lane using different modes. Transit is clearly an efficient way to move people through the region and holds promise as a strategy for alleviating congestion caused by high volumes of single occupancy vehicles.

[29] https://infrastructurereportcard.org

Figure 34: Capacity of a10-Foot Lane by Mode



Source: Elliot Fishman, Institute for Sensible Transport.

4.2b Regional Transit Partners

They are two agencies primarily responsible for transit service in the region. The City of Albuquerque Transit Department (ABQ RIDE) and the Rio Metro Regional Transit District (RMRTD). ABQ RIDE operates in the Albuquerque metropolitan area and the RMRTD serves Bernalillo and surrounding counties, including the operation of the New Mexico Rail Runner Express (NMRX) that provides service from Santa Fe, NM to Belen, NM.

City of Albuquerque Transit Services (ABQ RIDE)

ABQ RIDE was founded from the City of Albuquerque's acquisition of the struggling, privately-operated Albuquerque Bus Co. and Suburban Lines in 1965. ABQ RIDE currently operates the following types of bus services within the City of Albuquerque and portions of the Village of Los Ranchos de Albuquerque and unincorporated Bernalillo County:

- **Two Bus Rapid Transit routes: Albuquerque Rapid Transit (ART)** started service in November of 2019. These routes have dedicated lanes for about 9 miles, allowing them to be more consistent in timing (reliability) and with more frequent arrivals at each station (around every ten minutes). The routes operate with 60-foot articulated buses able to carry more passengers. In Fiscal Year 2024, more than 95 percent of all ABQ RIDE passenger trips were provided by local route service and Albuquerque Rapid Transit routes.

- **Twenty-one local routes:** Local routes operate primarily along arterial streets at both peak and mid-day hours and typically serve bus stops that are located one-quarter mile apart or less.
- **Paratransit:** ABQ RIDE's Sun Van paratransit provides door-to-door service in Albuquerque, the Village of Los Ranchos de Albuquerque, and portions of Bernalillo County for riders who have disabilities which prevent them from using regular bus service.
- **Micro-transit:** In the spring of 2024, ABQ RIDE began a one-year pilot program to provide micro-transit service in two zones, one in southwestern Albuquerque and one in the Near North Valley. Called **ABQ RIDE Connect**, this service provides door-to-door transportation on weekdays within each of these zones based on first-come, first-served scheduling. There is also the potential for rides to be shared with other riders for efficiency purposes. Micro-transit is a way to provide transit service in areas that, due to low population density or limited street connectivity, are difficult to serve effectively and efficiently with regular fixed-route bus service. ABQ RIDE Paratransit Services

The **Americans with Disabilities Act (ADA)** paratransit mandate passed in 1990 requires that transit services are made available to individuals who are unable to use fixed-route transit systems due to a physical, visual, or mental impairment. This legislation requires that transit agencies providing fixed routes, such as ABQ RIDE's Rapid Ride and local routes offer "complementary" and "comparable" paratransit service that operates within similar hours and geographic areas.

ABQ RIDE's Sun Van paratransit provides door-to-door service in Albuquerque and portions of Bernalillo County for riders who have satisfied eligibility requirements. Paratransit provides crucial access to the elderly and people with disabilities. The importance of paratransit is likely to grow considering that the population aged 65 or older in the AMPA is projected to increase by 60,000 by 2045, increasing their share from 18 percent to 22 percent of the population

Cost of Paratransit

The passage of the ADA increased the use and cost of paratransit services, but unfortunately it did not provide additional funding to transit agencies to help them comply with this mandate. The U.S. Government Accountability Office found in a 2012 report that a paratransit trip costs, on average, $29.30, or roughly 3.5 times as much as an average fixed route trip.[30] The same report also found that the average cost of a paratransit trip increased 10 percent between 2007 and 2010. Based on NTD data for ABQ RIDE paratransit service costs have

Zero Fares Program

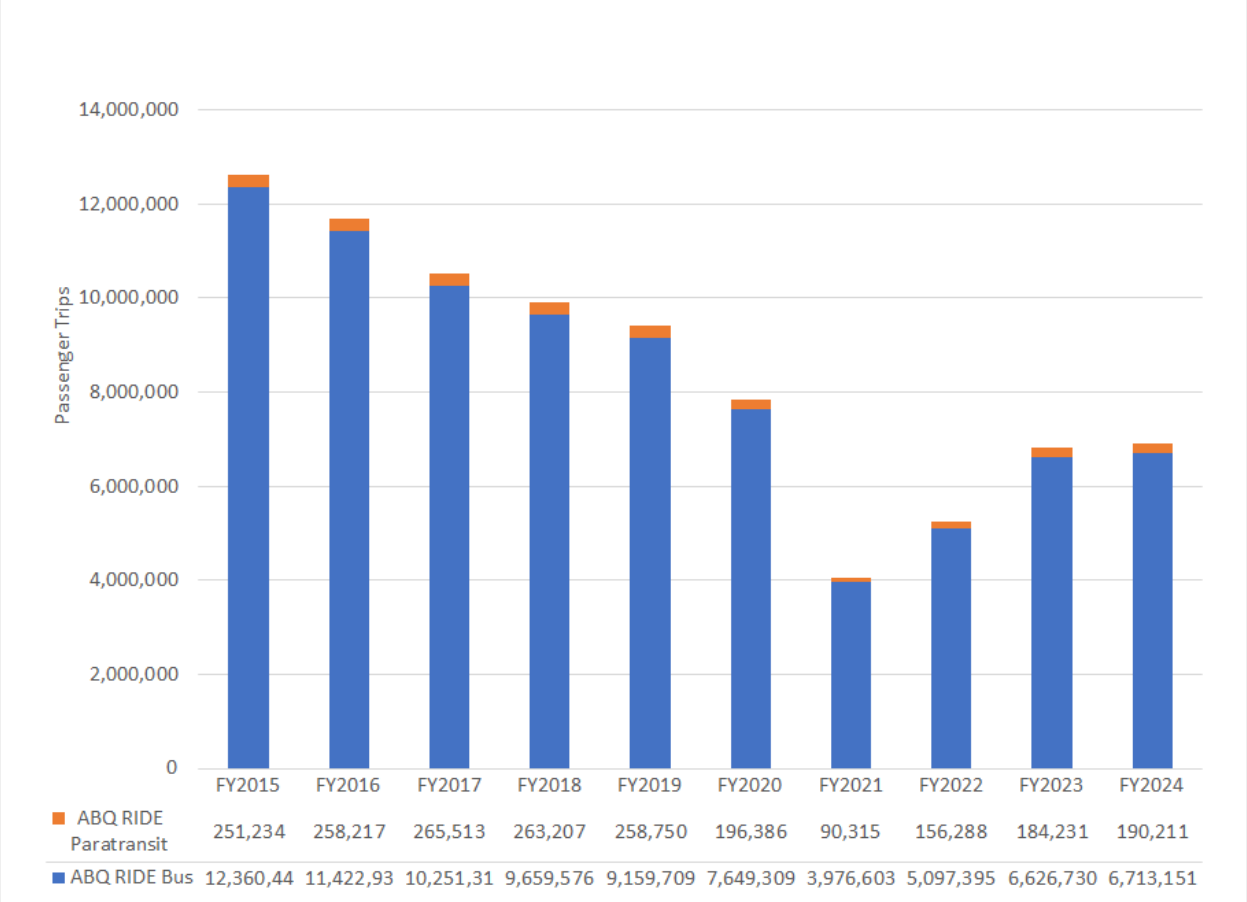
The City of Albuquerque instituted a Zero Fares Pilot Program in 2022 to support access to affordable public transit and enable greater mobility for more people. This program was supported by the Transit Advisory Board and Together 4 Brothers, a local advocacy group, to create a more equitable transportation system. Free services, which extend to paratransit, help to increase ridership and improve access. It also has a positive impact on managing traffic congestion, which in turn provides other health and environmental benefits.

Two years after the pilot program, which included extensive evaluation and feedback from the community, ABQ RIDE made the free fares permanent. According to the City of Albuquerque's press release in 2023, "Zero Fares is Here to Stay." ABQ RIDE serves roughly 23,800 riders a day with 88 percent of those riders living in households with an annual income of less than $35,000. Going forward, ABQ RIDE's focus is providing a safe and sustainable system that is accessible to everyone.

[30] https://wagner.nyu.edu/files/rudincenter/2016/09/INTELLIGENT_PARATRANSIT.pdf

approximately doubled since then. In FY23 paratransit costs were $75 a trip with a slight drop in FY24 to $69 a trip. These numbers pose a troubling problem for transit agencies across the country. Transit providers must make do with the same operating costs despite the rising cost of meeting paratransit needs. The following graph shows the numbers of ABQ RIDE passenger trips by type for the last ten years.

Figure 35: ABQ RIDE Passenger Trips 2015-2024 by Type



Source: ABQ RIDE, City of Albuquerque

Note: Ridership shown in graphs is reported and shown for Federal Fiscal Year, which begins on October 1 and ends on September 30. For example, FY2015 covers October 1, 2014, through September 30, 2015.

Rio Metro Regional Transit District (RMRTD)

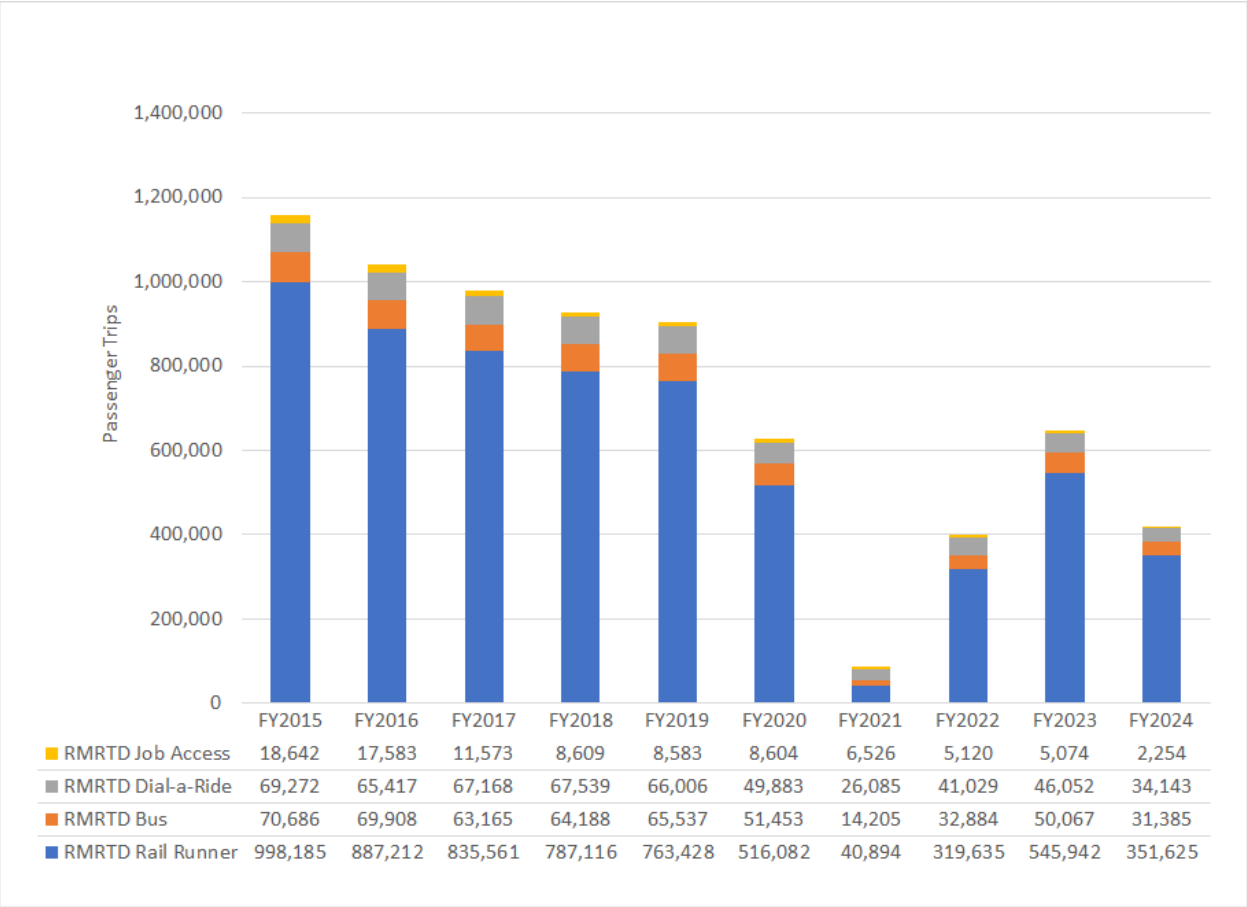
The **Rio Metro Regional Transit District (RMRTD)**, or Rio Metro, traces its origin to the New Mexico legislature's passage of the Regional Transit District Act in 2003 and the start-up of the New Mexico Rail Runner Express commuter rail system in 2006. Rio Metro's geography covers Bernalillo, Sandoval and Valencia counties which generally reflect the MPO boundaries. In 2008, voters in each of the three counties passed a 1/8-cent gross receipts tax dedicated to Rio Metro's rail and bus transit services.

Rio Metro's far-reaching transit network complements ABQ RIDE service. Rio Metro provides several transit services throughout the three-county region, and its combination of intercity, urban, suburban, and rural services reflect its large service area and diverse transit needs. The Rail Runner, New Mexico's only regional passenger rail network, connects Albuquerque's urban areas to communities along the I-25 corridor and Santa Fe.

Rio Metro services include:

- New Mexico Rail Runner Express (NMRX): The Rail Runner is a commuter train that operates on 97 miles of track and connects several communities, including Belen, Los Lunas, Isleta Pueblo, Albuquerque, Sandia Pueblo, Town of Bernalillo, Kewa Pueblo, and Santa Fe. While primarily oriented to weekday commuter travel, the Rail Runner provides some evening and weekend service as well.
- Commuter routes: Five commuter bus routes in Sandoval County, four in Valencia County, and one in Bernalillo County connect residents to Rail Runner Stations and major commercial, educational, and employment destinations.
- Dial-a-Ride: Rio Metro provides Dial-a-Ride transit (also known as demand-response transit) to persons traveling within most of Valencia County and to senior citizens or disabled residents in Rio Rancho. Like paratransit, a trip must be requested one day in advance.
- Job Access: The Job Access program provides taxi rides and/or bus passes to Temporary Assistance for Needy Families (TANF), or low-income, senior and other individuals with disabilities living in Bernalillo County who have limited transportation options to access work or job training opportunities.
- Intergovernmental services: Rio Metro has a funding arrangement with ABQ RIDE for routes connecting to the Rail Runner as well as overall system support. Rio Metro also provides funding for the New Mexico Department of Transportation's Route 500, a park-and-ride service that connects Albuquerque and the NM 599 Rail Runner Station in Santa Fe with Los Alamos.

Figure 36: RMRTD Passenger Trips 2015-2024 by Type



	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
RMRTD Job Access	18,642	17,583	11,573	8,609	8,583	8,604	6,526	5,120	5,074	2,254
RMRTD Dial-a-Ride	69,272	65,417	67,168	67,539	66,006	49,883	26,085	41,029	46,052	34,143
RMRTD Bus	70,686	69,908	63,165	64,188	65,537	51,453	14,205	32,884	50,067	31,385
RMRTD Rail Runner	998,185	887,212	835,561	787,116	763,428	516,082	40,894	319,635	545,942	351,625

Source: Rio Metro Regional Transit District

4.2c Fluctuations in Transit Ridership

Public transportation is a vital service for connecting people to goods and services in our region. However, transit ridership in the Albuquerque metropolitan area has declined since 2014 and sharply dropped with the arrival of the COVID-19 pandemic in 2020. Between 2019 and 2021 total transit ridership in the region declined by almost 60 percent. Passenger miles traveled during the same period dropped by 75 percent. While passenger trips and miles have begun to bounce back, public transit ridership is still well below that of the pre-pandemic levels.

COVID-19 and Remote Work

There are numerous explanations for these fluctuations in transit ridership. In 2020 and 2021, the sudden decrease in transit ridership reflected national trends and was a result of the COVID-19 pandemic and associated stay-at-home orders. The stay-at-home orders starting in March 2020 led to a shift to remote work and significant changes to commute patterns. Between April 2019 and April 2020, transit ridership in the United States decreased by 81 percent. Additionally, 97 percent of 518 U.S. transit agencies reported reduced service to the Federal Transit Administration (FTA).

Even after those orders were lifted, hybrid work arrangements and off-peak commuting became more common. Since 2021, a staffing shortage and an increase in operating costs has made it extremely difficult for regional transit agencies to provide frequent service and accessibility. The reduction in transit service has occurred alongside the lower ridership levels from 2022 to 2024 and contributed to lower ridership. Nevertheless, FY24 National Transit Database (NTD) data for ABQ RIDE indicates that their ridership per revenue-hour of service was the highest since 2017. This could point to limited service currently being the more predominant factor for lower ridership levels.

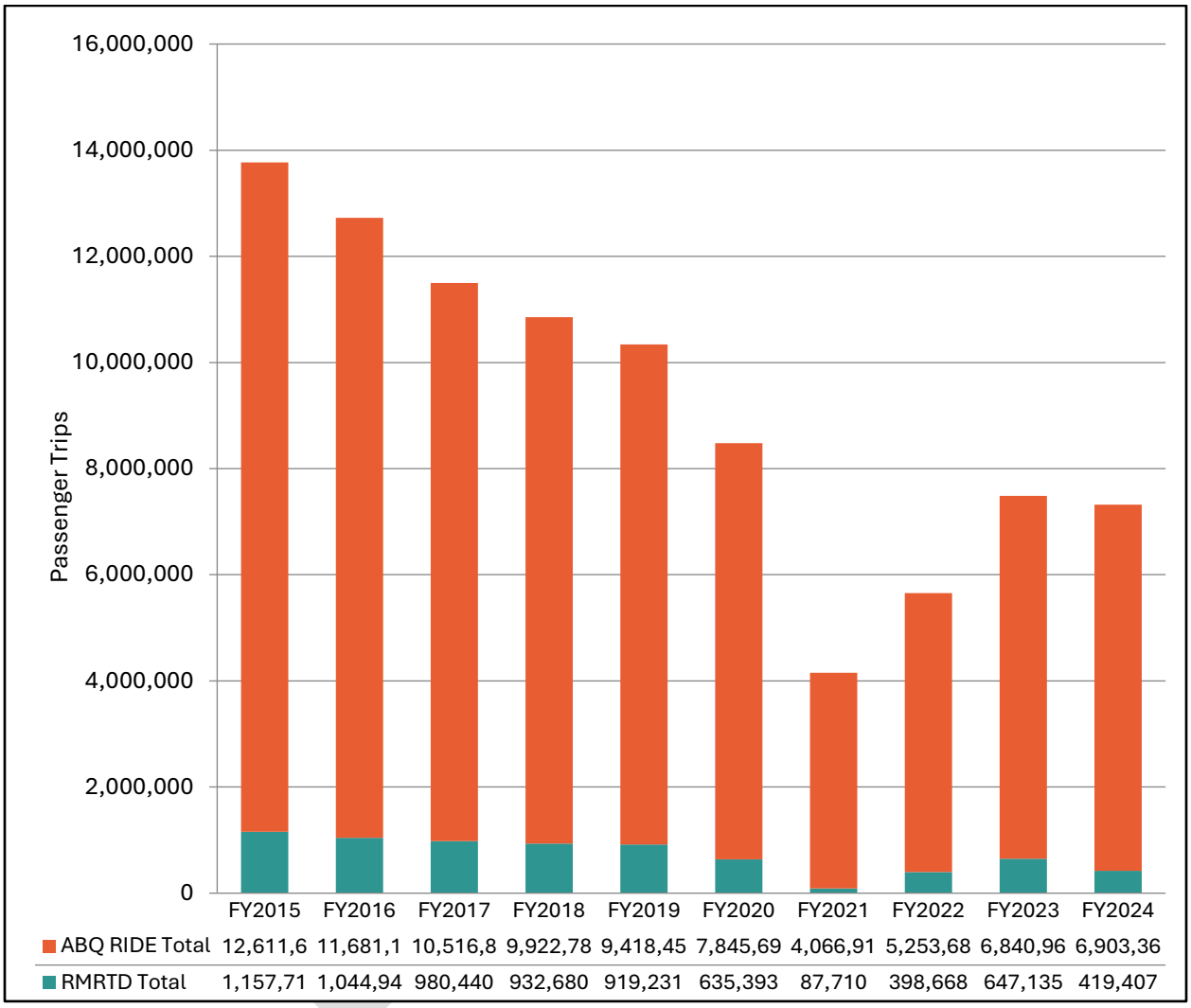
Reduced Service and Ridership

The COVID-19 pandemic created the largest shock to the transit system in modern history. The stay-at-home orders starting in March 2020 led to a shift to remote work and significant changes to commute patterns as well. Between April 2019 and April 2020, transit ridership in the United States decreased by 81 percent. Additionally, 97 percent of 518 U.S. transit agencies reported reduced service to the Federal Transit Administration (FTA).

Since 2021, transit ridership in many other western mid-sized cities has been slowly increasing but has not yet returned to pre-pandemic levels. Ridership in the MRCOG region has exhibited similar trends. Albuquerque passenger trips in 2024 are 71 percent of 2019 numbers. Similarly, passenger miles traveled in 2024 are at 61 percent of the levels in 2019. It is important to note that only 63 percent of the service that was offered by ABQ RIDE in 2019 was provided on the transit network in 2024, according to an ABQ RIDE Forward report.[31] Also, during this period, New Mexico Rail Runner service was suspended for just short of one year and was incrementally redeployed over the next year. Despite the reduction in transit service, mid-2024 ridership numbers are the highest since March 2020, indicating a rebounding demand for transit.

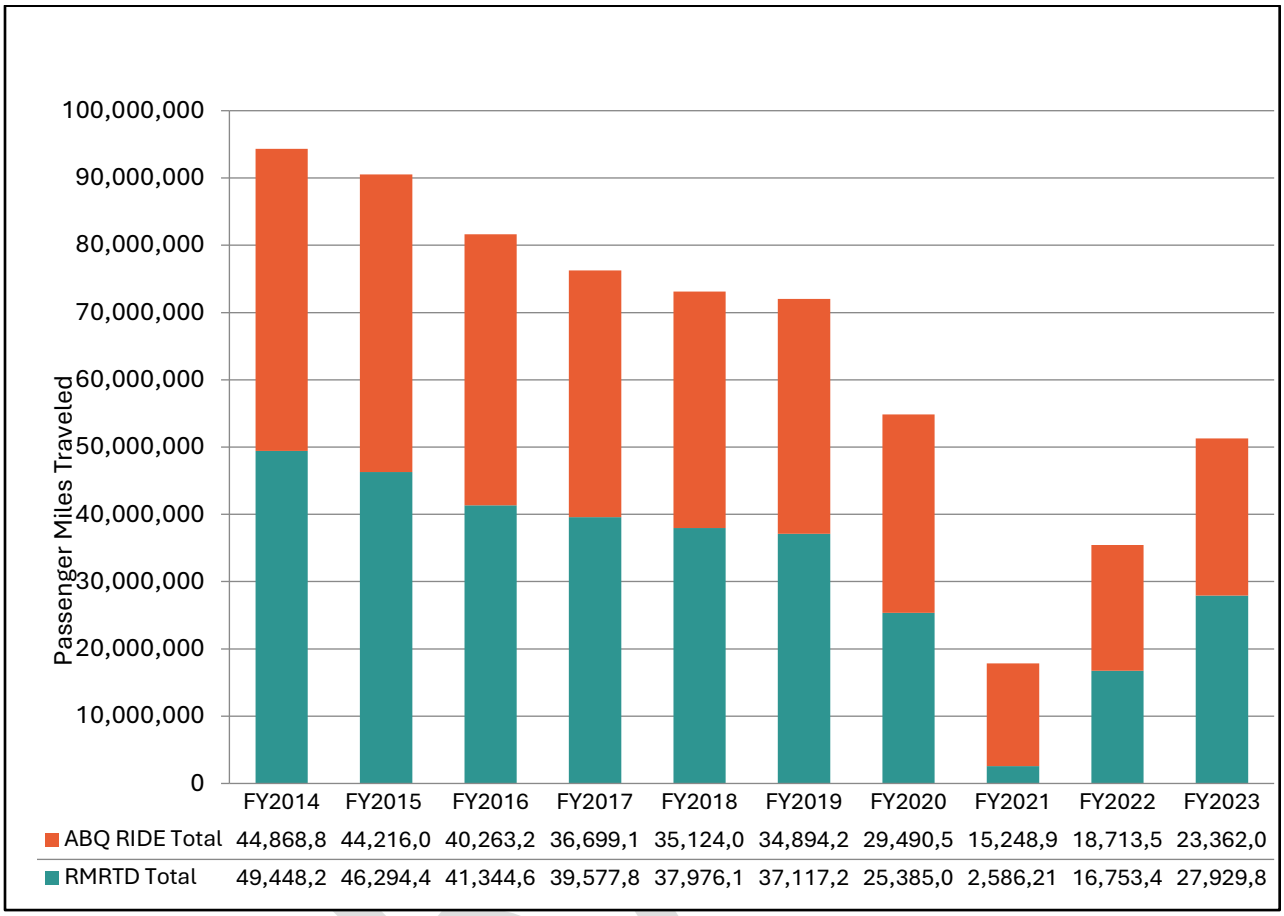
[31] https://abqrideforward.com/wp-content/uploads/2024/05/ABQ-RIDE-Forward-Recovery-Network-Report-High-Res-20240507.pdf

Figure 37: ABQ RIDE and RMRTD Passenger Trips 2015-2024



Source: ABQ RIDE and Rio Metro Regional Transit District

Figure 38: ABQ RIDE and RMRTD Passenger Miles Traveled 2013-2023



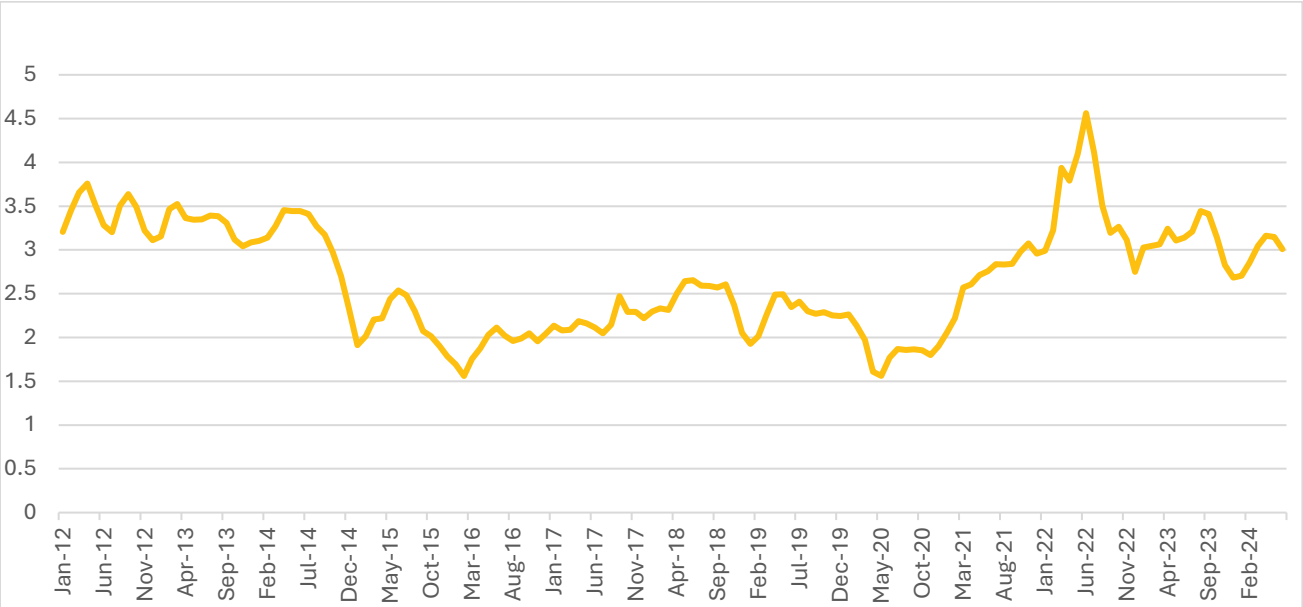
Source: ABQ RIDE and Rio Metro Regional Transit District

Reliance on Easy Credit and Low Gas Prices

In the Albuquerque metropolitan area, driving a car is the most convenient and fastest way to get around for most trips. In the past, transit was attractive primarily because it is cheaper than owning and operating a car. When there are fewer barriers to financing a car and lower costs for operating a vehicle, it follows that more people will drive, and fewer will take transit. Research indicates that higher gas prices and gas price uncertainty correlates with higher transit ridership.[32] However, relying on easy credit and low gas prices to meet the public's transportation needs may not be wise. In the event of an economic downturn and higher unemployment rates, affordable transportation becomes increasingly important as residents may struggle to afford vehicles and gasoline. Figure 31 depicts average gas prices over time. Gas prices spiked in 2021, and although they have returned to a lower level, price fluctuations are common.

[32] Chi, J. (2022). Asymmetric Gasoline Price Effects on Public Transit Ridership: Evidence from U.S. Cities. Transportation Research Record, 2676(5), 643-659. https://doi.org/10.1177/03611981211069065

Figure 39: Gas Prices (Dollars per Gallon): Jan 2012 - May 2024



Source: Gulf Coast Regular Conventional Retail Gasoline Prices, U.S. Energy Information Adminsistration

Operating Costs and Staffing

The Albuquerque metropolitan area has faced significant challenges in maintaining public transit services due to rising operating costs and budget constraints. One of the most pressing issues is the difficulty in hiring and retaining essential personnel such as drivers and mechanics. This shortage has directly impacted the efficiency and reliability of public transportation services, forcing transit operators to provide less frequent service and even eliminate some transit lines. City of Albuquerque budget constraints have made it increasingly difficult for ABQ RIDE to offer competitive wages and benefits, further exacerbating the hiring crisis. Transit agencies have had to adapt to more remote work occurring and lingering COVID-related reluctance to use transit.

In addition to staffing issues, ABQ RIDE has had to cover other operating cost increases. The costs of maintaining and operating the transit system have continued to rise, with inflation and increased prices for goods and services adding to the burden. For example, the cost of vehicle maintenance and fuel has seen a significant uptick, putting additional pressure on the city's budget.[33]

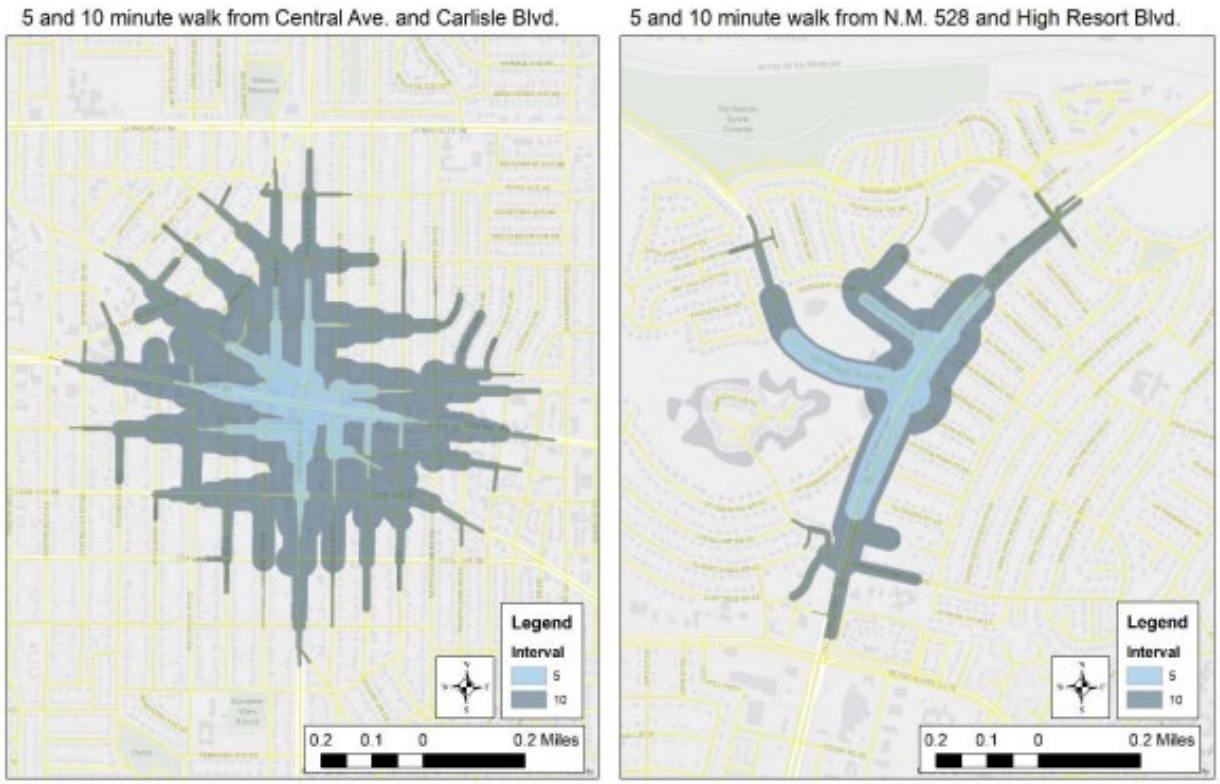
4.2d Transit Supportive Land Use

More compact development patterns help reduce vehicle miles traveled in the region by bringing destinations closer together and in general works better for transit. [34] Unfortunately, there are many street network and land use related barriers to efficient transit service that discourage cost-effective local transit service in the region:

[33] https://www.cabq.gov/transit/documents/zero-fares-monthly-report-january-final.pdf
[34] https://www.fhwa.dot.gov/fastact/factsheets/metropolitanplanningfs.cfm

- As the footprint of the metro area continues to grow, it tends to expand ABQ RIDE and Rio Metro's service areas and has the potential to dilute the level of service to existing areas even if additional revenue is generated to support this growing population and geographic area.
- Many areas of the AMPA are characterized by low-density, residential only development with poor pedestrian connectivity.
- Poor pedestrian connectivity limits the number of individuals living within a walkable distance of a transit stop (desirably ¼-mile) as illustrated in the image below.

Figure 40: Walkability by Development Pattern



In addition to limiting access for pedestrians, a bus must travel farther in this circuitous setting to reach the same number of riders that it might reach in higher-density neighborhoods aligned along a more linear corridor. Furthermore, a longer route requires more buses to maintain the same frequency as a shorter route, which exacerbates operating costs and discourages ridership with longer travel times. With limited roadway options traffic in general becomes congested, and a bus operating in ever-increasing congestion will also experience declining average speeds. If additional buses cannot be supplied to offset increasing travel time, frequency will decrease, and ridership may decline.

High Access and High Ridership Routes

In short, land use patterns and network connectivity are some of the strongest determinants of the viability and success of transit. This is evidenced by the fact that ABQ RIDE's most successful routes (located primarily along the Central Avenue corridor) serve major activity centers with relatively high employment and population densities. This synergy is bolstered by the presence of a well-connected street grid and many neighborhoods that are home to more transit-reliant populations as well as more frequent service.

Conversely, it is costly and generally less efficient to extend local bus service to low-density, mostly residential areas such as the Westside and far Northeast Heights. This speaks to a common dilemma for transit providers: is it better to offer broad transit coverage over a larger geographic area or should the focus be on attaining high ridership by providing more frequent service in higher ridership areas?

The trade-off between maximizing ridership or providing wide-spread coverage was a key factor in the City of Albuquerque's *ABQ RIDE Forward* study that evaluated the existing system and developed a plan for future transit services to increase transit ridership and better serve community priorities. According to ABQ RIDE's *Transit Existing Conditions Report* (2022), there are five main factors that impact the ability of transit to serve a large number of people even on a limited budget. These are density, walkability, linearity, proximity, and a mix of uses.

Focusing routes on areas with these sorts of elements is essential to providing routes that both offer high access for community members and generate high ridership. Unfortunately, focusing on large geographic areas takes away from frequent service and more daily hours of service creating a less efficient system for everyone. The following list includes descriptions of these five elements from the report:

1. Density - Where there are many residents, jobs and activities in an area, there are many things people can access and many potential riders near each bus stop.
2. Walkability - If people can reach bus stops with a short and safe walk, that makes their transit trip quicker and more appealing.
3. Linearity - Direct paths between many destinations are faster and cheaper for a transit provider to serve, which means more frequent service can be afforded.
4. Proximity - The longer the distance between two places, the more expensive it is to connect them. When there are large, undeveloped gaps between destinations, agencies have to spend a lot driving buses past places with no riders.
5. Mix of Uses - Mixed-use corridors tend to be very productive, because people ride in both directions at many times of the day. This means transit agencies can serve more people and trips for any given level of investment.

Transit, Density, and Parking

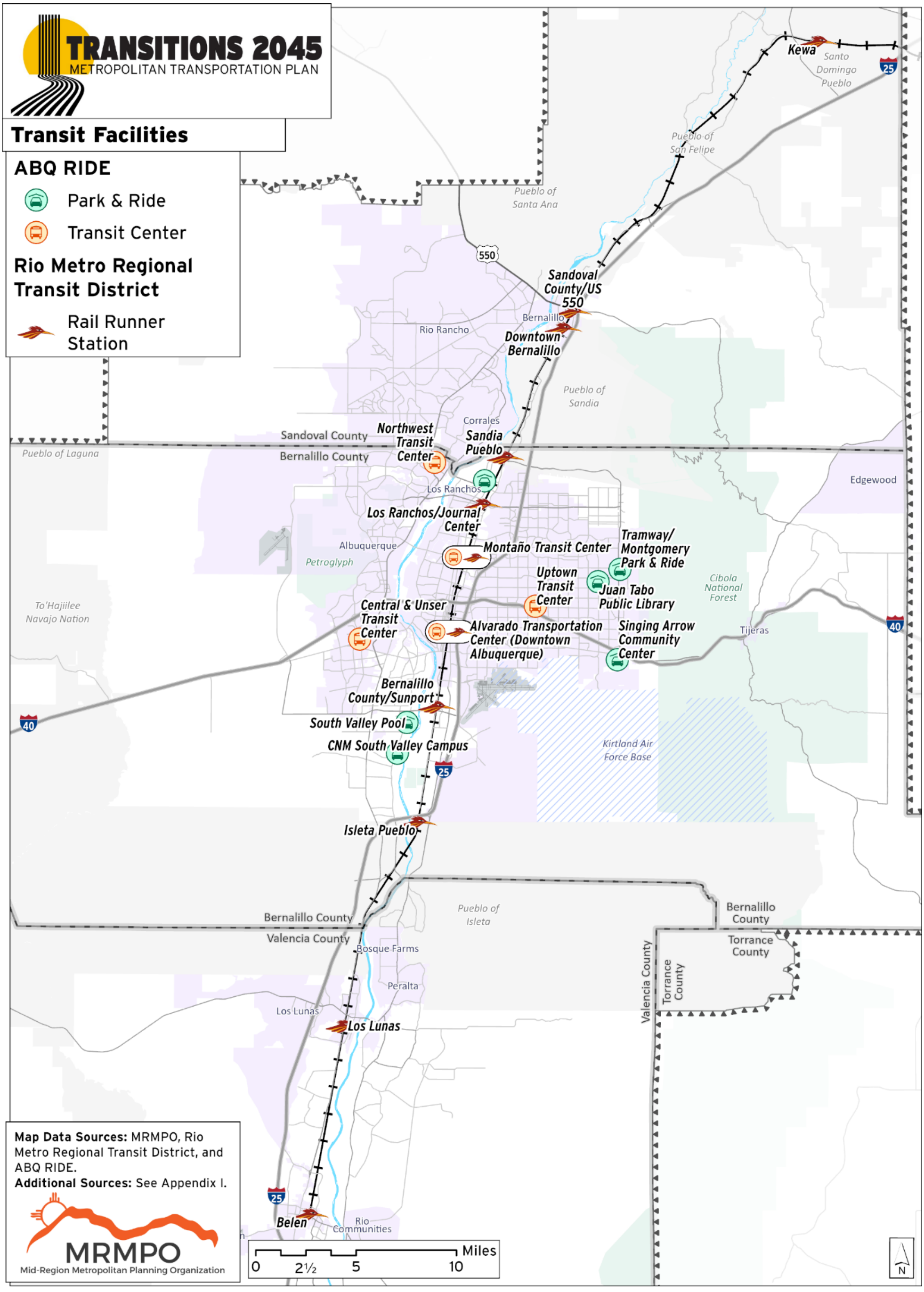
The City of Albuquerque Centers and Corridors framework envisions higher density development along major corridors and connecting key centers throughout the region. Reliable transit service is crucial to supporting higher density mixed-use areas. Building higher density developments usually requires relaxing parking requirements and relying on other forms of space-efficient transportation such as transit and walking. Many cities have relaxed zoning restrictions that control minimum parking requirements or height restrictions to support higher density areas. For example, the City of Albuquerque allows a 10 to 50 percent reduction in parking minimums for developments located

near transit stops. Ensuring that some of these units are affordable also needs to be integrated into the development process to be sure that historically disadvantaged communities are not being forced out of these areas or unable to continue to access locations with frequent transit service.

Transit Station Facilities

Park and Ride lots and transit centers offer valuable transportation alternatives, especially for those who live in suburban or rural areas far from transit service. These facilities can provide parking areas next to transit stations that allow people to park their cars and ride transit into the city center. This reduces congestion on the most critical roadways leading to job centers, medical facilities, and educational institutions. There are Park and Ride facilities at several Rail Runner stations, enabling long-distance commuters the option to easily take the train. ABQ RIDE has several park and ride locations at transit centers. Two locations specifically cater to Westside residents looking for a transit alternative to driving downtown or to UNM and the Central New Mexico Community College.

Map 17: Transit Facilities



4.2.e Transit Service Opportunities

There are several promising approaches that could be pursued to support transit in the region, including those which take a critical look at network design and land use strategies.

ABQ Ride Forward 5-Year Recovery Network

The ABQ Ride *Forward Network Plan* is a comprehensive initiative aimed at revitalizing Albuquerque's public transit system over the next five years. Launched in 2022, this plan addresses evolving community needs and aims to maximize resource efficiency. The proposed "Recovery Network," developed with input from the community and support from various partners, focuses on enhancing service frequency, extending operating hours, and improving weekend and evening services. The implementation of Automatic Passenger Counters (APCs) has helped ABQ RIDE better track ridership and optimize routes. Scheduled for phased implementation starting in Summer 2025, the plan seeks to balance high ridership and extensive coverage, ensuring that transit services reflect the values and priorities of Albuquerque residents.[35]

The ABQ Forward Recovery Network is focused on providing a "frequent connected network" that is more useful to more people. In addition to more frequent transit service, night and weekend service was identified as a top priority through public engagement. The primary components of the network include the following:

- Multiple frequent routes, longer hours of service, and more weekend service.
- Faster connections between routes.
- Improved travel times for residents in the Southwest Mesa and Northwest areas.
- Access to jobs within 45 minutes of transit travel increases by 32 percent.
- Access to jobs within 45 minutes of transit travel increases by 90 percent for people living in high Social Vulnerability Areas.

Transit Oriented Development (TOD)

Transit Oriented Development (TOD) refers to the creation of compact, mixed used, and walkable communities focused on high quality transit connections. These types of communities can reduce driving by residents up to 85 percent. Allowing dense, mixed-use development around transit stations increases the number of potential transit riders as well as destinations that can be easily reached using transit. For TODs to occur, local governments must encourage their development through land use planning, zoning laws, and building codes.

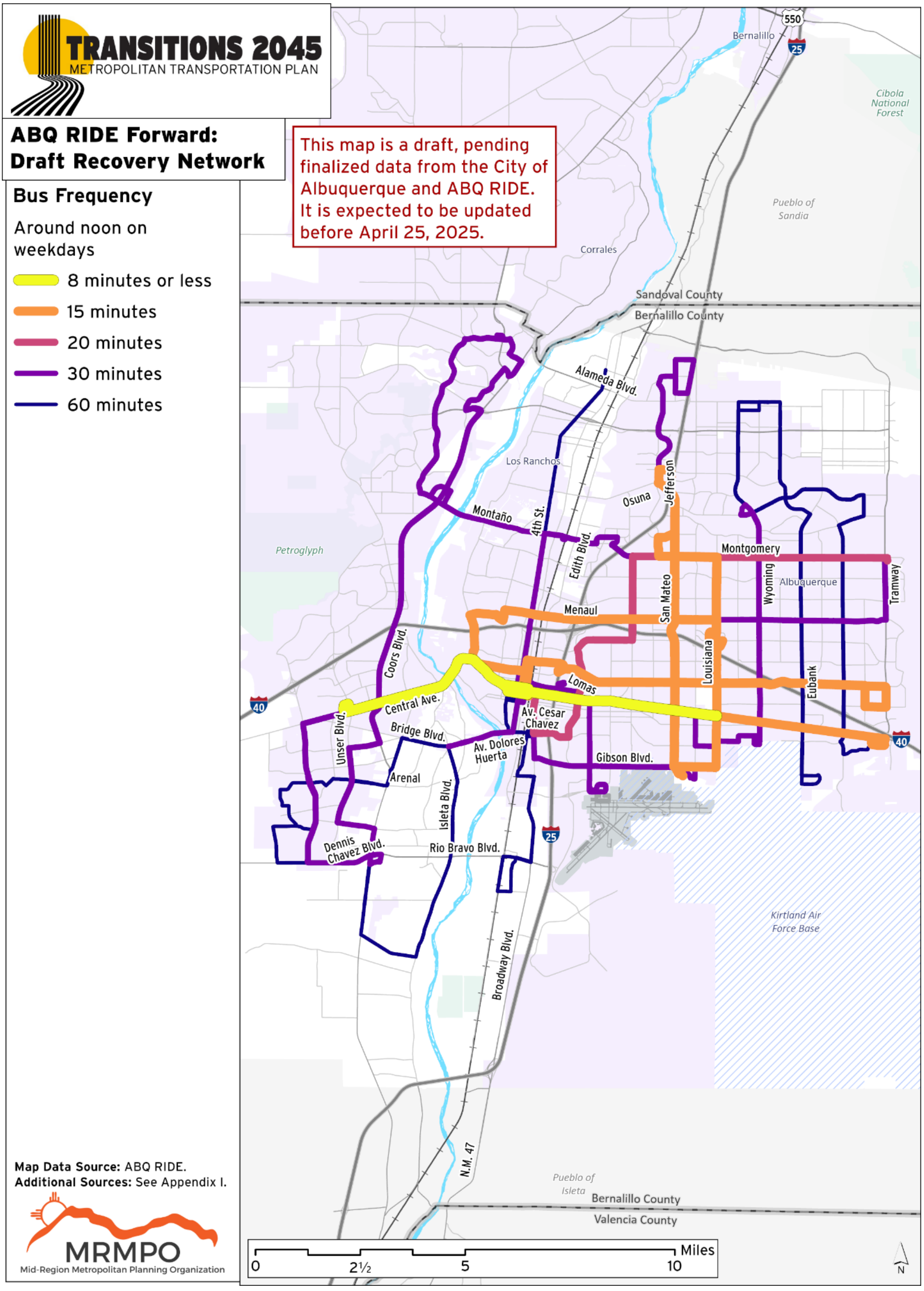
An example of TOD is the Uptown Transit Center. Uptown is one of the most destination-rich neighborhoods in the region with jobs, goods, and services in a compact geographic area. The Uptown Connect Project plans to redevelop the Uptown Transit Center and adjoining park-and-ride lot into a mixed-use development and transit plaza. This mixed-use development will bring in over 400 new dwelling units with over 200 of them being affordable. Currently, Uptown Albuquerque is auto oriented, but once the site is developed there will be an increased amount of multimodal traffic. Louisiana Boulevard is eight lanes near the Uptown Connect project and is intimidating to cross. Improving bicycle and pedestrian facilities in this area for people using transit will support more multimodal trips, create a more vibrant activity center, and is crucial for overall safety and mobility.

[35] https://www.cabq.gov/transit/transit-programs-projects/abq-ride-forward-network-plan

- Double the number of residents who are within a 10 to 12-minute walk (½ mile) of frequent transit, from 11 percent to 22 percent of residents.
- Major increases in proximity to frequent service delivered for residents in poverty and residents of color. [36]

[36] For more information see Volume 3: Recovery Network *Report* (May 2024).

Map 18: ABQ RIDE Forward - Draft Recovery Network



Long Range Transit Network (LRTN)

The LRTN developed by MRMPO in concert with local agencies and with input from the public, is a broader aspirational transit network that is not fiscally constrained and captures how the region's overall transit network could feasibly grow beyond the horizon of this plan. Although ABQ RIDE and Rio Metro are the main transit providers in the region, other local agencies' desires for transit in the future are reflected in this network.

As traffic and development patterns change in the region, so does this network. As is evidenced by the preceding information about fluctuations in ridership and significant changes and priorities in the ABQ RIDE transit services, changes to the LRTN may be needed to better support regional transit needs. This network as well as the Long Range Roadway System and Long Range Bikeway System networks will be further evaluated through the update of MRMPO's Long Range Transportation Systems (LRTS) Guide, which will occur in 2025 and 2026 following the adoption of the Transitions 2045 MTP.

Map19: Long Range Transit Network (LRTN)

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

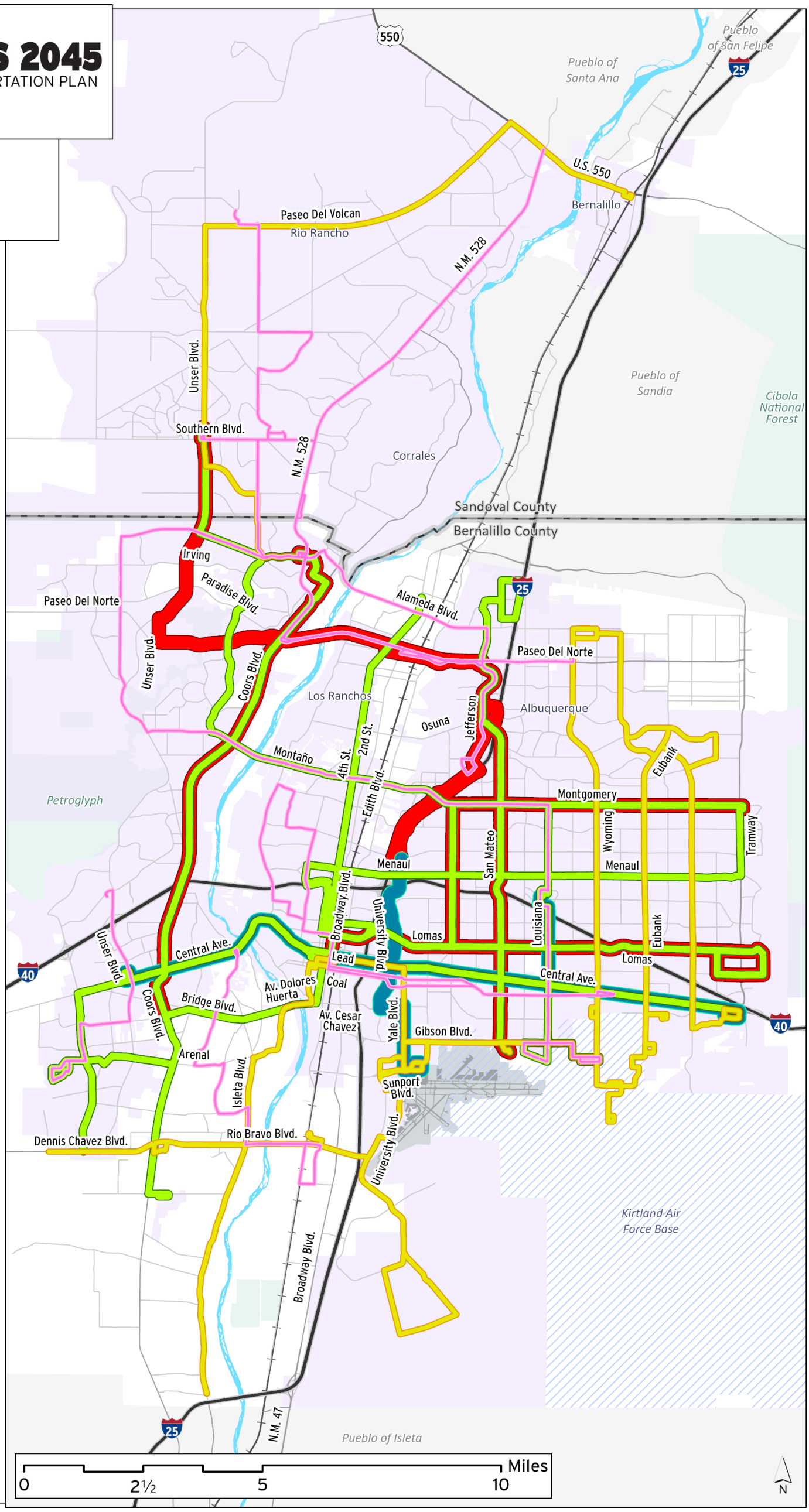
Long Range Transit Network (LRTN) (Connections 2040)

The Transitions 2045 MTP provisionally adopts the Long Range Transit Network (LRTN) from the Connections 2040 MTP as it was originally approved in April 2020. This network will be updated through the development of the Long Range Transportation Systems Guide, which is scheduled for completion in 2026. Following that process, the LRTN map will be updated and amended into the 2045 MTP.

Long Range Transit Network

Route Type

- Bus Rapid Transit
- Rapid Ride
- Primary
- Secondary
- Tertiary



Map Data Sources: MRMPO, Rio Metro Regional Transit District, and ABQ RIDE.
Additional Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization

Mode Share and the Priority Transit Network (PTN)

In response to the high levels of congestion projected in previous MTPs and limited funding for new major roadway investments, the Metropolitan Transportation Board (MTB) adopted mode share goals in 2010 through Resolution 10-16 MTB that prioritized transit's role in offsetting congestion at river crossings. The resolution sub-allocated federal funds beginning in 2016 to be programmed for capital improvements that implement new or improved Bus Rapid Transit or other premium transit modes as identified in the MTP.

During the drafting of the *Futures 2040 MTP* in 2020, the MTB realigned the transit mode share goals to better support the principles of the Target Scenario. Instead of targeting east-west river crossings indiscriminately, the network focuses on key river crossings, congested corridors, and connections to major activity and employment centers that attract riders. The corridors identified were named the Priority Transit Network, or the "PTN." This resolution included a 20 percent transit mode share goal by 2040 and required the allocation of 25 percent of certain funds for "transit projects, or portions of projects, with substantial dedicated transit infrastructure." This network does not designate what type of service exists on which streets.

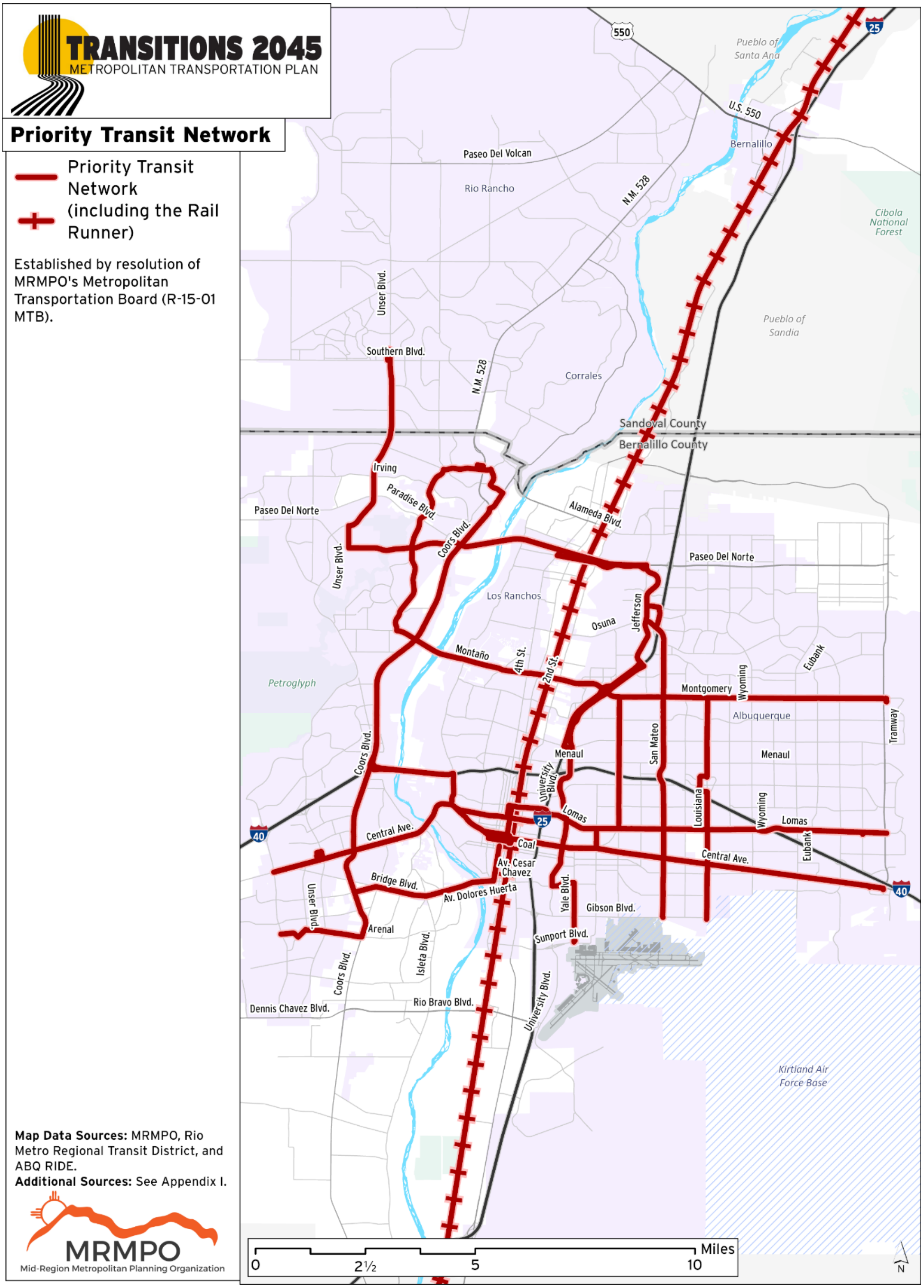
Albuquerque Rapid Transit (ART)

The Albuquerque Rapid Transit project along Central Avenue was one of the first beneficiaries of this policy—bringing to bear both local funds and federal funds derived from the transit mode share set aside to compete for and complement Federal Transit Administration Small Starts funds. The University Corridor transit service could be the next logical recipient for these set-aside funds based on the relative priority that Rio Metro's Board assigned to the project.

University Transit Corridor (UTC)

In 2021, a University Transit Corridor Study update was conducted to review the findings of a prior study completed in 2014. An extensive report conducted in 2014 evaluated high frequency transit service mostly along University Avenue that would also be served by Park & Ride lots. This transit service would serve UNM, CNM, regional sports arenas, and the Albuquerque International Sunport and was expected to extend from Menaul Boulevard to the Sunport. This means high-frequency predictable service would connect a variety of important medical, educational, and event destinations including the UNM Cancer Hospital, UNM Main Hospital, UNM North Campus, UNM Main Campus, CNM, UNM Science and Technology Park, Isotopes Stadium, UNM regional sports complex, Sunport, and several neighborhoods. This type of north-south high-frequency transit service would provide a congestion management benefit to surrounding neighborhoods. Multi-modal infrastructure for curbside bus stops, bikes, and pedestrians would also be improved. Furthermore, the service would connect to the existing BRT and east-west transit service, expanding access and mobility for even more residents.

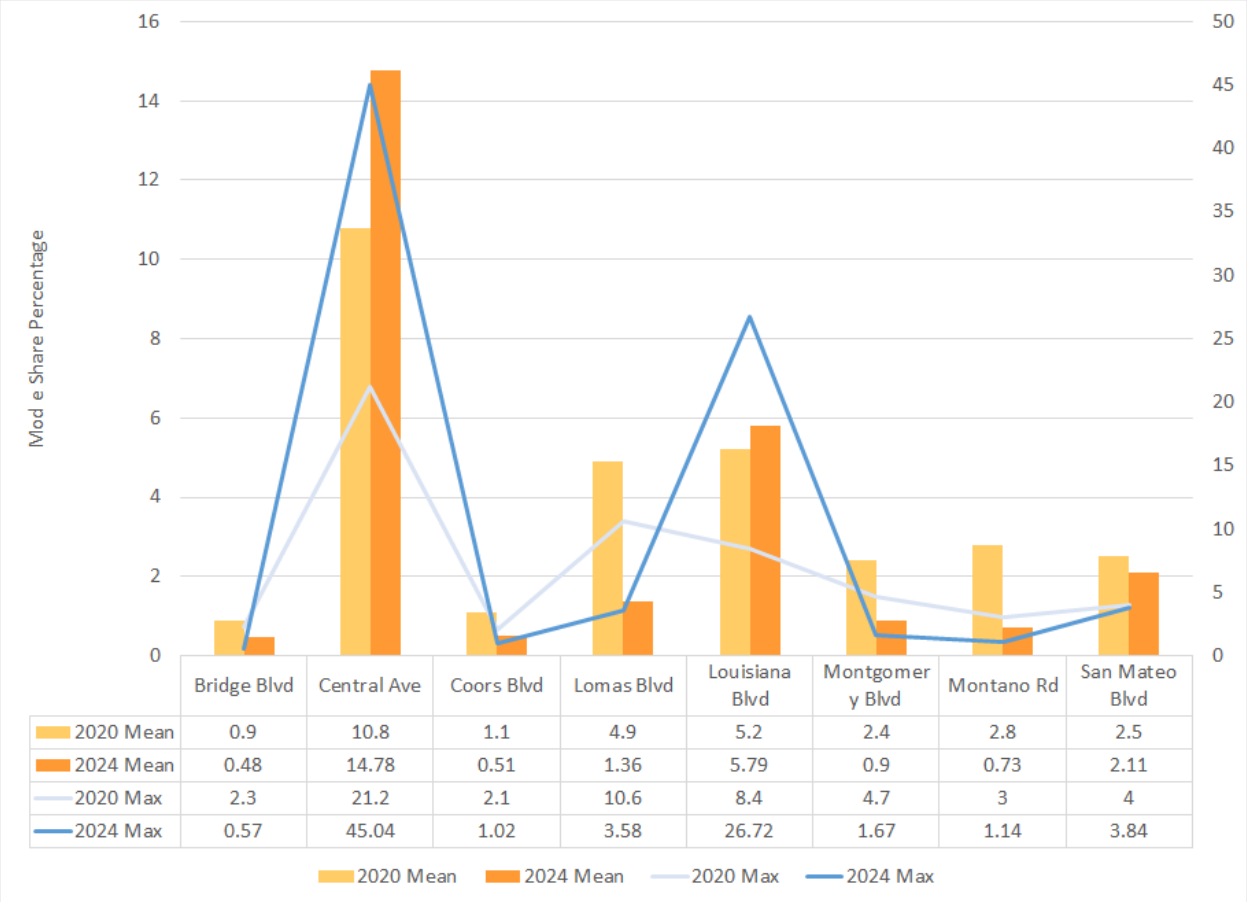
Map20: Priority Transit Network



4.2.f Mode Share Analysis

Measuring mode share is a useful way for transit planners to understand the percentage, or share, of total person trips on a network segment that is being captured by transit. The mode share analysis is conducted using boarding and alighting (B&A) data for the Priory Transit Network transit routes in the region and summing up the ridership for multiple routes along each roadway segment. A map of these estimated total weekday ridership numbers is provided below. Along with traffic count data, a percentage of mode share for transit is provided for every segment along the major roads network where transit ridership exists. This data is then aggregated to the corridor level. These numbers are estimates based on the percentage of boarding and alighting per stop.

Figure 41: Mode Share Changes Comparing Priority Transit Network 2020 to 2024

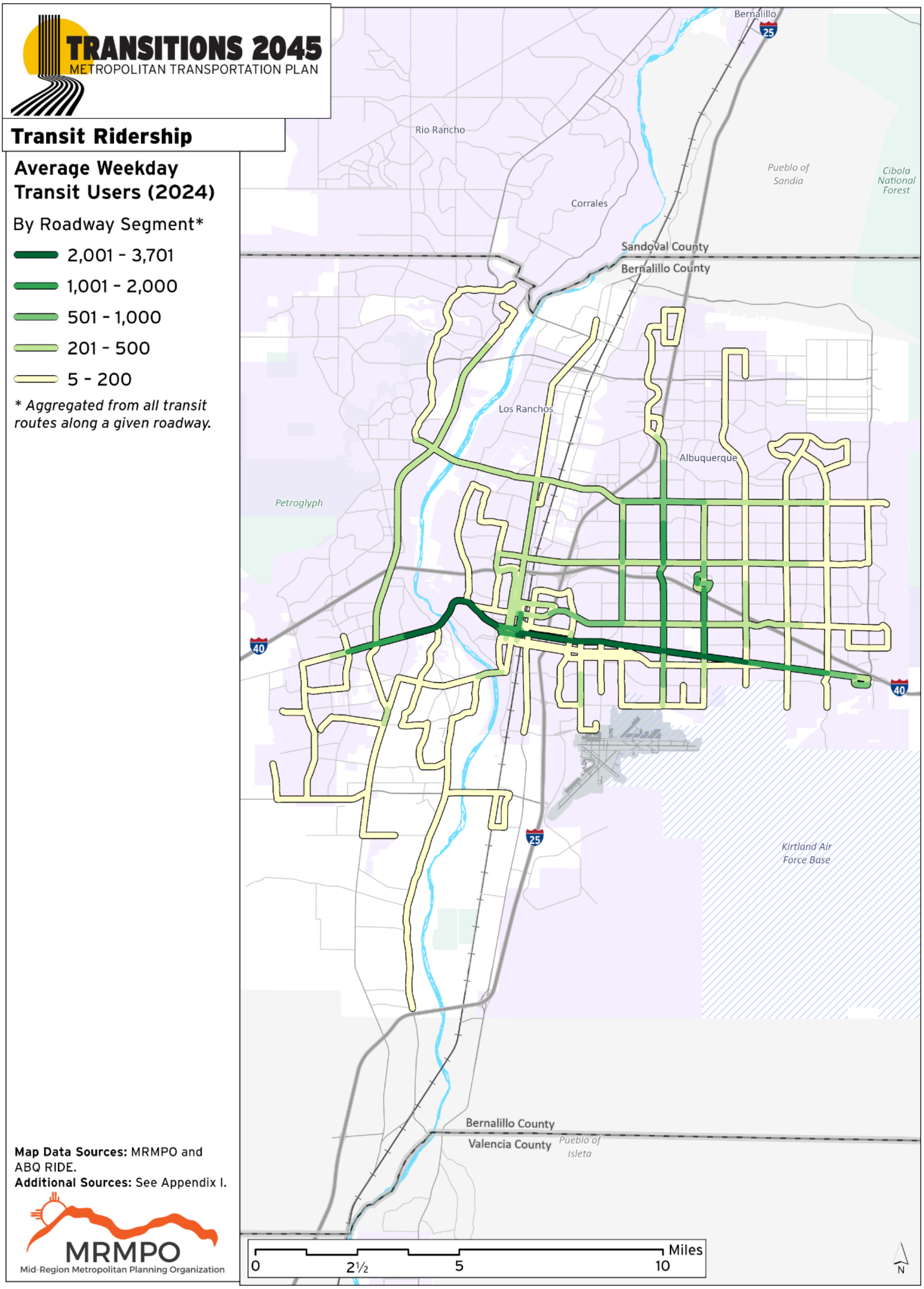


	Bridge Blvd	Central Ave	Coors Blvd	Lomas Blvd	Louisiana Blvd	Montgomery Blvd	Montano Rd	San Mateo Blvd
2020 Mean	0.9	10.8	1.1	4.9	5.2	2.4	2.8	2.5
2024 Mean	0.48	14.78	0.51	1.36	5.79	0.9	0.73	2.11
2020 Max	2.3	21.2	2.1	10.6	8.4	4.7	3	4
2024 Max	0.57	45.04	1.02	3.58	26.72	1.67	1.14	3.84

Source: ABQ RIDE Boarding and Alighting and MRMPO Traffic Counts

Unfortunately, the impacts of COVID-19 have been harsh for transit and most of the mode share numbers for key corridors in the region on the PTN have declined since the last MTP. However, there are some notable exceptions. The Central Avenue corridor that is served by BRT has increased both in terms of the mean and maximum mode share. The mean calculation is an aggregate of all the roadway segments along the entire corridor, and the max indicates a roadway segment between two major intersections that have the highest mode share. These higher percentages on Central Avenue can most likely be attributed to the ART service, which has provided frequent and reliable transit service along this corridor. Louisiana also has high frequency transit service and shows an increase in mode share. Lomas shows the decline in mode share, with San Mateo being relatively stable, and the other corridors exhibiting about a one percent mean decrease.

Map 21: Transit Ridership



4.2.g Operational Funding Challenges

Federal funds available are primarily for capital improvements, such as the acquisition of land for the design and construction of new park-and-ride lots and Bus Rapid Transit systems. Although these funds are critical for matching other local, state, and federal sources when implementing new services, they are not authorized to sustain long-term operations.

At the time the mode share targets were originally adopted, the region was in non-attainment for air quality, and MRMPO was given a portion of the state's CMAQ allocation to program in the Transportation Improvement Program (TIP). However, the region is currently in attainment and therefore is not allocated a dedicated portion of the state's CMAQ funding to program. Therefore, the MTB resolution to program 25 percent of funding to transit projects only applies to STP-U funding. Labor, fuel, maintenance, vehicle replacement and administration—all operational costs— are the primary determinants of a transit system's on-going expenses, and, over the long term, can outweigh the capital investments required to introduce new services. In short, new funding sources will likely have to be sought to maintain transit service in the region.

4.3 Congestion Management Process Overview

The Congestion Management Process (CMP) is a regional approach for managing congestion and reducing its negative impacts. Congestion management may entail adding capacity to the roadway network; however oftentimes it utilizes other strategies such as improving transit services, deploying Intelligent Transportation Systems (ITS) and technologies, developing complete streets, and reducing vehicles on the roadway through Transportation Demand Management (TDM).

The region currently experiences congestion during peak commute times, especially along east/west corridors. Future growth in the region, even though relatively minimal, is expected to increase demand on portions of the roadway network over the next 20 years, requiring a thoughtful approach by MRMPO and all member agencies involved in the transportation planning process.

A wide range of roadway management strategies will be necessary to address the travel and mobility needs of the region into the future. MRMPO's Congestion Management Process (CMP) Committee, comprised of technical experts from member agencies across the region, identifies regional transportation needs in response to congested roadways and develops prioritized strategies to manage congestion.

4.3a Congestion Management Process (CMP)

Federal Regulations

Federal regulations require that MPOs incorporate an "objectives-driven performance-based" CMP into regional transportation planning efforts. A CMP assesses the performance of the regional multimodal transportation system and recommends appropriate projects, programs, and strategies. It identifies the sources and extent of congestion, recommends strategies to manage congestion and improve mobility, and considers proposed transportation projects and programs.

The FHWA recommends that travel demand reduction and operational management strategies should be considered *before* resorting to capacity expansion to limit mobile source emissions and

protect air quality.[37] A comprehensive approach to congestion management can also result in cost savings and safety improvements in addition to avoiding the negative environmental repercussions of wide high-speed arterials. The use of Transportation Systems Management and Operations (TSMO) and Travel Demand Management (TDM) programs have been found to provide more long-term benefits with fewer negative impacts. Integrating land use with transportation systems is another congestion mitigation strategy that is discussed throughout this plan, particularly as it relates to the Target Scenario.

Data Collection and Performance-Based Planning

MRMPO collects and analyzes a series of data that is designed to measure congestion. The three principal data elements for the CMP include volume-to-capacity (V/C) ratios, speed differential, and crash rates. These data elements are explained in more detail as part of the CMP corridor rankings analysis.

Travel time and traffic counts data are available by time of day and can help determine the source of congestion. MRMPO has a traffic counts programs and collects daily trip data. In addition, the MPO provides an online tool called TAQA that has travel time information. This data can help determine whether congestion is confined to certain times of day or whether it is the result of a bottleneck or a prolonged stretch of congested traffic conditions. The congestion data serves as a baseline for understanding conditions by location and highlighting the corridors that merit attention.

Multimodal Performance Measures

Federal regulations mandate that MPOs evaluate and develop performance measures for the Congestion Management Process that are multimodal. To this end, the CMP collects data on transit and non-motorized travel modes through permanent counters on trails and spot counts using a video camera. This data is critical when determining how meaningful a role these modes play in the regional transportation system. Similarly, questions of whether the region should focus on efficiency improvements or expand multimodal opportunities can be better answered with an understanding of how all residents of the Albuquerque metro area travel around the region. An expansion of the multimodal traffic counts program continues to be a priority. Non-motorized and transit data are presented in other sections of this plan.

Understanding the Congestion Problem

Transportation professionals' understanding of traffic congestion is evolving. A growing body of research points to the relationship between economic activity and congestion, showing that the cities with the highest gross domestic product (GDP) per capita also tend to have high levels of vehicle delay.[7] Research has found that a region's economy is not necessarily negatively impacted by traffic congestion, and that economic productivity and jobs are both positively associated with high levels of traffic congestion.[8]

In fact, localized congestion may even be beneficial for businesses, or at least is a by-product of activity, and an indication of the desirability of a place.[9] Congestion metrics are also rightly

[37] https://www.fhwa.dot.gov/planning/congestion_management_process/ 2024 Presentation on "Implementing an Effective Congestion Management Process as Part of Performance-Based Planning"

criticized for comparing travel times to a measure of traffic conditions that only exist in pre-dawn hours when few cars are on the roads.[10]

The Congestion Management Process approaches congestion as an issue to be managed rather than eliminated. Eliminating congestion is an unrealistic goal with numerous secondary drawbacks such as high project costs, reduced safety, and increased sprawl. However, congestion can be managed to improve travel time reliability, reduce frustration for drivers, and improve mobility for residents.

CMP Products

As a part of the congestion management process, MRMPO, with input from the CMP Committee, develops tools and documents to guide both the development of performance measures and the strategies used to manage congested locations. MRMPO's congestion management products described below can be viewed on the MRCOG website on the Congestion Management page.

- **CMP Corridor Rankings** – tables and maps of the CMP congested corridors network and their rankings based on three principal data elements.
- **A Profile in Congestion** – a companion document to the rankings table that provides key data and roadway characteristics for each of the corridors on the CMP congested network. The last iteration of this product was provided in an online format.
- **CMP Toolkit** – a document describing key congestion management strategies and the locations and situations in which implementation is appropriate.
- **CMP Strategies Matrix** – a tool for member agencies to identify the most appropriate and highest priority congestion management strategies for each of the corridors in the CMP congested network. This tool was developed for use with the Project Selection Process, but it can be used as a reference by local governments in the development of all transportation projects.
- **Transportation Analysis Querying Application** (TAQA) – an online tool for downloading congestion data.

4.3b CMP Corridor Rankings

Congestion and other multimodal data are collected across the metropolitan area on a recurring basis, and a biannual analysis is performed on the 31 corridors that comprise the CMP network. The data are used to rank the CMP corridors, and the results are compiled into an online document entitled "A Profile in Congestion." This analysis informs transportation planning, project development, and the identification of the most optimal regional congestion management strategies.

For instance, if congestion is the result of high traffic volumes in the vicinity of a major employment center, then appropriate strategies may include travel demand management techniques such as ridesharing or flexible schedules or improving multimodal access. By contrast, if congestion is the result of recurring delay and slow speeds, then operations improvements such as ITS deployment, the introduction of acceleration or deceleration lanes, or access management to reduce the number of vehicles or turning movements on a roadway may be recommended. Operations and maintenance strategies such as traffic signal optimization or installation of adaptive traffic signals can be effective for improving the flow of traffic and increasing speeds, effectively adding capacity by moving more vehicles in the same amount of roadway space.[12]

2022 Corridor Rankings

The CMP Corridor Ranking analysis focuses on the 31 corridors that comprise the CMP network. All nine of the river crossings are included. Two levels of analysis are conducted: roadway segment conditions and corridor-wide conditions. Corridor-wide rankings are an aggregate of conditions on the individual segments of a longer corridor. High ranking corridors are those that score high on the following three measures in multiple locations along the corridor.

1. **V/C Ratio**

   The volume to capacity **(V/C)** ratio compares the observed traffic volume along a roadway compared to the capacity, or the number of vehicles that a roadway segment is intended to carry. V/C is measured for each peak period and each direction. The closer the V/C ratio is to 1.0, the greater the level of congestion.

2. **Speed Differential**

   Speed differential measures the relationship between the posted speed limit along a roadway segment and the observed speed of vehicles. The greater the percentage difference between actual and intended speeds, the greater the level of delay along a roadway segment.

3. **Safety/Crash Rates**

   Crash rates are incorporated by comparing the frequency of incidents at intersections along a corridor compared to the regional average crash rate. The likelihood of an incident reflects safety concerns and crash-induced congestion.

It should be noted that this is not necessarily a high-to-low congestion ranking, but a ranking that effectively highlights corridors to be investigated further for the development of customized management and operations strategies in appropriate locations.

The V/C and speed differential data are collected for the AM and PM peak hour timeframes and the data is from 2022. The crash data includes information from 2017-2021.

In general, safety is an important, but contradictory, component in measuring congestion. Roadway designs that are most conducive to high speeds and greater throughput may also be prone to crashes and traffic fatalities in particular. Balancing regional mobility and safety needs is essential, and identifying corridors with safety concerns is an important part of managing the roadway network.

To develop the rankings, points are assigned to each data element, allocated to each roadway segment and then aggregated to the corridor level.[38] The following chart shows the rankings for each corridor by each data element and the overall ranking for the corridors. In some cases, a corridor or location may be under significant construction that affects a roadway's normal traffic

[38] A detailed methodology can be found on the MRCOG website at https://www.mrcog-nm.gov/573/CMP-Corridor-Rankings-and-Strategies

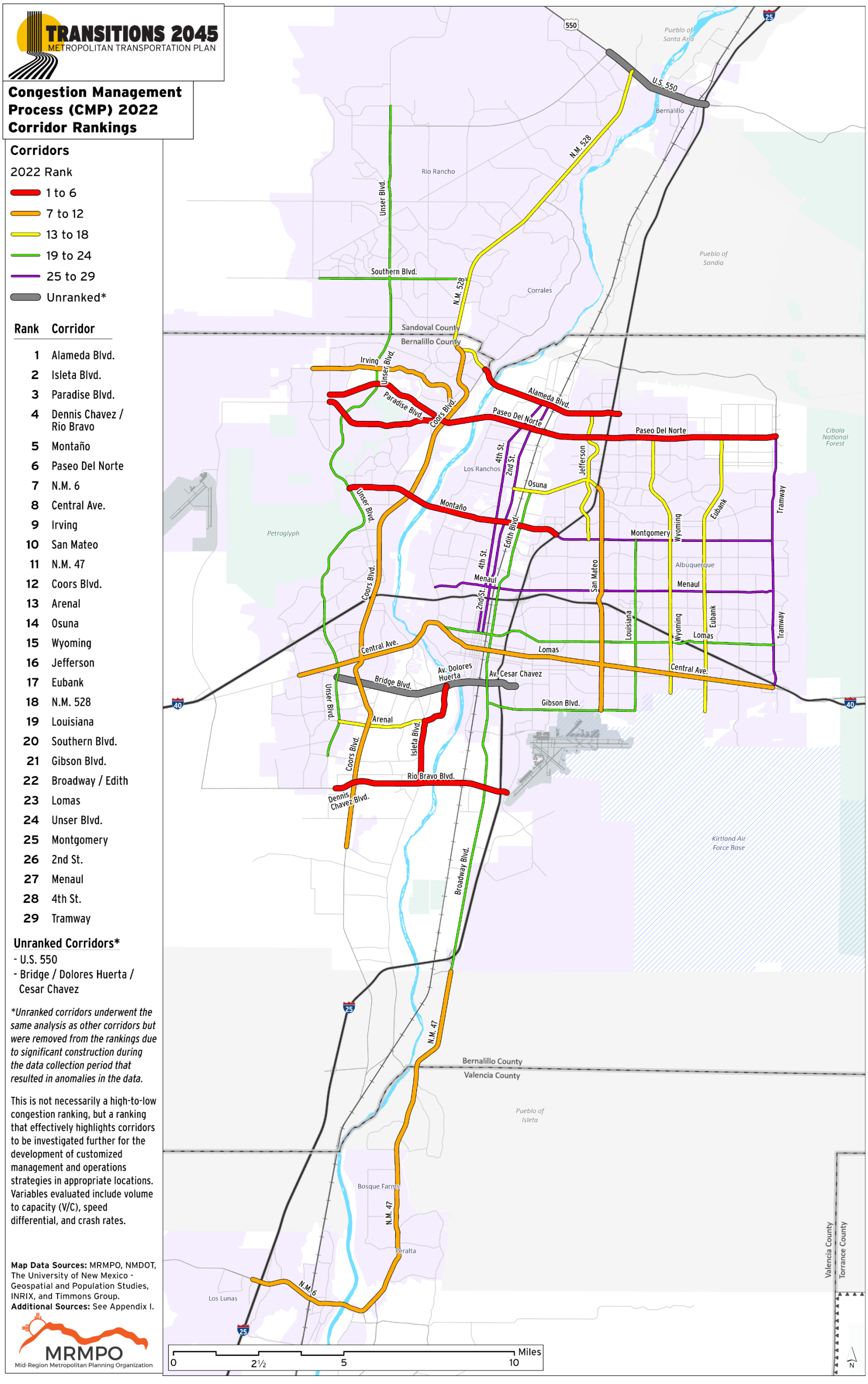
operations. The CMP committee assesses the potential impacts of the construction on the data and the rankings. If the construction is deemed "significant," then those corridors are removed from the listing and placed in a separate category pending reevaluation. The following table and map show the total and individual rankings for the three data variables and the location of the unranked corridors. This network is subject to change as the CMP committee continuously evaluates changing traffic patterns.

Table 15: CMP Corridor Ranking

Corridor	Miles	Speed Differential Points	Volume to Capacity Points	Severe Crash Points	Total Points
ALAMEDA BLVD.	4.4	24.4	50.3	4.3	79.1
ISLETA BLVD.	3.3	25.9	42.9	7.1	75.9
PARADISE BLVD.	3.4	5.1	55.7	10.7	71.5
RIO BRAVO/DENNIS CHAVEZ	5.1	16.0	22.1	13.7	51.8
MONTANO	6.3	17.8	23.2	7.1	48.1
PASEO DEL NORTE	13.5	10.7	27.8	8.3	46.9
N.M. 6	3.9	24.1	12.2	7.5	43.8
CENTRAL	14.7	29.1	4.6	10.1	43.7
IRVING	4.9	5.1	31.4	3.2	39.6
SAN MATEO	6.6	29.6	2.1	7.1	38.8
N.M. 47	10.3	0.0	34.7	0.8	35.5
COORS	16.0	18.6	4.1	11.2	33.8
ARENAL	2.6	9.2	13.2	10.7	33.0
OSUNA	2.6	27.2	0.9	3.6	31.7
WYOMING	7.6	17.4	5.2	7.1	29.7
JEFFERSON	4.1	18.8	6.1	3.7	28.6
EUBANK	8.2	17.1	4.6	6.6	28.3
N.M. 528	11.1	13.4	6.6	5.9	25.9
LOUISIANA	5.0	14.9	2.2	8.1	25.2
SOUTHERN BLVD.	4.4	16.8	4.5	3.8	25.0
GIBSON	4.4	8.6	5.8	10.1	24.5
BROADWAY/EDITH	14.4	5.1	7.2	9.3	21.6
LOMAS	9.9	11.9	0.1	9.6	21.5
UNSER BLVD.	20.8	5.0	10.4	4.7	20.1
MONTGOMERY	6.4	6.1	4.3	9.3	19.6
2ND STREET	7.1	7.2	1.9	8.7	17.7
MENAUL	10.0	9.0	0.9	6.7	16.6
4TH STREET	7.2	9.0	0.9	5.1	15.0
TRAMWAY	7.4	2.0	0.9	6.1	9.1

US 550 and Bridge/Cesar Chavez were under major construction during part of the data collection time period and therefore are not part of the rankings.

Map 22: Congestion Management Process (CMP) 2022 Corridor Rankings



4.3c Congestion Management Approaches

The ongoing challenge for the CMP is to determine the effectiveness of different approaches to congestion on different facility types and encourage local governments to implement the most appropriate congestion management techniques. While the corridor rankings help identify locations where congestion management is needed, the analysis should be thought of as a tool to recognize changes in congestion along highly trafficked corridors over time, and to support the development of strategies based on the specific details of the three data elements. The rankings can provide some insight into how well various approaches are working because it tracks the data over time.

Approaches to managing roadway congestion and improving mobility in the region can be corridor specific or area/system-wide and can be summarized in the following broad categories:

- Travel Demand Management (TDM) programs encourage alternatives to single occupancy vehicle travel, including mass transit options and High Occupancy Vehicle (HOV) lanes. Remote work is one example of a TDM strategy as it has had the effect of alleviating traffic from some segments of the roadways, particularly during peak commute times.
- Incident Management strategies address non-recurring congestion that is not predictable and may be the result of adverse weather conditions, special events, or crashes. Strategies include the use of advanced technologies to detect issues when they arise and enhanced multi-agency coordination to manage unexpected delays. For example, travel route detour alerts on dynamic message boards can alleviate congestion and improve emergency response times.
- Roadway Maintenance includes asset management programs that exist to monitor and improve the condition of roads and bridges, resulting in increased safety, less costly repairs, and fewer delays over transportation infrastructure lifecycles.
- Roadway Expansion includes adding vehicle capacity through lane restriping, creating additional lanes, roadway extensions or gap-connections, and the construction of new roadway facilities to serve growing areas.
- Transportation Systems Management and Operations (TSMO) offers a variety of improvements to enhance the functionality of the existing roadway system. Examples of TSMO include real time travel management and traveler information, advanced signal improvements and timing optimization, Smart Work Zones, and Intelligent Transportation Systems (see section 4.1).

Expanding Travel Demand Management (TDM)

TDM provides a complementary approach to improving the functionality of the region's roadways by reducing the demand for vehicle travel in the first place. Most of the CMP approaches mentioned are discussed in detail in the Roadway System Performance section, however; Travel Demand Management (TDM) warrants further description here.

TDM focuses on modifications in travel behavior through a range of strategies and incentive programs designed to take vehicle trips off the roads, reduce the length of trips, and shift trips to other times of day and other modes. The more viable transportation choices that are offered, the more likely people will choose alternatives to driving alone, particularly for shorter trips. The challenge lies in creating and ensuring such options exist, in part through investments in transit,

bicycle, and pedestrian infrastructure and alternatives to roadway widening such as Micro-Transit, Park and Ride, High Occupancy Vehicle (HOV) lanes, High Occupancy Toll (HOT), and parking management strategies.

Regional agencies across the US are taking advantage of changing travel preferences post COVID and have developed comprehensive action plans and programs to support TDM strategies and innovative public-private initiatives. More people have become comfortable with working flexible schedules, working from home, and attending virtual meetings. These work structures are, in fact, TDM strategies that are relatively low-cost ways to decrease traffic on the region's roadways during peak hours.

Currently, there are several examples of TDM efforts in the metro area. Bicycling events like Bike to Wherever Day and Bike thru Burque Week encourage TDM strategies. Another example is ABQ RIDE's Guaranteed Ride Home Program, which gives commuters using alternative modes of transportation a ride home in case of an emergency. Electric powered scooters have recently returned to the City of Albuquerque and are available for short-term rental. Ride-hailing services operated by companies such as Uber and Lyft are available and shared rides using such services are considered a TDM strategy. In addition, the City of Albuquerque is piloting a Micro-Transit Program, which is an on-demand transit service to riders in specific areas who don't have access to transit. While important steps towards offering alternatives to single-occupant vehicles have been taken, there is a lot more that can be done to bolster TDM strategies within the region.

CMP Strategies Matrix and Project Selection

The CMP Strategies Matrix was developed from an extensive review of the data contributing to congestion along the CMP network. After reviewing the data, the CMP Committee created strategies for each corridor that they felt would best improve the function of the roadway. This process has been beneficial for the selection of TIP projects that will have the greatest regional benefit on managing congestion. There are three categories of strategies, and for each congested corridor the strategies identified are ranked from low to high priority or not appropriate for that corridor. Below are the current categories and existing strategies. This matrix is updated with input from the CMP Committee.

Table 16: CMP Strategies by Category

Active Roadway Management (Includes TSMO and ITS)
Expanded traffic signal timing and coordination
Traffic signal equipment modernization
Traveler information devices
Communications networks and roadway surveillance
Travel Demand Management/Multimodal Management
Fixed guideways and dedicated transit lanes
Transit service expansion
Transit vehicle information
Transit intersection queue-jump lanes and signal priority
Electronic fare collection
Park & Ride facilities
Off-street multiuse trails
On-street bicycle treatments
Parking management
Physical Roadway Capacity
Intersection turn-lanes
Deceleration lanes
Freight Improvement Strategies
Grade-separated railroad crossings
New grade-separated intersections
New travel lanes (general purpose)
New roadways (improve connectivity)

Congestion management includes both capital projects and management and operations solutions. A successful congestion management process will help improve regional transportation system efficiency. Specifically, it should include multimodal performance measures, assess the cause of congestion, provide appropriate projects and strategies, and evaluate the effectiveness of strategies following implementation. Federal guidelines encourage using roadway widening as a last resort and only under certain circumstances. Along with best practices, the CMP Committee provides a diverse set of stakeholders that can bring attention to appropriate regional performance measures and improve management and operations strategies that will better address regional and cross-jurisdictional concerns.

4.4 Goals, Objectives, and Strategies

To address the mobility challenges our region faces and cultivate a transportation system that leads to improved Mobility in the region, the following goals, objectives, and strategies should be considered:

Goal	Objective	Strategies
Mobility *Promote the safe and efficient movement of people and goods throughout the region.*	**Prioritize safety for all users of the transportation system**	Conduct a complete streets analysis whenever restriping or resurfacing a roadway to identify opportunities for road diets and/or create improvements to the multimodal environment.
	Preserve and enhance existing infrastructure	Prioritize existing infrastructure maintenance.
	Enhance Transportation System Management & Operations	Expand the use of transportation management and operations strategies such as Intelligent Transportation Systems (ITS).
	Support frequent transit service	Adopt mixed-use and higher-density zoning along transit corridors to support ridership.
		Develop a long-range regional transit plan in coordination with public service agencies, municipalities, and developers that contains prioritized transit investments.
	Advance emerging technologies in transportation	Encourage the adoption of Transportation Systems Management and Operations (TSMO) and Intelligent Transportation System (ITS) Strategies such as Traveler Information, Adaptive Signal Control and Work Zone Management in order to enhance Travel Time Reliability.

CHAPTER 5 SAFETY

This *Transitions 2045 Metropolitan Transportation Plan* (*Transitions 2045 MTP*) envisions a "safe and people-centered" regional transportation system and sets forth goals related to mobility, active transportation, and equity. To meet these goals, safety-related objectives include the following:

1. Prioritize safety for all users of the transportation system.
2. Improve safety for bicyclists and pedestrians.
3. Provide safe and reliable routes to daily destinations.

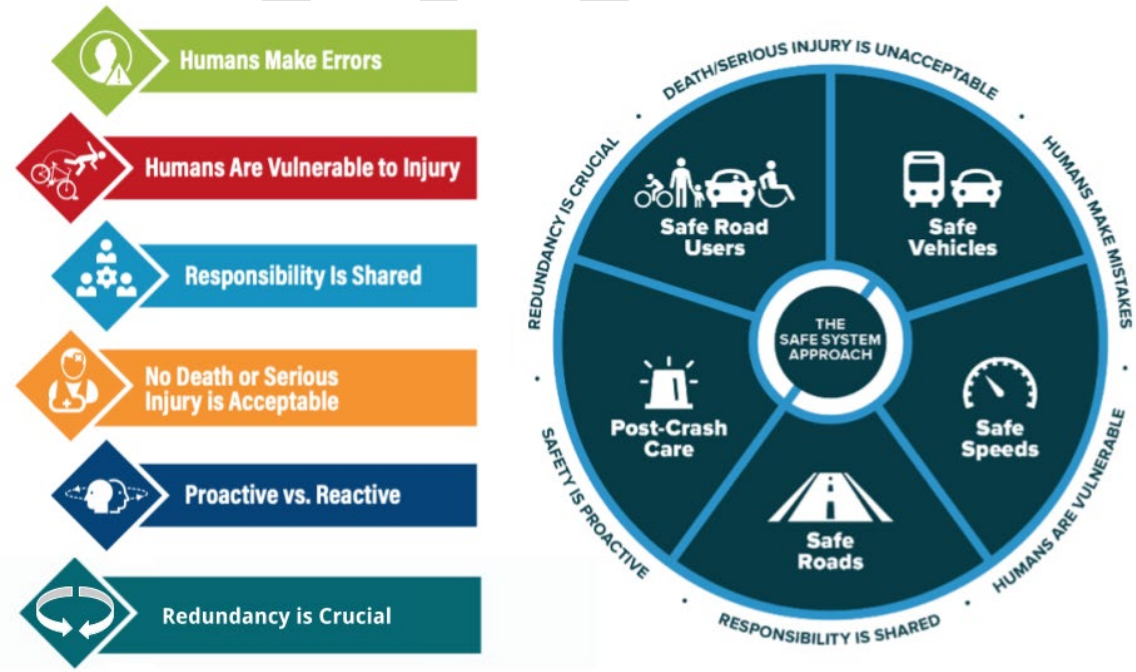
This chapter provides an overview of the state of transportation safety in the region and the approach being used to address roadway safety issues. Integrating the recently updated *Regional Transportation Safety Action Plan* (*RTSAP 2024*), this chapter provides an overview of regional safety, including crash analyses, safety strategies, and a list of safety projects and programs.

5.1 Vision and Approach

5.1a The Safe Systems Approach (SSA)

The Federal Highway Administration (FHWA) offers a framework for addressing safety issues: the Safe System Approach, which is human-centered and proactively identifies and addresses crash risks. This approach recognizes that although humans make mistakes and are vulnerable, fatalities and injuries can be prevented. The Safe Systems Approach puts forward six guiding safe system principles shown in the following figure.

Figure 42: FHWA Safe System Approach



Source: FHWA

This approach differs from past efforts by setting the ambitious goal of zero fatalities and serious injuries on the nation's roadways. The approach places the onus not on individual road users, but advances shared responsibility with vehicle designers, transportation professionals, and emergency responders to implement approaches that stop fatal and serious injury crashes from happening in the first place.

5.1b Regional Transportation Safety Action Plan (*RTSAP 2024*)

The *RTSAP 2024* was developed with support from a grant from the FHWA. The plan had an extensive engagement process involving the public and local agencies and was supported by public officials who committed to elevating safety as a priority in the region. The *RTSAP 2024* serves as federally qualified safety action plan for all local governments in the MRCOG region, especially smaller entities that may lack the resources to prepare their own safety action plans. As a region-wide plan, the *RTSAP 2024* makes local and tribal governments eligible to apply for implementation grants through the federal Safe Streets and Roads for All (SS4A) program, as well as other federal or state grant programs that may require federally accepted safety action plans as a prerequisite.

The *RTSAP 2024* was adopted in August of 2024 by MRMPO's Metropolitan Transportation Board (MTB). A comprehensive analysis of the regional crash data was done as a part of the *RTSAP 2024* and a summary of those analyses are provided in this chapter. A full list of recommended safety strategies, projects, and programs can be found in the *RTSAP 2024*, which is available on the MRCOG website. For some crash statistics, data from 2022 is available, but most analyses are dated 2017 to2021, which was the most recent data available at the time. The *RTSAP 2024* provides a vision and a goal of zero traffic deaths by 2040.

The *RTSAP 2024* provides performance measures developed from public outreach and regional safety concerns. The performance measures outlined in the *RTSAP 2024* include the NMDOT state safety targets, as well as customized regional performance measures. The regional performance measures were developed based on common types of crashes identified from the crash data analyses for the region. These two types of performance measures are included here:

Table 17: 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

Table 18: 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

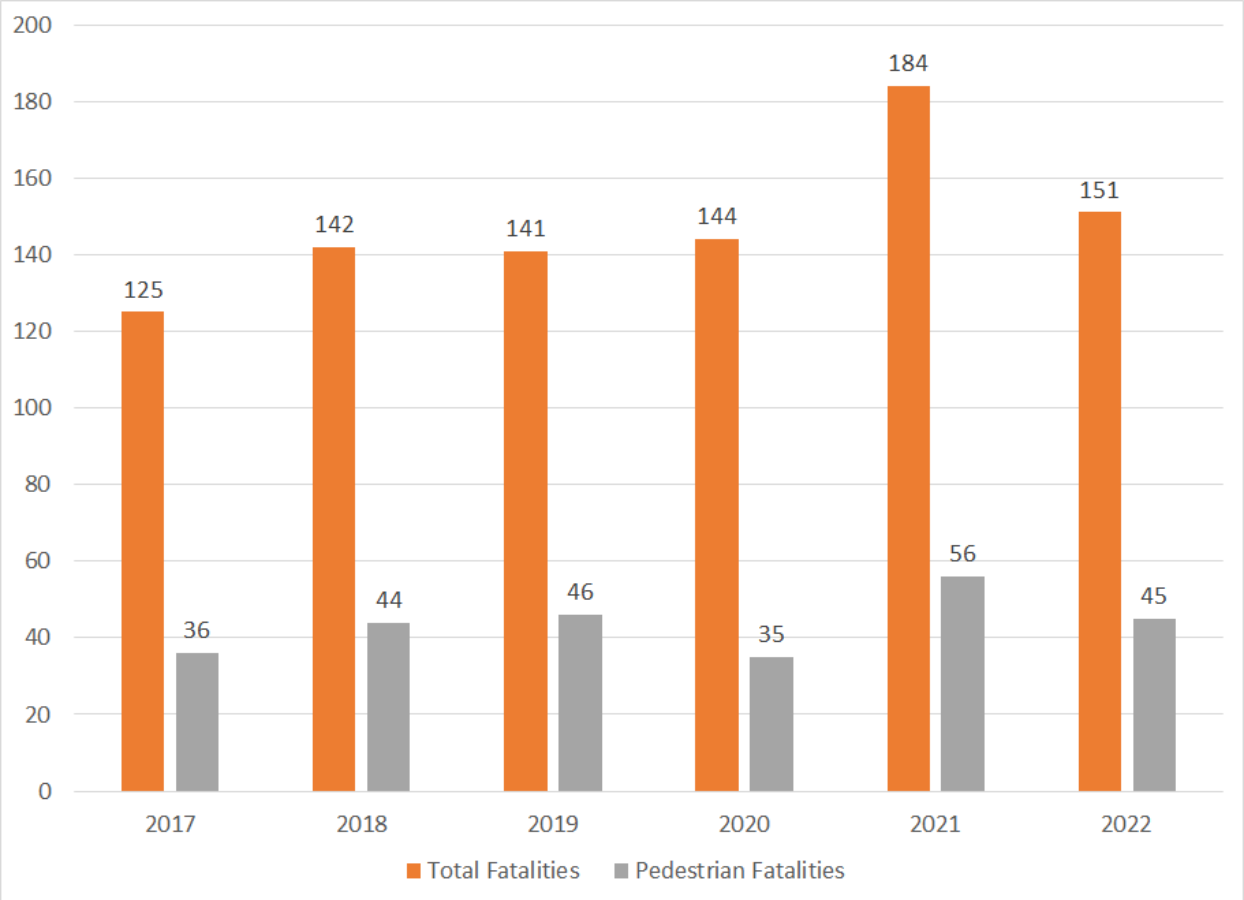
5.1c State of Roadway Safety in the Region

Nationwide, large metro areas have become significantly more dangerous for pedestrians than they were a decade ago, and the MRCOG region is no exception. In the *Dangerous by Design 2024* report produced by Smart Growth America, the Albuquerque metropolitan area is ranked second in the nation for pedestrian fatalities, and New Mexico tops the list as the number one most dangerous state to be a pedestrian. Adding to these grim statistics, a disproportionate amount of people are killed or seriously injured in crashes in historically disadvantaged communities. Albuquerque's International District, an area of concentrated poverty and people of color, accounts for just five percent of the metro area's population but makes up 23 percent of total pedestrian fatalities.

Traffic deaths are particularly high for pedestrians in the more urban areas of the AMPA, while rural areas see higher rates of traffic deaths in rollover crashes. Traffic fatalities are continuing to rise to unprecedented levels. There were 184 total traffic fatalities in the region in 2021, up 47 percent over the past five years despite the decline in vehicular travel due to the COVID-19 pandemic. Fatalities

did decrease to 151 in 2022, nevertheless this number is still higher than all previous years except 2021.

Figure 43: Roadway Fatalities in the Region

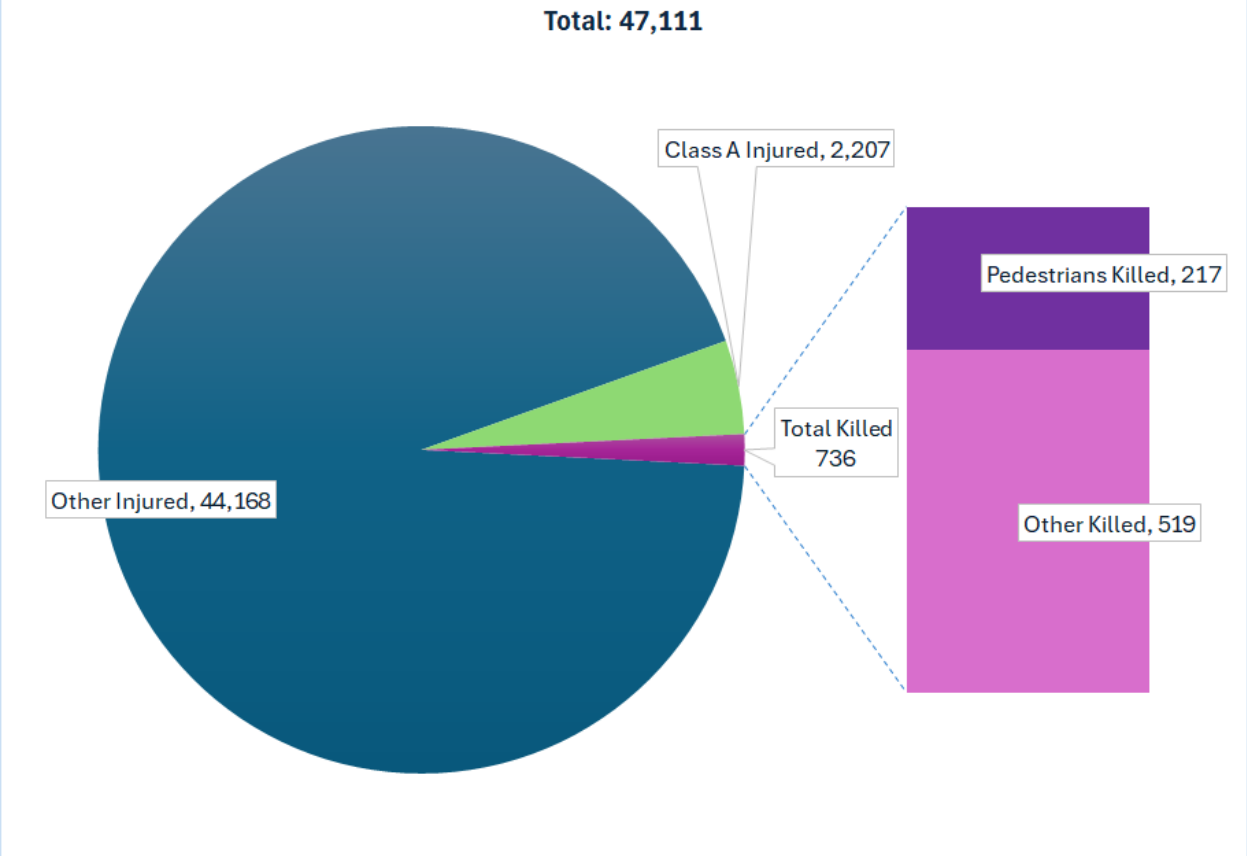


5.2 Regional Crash Data Trends

5.2a Severe Crashes in the Region (Killed and Injured)

From 2017 to 2021, 736 people were killed in traffic crashes in the region and 46,375 people were injured. Of those over 46,000 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 percent involve pedestrians, and those numbers are not getting any better.

Figure 44: Fatalities and Injuries in the Region 2017-2021



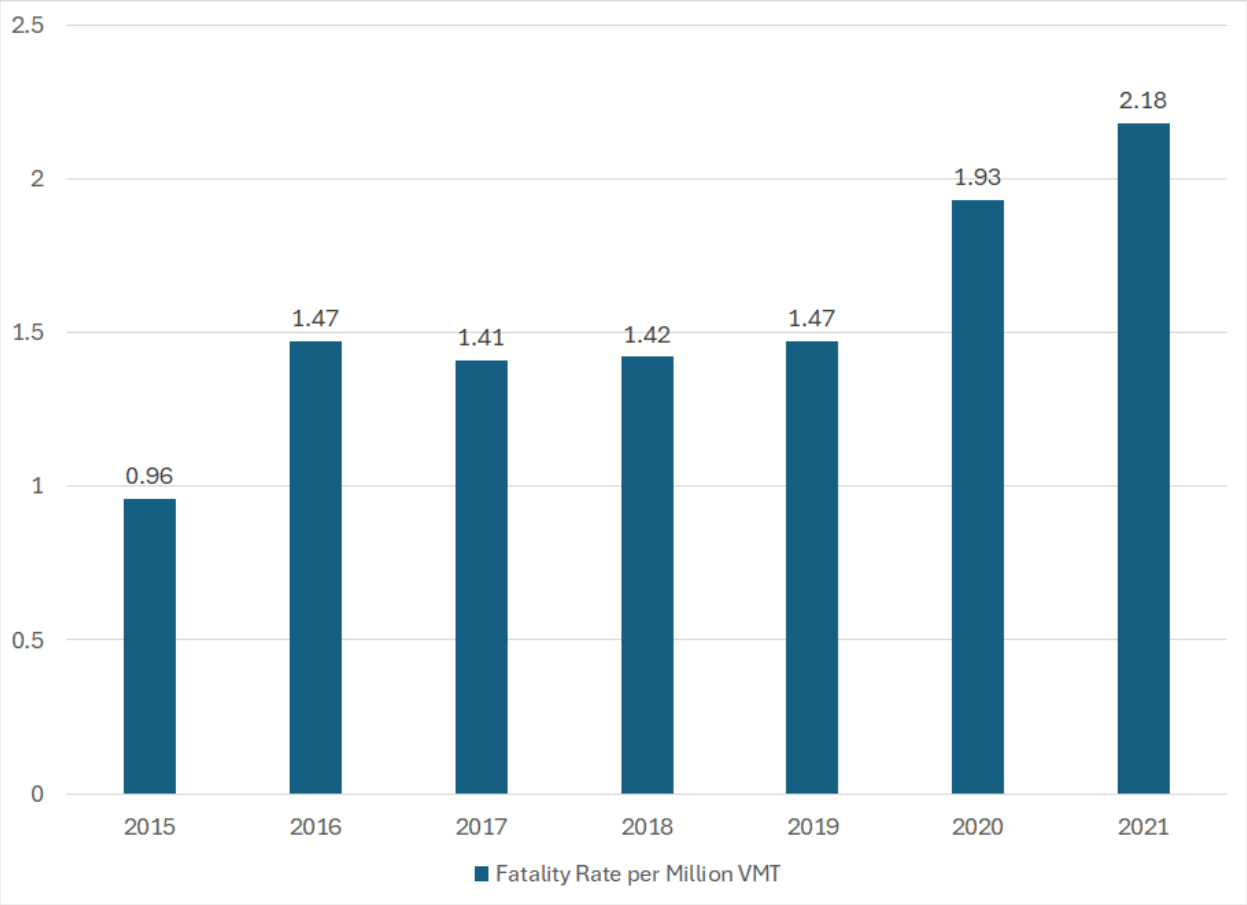
Source: New Mexico Department of Transportation, Traffic Safety Division, Traffic Records Bureau (NMDOT).Fatality Rate Per Vehicle Miles Traveled

Despite a 23 percent reduction in the region's vehicle miles traveled (VMT) in 2020, which was a result of the COVID-19 pandemic, stay-at-home orders, and an increase in working from home, the number of traffic fatalities did not decrease. In fact, the overall number of fatalities in the region increased slightly in 2020, and then again in 2021 by another 28 percent. Pedestrian fatalities had a slight drop in 2020 before an unprecedented 60 percent surge in 2021.

Although 2020 saw a modest two percent increase in the number of fatal crashes, when combined with the dramatic reduction in VMT, this translates to a 31 percent 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 percent, but the number of fatalities increased by 32 percent from 2020.

Many jurisdictions across the nation have noted the same trend in fatal crashes during 2020 and 2021. It is surmised that the pandemic may have created ideal conditions for risky driving behavior by taking traffic off the road, creating more opportunities for drivers to speed. Some of the most dangerous corridors in the region have low traffic volumes.

Figure 45: Fatality Rate per Vehicle Miles Traveled (VMT)

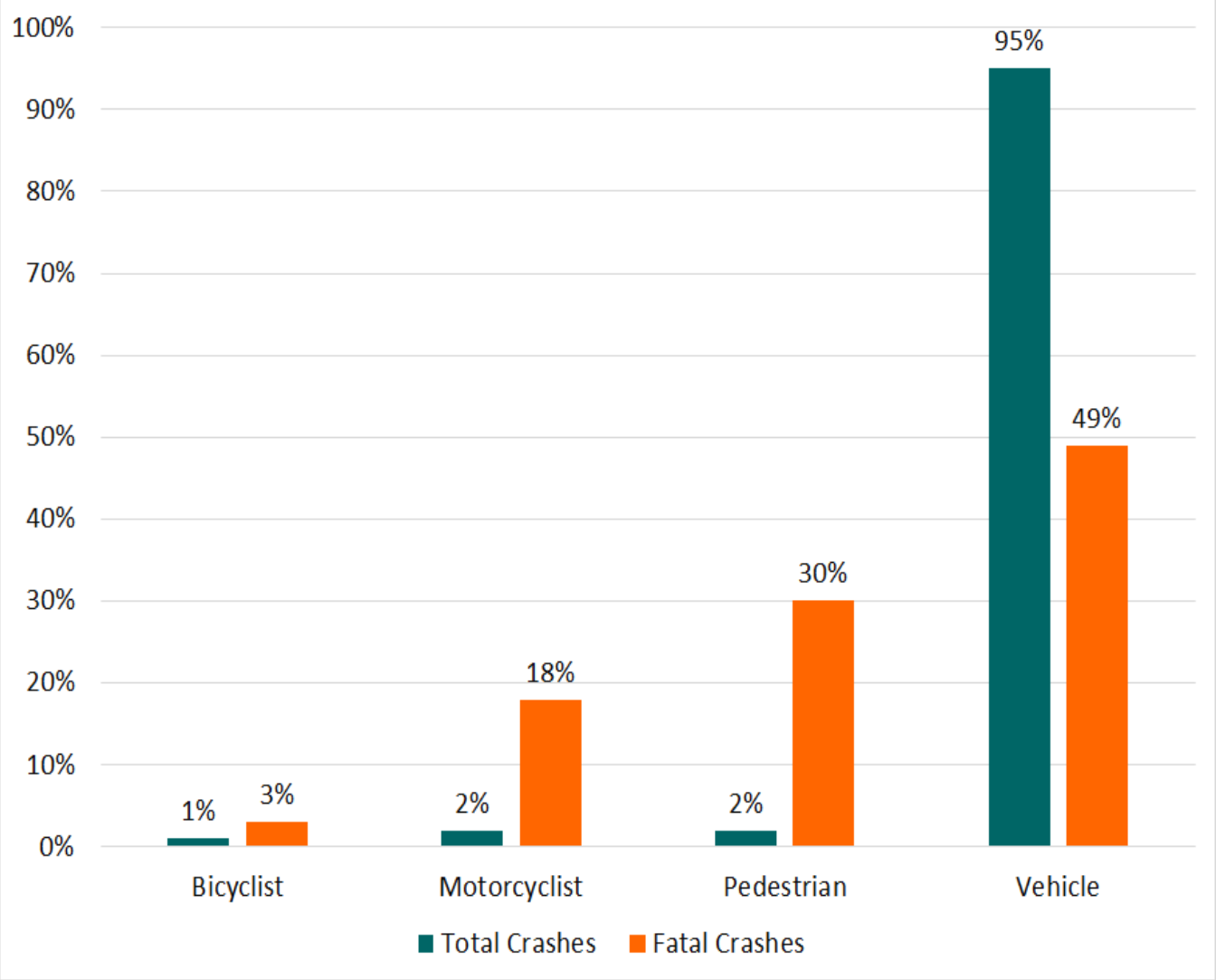


Source: New Mexico Department of Transportation, Traffic Safety Division, Traffic Records Bureau (NMDOT).

5.2b 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 five percent of the MRCOG region's overall crashes involve a pedestrian, bicyclist, or motorcyclist, yet these road users make up 51 percent of all fatalities.

Figure 46: Percent Total Versus Fatal Crashes by Mode



Source: New Mexico Department of Transportation, Traffic Safety Division, Traffic Records Bureau (NMDOT).

5.2c Rural Roads and Single Vehicle Crashes

This region has been experiencing more single vehicle crashes. Oftentimes these types of 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 Torrance 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 while driving long distances, which increases the likelihood of a single vehicle crash. These crashes may also be due to an increase in speeding and reckless driving, distracted driving, or impaired driving.

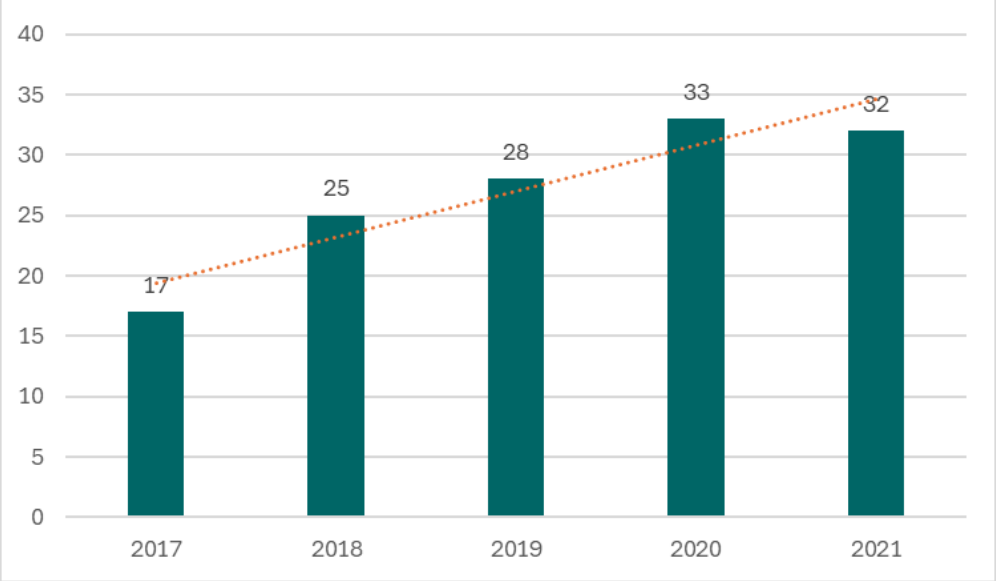
The top contributing factors (TCF) for single vehicle fatal and Class A (incapacitating injury) crashes between 2017 and 2019* point to the type of risky behavior that often leads to these types of crashes. Thirty-two percent of all fatal and Class A single vehicle crashes involved alcohol, followed by excessive speed at 21 percent, and driver inattention at 11 percent.

Table 19: Top Contributing Factors (TCF) for Single Vehicle Crashes, 2017 to 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%

* TCF is only available up to 2019 due to a change in State policy for identifying contributing factors.

Figure 47: Single Vehicle Crashes by Year



Source: [New Mexico Department of Transportation, Traffic Safety Division, Traffic Records Bureau](#) (NMDOT).

5.3 Key Safety Strategies for the Region

5.3a Proven Safety Countermeasures (PSC)

The FHWA Proven Safety Countermeasures (PSCs) are strategies that have been verified through studies undertaken in the United States to provide significant and measurable safety benefits.

PSCs are often used along specific roadway segments or intersections based on the types of crashes taking place and will indicate the expected decrease in these types of crashes. PSCs are primarily physical roadway infrastructure improvements but also include signal operation and planning elements such as Road Safety Audits and local road safety plans. A number of PSCs including road diets, bicycle lanes, pedestrian hybrid beacons, roundabouts, Leading Pedestrian Intervals, and more, have been implemented in the region already.

The *RTSAP 2024* identifies the use of the FHWA PSCs as an important strategy for reducing roadway fatalities and injuries in the region. The *RTSAP 2024* lists 34 ready-to-go FHWA PSC applications supported by well-vetted studies showing the safety benefits. The following link provides a detailed description of the interventions and studies conducted for each proven safety countermeasure: https://highways.dot.gov/safety/proven-safety-countermeasures.

The following strategy has been identified for the region:

1. FHWA Proven Safety Countermeasures System Wide:
    a. Systemically adopt the use of FHWA PSCs into existing infrastructure improvement programs.

Table 20: Proven Safety Countermeasures (PSCs) from the RTSAP 2024

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 intersechange.
Lighting		Increase visibility for all road users, especially at crossings and intersections. Ensure adequate illuminance levels and continuous lighting along roadway segments.	Lighting can reduce crahes 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.

5.3b Reduce Speeding on our Roadways

In 2017, the National Transportation Safety Board (NTSB) increased identification of speed related crashes and "concluded that excessive speed is one of the most significant causes of both crashes and fatalities on U.S. roadways."[39] This statistic holds true today. NTSB recommendations include modernizing how speed limits are set to go beyond traditionally accepted performance measures such as only using level of service or the 85th percentile and amending laws to use automated speed enforcement or lower speed limits in areas with high multimodal traffic. The 85th percentile speed is calculated by measuring the speeds of vehicles on a road and finding the speed at which 85% of vehicles are traveling at or below.

MUTCD Policy Change

In December 2023, an update to the Manual of Uniform Traffic Control Devices (MUTCD), which governs the implementation of speed related traffic control devices, emphasized the importance — especially in urban areas and main streets — of considering crash history, the roadway context and geometry, and multimodal travel safety when determining the appropriate posted speed.

When setting speed limits, the *RTSAP 2024* highly recommends that agencies with the authority to do so consider more factors than just the 85th percentile speed, 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 policies 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.

Vision Zero Cities

Many Vision Zero cities have lowered city speed limits (Vision Zero is the precursor to the Safe Systems Approach and includes the same goal to reduce fatalities to zero). Often, these cities 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.

[39] https://nacto.org/2017/08/15/federal-study-concludes-us-must-curb-speed

Speed Management Strategies

As a part of the *RTSAP 2024* plan, the following strategies related to speed were identified. A more detailed description of the strategies can be found in the *RTSAP 2024*. The examples provided in the MTP are a shortened list. These items below do not include PSC strategies, which also include a comprehensive way to evaluate speed.

Table 21: Speed Management Strategies

Setting Speed Limits
Chicanes / Chokers / Pinch Points
Four-way Stops / All-way Stops
Mini Roundabouts / Neighborhood Traffic Circles
Speed Humps and Raised Crossings
Speed Zones / Slow Zones
Anti-Speed Campaigns
Advanced Driver Assistance Systems (ADAS)
Green Wave Systems / Coordinated Signals
Rest on Red
Smart Work Zones
Speed Feedback Indicator Signs
Vehicular Technology Speed Detection

5.3c Design Roadways for Safety

To develop streets that are safe for everyone, local agency design manuals may need to be updated and paired with informational campaigns on how to use new and safer roadway and intersection designs. When it pertains to roadway safety, education or enforcement in and of itself does not push the needle as much as slowing down traffic does. The Safe Systems Approach recognizes that human error is inevitable, and the responsibility for roadway safety does not solely depend on the behavior of vulnerable roadway users or drivers. There must be design changes in roadway infrastructure that prioritize safety over speed and provide facilities for all modes for people of all ages and abilities to make a significant difference in reducing deaths and serious injuries for all modes.

The *RTSAP 2024* identifies some specific recommendations and strategies for better roadway design that focus on making intersections safer for all modes and designing corridors to be in harmony with their surrounding land use context. Specifically, these include adopting broad design principles and/or Context Sensitive Design Solutions such as MRMPO's Long Range Transportation Systems (LRTS) Guide. Pedestrian and bicyclist crossings are also noted as a priority for improving safety in the region including items such as signals at key trail crossings and more frequent crosswalks along arterial corridors.

Broad design principles consist of adopting some key principles that are employed *every time* a new street is being designed or redesigned and include items such as:

- Narrow vehicle lanes
- Crossings that provide easy access to transit
- Compact intersections
- Short pedestrian crossings
- Separated areas for vulnerable roadway users

Roadway Character and Purpose

Roadway characteristics such as high-speed limits and number of lanes, coupled with low traffic volumes, can create high-risk conditions. These roads become especially dangerous when combined with roadway context factors such as commercial activity, frequent street access points, and destinations that attract pedestrians, bicyclists, and transit users.

For example, Central Avenue east of San Mateo Boulevard is one of the most dangerous corridors in the region. Central Avenue in this roadway section has six lanes, yet most segments host only 20,000 to 30,000 vehicles per day. This is low traffic compared to the region's other six lane principal arterials such as Montgomery Boulevard or Coors Boulevard.

The low traffic volumes and wide roadway along this section of Central Avenue could encourage people to speed and drive dangerously. These characteristics, coupled with many driveways/street access points, high levels of pedestrian and transit activity, and increased risk-taking behavior during the pandemic have likely been major factors impacting the increase in fatal crashes in the region. Designing roadways that better fit the surrounding land use character and purpose is a key recommendation from the *RTSAP*.

Land Use Context

Context Sensitive Design Solutions (CSS) focuses on developing roadways that fit into their physical environment to improve safety and mobility. The Long Range Transportation Systems (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. 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. An update to the LRTS Guide is expected to happen by 2026.

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 need for reduction of travel speeds and improvement of pedestrian safety within Centers and next to low density neighborhoods.

Safe Crossings

Even when pedestrians or bicyclists have parallel or separate facilities these multiuse trails and Bicycle Boulevards at some point will intersect with wide, high speed arterial roadways that require a safe location to cross. In addition, long distances between intersections along an arterial limit safe locations where pedestrians can cross. Through the outreach process for the *RTSAP 2024,* members of the public repeatedly indicated that crossing wide arterials felt very unsafe.

To help prioritize more frequent and safe crossing locations, the City of Albuquerque developed the *Bicycle and Trails Crossing Guide*. This 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. 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.

Furthermore, 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 recommended 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 to improve safety and access for more vulnerable users.

Table 22: City of Albuquerque Pedestrian Crossing Locations Guidance

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

The *RTSAP 2024* identifies the following roadway design strategies with some initial recommendations on how to prioritize them. Additional strategies and more detailed descriptions of the strategies are included in the *RTSAP 2024*.

Table 23: Roadway Design Strategies

Advanced Stop Bar / Lines
Automated Pedestrian Detection
Automated Pedestrian Recall
Bicycle Detection at Signalized Intersections
Bike Boulevards / Parallel Roadways
Bike Boxes and Two-Stage Turn Boxes
Bus Turnouts
Business Access Transit (BAT) Lanes
Contraflow Bike Lanes
Crossing Signs and Markings
Curb Radii Reduction
Curb Ramps
Demonstration Projects
Floating Bus Stops / Bus Islands
Interim Public Plazas
LED Lighting
Left-Turn Phasing
Multiuse Trails / Pathways
No Right Turn on Red
Parking Restrictions at Crossings
Parklets
Pedestrian Countdown Signals
In-Street Pedestrian Crossing Signs
Pedestrian Lighting
Protected Intersections
PUFFIN Crossing: Pedestrian User-Friendly Intelligent Intersections (PUFFIN)
Slip Lane Reconfiguration / Removal
Transit Access Crossings
Transit Priority Lanes
Transit Stations and Shelters

5.4 Selecting Safety Priorities

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 map.

5.4a 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 becomes 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 number of fatal and injury crashes. Engineering review and analysis is needed to determine if the location is appropriate for specific types of safety improvements

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. The HFIN provides a clear visual tool to boost awareness of locations that need more attention.

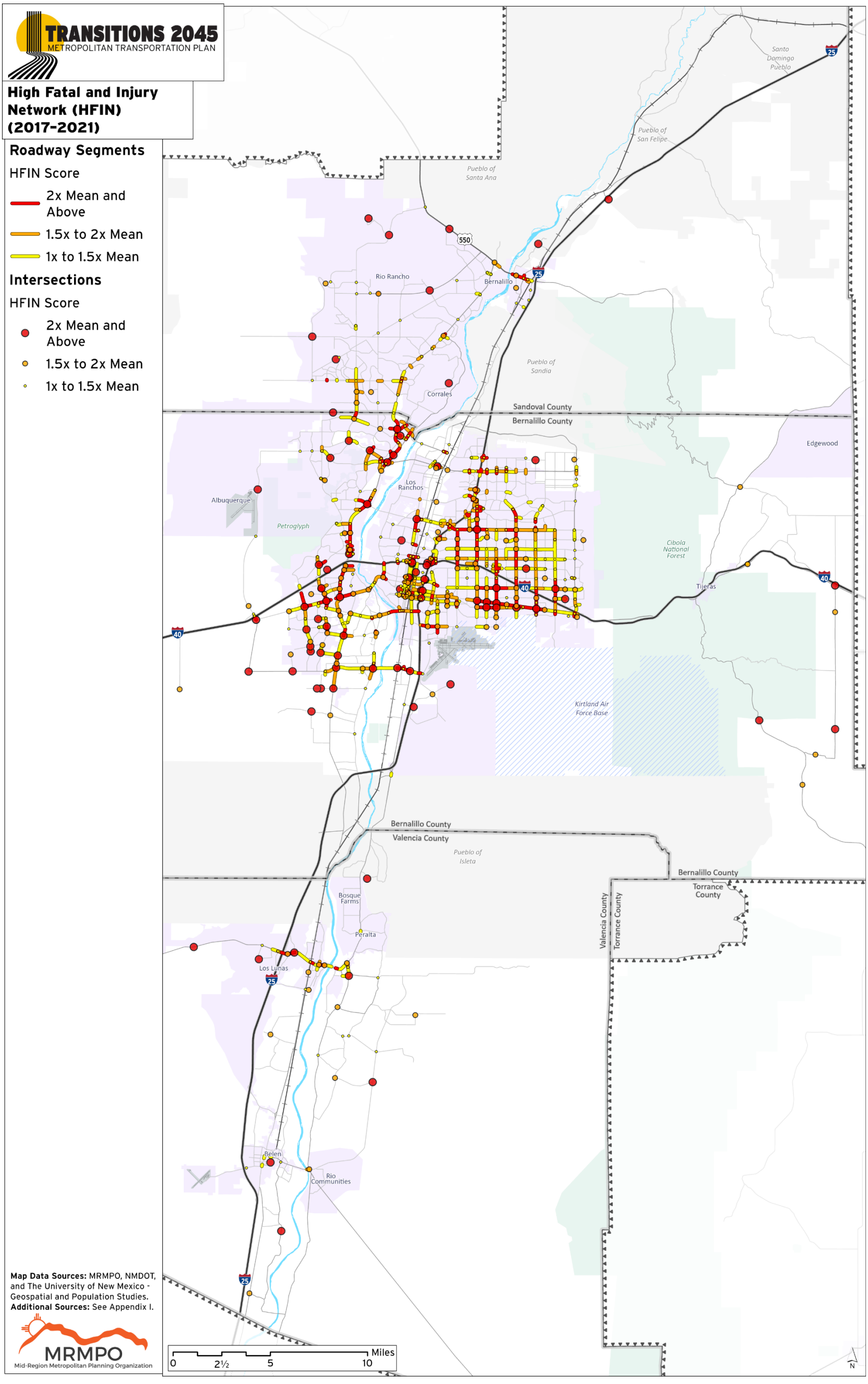
The HFIN includes five years of crash data and is updated yearly, which provides insight into repeating patterns over time. When combined with the land use context, vulnerability index, the Potential Road Diet Candidates, and other types of crash analyses, it can be incredibly beneficial for identifying locations for safety improvements. Having some insight into 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 Safe Systems Approach, and is 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.

Map 23: High Fatal and Injury Network (HFIN)



5.4b Potential 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 vehicle lanes to slow traffic and improve infrastructure and safety 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, or people walking or 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, sidewalks or wider sidewalk, 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.

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 percent. 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 percent. 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.

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.

Five Lane and Larger Roadways

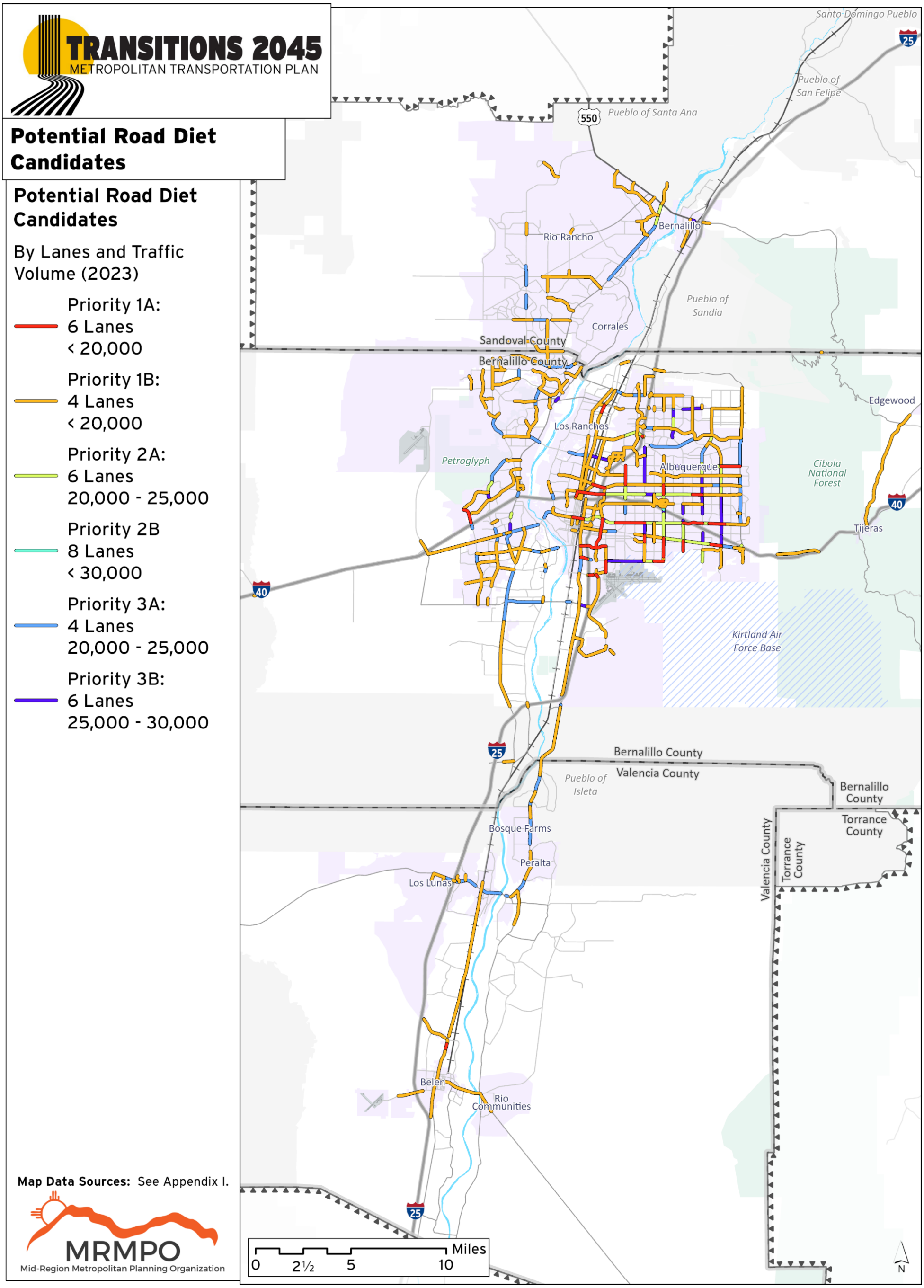
The FHWA does not have guidance on thresholds for converting a 6-lane or larger roadways to 5-lanes (two lanes in each direction and a center turn lane). However, MRMPO analyses found that many 4-lane roads in the region support over 35,000 Average Daily Traffic (ADT). Furthermore, the average amount of traffic that existing 5-lane roadways hold 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 conservative threshold of 30,000 ADT.

The Potential Road Diet Candidates map included in this plan 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 FHWA advises that roadways with 20,000 vehicles per day or less are appropriate candidates for road diets from 4 to 3 lanes, but different agencies across the country have different thresholds 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 US 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.

Prior to Implementing A Road Diet

Before a road diet is undertaken, there should always be a transportation engineering analysis of the corridor's suitability for roadway reconfigurations. This analysis should consider the specific features of the roadway, land use context, parking availability, transit access, and if the corridor fills a gap in the bike network. MRMPO recommends overlaying the HFIN corridors and intersections with the Potential Road Diet Candidates map to explore proposed facilities on long range networks to develop priorities. Nevertheless, when a road does not experience above average crashes, implementing a road diet can still be a good decision to incur the benefits of facilities for bicyclists or transit and more protection for pedestrians.

Map 24: Potential Road Diet Candidates



5.4c Safety Projects and Programs

Recently, some positive actions have been taken toward improving roadway safety such as the City of Albuquerque's Vision Zero efforts, Bernalillo County's Complete Streets work, Pueblo de Cochiti's transportation safety planning, the Albuquerque Public School Youth Vision Zero initiative, and the 2024 NMDOT Vulnerable Road User Safety Assessment, to name a few. These efforts are described in detail in the *RTSAP 2024*.

Similar to MRMPO's MTP is NMDOT's long-range statewide transportation plan, the New Mexico 2045 Plan, which includes Complete Streets strategies and recommends updates to guidance manuals to incorporate Complete Streets principles. Other long range NMDOT plans include the 2018 New Mexico Prioritized Statewide Bicycle Network Plan that identifies safety countermeasures such as road diets, rumble strips, and lane narrowing, and more recently, the 2021 Pedestrian Safety Action Plan that recommends proven safety countermeasures such as Pedestrian Hybrid Beacons and Leading Pedestrian Intervals.

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 uses must become a higher priority and creates a High Injury Network (HIN) for the state. Additionally, the plan 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.

Funding Sources

Safe Streets and Roads for All (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 Implementation and Planning and Demonstration. 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 Metropolitan Planning Organizations and a multijurisdictional group of entities.

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 2021New 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.

RTSAP 2024 Safety Projects and Programs

A list of projects and programs were developed as part of the *RTSAP 2024*. Many of these are specific to a local agency and their safety priorities, and the full customized list is provided in the *RTSAP 2024*. However, MRMPO also developed a list that includes broad projects that could relate to all agencies and the State that are included here:

Table 24: RTSAP 2024 Safety Projects and Programs

Name	Description	Source	Type
Active Transportation Education Center	Develop a physical space and program where community members can come and learn about active transportation. Include training programs, bicycle maintenance, and pedestrian laws.	2024 RTSAP Process	Program
Bicycle Helmet Use	Provide bicycle helmet usage programs, e.g., the Helmet Your Head program.	Pueblo de Cochiti Tribal Safety Plan	Program
Bike Boulevards / Parallel Roads	Plan and develop bike boulevards / parallel roadways to improve connectivity. Prioritize access to school locations. Refer to the Long Range Bicycle System (LRBS) or local bike plans.	Focus Groups / Public Responses	Program
Crosswalk Inventory and Policy	Address long distances between crossings for people walking (and biking) making it easier and safer for people to cross the street at signalized, unsignalized, and mid-block crossings. Start with data collection and developing a policy for distances.	Focus Groups / Technical Team / Public Responses	Program
Education for Construction Projects	Pair traffic / transportation education with new roadway construction projects.	2024 RTSAP Process	Program
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.	2024 RTSAP Process	Program
PNM and Utility Collaboration	Many street lighting projects require collaboration with local utility companies and sometimes will need MOUs to develop and implement projects.	Focus Groups	Program
Potential Road Diet Candidates	Use this map to prioritize and target locations for further study and implement roadway reconfigurations such as restriping roadways to add bike lanes, Business Access Transit (BAT) lanes, or parking.	Focus Groups / Technical Team / Public Responses	Program

Name	Description	Source	Type
Prioritizing ADA Improvements	Develop a study to prioritize access to schools, community centers, and parks when doing ADA upgrades and roadway reconfigurations. Consult High Fatal and Injury Network (HFIN).	2024 RTSAP Process	Program
Public Transport and Schools	Conduct a study that evaluates student use of public transportation to get to school.	Focus Groups / Schools	Program
Revaluate 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.	Focus Groups / Technical Team / Public Responses	Program
Region Wide Bicycle/Pedestrian Safety Education (Late Time Frame)	Increase bicycling and pedestrian safety awareness and promote shift to alternate modes of travel. Bernalillo, Sandoval, and Valencia Counties.	MTP	Program
Region Wide TDM (Late Time Frame)	Travel Demand Management programs and activities for Bernalillo, Sandoval, and Valencia Counties.	MTP	Program
Review Pedestrian Signal Timing	Review signal timing at high pedestrian crash locations to provide safer pedestrian crossing times and minimize conflicts with vehicular turning movements.	2024 RTSAP Process	Program
Review Access Management	Prioritize existing high crash High Fatal and Injury Network (HFIN) corridors to review access management and determine whether driveways could be combined or moved further away from the signalized intersections.	2024 RTSAP Process	Program
Review Signal Timing	Review yellow and all-red transitions times and adjust based on clearance distances and the latest practice.	2024 RTSAP Process	Program
Roundabouts	Evaluate roundabouts for high crash locations. Also consider skewed and multiple leg intersections. Prioritize in small urban and rural areas.	2024 RTSAP Process	Program
Safe Routes to School Activities	Safe Routes to School activities like Park and Walk, International Walk and Bike to School Day, bike trains, bike clubs, and bike rodeos.	Focus Groups	Program

Name	Description	Source	Type
Safe System Public Education Campaigns	Public education piece that brings more attention to the Safe Systems Approach and Vision Zero, and why there is a need for new designs to create safer multimodal roadways.	Focus Groups / Public Responses	Program
School Active Transportation Education Programs	After school bicycle and pedestrian and safety education program.	Focus Groups	Program
Speed Racing Interventions (i.e. Montgomery / Montano / Louisiana)	Develop a process to address reduction of racing along wide arterial roadways. Consider equitable enforcement such as speed cameras. Consider Road Diets. Enhance lighting.	Public Responses	Program
Systemwide Proven Safety Countermeasures 1	Develop a process by which to deploy proven safety counter measures. Consider prioritizing by the HFIN corridors and intersections in vulnerable communities.	Focus Groups / Technical Team	Program
Systemwide Proven Safety Countermeasures 2	Integrate proven safety counter measures in all new roadway construction and maintenance.	Focus Groups / Technical Team	Program
Traffic Speed on State Roadways	Develop a comprehensive speed evaluation process for when these roadways intersect with local communities.	Focus Groups / Tribal	Program
Tribal Collaboration	Consistent meetings with Tribal Governments as there are a lot of staff changes in Pueblos. Make sure to keep up to date with contact lists and reach out regularly to connect with new staff/administration. Consider quarterly site visits.	Focus Groups / Tribal	Program
Tribal Technical Assistance	Work with Tribal Governments in NM to help them seek funding and oversee implementation.	Focus Groups / Tribal	Program
4 Way Stops	Remove traffic signals where not needed and provide 4-way stops where feasible. Look at opportunities to add pedestrian bulb outs to reduce pedestrian crossing lengths and improve pedestrian visibility. Compliment with on-street parking.	Focus Groups / Technical Team	Project

Name	Description	Source	Type
Bicycle Clearance at Intersections	Adjust minimum green times at locations where Bike Routes are identified to accommodate bicycle clearance of the intersection. On bicycle routes that intersect with very busy intersections provide bicycle detection or button where feasible. The MRMPO Long Range Bicycle System (LRBS) contains Bike Route designations.	2024 RTSAP Process	Project
Demonstration Projects	Test out temporary solutions with flexi-sticks and paint. Recruit volunteers to, for example, paint murals on intersections. Low-cost demonstration projects. Prioritize historically disinvested communities.	Public Responses	Project
Expand HAWK signals and LPIs	Prioritize best locations for High Intensity Activated Crosswalk (HAWK) signals and Leading Pedestrian Intervals based on existing infrastructure and locations of high crash risk. Install where there are already existing plans calling for this type of improvement.	Focus Groups / Technical Team / Public Responses	Project
Expand Trees and Shade	Develop a plan to systematically add more trees and shade particularly at transit stops and in historically disinvested communities. Use best practices for new development in an arid environment.	Focus Groups / Equity	Project
Leading Pedestrian Intervals (LPIs)	Introduce leading pedestrian phases to try and minimize right-turn on red conflicts at intersections with high crash rates and high transit travel. See MRMPO High Fatal and Injury Network (HFIN) and Long Range Transportation System (LRTS).	2024 RTSAP Process	Project
Left-Turn Conflicts at Intersections	Deploy Flashing Yellow Arrow indications to take advantage of conditional permitted left-turn phases to reduce pedestrian / permitted left-turn conflicts, this is particularly important at high crash intersections for pedestrians and heavy transit travel.	2024 RTSAP Process	Project

Name	Description	Source	Type
Main Streets (Rural and Tribal Areas)	Where state highways go through downtowns redesign these main streets to be more pedestrian oriented--i.e. fewer lanes, wider sidewalks, more and narrower crossings.	Public Responses / Area Safety Profiles	Project
Pedestrian Scale Lighting	Improve pedestrian scale lighting along corridors and at pedestrian crossings with high crash risk / HFIN identified, in particular this should be prioritized in historically disadvantaged communities. This may require further collaboration with local utility companies. MRMPO can aid on the location of these types of crashes.	Focus Groups / Public Responses	Project
Safe Routes to School Connections	Install high visibility crosswalks and signal improvements around school locations based on severe crash data, historically disadvantaged communities, and school data identify priorities.	2024 RTSAP Process	Project
Small Urban and Rural Corridor Shoulders	In small urban and rural areas consider adding wider shoulder widths on future projects to accommodate pedestrians and bicycles.	2024 RTSAP Process	Project

CHAPTER 6 ACTIVE TRANSPORTATION

This chapter of the *Transitions 2045 MTP* focuses on pedestrian and bicycle mobility. Developing connected networks and safe conditions for walking and biking is critical for making these modes viable travel options in the region.

Active transportation describes human-powered transportation modes: walking, bicycling, wheelchair travel, skating, scootering, and taking transit as well as emerging modes such as power assisted e-bikes and e-scooters. Transit is classified as active transportation because a person generally walks or bikes to get to or from the transit trip; however, in this MTP, transit is addressed in the Mobility chapter (Chapter 4). This chapter classifies travel by wheelchair as pedestrian travel and categorizes both travel by electric bike and scooter (electric and non-electric) as travel by bicycle.

Benefits of Active Transportation

Increased rates of walking and bicycling provide many benefits for our region such as improved public health, economic advantages, and a healthier environment. As for public health benefits, New Mexico has followed the national trend of a dramatic rise in obesity rates in recent decades. In 2022, obesity prevalence in the state was 32.4 percent according to the CDC[40]. Many studies in recent decades have documented the fitness and health benefits of active travel, including that it is an effective and practical way to increase daily physical activity, thereby helping reduce rates of overweight/obesity, heart disease, diabetes risk, hypertension, depression, and more while also reducing air pollution exposure to others[41]. Currently, in the nation, less than one-quarter of children between the ages of 6 and 17 and adults get enough physical activity every day according to the CDC[42] and in New Mexico the physical inactivity rate is about 23.7 percent. A person can meet their daily physical activity needs by using active modes of transportation, and a moderate amount of physical activity is associated with a reduction in those ailments.

Increased numbers of bicycle and pedestrian trips also benefit the community at large, including motorists, by taking more vehicles off the road, thereby reducing congestion and wear and tear on roads. In addition, safety improvements directed toward non-motorized users can also make roadways safer for motorists. Economic benefits are gained from decreased transportation costs and health care costs and improved access to jobs and other destinations. Better active transportation networks can also support increased tourism and higher property values. And of course, importantly, shifts from vehicle trips to bicycle and pedestrian trips reduce greenhouse gas emissions and improve air quality. Since the transportation sector is a large contributor to greenhouse gas emissions (46 percent locally in 2023 according to an emissions inventory completed as part of the Central New Mexico Resilient Futures Initiative facilitated by the City of Albuquerque's Sustainability Office), any reduction in vehicle emissions is beneficial. See Chapter 8.3 for further discussion on transportation impacts on air quality.

[40] (Source: https://www.cdc.gov/obesity/php/data-research/adult-obesity-prevalence-maps.html).
[41] (Source: https://www.vtpi.org/nmt-tdm.pdf)
[42] (Sources: https://americawalks.org/wp-content/uploads/2021/06/AW-Health-Benefits-of-Walking-5_28_edit-1.pdf ; https://www.cdc.gov/healthyschools/physicalactivity/facts.htm; https://www.cdc.gov/physical-activity/php/data/inactivity-maps.html)

6.1 Pedestrian and Bicycle Travel Conditions

6.1a Existing Conditions for Active Transportation in the AMPA

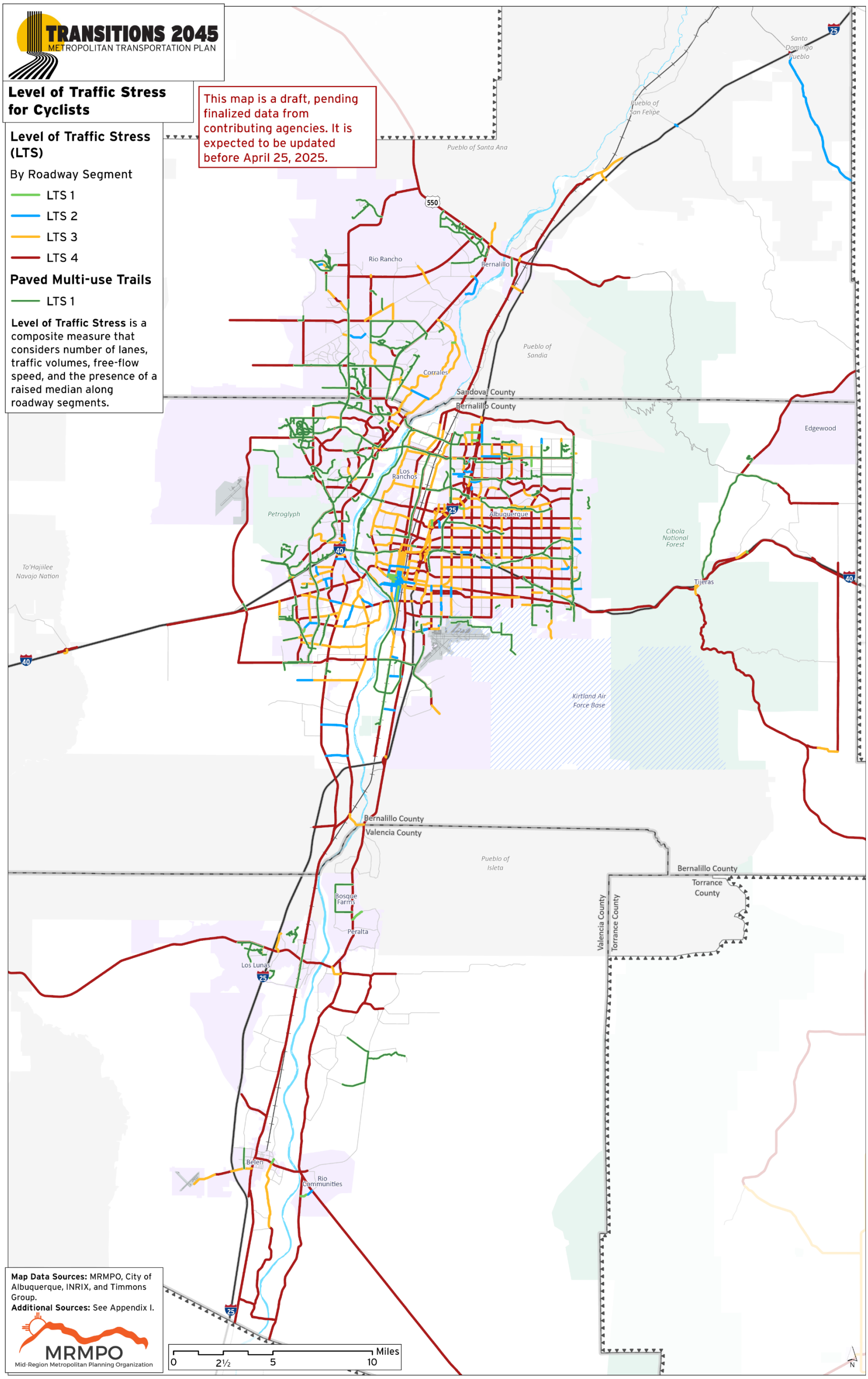
An overview of existing bicycle and pedestrian travel conditions in our area is available through the MRMPO's Long Range Bikeway System (LRBS) map, which illustrates existing bicycle facilities and helps identify gaps in the region's network. The map is updated with input from member agencies on a continual basis.

Many of the AMPA's existing bicycle facilities (e.g., bicycle lanes, multiuse paths, bicycle boulevards) may not be comfortable for people of all ages and abilities. Creating a network that accommodates everyone, regardless of experience or skill level, is becoming standard practice and is needed to make bicycling a viable mode of transportation for everyone. All ages and abilities facilities are characterized as having lower levels of traffic stress, meaning lower traffic volumes, fewer travel lanes, and lower speeds or physical separation (such as a physically protected bike lane or an off-road multiuse trail). By mapping out the existing facilities with low levels of traffic stress, planners can identify gaps in the regional network and prioritize investments. Gaps in disadvantaged communities should be given additional priority.

The following map reveals that although there are a relatively high number of existing facilities, the AMPA lacks a well-connected, low traffic stress network (low traffic stress facilities are shown as LTS 1 and LTS 2 bike facilities in the map, with LTS 1 being considered the most comfortable and LTS 2 the next most comfortable). Building out a low-stress network will require time, effort, collaboration, and investment. Besides illustrating where deficiencies might exist in transportation networks, Level of Traffic Stress is a tool that could also be required by local agencies to assess how well a newly built or reconstructed or restriped road works for active transportation modes.

Gaps in the regional low traffic stress bicycle network are shown in the following map:

Map 25: Low Stress Network



Currently, the AMPA contains the following estimated mileage of bicycle and pedestrian facilities:

Table 25: AMPA Bicycle and Pedestrian Facilities

Facility Type	Existing Centerline Mileage
Sidewalks	5,476.49
Paved Trails	310.72
Streets with Dedicated Bicycle Facilities	344.73
Streets without Dedicated Bicycle Facilities	1,755.61

Source: MRMPO (Note: dedicated bicycle facilities includes bike lanes, buffered bike lanes, and separated/protected bike lanes; Centerline mileage represents all directions of travel.)

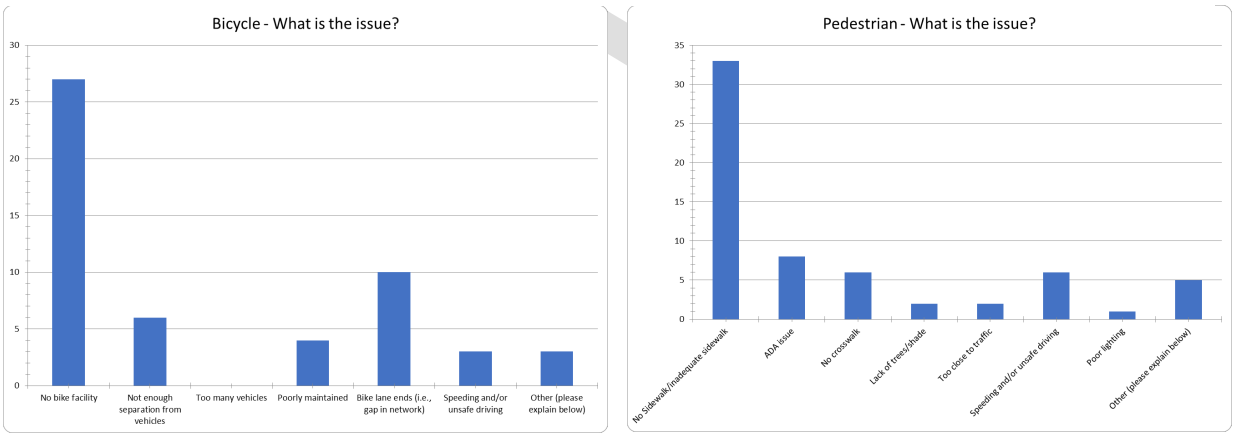
Public Perceptions

Surveying public opinion about perceived bicycle and pedestrian conditions can reveal qualitative information on the condition and comfort of these facilities. Results from an opinion survey conducted for the Transitions 2045 MPT highlights some key public opinions related to active transportation:

- There is strong support for active transportation facilities.
- There is a strong desire to prioritize safety for bicyclists and pedestrians.
- For bicyclists, not having a bicycle facility was the main issue reported when mapping areas of concern.

For pedestrians, lack of sidewalks (or insufficient sidewalks) was the main issue reported.

Figure 48: Bicycle and Pedestrian Issues



Annual “Bike to Work Day” (renamed “Bike to Wherever Day” in 2021) surveys reveal that most respondents ride for exercise or recreation rather than for transportation or utilitarian purposes (e.g., commuting to work, school, or for errands). This survey finding has been true for at least the last five years. Most recently in 2024, respondents cited that they ride because it is good exercise

(93 percent) followed by it helps mental health (82 percent). Most respondents (53 percent) feel that conditions for cyclists are getting better over time while only five percent believe cycling conditions to be getting worse. This sentiment has been the same for the past five years. Main difficulties reported are that it feels unsafe riding around vehicles (71 percent) and that the region lacks good routes connecting people to where they want to go (39 percent). As with past years, survey respondents indicated they would like to see more protected bike lanes built. Seventy percent of respondents reported that they would most like to see more protected bicycle lanes.

Estimating Demand

Accurately estimating the number of bicycle and pedestrian trips is difficult. From the 2022 American Community Survey, we gather that approximately 0.7 percent of work commutes in the AMPA are made by bicycle and approximately 1.5 percent are made by walking. Over time this percentage has changed very little (as shown in the table below).

Table 26: Means of Transportation to Work, ACS 2022

Means Of Transportation to Work	2018	2019	2021	2022
Walked	1.3%	1.5%	1.5%	1.5%
Bicycle	0.6%	0.8%	0.6%	0.7%

Source: American Community Survey, 2022

However, commute trips are only part of the story. Many other trips are made for reasons such as going to school, running errands, for entertainment, recreational purposes, medical appointments, and so forth. MRMPO maintains seven permanent bicycle counters in the region. These counters are another source of information about active transportation travel within the City of Albuquerque. Over the past five years, travel on the trails has fluctuated, but the counts reveal the trails receive a decent amount of travel, which could be both for recreational purposes and for utilitarian purposes (e.g., commuting, errands, etc.). It is interesting to note that trips on trails increased during the height of the pandemic when stay at home orders were in effect, likely as many people were looking for recreation and exercise options when those were limited as well as for other reasons. Unfortunately, that observed increase on trails was not sustained, and trail usage has decreased to previous levels.

Figure 49 : Annual Pedestrian & Bicyclist Trips on Multi-Use Trails in the AMPA, 2019-2023

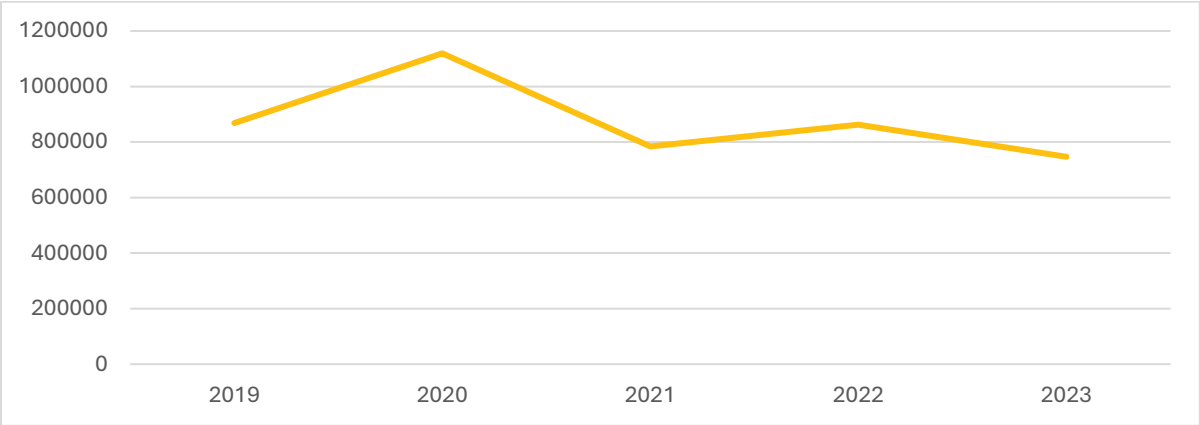
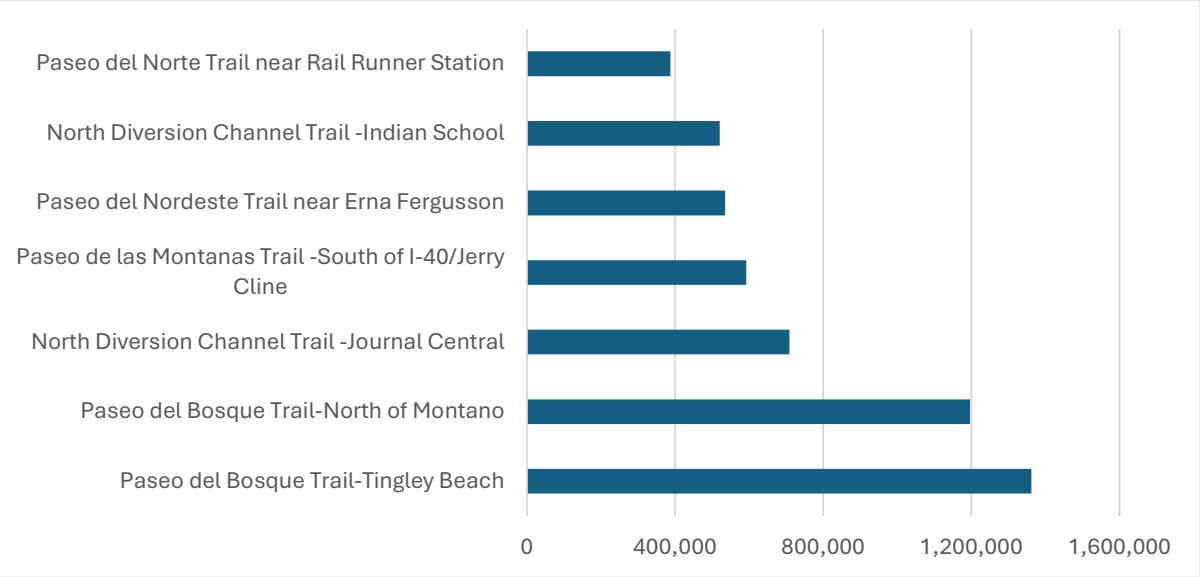
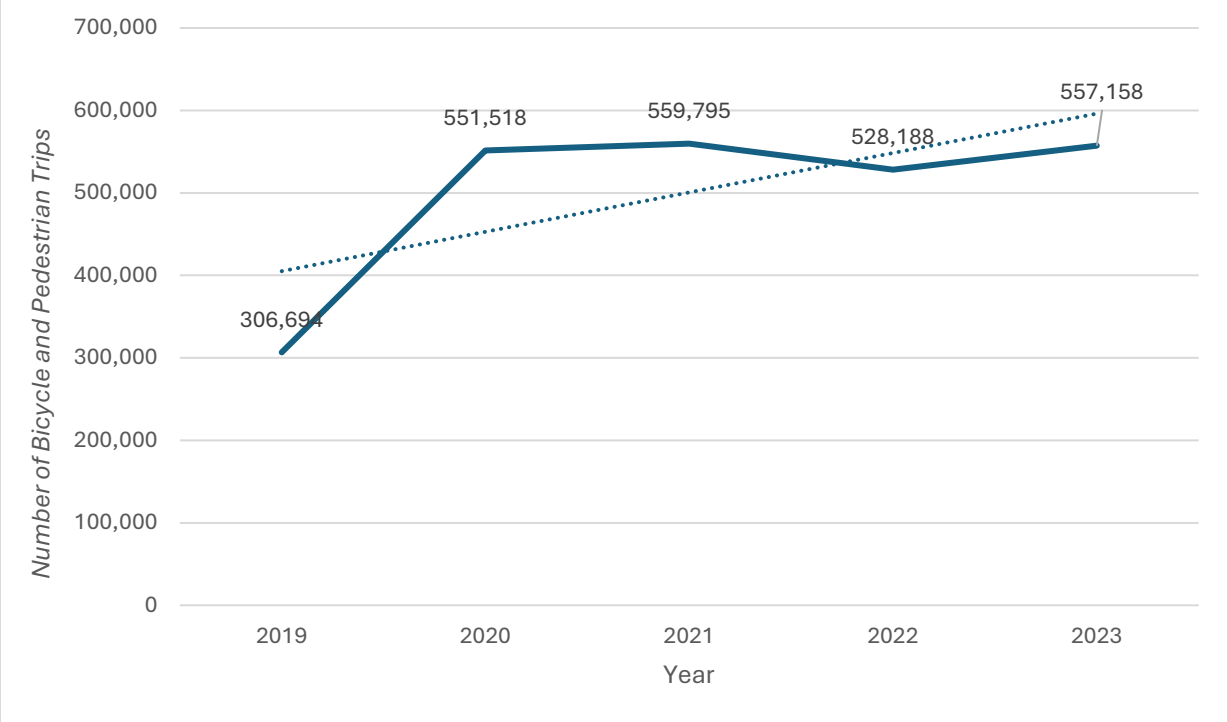


Figure 50: Total Bicyclists and Pedestrians on Trails - 2018-2023



Data collected from GPS-connected devices and aggregated though the Strava app (an app used by cyclists and pedestrians to record their activities) reveals additional information about travel in the metro area by active transportation modes. While there are many caveats and limitations to Strava data, it is useful for gaining more insight into the number of trips occurring. Below is a summary of the number of trips recorded on Strava during the past five years. Strava also gives insights into the origins and destinations of bicyclists and pedestrians, revealing some of the most popular routes for bicycle and pedestrian trips. Such areas include the Paseo del Bosque Trail along the Rio Grande, the foothills and East Mountain area, Placitas, Tramway Rd, Alameda Blvd, Osuna Road/Bear Canyon Trail, the UNM area, downtown Albuquerque, the Four Hills area, and North Albuquerque Acres.

Figure 51: Bicycle and Pedestrian Trips Recorded on Strava App in the Metro Area by Year



Safety Conditions for Active Transportation

Safety is a pressing problem in the AMPA, especially for the most vulnerable users; those traveling by bicycle and on foot or assisted mobility devices. The MRMPO High Fatality and Injury Network (HFIN) helps identify unsafe locations for all modes of travel, including for bicyclists and pedestrians in the AMPA (See Chapter 5 for more information on Safety). Locations of bicycle and pedestrian-involved crashes are shown in the map below:

Map 26: High Fatal and Injury Network (HFIN) - Crashes Involving Bicyclists

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

High Fatal and Injury Network (HFIN): Crashes Involving Bicyclists (2017-2021)

Bicyclist-Involved

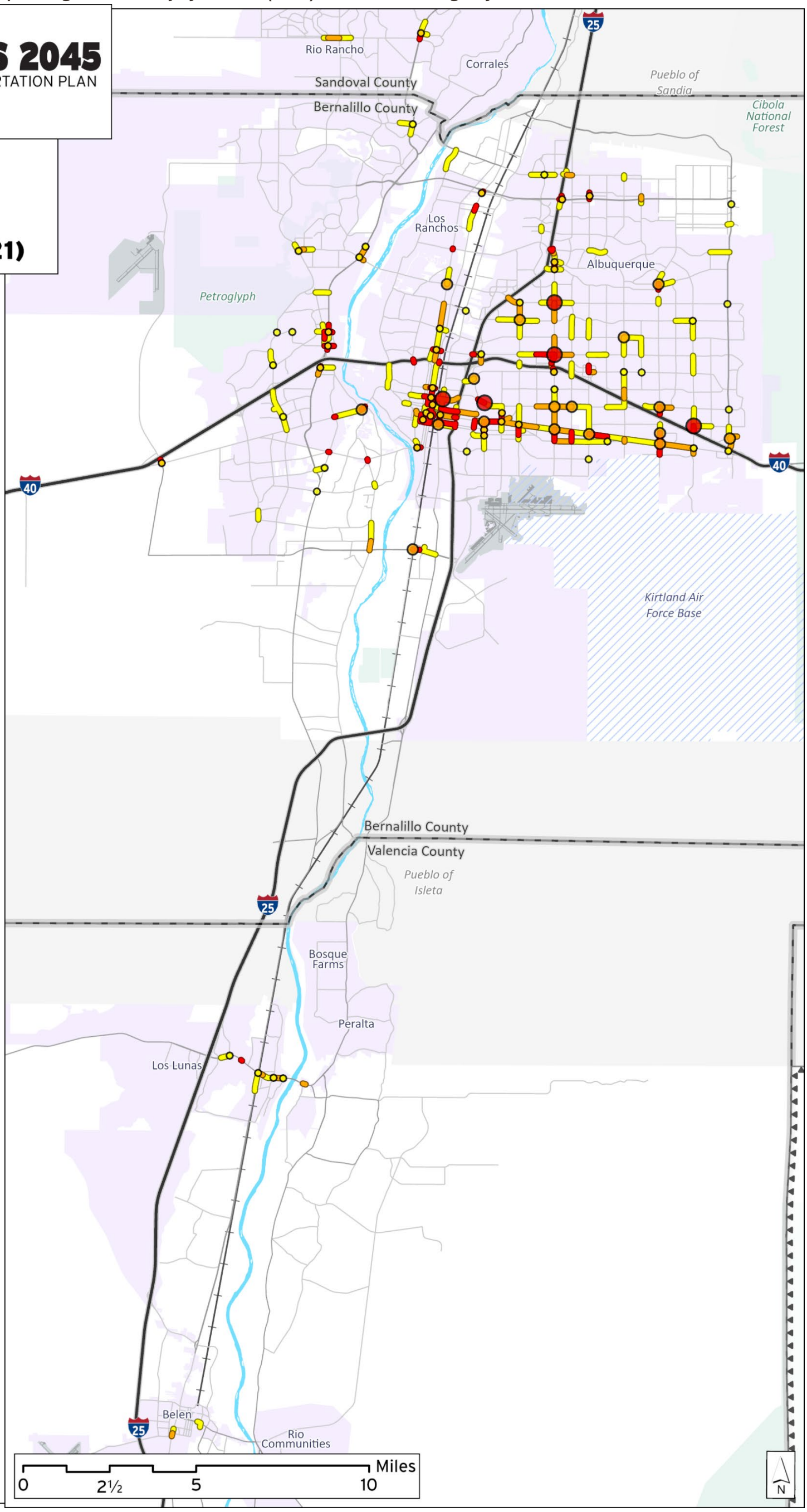
Crashes at Intersections

- 5-6
- 3-4
- 2

HFIN Bicyclist Score

By Roadway Segment

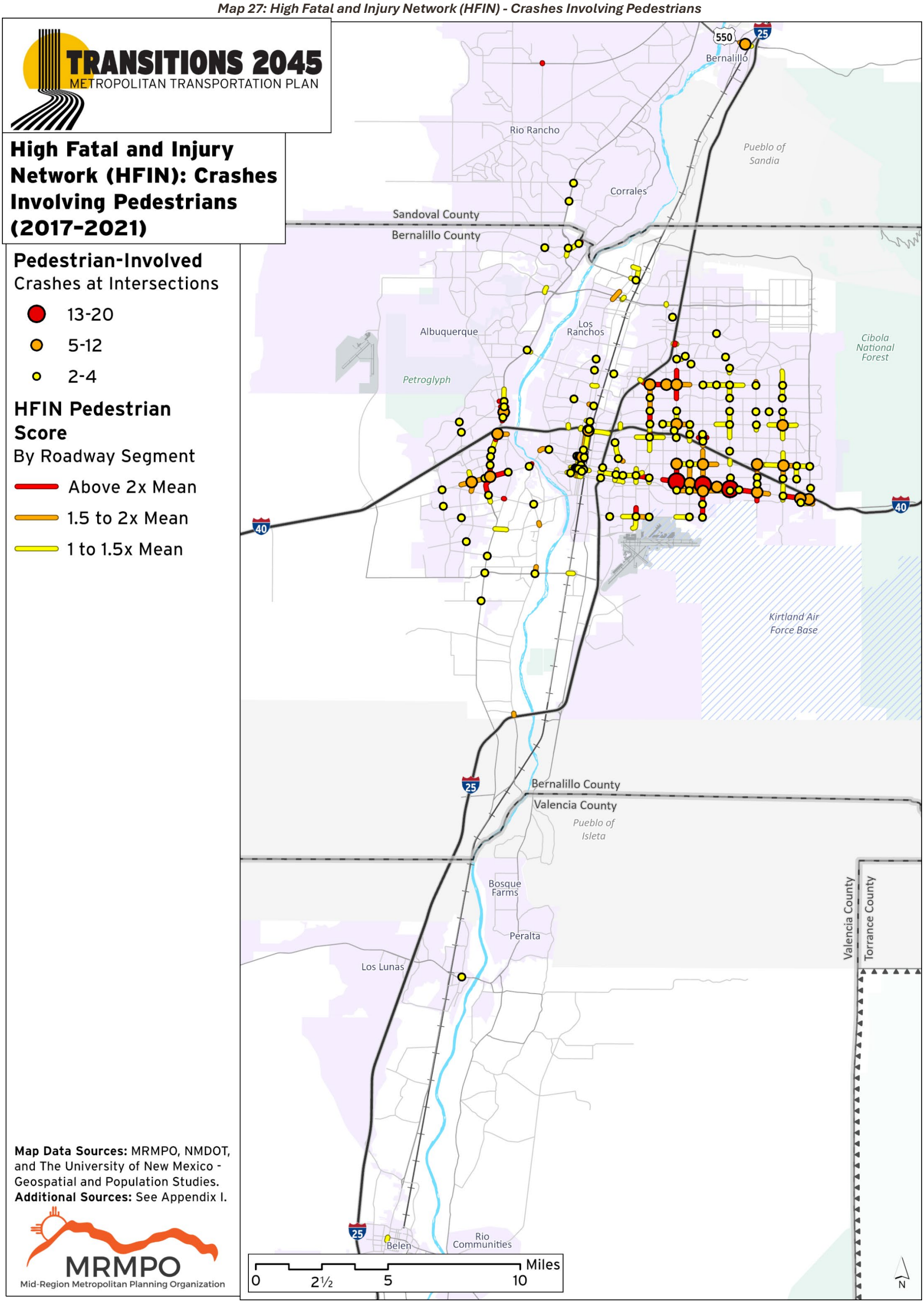
- Above 2x Mean
- 1.5 to 2x Mean
- 1 to 1.5x Mean



Map Data Sources: MRMPO, NMDOT, and The University of New Mexico - Geospatial and Population Studies.
Additional Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization

Map 27: High Fatal and Injury Network (HFIN) - Crashes Involving Pedestrians



As can be seen from the maps, many pedestrian crashes occur along the Central Avenue corridor, especially between San Pedro and Eubank and Juan Tabo to Tramway, as well as along Montgomery from I-25 to San Mateo. For bicyclists, problem areas include Central Ave near Louisiana and Girard, downtown, and the intersections of Montgomery Blvd and San Mateo Blvd, Menaul Blvd and San Mateo Blvd, Juan Tabo Blvd and Copper Ave, Lomas Blvd and Yale Blvd, and Lomas Blvd and Broadway Blvd.

6.2 Recent Enhancements to Active Transportation

6.2a Federal Laws, Programs, and Guidance

Federal surface transportation law requires MPOs to undertake multimodal transportation planning and improve the safety of transportation infrastructure, including for vulnerable road users like pedestrians and bicyclists. The federal law also allows state Departments of Transportation (DOTs) and MPOs to fund pedestrian and bicycle projects and activities from several transportation funding programs.

The USDOT "encourages transportation agencies to consider walking and bicycling *as equals* with other transportation modes, to provide transportation choices for people of all ages and abilities, and to go beyond minimum standards to provide safe, convenient, and comfortable active transportation networks[43]". To help transform these legal dictates into constructed reality, the federal government has recently made available substantial new funding for active transportation.[44] In addition, the US Access Board published Public Right-of-Way Accessibility Guidelines (PROWAG) to provide design guidance for accessible pedestrian facilities in the public right-of-way usable by people living with disabilities. PROWAG will be adopted by the United States Department of Transportation into the Department's ADA regulations. The Manual on Uniform Traffic Control Design (MUTCD), which dictates how everything from highway signs look to how crosswalks can be designed, also recently underwent a significant revision to be more bicycle- and pedestrian- friendly. The IIJA (2021) created new active transportation programs and requirements, including requiring MPOs to fund or undertake Complete Streets planning activities; requiring states to complete vulnerable road user assessments; and prioritizing spending on safety when there are high levels of vulnerable road user fatalities and injuries. Other federal initiatives aimed at improving conditions for active transportation include:

- FHWA Safe Systems Approach and Focused Approach to Safety (previously described in Section 5.1b)
- Complete Streets Initiative - Complete Streets are streets designed and operated to enable safe use and support mobility for all users. Complete Street policies are set at the state, regional, and local levels and are frequently supported by roadway design guidelines.

[43] (Source: https://www.transportation.gov/mission/office-secretary/office-policy/active-transportation/active-transportation).
[44] More information on how MRMPO programs federal funding is included in Chapter 10.

- The FHWA now explicitly allows local governments to use certain federally-recognized design guidance documents (such as NACTO's *Urban Bikeway Design Guide* and AASHTO's *Guide for the Development of Bicycle Facilities*), even when the State DOTs have not approved that guidance, in an effort to provide more design flexibility.
- ADA Transition Plans - ADA Transition Plans are required by the Americans with Disabilities Act (1990) to remove physical barriers to accessibility in transportation systems and facilities for people with disabilities. ADA Transition Plans should be updated periodically until the inventory of all accessibility barriers is eliminated. More information on local ADA Transition Plans is discussed in Section 6.2b.
- Safe Routes to School – This program promotes walking and bicycling to school through infrastructure improvements, enforcement, tools, safety education, and incentives. Plans and strategies can be implemented by a state DOT, MPO, local government, school district, or even a single school.

6.2b Local and State Planning Efforts

The *Transitions 2045 MTP* encourages policies, projects, and programs that support active modes of transportation. This section provides information on significant state and regional policies, plans, and projects related to active transportation, including those adopted since the previous publication of the *Connections 2040 MTP* in 2020.

Policies and Ordinances

- MRMPO Complete Streets Resolution. MRMPO's policy board, the Metropolitan Transportation Board (MTB), passed a Complete Streets resolution in 2011 that led to the development of MRMPO's Long Range Transportation Systems (LRTS) Guide (see Appendix M). The LRTS Guide provides Complete Streets guidance to ensure roadway designs consider land use context and the comfort and safety of all users of all abilities.
- City of Albuquerque Complete Streets Ordinance. The City of Albuquerque's Complete Streets Ordinance, published in 2015 and updated in 2019, requires all streets to be designed and built to efficiently serve all users – pedestrians, cyclists, transit riders, and motorists – and to make streets safer for all modes of transportation. It aims for cost-effective improvements to multimodal travel by capitalizing on opportunities that emerge through routine street maintenance and reconstruction projects. Examples of improvements accomplished through the program include the addition of new bike lanes and buffered bike lanes, road diets, refreshed crosswalks, and more. It also adopts, by reference, nationally-recognized standards for multimodal facilities to complement existing standards in the City of Albuquerque's Development Process Manual. Since the ordinance's adoption, there have been numerous successful Complete Streets improvements completed around the City. The ordinance was amended in 2024 to include policy to include green stormwater infrastructure in City medians and landscape buffers.
- Bernalillo County Complete Streets Ordinance. Bernalillo County also adopted a Complete Streets Ordinance in 2015. In 2023 the County adopted the Bernalillo County Technical Standards which include requirements for new development and capital projects. The Technical Standards document refences NACTO guidance and includes multi-modal guidance.

- MRMPO Safety Resolution. In August 2022, the MTB passed a resolution directing the MRMPO to prioritize safety in the Transportation Improvement Program (TIP), MTP, and other planning activities for the AMPA and to update the Regional Transportation Safety Action Plan (updated in 2024) and High Fatality and Injury Network (HFIN)

Plans and Studies

- MRMPO Long Range Transportation Systems (LRTS) Guide. The LRTS Guide prioritizes integrating planned land use into roadway design by ensuring both existing and future planned land use are considered when building new roadways or retrofitting existing roadways. The guide also provides context-sensitive, Complete Streets design guidance. The LRTS Guide promotes integrated infrastructure for bicyclists, pedestrians, and transit users and maps the long-range, unconstrained (or aspirational) transportation system for the roadway, transit, and bikeway networks). MRMPO plans to begin an update to the LRTS Guide in 2025. The current LRTS Guide is found on the MRCOG website.
- MRMPO Regional Transportation Safety Action Plan (RTSAP). Another standalone document developed by MRMPO is the *Regional Transportation Safety Action Plan*, dedicated to improving safety conditions for all modes of transportation in the region. The RTSAP, originally adopted in 2018, was updated in August 2024. The updates include best practices, strategies, and a list of regional safety projects. More discussion on the RTSAP is included in Chapter 5.
- Bernalillo County Pedestrian Safety Action Plan. Bernalillo County is updating their Pedestrian Safety Action Plan, which will be, focused on future pedestrian and bicycle infrastructure on unincorporated County roads. The Plan will incorporate FHWA's Safe System Approach to achieve zero crash fatalities.
- Village of Los Lunas Bicycle Plan. The Village of Los Lunas published their *Bicycle Master Plan* in 2016. The plan encourages bikeways where none exist and provides a vison for active transportation for the Village. Bicycle treatments include a mix of multiuse paths, traditional bike lanes, and routes.

Figure 52: Village of Los Lunas Bicycle Master Plan

- City of Albuquerque's Bikeway and Trail Facilities Plan. The City of Albuquerque's *Bikeways and Trail Facility Plan* was first adopted in 2015 and then updated and approved in 2024 to align with relevant City plans and policies. The update addresses barriers and safety concerns that deter bicycling and identifies keyways to make equitable bicycling improvements across the City.
- City of Albuquerque's Vision Zero (Year-in-Review/Action Plan Update). The Vision Zero Plan establishes traffic safety approaches and uses the HFIN to prioritize areas for targeted improvements. The Year-in-Review/Actin Plan Update was approved by City Council in 2023.

- Albuquerque Public School's Vision Zero for Youth Initiative. This Plan developed by APS includes a bicyclist safety curriculum and a public awareness campaign directed at drivers as well as support for Walking School Buses. The initiative will be implemented in all schools, elementary through high school.

- New Mexico Prioritized Statewide Bicycle Network Plan. NMDOT's New Mexico Prioritized Statewide Bicycle Network Plan, or NM Bike Plan (2018) identifies a system of priorities and design guidance for bike facilities along highways in the state. Priorities for improvements within the AMPA include NM 165 in Placitas; NM 550 in Bernalillo; NM 347/Paseo del Volcan; NM 528/Pat d' Arco Highway; NM 47/2nd Street/Broadway; NM 423/Paseo del Norte; NM 556/Tramway Boulevard; NM 45/Coors Boulevard; NM 550/Rio Bravo Boulevard; NM 314/Isleta Boulevard; and NM 6/Main Street in Los Lunas. The plan will be updated in the coming months.
- NMDOT Pedestrian Safety Action Plan. The Pedestrian Safety Action Plan was finalized in 2021 and provides a five-year framework of actions to reduce the number of pedestrian-involved injuries and fatalities in the state. The Plan has a system for tracking and reporting progress to help NMDOT assess whether it is on track for meeting its goals.
- NMDOT Vulnerable Roadway User Assessment. NMDOT completed a Vulnerable Road User Safety Assessment in 2023, a federal requirement of the Bipartisan Infrastructure Law. The assessment will help guide the use of Highway Safety Improvement Program funding, center safety in NMDOT projects, and can be used as a tool to reduce crashes impacting vulnerable users (i.e., a non-motorist who is walking, biking, or rolling, including highway workers in a work zone) in New Mexico.
- ADA Transition Plans. The Rehabilitation Act (1973) makes it illegal for the federal government, federal contractors and state and local governments receiving federal funds to discriminate on the basis of disability and requires state and local governments to ensure persons with disabilities have equal access to programs, services or activities receiving federal funding. This includes pedestrian facilities in the public right-of-way. To ensure transportation accessibility, local jurisdictions in the AMPA must build new facilities to meet ADA compliance standards and remove physical barriers where possible. Most local jurisdictions in the AMPA have completed Americans with Disabilities Act (ADA) Transition Plans that include a complete or partial inventory of pedestrian facilities in the public-right of-way and steps to ensure pedestrian facilities comply with the ADA[45].

[45] The *LRTS Guide* provides street typology matrices and basic guidance on right-of-way set-asides that meet ADA compliance standards generally but do not provide guidance for specific access requirements. Specific pedestrian improvement projects must refer to the New Mexico Department of Transportation's ADA Pedestrian Access Standard Drawings. These drawings conform to ADA requirements and provide guidance for compliance with the Proposed Accessibility Guidelines for Pedestrian facilities in the Public Right-Of-Way (PROWAG).

6.2c MTP Active Transportation Projects

The *Transitions 2045 MTP* project list includes a number of active transportation projects, including 98 bike/pedestrian projects out of 620 projects total, which amounts to $478,489,122, or approximately six percent of spending for that project type[46]. Below are some key past and active projects, most of which have been funded through their inclusion in the MTP and the TIP, or which are currently listed in the MTP and eligible for future TIP funding.

Alameda Drain Trail

Bernalillo County and the City of Albuquerque are constructing a multiuse trail along Matthew Avenue from Fourth Street NW to Second Street NW and along Second Street NW from Matthew Avenue to Roy Avenue in the North Valley. Currently, the TIP funds four phases which extend north to Alameda Boulevard and construction plans for the last phase (Phase 6) are being reviewed. The project includes green infrastructure/low impact development design, landscaping, wayfinding, and other trail amenities.

Albuquerque Rail Trail

The Albuquerque Rail Trail will be a seven-mile multiuse trail connecting downtown Albuquerque to surrounding neighborhoods, the Bosque Trail, transit, and cultural and entertainment destinations such as the Rail Yards, ABQ BioPark, and National Hispanic Cultural Center. The project is currently in the design phase, and several segments with independent utility have been funded through a combination of local, state, and federal funds.

Louisiana Blvd Vision Zero Project

The first phase of the project, completed in 2024, implemented a road diet along Louisiana Blvd from Gibson to Central; added separated and standard bike lanes along the corridor; and built curb extensions. A future phase of the project plans to install Pedestrian Hybrid Beacons at midblock locations along the corridor.

North Diversion Channel Trail Rehab

This project involves rehabilitating the eight-mile multiuse trail, including resurfacing, restriping, signage upgrades, selective widenings, safety features and other amenities as needed.

Paseo del Norte Widening

The Paseo del Norte Widening project includes bicycle and pedestrian improvements and ADA Compliance from Unser to Universe. It is set to begin construction in 2024.

[46] Note that this figure includes publicly funded projects only that are classified primarily as Bike/Ped projects. Other non "Bike/Ped Projects" might include bicycle and pedestrian elements, however, those are classified primarily as other project types based on the purpose and scope of the project.

AMPA-wide Youth Bicycle/Pedestrian Safety Education Program

This program increases youth safety in the AMPA through education on multimodal transportation and proper use of infrastructure. The program is run through the City of Albuquerque Parks and Recreation Department. Some of the programming included involves taking bike and pedestrian safety education to elementary - high schools in the metro area, providing bicycle helmets and other equipment along with logistical support for efforts promoting youth bicycle and pedestrian safety. The goal of this program is to increase safety of bicyclists and pedestrians while building excitement for active transportation among the youth in our community.

Coors Boulevard SW Pedestrian Safety Improvements

This Bernalillo County project includes the design and construction of safety countermeasures along nearly two miles of Coors Boulevard SW, including reducing lane widths, lowering speed limits, installing protected bike lanes, sidewalks, raised medians, corridor lighting, and improved crosswalks. The project is expected to be completed in 2025.

4th Street Revitalization Project

The second phase of the 4th Street Revitalization project is currently underway and is expected to begin construction in 2026. The project aims to improve safety, develop a unique identity for 4th Street, and keep and attract business in the village. The project will convert the four-lane road to two lanes with a center two-way left turn lane; include new ADA sidewalks and trails; install a roundabout; and add landscaping. The revitalization spans 4th Street from Pueblo Solano to Ranchitos Rd in Los Ranchos de Albuquerque.

4th Street Road Diet Project

Bernalillo County is completing design to implement a road diet along 4th Street NW that will go to construction in 2025. The project will incorporate the proven safety countermeasure of changing a four-lane road with two lanes in each direction, no sidewalks or bicycle lanes into a three-lane roadway with one lane in each direction, a center two-way left-turn lane, bicycle lanes and ADA compliant sidewalk with curb and gutter.

6.2d Advocacy Efforts

Regional active transportation advocates–including BikeABQ, Together 4 Brothers (T4B), Story Riders, Critical Mass, and Kidical Mass–champion infrastructure enhancements and encourage more people to use these modes for travel. Advocates play a strong role in highlighting needed improvements, celebrating progress, and creating a stronger culture of bicyclists and pedestrians that in turn helps to make those trips more common. Many advocates provide their experience and expertise and often provide thankless but helpful work such as attending committee meetings, submitting comments and testimonies, writing blog articles and letters to officials, and volunteering their time and resources to support the community.

6.3 The Future of Active Transportation

The following section highlights recommended opportunities and strategies that align with the efforts of local governments and other partners in the AMPA.

6.3a Opportunities

Creating an All Ages and Abilities Network

A safe, well-connected, and pleasant active transportation network can improve safety, reduce congestion, improve health outcomes, and improve economic access and opportunity. Building facilities that work for bicyclists and pedestrians of all ages and abilities is a best practice and a basic guidepost to achieve gains in multimodal comfort, safety, and trips taken. Historically, much of the planning and designing for bicyclist infrastructure (and that of pedestrians) has been for the "Strong and Fearless"[47] type of riders, but the key to a designing a widely used bicycle network is to focus on "Interested but Concerned" riders. Mutliuse paths, protected bike lanes and intersections, bicycle boulevards, and other infastructure which separates bikers from vehicles can increase comfort, safety, and lead to more bicycle ridership. For pedestrians, all facilities must be built to meet ADA and PROWAG standards or retrofitted when possible.

The Long Range Bikeway System (LRBS) provides an aspirational view of how people in the region would like the bikeway network to develop over time (and is not limited to the 20-year horizon or funding limitations of the MTP project list). Based on the National Association for City Transportation Officials (NACTO) guide for "Designing for All Ages and Abilities" and the FHWA's Bikeway Selection Guide, the LRBS focuses on creating more protected bikeway facilities that serve the "Interested but Concerned" riders discussed earlier. Ultimately, local governments will determine what type of facility to provide and are encouraged to choose options that lead to an all ages and abilities network, one that will enable hesitant riders to feel comfortable. The guidance below can be used by MRMPO member agencies when considering how and where to design new bicycle facilities.

Figure 53: Bicycle Rider Types

[47] These bicyclist types were originally developed by Roger Geller at the City of Portland, OR but have been expanded and are now used nationally.

Figure 54: Contextual Guidance for Selecting All Ages and Abilities Bikeways

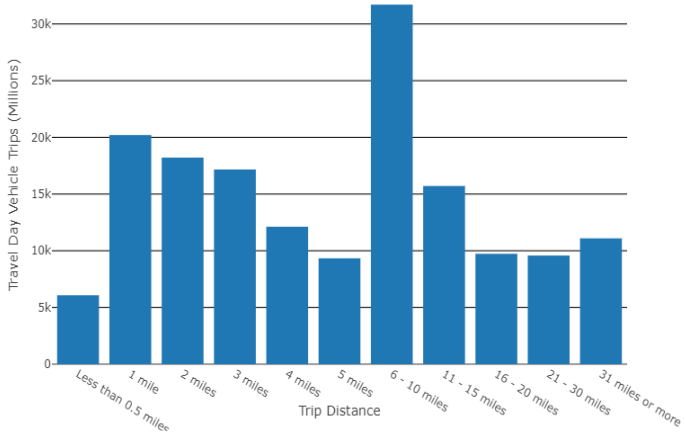
Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		Any	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts‡	**Protected Bicycle Lane**
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500			
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 3,000 – 6,000			**Buffered or Protected Bicycle Lane**
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 25 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	Any	Any	**Protected Bicycle Lane**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

Source: nacto.org (https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/choosing-ages-abilities-bicycle-facility/)

Capturing Short Trips

According to the 2022 National Household Travel Survey conducted by FHWA, more than half of vehicle trips taken were less than five miles. About 28 percent of driving trips are two miles or less, which is approximately a 12-minute bicycle ride, while 16 percent of driving trips are a mile or less, which is approximately a 20-minute walk. In other words, many trips being taken by car are of bikeable and walkable distances. Shifting these short trips to walking or biking could greatly increase the number of non-motorized trips in region, providing many benefits (air quality, personal health, and overall quality of life).[48] Increasing the rate at which people walk or bike instead of drive for a short trip is a realistic regional goal. It will require improving safety and comfort of sidewalks and bikeways near daily destinations and within activity centers, providing good bike parking, adequate lighting, and safe street crossings.

Figure 55: Number of Vehicle Trips (VT) by Trip Distance (TRPMILES)



Source: https://nhts.ornl.gov/vehicle-trips

Closing Gaps

Closing gaps in the bicycle and pedestrian networks (e.g., when a bike lane or sidewalk ends abruptly) is another effective strategy, providing better access to jobs, services, and other destinations such as schools, grocery stores, and recreation. The bicycle and pedestrian networks are not complete in the region, and there are many known gaps that continue to pose barriers for these modes. Closing gaps and addressing physical barriers such as the river and interstates must be a regional focus. In recent years, new pedestrian and bicycle grade-separated crossings have addressed gaps. There are a range of ways to address gaps, from connecting bike and walking paths through cul-de-sacs and alleyways, installing mid-block crossings, enhancing the comfort and accessibility of existing facilities (including and especially at intersections), maintaining existing facilities, and adding bicycle lanes during scheduled repaving. Long-range, short-range, and community plans also provide an opportunity to identify gaps and then prioritize and address those gaps. In MRMPO's Project Selection Process, projects that improve overall network connectivity or make a direct connection to an important regional destination are prioritized for TIP funding. This MTP recommends the following be prioritized as locations for addressing gaps:

- Disadvantaged commities
- Schools
- Activity Centers

[48] Environmental Protection Agency 2015 article (EPA-420-F-15-021) published by the Office of Transportation and Air Quality

Improved Data Collection

MRMPO is responsible for collecting non-motorized counts within the AMPA and currently maintains seven permanent counters located on multiuse paths in the City of Albuquerque.

In 2022, MRMPO made a commitment to expand its nonmotorized counts program in order to improve data on bicyclists and pedestrian activity and conducted a study that outlines a path forward to expand the nonmotorized data collection program. As a result of that study, MRMPO plans to install more counters in varied geographic and socioeconomic locations and facility types, recognizing that current data likely undercounts bike and pedestrian trips and that more accurate counts are needed to improve planning and funding of bicycle and pedestrian facilities. Richer data can also assist with before-and-after studies and identify trends and evaluate investments. The non-motorized counts program will be developed alongside MRMPO Traffic Counts program and will share resources and synergies with that program where possible.

Expanded Use of Micromobility Devices

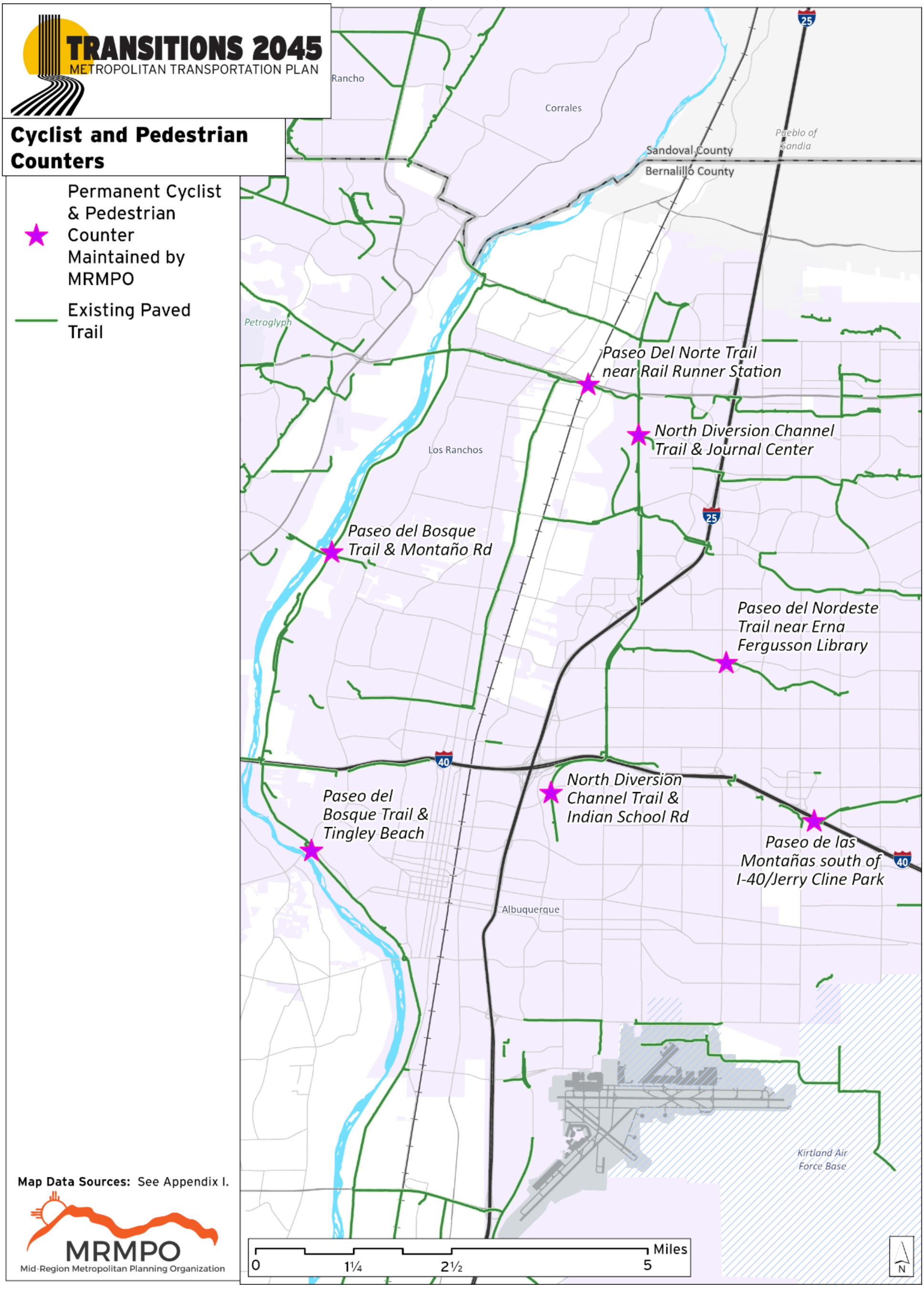
Micromobility devices—such as electric bicycles, scooters, and self-balancing boards[49]—are becoming more common in cities throughout the nation. Along with the use of these devices come new challenges and opportunities, including increased mode share for active transportation trips and the potential for shared micromobility programs in communities.

The City of Albuquerque passed an ordinance in 2024 to make the fee structure for shared micromobility operators less cost prohibitive. Shortly after, a micromobility company received a permit to install and test e-scooters throughout the city. In addition, the City now requires 25 percent of stations to be located within high social vulnerability census tracts to improve equitable access to such programs. Continued development of a safe and connected bicycling network would support future shared micromobility efforts.

Micromobility provides new ways for people to get around and can remove barriers that might otherwise prevent people from taking active forms of transportation. Micromobility devices provide an additional option for short distance trips, especially if priced competitively and with links to transit: first- and last- mile transit connections can strengthen the multimodal transportation network. The widespread availability of micromobility devices can incentivize households to go car-free or car-light. When deployed in central business districts, bikes and scooters allow workers to grab lunch, run errands, or get between meetings in less time than it takes to drive or use transit. Micromobility also benefits tourist and visitor industries, extending the reach of guests to travel easily between hotels, cafes, museums, convention centers, and transit stops. In areas with low car ownership, micromobility can increase mobility options. Mitigating issues that arise from their use, such as safety, equity, and accessibility, will be necessary to support their usage.

[49] Powered micromobility vehicles are wheeled vehicles that must be fully or partially powered and which have a curb weight of less than 500 lbs and a top speed of less than 30 mph. They include powered bicycles, standing and seated scooters, self-balancing and non-self-balancing boards, and skates. Source: *SAE International from SAE J3194™ Standard - TAXONOMY & CLASSIFICATION OF POWERED MICROMOBILITY VEHICLES. https://www.sae.org/standards/content/j3194_201911/*

Map 28 : Cyclist and Pedestrain Counters



Other ways in which local governments in the region are grappling with emerging issues with micromobility use is through the regulation of their use on different types of facilities. An ordinance passed by the City of Albuquerque in 2024 to address e-bike (and other power assisted devices) usage on trails was drafted in response to State legislation prohibiting their use on trails unless explicitly allowed by local governments. One strategy in the ordinance is to institute a 20-mph speed limit applicable to all bikes, scooters, and mobility devices regardless of whether they are electric or not. The goal is to find a balance between providing access and realistically maintaining safety.

Improved Walkability

Walkability is an important aspect to making walking an attractive and more utilized mode of transportation, which is important for improving health and environmental outcomes. While having walkable communities everywhere would be ideal, focusing on certain areas, such as activity centers and areas near schools, is a more practical approach. Walkability can be attained or improved by developing (or redeveloping) more dense and mixed-use land uses that are accompanied by comfortable and safe pedestrian facilities (e.g., ADA compliant sidewalks, highly visible and safe signalized and unsignalized street crossings, pedestrian lighting, street trees for shade, landscape buffers, Leading Pedestrian Intervals (LPIs), etc.). Walkability in some cases can be improved through consideration of how to mitigate harm caused by existing infrastructure. For example, many communities have addressed impacts caused by highways built in the urban core which can contribute to community division, environmental degradation, and economic inequities. Examples of mitigation measures include decking over a highway, partial removal of a highway, or a redesign of the highway to better connect neighborhoods and enhance walkability.

6.3b Strategies

Enhanced Active Transportation Facilities

Active transportation networks can be enhanced by retrofitting or constructing facilities to improve their comfort and protection. This can be achieved through:

Physical separation - Existing buffered bike lanes can be enhanced with physical separation with the use of flex posts, curbs, planters, jersey barriers and other treatments. In addition, for new roadways, bike facilities can be multiuse paths adjacent but physically separate from the road. Whenever possible, physical separation should be considered when developing an All Ages and Abilities active transportation network.

Separation of users in time – In addition and related to physical separation, another best practice is to separate users' time. This can be accomplished through strategies such as Leading Pedestrian (or Bicycle) Intervals (LPIs) installed at signalized intersections, which allow pedestrians/bicyclists to enter an intersection before drivers. Another example is a pedestrian hybrid beacon (PHB), which requires drivers to stop when a pedestrian has activated the crossing signal and thus allows time for a pedestrian to cross the street.

Shade and landscape buffers - Street trees provide numerous benefits including traffic calming, reduced heat island effect, and more comfort for pedestrians. Landscape buffers placed in between the roadway and sidewalk provide space for street trees, allow more physical separation between pedestrians and vehicles, and improve comfort for pedestrians.

Green infrastructure - When possible, green infrastructure should be considered in the design of roadways. This includes bioswales in curb extensions/bulb outs, permeable pavement for sidewalks, bike lanes and parking lanes, which helps reduce runoff and treat stormwater. Green infrastructure reduces the need for gray infrastructure, or built drainage facilities, helps cool the surrounding area, and may be more effective than traditional gray infrastructure. Green infrastructure can make walking and bicycling more comfortable and inviting.

In addition, more visible crosswalk markings, enhanced pedestrian lighting, installation of enhanced street crossings, and the maintenance of existing bicycle and pedestrian facilities are all critically important enhancements to active transportation travel.

Improving Safety

The most important strategy for improving active transportation in the AMPA, especially for non-drivers, is addressing safety. New Mexico and the City of Albuquerque consistently rank as among the highest for pedestrian fatalities per capita, and bicycling fatalities, though lower than other states, still remain unacceptably high. Safety improvements for active transportation should be prioritized in areas that are the most unsafe for those modes and in areas where people are reliant on those modes for transportation. As the HFIN map (discussed earlier in this chapter and also in more detail in Chapter 5) shows, those areas largely coincide. Strategies for improving safety are discussed in the 2024 Regional Transportation Safety Action Plan and in Chapter 5 of this MTP.

Respondents to *Transitions 2045 MTP* surveys cited prioritizing safety for bicyclists and pedestrians as the top objective for the Active Transportation goal. Bike to Work Day survey results consistently concur, and safety is routinely emphasized as the highest priority.

Many agencies around the region are doing important work to improve traveling safety in their communities and collaboration has been increasing.

Approaches for Increasing Safety

Vision Zero Policies and Plans

Vision Zero is a commitment to create safer streets for all, whether walking, biking, driving, or taking transit, and regardless of age or ability. Track records of Vision Zero programs around the world and in the United States show that fatal and injury crashes can be reduced significantly with an adopted goal of zero fatalities and strategies aimed toward meeting that goal. The City of Albuquerque was the first government entity in the region to adopt a Vision Zero policy and plan, and MRMPO has included Vision Zero as guiding framework of its *Regional Transportation Safety Action Plan*. Bernalillo County's updated Pedestrian Safety Action Plan incorporates a Vision Zero goal, and the New Mexico Department of Transportation is working toward a Vision Zero goal as well through their Target Zero effort. Other jurisdictions and agencies in the region and state are taking meaningful steps to help address traffic violence in our communities.

Complete Streets

Complete Streets can help improve safety by considering the needs of all roadway users in the design, reconstruction, and rehabilitation of roadways. Although not every roadway has enough right-of-way to accommodate all forms of transportation, Complete Streets can provide connected networks that enable pedestrians, transit users, motorists, and bicyclists to travel around the region. For example, when it is not possible to add a bike lane on a road, a nearby parallel route could be developed to provide network connectivity.

The LRTS, discussed earlier in the chapter, provides Complete Streets guidance for local governments in the AMPA. Streets can be made more "complete" with the inclusion of proven safety countermeasures, such as bicycle lanes, walkways, pedestrian refuge islands, and road diets. Further discussion on proven safety countermeasures is on the FHWA's website and in MRMPO's RTSAP.

Education and Encouragement

In addition to design-oriented solutions, education and encouragement can also help attract more people to walking and bicycling.

Safe Routes to Schools

As children are among the most vulnerable users of the transportation system, it is critically important to address their access to active transportation as well as their safety while traveling. Safe Routes to Schools programs have proven effective for employing both engineering-based and encouragement-based efforts for getting more students to walk and bike to school, especially since those numbers have dropped dramatically compared to past generations.

Locally, APS has launched a district-wide Vision Zero for Youth Initiative that includes a bicyclist safety curriculum, and a public awareness campaign directed at drivers as well as support for Walking School Buses. The initiative will be implemented in all schools, elementary through high school.

Safe Routes to School programming is also available through the Esperanza Bicycle Safety Education Center. Programming includes elementary school outreach, bike rodeos, and other programs aimed at teaching students about safely walking and biking.

Local Education and Outreach Efforts

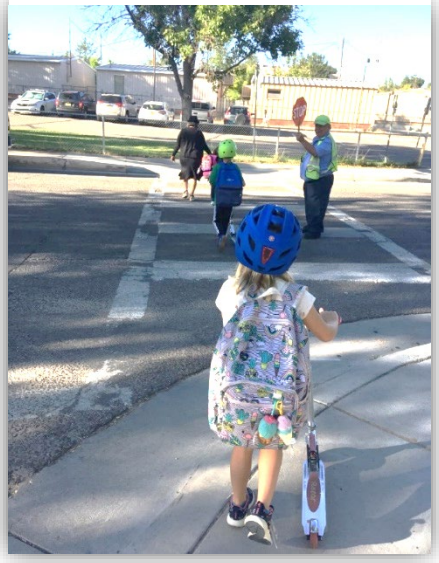
In addition to Safe Routes to Schools programming, the Esperanza Bicycle Safety Education Center also provides trainings in community settings and free bicycle tune ups for Albuquerque residents and Free Bikes 4 Kidz New Mexico works on distributing bicycles to kids most in need

There are also a number of existing efforts underway in the region that encourage people to walk and bike more. Officially organized efforts such as the City of Albuquerque's annual Bike to Wherever Day (formerly Bike to Work Day) and Bike Through Burque events as well as grassroots efforts including Slow Roll 505, Kidical Mass, and the ABQ CiQlovía encourage more biking and walking for both new and existing active transportation users.

The Center for Pedestrian and Bicyclist Safety (CPBS) was recently created and is headquartered at UNM. It is a Tier-1 University Transportation Center funded by the US DOT. CPBS's goal is to eliminate pedestrian and bicyclist fatalies and serious injuries through research and education.

The UNM Center for Injury Prevention Research and Education Look for Me campaign (funded by NMDOT) focuses on educating law enforcement agencies, community leaders, advocates, and the public on how to be safe when using transportation, with a particular focus on educating motorists to look for people on bike or foot.

Figure 56: Children Scooting to School in Albuquerque



Transportation Demand Management

Transportation Demand Management (TDM) refers to efforts aimed at reducing the number of vehicle trips or shifting when trips happen to help alleviate congestion. Examples include offering transit passes to employees; offering incentives to bicycle and walk to work, events, or school; and offering flexible work start times and work from home opportunities. There are and have been various active transportation-focused TDM efforts deployed in the region in past years. Existing programs could be expanded at a regional level to complement other active transportation planning and investments taking place in the AMPA. The City of Albuquerque's Bikeway and Trail Facilities Plan outlines potential elements for a regional TDM program:

- Bike parking
- Private business incentives
- Bicycle benefits program
- End-of-trip facilities such as showers, lockers, and bike parking
- Safe Routes to Schools
- Bicycle encouragement events

Further discussion on TDM can be found in Section 4.3c.

Each MTP goal has a list of key strategies that are recommended as a toolbox for local governments and agencies to implement to help achieve the goals. The key Active Transportation strategies are shown below.

6.4 Goals, Objectives, and Strategies

To address the active transportation challenges our region faces and cultivate a transportation system that leads to improved Active Transportation in the region, the following goals, objectives, and strategies should be considered:

Table 27: MTP Active Transportation Strategies

Active Transportation *Ensure safe and convenient ways to travel for people who cannot or choose not to drive.*	Improve safety for bicyclists and pedestrians	Ensure the health and safety of the traveling public through implementation and support of existing safety plans in the state and region.
		Design roadways and multimodal facilities that can be safely and comfortably used by people of all ages and abilities.
		Improve the user experience for cyclists, pedestrians, and transit riders with useful and safe connections and design.
	Build connected bike and pedestrian travel networks	Provide non-motorized access and safe routes to existing and potential recreational areas and open space.

		Improve multi modal access to and within key centers and transit corridors.
	Coordinate land use and transportation planning	Encourage the siting of schools, innovation, and the expression of internal ped/cyclist access points and routes, in a way that improves active transportation infrastructure.

Map 29: Long Range Bikeway System (LRBS)

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

Long Range Bikeway System (LRBS)

The Transitions 2045 MTP provisionally adopts a partially updated Long Range Bikeway System (LRBS) from the Connections 2040 MTP. It has been incrementally updated since it was originally approved in April 2020. This network will be updated through the development of the Long Range Transportation Systems Guide, which is scheduled for completion in 2026. Following that process, the LRBS map will be updated and amended into the 2045 MTP.

Bicycle Facilities

By Status and Type

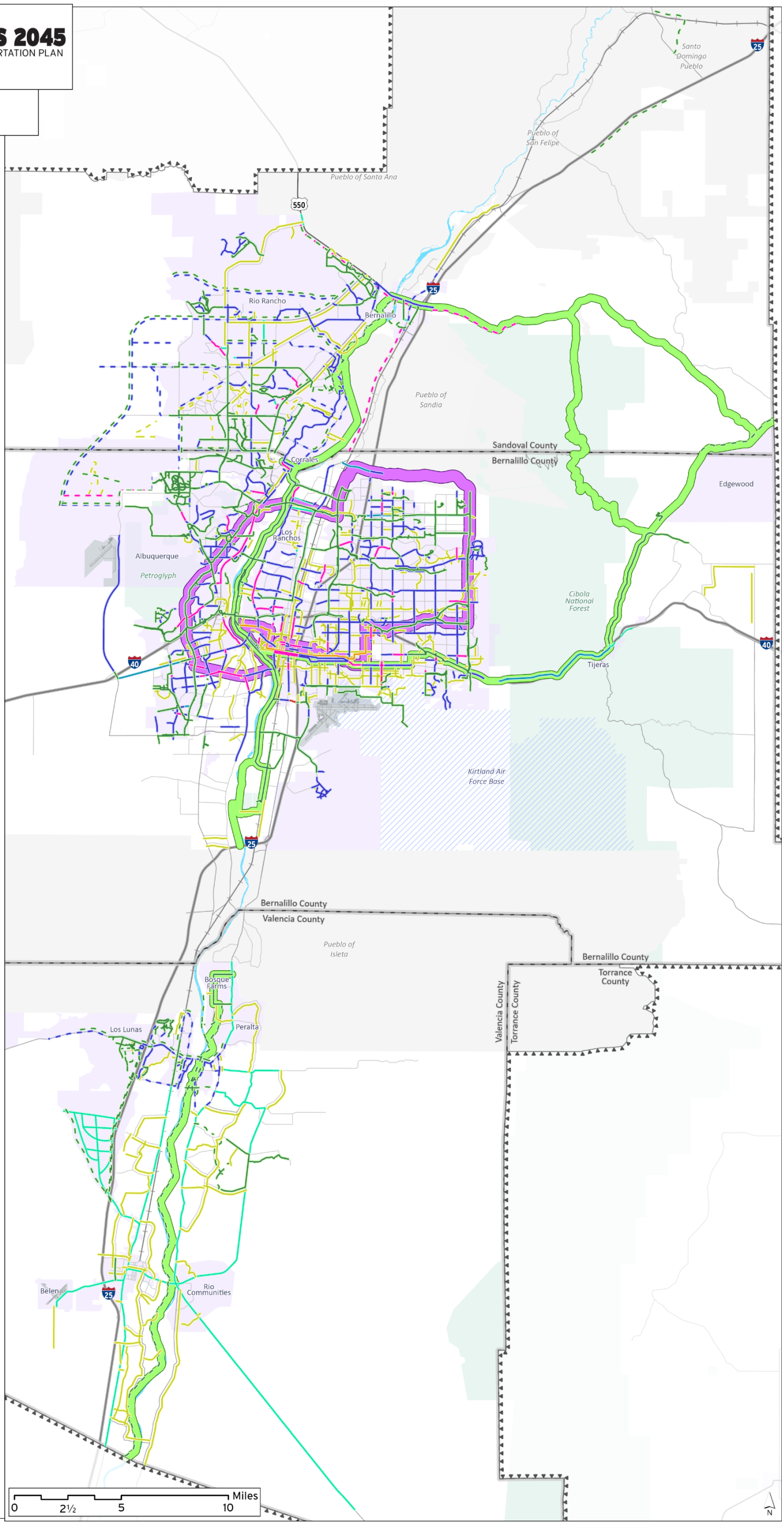
- Existing Paved Trail
- Existing Protected Bike Lane
- Existing Buffered Bike Lane
- Existing Bike Lane
- Existing Bike Boulevard
- Existing Bike Route
- Existing Wide Shoulder
- Proposed Paved Trail
- Proposed Protected Bike Lane
- Proposed Buffered Bike Lane
- Proposed Bike Lane
- Proposed Bike Boulevard
- Proposed Bike Route
- Potential Bike Facility

Trails of Regional Interest

- Proposed Rio Grande Trail Alignment
- 50-Mile Activity Loop

Map Data Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization



CHAPTER 7 ECONOMIC VITALITY

Transportation systems today have a large responsibility. They must help people traverse metropolitan areas so they may safely and comfortably access their jobs, medical appointments, shopping destinations and outdoor recreation. They should also be designed to support a region's economy by facilitating efficient goods movement and promoting business access to labor and their customers. They should be multimodal and serve the needs of all users, from cyclists to pedestrians and public transit users, to motorists and freight operators. In addition, these networks should promote easy access to critical destinations, including affordable housing. In short, a strong transportation system can foster a healthy economy by facilitating the safe and efficient movement of people and goods while activating spaces and elevating the quality of life for all.

7.1 The Regional Economy

As the most populated urban center in New Mexico, and home to nearly half of the state's population, the Albuquerque metropolitan area is one of the primary drivers of New Mexico's economy. The regional economy is deeply connected to and dependent on New Mexico's natural resources, links to national and international transportation logistics, and reinvestment of home-grown wealth back into the economy. The following table is an abbreviated list of perceived strengths and weaknesses of the economy, developed with input from MRMPO's Land Use and Transportation Integration (LUTI) Committee.

Table 28: Albuquerque Metropolitan Area's Strengths and Weaknesses

Strengths	Weaknesses
Climate: low natural disaster risk, 300+ days of sunshine, four seasons	Climate: heat and drought
National and International transportation connections (I-40, I-25, rail, international airport)	Education (quality and population)
Walkability and bike-ability	Sprawl
Affordability: homeownership and cost of living	Lack of diverse housing options
Energy (solar, oil, natural gas)	Low wages/lack of living wages/poverty
Low-cost business startup	Crime/perceived crime
High tech infrastructure	Limited healthcare providers
Developable land and opportunities to increase density	Lack of "site ready" development sites, especially industrial
Natural amenities, parks and open space, nature and outdoor recreation	Aging agriculture workforce

THREE-LEGGED STOOL

The multiple facets of economic development are sometimes presented in the context of a three-legged stool, where each leg is key to ensuring a stable economy. The three legs are:

1) Attract new business;
2) Retain and expand existing business; and
3) Support local entrepreneurship/small business development.

Attracting new businesses to the region can help with job creation, but businesses with headquarters out-of-state fail to keep profits in the region. This phenomenon is known as "leakage," where goods manufactured or services performed in the Albuquerque metropolitan area create wealth for the company, but this wealth is not transferred directly back into the local economy because profits are sent to the corporation's home state. Investing in New Mexico and metropolitan area companies and small businesses that manufacture goods or provide services within and outside the region will help retain and grow wealth in the region, while simultaneously growing jobs and expanding the economy. Training the future workforce to fill anticipated openings at these businesses through educational institutions, workforce training programs, and apprenticeships helps to retain both the company and the workforce.

Economic Development Organizations

Several organizations within the metropolitan area focus on various aspects of business attraction, retention, and growth, including (but not limited to):

- **Workforce Connection of Central New Mexico (WCCNM)** serves to match residents who are unemployed or underemployed with suitable employers and provides a range of other supportive services.
- **Albuquerque Regional Economic Alliance (AREA)** works with national site selectors to attract new business to the Albuquerque region by identifying appropriate sites and connecting businesses with local incentives. AREA also works to retain and expand existing business by advocating for and helping businesses connect with incentives.
- **Sandoval Economic Alliance (SEA)** exists to promote and strengthen the economic base of Sandoval County by assisting businesses with expansion, relocation or consolidation. They also assist with identifying financial incentives and other community support.
- **The New Mexico Partnership** serves all of New Mexico, providing businesses and economic developers with assistance with the site selection and incentive process.
- **NAIOP New Mexico Chapter** elevates the commercial real estate development industry by providing advocacy, education, research and connections to foster business opportunities. Membership is primarily composed of developers, commercial real estate professionals, business owners, and other economic development professionals.
- **WESST** provides education and resources to women and other entrepreneurs to start and grow their businesses in New Mexico.

- **FUSE Makerspace** is a partnership with Central New Mexico Community College (CNM). The makerspace includes woodworking, metal, digital, and software equipment and tools for use by members to allow creatives and emerging technical professionals to design, prototype, and create manufactured works in a low-cost, collaborative environment.
- **Street Food Institute (SFI)** provides education, training, and culinary space to help launch restauranters into both food truck and restaurant environments.
- **Lobo Rainforest:** Part of the University of New Mexico (UNM), this residential community is designed to provide a collaborative living space where student residents are close to innovative resources and entrepreneurial opportunities, working with mentors, innovators, and business advisors, with access to labs and technology-transfer organizations.
- **Mainstreet Organizations and Community Development Organizations** provide locally focused initiatives to bolster spending at hyper-local businesses through beautification efforts, community events, and advocacy, with accredited organizations in neighborhoods like Nob Hill, Downtown (Albuquerque), Barelas, Corrales, South Valley, and Belen.
- **Chamber of Commerce Organizations** (Greater Albuquerque Chamber of Commerce, Albuquerque Hispano Chamber of Commerce etc.) promotes tourism and commerce and foster community advocacy and economic prosperity through various events and programs.

Organizations like these are vital to building and fostering a strong and resilient economy.

Spotlight On "Site Readiness"

Creating a "Site Ready" property can help undeveloped land become competitive in the development market. The number and acreage of ready sites can position communities to welcome economic development opportunities such as major industrial projects. Over the past five years, demand for development-ready industrial sites has dramatically increased due to an abundance of industrial investments spurred by the pandemic, geopolitical tensions, and state and local incentives targeting investment in select industry sectors.

Site readiness refers to the preparedness of a property or land for easy, affordable, and/or quick construction. Land can become "site ready" by taking action on the following common factors that can slow down the development processes:

- *Zoning and Permits – Ensuring the site complies with local zoning laws and has necessary permits for the intended use.*
- *Utility Access – Making essential services like water, electricity, gas, sewage, and telecommunications readily available to the site. (Commonly referred to as "stub outs" in real estate.)*
- *Infrastructure and Access – Constructing connections to roads and highways for easy access to transportation networks.*
- *Environmental and Soil Conditions – Addressing factors like soil stability, contamination, and flood risks.*
- *Topography and Grading – Preparing the land for construction by performing grading, elevation, and drainage.*

- *Legal and Title Clearance – Ensuring there are no legal disputes, liens, or encumbrances on the land.*

A 'Site Ready' property is one where all necessary preparations have been completed, making it ready for immediate construction or development without major delays.

Local organizations like Albuquerque Regional Economic Alliance (AREA) and government agencies including the State of New Mexico Economic Development Department have recognized the importance of site readiness and are working to improve the number and acreage of Site Ready properties.

Economic Development Plans

Various plans in the AMPA inform economic development efforts in the region.

MRCOG's *Comprehensive Economic Development Strategy* (CEDS) is a five-year plan to build a more resilient regional economy. Through a collaborative, data-driven process with a diverse group of stakeholders, the *CEDS* identifies economic challenges and opportunities in the region as well as focus areas for strategic economic development efforts.

Figure 57: Comprehensive Economic Development Strategy

The New Mexico Economic Development Department publishes a statewide strategic plan, *Empower & Collaborate: New Mexico's Economic Path Forward (2023)*, represents an intensive outreach effort to identify the state's most significant challenge areas, as well as future industries to elevate moving forward due to high growth potential and wages.

In addition to these overarching plans, there are multiple additional plans to inform and inspire local progress towards economic development. Below are some examples:

- City of Albuquerque's *Economic Development Plan* (2024)
- Rio Rancho's *Strategic Plan* (2023)
- Valencia County *Comprehensive Plan* (2022)

Economic Drivers

The metropolitan area is comprised of a relatively stable base of industries and employers. Government is the primary employer, followed by education and health services, professional and business services (e.g., engineering, defense, and legal services), and leisure and hospitality. Since 2019, professional services, construction, transportation and warehousing, and education and health services have seen the fastest growth across industry sectors.

There are several anchor institutions that are foundational in supporting the economy of the AMPA. These include:

- Kirtland Air Force Base (KAFB) – Spanning over 50,000 acres and home to a workforce of nearly 24,000, KAFB hosts over 5,000 Department of Defense contractors and civilians, over 4,000 active duty military, and over 1,000 guard and reserve personnel. It's economic impact for 2022 was estimated at $4.88 billion.
- Sandia National Labs (SNL) – A substantial portion of the economic activity generated at KAFB is related to SNL, which employs just over 12,500. Operated by the Department of Energy, SNL serves to provide scientific and technology support to national security programs.
- University of New Mexico (UNM) – With multiple campuses and a diverse curriculum, New Mexico's flagship university served over 23,000 full and part-time students in 2022 and employed over 16,000 faculty and staff.
- Central New Mexico Community College (CNM) – CNM is the largest higher education in the state in terms of student enrollment, with nearly 27,5000 students and a host of training programs that help provide a direct pipeline of trained workers to meet the needs of local businesses.
- Major Hospitals – The Albuquerque Metropolitan area is home to several major healthcare providers including Presbyterian Healthcare Services (14,000 employees), University of New Mexico Hospitals (7,000 employees), Lovelace Health System (3,000 employees), and the Indian Health Service.
- Intel Corporation – Located within Sandoval County and employing approximately 2,600 workers, Intel Corporation manufactures advanced semiconductor chips and technologies. In 2024 Intel received $500 million from the CHIPS & Science Act to promote future chip manufacturing and technological advancements.
- Film Production – The metro area attracts national leaders in film productions. For example, Netflix has a production hub at Mesa del Sol in Albuquerque and offers 12 sound stages across 108 acres. Cinelease Studios occupies a 500,000 sq. ft. facility in the north I-25 area and has hosted many major film productions in recent years.

In addition to major employers, smaller local businesses drive substantial economic growth and generate a large portion of regional gross receipts taxes (GRT), which can be used by localities to fund transportation infrastructure projects. Key local industries include tourism, outdoor recreation, breweries, restaurants, local architecture and engineering firms, local construction companies, casinos, and more.

Several local businesses have grown to become exporters of produced goods, such as Bueno Foods, Teller/Safe House Distilling, and Marble Brewing. These food and beverage manufacturers export their products to wholesalers and retailers like Costco, Smith's, Albertsons, Sprouts, and Whole Foods, both inside and outside of New Mexico. Exportation of goods is a strong economic generator in that it brings 'new money' into the state from other states.

The recent legalization of recreational marijuana has expanded the marijuana growing, manufacturing, and retail industry across New Mexico, and has expanded the GRT base. Due to federal laws, this good cannot be exported or imported.

The Albuquerque metro area, and New Mexico broadly, has a strong arts and culture economy as well. The region's artists are supported by both local and tourism dollars.

Future opportunities for employment expansion in the Albuquerque metro region are expected to be in the areas of health services; manufacturing (including food and beverage, solar, and mechanical); and warehousing and transportation.

Spotlight on Tourism & Transportation

MRCOG's 2020 Comprehensive Economic Development Strategy notes that outdoor recreation-related employment in the metro area grew faster than other sectors and contributes billions of dollars in state revenue. In the Albuquerque metropolitan area, tourism includes visits to monuments and museums, conventions, hotel stays, cultural visits, ecotourism, and outdoor recreation.

Transportation related strategies that serve tourism include creative wayfinding to tourist destinations, such as coordinated marketing campaigns and visitor information at New Mexico Rail Runner Express (Rail Runner) stops that service major tourist destinations. Other strategies could include E-bike rental and scooter hubs at Rail Runner stations and visitor destinations as well as shuttles from hotels in the downtown/Nob Hill/Balloon Fiesta Park areas to Sandia Crest or other outdoor spaces. Supporting enhancements to the multimodal trail system, especially trails that connect to outdoor recreation opportunities, and marketing those, also promotes those opportunities.

Agencies and partners such as Rio Metro Regional Transit District, cultural corridor partners, hotels, city cultural services, and the NM Department of Tourism could bolster coordinated efforts to expand transportation access and tourism infrastructure. Promoting existing outdoor recreation opportunities such as the 50-Mile Loop, the Rio Grande Trail, the Rail Trail, and the El Camino Real National Historic Trail help to support tourism in the region while at the same time providing healthy amenities for residents alike.

Rural communities have an opportunity to capitalize on recreational tourism through their proximity to scenic outdoor assets like mountains, rivers, and mesas, which can provide opportunities for food and lodging businesses as well as adventure guides for skiing, rafting, mountain biking, and horseback riding. Jurisdictions may choose to invest in serving outdoor amenities with improved transportation access for increased tourism and economic opportunities.

Economic Projects

As described in Chapter 2, employment in the AMPA has rebounded to pre-pandemic levels. Some recent highlights of new developments and planned expansions include:

- Sandoval County is seeing renewed investment at Intel's Rio Rancho campus, which gained nearly 600 employees in 2023 when it opened its new fabrication facility for manufacturing advanced semiconductor packaging technologies.
- Rio Rancho continues to have fast-paced housing development, not just in traditional single-family homes, but also with multi-family and built-to-rent units to accommodate a growing demand for workforce housing.

- Economic activity in southeast Albuquerque includes the Max Q development which is bringing utilities and infrastructure to its 70-acre mixed use campus to attract thousands of new jobs over the coming years. Northrop Grumman recently completed its build-to-suit office space on the Max Q site.
- Mesa del Sol is the location of newly expanded Netflix film studios, which has directly invested $575 million into productions at its 108-acre facility creating 4,000 supporting jobs over the past four years.
- Double Eagle II Airport plans to build Mesa Film Studios, as well as a new general aviation terminal and increased private hangar space. Investment in airport infrastructure is consistent with existing growth in the transportation sector.
- In the Village of Los Lunas there are plans for a new 80,000 square foot hospital and auxiliary support buildings.
- A new Amazon distribution center recently began operations in Los Lunas and as of August 2024 employs over 1,100 people.
- In September 2024, the $827M Atrisco Solar & Storage Project commenced its first phase in Rio Rancho. The project employed hundreds of engineers, construction workers, and other skilled laborers and will provide renewable energy to PNM customers in the region.

This list highlights just a handful of major announcements in the region. While these bigger projects tend to capture news headlines, there are other important investments aimed at elevating our quality of life. These include projects that catalyze revitalization, adaptive reuse, safety planning, improved trails and bikeways, carbon reduction programs, and more, all of which serve to make our communities stronger.

7.2 Creating Vibrant Places

Strategic transportation investments have the power to help create and grow vibrant places and desirable districts where local businesses can thrive. By mixing multiple attractions in a central location that is accessible by a variety of modes, and adding internal circulation that is safe and easy, it is possible to catalyze economic activity, maximize existing infrastructure, and cultivate a sense of community. Local jurisdictions have long recognized this, and several have codified the concept of "Centers" through comprehensive plans and zoning ordinances. Real estate professionals, lending institutions, educational providers, and economic developers know that by strategically co-locating multiple destinations, whether it is primarily employment or a mix of uses, there is a greater opportunity for leveraging economic investment.

Investing in Centers

This MTP builds upon the efforts of the past two MTPs in highlighting key locations in the metropolitan area, referred to as "Key Centers" in the *Transitions 2045 MTP*, for targeted investment. These locations are identified by local jurisdictions through the Land Use Transportation Integration Committee (LUTI). Representatives from member agencies identified about three dozen Key Centers for targeted investments and expanded economic opportunity. The goal was to lift up areas of regional or critical local significance, oftentimes as identified through their planning processes. This effort, which spanned over a year and included considerable

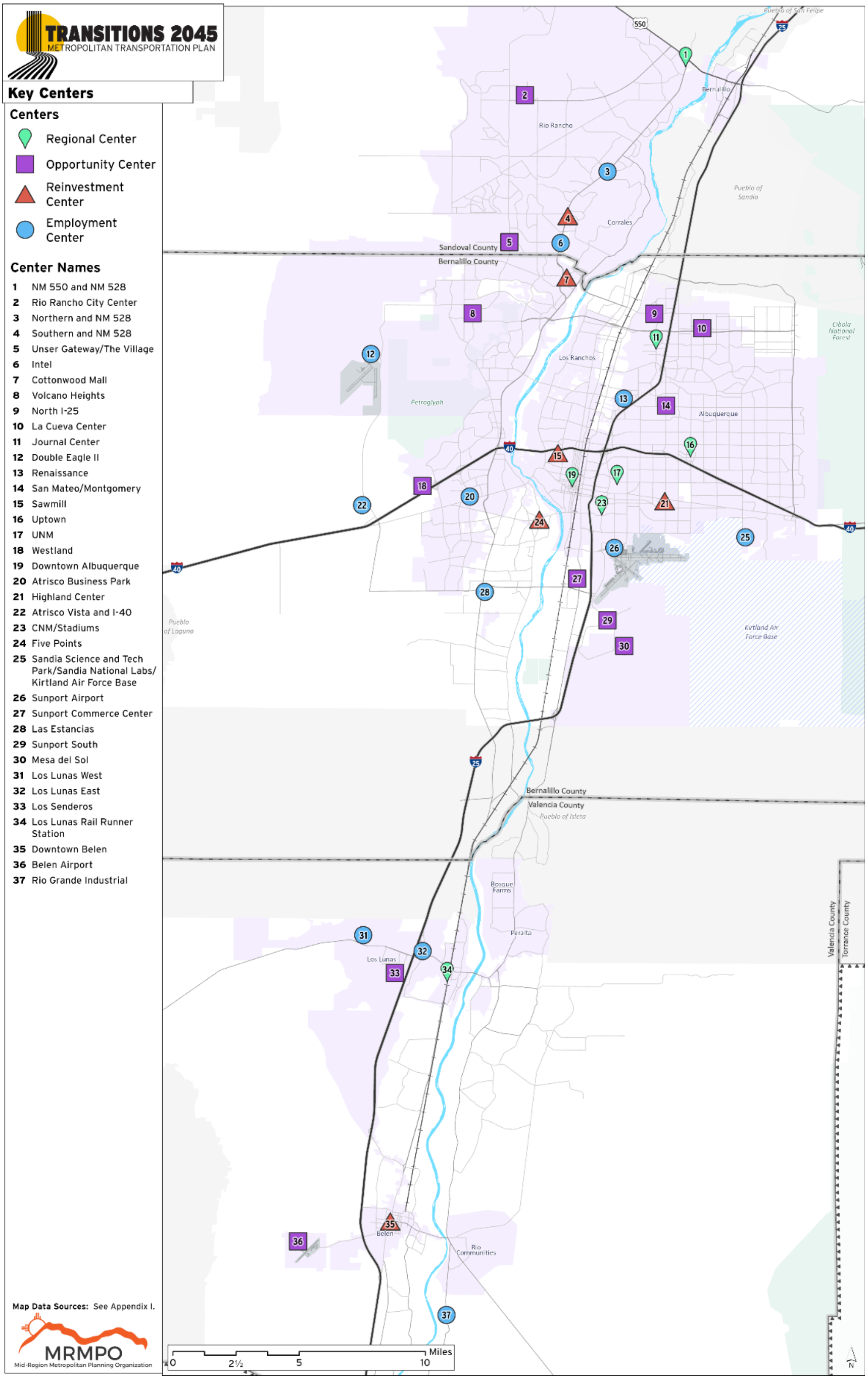
outreach, culminated in a map of Key Centers intended to align with local planning efforts. To maintain a regional focus, the Key Centers do not include smaller villages or neighborhood level centers.

Map 29 shows the location of Key Centers, and Table 29 organizes them by category: Regional, Opportunity, Reinvestment, and Employment.

Table 29: Key Centers

Type of Center	Characteristics	Key Center Name
Regional Center	Area of regional attraction with a mix of uses, often served by transit	NM 550 and NM 528
		Journal Center
		Uptown
		UNM
		Downtown Albuquerque
		CNM/Stadiums
		Los Lunas Rail Runner Station
Opportunity Center	Emerging or underutilized area targeted for economic growth	Rio Rancho City Center
		Unser Gateway/The Village
		North I-25
		La Cueva Center
		San Mateo/Montgomery
		Sunport Commerce Center
		Sunport South
		Mesa del Sol
		Belen Airport
		Los Senderos
		Westland
		Volcano Heights
Reinvestment Center	Established area targeted for redevelopment	Southern and NM 528
		Cottonwood Mall
		Sawmill
		Highland Center
		Five Points
		Downtown Belen
Employment Center	Business center or large single employer	Northern and NM 528
		Intel
		Renaissance
		Atrisco Business Park
		Atrisco Vista and I-40
		Sandia Science and Tech Park/Sandia National Labs/Kirtland Air Force Base
		Sunport Airport
		Las Estancias
		Los Lunas West
		Los Lunas East
		Rio Grande Industrial
		Double Eagle II

Map30: Key Centers



Investing in Downtown

Albuquerque's Downtown serves as the urban core of the Albuquerque Metropolitan Planning Area. It is the location of Federal, State, and County courthouses, Albuquerque's City Hall, Civic Plaza and Bernalillo County Headquarters. Downtown offers multiple common spaces, bus rapid transit service, and many affordable housing communities. It boasts comedy clubs, coffee shops, museums, concert venues, and food trucks. Special events include art walks and farmers markets.

Even so, slow population growth and sprawling development patterns continue to challenge existing efforts to realize Downtown's full potential. Lingering challenges from COVID-19 exacerbated already high office vacancy rates and empty structures in Downtown Albuquerque and lessened the presence of working professionals on the streets and in shops and restaurants. When identifying barriers to attracting national businesses to the metropolitan area, economic developers often cite the lack of a vibrant and amenity-rich downtown as a factor in businesses' decision-making process. It is clear that continued emphasis on investments in Albuquerque's downtown is of great benefit to all of Albuquerque in that it serves to attract outside businesses, support local revitalization, and foster consumer spending.

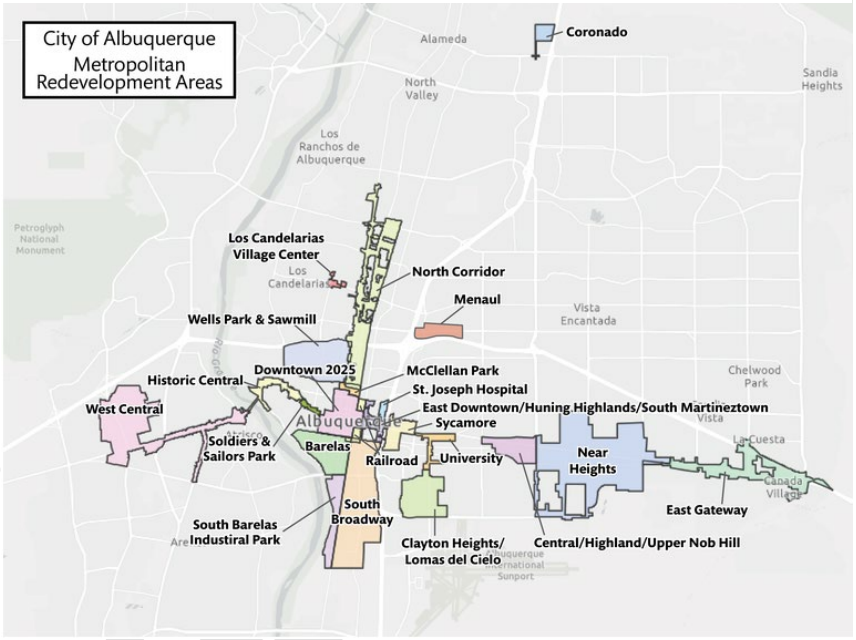
The City of Albuquerque's Metropolitan Redevelopment Agency recently released the draft *Downtown 2050 Redevelopment Plan*, highlighting a vision and strategies to revive the core of Albuquerque. To revive urban cores, cities need to diversify economies and land use with a focus on attracting more residents, workers, and visitors by creating their desired experience with vibrant outdoor spaces, curating cultural events, and redesigning streets for transit, bikes, and pedestrians. Shifting from a focus on job recruitment to creating

destinations that appeal to existing and new residents as well as local, regional, national, and international visitors will help downtown thrive.

Investing in Redevelopment

The City of Albuquerque has a formally established Metropolitan Redevelopment Agency (MRA), which enables public-private partnerships to catalyze revitalization and growth in certain designated areas. See the adjacent map for current Metropolitan Redevelopment Areas in the City of Albuquerque. Metropolitan Redevelopment Areas must be found to have insufficient economic or development activity that warrants government incentives. For example, the MRA can issue a request for proposal inviting private developers to revitalize a city-owned vacant lot, transforming it into housing, retail, or some other use which gives the neighborhood an economic boost.

Figure 58: Albuquerque Metropolitan Redevelopment Areas



The MRA considers the desires of the surrounding community in deciding how to guide redevelopment by using MRA Plans. These plans are developed with a high level of community input, and often address community concerns like housing shortages, including affordable housing in the form of multi-family or missing middle units; adaptive reuse to convert motels or office buildings into housing; and supportive and special needs housing. In addition, MRA projects focus on attractive design, enhanced streetscapes, sustainable infrastructure, and other ways to help residents and businesses thrive.

Starting in fiscal year 2025, cities across New Mexico can designate tax financing districts within designated Metropolitan Redevelopment Areas, which will allow them to capture up to 75 percent of the tax increment (the increase between the baseline tax receipts and the postconstruction value) from property and gross receipts taxes. This legislation has the potential to be a game-changer when it comes to local revitalization efforts. In an analysis prepared for Albuquerque's Metropolitan Redevelopment Agency, this legislation could potentially generate hundreds of millions of dollars for redevelopment projects over the next 20 years, allowing them to improve key areas of the city.

Investing in MainStreets

Towns and villages throughout the metro area have also improved their town centers through economic development initiatives such as New Mexico MainStreet Programs. The New Mexico MainStreet program enables local organizations to conduct economic development activities in

specific neighborhoods. There are several existing MainStreet organizations in the AMPA, including Nob Hill, Downtown ABQ, Barelas, South Valley, and Belen. In addition, there are some newly designated MainStreet organizations including along the San Pedro corridor near the Fairgrounds in Albuquerque, and one in Corrales. A few examples of MainStreet programs are highlighted here:

Belen (In Progress)

In Valencia County, Belen has partnered with New Mexico MainStreet to pilot the state's first ever Creative Economy JumpStart Program, which develops local projects that support creative economy work. It builds upon existing local art and cultural assets to shape greater community-led projects. So far, this program includes art galleries, restaurants serving local food, and consignment shops in the downtown district. The program has funded new sidewalks, better lighting, park benches, shade structures, and landscaping in the downtown area. The program also established kiosks to publicize upcoming arts and cultural events in Belen, including the many festivals and other events Belen is famous for: the Hispano Matanza, St. Patrick's Day Balloon Rally, Rio Abajo Days, and the Miracle on Main Street Festival.

Figure 59: Downtown Belen

Source TripAdvisor

San Pedro Partnership

The Revitalize San Pedro Partnership is a new MainStreet organization focused on the San Pedro Corridor between I-40 and Central Avenue and four adjoining neighborhoods. In October 2022, the community developed a vision for the area as a "safe, well-lit, tree-lined, walkable, family-friendly community." The vision also includes green spaces along alleys, festival lighting, banners, and public art. Recent accomplishments include developing an 18-month action plan, securing a $3,000 grant and matching donations to host a Creative Placemaking Contest, launching a Pop-Up Promenade event with five participating businesses, and connecting corridor businesses to APD and appropriate city departments for improved service.

Corrales MainStreet

Corrales MainStreet aims to preserve the village's historic heritage while enhancing its economic vitality. A program of the New Mexico Economic Development Department, Corrales MainStreet supports creative entrepreneurs, small businesses, volunteers, and non-profits by connecting groups and individuals to resources, including grants and technical assistance on proposed projects. They help market and promote events, fundraisers, and businesses that align with the MainStreet goals. Unlike many MainStreet programs, the Village has no desire or plans to create a vibrant "downtown" economy; instead, it aims to help promote awareness, participation, and access to activities, services, retail, and creative work in the Village.

Winrock Town Center (In Progress)

Construction is underway for the new Winrock Town Center, which is a substantial redevelopment effort that transforms a former shopping mall into an open-air mixed-use development with restaurants, apartments, medical offices, office spaces, retail shops, and a hotel. It is centered around activating common spaces such as a park, a playground and a lake. It features venues for live music, walking paths over water features, and a trolley so that people can park once and ride to their different destinations. The development is currently hosting a Farmers and Artisan Market. This center is an example of significant private investment in the community.

Figure 60: Winrock Town Center

7.3 The Housing Context

Federal regulations direct MPOs to encourage and promote the safe and efficient management of surface transportation systems that better connect housing and employment. Access to jobs (and, by extension, shopping, health, schools, etc.) improves economic well-being through travel time savings. Simply put, time spent commuting could be used earning additional income, preparing dinner, or enjoying leisure time. The location of housing, and affordable housing in particular, is important and can serve to hinder, or help, households reach their daily destinations. The Transitions 2045 MTP couples housing with the Economic Vitality MTP goal in recognition that access to quality and affordable housing is an economic issue, as it directly addresses the economic well-being of households in the metro area.

Housing Needs Assessment

MRMPO and the City of Albuquerque partnered in the creation of the *Albuquerque Region Housing Needs Assessment* (2024)[50]. The study was undertaken with the understanding that housing is a regional issue that requires the collaboration of a variety of stakeholders and jurisdictions. The study results in an exploration of current housing demand, anticipated housing production needs, and the region's capacity to absorb housing growth over the next 20 years. This section of the MTP presents some key findings from the housing needs assessment with an emphasis on integrating economic development with housing and transportation.

[50] Report is found on the MRCOG website: https://www.mrcog-nm.gov/DocumentCenter/View/6321/Albuquerque-Region-Housing-Needs-Assessment-PDF.

Housing Demand

According to the *Housing Needs Assessment*, the region has a projected need for 55,000 new homes by 2045. Increased costs of construction, including labor and materials costs, have contributed to the rise in housing prices and a shortage in housing units. In addition, declining household sizes has increased housing demand, even though the population is not growing rapidly. For example, at a total population of one million, a reduction in the average household size from 2.1 to 2 requires around 23,800 additional homes to house the same one million in population. The current housing demand is expected to be further exacerbated by natural aging of the population. According to the *Housing Needs Assessment*, the share of people 65 and over will grow from 18 percent to 22 percent of the AMPA population by 2045. This is important because approximately 35 percent of householders over 65 live alone (compared with just 18 percent of all households), meaning that households sizes are likely to continue to decline substantially thereby hastening the demand for new housing.

Housing Affordability

The *Housing Needs Assessment* presents a housing affordability "gaps analysis" that concludes that increases in low-income households, housing prices, and mortgage rates have combined to make homeownership unattainable for many households in the region. The study shows that a renter household earning the median income could afford to buy a $163,000 home, which is substantially lower than the median home price of $315,000. A look at extremely low-income groups shows that a two-person household making 30 percent of the area's median income could afford a home price of $56,000, which demonstrates the considerable subsidies required to enter the housing market.

The study estimates that there is a shortage of 22,000 units affordable for extremely low-income households.[51] That number rose by 2,100 units between 2010 and 2022 due to an increase in the number of extremely low-income households and a decrease in the number of units affordable to them. In addition, a sizeable share of multifamily rental properties with five or more units are class C properties, which are the lowest quality buildings.[52] These buildings are often old and in need of maintenance.

A 'for-sale gaps analysis' demonstrates the affordability mismatch between prospective buyers (renters) and home prices. The study found the greatest affordability gap among households with income less than 80 percent of the area's median income. In 2022, 59 percent of renters had incomes below 80 percent of the area's median income, but only 24 percent of the units for sale were listed at a price they could afford.

The study also provides an analysis of rental housing affordability by occupation. It found that several types of workers face the highest burden when it comes to paying their rents. They are:

- Healthcare support workers
- Food service workers
- Building and maintenance workers

[51] Extremely low-income refers to households earning an income that is 30 percent of the Area Median Income (AMI) or below.
[52] CoStar analysis performed by Root Policy Research.

- Personal care and service workers
- Sales and office workers
- Production, transportation, and material moving workers

These six occupations account for 39 percent of jobs, and yet, if paid the median wages for those occupations, the workers could not afford to pay the area's median rent.

Housing Cost Burden

The *Housing Needs Assessment* also provides an analysis of "housing cost burden," which occurs when a household spends over 30 percent of its income on housing expenses. Households who spend a high percentage of income on housing are also likely to have greater difficulty affording necessities such as food, clothing, and medical care. It is estimated that in 2022, 31 percent of households in the region were cost-burdened. This figure is much higher among renters, with 51 percent of renters considered cost-burdened. Rates of cost burden are the highest among those employed in hospitality industries, including the arts, recreation, and food services at 57 percent. These workers have a higher rate of cost burden than those who are unemployed or have exited the labor force, 41 percent of whom are considered cost burdened.

Combined Housing and Transportation Costs

The combination of housing and transportation costs provides a more complete picture of the financial burden on households than housing costs alone. While housing is a household's greatest expense, transportation is typically a household's second largest expense. These costs are directly related given that transportation costs are influenced by where a household lives. Vehicle wear and tear, the price of gas, and other factors add up to disproportionately impact households who are located further from their work and other places. When households are deciding where to buy or rent, they may sacrifice short commute times to afford a home farther from their daily destinations. The farther households move, the less they are likely to have access to transit or be able to get where they are going by bike or foot. This point is particularly relevant during a housing shortage when people are deeply limited by where they can afford to live.

Map 31: Housing Cost Burden

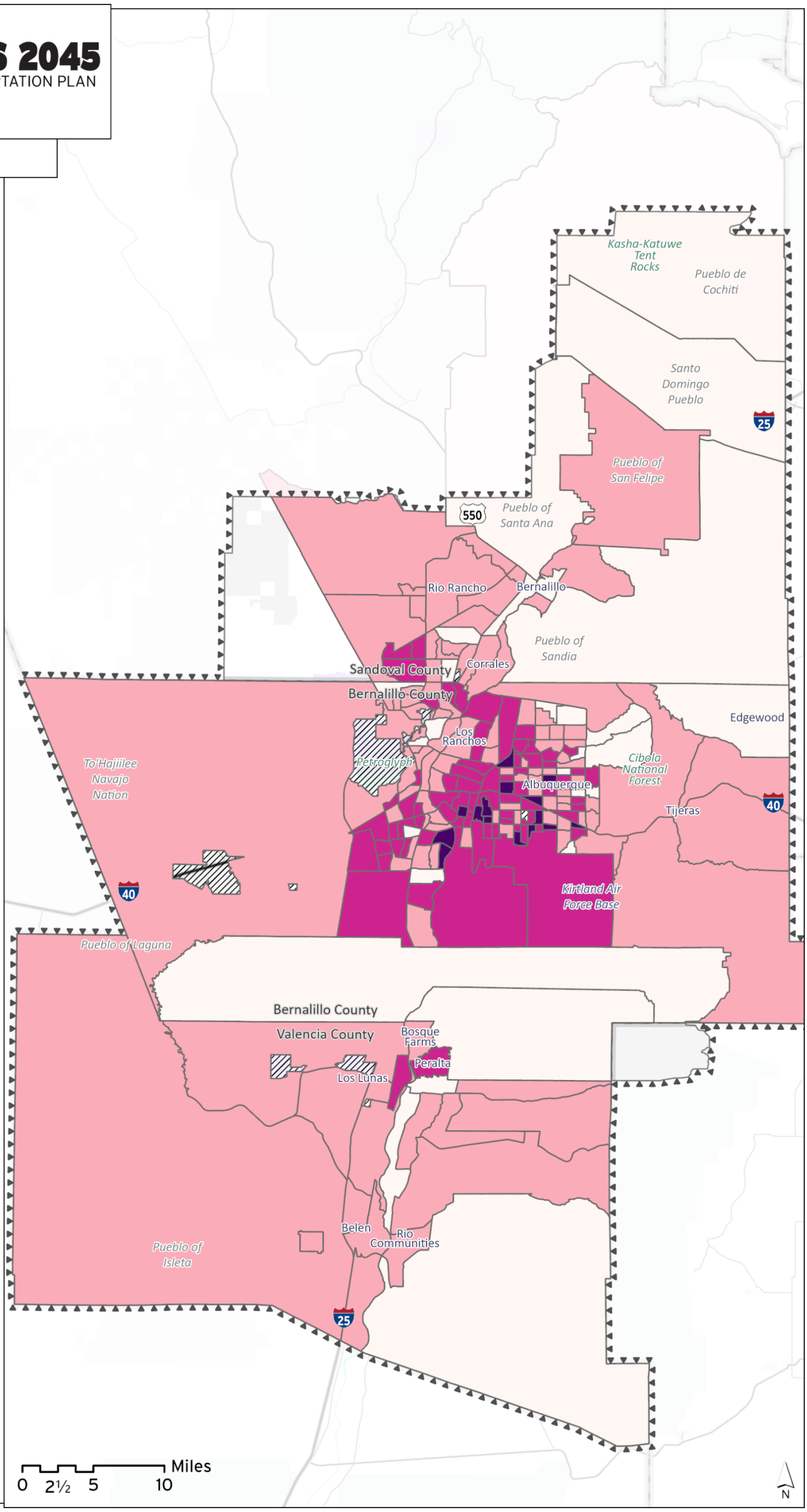
TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

Housing Cost Burden

Percent of Cost Burdened Households
By Census Tract

- 45.1% - 69%
- 30.1% - 45%
- 15.1% - 30%
- 15% or less
- No Data

Cost burdened households spend more than 30% of their gross income on housing costs, according the US Department of Housing and Urban Development.



Map Data Source: U.S. Census Bureau American Community Survey (ACS) 5-year data, 2018-2022.
Additional Sources: See Appendix I

MRMPO
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Sprawl Development Patterns

The *Housing Needs Assessment* points out that the majority of single-family residential homes are developing further from existing job centers and services. While there is enough vacant land zoned for residential uses in the region to meet future housing needs, most of that land is located west of the Rio Grande, with the majority of jobs—80 percent—located east of the Rio Grande. If all the vacant land develops into homes, congestion on the river crossings will worsen, further challenging access to jobs. One of the policy recommendations from the study is to provide financial incentives such as tax abatements or grants for developers who include multifamily units in their projects. This would be particularly impactful in areas that are ripe for redevelopment and in close proximity to jobs and other common destinations. Another important strategy presented in Appendix D is to preserve commercially zoned land west of the Rio Grande for commercial uses and incentivize businesses to locate there.

While desirable for maximizing transportation systems and other existing infrastructure, redevelopment costs can be prohibitively expensive for housing developers. Local jurisdictions can provide redevelopment incentives as a way of encouraging housing in proximity to jobs in the region. A MRMPO analysis shows that if just five percent of the redevelopment capacity in the City of Albuquerque's "Areas of Change" developed into housing, it could accommodate 24,000 homes over the next 20 years.[53] Transit Oriented Development (TOD), explained in detail in Chapter 4, also has the effect of improving access between homes and jobs. TOD can be incentivized using height bonuses, parking reductions, and other regulatory levers. Both redevelopment and TOD are development strategies that translate into travel time cost savings to households, while having the added benefit of also translating into municipal cost savings in terms of the provision of infrastructure and other public services.

Fiscal Responsibility

Growth is often seen as fundamental to the economic health of a metro area in that it builds the tax base, supplies the labor force, and generates overall spending in a community. However, new population and jobs must be served by roads, utilities, public services such as emergency response and law enforcement, and schools. Financing projects that support new growth while maintaining the quality of existing services and infrastructure can be a difficult balance to strike. Jurisdictions across the country have adopted policies designed to encourage compact development patterns that maximize existing infrastructure and minimize expansion. This approach has the benefit of reducing upfront capital costs for new roads and other infrastructure, while limiting the future inventory of roads and infrastructure that need to be maintained and serviced.

The *Connections 2040 MTP* provides an analysis of the cost of growth with regards to the projected need for new infrastructure. It found that by targeting growth in activity centers and transit corridors, promoting jobs west of the Rio Grande, and encouraging preservation of rural areas, the region could save an estimated $223 million in capital infrastructure costs by 2040.[54] Focusing on compact development has been widely used as a strategy to serve large populations with transit,

[53] Areas of Change are designated in the ABC Comprehensive plan as places where growth and development are encouraged, primarily in Centers other than Old Town, Corridors other than Commuter Corridors, Master Development Plan areas, planned communities, and Metropolitan Redevelopment Areas.
[54] 2040 Connections Metropolitan Transportation Plan, MRCOG, 2020.

alleviate demands on public safety officials, emergency responders, and other services, and reduce upfront capital costs.

The conclusion of the *Connections 2040 MTP* analysis remains true today. In times of fiscal uncertainty, and given our reliance on federal and state funds for important services such as roads, it is critical that infrastructure projects are planned and constructed to minimize future financial risk while providing needed transportation services. Given that growth will occur, promoting a more efficient development pattern may provide local jurisdictions cost savings while maintaining a high standard for service delivery.

Diverse Housing Options

The *Housing Needs Assessment* calls for increased housing choices to accommodate a diversity of incomes and housing needs in the region. What's more, mixed-income communities are shown to be beneficial to social outcomes in the general population. The study findings emphasize the benefits of encouraging a mix of housing options to cater to diverse needs and reach deeper affordability levels. The policy recommendations in the report include:

- **Promote regional cooperation:** Educate leaders on the importance of a regional planning process for inclusive development that ensures all neighborhoods include housing affordable to households at different income levels.
- **Provide incentives for diverse housing:** Provide financial incentives, such as tax abatements or grants, for developers who include affordable multifamily units in their projects.
- **Change zoning allowances:** Amend zoning regulations to prohibit single-family-only developments and allow for higher-density and mixed-use developments. Adjust zoning laws to allow for higher-density rental developments in areas currently zoned predominantly for single-family homes.

Local policy leaders have a host of regulatory incentives available to achieve greater diversity of housing types and provide more options to meet individual and family needs. The following section provides some examples of development types that would be beneficial in broadening the housing options available in the region.

Missing Middle Housing

The development of what is referred to as "Missing Middle Housing" has immense potential to alleviate the area's housing shortage and affordability crisis. It includes medium-density dwellings like townhomes and courtyard buildings, fourplexes, and stacked duplexes and triplexes. These types of units have been mostly illegal to build in residential communities over the past 60 years (hence "missing"). On the density spectrum of detached single-family to high-rise apartment buildings, these housing types are in the "middle" of the spectrum. They provide diverse housing options that support walkable neighborhoods and transit. Missing middle housing also helps meet different income and generational needs, allowing intergenerational families to live close to each other.

Accessory Dwelling Units

In 2022, the City of Albuquerque launched the Housing Forward ABQ initiative to address the housing shortage and quickly increase the housing supply in the city. It included some proposals put forth by missing middle advocates, and some of these were incorporated into the Integrated

Development Ordinance (IDO), the City's zoning code. Housing Forward policies adopted into the IDO include making accessory dwelling units (ADUs) permissive and allowing for the conversion of office buildings and motels into multi-family dwellings. Housing Forward proposed other changes not currently adopted into the IDO including permissive duplexes in zones previously only permitted to allow single-family residences; increased building heights; and reduced parking minimums. In 2025, the Albuquerque City Council passed some of these changes for residentially zoned lots within a quarter mile of main street corridors, premium transit areas, and urban centers.

In 2021, Bernalillo County updated its zoning code to conditionally allow ADUs (locally known as casitas) to be built on larger lots in its unincorporated jurisdictions. In 2025, it updated the zoning code once more to permissively allow casitas on large lots and conditionally allow casitas on smaller lots. This represents an advancement in the County's approach to provide expansive solutions to housing needs in the region.

Casitas have the potential to serve an important niche created primarily by the aging population (and certainly by other age demographics as well). Many seniors would like to live close to their family but not necessarily in the same structure. Casitas can provide independence, promote intergenerational connections, and free up larger houses for growing families when an older person chooses to downsize. Allowing ADUs as a permissive use in a municipal zoning code can increase density while meeting the needs and preferences of households with aging family members. ADUs are a critical instrument towards diversifying housing options.

Co-housing

Sometimes called cooperative housing or intentional community living, co-housing involves a series of private dwellings surrounding communal spaces (like a large kitchen/dining area) on a shared lot. The City of Albuquerque's IDO allows for this type of low-density residential community through the "cottage development" land use; it is now permissive in several zoning categories. The **Acequia Jardin** co-housing community in the North Valley, featuring 800 and 900 square foot floor plans, edible gardens, and all-hands-on-deck workdays, is one of just a few places in the metro region with the cottage development designation, though there are groups actively working to establish other co-housing communities.

Affordable Housing Developers, Agencies and Organizations

There are dozens of organizations working to bring quality affordable housing to the AMPA and throughout the state. They are listed in Appendix H. A few examples of recent and planned affordable housing projects are highlighted here.

The City of Albuquerque

Sombra del Oeste is a new affordable housing development with 72 townhomes in Albuquerque's Westside. Homewise, a statewide mortgage lender, coordinated the development of the new community which also relies on funds through Mortgage Finance Authority. In service to Homewise's goal of assisting low-and-moderate income families on the path towards homeownership, this project targets first time homebuyers.

The City of Rio Rancho

In Rio Rancho, a three-story 132-unit senior housing community called the Felician Villa Senior Apartments (in progress) will offer affordable housing to residents aged 55 and over. The project is funded by a $1.5 million grant from a private institution through the Affordable Housing Program (AHP). Felician Sisters of Rio Rancho donated the land with coordination from Catholic Charities. The community will also offer reduced cost meals and education workshops on health for residents.

Figure 61: Felician Villa Senior Apartments

Source: felicianvillage.org

The Village of Los Lunas

The Village of Los Lunas is making plans for a 60-unit affordable senior housing complex and is committing over a half million dollars to support the Plaza Luna Lofts project. The project is also supported by grants from Valencia County and will seek low-income tax credits from the Mortgage Finance Authority, as well as other state and federal grants. While this project is still in the early planning phases, it highlights the complexity of funding sources required to build affordable housing and exemplifies the demand for such projects throughout the region.

7.4 Goods Movement

An efficient freight system plays a critical role in supporting the region's economic vitality and creates a competitive edge by lowering delivery costs. For consumers in the area, improved access to goods raises their standard of living. From the perspective of businesses that must move goods, transportation accessibility factors include access to markets, freight logistics, and adequate infrastructure. A manufacturing facility, for example, needs to bring in raw materials from suppliers and then export its finished products to distributors. These investments are often multi-jurisdictional efforts that involve public-private partnerships, including projects like the Bernalillo I-40 Trade Port and Los Lunas-based Central New Mexico Rail Park, described in this section.

Synchronizing freight movement between modes enables a more efficient transfer of goods. The AMPA is strategically located with nationwide connections by road, rail, and air. Each mode is discussed below with considerations for how different modes can be integrated to move goods through and within the region.

Trucking

Interstate 40 (I-40), which bisects the AMPA, is a major east/west interstate freight corridor. Commodity flows of 47,000 tons per year were reported in 2017, and demand is expected to reach approximately 86,000 tons by 2050.[55] This increase will strain the current truck roadway capacity.

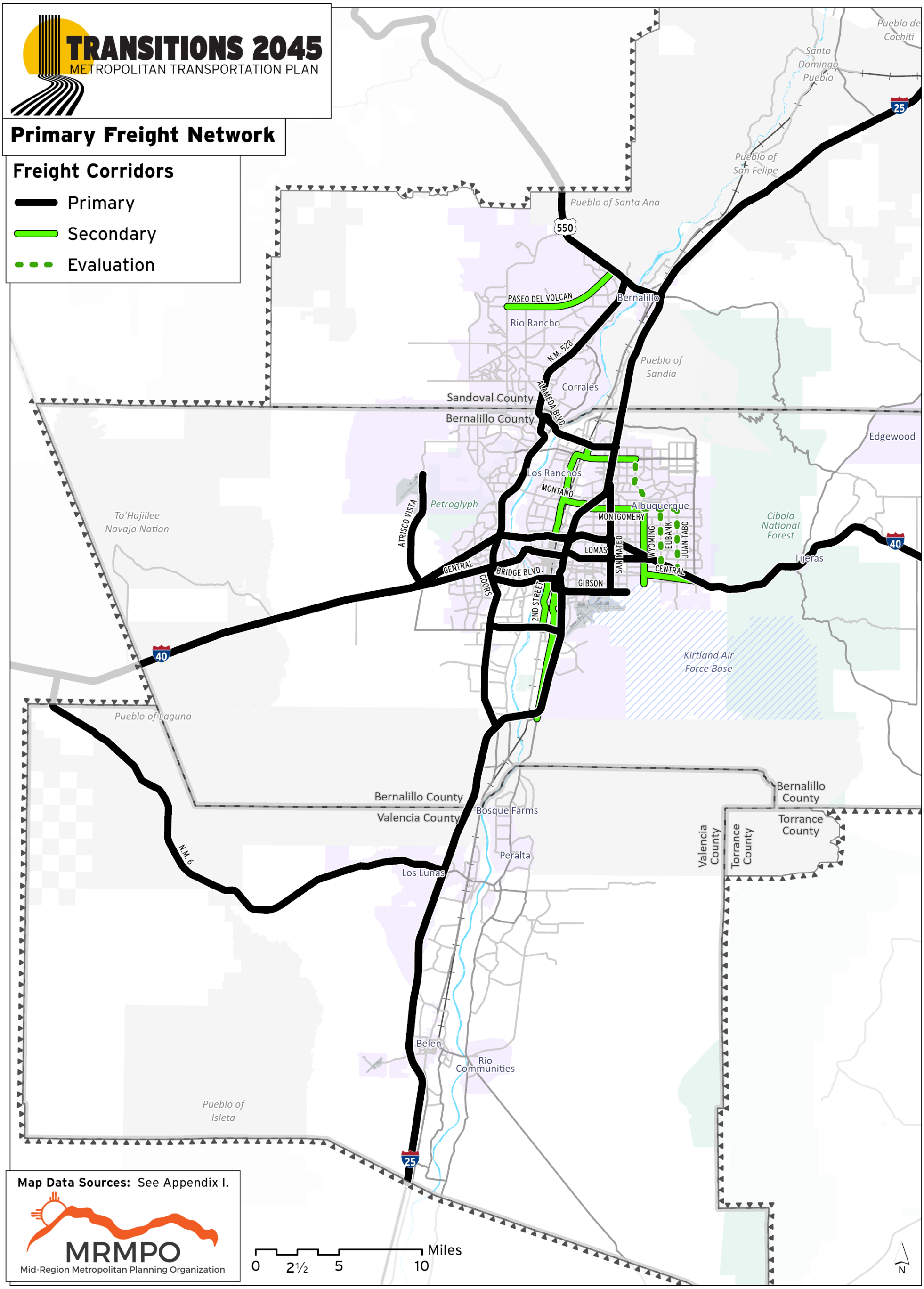
[55] Freight Analysis Framework 5.1

Trucking within the AMPA

The roadway transportation system carries approximately 22.5 percent of freight vehicle miles traveled (VMT) within the AMPA (Teralytics, 2022). Although interregional "pass through" freight constitutes approximately 90 percent of AMPA freight volumes, local needs within the AMPA also should be considered. The region's connected system of interstates, limited access arterials, local freight network, trucking support facilities, and parking locations are currently effective in serving goods movement. However, given the trending growth in freight movement, storage, online ordering and delivery services, improvements must be made to support growing freight demand and the AMPA's economic growth into the future. For a more detailed discussion of freight trends and emerging technologies, see Chapter 4.

The Freight Network for the AMPA is shown in Map 31. This map is used for planning purposes only. Truck restrictions in the AMPA are shown in Map 32.

Map 32: Primary Freight Network



Map 9: Freight Network and Truck Restrictions

Map 33: Freight Networks and Truck Restrictions

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

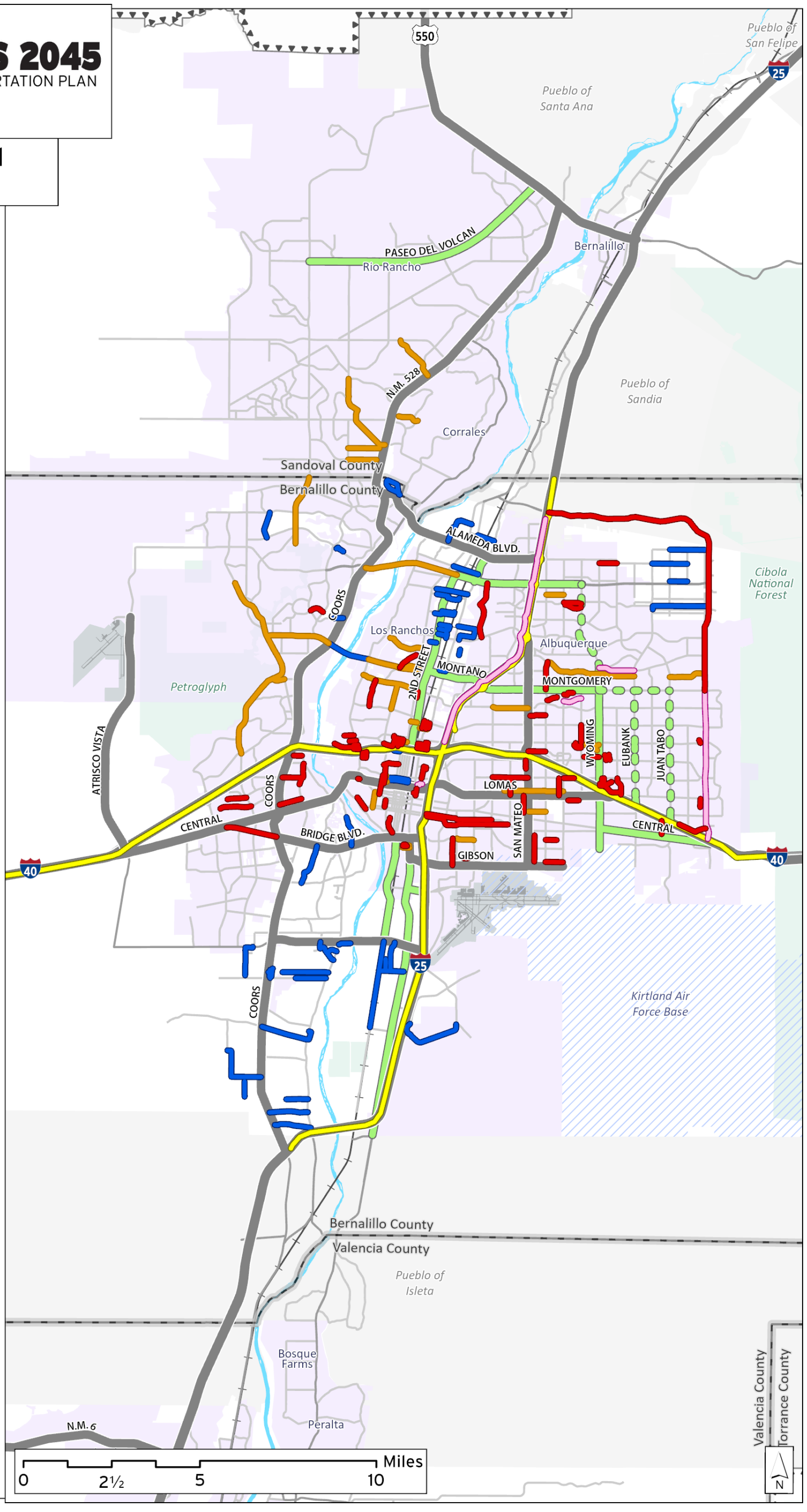
Freight Networks and Truck Restrictions

Truck Restrictions

- No Trucks or No Through Trucks
- Over 3 Tons
- Over 5 Tons
- Over 40 Tons, 5 axle
- Misc. Restriction

Freight Corridors

- Primary
- Secondary
- Evaluation



Map Data Sources: See Appendix I.

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Truck flows on the transportation network links are shown in **Map 33** below. These data are for 2022, representing Average Annual Daily Traffic (AADT) of heavy-duty trucks (single and multi-unit trucks: FHWA classification 6 and above). Multi-unit truck travel is distributed on the interstates and to local origins and destinations on the AMPA's regional arterial system.

Truck Parking

Adequate truck parking is a critical component of the freight network, as it allows truckers to rest. Truckers are federally mandated to rest after a certain number of hours driving. Without sufficient parking and rest areas for trucks, trucks can be limited in their ability to perform their job requirements and may become a hazard on the road with driving fatigue. The New Mexico Truck Parking Survey and Analysis (2024)[56] recently identified the following statistics:

- Of the nine parking locations and 632 freight truck parking spaces in the AMPA, normal peak hour occupancy was at 76 percent.
- On I-40, freight trucks strain the capacity of existing truck parking areas. Parking demand on I-25 is more moderate.
- Although peak hour parking demand in the AMPA is still below capacity, incident related closures due to weather, crashes, or other significant closures present severe parking limitations as overflows shift trucks to the non-interstate roadways and facilities, causing major disruptions and congestion.

Freight Logistics Committee (FLC)

MRMPO has established a Freight Logistics Committee comprised of agency and private sector representatives to serve as the regional forum for the intermodal movement of goods and freight within the MRCOG region.

Cargo Oriented Developments (CODs) integrate rail, truck, and air freight logistics in designated Critical Freight Corridors. CODs are typically developed as a district and utilize existing industrial markets and workforces.

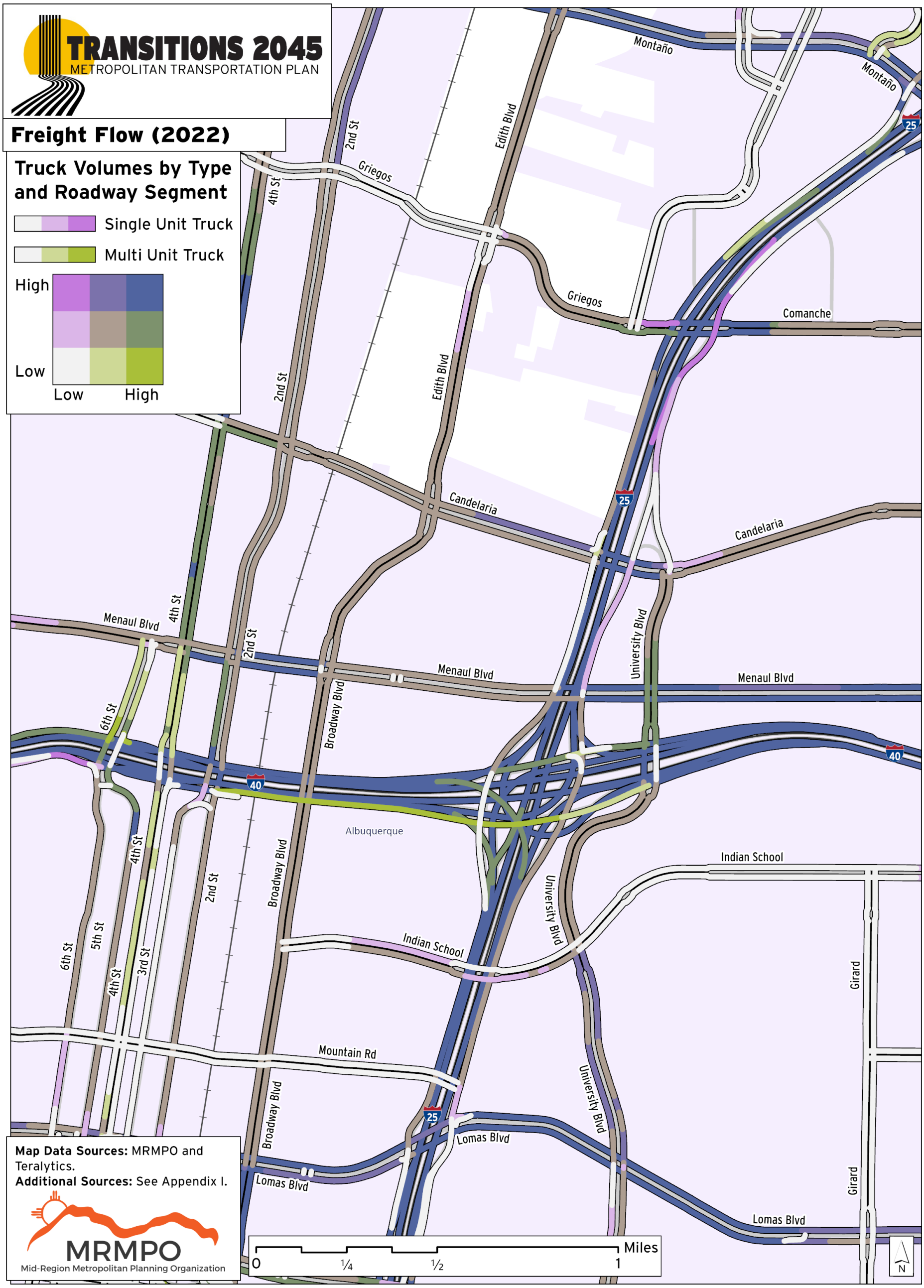
The committee focuses on policy, intermodal efficiency, highway restrictions, and developing land parcels which could be considered for Cargo Oriented Development (COD). The FLC provides input and guidance to the Transportation Coordinating Committee (TCC) either as part of transportation program development for the TIP and MTP or as requested by MRMPO boards and committees. As freight tends to be a regional and interstate issue, the FLC coordinates with the broader NMDOT Freight Committee. However, most freight companies are privately owned and operated and have propriety data, limiting the effectiveness of freight planning at MRMPO.

Projects and Local Planning Efforts

There are many projects and plans in the region that focus specifically on goods movement and other related services.

[56] https://www.dot.nm.gov/planning-research-multimodal-and-safety/planning-division/multimodal-planning-and-programs-bureau/technical-and-freight-planning/

Map 34: Freight Flow (2022)



MRCOG Freight Logistics Hub Study

MRCOG facilitated a *Transportation and Logistics Hub Study* to assess the region's competitiveness and ability to attract freight-related industries. The study recommends strategies to improve the region's economic competitiveness and position it as an international transportation and logistics hub. Although the study was completed in 2017, the findings have laid the groundwork for regional projects such as:

- **Freight Logistics Hubs** where shipments are collected, sorted, warehoused, and reloaded for further distribution.
- **Ports of Entry** designations that focus on transcontinental and international shipping and capitalize on proximity to the airport and other transportation assets.
- **Business Development Strategies** focused on creating a more targeted supply chain.

I-40 TradePort

In its early conceptual phases, the I-40 TradePort Corridor is an effort led locally by Bernalillo County that focuses on creating a supply chain system of clean energy, logistics, and industrial hubs. It is part of the I-40 TradePort Corridor Partnership under the USDOT's Regional Infrastructure Accelerator grant program.

The first phase will begin at the Port of Los Angeles, California and end in Albuquerque and aims to foster collaboration with key communities along the I-40 corridor to more efficiently and sustainably bring cargo from Los Angeles seaports eastward. Other multi-modal hubs in the initiative include Kingman, AZ, Winslow, AZ, Sandoval County, and the Village of Los Lunas. Led by private investment with multiple public and private partners, the initiative includes manufacturing and distribution locations adjacent to the logistics hubs and anticipates creating 60,000 jobs across Arizona and New Mexico along the hubs, with a goal of making rural areas more economically competitive.[57]

The planned 6,000-acre truck mobility complex at the Bernalillo County Tradeport will include truck parking, a clean energy fueling and charging hub, logistical support for transloading, sorting, inventory management, and other operational support. The facility will serve not only interstate goods movement, but also New Mexico in-state trucking logistics and market distribution needs. The grant effort includes working with Laguna Pueblo on safety considerations, coordinating freight movement through their land, and providing service for their region.

Bernalillo County Sunport Commerce Center

Located southeast of the Sunport and close to downtown, the Bernalillo County Commerce Center is a large tract of land ideally positioned for processing, warehousing, and manufacturing. The location benefits from proximity to research institutions such as UNM, CNM, and Sandia National Laboratories (SNL), as well as the fertile agricultural South Valley, making this location ideal for products ranging from local produce to high tech hardware. The adjacent railroad, interstate, and

[57] https://i40tradeportcorridor.com/

Sunport cargo facilities are expected to allow products to be imported and exported easily from the center.

TORC Robotics (Torc)

Torc is an autonomous truck company with operations in Albuquerque. They are leaders in autonomous trucking development and plan for the commercialization of self-driving trucks. Their fully outfitted semi-trucks have been testing autonomous operations on a 16-mile route on I-40 and I-25 for several years, with a safety driver in the cab. They anticipate a 2027 market launch. Further testing will remove the in-vehicle safety driver on an initial 400-mile freight lane in Texas between Laredo and Dallas; this will prove the implementation and economic viability of operating autonomous trucks in real world conditions. After establishing the Laredo-Dallas lane, Torc plans to expand its network to routes along I-40 and connect with key market areas including Phoenix, Albuquerque, Oklahoma City, St. Louis, Memphis, and Atlanta. The next phase of development would add regional expansions to El Paso, Houston, and Shreveport, La.[58]

Torc's virtual driver will be available with a modified version of the Freightliner Cascadia with redundant systems and components designed specifically to support autonomous driving. (Torc Robotics)

Source: https://torc.ai

Rail

The AMPA is positioned at the junction of two significant national rail lines: Amtrak and BNSF Railway's Southern Trans-Continental (Transcon) Line. For more information on Amtrak, reference Chapter 4.

The Transcon Line is the busiest intermodal freight rail corridor in North America, connecting Los Angeles with Chicago. All the trains on this high-density rail corridor make a mid-route stop at the Town of Belen. The Transcon Line connects Belen to its El Paso Subdivision line, the only line it owns that crosses the Mexican border. This section of rail line parallels I-25, which connects Albuquerque through a five-hour truck drive to Interstate I-10, the El Paso metropolitan area, and Santa Teresa, New Mexico's rapidly growing industrial center and Mexican border crossing.

[58] https://www.ttnews.com/articles/torc-autonomous-launch-27

In addition, several abandoned rail spurs in the AMPA branch off these regional lines and create opportunities to extend existing connections and provide future service to manufacturing and distribution sites. For example, the Kirtland Airforce Base's unused rail spur has been identified in the Sunport Master Plan, Sunport South Master Plan, and the Mesa del Sol Master Plan to provide rail connections to future manufacturing in these areas.

Central New Mexico Rail Park

The BNSF-certified Central New Mexico Rail Park in Los Lunas is a 1,420 acre site (2.25 square miles) ready for manufacturing, warehousing, and distribution by rail-served industries. Five miles west of I-25 and along Highway 6, it is fully entitled, correctly zoned, and with designated utilities, with sites from five to over 400 acres available for purchase. The nearby Meta Data Center is spurring industrial and manufacturing growth, which will help the rail park facility shipments reach larger markets within and outside of New Mexico.

Because it is already BNSF-certified, there is less development risk and a quicker development timeline. Approximately 96,709 people live within a 15-mile radius of the Rail Park, presenting an opportunity for a workforce without long commutes.[59]

Air

The AMPA is served by two regional facilities; the Albuquerque International Sunport and the Double Eagle II municipal airport. The Sunport is less than two miles from I-25, and less than six miles from I-40 and the BNSF rail facilities in Albuquerque. Currently, the main freight activity at the Sunport is through the carriers FedEx and United Parcel Service (UPS) and their partners. There is also an Amazon Air Cargo Facility operating as an intermodal hub supporting the region's two fulfillment centers.

According to Albuquerque Sunport data from 2022, the Sunport serves over 115.6 million tons of cargo and nearly 5.4 million travelers annually. The airport is positioned within the New Mexico/Rio Grande Technology Corridor and coordinates with regional research and development (R&D) operations including KAFB, Sandia and Los Alamos National Labs, UNM and CNM, Intel & Meta, Northrop Grumman, Blue Halo, and Honeywell. Nearby investments that are increasing the manufacturing capacity and will utilize the integrated freight distribution network include the Aviation Center of Excellence (ACE), Universal Hydrogen with 500 employees, MaxQ with 1 million square feet of real estate, Northrop Grumman, and Maxeon Solar Technologies with $1 billion invested and a projected 1,800 employees.

[59] https://www.bnsf.com/bnsf-resources/pdf/ship-with-bnsf/rail-development/bnsf-premier-one-sheet-los-lunas-nm.pdf

In 1984, the City of Albuquerque established a **Foreign Trade Zone (FTZ)** on a 62-acre site at the Albuquerque International Sunport. In 2017, the FTZ was expanded so that companies within Bernalillo and Valencia counties, Rio Rancho, Town of Bernalillo, Moriarty, and Santa Fe can apply for inclusion in the FTZ. An FTZ is a dedicated geographic boundary inside which goods are considered outside of US Customs Territory, meaning that companies that import materials or products and add value to them for re-export can avoid paying import tariffs. These companies can also delay and sometimes avoid tariffs when selling within the domestic market. In addition to tariff relief, benefits to eligible companies include improved cash flow, lower insurance and transportation costs, and increased quality control, just to name a few. With the presence of I-25, I-40 and the International Sunport, Albuquerque provides a strategic location for foreign enterprises to operate. The expanded FTZ gives users the ability to set up operations anywhere within its bounds without having to physically locate at the Sunport, making the metro area more competitive in recruiting companies.

The Sunport Master Plan is currently being updated and envisions a high degree of industrial development. The plan will focus on opportunities to position the Sunport as a multimodal distribution and industrial center (MDIC). The plan identifies four potential development pathways including:

- Manufacturing
- Food and agricultural processing
- Energy/green technology
- Warehousing/distribution

The plan identifies strengths and opportunities for the Sunport to expand manufacturing and commercial R&D in the AMPA. The airport's assets include undeveloped land, freight and industrial assets, the Kirtland rail spur, and its status as a US Port of Entry and Foreign Trade Zone (FTZ). Additional plan outcomes will include accommodations for emerging travel technologies such as passenger Ride Hailing (Uber and Lyft), and Air Taxis. (See Side Bar).

The Double Eagle II Municipal Airport, located approximately eight miles north of I-40 on Albuquerque's West Mesa, serves the local and regional air market for general aviation. There are approximately 240 aircraft based at Double Eagle II and 120,000 annual takeoffs and landings comprising training, military, air ambulance, charter, private, and corporate flights. The facility has been identified for improvements including expanding the hanger capacity by 100 spaces and adding a 24/7 general aviation terminal that will serve private and charter flights. Also included in the planned expansion are plans for non-aeronautical uses on the city-owned land surrounding the airport such as commercial, light industrial, film and TV studio, educational, and renewable energy generation.

eVTOL Air Taxis: EVTOLs are similar to helicopters but use electric power. They are being testing for deployment as taxis, delivery vehicles, and other applications. The FAA expects to authorize operations by 2028, and according to the Sunport Master Plan could be an integral part of future operations.

7.5 Goals, Objectives, and Strategies

To address the economic challenges our region faces and cultivate a transportation system that leads to Economic Vitality in the region, the following goals, objectives, and strategies should be considered:

Table 30 : Economic Vitality-specific Goals, Objectives, and Strategies

Economic Vitality *Strategically invest in high-quality transportation systems that support the economic health of the region.*	Support regional freight, logistics, and goods movement	Support projects utilizing innovative technologies (such as alternative refueling stations and connected vehicle-compatible infrastructure) to improve regional competitiveness and sustainability.
		Support and coordinate freight operations and movement and industrial development.
	Invest in creating vibrant places	Incentivize redevelopment and transit-oriented development in order to maximize the utility of existing infrastructure.
		Encourage place-making, innovation, and the expression of community identity in centers and corridors and/or other Key Centers identified in the 2045 MTP.
	Encourage diverse housing options	Promote a diverse mix of housing, in cost, unit types, and neighborhood settings targeting areas within walking distance of frequent transit routes.
		Encourage a mix of land uses (retail, housing, entertainment, etc.) and multimodal facilities in appropriate locations to encourage shorter and more active trips.

CHAPTER 8 HEALTHY ENVIRONMENTS

A healthy environment supports the physical health of humans and a diversity of species. Biodiversity, or the variety of healthy species an environment can support, is perhaps the most significant measure of that environment's resiliency and its ability to provide the ecosystem services that support life on earth. These services include the naturally occurring processes that would be extremely costly or impossible to engineer, such as food production; removal of harmful pollutants from the air, water, and soil; and mitigation of natural hazards such as flooding. As the transportation infrastructure of our region continues to develop, safeguarding a healthy environment is a necessity for our survival and quality of life - now, and into the future. This chapter outlines critical considerations in transportation planning to support the region's environmental health.

8.1 Protect and Enhance

Transportation laws and infrastructure have developed alongside our growing understanding of the impacts of fossil-fuel powered transportation. Since the National Environmental Policy Act (NEPA) was passed in 1969, federally funded transportation projects have been required to include an assessment of environmental impacts. Since the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, metropolitan transportation planning processes have been required to consider projects and strategies that protect and enhance the environment. Environmental social movements, increasingly progressive federal legislation, and new guidance from the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have reaffirmed the responsibility of Metropolitan Planning Organizations (MPOs) to identify environmental health impacts of transportation activities and discuss mitigation strategies in the long-range planning process.

The 2015 Fixing America's Surface Transportation Act (FAST Act) mandates that long-range transportation plans include discussion of environmental impact mitigation measures developed with federal, state, and tribal land and wildlife management agencies. Additionally, Section 168 of Title 23 United States Code (U.S.C.) allows for the integration of material from plans produced by MPOs, states, and transit agencies into the environmental review process. This section states that *"the Federal lead agency for a project may adopt and use a planning product in proceedings relating to any class of action in the environmental review process of the project."*

8.1a Planning and Environmental Linkages

Planning and Environmental Linkages (PEL) is the name given to this approach in FHWA and FTA guidance. PEL is a recommended (but not required) approach for MTPs. Benefits of the PEL process include relationship building and stakeholder buy-in, improved information exchange, more efficient project management, and better environmental outcomes.

Federal agencies may incorporate material stemming from the transportation planning process into subsequent NEPA documentation. This may include information on early consideration and coordination regarding Environmental Justice concerns (see Chapter 9 for more about regional Environmental Justice considerations).

The term 'planning product' is defined in statute as, "a decision, analysis, study, or other documented information that is the result of an evaluation or decision-making process carried out by a metropolitan planning organization, State, or transit agency, as appropriate, during metropolitan or statewide transportation planning."

8.2 Natural Resources

8.2a Our Regional Habitat

The AMPA covers approximately 3,101 square miles, located primarily within the Middle Rio Grande Watershed, which extends approximately from Cochiti Lake downstream to San Acacia.[60] It spans the traditional home territories of the Piro, Tigua (Tiwa), Ute and Dine Bikeya Pueblos, as well as the Jicarilla, Lipan and Mescalero Apache. [61] "The Rio Grande Rift" shaped the region's unique landscape and ecology. The rift is a long, narrow depression in the Earth's crust formed by tectonic forces pulling the North American continent apart millions of years ago as the Earth's crust stretched and thinned. This process created a series of fault lines and volcanic activity, resulting in the dramatic mountain ranges and river valleys we see today.[62]

The remnants of these ancient eruptions can be seen in the form of the "Three Sisters" volcanoes on the ancient lava.[63] The following sections briefly describe the region's soil, air, water, and wildlife

[60] Middle Rio Grande Basin Study, USGS, January 1, 2005, Accessed from https://www.usgs.gov/centers/new-mexico-water-science-center/science/middle-rio-grande-basin-study

[61] https://native-land.ca/

[62] Bryan, Kirk, et al. "Our growing understanding of the Rio Grande rift." *New Mexico Earth Matters*, New Mexico Bureau of Geology and Mineral Resources, season-02 2012, geoinfo.nmt.edu/publications/periodicals/earthmatters/12/n2/em_v12_n2.pdf.

[63] https://www.cabq.gov/parksandrecreation/open-space/lands/volcanoes#:~:text=Formed%20over%20100%2C000%20years%20ago%2C%20the%20volcanoes%20were,coated%20the%20surrounding%20landscape%20in%20a%20basalt%20caprock.

to elevate the importance of these ecosystem elements and consideration for transportation project development. Climate projections, natural hazard vulnerability assessment and mitigation recommendations are discussed more extensively in section 8.4.

MRMPO has developed a Natural Resource Inventory online map[64] collects geospatial layers from multiple databases to assist regional transportation infrastructure planning in being responsive to existing environmental conditions and protecting natural resources. It identifies currently protected lands, watershed basin boundaries, aquifer boundaries, surface waterbodies, critical habitat areas, land cover types, and eco-regions of the Albuquerque Metro Planning Area. Appendix H includes lists of the rare and endangered species of wildlife and vegetation found in the planning region.

The following sections focus on soil, air, and water to describe how these important ecosystem elements may affect or be affected by transportation project development, and to discuss potential measures to avoid, minimize, and mitigate negative impacts.

8.2b Transportation Impacts on Air

Transportation is a major contributor to both air pollution and climate change because many air pollutants associated with fossil-fuel combustion are also greenhouse **gases. Greenhouse gases (GHGs) are those that absorb energy, slowing or preventing the loss of heat into space. Post-WWII economic growth led to a surge in fossil-fuel powered industrial activity, including** mass production and widespread adoption of cars, leading to a dramatic acceleration in gasoline consumption. Transportation and industrial emissions of GHGs have created an unnaturally high concentration of GHGs in our atmosphere, which has led to a significant warming of the planet's average temperature, leading to a wide range of climate changes. These rapid changes to our atmosphere have exacerbated the intensity and frequency of natural disasters in recent years.

The primary greenhouse gases emitted by fossil-fuel combustion engines include:

- Carbon dioxide (CO2)
- Methane (CH4)
- Nitrous oxide (N2O)
- Ozone (O3)

According to the *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990–2022*[65], the transportation sector of the economy was the leading source of greenhouse gas emissions nationally – it was estimated to account for 28 percent of the national total, just ahead of the electricity production sector at 25 percent[66]. Globally, transportation is currently estimated to account for 14 percent of GHG emissions[67].

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64 https://mrmpo.maps.arcgis.com/apps/webappviewer/index.html?id=1f892bd6901e4698858ed94de49f6d00

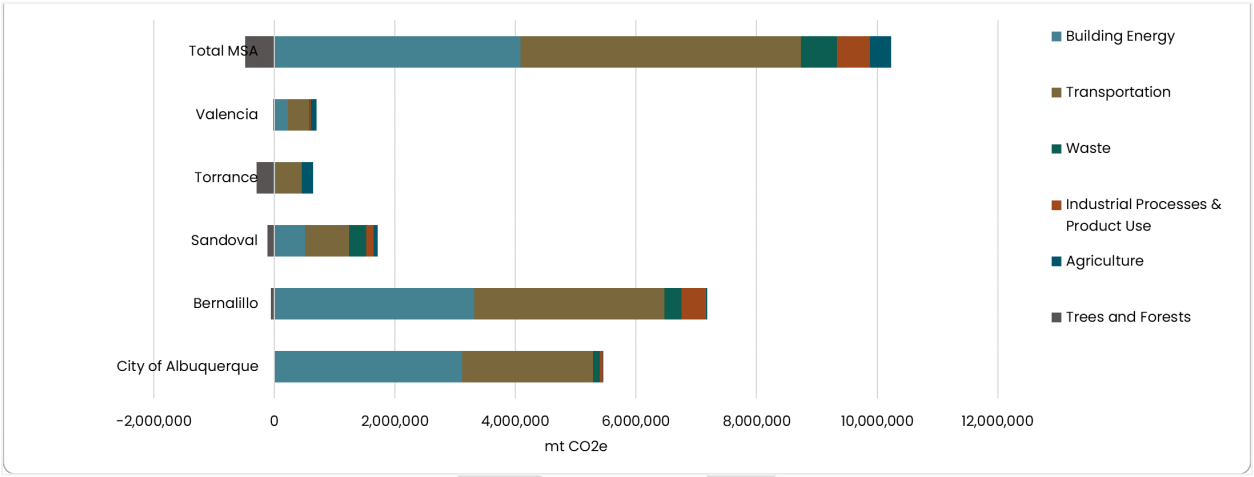
65 https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinkshouse Gas Emissions and Sinks | US EPA

66 https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions

67 https://www.resilientfuturesnm.org/transportation-and-mobility

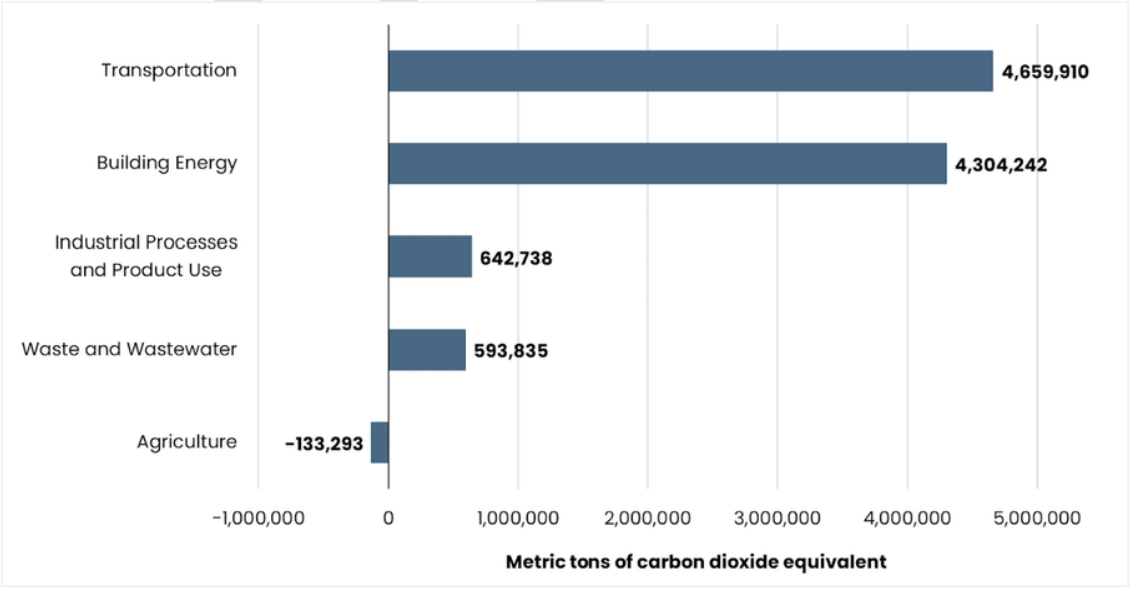
The 2023 emissions inventory completed as part of the Central New Mexico Resilient Futures Initiative[68] determined that the transportation sector was responsible for approximately 46 percent of GHG emissions in the Albuquerque Metropolitan Statistical Area (MSA). This amounted to over 4.6 million metric tons of carbon dioxide equivalent (see figures 62 and 63).

Figure 62: 2023 Greenhouse Gas Emissions by Community and Sector



This graph displays the total greenhouse gas emissions across regional communities and economic sectors in 2023, measured in metric tons of carbon dioxide equivalent.

Figure 63: 2023 Albuquerque MSA Transportation Emissions by Source



This graph displays the total greenhouse gas emissions across various sectors in 2023, measured in metric tons of carbon dioxide equivalent.

[68] https://www.resilientfuturesnm.org/transportation-and-mobility

The Clean Air Act (CAA) governs air pollution control. It authorizes the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) and establish regulations to achieve and maintain these standards. The Environmental Planning Agency (EPA) has set NAAQS for six common air pollutants known to have negative health impacts, referred to as criteria air pollutants: ozone, particulate matter, carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide.

The CAA develops regulations around transportation-related air pollutants, including vehicle emissions standards, fuel standards, and mobile source air toxins (MSAT) which are toxic air pollutants emitted from vehicles. Moreover, it calls for State Implementation Plans (SIPs) to achieve and maintain the NAAQS. Long range transportation plans such as this one are required to conform with SIPs, and if an area is determined to be in nonattainment for a criteria air pollutant, transportation control measures are often a key component of these plans.

According to the EPA's latest National Emissions Inventory (NEI), gasoline-fueled passenger trucks and diesel-fueled combination long-haul trucks are the leading source of mobile on-road criteria air pollutant emissions in the Albuquerque metro area. Combining county-level estimates for Bernalillo, Valencia, and Sandoval Counties produced the data shown in Table 31 below.

Table 31: AMPA Top Contributing On-road Mobile Sources of Criteria Air Pollutant Emissions

Pollutant	2020 CAP Emissions (Tons)	Vehicle Type	Fuel Type
Carbon Monoxide	20,232	Passenger Truck	Gasoline
Nitrogen Oxides	4,326	Combination Long-haul Truck	Diesel
Volatile Organic Compounds	1,388	Passenger Truck	Gasoline
PM10 Primary (Filt + Cond)	243	Combination Long-haul Truck	Diesel
PM2.5 Primary (Filt + Cond)	126	Combination Long-haul Truck	Diesel
Ammonia	103	Passenger Truck	Gasoline
Sulfur Dioxide	11	Passenger Truck	Gasoline

Source: EPA National Emissions Inventory 2020 Report Dashboard

Ground-level ozone forms when nitrous oxide and volatile organic compounds react with sunlight. According to the EPA, ground-level ozone and airborne particles (particulate matter) are the two pollutants that pose the greatest threat to human health in the United States. They can contribute to respiratory illnesses and heart attacks and disproportionately affect vulnerable populations (see Chapter 9 for more on this topic). These are also the most significant air quality issues locally. Bernalillo County currently meets EPA-set standards for criteria pollutants, but Bernalillo and Sandoval Counties are among seven New Mexico counties nearing problematic ground-level ozone levels.[69] While NAAQS standards apply to specific geographic areas, the impacts of air pollution can extend beyond those boundaries, and regional cooperation is essential for effective air quality management.

[69] https://www.env.nm.gov/air-quality/o3-initiative/

Regional Developments

In 2019, Governor Lujan Grisham signed Executive Order (EO) 2019-003 on Addressing Climate Change and Energy Waste Prevention, announcing that New Mexico will support the 2015 Paris Agreement Goals and set a statewide goal to reduce GHG emissions by at least 45 percent by 2030, relative to 2005 levels.[70] This EO also created the Interagency Climate Change Task Force (CCTF) to direct the efforts of multiple state agencies to reduce GHG emissions, improve air quality, and protect natural resources. The CCTF identified transportation decarbonization as critical to reaching state's GHG reduction goals.

State agencies, including NMDOT, are working together to advance decarbonization strategies, with recent successes including the New Mexico Clean Cars Rule that was jointly adopted by the New Mexico Environmental Improvement Board (EIB) and the Albuquerque-Bernalillo County Air Quality Control Board (AQCB) in May 2022. Starting in calendar year 2026, 43 percent of all new passenger cars and light-duty trucks and 15 percent of all new commercial heavy-duty trucks shipped to New Mexico auto dealerships by national auto manufacturers must be zero emission vehicles. A zero-emission vehicle (ZEV) is a vehicle that does not emit exhaust gas or other pollutants from the onboard source of power, and can include plug-in hybrid electric vehicles, battery electric vehicles and hydrogen fuel-cell vehicles. These minimum percentages gradually increase over time (see Table 31 below).

Table 32: New Zero Emission Vehicles Rule Requirements for Delivery to New Mexico by Automakers

Calendar Year	Model Year	Clean Car Rules	Clean Truck Rules		
			Class 2B-3	Class 4-8	Class 7-8
2025	2026		–	–	–
2026	2027	43%	15%	20%	15%
2027	2028	51%	20%	30%	20%
2028	2029	59%	25%	40%	25%
2029	2030	68%	30%	50%	30%
2030	2031	76%	35%	55%	35%
2031	2032	82%	40%	60%	40%
2032	2033		45%	65%	40%
2033	2034		50%	70%	40%
2034	2035		55%	75%	40%

The Clean Car Rule is projected to eliminate about 130,000 tons of greenhouse gases and over 1,700 tons of harmful ozone-forming air pollution in New Mexico by 2050. New Mexico has also invested over $11.5 million in electric vehicle charging stations from State and federal funding

[70] EO_2019-003.pdf https://www.governor.state.nm.us/wp-content/uploads/2019/01/EO_2019-003.pdf(state.nm.us)

sources and received an additional $38 million in U.S. Department of Transportation federal grants (see section 4.1c in the Emerging Technologies chapter for more about electric vehicles).

Reducing transportation's impact on air quality and climate change requires a multifaceted approach involving individuals, governments, and industries. The 2023 NMDOT Carbon Reduction Strategy, developed in coordination with the state, MPOs, and Regional Transportation Planning Organizations focuses on four key categories of activities, each of which plays a vital role in achieving our carbon reduction objectives:

1. Reduce Vehicle Miles Traveled:
    - Introduce multimodal facilities in all relevant projects
    - Pursue opportunities to support Transit Oriented Development
    - Provide opportunities and resources for virtual meetings to reduce travel
    - Provide alternative work sites and flexible schedule options for employees to reduce commuting distances
    - Explore financial disincentives like carbon taxes or congestion pricing to reduce single-occupancy vehicle use

2. Reduce Emissions of Vehicles
    - Invest in shared charging stations or other infrastructure to support electric vehicles
    - Invest in low/zero emissions transit vehicles using applicable funding programs
    - Invest in and establish partnerships to build direct current fast charging (DCFC) stations along EV corridors and expand corridors to provide better coverage across the region

3. Reduce Emissions from Operations and Materials
    - Identify opportunities to use recycled asphalt and other low carbon construction materials during roadway projects
    - Identify opportunities and implement energy efficiency upgrades and/or improvements for agency-owned facilities
    - Install and/or upgrade street lighting to energy-efficient LED technology

4. Sequester Carbon
    - Include planting of street trees in new road construction and rehabilitation projects
    - Integrate green stormwater infrastructure into drainage design manuals, maintenance processes, and project development processes

More specific actions identified for implementation by local agency partners to implement these strategies can be found in the 2023 NMDOT Carbon Reduction Strategy document.

8.3c Water

The construction of roads, bridges, and other transportation systems changes the proportion of impervious surface area. Covering land with materials like asphalt and concrete prevents rainwater from infiltrating the ground, reducing water available for groundwater recharge, and leading to increased stormwater runoff, erosion and flooding. Furthermore, transportation activities contribute to water pollution through the release of fluids like oil and antifreeze. Pollutants that fall onto city streets can be picked up and carried downstream to contaminate surface water bodies

such as rivers and lakes. Fortunately, communities can install practices to help mitigate stormwater-caused impacts.

Green Streets

Traditional stormwater management systems along roads typically direct runoff into pipes or channels that often carry runoff great distances from where precipitation falls. In contrast, a green street incorporates a variety of green infrastructure practices that manage stormwater onsite, where (or very near to where) the precipitation falls. Green streets are those that incorporate Green Stormwater Infrastructure (GSI) – plants, trees, and structured landscape features designed to maximize the ability of healthy soils and vegetation to slow and absorb stormwater runoff – allowing it to percolate down to replenish groundwater supplies while at the same time filtering out sediment and pollutants. Beyond positive impacts on water, GSI can also support biodiversity, improve air quality, and lower ambient heat. Green infrastructure elements that re-create natural areas can be incorporated into almost all transportation projects.

Low-Impact Development (LID) is a related land use planning and engineering design approach that aims to reduce disruption of existing hydrological patterns and support natural processes to protect environmental health.

Regional Developments

Like transportation and air, water crosses boundaries and requires a cooperative, interjurisdictional approach. The Water Resources Board is part of the MRCOG and is a multi-governmental body responsible for coordinating water programs, conducting regional water planning, and addressing water management challenges within the Albuquerque metro area.

The Arid LID Coalition is an interdisciplinary network of practitioners with nearly 200 members that represent more than 30 partnering public and private organizations. The Coalition's mission is to increase the use of Green Stormwater Infrastructure and Low Impact Development (GSI/LID) practices in New Mexico through education, policy advocacy, and demonstration projects that benefit nature and people. The Coalition convenes and coordinates among members of these various organizations, serving as a resource hub and collaboration platform for GSI research, design, construction, installation, and maintenance education, policy advocacy, and projects.[71]

Recommendations to mitigate impacts to water resources include:

[71] https://aridlidcoalition.org/

- **Vegetation Preservation and Restoration**: Require existing vegetation be preserved where possible and replanting of native vegetation after construction. This helps stabilize the soil, improve water infiltration, and restore soil organic matter.
- **Protect critical aquifer recharge areas:** Data on soil types, depth to bedrock, and the presence of permeable layers can be used to identify and designate critical aquifer recharge areas to be restricted from intense development. This helps prevent contamination and maintains natural infiltration to replenish groundwater supplies.
- **Use Permeable Materials**: Require permeable materials like gravel or crushed rock for walkways and driveways to facilitate rainwater infiltration wherever possible.

8.3d Soil

Often overlooked, soil health is fundamental to a thriving environment. Healthy soil plays a critical role in regulating the vital processes that sustain us all including food production, water filtration and purification, flood control, and carbon sequestration.[72]

Transportation infrastructure can have a negative impact on soil health in several ways[73]:

- **Compaction:** Construction equipment can heavily compact soil, hindering water infiltration and plant growth.
- **Loss of Topsoil:** Building roads, railways, airports, and other transportation systems often involves clearing vegetation and removing the fertile topsoil layer in the grading process of leveling the ground for construction. Topsoil is key to biological activity and biodiversity in the region.
- **Impermeability:** Common construction materials like asphalt and concrete create a surface barrier over soil, preventing air and water from penetrating the ground to micro-organisms below.
- **Erosion:** Exposed soil without stabilizing vegetation is vulnerable to erosion from wind and water. This can wash away valuable topsoil, nutrients, and organic matter. Wind-blown dust creates visibility issues for drivers and cause accidents. Fine particulate matter in the air can also harm eyes and lungs.
- **Pollution:** Traffic emissions, accidents involving spills, and even road maintenance activities can introduce pollutants like heavy metals, oil, and salt into the soil. These contaminants can harm soil microbes and hinder plant growth.

There are several ways to minimize damage and even promote healthy soil in developing new transportation projects. The EPA provides recommended practices to promote healthy soil[74].

Recommendations to minimize damage and promote soil health during the implementation of transportation projects include:

[72] https://nwdistrict.ifas.ufl.edu/phag/2019/04/12/healthy-soil-is-teeming-with-microscopic-life/
[73] Roy, S. (2023). Transportation Infrastructure, Slope Instability, and Soil Erosion. In: Disturbing Geomorphology by Transportation Infrastructure. Earth and Environmental Sciences Library. Springer, Cham. https://doi.org/10.1007/978-3-031-37897-3_4
[74] https://www3.epa.gov/npdes/pubs/ch4-3a.htm

- **Strategic Site Selection**: Choose locations for new infrastructure that minimize disruption to high-quality soils and sensitive ecosystems. Avoid areas with steep slopes, wetlands, and prime agricultural land.

- **Stage construction**: Perform clearing and grading during the time of minimum erosion potential. Stabilize the area as soon as the grading and construction are complete.

- **Designate buffer zones**: Preserving natural, existing or established vegetation in temporary or permanent buffer zones is a low-cost way to reduce stormwater discharge and off-site sedimentation.

- **Reduce Land Consumed**: Promote compact, mixed-use development to reduce the need for extensive road networks.

For more information, visit the EPA's Construction Site Erosion and Sediment Control Management Measure Report.

8.4 Climate Hazards

As discussed in 8.3, fossil fuel combustion for transportation is a top contributor of the greenhouse gases driving climate change. Climate change is altering fundamental weather patterns— affecting temperatures, water availability, and weather extremes. In New Mexico, it is causing more frequent and extreme wildfires, drought, flooding, and deadly heat waves. Developments like these are expected to continue, and likely worsen, as average temperatures rise.

Social and economic factors, such as discrimination, poverty, poor housing conditions, and health problems, can make certain communities even more vulnerable to the effects of climate change. Protecting lives and property from seriously destructive and life-threatening natural hazards such as these necessitates a comprehensive and proactive approach. This section explores the potential impacts of climate change on our communities and transportation infrastructure and presents strategies to reduce potential for harm and enhance resiliency. See the Albuquerque/Bernalillo County Hazard Mitigation Plan for additional resources[75].

8.4a Heat

Heat kills more people in the United States and accounts for a larger portion of the public health burden than all other weather hazards combined. In the Southwest, extreme heat is a serious and increasingly dangerous threat. According to the New Mexico Department of Health's online Heat-Related Illness Dashboard, there were 338 heat-related emergency room visits in the metro region, and 45 heat-related deaths statewide among New Mexico residents during the summer of 2024.[76] These numbers are likely an underestimate, given the reporting process.

Transportation infrastructure impacts and is impacted by extreme heat. Common construction materials like asphalt and concrete can absorb as much as 95 percent of the sun's energy, which is

[75] https://www.cabq.gov/office-of-emergency-management/documents/2022-abc-hmp-1-13-22-1.pdf

[76] https://nmdoh-reports.shinyapps.io/HeatRelatedIllnessDashboard/

then radiated back into the surrounding atmosphere, so that urbanized areas tend to get hotter and stay hot longer than rural areas.[77] This phenomenon, known as the "urban heat island effect," can be exacerbated by:

- **Urban geometry:** Buildings can act as obstacles to reduce cooling wind flow.
- **Lack of vegetation:** Paved surfaces limit the availability of space for vegetation, which would otherwise contribute natural cooling effects like shade and evapotranspiration.
- **Anthropogenic heat:** The byproducts of human activity and machinery, like cars, industrial facilities, and air-conditioning units that emit waste heat into the urban environment.[78]

According to the Center for Disease Control (CDC), populations most at risk for heat-related illness and death include seniors, children, pregnant women, newborns, people who work outdoors, people without homes, and people with mental health conditions, chronic health conditions, and disabilities. In addition to the risk of heat stroke, dehydration, and other heat-related illness during high heat days, physical impact (such as during a fall) with objects or surfaces with high surface temperatures like asphalt can lead to second degree burns.

To help identify priority areas for heat mitigation actions, the CDC's Social Vulnerability Index (SVI) was used to determine where in the AMPA those who are most susceptible to the dangers of extreme heat may also be exposed to the highest temperatures. Census tracts with the highest concentration of vulnerable populations are highlighted in Map 33.

[77] https://www.reuters.com/graphics/CLIMATE-CHANGE/URBAN-HEAT/zgpormdkevd/

[78] https://climate.mit.edu/explainers/urban-heat-islands

Map 35: Heat Vulnerability

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METROPOLITAN TRANSPORTATION PLAN

Heat Vulnerability

High Risk and High Temperature Tracts

Highest Heat-Risk Populations

Average Surface Temperature

Percent of Area with Temperatures Averaging 120°–139° F in Summer

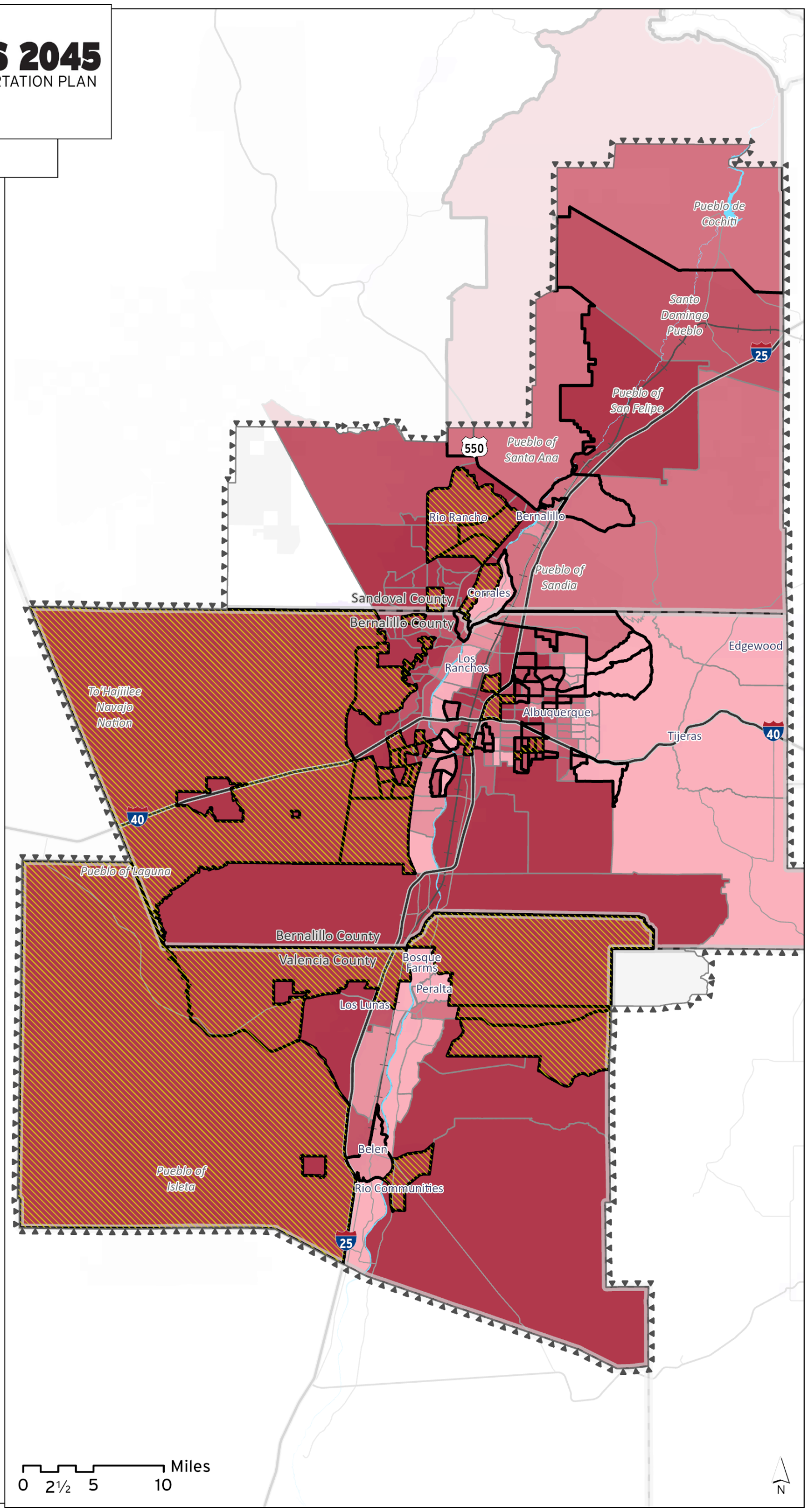
- 75.01% - 100%
- 50.01% - 75%
- 25.01% - 50%
- 15.01% - 25%
- 0% - 15%

Populations considered especially vulnerable or at risk from exposure to high temperature include seniors; minors; persons with a disability; those without medical insurance; households with no personally owned vehicle; whose reported income is below poverty level; or reside in mobile homes (where indoor cooling may be insufficient). Tracts highlighted are those where the residential population of any of these exist in greater number than in 90% of other tracts in the state (CDC Social Vulnerability Index [SVI], 2022).

Darker shaded tracts are those where satellite data indicates a relatively higher percentage of the tract's land surface area is regularly exposed to temperatures averaging between 120° and 139° Fahrenheit during the hottest days of the year. This average was calculated from recorded daylight hour readings during July and August from 2013 to 2023.

Map Data Sources: MRMPO, CDC SVI, NASA ARSET, Landsat, and Google Earth Engine.
Additional Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization



According to this data (summarized in Table 33 below), approximately 46 percent of the AMPA's total population, or 407,685 people, live in an area with high exposure to extreme heat. Vulnerable populations tend to be concentrated in high heat areas. While 46 percent of the AMPA population live in high heat areas, there are several groups who are overrepresented, as shown in Tables 22 & 23, including; persons of color, minors, and uninsured.

Table 33: Population Demographics of Tracts with Highest Average Surface Temperatures

Heat-Vulnerable Populations	AMPA Totals	Percent of AMPA	Totals exposed to high heat	% exposed to high heat
Persons of Color	557,523	63%	277,373	50%
Minors (<18)	190,196	21%	97,120	51%
Persons below 150% poverty	214,596	24%	93,738	44%
Seniors (65+)	156,336	18%	58,471	37%
Persons with a disability	135,011	15%	56,983	42%
Uninsured	70,626	8%	34,499	49%
Total Population	**889,875**	**100%**	**407,685**	**46%**

Source: CDC Social Vulnerability Index (SVI)

Nearly every community of color in the AMPA is more likely to be disproportionately exposed to high heat, as demonstrated in the table below.

Table 34: Race/Ethnicity of Persons of Color Living in High-Heat Areas

Non-White Not Hispanic Population	AMPA Population	Percent of AMPA	Exposed to High Heat	Percent Exposed
Black or African American	19,920	2.2%	11,261	57%
American Indian and Alaska Native	38,807	4.4%	19,712	51%
Hispanic or Latino (of any race)	447,845	50.3%	227,461	51%
Some Other Race	4,245	0.5%	2,173	51%
Native Hawaiian and Other Pacific Islander	525	0.1%	251	48%
Two or More Races	26,183	2.9%	10,399	40%
Asian	19,998	2.2%	6,116	31%

Source: ACS 2018-2022, U.S. Census Bureau

Extreme heat can also significantly impact transportation infrastructure in several ways:

- **Material Degradation:** In extreme heat, asphalt will soften and expand, leading to more rutting and potholes, particularly in high-traffic areas. Concrete and steel will expand and contract, leading to cracking and spalling, potentially causing structural damage or bridge failure.
- **Tire Failures:** Higher temperatures can increase tire pressure and wear, leading to more frequent dangerous blowouts. According to the National Transportation Safety Board, tire failures on cars and trucks cause more than 30,000 crashes annually in the U.S. and injure roughly 19,000 people. Summer driving accounts for the largest share of crashes.[79]
- **Buckling:** Heat can cause railroad tracks and pavement to expand and lift from the ground beneath, sometimes with explosive force.
- **Reduced Vehicle Performance:** Heat can reduce engine performance, leading to decreased fuel efficiency and increased emissions.
- **Power Failure:** In extreme heat events, power grids can be overburdened and shut down, causing traffic signals to fail and dangerously disrupt traffic flows. This can also endanger vulnerable populations stuck at home without air conditioning.
- **Air travel disruption:** Airplanes are unable to take off from runways above a certain temperature.
- **Mode shift:** Unmitigated heat in urban areas can make walking and bicycling less attractive transportation alternatives, with both public health and greenhouse gas emissions consequences.

Preparing our communities for more frequent and extreme heat events and achieving resilience to urban heat requires effective coordination between several different disciplines, such as hazard mitigation, public health, emergency management, the energy sector, and various levels of government.

Recommendations to mitigate extreme heat danger include:

Reducing paved, impermeable surfaces:

- Eliminate parking minimums, consider parking maximums
- Implement road lane reductions or “road diets”
- Use cool and permeable paving
- Cluster and Low-Impact Development

[79] https://www.scientificamerican.com/article/extreme-heat-can-ruin-your-road-trip-heres-how-to-prepare

Support urban forestry:

Use arid-adapted native trees. The state forestry website has a list of arid-adapted native tree species recommended for new plantings in our region.

- Provide adequate, uncompacted root space
- Coordinate drainage and landscaping plans
- Employ tree protection ordinances

Maximize shade:

- Employ design guidelines that specify requirements for streetscape or public spaces that include provisions for shade.
- Require new buildings to be oriented to maximize shade, ventilation and energy efficiency.
- Provide street trees or shade structures at transit stops, and seating opportunities that use materials and colors that decrease surface temperatures.

8.4b Wildfire

In recent years, New Mexico has seen massive wildfires that broke records for acres of land consumed. Many wildfires are caused by human activities, such as campfires, discarded cigarettes, equipment use, and intentional fire-starting. Climate-related factors like rising average temperatures and drought may have increased the intensity of such wildfires. The growing proximity of homes and other structures to flammable vegetation has increased the risks extensive property damage and loss of life. Smoke from wildfires also has serious impacts on air quality, including release of greenhouse gases.

For these reasons, the characteristics of Wildland-Urban Interface/Intermix (WUI) areas are used to identify where the risk of wildfires and attendant needs for hazard mitigation and emergency preparedness are greatest. The "WUI" is a critical area where humans and their development meet or intermix with wildland fuels.

Wildland-Urban Interface: These are areas that have a high density of homes and businesses directly adjacent to undeveloped wildland vegetation. Communities are within 1.5 miles of an area that is highly vegetated, less than 50 percent of the land is vegetation, and density is greater than three structures per acre.

Wildland-Urban Intermix: In these areas, houses and businesses are scattered and intermingled with wildland vegetation. More than 50 percent of the land is vegetation, and density is greater than one house per 40 acres.

Using geographic information systems (GIS), the Silvis Lab of the University of Wisconsin integrated US Census and USGS National Land Cover Data to map the Federal Register definition of WUI for the conterminous United States from 1990-2020 to inform both national policy and local land management concerning the WUI and associated issues. This data further sorts WUI zones into

high, medium and low-density areas, with higher density naturally indicating higher risk. This dataset also includes estimates of population and housing in each calculated zone. Table 35 below displays the estimated regional totals.

Table 35: AMPA Population and Households residing in Wildland Urban Interface/Intermix

WUI Class/Zones	Population	% of AMPA Population	Households	% of AMPA Households
High-Density Interface	272,884	31%	106,383	30%
High-Density Intermix	1,179	0.1%	423	0.1%
Med-Density Interface	160,688	18%	60,177	17%
Med-Density Intermix	45,543	5%	17,045	5%
Low-Density Interface	7,343	1%	2,211	1%
Low-Density Intermix	22,682	3%	8,563	2%
Total in WUI	**510,319**	**57%**	**194,802**	**54%**
Total in AMPA	**889,875**	**100%**	**358,984**	**100%**

In general, the Wildland Urban Interface is often considered more dangerous than the Intermix, due to the higher density of structures and the potential for rapid fire spread to densely populated areas. However, both areas require careful planning, mitigation efforts, and community preparedness.

Figure 64 : Land Use Planning Tools to Reduce Wildfire Risk

Image courtesy of Community Planning Assistance for Wildfire.[80]

[80] https://cpaw.headwaterseconomics.org/

8.4c Flood

Across the country, flash floods cause approximately 140 deaths and an average of $5 billion in damages each year.[81] Whether caused by heavy rain, thunderstorms, or winter storms, the results of flooding can be devastating. On June 29th, 2024, when the metro area experienced historic flooding, the Albuquerque Fire Rescue (AFR) responded to 142 calls from 8 p.m. to midnight. Flooding and power outages caused some roads to become impassable; shorted streetlights; and damaged two fire engines and three city buses.[82]

According to the National Weather Service, more than half of flood-related drownings—more than 50 per year over the past decade—occur when someone drives into hazardous water.[83] It is never safe to drive or walk into flood waters. Roads may collapse during flood events, and just 12 inches of rushing water can carry away most cars.[84]

To help identify where in the AMPA roads and homes may be most exposed to flood hazards, a GIS analysis was performed using the National Flood Hazard Layer (NFHL). The NFHL is a geospatial database produced by FEMA that contains current effective flood hazard data. The NFHL is used to support the National Flood Insurance Program (NFIP) and helps communities understand their flood risk.

In the AMPA, approximately 1,215 miles of roadway are in areas designated by the NFHL as having at least a one percent annual chance of flooding (also known as the 100-year floodplain). These include around 687 miles within the Major Road Network and 528 miles of local roads in flood zones. Many of these roads are either in mountainous areas where roads follow the lowest path through canyons, or in sloping areas like the Sandia foothills or below the western mesa where roads crisscross the paths of natural arroyos carved into the landscape through many years of stormwater flows.

Other areas with a high percentage of road and tract area within flood hazard zones are found in the valleys and historic floodplain of the Rio Grande, where proximity to this important water source and gravity have assisted development of the historic acequia irrigation network and fed associated agricultural practices for centuries. Consequently, the majority of the region's farmland actively used for growing crops and raising livestock is within the 100-year floodplain.

While new construction in the 100-year flood zone is subject to design requirements meant to minimize flood damage and safety risk, development that adds impervious surface area within watershed drainage basins or catchment areas alters hydrology in sometimes unpredictable ways, increasing stormwater runoff volumes and creating challenges for flood control authorities.

With climate change projections including more extreme rainfall events, the "100-year storm" may happen more frequently, so it is important to plan transportation and land development with flood implications in mind.

[81] https://www.fema.gov/fact-sheet/flood-risks-increase-after-fires
[82] https://www.krqe.com/news/albuquerque-metro/albuquerque-fire-rescue-talks-about-flooding-in-metro/
[83] https://www.consumerreports.org/cars/car-safety/the-dangers-of-driving-on-flooded-streets-a8035090841/
[84] https://www.weather.gov/safety/flood-turn-around-dont-drown

Table 36: Demographic estimates for census tracts with more than 50% of area within 100-year floodplains

	Total Population	Households	Population with income below 150% poverty	Seniors (age 65+)	Minors (age 17 and younger)	Persons with a disability	Households with no vehicle
Tract more than 50% in 100-year flood zone	41,693	15,427	11,150	8,466	8,382	9,229	651

Source: 2022 Social Vulnerability Index, CDC

8.5 Goals, Objectives, and Strategies

To address the environmental challenges our region faces and cultivate a transportation system that leads to healthy environments in the region, the following goals, objectives, and strategies should be considered:

Table 37 : Environment Resiliency-Specific Goals, Objectives, and Strategies

Healthy Environment *Incorporate climate change and environmental considerations into transportation planning and decisions.*	Protect and enhance the natural environment	Protect critical wildlife habitats and culturally important natural areas.
		Provide for the mobility needs of wildlife by facilitating safe road-way crossings of migration corridors.
	Prevent disproportionate environmental impacts to low-income neighborhoods and communities of color	Practice low-impact principles to make development sustainable.
	Reduce transportation contributions to climate change	Facilitate the decarbonization of transportation by further developing alternative fuel infrastructure.
	Protect public health and safety from the impacts of climate change	Work with nature to reduce environmental harm and support environmental health.

CHAPTER 9 EQUITY

9.1 Introduction

Transportation is a key determinant of social and economic equity, and infrastructure investments can serve to connect and create shared prosperity or divide and further inequality. In the 20th century, the rise of the automobile and the construction of the Interstate Highway System provided greater mobility and access to economic opportunity for many. However, the interstate also was responsible for disrupting and displacing entire neighborhoods to make way for the construction. The development of the Interstate Highway system contributed to urban sprawl, air pollution, and the decline of public transportation, leading to increased reliance on cars, compromised safety for non-vehicle users, and environmental degradation. The legacy of this nationwide infrastructure project has created inequities that still exist today, contributing to disparities in the distribution of the benefits and burdens associated with transportation infrastructure. [85]

To help further regional progress towards equity and environmental justice, this chapter makes use of several federal data mapping tools to present an assessment of the current distribution of benefits and burdens associated with transportation in the Albuquerque Metropolitan Planning Area (AMPA), to raise awareness of disparities where they may exist, and to identify potential priority locations for new investment and further corrective actions.

Prioritizing Equity

To prioritize communities for investment in affordable, equitable, reliable, and safe transportation, the White House Council on Environmental Quality (CEQ) developed a geospatial mapping tool to identify communities who may be:

- **Marginalized:** Lacking political and economic power, making it difficult for them to advocate for their needs.
- **Underserved:** Lacking access to essential services, such as healthcare, education, and transportation.
- **Overburdened:** Disproportionately exposed to environmental hazards, such as air pollution, water pollution, and toxic waste.

The Climate & Economic Justice Screening Tool (CEJST) utilizes data from multiple federal government sources to compare indicators of the cumulative burdens area populations may face, such as climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. A regionally focused version was developed by MRMPO to

[85] https://www.history.com/news/interstate-highway-system-infrastructure-construction-segregation

accompany this analysis and can be found on the MRCOG website on the Planning for Equity page.[86]

In version 1.0 of the CEJST, communities are considered "disadvantaged" if they reside in census tracts that meet certain thresholds for at least one of the tool's categories of burden, or if they are on land within the boundaries of federally recognized tribes. The included categories of burden and associated indicators are summarized in Table 38 below:

Table 38: Climate and Economic Justice Screening Tool Burdens and Indicators

Category	Environmental, climate, or other burdens	Socioeconomic burden
Climate change	1. Expected agriculture loss rate ≥ 90th percentile OR 2. Expected building loss rate ≥ 90th percentile OR 3. Expected population loss rate ≥ 90th percentile OR 4. Projected flood risk ≥ 90th percentile **(NEW)** OR 5. Projected wildfire risk ≥ 90th percentile **(NEW)**	Low income*
Energy	1. Energy cost ≥ 90th percentile OR 2. PM 2.5 in the air ≥ 90th percentile	Low income*
Health	1. Asthma ≥ 90th percentile OR 2. Diabetes ≥ 90th percentile OR 3. Heart disease ≥ 90th percentile OR 4. Low life expectancy ≥ 90th percentile	Low income*
Housing	1. Historic underinvestment = Yes **(NEW)** 2. Housing cost ≥ 90th percentile OR 3. Lack of green space ≥ 90th percentile **(NEW)** OR 4. Lack of indoor plumbing ≥ 90th percentile **(NEW)** OR 5. Lead paint ≥ 90th percentile	Low income*
Legacy pollution	1. Abandoned mine land present = Yes **(NEW)** OR 2. Formerly Used Defense Site (FUDS) present = Yes **(NEW)** OR 3. Proximity to hazardous waste facilities ≥ 90th percentile OR 4. Proximity to Superfund or National Priorities List (NPL) sites ≥ 90th percentile OR 5. Proximity to Risk Management Plan (RMP) sites ≥ 90th percentile	Low income*
Transportation	1. Diesel particulate matter ≥ 90th percentile OR 2. Transportation barriers ≥ 90th percentile **(NEW)** OR 3. Traffic proximity and volume ≥ 90th percentile	Low income*
Water and wastewater	1. Underground storage tanks and releases ≥ 90th percentile **(NEW)** OR 2. Wastewater discharge ≥ 90th percentile	Low income*
Workforce development	1. Linguistic isolation ≥ 90th percentile OR 2. Low median income ≥ 90th percentile OR 3. Poverty ≥ 90th percentile OR 4. Unemployment ≥ 90th percentile	High school education < 10%

* Low Income = 65th percentile or above for census tracts that have people in households whose income is less than or equal to twice the federal poverty level, not including students enrolled in higher education **(NEW method of calculation)**

Source: CEJST Technival Support Document: https://screeningtool.geoplatform.gov/en/downloads

[86] MRMPO tool can be found here: https://mrmpo.maps.arcgis.com/apps/instant/portfolio/index.html?appid=127b493302544a5d9e9ecd06dbb9ef8b.

It is important to recognize that not every resident of an area designated as “disadvantaged” will be facing the same collection of challenges, and populations facing similar challenges also reside in areas not designated as disadvantaged. These tools simply provide a broad overview of geographic and socio-economic patterns that suggest a need for further attention and support. Policymakers should be sure to engage with community members in a collaborative manner and allow them to speak for themselves about their needs and priorities to avoid making false assumptions.

The USDOT Equitable Transportation Community (ETC) Explorer is another interactive web application designed to visualize data indicators of the cumulative burden communities experience as a result of underinvestment in transportation. It is intended to complement the White House Council on Environmental Quality’s Climate & Economic Justice Screening Tool (CEJST) by providing users deeper insight into the Transportation Disadvantage component of that tool. The ETC Explorer includes a Transportation Insecurity component, which combines measures of cost burden, safety, and relative access to needed services and points of interest. Map 34 presents this indicator as a state-level percentile value, along with AMPA tracts identified by the CEJST as Disadvantaged Communities (DACs).

Map 36: Transportation Insecurity in Disadvantaged Areas

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Transportation Insecurity in Disadvantaged Areas

Disadvantaged Communities (DACs)

Transportation Insecurity Score

State Percentile by Census Tract

- 0% - 20%
- 20.01% - 40%
- 40.01% - 65%
- 65.01% - 80%
- 80.01% - 99%
- No Data

Communities are considered disadvantaged if they are in census tracts that meet the threshold for at least one category of burdens related to climate change, environmental degradation, health, and economic opportunity or if they are on the lands of Federally Recognized Tribes (CEJST v1.0, November 2022).

The Transportation Insecurity Score comprises indicators measuring transportation cost burden, access to opportunities and resources, and transportation safety (USDOT ETC Explorer, May 2023).

Map Data Sources: MRMPO, Climate and Economic Justice Screening Tool (CEJST), and USDOT Equitable Transportation Community (ETC) Explorer.
Additional Sources: See Appendix I.

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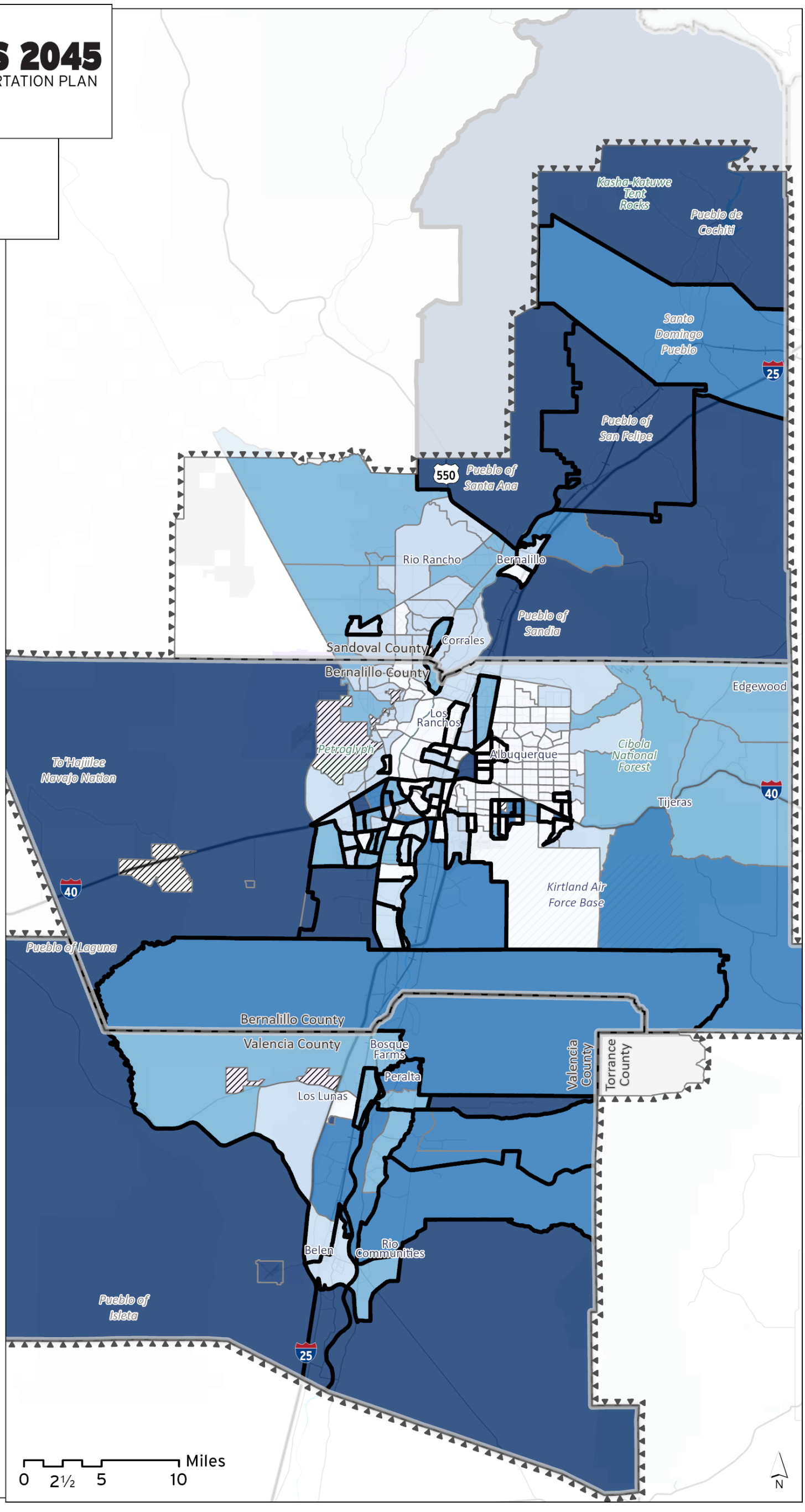


9.2 Benefits and Burdens

Beyond more intangible benefits like the powerful sense of freedom and independence access to transportation can bring, a major benefit of transportation is the access it provides to what people need to survive and thrive – jobs for income, affordable housing, places of education, healthcare, shopping, and recreation. There are barriers that prevent these benefits from being equitably accessible to all, and which are more challenging to overcome for some than for others. Some communities are also more vulnerable and more exposed than others to the burdens of negative transportation impacts to environmental health, such as air pollution, noise**,** and extreme heat. The following sections explore in more depth contributing factors to these differences, and how they affect the region's populations and their transportation mode options.

9.2a Barriers to Access

Residents of Disadvantaged Communities in the AMPA spend an average of nearly 38 percent of household income on transportation, while this cost burden for all other households was merely 16 percent of household income

The most common barriers to transportation access are affordability and safety. According to the Bureau of Transportation Statistics, transportation is the second largest household expenditure behind housing.[87] Contributing factors to the high cost of transportation include car loans and associated interest payments; insurance costs; maintenance costs; license and registration fees; and fuel and parking costs. The cost burden of transportation often falls hardest on the lowest income households. Within Disadvantaged Census Tracts in the AMPA, approximately 10,767 households have no access to a personally-owned vehicle (a rate 4.5 percent higher when compared to non-disadvantaged tracts in the region), while 73,560 people have an income below the poverty level (18 percent higher than non-disadvantaged tracts in the region). [88]

Housing affordability also affects transportation cost burden. The phrase "drive 'til you qualify" refers to the practice of home buyers moving further out from city centers or desirable neighborhoods until they find a location where they can afford to buy a house. Theoretically, the further a home is from high demand, centrally-located areas, the lower the cost to purchase or rent housing. However, the further these residents must travel to reach points of interest then increases costs in terms of time, fuel and vehicle wear and tear. According to the Equitable Transportation Community data, 19 percent of commuters from Disadvantaged Communities drove upwards of 30 minutes daily on average, compared to 13 percent for the rest of the region.

9.2b Safety

Because it is more affordable, low-income populations are more likely to rely on walking, biking, or the public transportation system. Demand for frequent service with stops in proximity to where populations are concentrated makes transit service difficult to provide in rural areas. Lack of

[87] https://www.bts.gov/data-spotlight/household-cost-transportation-it-affordable
[88] These numbers were calculated by selecting tracts from the ETC Explorer within the CEJST Disadvantaged tracts and then using a weighted average by total households in each.

transit services can be a dangerously isolating factor for vulnerable populations without the ability to drive, without access to a vehicle, or without the ability to use alternative transportation modes (like biking or walking). Average frequency of transit services per hour per square mile are 6.7 (e.g., 7 buses per hour per square mile) in non-Disadvantaged Communities, and 10.7 (e.g., between 11 buses per hour per square mile) in Disadvantaged Communities, so as one might expect, the more urban areas where most transit-dependent populations are concentrated, are generally also better served by public transit.

Differential risks to personal safety are a significant barrier. Transit-riders, pedestrians, and bicyclists are all more exposed than automobile drivers to safety hazards of the urban environment, particularly those hazards caused by automobiles and their drivers. For several years in a row, Albuquerque ranked first in the nation for highest average annual pedestrian fatality rate per capita (in 2023 and 2024 it was ranked second, after Memphis, TN) according to *Dangerous by Design*, a report produced by Smart Growth America[89]. Being a woman, LGBTQ, or gender non-conforming person can also be a barrier to safe mobility, as studies and reports consistently show that these populations face a statistically disproportionate share of harassment or threats of violence when traveling alone. See Chapter 5 for a more detailed analysis of regional transportation safety.

Creating a safe environment for active transportation users (people who bike, walk, or roll) requires physical infrastructure investments, such as protected bike lanes, ADA accessible sidewalks and crossings, legible signage, and traffic signals. Underinvestment in disadvantaged tracts leads to entirely missing or poorly maintained and inadequate active transportation infrastructure. A GIS analysis of the Long-Range Bikeway System (LRBS) network produced some quantitative estimates for comparison of the regional distribution of bicycling infrastructure, summarized in Table 39 below:

[89] https://smartgrowthamerica.org/dangerous-by-design/

Table 39: Comparative Distribution of AMPA Existing and Proposed Bike Facilities (Miles)

Existing Bike Facilities per Mile	Existing Bike Boulevard	Existing Bike Lanes	Existing Bike Routes	Existing Buffered Bike Lanes	Existing Paved Trails	Existing Protected Bike Lanes
Disadvantaged Community	2.6	72.3	98.0	8.4	77.3	0.3
Non-Disadvantaged Community	5.7	209.8	115.5	21.0	245.5	0.0
Difference:	-3.1	-137.5	-17.5	-12.6	-168.2	0.3
Proposed Bike Facilities	Proposed Bike Boulevards	Proposed Bike Lanes	Proposed Bike Routes	Proposed Buffered Bike Lanes	Proposed Paved Trails	Proposed Protected Bike Lanes
Disadvantaged Community	22.6	150.6	32.6	48.0	193.0	20.8
Non-Disadvantaged Community	20.0	319.1	71.1	38.6	357.6	14.6
Difference:	2.6	-168.4	-38.5	9.4	-164.6	6.1

The table illustrates that there is a disparity in bicycle infrastructure provided in Disadvantaged Communities compared to non-disadvantaged communities. Although proposed facilities in the LRBS are aspirational and delineated for planning purposes (i.e., they are not necessarily planned, programmed, or guaranteed to happen), the analysis serves as a reminder to be mindful of the need to prioritize infrastructure investments in areas with the most need.

Sidewalks that comply with design standards of the Americans with Disabilities Act (ADA) are critical to enable safe navigation of city streets, especially for people with different mobility or perception abilities. Many streets were designed and built either before the ADA or without consideration of the unique needs of such populations, leaving much of this infrastructure in need of significant investment to meet accessibility standards.

Estimated walk times to points of interest are 30 minutes longer on average in Disadvantaged Communities s.[90] Considering the average "walkable" distance for most Americans is about one-and-a-half to two miles, or 30-40 minutes at an average walking speed of three miles per hour, such

[90] Walk times are estimated by calculating the average walk time from all block group centroids in a tract to the nearest two points of interest.

distances can be a yet another significant barrier to access, particularly where pedestrian infrastructure is not provided.

Table 40: Comparative Walk Access

Comparative Walking Access (minutes)	Estimated Walk Time to Adult Education	Estimated Walk Time to Grocery Stores	Estimated Walk Time to Medical Facilities	Estimated Walk Time to Parks	Estimated Walk Time to Primary Schools
Disadvantaged	200	60	52	52	39
Non-Disadvantaged	126	49	41	28	34
Difference:	73	11	11	24	5

Sources: CEJST 1.0 and ETC Explorer

In some cases, areas may have been intentionally designed without sidewalks to discourage foot traffic and limit accessibility to certain demographics, thereby promoting exclusivity. This is a form of "environmental exclusion," where infrastructure design may further inequity.

A similar GIS analysis for presence of absence of sidewalks (without sufficient data to indicate ADA-compliant conditions) found that sidewalk density, or miles of sidewalk per square mile, was 0.9 in Disadvantaged Community neighborhoods, and 2.8 everywhere else. Disadvantaged areas with the least amount of sidewalks include much of the South Valley and other historically rural, unincorporated county and tribal lands outside of urbanized area boundaries. Non-Disadvantaged Community areas where sidewalks are mostly absent include Sandia Heights, Los Ranchos, Corrales, and much of Rio Rancho, which tend to be higher income and have higher rates of vehicle ownership.

For pedestrians, cyclists, and people waiting at bus stops, proximity to traffic also means increased exposure to heat, noise, and air pollution. The following section considers further the regional distribution of these transportation-related burdens in relation to environmental justice considerations. See Section 8.4 on climate change hazards for a more detailed assessment of health risks associated with urban heat islands.

9.3 Environmental Justice

The concept of "environmental justice" arose from a social movement aimed at addressing a legacy of apparent biases in city planning decisions that led to a disproportionate burden of environmentally hazardous land uses in vulnerable communities. One example is the concentration of heavy industry in low-income neighborhoods and communities of color, which drives disproportionate negative health outcomes resulting from the cumulative impacts of air and water pollution on nearby populations. The Environmental Protection Agency (EPA) provides the "Environmental Justice Screen" (EJ Screen) mapping application to assist regional policymakers in identifying areas of concern for environmental justice, including an assessment of transportation-related health burdens.

The table below summarizes average annual pollutant exposure for residents of EJ Priority Tracts and the rest of the AMPA, with values normalized to a common scale and weighted by population for comparison. Although the area and population size in EJ Priority Tracts is much less than the rest of the AMPA, this population is more burdened by each pollutant measured. "EJ Priority Tracts" are tracts in the AMPA where the population of persons of color or low-income households is at or above the 80th percentile compared to the rest of New Mexico. For more about each of the criteria pollutants associated with transportation, see section 8.2b on Air Quality, and for more about how each pollutant is measured and their potential health impacts, see the EPA's EJ Screen page and technical documentation.

Table 41: Comparative Exposure to EPA Criteria Air Pollutants with known Impacts to Health

Normalized Population Weighted Averages	Total Population	Particulate Matter 2.5	Ozone	Diesel particulate matter	Toxic Releases to Air	Traffic proximity	NO2
EJ Priority Tracts	197,192	0.82	0.67	0.42	0.18	0.32	0.68
Other Tracts	692,683	0.20	0.17	0.08	0.02	0.02	0.16
Difference	**-495,491**	**0.61**	**0.50**	**0.34**	**0.17**	**0.30**	**0.52**

Populations of these tracts include many who are also more vulnerable or susceptible to health impacts from air pollution, such as seniors, children, and persons with a disability. The table below disaggregates the tract totals of these populations for each area.

Table 42: Vulnerable Residents of EJ Priority Tracts

	Population	Persons of Color	Low Income Households	Persons with a Disability	Children (under 5 years old)	Seniors (65 and older)
EJ Priority Tracts	197,192	165,833	106,242	35,312	11,810	24,259
Other Tracts	692,683	391,690	186,769	99,699	33,893	132,077
Difference	**-495,491**	**-225,857**	**-80,527**	**-64,387**	**-22,083**	**-107,818**

The USDOT's Equitable Transportation Community (ETC) Explorer also includes health data from the Center for Disease Control's Places 2020 dataset. Table 31 summarizes the percent of the population with health issues known to be sensitive to air pollution exposure.

Table 43: Comparative Prevalence of Health Conditions Associated with Impacts of Air Pollutants

Crude Prevalence (% of population) with Health Issues	Asthma	Cancer	High Blood Pressure	Diabetes
EJ Priority Tracts	6.4	2.4	15.9	7.2
Other Tracts	2.2	1.4	6.1	2.2
Difference	**4.2**	**1.0**	**9.8**	**5.0**

Tract populations vary widely between tracts of varying sizes, so these values are again weighted by population to ensure that each tract's contribution to the overall average reflects its population size. This provides a more accurate representation for comparison of the health issue's prevalence in the population of each area. Again, this data indicates low-income households and persons of color are disproportionately exposed to transportation-related air pollutants and environmental health in these communities.

Map 35 below symbolizes the overlap or coincidence of asthma prevalence and proximity to high-volume traffic, with EJ Priority Tracts highlighted for comparison. This shows that high prevalence of asthma can occur in areas without high traffic volume proximity, and there are a few tracts with high traffic volumes and no equivalent level of asthma prevalence, but coincidence of both conditions are high for much of the most populated areas of Albuquerque.

Proximity to high traffic volumes can often also mean exposure to volumes of noise, and exposure to noise can also have several significant health impacts, affecting both mental and physical well-being. Here are some of the key health effects research has found associated with prolonged exposure to unwanted volumes of sound:

Mental Health Impacts:

- Stress and anxiety; sleep disturbance; irritability and frustration.

Physical Health Impacts:

- Hearing impairment; cardiovascular issues; Type 2 diabetes; respiratory problems; adverse birth outcomes.

Other Health Impacts:

- Cognitive Impairments; immune system changes.

While geographic data on actual volumes of noise exposure are not available, a reasonable proxy is relative distance from common sources of noise. The ETC index includes some of these measures for comparison, summarized in Table 32 below.

Table 44: Comparative Noise Exposure

Comparative Proximity to Noise Sources	% of tract within 1 mile of high-volume roads	% of tract within 1 mile of railways	% of tract within 5 miles of airports
EJ Priority Tracts	54.7	9.0	47.6
Other Tracts	48.2	11.8	49.0
Difference	**6.5**	**-2.8**	**-1.4**

This data indicates EJ Priority Tracts are relatively farther away from some noise sources than many other tracts, but property values are typically lower near railway tracks and airports, making homes in such areas more affordable for lower income households. Mitigating noise pollution in communities near high-traffic areas is crucial for improving residents' quality of life. Here are some effective strategies:

Noise-Compatible Land Use Planning:

- Avoid Noise-Sensitive Land Uses: Plan and regulate land use to avoid placing schools, hospitals, and residential areas near busy roads.
- Buffer Zones: Create green spaces or buffer zones between traffic and residential areas to absorb and reduce noise.

Source Control:

- Quieter Pavements: Use materials for road surfaces that reduce noise from tire-road interaction.
- Vehicle Regulations: Enforce noise emission standards for vehicles and restrict modifications that increase noise levels.
- Traffic Management: Implement measures like speed limits, traffic signal adjustments, and truck routing to minimize noise.

Noise Mitigation Measures:

- Sound Barriers: Construct walls or barriers along highways to block noise from reaching residential areas.
- Depressing Highways: Build highways below ground level in sensitive areas to reduce noise exposure.
- Traffic Calming: Use roundabouts and other traffic calming measures to reduce vehicle speeds and noise near highly populated residential areas.

Community Engagement:

- Public Awareness: Educate the community about noise pollution and its impacts.
- Feedback Mechanisms: Establish channels for residents to report noise issues and suggest improvements.

Implementing these strategies can significantly reduce noise and air pollution exposure to support a healthier environment for communities living near high-traffic areas. To improve equity, residents of EJ Priority Tracts should be given additional consideration in transportation project planning to avoid adding to the cumulative burden of these impacts on already overburdened areas.

9.4 Goals, Objectives, and Strategies

To cultivate a transportation system that leads to equitable outcomes in the region, the following goals, objectives, and strategies should be considered:

Table 45 : EQUITY-Specific Goals, Objectives, and Strategies

Equity *Improve safe and reliable transportation systems in traditionally underserved communities.*	Provide safe and reliable routes to daily destinations	Design and adapt transportation systems to meet the different needs of people of all ages and abilities.
		Target investment in street trees and shade structures to protect the most vulnerable populations from dangerous heat extremes.
	Increase access to green space and outdoor recreational opportunities	Provide equitable transportation access to regional medical services, senior centers, multi-generational and community facilities, as well as green space and outdoor recreational opportunities.
	Improve access to economic opportunity	Ensure transportation investments equitably distribute the benefits and burdens of transportation investments to help mitigate and reduce past impacts while avoiding new and future impacts.
	Expand access to affordable housing	Encourage affordable housing development near transit through creative incentives and funding mechanisms.

Map 37: Environmental Justice and Air Quality

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

Environmental Justice and Air Quality

Environmental Justice Priority Tract

By Census Tract:

Traffic Volume and Proximity

Asthma Prevalence

High

Low

Low High

Asthma Exposure

No Data

Traffic Volume and Proximity

No Data

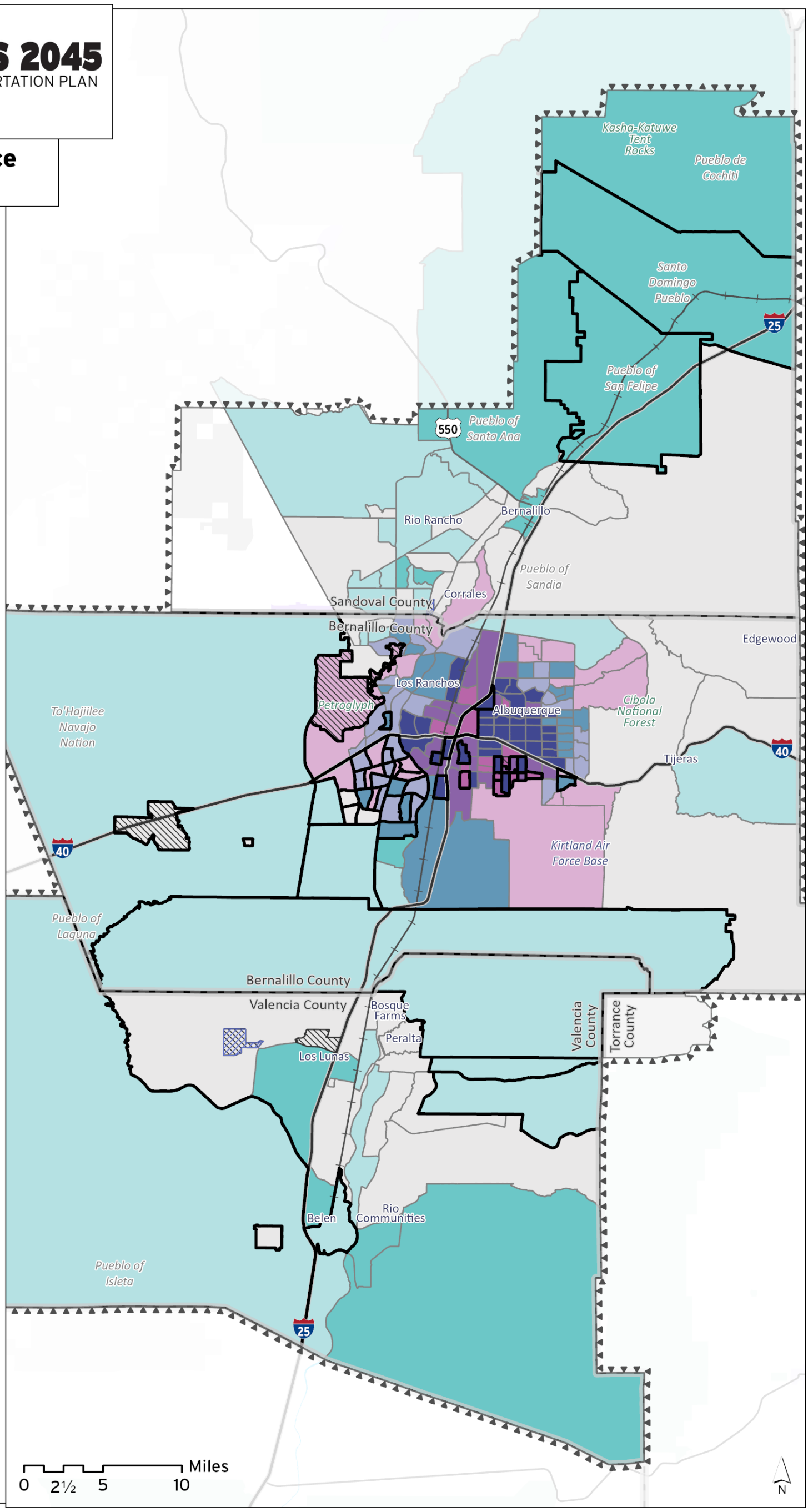
The asthma prevalence data visualized here is among adults aged 18 or older, sourced from the January 2024 release of the Center for Disease Control's Places dataset.

Traffic proximity and volume is calculated from the annual average daily traffic count at major roads within 10 kilometers divided by distance from the Census block centroid (EJScreen v2.3, July 2024.

Environmental Justice Priority Tracts are those where the population percentage of persons of color or low-income households is higher than in 80% of all tracts in New Mexico (EJScreen v2.3, July 2024).

Map Data Sources: MRMPO, Centers for Disease Control and Prevention, and U.S. Environmental Protection Agency EJScreen.
Additional Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization



CHAPTER 10 FINANCIAL ANALYSIS

Borrowing the language of 23 CFR 450.324(f)(11), this Financial Plan demonstrates how Transitions 2045 can be implemented in two primary ways. First, the Financial Plan estimates the supporting federal, state, local, and private revenues, as well as the corresponding costs of projects, that will implement the goals of Transitions 2045. Second, the Financial Plan similarly estimates the supporting revenues and corresponding costs to operate and maintain the AMPA's roadways and public transportation systems through federal fiscal year (FFY)2045.

In light of modest population growth and an aging roadway network, this Financial Plan, like its predecessors, continues to emphasize the maintenance and preservation of existing infrastructure, the post-COVID recovery and expansion of transit service, and better safety outcomes and network connectivity for all modes. Large-scale highway capacity projects remain limited, although new and reconstructed interchanges, the widening of existing arterial streets, and the construction of new corridors still play a significant role in implementing Transitions 2045.

10.1 Project Revenues

10.1a Federal Revenues

In 2021, Congress passed the Infrastructure Investment and Jobs Act (IIJA), a five-year surface transportation bill that significantly increased funding for transportation projects supported by FHWA and FTA formula and discretionary programs. The IIJA replaced the Fixing America's Surface Transportation (FAST) Act, which expired in 2020. Based on formula funding projections between federal fiscal years (FFY) 2022 and 2026, the IIJA is expected to provide New Mexico with $2.8 billion in highway funding, a 29.7 percent increase over FAST Act levels; $379 million for transit, a 37 percent increase over FAST Act levels; as well as $38 million for deploying an EV charging network.[91] And, while the IIJA largely left unchanged performance-based planning and other MPO requirements enacted by the FAST Act and previous transportation bills, it now requires each MPO to use at least 2.5 percent of its Metropolitan Planning (PL) funds on planning activities related to complete streets or multimodal travel.[92]

Although the IIJA provided a significant funding boost, the accompanying Build America, Buy America Act also strengthened requirements for incorporating domestically sourced construction materials and manufactured products into federally funded transportation projects, which generally increases costs. This cost pressure—in conjunction with significant inflation witnessed in all types of construction since 2020—has led member agencies to pursue funding in addition to the federal funds suballocated through the TIP to complete their agency's projects.

Fortunately, the IIJA set aside over $150 billion in nationally competitive (i.e., discretionary) grant programs, some of which were created under previous transportation bills. Federal discretionary

[91] "Bipartisan Infrastructure Law Fact Sheet: The Bipartisan Infrastructure Law Will Deliver for New Mexico." USDOT, Thursday, Nov 18, 2021. https://www.transportation.gov/sites/dot.gov/files/2022-01/BIL_New_Mexico.pdf
[92] "INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) Overview of highway provisions. FHWA Presentation, Nov 22, 2021." https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/bil_overview_20211122.pdf

programs in which state and local agencies have received awards since FFY2020 (the base year of the Financial Plan) include:

- **Infrastructure for Rebuilding America (INFRA; $25 million to region):** Supports multimodal freight and highway projects, with an emphasis on the safe, efficient, and reliable movement of people and goods.
- **Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT; $3.5 million to region):** Supports surface transportation projects that make infrastructure more resilient to natural hazards/disasters.
- **Rebuilding American Infrastructure with Sustainability and Equity (RAISE) now Better Utilizing Investments to Leverage Development (BUILD; $51.5 million to region):** Supports surface transportation projects, with an emphasis on sustainability and equity under the Biden Administration and economic impact under the Trump Administration.
- **Safe Streets and Roads for All (SS4A; $6.3 million to region)**: Supports efforts to reduce roadway deaths and serious injuries, such as implementing "vision zero" plans and projects that improve the safety of cyclists and pedestrians.
- **Section 5339(b) Bus and Bus Facilities and Section 5339(c) Low- and No-Emission Bus and Bus Facilities ($24.2 million to region):** Supports the replacement of buses and bus facilities, with an emphasis on facilitating the conversion of internal-combustion fleets to zero emission fleets.

In some respects, these and other discretionary programs have replaced congressional earmarks that were a hallmark of transportation spending in decades past. However, Congress has retained some control through "federally directed spending" (FDS). Through this process, federal legislators will often solicit proposals from state and local agencies and then award funding to specific projects through a spending bill. The region has received $16 million in FDS since FFY2020.

Within the context of the IIJA, staff projected a reasonable level of federal revenues to support Transitions 2045 as follows.

- For FHWA and FTA formula programs that are regularly apportioned to the AMPA (e.g., STP-U), funding levels for each program in FFY2020-FFY2024 were derived from annual obligation reports. Funding levels for each program in FFY2025-FFY2029 reflect what was programmed in the TIP as of December 2024.
- To project FHWA and FTA formula funding levels beyond FFY2029 (or an earlier year for those programs not yet programmed through FFY2029), staff used the latest year programmed in the TIP as the basis of projection for those programs that have relatively stable funding levels year after year (e.g., Section 5307). For those programs with more variable funding levels, staff averaged the obligation/programmed amounts for all years beginning in FFY2020 (or the year the program was created, if later) through FFY2029 (or the last year programmed, if earlier).
- For federal discretionary program, the total amount of all awards for each year in FFY2020-FFY2024 were averaged as the basis for projecting FFY2025+. This approach acknowledges that some discretionary programs may come and go, but the region expects to receive a significant apportionment of discretionary funds each year, regardless of the source.

- For all projected years, FHWA and FTA formula and federal discretionary program revenues were increased at the same conservative rates developed in coordination with NMDOT, transit providers, and member agencies for past MTPs. For most FHWA programs and discretionary revenues, this rate of increase is one percent per year. For FTA programs, rates vary between one and 2.5 percent per year.

As shown in Table 46 (page 256), the Financial Plan projects that the AMPA can reasonably expect $4.6 billion (subject to change) in federal revenue through FFY2045. Should Congress enact legislation that provides substantially more or less funding than is assumed in this Financial Plan, MRMPO will review the plan to determine if an amendment to Transitions 2045 is necessary per 23 CFR 450.324(f)(11)(viii), or whether the change can be incorporated into the next long-range plan slated for adoption in 2030.

Despite the significant impact of the IIJA on FHWA and FTA formula and federal discretionary program levels, the conservative projection of federal revenues in this Financial Plan reflects some uncertainty at the federal level. Since 1956, user fees—primarily diesel and gasoline taxes—have funded the Highway Trust Fund (HTF), which, in turn, funds FHWA and FTA programs. In recent decades, though, the HTF has required transfers from the general fund to satisfy expenditures and maintain solvency. With its comparatively high funding levels, the IIJA will maintain this pressure on the HTF; and, with declining fuel tax revenues that have accompanied increased vehicle fuel economy and the introduction of electric vehicles, Congress may have to legislate another means (e.g., vehicle miles traveled tax) to fund the HTF. Given this uncertainty, the Financial Plan also does not consider additional sources of federal revenue that it has not historically received.

10.1b State Revenues

In recent years, the state legislature has demonstrated a willingness to fund major transportation projects both statewide and in the AMPA. The ability to do so is largely owed to historically high oil and gas lease/severance tax revenues. Moreover, based on their scope and cost, it is unlikely that these projects could have been advanced solely with federal funds and the requisite matching funds.

Key capacity and preservation projects in the AMPA that have recently benefited from state legislative funding include:

- **Los Lunas I-25 Interchange and East-West Corridor, Phase 1 ($154 million total):** $53 million from House Bill 2 (General Appropriation Act) and $53 million from bonds
- **NM 109 Railroad Overpass ($49 million total):** $34 million from House Bill 2
- **NM 500/Rio Bravo Blvd Bridge Replacement ($126 million total):** $107 million from severance tax bonds
- **I-25 Improved, Commanche Blvd to Montgomery Blvd ($334 million total):** $61 million from House Bill 2 and $39 million from bonds

Notably, the four bulleted projects involve interstates or state highways, and the NM 500 bridge and I-25 Improved projects are needed, in part, to reconstruct/replace aging infrastructure that is in poor condition. Based on the relative age and condition of the interstates and state/federal highways in the AMPA, it is likely that future state legislative appropriations will prove critical for maintaining New Mexico's infrastructure.

The State Road Fund is the recurring revenue source typically used by NMDOT to match federal funds for capital projects. State Road Fund revenue comes primarily from a fuel tax, commercial trucking taxes and fees, and vehicle sales tax and registration fees. Other smaller sources of state revenue include capital outlay, the Local Government Road Fund, the Transportation Project Fund, and State Infrastructure Bank loans.

The projection of state revenues for this Financial Plan follows a somewhat identical process to federal revenues. Funds for each state revenue source programmed in the TIP between FFY2020-FFY2025 (marking the conclusion of the last legislative session) were averaged to project FFY2026-FFY2045 levels using a one percent annual rate of increase. As shown in Table 46 (page 256), the Financial Plan projects that the AMPA can reasonably expect $2.5 billion (subject to change) in state revenue through FFY2045.

10.1c Local Revenues

While very few regionally significant transportation projects in the AMPA are ever funded solely by local revenues, local revenues do play a key role in rounding out the publicly available funds for this Financial Plan. Foremost, local revenues are most commonly used to match federal funds (most FHWA programs in New Mexico have an 85.44 percent federal/14.56 percent match ratio, and most FTA and discretionary programs have an 80 percent federal/20 percent match ratio). Also, local revenues often make up the difference when a project budget is found to fall short of its estimated cost near the conclusion of design.

With this in mind, local revenues were projected in two ways. First, the match required for each federal program projected in the Financial Plan was calculated based on their unique match ratios. The total match for all federal programs, less State Road Fund levels (commonly NMDOT's match for the federal funds it receives), was then calculated to account for minimum amount of local revenues required to match the federal revenues in the Financial Plan. This approach satisfies the fact that the region has never failed to match the federal revenues available to it.

Second, recognizing that local revenues are also used to supplement project budgets (i.e., overmatch) in addition to serving as match, the amount of local revenues identified as "local non-match" in the TIP between FFY2020-FFY2025 was averaged to project FFY2026-FFY2045 levels using a one percent annual rate of increase. In total, and as shown in Table 46 (page 256), the Financial Plan projects that the AMPA can reasonably expect $917 million (subject to change) in local revenue through FFY2045.

While the approach outlined above effectively backs into the local revenues necessary to implement the Financial Plan, member agencies were also asked to positively identify local revenues and funding levels that they commit to capital projects to confirm their availability. These local revenues sources include:

- Farebox revenue (Rio Metro Regional Transit District for the New Mexico Rail Runner Express only; ABQ RIDE went permanently fare free in November 2023)
- General fund contributions (a typical source for smaller agencies)
- General obligations bonds for categories including roads, trails, and transit
- Gross receipts taxes (GRT; notably, the City of Albuquerque's 1/4-cent transportation GRT and Rio Metro's 1/8th-cent transit GRT)
- Impact fees
- Municipal gas taxes

- Trackage fees (charged by NMDOT/Rio Metro to its rail tenants AMTRAK/BNSF)

10.1d Private Revenues

Private developers also contribute to the construction of the AMPA's transportation infrastructure. When large-scale, master-planned communities are approved by a member agency, the developer's agreement with the agency often requires commitments to construct both local and system-level infrastructure as the community grows. Notably, the timing for implementing privately-funded projects is primarily dependent upon the developers' schedules which, in turn, is dependent upon the region's economic climate and population growth. Nevertheless, some privately funded projects may be fully or partially funded through alternative financing methods such as tax-increment financing (see Section 10.5).

For these reasons, private development revenues committed to transportation projects are presumed to equal the total estimated cost of the same projects. Consequently, as shown in Table 46 (page 256) the projected private revenues of $1.2 billion (subject to change) are effectively "canceled out" by the costs of the privately funded projects, and therefore have no direct impact on fiscal constraint of the Financial Plan. However, member agencies do incur the long-term maintenance costs for these privately funded projects, which may be offset either fully or partially with additional tax revenue generated from the new development.

10.2 Project Costs

The costs of the Financial Plan are listed by project in Appendix A, Project List. The Project List aligns with MRMPO's focus on transportation projects of regional significance and/or those anticipated to receive federal funding. Accordingly, it does not account for every possible transportation project in the region; rather, it generally includes:

- **Roadway projects** on the federal-aid system, which includes highways and streets classified as minor collectors and above in the Albuquerque Large Urbanized Area and the Los Lunas Small Urbanized Area; major collectors and above in rural areas; and some "off-system" bridges, safety improvements, and other special project categories The federal-aid system is determined by the highway functional classification process, whereby NMDOT, MRMPO and its member agencies classify the AMPA's highways and streets based on their function in the overall roadway network. The was last completed in 2014 on the heels of the 2010 Census. NMDOT has initiated the next functional classification update based on the 2020 Census. This update will be completed following the adoption of Transitions 2045 and will inform the next MTP.
- Federally-funded transit projects (i.e., ABQ RIDE and Rio Metro fixed route and demand response services) in the AMPA, and projects that support interregional connectivity between the AMPA and outlying urban and rural areas (i.e., the New Mexico Rail Runner Express).
- Regionally significant bicycle and pedestrian projects that receive federal funds (e.g., the Alameda Drain Trail) and/or provide regional connections such as those featured on the Long Range Bicycle System Map.

The Project List is updated with each MTP, which effectively shifts the list's horizon by five years. Accordingly, for Transitions 2045, projects that were funded prior to the base year (FFY2020) were

deleted. Member agencies were also asked to delete projects that they no longer intend pursue, revise existing projects based on the most current information, and add new projects that they intend to seek funding for and implement by FFY2045.

For existing and new projects, member agencies were asked to update their project costs based on the anticipated year of expenditure in accordance with federal regulations. For projects already in development, costs are typically based on estimates that accompany initial plans, studies or scoping reports; environmental clearances; design documents, etc. For projects that appear later in the MTP horizon, costs may be based on large-scale "unit costs" (e.g., cost per lane mile) or the costs of recently designed/constructed projects.

Projects are also categorized in several ways. At the highest level, the Project List is broken out between publicly funded projects and privately funded projects. Projects are further placed in the "Near Term" (FFY2020-FFY2029) or the "Late Term" (FFY2030-FFY2045), which generally corresponds to their funding status. In almost every case, projects in the Near Term are fully funded, and appear in last TIP (FFY2020-FFY2025) or the current TIP (FFY2024-FFY2029). Projects in the Late Term generally do not have funding in the TIP, but would be candidates for funding in future TIP development cycles.

Projects are also categorized by one of eight project types: Bicycle/Pedestrian, Capacity, Highway/Bridge Preservation, ITS-TSM, Safety, Travel Demand Management (TDM), Transit, and Miscellaneous. These categories are defined as follows:

- **Bicycle/Pedestrian** projects may include multiuse trails, bicycle lanes, sidewalks (including modifications for ADA compliance), bicycle lockers, and bicycle safety education programs.
- **Capacity** projects increase the throughput of a highway or street by adding or significantly lengthening a lane. Example projects include road widening, new roadways, bridge widening, and new bridges. It generally does not include projects that add turn lanes at intersections or that reconstruct an interchange unless a new through lane(s) to the main line is added.
- **Highway/Bridge Preservation** projects do not add additional throughput, but improve the condition of the roadway through resurfacing, rehabilitation, or reconstruction; or improve the condition of a bridge through repair, rehabilitation, or replacement.
- **Intelligent Transportation Systems-Transportation Systems Management** projects employ various technologies to improve the flow of traffic and also to convey information to the traveling public. Example projects include installing electronic message signs; constructing a traffic management center; upgrading traffic signal equipment; interconnecting traffic signals and the associated communications network; motorist courtesy patrols (HELP trucks) to minimize congestion from breakdowns and accidents; traffic data collection; etc.
- **Safety** projects rectify deficiencies that result in unsafe conditions. Example projects include intersection improvements; railroad crossing improvements; median barriers; guardrails; road realignments (e.g., removing a dangerous curve); adding passing lanes to improve safety (not to increase throughput); pedestrian signal upgrades; Safe-Routes-to-Schools improvements; street lighting; signage and pavement marking upgrades; etc. Funding for safety projects often requires data that documents unsafe conditions.

- **TDM (Travel Demand Management)** projects help manage traffic on the transportation network by encouraging alternate modes of transportation and/or shifting travel demand away from peak hours.
- **Transit** projects encompass ABQ RIDE and Rio Metro's fixed route and demand response services, which also include services for seniors and persons with disabilities. Example projects include vehicle purchases/replacements; bus stops/stations; train stations; park and ride lots; operations and maintenance facilities; railroad track and signal improvements; bus rapid transit (BRT) implementation; fare collection systems; tribal transit programs; federally-funded operations and maintenance; etc.
- **Miscellaneous** projects may include planning studies, beautification projects, street lighting projects (not safety related), long-term right-of-way acquisition, and some types of multimodal improvements that may not fit cleanly into other categories.

A project is ultimately categorized based on its primary purpose even though it may include elements from multiple categories. For example, a highway project that primarily reconstructs a roadway in poor condition without adding any additional lanes—but includes a new multimodal trail, sidewalk replacement, and upgraded traffic signals—would be categorized as a Highway/Bridge Preservation project.

As shown in Table 46 (page 256), and detailed in Appendix A, the Financial Plan projects that the AMPA can reasonably expect $7.7 billion (subject to change) in publicly funded projects and $1.2 billion (subject to change) in privately funded projects. The following charts and table break out those costs by project type with comparisons to the previous MTP, Connections 2040.

Figure 65 : Percentage of Publicly Funded Projects by MTP Year

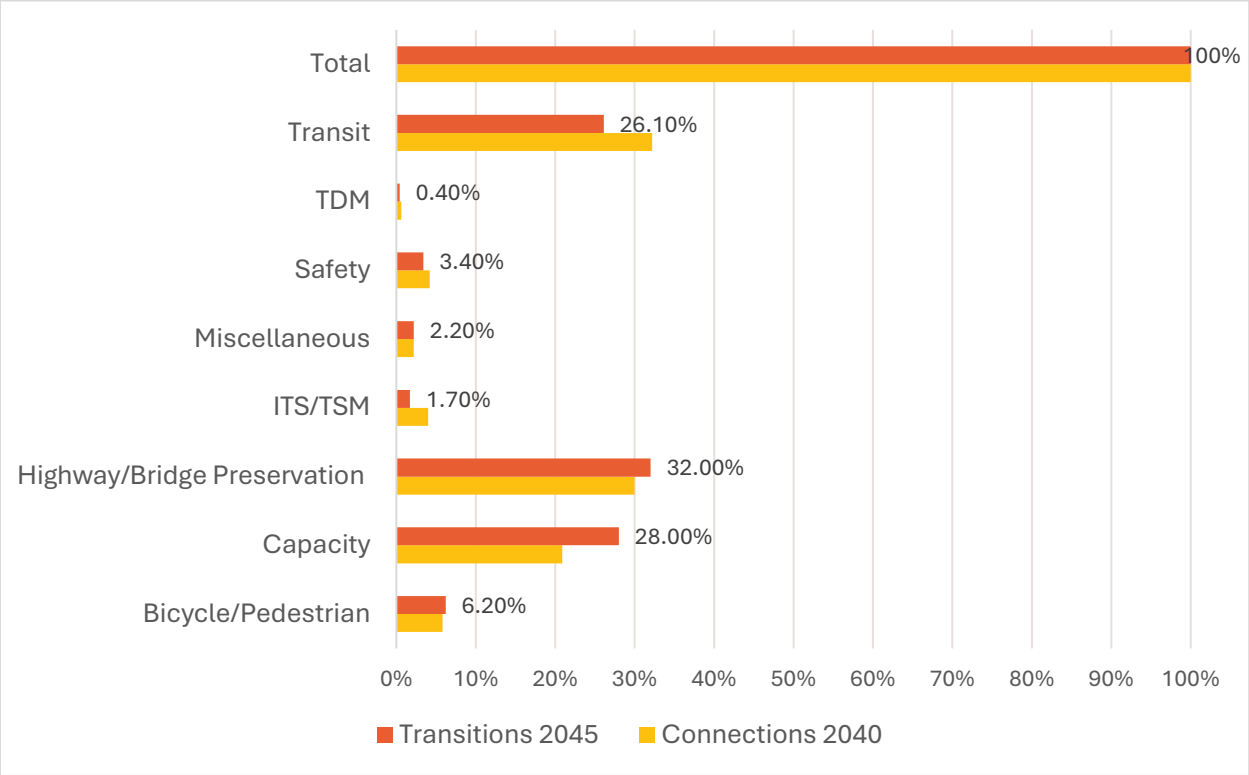


Figure 66: Publicly Funded Projects - Costs by Type

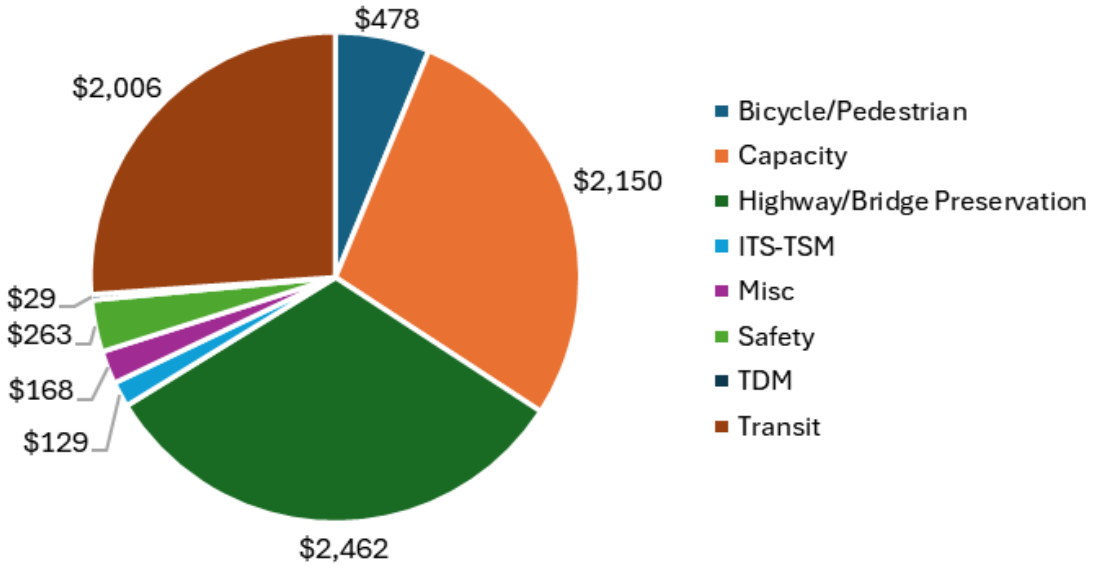


Figure 67: Privately Funded Projects - Costs by Type

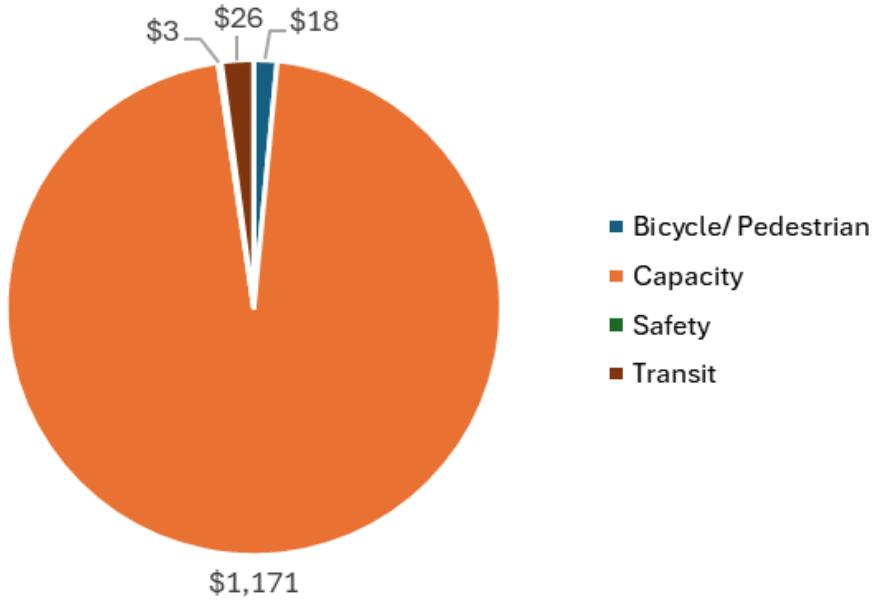


Table 46 : Project Cost by Type, Connections 2040 vs Transitions 2045

Type	Cost Connections 2040	Cost Transitions 2045	Cost Difference	% Difference
Publicly Funded Projects				
Bicycle/Pedestrian	$287,165,355	$478,489,122	$191,323,767	67%
Capacity	$1,028,526,628	$2,150,441,734	$1,121,915,106	109%
Highway/Bridge Preservation	$1,475,289,857	$2,462,356,951	$987,067,094	67%
ITS/TSM	$198,573,598	$129,193,471	-$69,380,127	-35%
Miscellaneous	$108,855,033	$167,699,394	$58,844,361	54%
Safety	$208,999,538	$263,091,045	$54,091,507	26%
TDM	$27,654,055	$28,590,122	$936,067	3%
Transit	$1,585,583,258	$2,006,375,010	$420,791,752	27%
Total	**$4,920,647,322**	**$7,686,236,849**	**$2,765,589,527**	**56%**
Privately Funded Projects				
Bicycle/Pedestrian	$25,793,000	$18,471,750	-$7,321,250	-28%
Capacity	$1,207,744,212	$1,170,531,762	-$37,212,450	-3%
Highway/Bridge Preservation	$8,000,000	$0	-$8,000,000	-100%
Safety	$30,000,000	$2,500,000	-$27,500,000	-92%
Transit	$25,625,000	$25,625,000	$0	0%
Total	**$1,297,162,212**	**$1,217,128,512**	($80,033,700)	-6%

10.3 Project Fiscal Constraint

Federal regulations require this Financial Plan to be fiscally constrained, meaning that the project costs highlighted in Section 10.2 cannot exceed the federal, state, local, and private revenues reasonably expected to be available to the AMPA that were highlighted in Section 10.1. The following table rolls up the revenues and costs from those sections to demonstrate that Transitions 2045 is, indeed, fiscally constrained. The remaining balance ($329 million), although seemingly significant, constitutes approximately five percent of public revenues between FFY2020 and

FFY2045, which is a reasonable cushion for a 25-year period in light of the recent inflation in construction costs in recent years and potential fluctuations in revenue streams.

Table 47: Projected Project Revenues and Costs, FFY2020-FFY2045

Revenue/Cost Category	Amount
Federal Revenues	$4,662,662,867
State Revenues	$2,498,537,823
Local Revenues	$917,160,727
Subtotal Public Revenues	$8,078,361,416
Publicly Funded Project Costs	-$7,686,236,850
Private Revenues	$1,217,128,512
Privately Funded Project Costs	-$1,217,128,512
Balance	**+$392,124,566**

10.4 Operations and Maintenance

In addition to projecting the revenues and costs for capital projects, 23 CFR 450.324(f)(11)(i) requires this Financial Plan to estimate "costs and revenue sources that are reasonably expected to be available to adequately operate and maintain the Federal-aid highways…and public transportation". Operations and maintenance (O&M) includes activities such as routine highway and bridge maintenance; roadside cleanup; maintenance equipment fueling and repair; snow plowing and salting/sanding operations; pedestrian and bicycle facility maintenance; transit operations; transit stop, station and guideway maintenance; transit vehicle fueling and repair; etc.

While the TIP includes more significant "capital" maintenance/preservation projects (Section 5337-funded New Mexico Rail Runner Express maintenance of equipment/way; I-25/I-40 pavement preservation), routine O&M is not programmed in the TIP. The most common exception is the somewhat limited use of FTA formula funds for routine O&M, for example the Section 5307 Operating Assistance Special Rule that caps the amount of Section 5307 Large Urban funds an eligible transit agency may spend on O&M. In recent years, the state has also allocated a significant portion of its CMAQ-Flex apportionment for Rail Runner Express operations.

10.4a O&M Revenues, Costs and Fiscal Constraint

As with capital projects, projected O&M revenues and costs in Transitions 2045 likewise span the FFY2020-FFY2045 horizon. Moreover, while the federal regulation quoted above and Transitions 2045 generally focus on federal-aid eligible highways, the O&M revenues and costs in this Financial Plan account for all roadways in the AMPA, as member agencies' O&M budgets do not distinguish between federal-aid highways and local streets.

To calculate O&M revenues and costs, member agencies were asked to provide their actual O&M spending for FFY2020-FFY2024 by revenue source. Their responses were also supplemented with information from published budgets and reports, as well as audits on file with the Office of the State Auditor. Staff then used FFY2024 spending levels and a one percent annual rate of increase to project member agencies' O&M revenues and costs through FFY2045 (although, in some cases, agencies requested a different percentage based on their preferences). As shown in Table 48 below, the Financial Plan estimates that the AMPA will spend $5.2 billion (subject to change) on O&M. And, as with past MTPs, O&M revenues are projected to satisfy these costs; therefore, this section of the Financial Plan is also fiscally constrained.

Table 48 : Projected O&M Revenues and Costs, FFY2020-FFY2045

Revenue/Cost Category	Amount
O&M Revenues	$5,211,446,338
O&M Costs	$5,211,446,338
Balance	$0

A variety of revenue sources fund O&M in the AMPA. As noted previously, federal revenues account for a small share of total O&M revenues (approximately five percent), and include sources such as CMAQ-Flex; Section 5307 Large Urban, Section 5307 Small Urban, Section 5311 Rural, and the Tribal Transportation Program. The State Road Fund constitutes the primary revenue source for NMDOT O&M, and accounts for approximately 20 percent of total O&M revenues. At the local level, revenue sources may include general fund contributions, GRT, motor vehicle division fees, gas taxes, franchise fees, fares, and advertising fees (e.g., bus wraps).

10.5 Future Funding/Financing Strategies

To conclude the Financial Plan, 23 CFR 450.324(f)(11)(ii) requires the plan to include "recommendations on any additional financing strategies to fund projects and programs included in the [MTP]". Federally, several potential sources for funding and financing are available to implement Transitions 2045. As alluded to in Section 10.1, there are many other existing and new discretionary grant programs that member agencies could compete for, including:

- **Bridge Investment Program (~$650 million/year):** Supports improvements to existing bridges in poor condition or that will soon be in poor condition.
- **Capital Investment Grants (CIG) Program (~$3 billion/year):** Supports large, capacity-building transit projects, including bus rapid transit and passenger rail. The Albuquerque Rapid Transit project was a previous beneficiary of a CIG "Small Starts" grant.
- **Consolidated Rail Infrastructure and Safety Improvement (CRISI) Program (~$1.2 billion/year):** Supports freight and intercity passenger rail projects that improve safety, efficiency and reliability. Rio Metro previously received CRISI grants for Positive Train Control.

- **Rural Surface Transportation Grant Program (~$400 million/year):** Supports projects that improve/expand infrastructure in rural areas for the benefit of connectivity, safety, reliability economic growth, and quality of life.

USDOT also supports financing programs that member agencies could tap for larger projects, including:

- **Railroad Rehabilitation and Improvement Financing (RRIF) Program:** Provides direct loans and loan guarantees up to 100 percent of eligible project costs to acquire, improve, rehabilitate, or construct new intermodal or rail equipment/facilities. The IIJA also allows the use of RRIF on public-private transit-oriented development projects within close proximity to passenger rail lines.
- **Transportation Infrastructure Finance and Innovation Act (TIFIA) Program:** Provides direct loans, loan guarantees, and lines of credit (typically up to 33 percent of eligible project costs) to projects of regional and national significance. The new TIFIA 49 initiative increases the TIFIA share to 49 percent of eligible project costs for transit and transit-oriented development.

At the state level, there have been several studies to investigate long-term strategies for increasing funding for transportation infrastructure. Options include increasing the fuel tax; increasing driver's licensing and vehicle registration fees; implementing new taxes based on vehicle miles traveled; and tolling roads. Nevertheless, none of these options seem likely to pass into law in the near future and are not considered as an additional revenue source in Transitions 2040.

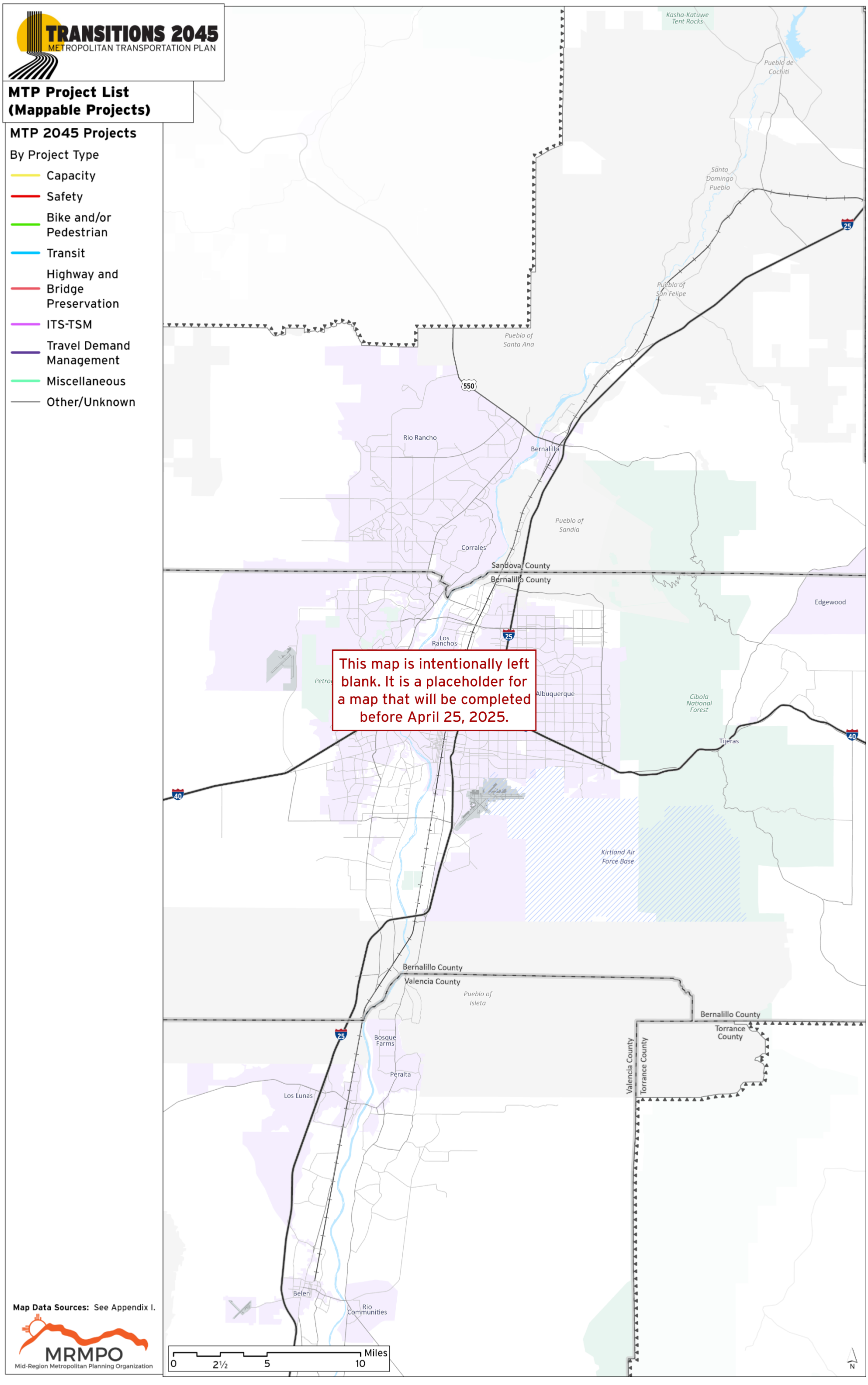
However, in light of the increase in discretionary grant funding through the IIJA and other federal appropriations, the state created the Match Fund in 2023 with an initial $75 million appropriation. This program allows agencies to apply for state funding to satisfy the required match for a federal discretionary grant. The impact of this program is just starting to be felt in the AMPA. At the time Transition 2045 was being finalized, Rio Metro had secured a $22 million RAISE grant leveraged by a $5 million Match Fund award.

Locally, member agencies may use GRT and general obligation bonds, if voter approved, to finance transportation improvements. Transitions 2045 assumes that existing GRT and bond revenues will continue to be approved by voters at similar levels as has occurred historically. However, while this Financial Plan does not assume any new GRT or bond revenues, that possibility remains available in the coming years.

Tax Increment Financing (TIF), Tax Increment Development Districts (TIDDs), Public Improvement Districts (PIDs), and Special Assessment Districts (SADs) are also other vehicles available to member agencies to fund/finance infrastructure projects and other enhancements. For example, a TIDD/TIF essentially commits the increase in GRT and/or property taxes above base levels to finance improvements within the district. Relatedly, PIDs and SADs typically levy a property tax to finance improvements within the district.

The "Illustrative Project List" (Appendix B) highlights projects that do not have adequate resources or potentially a lead agency, but could be amended into this Financial Plan if additional revenues become available and/or a lead agency emerges. Consequently, illustrative projects are possible candidates for some of the additional funding/financing strategies described in this section.

Map 38: MTP Project List



CHAPTER 11 PLAN IMPLEMENTATION AND EVALUATION

11.1 Implementation of the MTP

The MTP is implemented in various ways by MRMPO in collaboration with numerous partners and stakeholders. The primary implementation tools of the MTP are described in this chapter. By continuing the work after the MTP is approved, and committing to it on a daily basis, we bring the Albuquerque metropolitan area closer to achieving the vision set forward at the beginning of this plan:

VISION: Our people-centered transportation system provides safe, comfortable, and easy access to daily destinations for all.

11.1a Transportation Project Selection and Funding

MTP Project List

One of the key products of this plan is the MTP project list, a list of "regionally significant" transportation projects that are planned for the region over the next 20 years. This comprehensive project list is important since a project must be included in the MTP to be eligible to receive federal funding.

A transportation project is "regionally significant" if it is on a facility that serves regional transportation needs, including corridors that provide access to and from outside the region; major activity centers; major planned developments; sports complexes; large employment nodes; or transportation terminals. A project can also be considered regionally significant if it provides primary access in and out of a community. At a minimum, regionally significant facilities include all principal arterial highways and all fixed guideway transit systems that offer an alternative to regional highway travel as defined in the Code of Federal Regulations (23CRF450.104).

The MTP project list for the AMPA is developed in an iterative and evolving manner beginning with the previous MTP project list. Local agencies are asked to review the project list and remove any of their projects that have been constructed or should no longer be included. They are also asked to review projects they recommend keeping for any new information such as revised project termini, phasing, and costs. During this first round of review, local agencies are also invited to propose new projects for inclusion in the MTP.

Because the MTP has a 20-year horizon, projects are usually conceptual and require further vetting. Project costs, scope, and funding sources, particularly for long term projects, are expected to be refined over time. Nevertheless, aligning the MTP project list with MTP goals and projected needs elevates the most beneficial projects for federal funding. Further vetting and more detailed

information emerges through the **Project Selection Process (PSP)**, which scores projects for inclusion in the **Transportation Improvement Program (TIP)**.

TIP Project List

The **Transportation Improvement Program (TIP)** is a federally mandated, short-range plan that programs funding for transportation projects in the metropolitan area. For a project in the AMPA to receive federal funding, it must be included in the TIP. It must also be included in, or be consistent with, the MTP and must help the MPO achieve its goals and performance measures targets (information on performance measures is included in section 11.2).

The MTP provides a framework for development of the TIP, by defining the shared goals and objectives for the metropolitan area. The TIP is the primary mechanism for implementing the programs and projects listed in the MTP. The TIP can be used to track local, state, and federal transportation dollars. The TIP must also include non-federally funded projects that are considered "regionally significant".

The TIP covers a six-year period, with the first four years constituting the "Federal TIP," which is the federally mandated portion, plus two informational years. A "new" TIP is developed every two years by adding the next two subsequent fiscal years. Each fiscal year must be fiscally constrained, meaning that the amount of funds programmed must not exceed the amount of funds estimated to be available in each year[93].

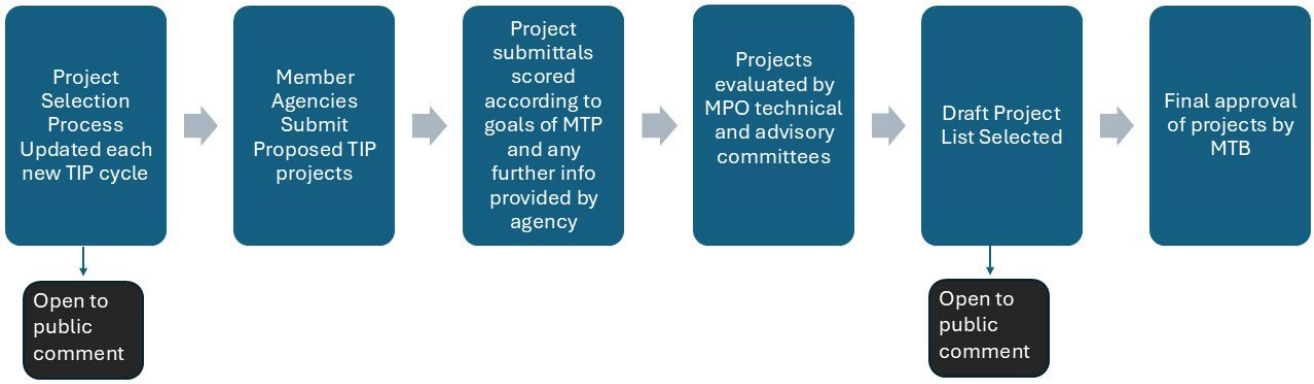
A TIP, once adopted, is designed to make progress toward achieving the MTP goals and performance targets. A TIP shall include, to the maximum extent practicable, a description of its anticipated effect toward achieving the performance targets, linking investment priorities to those performance targets.

Project Selection Process

The **Project Selection Process (PSP)** is used to prioritize and select projects for funding through the TIP. As in most metropolitan areas, the need for transportation investment in the AMPA exceeds the funds available. Therefore, policy makers must carefully choose which projects move forward, prioritizing those that are likely to have the greatest beneficial impact on the overall transportation system. The PSP is a process developed by MRMPO that is used to evaluate transportation project submittals from member agencies for federal transportation funding.

[93] Read more about the TIP here: https://www.mrcog-nm.gov/277/Short-Range-Plan-TIP

Figure 68: Project Selection Process



Project submittals are scored according to how well they address the goals and strategies of the MTP (see Table 49). The PSP ensures that selected transportation projects are consistent with and will help meet the MTP goals vetted by local agencies and the public. Additionally, each agency proposing projects may provide further qualitative information to aid in the assessment of the various project proposals—such as the value of the project to the region— to help determine which projects should ultimately be programmed in the TIP. In practice, the project scores and ranking tables utilized in the PSP have emerged as a valuable tool and have resulted in an increase in funding for regionally significant and beneficial projects.

The PSP is updated with each TIP cycle as new data becomes available and new policies are introduced. New crash rates, traffic volume, and travel time data are available each year and are utilized to ensure projects are evaluated on the most recently observed transportation conditions. Updated environmental and socioeconomic data are also used with each TIP cycle.

Table 49: PSP Project Scoring Criteria

PSP Project Scoring Criteria	Economic Linkages
	Activity Density
Optimized Mobility	Access to Destinations
Top Congested Corridors	Target Scenario
Intelligent Transportation Systems	Freight Network
Long Range Transit Network	Local Economic Development
People Movement	Access Strategies
Reliability	Financial Strategies
Congestion	Freight Strategies
ITS Infrastructure	Environmental Resiliency
Roadway Capacity Strategies	Flood Zones
ITS Strategies	Air Pollution
Transit Strategies	Tree Canopy
Active Transportation	Bridge Conditions
High Fatal and Injury Network	Natural Environment
Road Diet Candidates	Infrastructure Preservation
Pedestrian Composite Index	Critical Infrastructure
Long Range Bicycle System	Air Quality Strategies
Safety and Crash Reduction	Climate Change Strategies
Complete Streets/LRTS Guide	Preservation Strategies
Network Connectivity/Redundancy	Equity
Pedestrian and Bicycle Strategies	MRMPO Vulnerability Index
Education and Outreach Strategies	Addressing Equity
Geometric Safety Strategies	Equity Strategies

11.1b Other Implementation Mechanisms

Local Development Review

MRMPO reviews development proposals from local governments in the AMPA for consistency with the MTP. This review ensures new development and redevelopment in the region aligns with the goals of the MTP and is an example of the continuous implementation of the MTP that occurs within the horizon year. Many of the planning analysis tools and resources found throughout this document, such as the Key Centers map, the Long Range Transportation System (LRTS) networks, and the Roadway Access Control and Intelligent Transportation Systems maps, are consulted when development projects are submitted so that MRMPO's feedback is closely tailored to reflect the recommended development goals and strategies that are located within this plan.

Long-Range Transportation Systems Guide

The Long-Range Transportation Systems (LRTS) Guide, discussed more in detail in Chapter 6 and found in the appendix of the MTP, is a design guidance document developed by MRMPO to assist in the design of roadways that meet the needs of users of all abilities and of all transportation modes. The design guidance, as well as the aspirational, fiscally unconstrainted long-range transportation

system maps for roads, bikeways, and transit assist with the longer-term development (beyond 2045) of those transportation networks as well as implementing the goals of the MTP and safety-related objectives.

Regional Transportation Safety Action Plan

Summarized in Chapter 5, The *Regional Transportation Safety Action Plan (RTSAP*) is MRMPO's regional plan for improving safety for the traveling public. The *RTSAP* includes recommended strategies that can help improve safety and a list of projects that local agencies have identified as important for enhancing safety. The *RTSAP* facilitates the implementation of safety efforts, as projects included in the RTSAP are eligible for federal Safe Streets for All grant funding as well as funding from other sources). The RTSAP is a standalone plan which can be found on the MRCOG website.

11.2 MTP Evaluation Process

To ensure that MRMPO follows a performance-based planning approach, each of the MTP goals are linked to one or more of the national goals. It is imperative that agencies that propose projects for inclusion in the plan are able to state how the project serves a national and regional goal. MRMPO's aim is to develop a program of projects that will collectively focus on improving surface transportation in the AMPA and achieving state and regional performance targets.

11.2a Federal Performance Measures

Federal law requires MPOs and state departments of transportation to incorporate performance-based planning and programming practices into their planning activities. Federal performance measures (PMs) relate to the following areas of transportation: safety, infrastructure condition, system performance, transit asset management, and public transportation safety. MPOs are required to set performance targets for these measures which relate to national transportation goals.

Performance-based planning and regulations were established in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and continued in subsequent federal transportation law. The purpose of federal performance measures is to support data-driven decision-making that helps achieve desired transportation outcomes. The table below shows the federal performance measure areas and the national and MTP goals to which they relate.

Table 50: Federal Performance Measures, National Goals, and MTP Goals

Federal Performance Measure Areas	National Goal	MTP Goal
Safety (PM 1)	Safety	Active Transportation, Equity, Mobility, Economic Vitality
Pavement and Bridge Condition (PM2)	Infrastructure Condition	Mobility, Economic Vitality
System Performance (PM3)	System Reliability, Freight Movement and Economic Vitality	Mobility, Economic Vitality

Transit asset management	Environmental Sustainability	Equity, Healthy Environment
Public transportation safety		Mobility, Equity

MRMPO adopts performance targets for PM 1, PM 2, and PM 3 that are set by the New Mexico Department of Transportation (NMDOT). MRMPO also adopts performance targets set by the transit agencies in the region. The most recent data for PMs 1 through 3 is summarized below (see Chapter C for more detail).

For the safety (PM 1) performance target, the region has not shown progress, as four of the five targets have not been met in the most recent reporting period. This is consistent with the majority of other metro areas following record-high crash statistics throughout the nation. For pavement and bridge condition (PM 2), the region is mostly on-target with five of the six targets met in the most recent reporting period. For system performance (PM 3), the region is on-target with three of the three targets having been met in the most recent reporting period. For Transit Asset Management and Public Transit Agency Safety Plans, PMs 4 and 5 respectively, efforts supporting those PMs are undertaken by the transit agencies in the region. Reports approved by ABQ RIDE and Rio Metro are adopted by the MTB in accordance with federal requirements.

Meeting targets for federal performance measures is a collaborative effort. Recent efforts taken in the AMPA that address the performance measures include the following:

- **Safety**
    - Funding of various safety-related projects in the AMPA: Funding for safety projects (projects primarily classified as safety projects) was approximately four percent of total project funding expenditures in the previous MTP and is approximately 3 percent of projected funding in the *Transitions 2045 MTP*. Some examples of safety-related projects that have received federal funding through the TIP include the APS Youth Vision Zero Initiative, the AMPA Wide Bicycle/Pedestrian Safety Education Program, mid-block crossings constructed on Louisiana Boulevard between Gibson and Central, and safety improvements made along Coors Boulevard between Gun Club Road and Blake Road.
    - Safety-related plans and efforts in the AMPA. Examples include the *2024 Regional Transportation Safety Action Plan* and the City of Albuquerque Vision Zero Action Plan. Other plans that will affect the AMPA are currently in development. In addition, the NMDOT has several plans that have been developed, or which are currently being developed, including the *Pedestrian Safety Action Plan* and the *Strategic Highway Safety Plan*. A full list of such plans is included in the *2024 RTSAP*.
- **Infrastructure Condition**
    - Funding of preservation and maintenance projects in the AMPA: Funding toward preservation and maintenance in the MTP has increased in recent years in response to increased awareness on the part of MRMPO, the MTB, and regional partners of the importance of prioritizing the maintenance of existing infrastructure. In the Transitions 2045 MTP, X percent of project funds are for preservation and maintenance projects; in the Connections 2040 MTP, that figure was 30 percent; and for the Futures 2040 MTP, it was 26 percent.

- **System Performance**
    - CMP efforts and products such as the Project Selection Process, CMP toolkit, and CMP strategies matrix help support system performance in the region; ITS-TSM MTP projects such as automated signal timing and roadway service patrols, do as well.
- **Transit Asset Management and Public Transportation Safety**
    - The MTB-adopted transit set-aside supports transit asset management and transportation safety projects included in the MTP such as ABQ RIDE vehicles and equipment purchase projects and Rio Metro efforts for improving safety such as track improvements and positive train control.

11.2b Regional Performance Measures

MRMPO has developed regional performance measures to track progress on advancing the goals and objectives of the *Transitions 2045 MTP*. MRMPO intends to use these regional performance measures as a complement to the federal performance measures to help provide a more complete understanding of overall regional conditions and performance as MTP implementation takes place.

The following table illustrates the MTP goals, objectives, and performance measures as well as baseline measures and broad targets for which the region is aiming.

The intention of the regional performance measures is to assess if the region is attaining its desired planning outcomes. They can help determine if changes in approach are needed or if satisfactory progress is being made. Regional performance measures will help assess performance to identify where changes are needed – through policy changes, funding allocation, and/or types of projects. Tracking progress toward targets can help the region adjust approaches and highlight areas where work with partners is needed to better meet targets, objectives, and goals.

Table 51: MRMPO Regional Performance Measures

Goal	Objective	Performance Measure	Current/Baseline	2045 Target
Mobility	Prioritize safety for all users of the transportation system	Funds programmed towards safety projects in the MTP baseline/ current TIP	$120.5M (2020-2029)	Increase
	Preserve and enhance existing infrastructure	Funds programmed towards preservation in current TIP	$892.5M (2020-20209)	Maintain
	Enhance Transportation System Management & Operations	Funds programmed toward ITS in MTP baseline/current TIP	$23.5M (2020-2029)	Increase
	Support frequent transit service	Transit mode share mean for Priority Transit Network	2.94% of total trips	Increase

	Advance emerging technologies in transportation	Number of smart intersections on the ITS System	492	Increase*
Active Transportation	Improve safety for bicyclists and pedestrians	Protected and buffered bike lane miles	44.18 centerline miles	Increase
	Build connected bike and pedestrian travel networks	Bike facility miles/sidewalk miles	Bike facilities=344.73 centerline miles; sidewalks=5,476.49 miles**	Increase
	Coordinate land use and transportation planning	Jobs / Housing Ratio	AMPA 2020 jobs/housing units: Valencia County=0.69; east of the river=1.54; west of river=0.53	Increase***
Healthy Environment	Protect and enhance the natural environment	Transportation-related air pollutants (tons of Nitrous Oxide, or NOX)	NOX = 4,326 tons	Decrease
	Prevent disproportionate environmental impacts to low-income neighborhoods and communities of color	Average asthma prevalence among residents of EJ Priority Tracts	6.4% of tract population****	Decrease
	Reduce transportation contributions to climate change	Carbon Monoxide (CO2) GHG emissions from on-road mobile sources	CO2=42,520 tons^	Decrease
	Protect public health and safety from the impacts of climate change	Population exposed to high heat temperatures (75% >120 F summer avg)	401,078 people	Decrease
Economic Vitality	Support regional freight, logistics, and goods movement	TSMO funding on freight network to improve operational efficiency	Near Term (2020-2029) TSMO project funding directly related to freight corridor operations=$9.1 M; Late Term (2030-2045) TSMO project funding	Increase

			directly related to freight corridor operations=$54.5 M	
	Invest in creating vibrant places	Residential and commercial permits in activity centers	2016-2022: Percent of permits issued in key centers: 3.6%	Increase
	Encourage diverse housing options	% of non-single-family homes in new housing construction	2016-2020: Multi-unit structures=28%	Increase
Equity -	Provide safe and reliable routes to daily destinations	Non-motorized fatalities and serious injuries in disadvantaged communities	18 traffic fatalities per 100,000 people	Decrease
	Increase access to green space and outdoor recreational opportunities	Disadvantaged community population within 10 minutes walk of a public park	106,695 people	Increase
	Improve access to economic opportunity	Average unemployment rate in disadvantaged tracts	2018-2022: 6.9% ^^	Decrease
	Expand access to affordable housing	Households in disadvantaged communities who pay more than 30% of their household income on housing	45,282 Households	Decrease

*Include in new signal systems as appropriate

**Sidewalk miles based on 2022 orthros and image classification/object extraction performed by Ecopia; bike facilities includes bike lanes and buffered and protected bike lanes

***Increase target applies to areas with a jobs/housing ratio under 1.0

****Source: USDOT ETC Explorer + EJ Screen 2024

^Source: EPA Natl. Emissions Inventory, 2020 (sum of Sandoval, Bernalillo, and Valencia Counties). Includes all mobile sources, all on and off-network processes except refueling.

^^Calculated, using CEJST tracts to select from ACS 2022 Table B23025 - Employment Status for the Population 16 Years and Over

11.3 Recommended Strategies

The *Transitions 2045 MTP* strategies were developed to reflect the MTP goals and complement current planning efforts and policies. The strategies were developed with the participation of various stakeholders, including MRMPO staff and committees, transportation professionals, and the public.

Not all strategies are appropriate for all member agencies. The strategies listed in this plan should be treated like a toolbox from which jurisdictions and other entities can choose appropriate strategies to address their unique transportation needs. MRMPO staff are available to assist with these efforts upon request.

The following tables highlight several of the key strategies categorized by MTP goal. The strategies shown in bold reflect those that resonated most with the public based on results from an MTP survey. A complete list of strategies is available in Appendix D.

Mobility

- Develop a long-range regional transit plan in coordination with public service agencies, municipalities, and developers that contain prioritized transit investments.
- Prioritize existing infrastructure maintenance.
- Conduct a complete streets analysis whenever restriping or resurfacing a roadway to identify opportunities for road diets and/or create improvements to the multimodal environment.
- Adopt mixed-use and higher-density zoning along transit corridors to support ridership.
- Expand the use of transportation management and operations strategies such as Intelligent Transportation Systems.
- Encourage the adoption of Transportation Systems Management and Operations (TSMO) and Intelligent Transportation System (ITS) Strategies such as Traveler Information, Adaptive signal Control and Work Zone Management in order to enhance Travel Time Reliability.

Active Transportation

- Ensure the health and safety of the traveling public through implementation and support of existing safety plans in the state and region.
- Design roadways and multimodal facilities that can be safely and comfortably used by people of all ages and abilities.
- Improve the user experience for cyclists, pedestrians, and transit riders with useful and safe connections and design.
- Provide non-motorized access and safe routes to existing and potential recreational areas and open space.
- Improve multi-modal access to and within key centers and transit corridors.
- Encourage the siting of schools, innovation, and the expression of internal ped/cyclist access points and routes, in a way that improves active transportation infrastructure.

Healthy Environment

- Protect critical wildlife habitats and culturally important natural areas.
- Practice low-impact principles to make development sustainable.
- Facilitate the decarbonization of transportation by further developing alternative fuel infrastructure.
- Provide for the mobility needs of wildlife by facilitating safe road-way crossings of migration corridors.
- Work with nature to reduce environmental harm and support environmental health.

Economic Vitality

- Support projects utilizing innovative technologies (such as alternative refueling stations and connected vehicle-compatible infrastructure) to improve regional competitiveness and sustainability.
- Support and coordinate freight operations and movement and industrial development.
- Incentivize redevelopment and transit-oriented development in order to maximize the utility of existing infrastructure.
- Encourage place-making, innovation, and the expression of community identity in centers and corridors and/or other Key Centers identified in the 2045 MTP.
- Promote a diverse mix of housing, in cost, unit types, and neighborhood settings targeting areas within walking distance of frequent transit routes.
- Encourage a mix of land uses (retail, housing, entertainment, etc.) and multimodal facilities in appropriate locations to encourage shorter and more active trips.

Equity

- Design and adapt transportation systems to meet the different needs of people of all ages and abilities.
- Target investment in street trees and shade structures to protect the most vulnerable populations from dangerous heat extremes.
- Provide equitable transportation access to regional medical services, senior centers, and multi-generational and community facilities, as well as green space and outdoor recreational opportunities.
- Ensure transportation investments equitably distribute the benefits and burdens of transportation investments to help mitigate and reduce past impacts while avoiding new and future impacts.
- Encourage affordable housing development near transit through creative incentives and funding mechanisms.

11.4 Next Steps

11.4a MRMPO Next Steps

Each MTP is another step toward a more complete and coherent understanding of the overarching challenges facing the region – transportation and otherwise – and the strategies that best address them. The MTP is updated regularly, which helps it remain a relevant and meaningful resource for member agencies and the public. The process and methodologies are continuously being revised as new information and ideas emerge, and each MTP builds on the one that came before.

While the *Connections 2040 MTP* investigated the relationship between alternative development patterns through its scenario planning process, the *Transitions 2045 MTP* examines a region growing at a slower rate and reconsiders priorities and approaches for investments that support mobility, the economy and environment, equity, and active transportation in the post-pandemic world.

The MTP will be updated again in five years and will contain new projections, analysis, goals, and objectives. For the time in between the approval of the *Transitions 2045 MTP* and the next update (the 2050 MTP), MRMPO has identified several potential activities to pursue as well as opportunities to advance in-house tools and analytical capabilities. These steps should help to better inform transportation and land use investments and policy decisions. As always, these are regional efforts and will require participation from member agencies throughout the AMPA. Next steps are listed below by topic area, with the bolded statements representing the highest priority steps for each topic.

Mobility: Promote the safe and efficient movement of people and goods throughout the region

- **Collaborate with the CMP Committee on before and after analyses of transportation projects including the effectiveness of ITS improvements, transit projects, etc.**
- Analyze fluctuations in travel demand during peak and off-peak periods to evaluate roadway capacity and potential for travel demand management strategies.
- Share best practices with member agencies from the NMDOT TSMO plan.
- Utilize the travel demand model and other technical tools to assess the anticipated benefits of MTP projects.

Active Transportation: Ensure safe and convenient ways to travel for people who cannot or choose not to drive

- **Expand the non-motorized counts program to include additional counters on different types of facilities to inform bike and pedestrian plans.**
- Use the regional Level of Traffic Stress tool to identify gaps in the bikeway network.
- Develop network estimations from an expanded counts program.
- Participate on inter-agency project teams to align planning efforts and safety strategies for active transportation modes.

Healthy Environment: Incorporate climate change and environmental considerations into transportation planning and decisions

- **Improve data collection and tools for GHG monitoring and modeling.**
- Publish the Hazard/Resilience Risk Map for use in agency planning efforts.
- Incorporate an assessment of environmental impacts such as GHG emission estimates of proposed projects in the Project Selection Process.
- Create a tool to evaluate and incorporate environmental impacts of proposed projects to be used in local development review map.

Economic Vitality: Strategically invest in high-quality transportation systems that support the economic health of the region

- **Raise awareness around the Housing Needs Assessment to support affordable and diverse housing opportunities in the region.**
- Assist local agencies and economic development organizations by providing data and information to assist with improving economic vitality in the region.
- Collaborate with local agencies to align transportation planning efforts with projects designed to support and grow the economy.
- Monitor progress of targeted investments in Key Centers.

Equity: Improve safe and reliable transportation systems in traditionally underserved communities

- **Integrate the most recent disadvantaged and environmental justice priority tracts into MTP and TIP project selection processes.**
- Collaborate with member agencies to share mapping tools and findings on distribution of benefits and burdens of transportation investments.
- Continue and strengthen efforts to target public engagement in underserved areas to hear more directly from affected communities about their transportation needs.
- Identify equity gaps in the MPO planning process and programs and make continuous improvements.

Safety

- **Work with member agencies to implement the approved RTSAP and update it to align with local planning efforts.**
- Coordinate with NMDOT on the Target Zero initiative and Strategic Highway Safety Plan (SHSP).
- Participate in and support Safe Routes to Schools initiatives and efforts.
- Provide support to member agencies applying for safety funding opportunities including Safe Streets and Roads for All (SS4A) grants.

11.4b Legislative Priorities

Every year the MRCOG policy board develops and approves a list of legislative priorities. Below is a handful of priorities relevant to transportation planning that were supported during the 2025 legislative session.

- Support initiatives that improve regional transportation.
- Support the statewide development of New Mexico Complete Streets policies.
- Support legislation to improve transportation safety including programs that promote a Safe Systems Approach and which prioritize safety first in investment decisions.
- Promote equitable access to transportation investment.
- Support efforts to improve access to housing, particularly efforts to connect housing to employment.
- Align transportation investment with local housing patterns and improve housing affordability in proximity to transit corridors.
- Support funding for key infrastructure that improves economic development, especially transit-oriented development.
- Support legislation to improve safety on transportation systems.
- Support capital outlay requests of member governments.

11.5 Coordination with the Federal Highway Administration and Federal Lands Highways

Federal Lands Highways, a division of the Federal Highway Administration, provides financial resources, planning, transportation engineering, and project delivery for mobility networks that service the transportation needs of US federal and tribal lands partners. These include the National Park Service, the US Forest Service, the US Fish and Wildlife Service, the Bureau of Indian Affairs and Tribal Governments, the Bureau of Land Management, the Department of Defense, the US Army Corps of Engineers, and the Bureau of Reclamation.

Federal Lands Highways prioritizes projects, infrastructure, and services that seamlessly integrate with the landscape, fostering a deeper connection with the natural world and enriching the outdoor recreational experience. By enhancing access to national parks, forests, wildlife refuges, and public lands, these investments not only ensure that all Americans can continue to explore and appreciate the splendor of our shared natural heritage but also drive economic growth. Improved infrastructure supports local businesses, outdoor tourism, and gateway communities, generating jobs and revenue for rural and urban economies alike.

11.5a Federal Land Management in the MRCOG Planning Area

With a total of 1.4M acres, constituting approximately 48% of the planning region's total landmass, federal lands play a significant role in the MRCOG's environmental, recreational, and economic landscape.

- **U.S. Forest Service (USFS) with 175,000 Acres**: The MRCOG region includes portions of the Cibola National Forest, which contains the Sandia, Manzano, and Magdalena Mountains. These forested areas offer extensive recreational opportunities, including hiking, mountain biking, camping, and skiing at Sandia Peak. The Manzano Wilderness Area provides remote backcountry experiences, while the Sandia Ranger District, located just east of Albuquerque, is one of the most visited outdoor recreation sites in New Mexico.

- **Bureau of Land Management (BLM) with 104,000 Acres**: The Rio Puerco Field Office of the BLM oversees extensive lands within the MRCOG region, particularly in western Sandoval and Valencia Counties. These areas support hiking, off-highway vehicle (OHV) use, hunting, and grazing. The Ojito Wilderness, managed by the BLM, features stunning badlands, ancient petrified wood deposits, and dramatic rock formations. Additionally, parts of the Rio Puerco Valley include BLM-managed lands with active cultural resource preservation efforts.
- **National Park Service (NPS)**: While the MRCOG region does not contain a major National Park, the Petroglyph National Monument, located on the west side of Albuquerque, is managed in partnership with the NPS and the City of Albuquerque. The monument preserves thousands of ancient petroglyphs carved by Ancestral Puebloans and early Spanish settlers. It provides hiking, cultural education, and conservation opportunities while being easily accessible from the metro area.
- **Bureau of Reclamation (BOR)**: The Middle Rio Grande Project, overseen by the BOR, plays a key role in water management, irrigation, and flood control throughout the region. The Cochiti Dam and Reservoir, located north of Albuquerque in Sandoval County, provides recreational opportunities such as boating, fishing, and camping. The project is also critical for managing water resources in the Rio Grande Basin, supporting both agricultural and municipal water needs.
- **US Fish & Wildlife Service (USFWS)**: The Valle de Oro National Wildlife Refuge (NWR), located in Albuquerque's South Valley, is the first urban wildlife refuge in the Southwest. Managed by the U.S. Fish and Wildlife Service, this 570-acre refuge was established on former agricultural land and now serves as a hub for habitat restoration, environmental education, and community engagement. Valle de Oro NWR supports native wildlife, including migratory birds, while integrating public access for recreation, trails, and educational programs. The refuge plays a key role in Rio Grande ecosystem conservation and serves as a national model for urban wildlife refuges.
- **Department of Defense (DoD) with 62,000 Acres:** Kirtland Air Force Base (AFB), located in southeastern Albuquerque, is a major military installation covering approximately 51,558 acres. The base plays a strategic role in national defense, hosting multiple Air Force, Department of Energy, and defense research facilities. While public access is restricted, some areas adjacent to the base, such as Tramway Boulevard and the Sandia foothills, are integrated into Albuquerque's outdoor recreation network.
- **Tribal Lands with 1,070,000 Acres:** The MRCOG region is home to multiple Pueblo Nations, including Sandia, Isleta, Santa Ana, San Felipe, Santo Domingo (Kewa), Zia, Laguna, and Cochiti Pueblos, as well as a portion of the Navajo Nation (To'Hajiilee Chapter). These lands are deeply connected to cultural traditions, environmental stewardship, and economic activities such as tourism, agriculture, and gaming. Some pueblos also manage their own protected lands, offering hiking, birdwatching, and educational tours.

11.5b Transportation Systems and Funding

MRCOG's Recreational Transportation Network

Access to the outdoor recreational opportunities on federal lands is dependent on safe and reliable mobility on local, state, and federally owned roadway and trail systems. From major highways to rural roads, from developed campsites to backcountry trails, the traveling public expects to be able to move seamlessly between systems and modes, regardless of ownership, to reach their destination.

Table 52 MRCOG's Recreational Transportation Network

Federally Owned Roadway Miles (all FLMAs, paved & unpaved)	49.2 Miles
State Owned FLMA Access Routes	83 Miles
Locally Owned FLMA Access Routes	106 Miles
Trails & Multi Use Paths, all Ownership	Approx. 1,000 Miles

Each system, and its underlying ownership structure, dictates which programs and funding sources can be used for planning and improvements.

Map 39: Access to Federal Lands

TRANSITIONS 2045
METROPOLITAN TRANSPORTATION PLAN

Access to Federal Lands

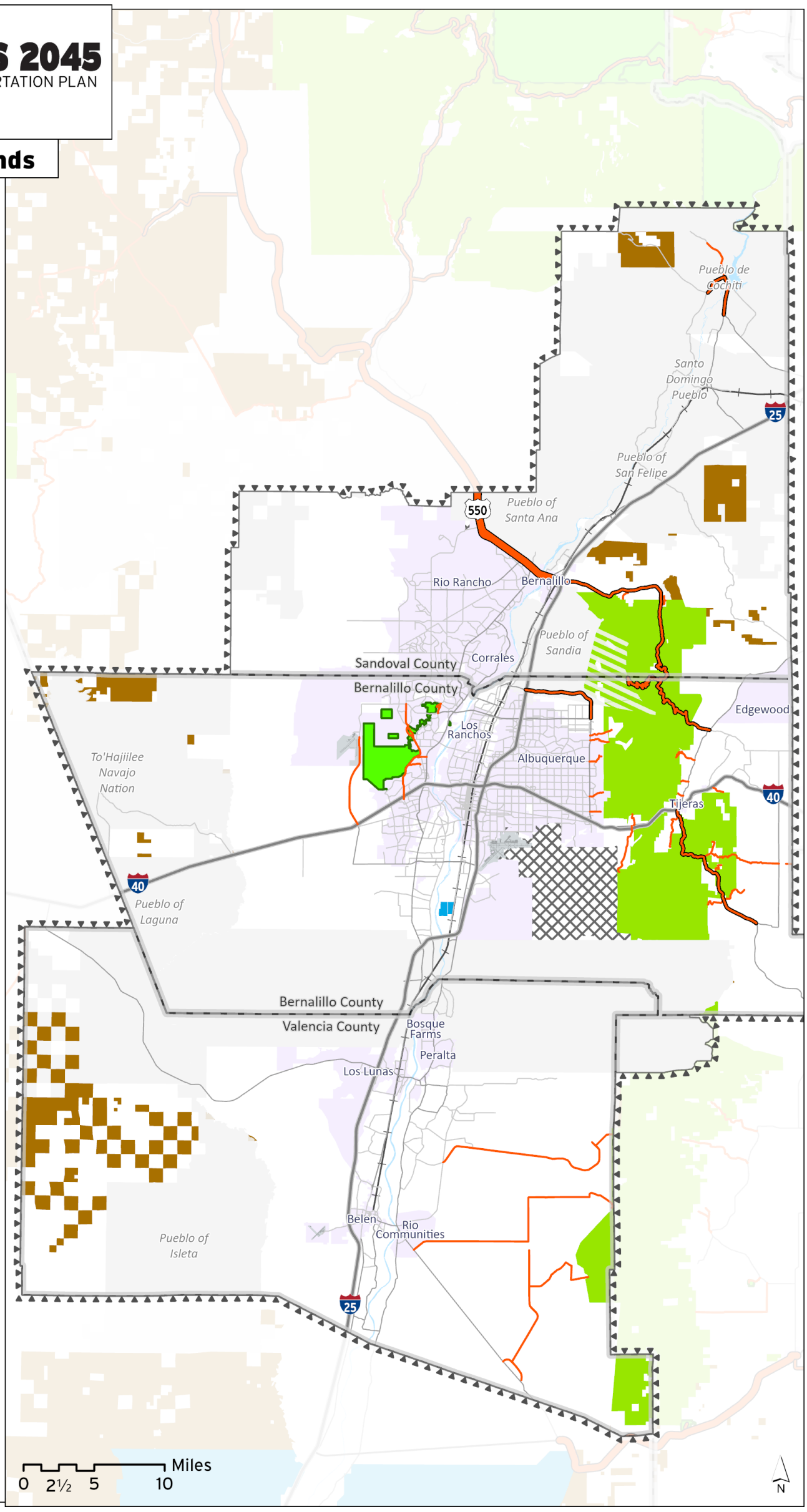
Federal Lands

Managing Agency

- Bureau of Land Management
- Department of Defense
- Fish and Wildlife Service
- Forest Service
- National Park Service

Roads Providing Access to Federal Lands

- US Highways
- NM State Highways
- Local Roads



Map Data Sources: MRMPO, Office of Federal Lands Highway, and FHWA HEPGIS.
Additional Sources: See Appendix I.

MRMPO
Mid-Region Metropolitan Planning Organization