

Chapter 4: PLAN ANALYSIS AND EVALUATION

4.1 Performance Measures

The *2040 MTP* considers two types of performance measures. One set of measures relates to MAP-21 national performance goals and planning factors, which gauge the effectiveness of the overall transportation planning process and content and structure of the long-range plan itself (see Chapter 4.3 for more details on MAP-21 planning areas). The second set of measures form a critical part of the MRMPO scenario planning process. In particular, these performance measures serve as a means of testing scenarios against each other to determine the effectiveness of different development patterns and infrastructure investments in addressing regional needs. The performance measures described in this section intentionally extend beyond typical measures of roadway conditions and respond to other topics identified during the regional challenges portion of this process (see Chapter 2 for more details on regional challenges).

To evaluate the scenarios, MRMPO identified more than two dozen performance measures in eight categories: access, land use, roadway system performance, transit system performance, river crossing conditions, economic competitiveness, safety, and sustainability and resiliency. These measures reflect the goals and objectives of the plan, where possible, but were also shaped by the practical considerations of what can be measured through MRMPO's modeling environment.

Table 4-1 contains the performance measures utilized for evaluating the Trend and Preferred Scenarios for the *Futures 2040 MTP*. Measures were calculated based on the results of land use and travel demand modeling results; comparisons of each scenario were made against the base year (i.e., the 2040 Trend Scenario versus the 2012 base year; and the 2040 Preferred Scenario versus the 2012 base year) as well as direct comparisons between the Preferred Scenario versus the Trend Scenario.

Scenario planning is an iterative process in which certain approaches are tested, analyzed, and then adjusted as necessary in response to the results. Performance measure calculations and scenario evaluation took place during each step of the scenario planning process. In this way, performance measures guided the discussion on the effectiveness of various policy options, and played an integral part in shaping the Preferred Scenario and determining the extent to which the scenario deviates from the Trend.

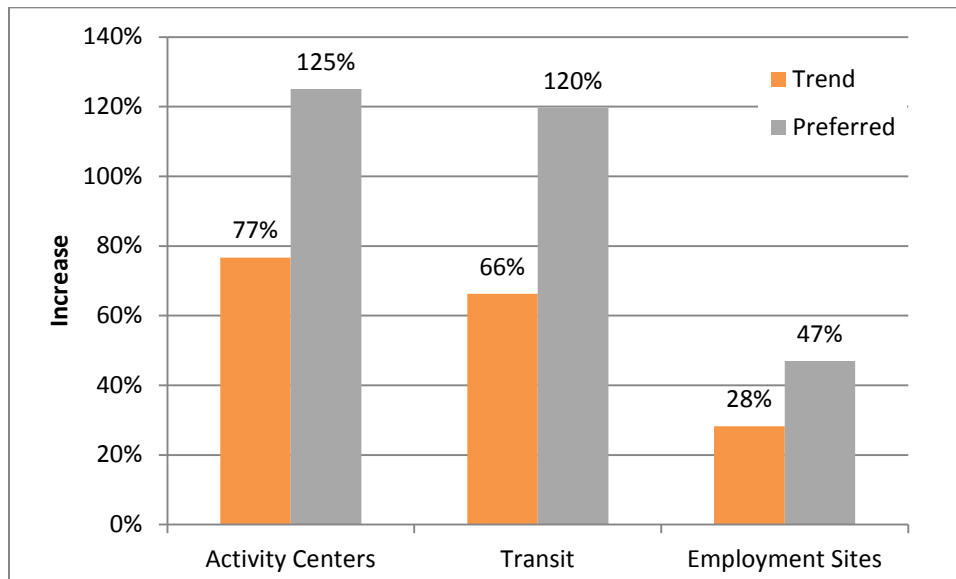
Table 4-1: MTP Performance Measures

Cluster	Performance Measure	Unit of Analysis	2012 Base Year	2040 Scenarios		Scenario Comparison		
				Trend	Preferred	Trend vs 2012	Preferred vs Trend	
Access	1 Proximity to Activity Centers	Households within 1 mile	51,840	91,578	116,695	77%	125%	27.4%
	2 Proximity to Transit	Households within 1/4-mile	19,646	32,658	43,151	66%	120%	32.1%
	3 Proximity to Bicycle Facilities	Households within 1/4-mile	219,151	273,350	288,546	25%	32%	5.6%
	4 Proximity to Schools	Households within 1/4-mile	38,062	45,030	46,602	18%	22%	3.5%
Land Use	5 Jobs/Housing Mix in Activity Centers	Employment divided by households in Activity Centers	2.95	2.43	2.15	-17%	-27%	-11.9%
	6 Proximity to Key Corridors	Employment within 1000 feet	96,500	135,719	150,075	41%	56%	10.6%
Roadway System Performance	7 New Land Developed	Total acres of developed land	215,660	261,054	247,695	21%	15%	-5.1%
	8 Systemwide Speed	PM peak hour average speeds (miles per hour)	36.4	21.8	25.1	-40%	-31%	15.1%
	9 VHD - Vehicle Hours of Delay	PM peak hour delay (model speed vs. posted speed)	12,927	71,293	51,108	452%	295%	-28.3%
	10 VHT - Vehicle Hours Traveled	PM peak hour total driving time for all roadway users	50,778	132,932	110,133	162%	117%	-17.2%
	11 VMT - Vehicle Miles Traveled	Daily value for all roadway vehicle travel	20,335,265	30,105,932	28,938,420	48%	42%	-3.9%
	12 VMT per Capita	Average vehicle miles traveled per person	23.2	22.7	21.9	-2%	-6%	-3.5%
	13 Roadway Network Congestion	Percentage of VMT with V/C > 1.0, PM peak hour	5.7%	22.3%	20.4%	291%	258%	-8.5%
	14 Freight Corridor Congestion	Percentage of freight network VMT with V/C > 1.0, PM peak hour	0.7%	22.3%	20.7%	3086%	2857%	-7.2%
	15 Transit Ridership	Percent increase over base year	41,033	55,025	97,748	34%	138%	77.6%
	16 Transit Passenger Miles Traveled	Percent increase over base year	147,369	189,502	297,104	29%	102%	56.8%
River Crossing Conditions	17 River Crossing Congestion	PM peak hour volumes relative to lane capacity	0.76	1.03	0.99	35%	30%	-3.9%
	18 River Crossing Trips	Daily roadway vehicle travel across the Rio Grande	592,609	843,217	819,891	42%	38%	-2.8%
Economic Competitiveness	19 Proximity to Employment Sites	Households within 1 mile	138,138	177,095	203,007	28%	47%	14.6%
	20 Average Commute Time	Travel time for work trips from home to work (minutes)	17.48	26.28	21.69	50%	24%	-17.5%
Safety	21 Safety - High Crash Risk Locations	Modeled crashes per 100 million vehicle miles traveled	265.7	197.0	206.7	-26%	-22%	4.9%
	22 Emissions Levels	CO ₂ tonnes per day	1,997	2,840	2,602	42%	30%	-8.4%
Sustainability & Resiliency	23 Water Consumption	Annual residential water demand (millions of gallons)	56,607	82,075	76,753	45%	36%	-6.5%
	24 Development in High Flood Risk Areas	Emp + Housing in FEMA 100-Year Floodplains	34,242	53,285	52,042	56%	52%	-2.3%
	25 Development in Forest Fire Risk Areas	Emp + housing in wildland-urban intermix areas	52,073	102,262	92,128	96%	77%	-9.9%
	26 Development in Crucial Habitat Areas	Weighted value based on emp + housing in priority ranking areas	5.68	7.90	7.83	39%	38%	-0.9%

Access and Jobs-Housing Mix

The Preferred Scenario emphasizes development in activity centers, transit nodes, and along important commercial corridors with the intent of reducing the distances required to access goods, services, jobs, and multi-modal transportation options. The performance measures indicate that the Preferred Scenario is indeed successful at improving access to key locations and infrastructure above and beyond the Trend Scenario (see Figure 4-1). The Preferred Scenario is particularly successful in improving the number of households within proximity of activity centers and key transit nodes, with increases at nearly twice the rate of the Trend Scenario.¹

Figure 4-1: Access-Related Performance Measures, Growth in Households by 2040



In addition to access, the Preferred Scenario emphasizes a combination of housing in existing activity centers and employment growth in key job centers, particularly west of the Rio Grande. Bringing housing and jobs and the services closer together is a key ingredient in reducing trip lengths and providing travelers greater opportunities to make trips without relying exclusively on private vehicles. The result is an improved mix of housing and jobs; where there are nearly three jobs for every housing unit in activity centers in 2012, there are 2.1 jobs per housing unit in these areas in the Preferred Scenario (versus 2.4 in the Trend Scenario).

Roadway System Performance

Overall roadway transportation conditions worsen in both scenarios, although the Preferred demonstrates less deterioration. These outcomes reflect a lack of sufficient long-term funding to address transportation needs, a continued reliance on single-occupancy vehicles, and a built environment that precludes a true multi-modal transportation system in large portions of the

¹ The distances used to calculate proximity vary by measure. Refer to the units of analysis in Table 4-1 for definitions.

metropolitan area. One noteworthy finding is that vehicle miles traveled is projected to increase at a rate below that of population growth, and per capita VMT declines in both scenarios.

The Preferred Scenario represents a marked improvement over the Trend Scenario. While the Preferred Scenario witnesses an increase in overall vehicle miles traveled (VMT), hours traveled (VHT) and hours of delay (VHD), the rate of increase is much lower than in the Trend Scenario (see Table 4-2). When compared directly, average speeds during the PM peak period are more than 15 percent greater and the amount of time spent traveling (VHT) is 17 percent lower in the Preferred Scenario. The average person travels four percent fewer miles per day in the Preferred Scenario than in the Trend.

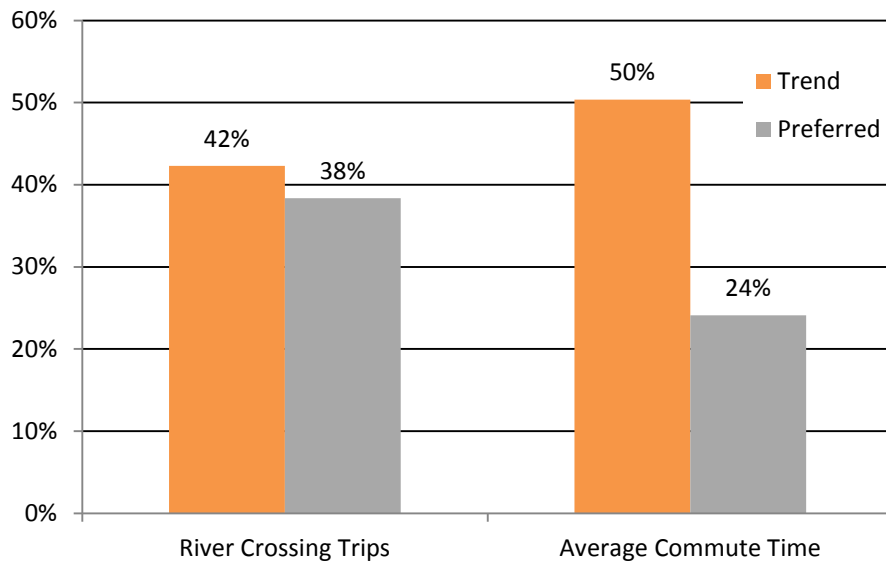
Table 4-2: Regional Transportation Measures

	Measure	Trend vs. 2012	Preferred vs 2012	Preferred vs. Trend
PM Peak Period	Systemwide Speed	-40%	-31%	15%
	VHD - Vehicle Hours of Delay	452%	295%	-28%
	VHT - Vehicle Hours Traveled	162%	117%	-17%
Daily	VMT - Vehicle Miles Traveled	48%	42%	-4%
	VMT per Capita	-2%	-6%	-4%

There is also a large spike in the amount of vehicle travel that takes place under congested conditions in both scenarios. Currently, only a small portion of peak period travel (5.7 percent) encounters congested conditions (defined as vehicle miles traveled along roadway segments where the volume-to-capacity ratio exceeds 1.0). However, 22.3 percent of peak period travel in the Trend Scenario takes places under congested conditions, while the figure is 20.4 percent in the Preferred Scenario.

Transportation benefits associated with the Preferred Scenario are also evident when one considers the commuting conditions and the demand along the river crossings. The Preferred Scenario succeeds in reducing the future demand for long-distance and trans-regional trips through a combination of improved transit opportunities and a greater concentration of jobs in key locations across the region, including the Westside. As seen in Figure 4-2, the result is a relatively small increase (24 percent) in average commuting time compared to the 2012 baseline (and a dramatically lower increase compared to the Trend), and a more modest increase in river crossing trips. The impact on the region’s river crossings is particularly important because apart from the Morris Rd alignment in Valencia County no new bridges have been proposed in the AMPA.

Figure 4-2: Commuting Measures, Growth Rates by 2040



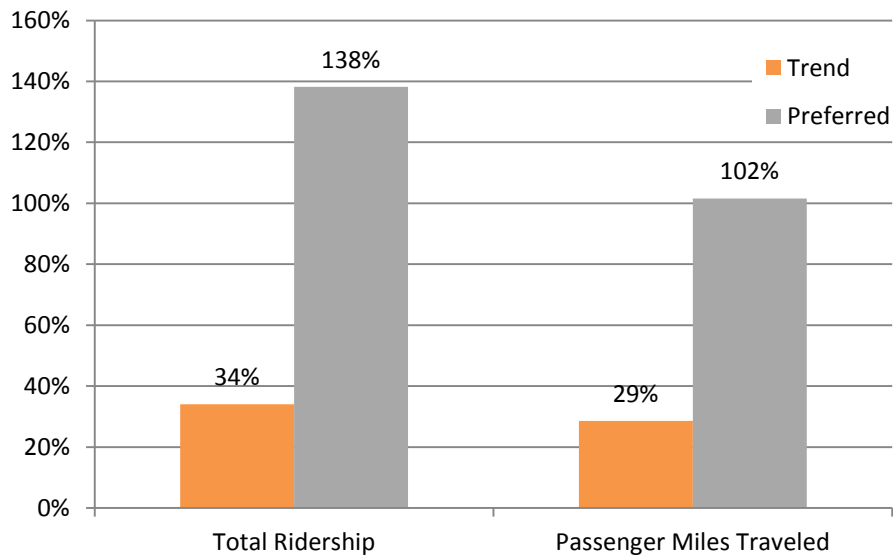
Transit Performance

Transit is an integral part of the Preferred Scenario. The scenario includes a greatly expanded transit system with the introduction of multiple BRT lines and increased frequency across much of the network. Activity centers and transit corridors are also emphasized for additional development. Not surprisingly, the Preferred Scenario performs significantly better in transit usage than the Trend, which anticipates few improvements beyond the proposed Albuquerque Rapid Transit on Central Ave.

The increase in ridership should be viewed as a reflection of the potential role transit can play in the region in the coming decades. As vehicle travel times deteriorate and as accessibility improves, transit can provide additional transportation options and help mitigate the growth of congestion.²

² It is important to reiterate is that this potential is dependant on increased funding opportunities being successfully pursued.

Figure 4-3: Transit-Related Measures, Growth Rates by 2040



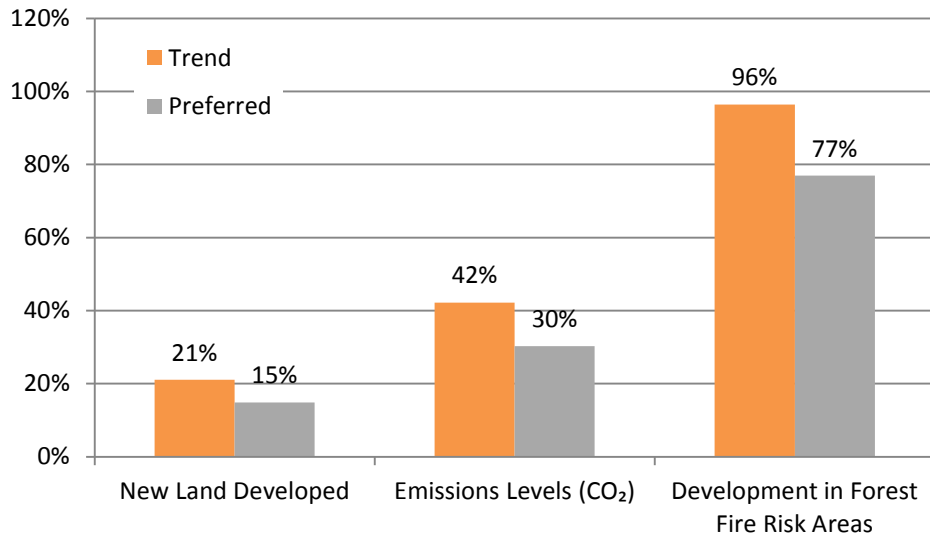
Sustainability and Resiliency to Climate Change Impacts

The Central New Mexico Climate Change Scenario Planning Project enabled MRMPO to introduce additional analyses related to greenhouse gas emissions and the extent to which development occurs in locations which may be at increased risk due to climate change impacts (e.g. floodplains or wildfire prone locations). These measures provide important insights on the sustainability of growth patterns in the region. In particular, they consider the extent to which emphasizing development in certain locations can minimize the amount of growth in locations subject to greater risks. This is most clearly observed in the assessment of high forest-fire risk locations, as measured by the intermix areas in the Wildland-Urban Interface (WUI) tool. Whereas the Trend Scenario projects a 96 percent increase in the combined number of jobs and households in intermix areas, the Preferred Scenario contains only 77 percent growth. Put another way, emphasizing development in activity centers and other key locations results in 10 percent fewer households and jobs in these at-risk locations.

Other more conventional sustainability performance measures include transportation-related CO₂ emissions and new land consumed. Similar analyses have been conducted by MRMPO in past MTPs but these measures took on new relevance as part of the climate change project and MRMPO's scenario planning efforts. Although CO₂ emissions levels increase in both scenarios, due largely to the high levels of population growth, per capita emissions are projected to fall as fuel efficiency improves, and total emissions levels increase by a smaller amount in the Preferred Scenario compared to the Trend (30 percent versus 42 percent). When compared directly to the Trend, the Preferred Scenario results in an eight percent reduction in CO₂ emissions. The results demonstrate that important reductions in GHG emissions are possible through alternative land use configurations and investments in mass transit.

Similarly, the rate of new land consumed is much smaller in the Preferred Scenario (15 percent) compared to the Trend (21 percent). The 13,000 fewer acres developed carries with it a range of potential benefits. These include fewer paved surfaces, less new road construction and utility infrastructure, and smaller service areas for emergency responders. Based on a consumption rate per residential acre, the Preferred Scenario results in six percent fewer gallons of water required to meet annual residential demands. A smaller footprint can also reduce the urban heat island effect, which is particularly important as temperatures are expected to rise in the coming decades.

Figure 4-4: Sustainability Measures, Growth Rates by 2040



Summary

The Preferred Scenario demonstrates that targeted growth can have a range of benefits, including better transportation conditions, greater access to amenities and employment opportunities, and improved air quality and reduce emissions. What is more, such development can actually ease water demands and threats to agricultural land by minimizing new land consumed and reducing the amount of new growth in wildfire-risk areas.

4.2 Monitoring the Progress of the Plan

In addition to performance measures that were developed for the *2040 MTP* scenario planning process, MRMPO monitors the performance of the MTP over time. Monitoring the performance of the plan considers near-term trends in transportation conditions and is different than scenario evaluation, which measures *projected* impacts of the different growth scenarios. The progress of the plan is assessed through the use of performance targets and action items that were developed for the *2035 MTP*, the results of which were presented in the report, *Monitoring the Progress of the 2035 MTP* (MRMPO 2013). In that document, progress toward the 2035 MTP's three goals—"Quality of Life," "Mobility of Goods and People," and "Economic Activity and Growth"—were analyzed. The idea behind this effort was to gauge any progress the MTP is making (or not making) in the region, and to rethink strategies for improvements as necessary.

The next iteration of the monitoring report was produced at the same time as the *2040 MTP*, and the full report is included in Appendix O. Monitoring elements were updated for certain performance targets and the new *2040 MTP* goal of Active Places, with associated performance targets and action items to track progress toward that goal. Other updates to the monitoring element include the revision of the regional transit mode share goal to focus on strategic corridors in the region and tracking spending to assess compliance with the transit set aside. In 2011, the Metropolitan Transportation Board passed mode share goals for river crossings that aimed for 10 percent of all peak period river crossing trips to be achieved by transit by 2025 and 20 percent by 2035. The Board also established a policy of setting aside 25 percent of certain federal funds (STP-U and CMAQ) for transit projects that would specifically address the mode share goals. Following multiple studies that established priority investments in the region, and given the fact that not all river crossing corridors are appropriate locations for transit, the *2040 MTP* establishes revised mode share goals designed to target transit investments in appropriate locations and in ways that are consistent with the Preferred Scenario. The updated mode share goals for the region are included in the update to the *Monitoring the Progress of the 2035 MTP*.

In addition to the performance measures that were developed to assess the different potential growth scenarios and the performance targets and action items used to monitor the progress of the MTP, the federal government is also emphasizing the importance of performance-based planning in its surface transportation legislation, MAP-21. In line with this emphasis, the Federal Highway Administration is releasing performance measures that state transportation departments and metropolitan transportation planning organizations must work toward in their planning efforts. At the time of this writing, the full list of performance measures has not been released (the effective date for all measures is approximately spring 2015).

Between this plan and the next, MRMPO's performance measures will be reconciled with those under MAP-21 and will be integrated into one performance-based process. This work will involve coordination with NMDOT on setting performance targets. In the meantime, MRMPO will continue to assess performance using its own measures and targets.

The following table summarizes the various ways in which performance is being assessed as part of MRMPO’s planning process:

Table 4-3: MRMPO Performance Assessment

Various Assessment Types			
Name	Scenario planning performance measures	MRMPO MTP performance targets, goals, and action items	MAP-21 performance measures, standards, and performance targets (note: these are forthcoming)
Applies to	Scenarios developed and modeled as part of the <i>2040 MTP</i> scenario planning process	Metropolitan Transportation Plans (2035 and beyond) for the AMPA	Metropolitan transportation planning decision-making (in regard to safety, pavement conditions, operational performance of the Interstate and non-Interstate National Highway System, freight movement, mobile source emissions, and congestion). MTPs must include performance targets.
Purpose	Used to compare scenarios against each other	Monitors progress toward MTP goals and conditions in the region	To develop plans and invest in projects that make progress toward the achievement of national goals.

4.3 MAP-21 National Performance Goals, Planning Factors, MRMPO Integration, and Project Development

MAP-21 identifies seven national performance goals and related performance measures as well as eight planning factors that govern the transportation planning process. At the time of this writing, final guidance from the Federal Highway Administration is still being issued. However, MRMPO is anticipating these requirements and is addressing them in various ways. Table 4-4 defines the seven national target areas and indicates how MRMPO efforts are consistent with national performance goals.

Many of the MAP-21 National Performance Goals are reflected in the Project Prioritization Process for TIP selection, as well as the procedures employed by MRMPO. Following are the specific ways in which each MAP-21 goal is currently accounted for in the project selection and project management process. MRMPO expects to take further steps to incorporate these goals as guidance is issued from the Federal Highway Administration.

National Performance Goal – Safety: Achieve a significant reduction in traffic fatalities and serious injuries on all public roads

- Projects are awarded points under MRMPO’s Project Prioritization Process for the following:
 - A project addresses a high crash rate location
 - A project contains a proven safety strategy (taken from the FHWA list of proven safety countermeasures and the Iowa Comprehensive Highway Safety Plan)
- MAP-21 priorities shared by MRMPO:
 - Projects should address a systemic safety concern as identified in a governmental agency report or a government mandated measure
 - Projects should maintains or improves the security of the transportation system
 - Study and analyze safety concerns to determine the preferred mitigation measure(s) to be implemented

National Performance Goal-Infrastructure Condition: Maintain the highway infrastructure asset system in a state of good repair

- Projects are awarded points under MRMPO’s Project Prioritization Process for the following:
 - Percentage of the project dedicated to maintaining the existing infrastructure
- MAP-21 priorities shared by MRMPO:
 - Projects should contains strategies identified in the performance based asset management plan for the state's National Highway System
 - Projects should address one or more deficiencies of a facility on the Deficient Bridge List
 - Projects should provide for the collection of data to monitor the transportation system and/or develop and maintain an asset management plan

National Performance Goal I – Congestion Reduction: Achieve a significant reduction in congestion on the National Highway System

- Projects are awarded points under MRMPO’s Project Prioritization Process for the following:
 - A project addresses a congested location as identified through the Congestion Management Process
 - Project includes a recognized congestion management strategy
- MAP-21 priorities shared by MRMPO:
 - Projects should provide or enhance alternate modes of transportation other than single occupancy vehicle (SOV) travel
 - Study and analyze an identified congested corridor to determine various strategies to reduce congestion

National Performance Goal – System Reliability: Improve the efficiency of the surface transportation system

- MRMPO Priorities:
 - A project includes or features a strategy identified in the Congestion Management Process
 - A project increases the volume and/or speed of people moved on a facility without adding additional through traffic lanes or adversely affecting the other six goals

National Performance Goal – Freight Movement and Economic Vitality: Improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development

- Projects are awarded points under MRMPO’s Project Prioritization Process for the following:
 - A project maintains or improves movement of freight along the primary freight network
 - A project explicitly aims to improve freight movement
- MAP-21 priorities shared by MRMPO:
 - Study and analyze an identified freight movement issue in order to determine various strategies to improve freight movement
 - Projects should provide additional infrastructure to promote economic development
 - Projects should serve areas with high employment and population density
 - Projects should address a primary freight corridor as identified in the MTP

Table 4-4: National Performance Goals and MRMPO Efforts

MAP-21 Goal Area	National Performance Goal	National Performance Measure	MRMPO Integration
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads	Fatalities and serious injuries—both number and rate per vehicle mile traveled--on all public roads	Data collection, analysis and crash reports; Crash rates are criterion in the Project Prioritization Process for TIP selection; support of Complete Streets and other policies that enhance multi-modal safety
Infrastructure Condition	To maintain the highway infrastructure asset system in a state of good repair	Pavement condition on the Interstate System and on remainder of the National Highway System (NHS); Bridge condition on the NHS	MRMPO is working with member governments to determine existing pavement inventory systems; MRMPO is awaiting delivery of on an Asset Management Plan from NMDOT; MRMPO relies upon NMDOT and BIA for bridge inventory and inspection systems
Congestion Reduction	To achieve a significant reduction in congestion on the National Highway System	Traffic congestion	Data collection, analysis, and travel demand modeling; Congestion levels is a criterion in the Project Prioritization Process for TIP selection
System Reliability	To improve the efficiency of the surface transportation system	Performance of the Interstate System and the remainder of the NHS	Data collection - analysis of travel time, delay, and reliability Interstates and arterials in the AMPA
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	Freight movement on the Interstate System	Data collection; Identification of priority freight corridors; Freight movement is a criterion in the Project Prioritization Process for TIP selection; Economic Vitality is a goal of the 2040 MTP
Environmental Sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment	On-road mobile source emissions	Emissions analysis and consideration of GHG emissions reduction strategies in Futures 2040 MTP; Consideration of extent of development in floodplains and Wildland-Urban Interface areas through Central NM Climate Change Scenario Planning Project; Multi-modal planning efforts
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	None provided	TIP management includes monthly status reports and technical assistance to jurisdictions during project development; Federal funds obligation report is issued annually, with obligations rates exceeding 95% in recent years

National Performance Goal – Environmental Sustainability: Enhance the performance of the transportation system while protecting and enhancing the natural environment.

- Projects are awarded points under MRMPO’s Project Prioritization Process for the following:
 - Reduces mobile emissions as an effort to maintain or improve air quality
- MAP-21 priorities shared by MRMPO:
 - Projects should mitigate adverse environmental effects of the transportation system. (Examples are: erosion, diminished water quality, adverse effects to wildlife, etc.)

- Projects should maintain or improve the availability of transportation services to a disadvantaged population
- Projects should implement a strategy identified in an approved planning document (comprehensive plan, sector plan, etc.) to improve the quality of life in a community, the region, or the state

National Performance Goal – Reduce Project Delivery Delays: Reduce the 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.

- MRMPO TIP Management Strategies:
 - MRMPO shall, to the extent of its ability, work with lead agencies, the NMDOT, the Federal Highway Administration, Federal Transit Administration, and other agencies to obligate funds in a timely manner and assist lead agencies in meeting project development milestones
 - MRMPO shall periodically assess projects as to their status
 - The TIP shall be managed to maximize the amount of funds obligated or used for projects each fiscal year in order to utilize 100 percent of the funds available (or as close to 100 percent as practical). Projects will be advanced or switched among the first four federal fiscal years of the TIP based on a project's readiness to complete the development phase for which its funds are programmed. By utilizing all funding available to the region in a fiscal year, it maximizes the amount of money flowing to the construction industry, design services, etc.

Table 4-5 lists the eight federally required planning factors and shows where in the *2040 MTP* the factors are primarily discussed:

Table 4-5: Addressing Federal Planning Factors in the *2040 MTP*

Planning Factor	Where Addressed in the <i>2040 MTP</i>
(1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency	Chapter 1.1 Introduction to the <i>Futures 2040 MTP</i> ; Chapter 3.11 Economic Impacts
(2) Increase the safety of the transportation system for motorized and non-motorized users	Chapter 3.6 Safety; Appendix H: Long-Range Transportation Systems Guide
3) Increase the security of the transportation system for motorized and non-motorized users	Chapter 3.7 Transportation and Security
4) Increase the accessibility and mobility of people and freight	Chapter 3.2 Roadways; Chapter 3.3 Freight; Chapter 3.13 Livability
5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic patterns	Chapter 3.15 Water Resources; Chapter 3.17 Emissions Reductions and Responses to Climate Change
6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	Chapter 3.13 Livability; Appendix H: Long-Range Transportation Systems Guide
7) Promote efficient system management and operation	Chapter 3.2 Roadways (3.2.4 (c) Transportation Systems Management & Operations)
8) Emphasize the preservation of the existing transportation system	Chapter 3.2 Roadways; Chapter 4.4 Financial Analysis

4.4 Financial Analysis

Financial analysis of the metropolitan transportation plan is not only a federal requirement, it is also good planning practice to ensure that planned transportation projects can be paid for with expected funding sources. This chapter examines the projected revenues and expenditures for projects and programs over the next 20 plus years.

This metropolitan transportation plan, compared to previous plans, places greater emphasis on maintenance and preservation of existing infrastructure, with large-scale highway capacity and transit service expansions limited to strategic locations providing greater long-term transportation and economic benefits. In particular, the *2040 MTP* shifts funding to preservation of existing infrastructure whereas previous plans underestimated the long-term amount of funding needed for this purpose. For example, NMDOT District 3's funding needs for preservation in the late-term (2026-2040), where specific projects are more difficult to identify, have been increased to \$0.5 billion, which is a more realistic figure for preservation costs at an annual average of over \$33 million in that fifteen year period. In addition, this plan includes specific funding for major bridge rehabilitations such as those over the Rio Grande.

4.4.1 Financial Legislation and Requirements

Federal Legislation

In 2012 Congress enacted a transportation spending bill known as MAP-21 (Moving Ahead for Progress in the 21st Century). MAP-21 authorized funds for Federal Fiscal Years (FFY) 2013 and 2014.³ In 2014 Congress reauthorized MAP-21, extending the legislation and providing funds for only the first eight months of FFY 2015 (the current reauthorization expires May 31, 2015). In order to fund all projects programmed in current FFY 2015 in the Transportation Improvement Program (TIP), Congress will have to enact an extension of MAP-21 or enact a new transportation bill (continuing resolutions to reauthorize, or extend, MAP-21 are expected). However, if Congress does not enact a multi-year extension of MAP-21 (or a new bill) by the beginning of FFY 2016 (October 1, 2015), MRMPO will need to review the projects programmed in FFY 2016 and compare those amounts to the federal transportation dollars made available in the continuing resolution in effect at that time. Based on that review, adjustments to the FFY 2016-2021 TIP may be necessary. Without the passage of a multi-year transportation bill, this would need to be done at the beginning of each fiscal year and again, federal regulations would require that the TIP reflect the changed revenue situation if funds are reduced. Although the risk of lowered revenue has its greatest impact on the TIP, the MTP is also subject to

³ The Federal Fiscal Year (FFY) begins each October 1st and ends the following September 30th thus, FFY 2015 runs October 1, 2014 through September 30, 2015. FFY 2016 will begin October 1, 2015 and so on.

revision if federal funding is substantially reduced from estimated levels. Federal regulations would require the MTP to reflect the changed revenue situation before it could be amended or updated.

Transportation Funding History

Historically, federal transportation spending has largely been financed by user fees—primarily taxes on gasoline and diesel fuel that have financed the Highway Trust Fund since it was established in 1956. The past few years, however, have marked a significant departure from this trend, with a greater share of the federal funding source being supported by general revenues. MAP-21 set program spending levels significantly above dedicated revenues, continuing the funding gap between spending and revenues. State and local governments are also experiencing stagnant or declining revenues from sources such as property taxes, impact fees, and gasoline taxes, which decreases the amount of state and local funding available for transportation projects. The gas tax's value has steadily diminished since it was last raised in 1993 at the federal level and in New Mexico.⁴ Moreover, gas tax revenues are likely to be further eroded by future improvements in fuel efficiency and the average American driving fewer miles than previously anticipated resulting in less fuel being purchased, thus less fuel tax collected. Lack of a long-term transportation funding strategy at both the federal and state levels does not allow the NMDOT or MRMPO to reliably estimate funding levels and program transportation projects.

It is likely that the scarcity of federal and state funding in the immediate future, coupled with rising costs and increased needs, will require the region to explore alternative funding methods that could include additional taxes, bonding, public-private partnerships, implementation of toll facilities, or other innovative financing methods.

While these issues create uncertainty with regard to financial planning for this MTP, the financial assumptions outlined in this chapter are reasonable and provide a basis from which the metropolitan area can plan a transportation system that serves the needs of the region through 2040. If Congress or the state legislature enacts legislation that provides substantially more or less funding than is assumed in this plan, MRMPO will review the TIP and the scheduling of projects in this plan and consider amendments if necessary.

Fiscal Constraint

Metropolitan transportation plans are also required to be fiscally constrained, meaning that the plan must include sufficient financial information for demonstrating that projects in the MTP can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the federally-supported transportation system is being adequately operated and maintained. In other words, the total cost of all transportation projects and expenditures cannot exceed the projected financial resources available.

⁴ The federal tax on gasoline established in 1993 is 18.4¢ per gallon; the New Mexico tax on gasoline was also established in 1993 is 18.875¢ per gallon (including the Petroleum Products Loading Fee). It is the eight lowest in the nation. Neither is indexed for inflation.

In order to determine the amount of funding available to program for transportation projects, the amount of funding needed to maintain and operate the region's transportation system must be estimated and accounted for. Thus, the remaining funding can be programmed for future transportation projects. Table 4-6 summarizes this analysis and shows the 2040 MTP to be fiscally constrained with the total cost of all projects not exceeding the funding available. Appendix N contains more detailed projections of maintenance and operations expenditures. It should be noted that costs for transit operations and vehicle replacement are eligible for certain categories of federal funding, thus reducing funding for capital projects. Therefore, some of the projects in this plan are for items such as vehicle replacement, and transit service expansion and operations, not strictly capital projects.

Table 4-6: Summary of Fiscal Constraint

Anticipated Funds Available for Transportation 2012-2040	Amount (in \$1,000s)
Federal Funds for Transportation Projects	\$4,201,826
State Funds Available	\$630,154
Local Funds Available	\$5,905,378
Total Public Revenue Available	\$10,737,358
Private Developer Funding for Transportation Projects	\$1,207,800
Total of All Funds Available for Transportation	\$11,945,159
Projected Cost of Maintenance & Operations for All Agencies	\$5,649,590
Remaining Funds Available for Transportation Projects	\$6,295,569
Cost of Publicly Funded Transportation Projects in this MTP	\$5,087,266
Cost of Privately Funded Transportation Project in this MTP	\$1,207,800
Difference (Funding Available minus Costs)	\$503

Note 1: Estimates of federal funds use the FFY 2015 obligation rate for all fiscal years.

Note 2: One percent growth is assumed for all federal highway categories from FFY 2022 through 2040.

Note 3: Reduction of funds due to debt service is reflected in all Federal Highway categories through FFY 2027 with funds restored from FFY 2028 through FY 2040 and assumes no additional debt service is encumbered.

Refer to Appendices L, M and N for more information.

4.4.2 Revenues and Expenditures

As noted previously, in order for the MTP to be fiscally constrained, the total cost of all programmed transportation projects and programs cannot exceed the projected financial resources available. One of the difficulties all metropolitan planning organizations and state departments of transportation face is projecting how much funding will be available over a period of more than 20 years while considering the transportation funding challenges previously mentioned. In order to accomplish this, federal regulations require that MPOs, state departments of transportation, and public transportation operators cooperatively develop revenue and cost estimates "based on reasonable financial principles and information." These methodologies and assumptions are explained further in this chapter. Appendices L and M provide more detailed summaries of federal, state, and local revenue projections.

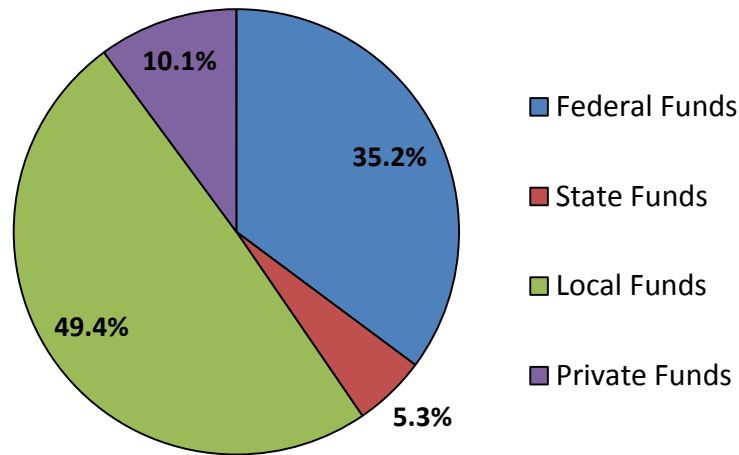
Table 4-7: Projected Funding Available from Public Sources

Transportation Revenue (Public Sources)	Total FFY 2012-2040 (in \$1,000s)
Federal Highway Program	\$2,632,982
Federal Tribal Transportation Program (TTP)	\$108,672
Federal Lands Program (non-TTP)	\$11,400
Federal High Priority Projects	\$40,218
Federal Special Programs (safety, railroad crossing, etc.)	\$96,322
Federal Transit Administration	\$1,312,233
Total Federal (includes required matching funds)	\$4,201,827
State Funds	\$630,154
Local Funds	\$5,905,378
Total Public Revenues Available for Transportation Purposes	\$10,737,359

Table 4-8: Projected Funding Available from Public and Private Sources

Transportation Revenue (Public and Private Sources)	Total FFY 2012-2040 (in \$1,000s)
Public Funds Available for Transportation Purposes	\$10,737,359
Private Developer Funds for Transportation Purposes	\$1,207,800
Total Funding Available for Transportation Purposes	\$11,945,159

Figure 4-5: Projected Funding Available from Public and Private Sources, 2012-2040



Comparison of 2040 and 2035 MTP Revenue Projections

One of the significant differences in revenue projections in this MTP compared to the previous plan is the projected funding from the Federal Transit Administration. This is primarily due to increases in "formula funds" (i.e., funding distributed nationwide, based on formulas using various criteria). In the Albuquerque area, transit funding increased primarily due to higher transit ridership and the operation of the New Mexico Rail Runner Express commuter trains which, under federal formula distribution criteria, results in significant increases in federal transit funding allocated to New Mexico. In 2015 alone, that amount was approximately \$12.5 million and will increase in 2016 when additional formula criteria become available.

Revenue projections in the federal highway category increased over 49 percent. Although this seems significant, there are two valid reasons.

- Funding was projected in the *2035 MTP* in each category for the years 2017-2035 by maintaining 2017 levels and not accounting for any increase in the entire period. The *2040 MTP* provides for a one percent increase per year from 2022-2040.
- The boundary of the AMPA significantly expanded in 2013 as a result of the 2010 U.S. Census. Prior to February 2013, most of Valencia County and Sandoval County northeast of Algodones were not part of the AMPA. Therefore, federal funds utilized in those areas were not accounted for in the *2035 MTP* but are accounted for in this plan.
- In addition to the increase noted above, there is a significant increase in Tribal Transportation Program (TTP) funding in this MTP. This is due to the expansion of the AMPA and the increase in the number of tribal governments within the metro area.

State funding projections show a 35 percent increase. This is due to the following:

- State funding listed in the 2035 MTP was primarily special program funding (GRIP) and, per NMDOT, no additional state funding for capital projects was listed beyond 2011. This proved unrealistic because the state actually programmed over \$39 million for projects in period 2012-2015. For this plan NMDOT and MRMPO agreed to project state funding levels.
- As previously noted the boundary of the AMPA significantly expanded in 2013 as a result of the 2010 U.S. Census. The expansion essentially established the AMPA boundary to be coterminous with NMDOT District 3. Thus, the estimates of state funds used for District 3 maintenance and operations now reflects the entire District 3 amount. Prior to the expansion, MRMPO and District 3 pro-rated those estimates to cover only the area within the old AMPA boundary.

Local funding projections show a 48 percent increase. This is due to the following:

- The boundary of the AMPA significantly expanded in 2013 as a result of the 2010 U.S. Census. The expansion added to the AMPA the remainder of Valencia County, four municipalities and new tribal governments, therefore increasing the amount of local revenue to be accounted for in this plan.
- Local agencies provided MRMPO with more detailed and reliable revenue estimates and estimated costs of maintenance and operations (M&O) and their associated M & O budgets.

Revenue Projections Methodology and Assumptions

NMDOT held several meetings with the state's MPOs and public transit operators to discuss and develop revenue projections and project inflation rates to be used for estimating future expenditures. Additional revenue information is available in the NMDOT's statewide long range plan.

Federal funds: The following assumptions were agreed upon for estimating federal funding.

- For all FHWA funding categories for FFY 2016 through FFY 2021 the Transportation Improvement Program (TIP) will use funding targets at FFY 2015 levels in each federal funding category with no increase from year to year
- For all FHWA funding categories programmed in FFY 2022 and beyond, a one percent annual increase will be applied through FFY 2040
- Federal funding targets provided by NMDOT are routinely based on the amount available after application of the obligation rate, which is established by the federal government annually. For the purposes of projecting federal revenues for FFY 2016 through FFY 2040, an obligation rate of 91.0 percent is used
- Funds required to match federal funds shall be calculated and included in the overall funding projections. Currently, under MAP-21, most federal highway programs in New Mexico have a ratio of 85.44 percent federal with a 14.56 percent match, and most federal transit programs have a ratio of 80.0 percent federal with 20.0 percent match
- CMAQ-Mandatory (Congestion Mitigation-Air Quality) funds are provided to metropolitan areas which are in air quality non-attainment or air quality maintenance status. Currently, Bernalillo

County is in air quality maintenance status for carbon monoxide (CO) which is due to expire in June 2016 when full attainment status is achieved. However, sections of the AMPA may fall into non-attainment status for ozone (O₃) very soon, particularly if the ozone standard is reduced by the federal government. If ozone non-attainment occurs, the level of CMAQ funding the metro area would receive is unknown at this time. For the purposes of projecting revenue for this MTP, it was agreed to maintain CMAQ-Mandatory funds for the AMPA under the same formula currently utilized.

- The federal highway funds allocated to this metropolitan area have been reduced due to debt service to pay back bonds resulting from programs such as CHAT (Citizens' Highway Advisory Taskforce) and GRIP (Governor Richardson's Investment Partnership). Currently, up to 40 percent of New Mexico's statewide annual federal highway revenues through 2027 will be utilized for debt service, greatly reducing the amount of federal funds available for future projects. In 2010 the Federal Highway Administration and the NMDOT entered into an agreement outlining the payment of this debt service. All funding information for federal highway funding categories provided by NMDOT to MRMPO has routinely accounted for decreases as a result of the state's debt service and is reflected in the funding estimates through FFY 2027. The reduction due to debt service has been "restored" to estimates in FFY 2028 through FFY 2040 meaning the debt will have been paid-off at that point so more funding will be available for projects after 2027 (assuming no additional debt service against future federal highway revenues is incurred).
- Federal Transit Administration (FTA) funding estimates were also developed cooperatively with NMDOT, ABQ Ride and Rio Metro. Each FTA funding category was analyzed separately for historical funding trends. Based on historical trends, it was agreed to increase FTA funding categories each year by the following percentages: FTA 5307 by two percent; FTA 5310 by one percent; FTA 5311, 5311(b)(3), 5337, and 5399 by 1.5 percent; and FTA 5311(c)(1) by 2.5 percent. Also, it was agreed to program FTA 5337 funds in FFY 2015 at \$5,500,000 to reflect the projected additional funding due to the New Mexico Rail Runner Express service expansion to Santa Fe (this category of federal funding "kicks-in" seven years after the expansion of service). FTA 5339 funding is apportioned to the state for distribution to each small urbanized area transit operator; therefore, Rio Metro received \$69,907 for the Los Lunas Urbanized Area in FFY 2014.
- Tribal Transportation Program (TTP) funding estimates were developed using 2016 TTP estimates listed on the Federal Lands Highway website, and applying the same assumptions used for other federal highway categories. Funding was held steady at 2016 estimates through 2021, then a one percent annual increase was applied through 2040.
- All revenues from public sources are summarized in Table 4-7. For a more detailed summary see Appendices L and M.

Future federal funding sources: Given the uncertainties of Congress enacting legislation to increase federal funding for transportation this plan does not consider additional sources of federal revenue or increases in revenue other than the modest increases noted above.

There are several types of federal funding that could provide additional funding in the future. These are grant programs for specific purposes or types of projects. These are discussed further at the end of this section.

State funds: State funding was projected in two major categories: funds used for NMDOT District 3 maintenance and operations and funds for capital transportation projects. Figures for District 3 maintenance and operations were provided by NMDOT, and it is assumed that all that funding is utilized for those purposes. It was agreed to project state funding for capital projects by calculating the annual average of all state capital funding (excluding GRIP) from 2007 through 2015. This amount, \$5,888,000, is held steady through 2021 then a one percent annual increase is applied through 2040; this is consistent with the methodology used for federal highway funds. It is recognized that state funding for transportation projects is dependent upon action of the New Mexico State Legislature. Significant amounts are authorized in some years with minor amounts in other years. Utilizing the nine year annual average provides a reasonable projection of future state revenues for capital transportation projects. This does not include state funds required to match federal funds; those are automatically calculated and included in the totals for each federal funding category.

Future state funding sources: There have been several studies to investigate long-term strategies to increase funding for state transportation infrastructure needs. Options include increasing the state fuel tax, increasing fees for driver's licenses and vehicle registration, implementing new taxes based on vehicle miles traveled, and tolling roads. Thus far, none of these options seems likely to pass into law in the near future. Therefore, this plan does not consider additional sources of state revenue beyond those already in place.

Local funds: Estimates of local revenue used for transportation was provided by the various jurisdictions. These estimates included revenue from general funds, general obligation bonds, development impact fees, municipal gas tax, gross receipts tax, fare box revenue, railroad trackage fees, and other minor sources of revenue. Jurisdictions provided more comprehensive estimates than previous plans. The amount in any given year and annual increases, if any, for each type of revenue varies with each jurisdiction. Currently, the City of Albuquerque has a ¼-cent gross receipts tax (GRT) for transportation to support roads, transit and pedestrian/bicycle facilities; for the financial planning purposes of this MTP, it is assumed this tax will continue. The Rio Metro Regional Transit District collects a ⅛-cent GRT which is used for operation of the New Mexico Rail Runner Express commuter train service and for regional bus transportation services. For financial planning for this MTP, it is assumed this tax will continue.

Future local funding sources: New Mexico allows for local option sales taxes to be initiated, via referendum, which could be used to finance transportation improvements. Local governments can also issue general obligation bonds subject to voter approval. Only the currently approved Valencia County bond is factored into this plan's revenue projections and no additional bonds by Bernalillo County or the City of Rio Rancho are factored into the projections for this plan. It is assumed by some agencies that future GRT and bond proposals will continue to be approved by voters based on historical results. The Rio Metro Regional Transit District has an additional ⅜-cent GRT taxing capacity which is projected to

commence in 2022. If this is not approved, many of the large-scale transit service expansion projects listed in this plan would be delayed indefinitely until funding is obtained. The Albuquerque Rapid Transit on Central Ave remains funded.

Private funds: Private developers also contribute to the construction of the metropolitan area's transportation infrastructure. When large-scale, master-planned communities are approved by local jurisdictions, the developer's agreement with the municipality often requires a commitment from the developer to construct portions of the infrastructure required. Total private development revenues for transportation capital infrastructure are presumed to equal the cumulative total of the estimated cost of all privately-funded projects. Essentially, these revenues are "canceled out" by the costs of the privately-funded projects. Generally, privately-funded projects have no direct impact on fiscal constraint. However, local agencies do incur a long-term maintenance cost for these developer-built facilities which may be offset either fully or partially with additional tax revenue generated from the new development. It must also be noted that the timing of implementation of these privately funded projects is primarily dependent upon the developers' schedules for implementation which, in turn, is highly dependent upon the region's economic climate.

Table 4-9: Private Capital Revenue and Expenditures

Transportation Revenue (Private Sources)	Total FFY 2012-2040 (in \$1,000s)
Private Revenue for Transportation Purposes	\$1,207,800
Private Project Expenditures	\$1,207,800
Net Gain/Loss	\$0

Supplemental revenue sources: There are several fund sources available to lead agencies, often on a competitive basis. These are not routinely expected to finance significant portions of the overall program but can provide financial resources for a particular project.

- *New Starts/Small Starts discretionary grant program*: New Starts and Small Starts have helped make possible dozens of new or extended transit fixed guideway systems across the country – heavy rail, light rail, commuter rail, bus rapid transit, and ferries. New Starts projects are typically greater than \$250 million in total project cost, requesting greater than \$75 million in New Starts funding. The Small Starts program supports fixed guideway projects smaller than the New Starts cost thresholds. Participation in the New Starts and Small Starts programs requires completion of a legislatively-directed process for planning and project development.
- *Transportation Investment Generating Economic Recovery (TIGER)*: TIGER grants are awarded periodically to state, local, and tribal governments on a nationally-competitive basis to build and repair critical pieces of freight and passenger transportation networks. Applicants must detail the benefits their project would deliver for five long-term outcomes: safety, economic competitiveness, state of good repair, livability and environmental sustainability. The U.S. DOT also evaluates projects on their expected contributions to economic recovery, as well as their

ability to facilitate innovation and new partnerships. Since 2009, Congress has dedicated more than \$4.1 billion for six rounds to fund projects that have a significant impact on the nation, a region or a metropolitan area. In FFY 2012, Bernalillo County was awarded \$262,500 for the Bridge Boulevard Reconstruction project (A300501).

- *Transit Investments for Greenhouse Gas and Energy Reduction (TIGGER) Program*: TIGGER grants are awarded to public transit agencies for the implementation of new strategies for reducing greenhouse gas emissions or reducing energy usage from their operations. These strategies can be implemented through operational or technological enhancements or innovations. Thus far, no TIGGER grants have been awarded in New Mexico.
- *Sustainable Communities*: This program was developed through a collaborative partnership between the U.S. Department of Housing and Urban Development, the Federal Highways Administration, and the Environmental Protection Agency. As of this writing, no grants have been awarded to agencies in the AMPA.
- *Tax-increment financing or “value capture”*: This is a mechanism which finances improvements via bonds sold by a special taxing district based on the cost of infrastructure being paid for by properties that are deemed to benefit from the infrastructure. By benefiting properties via transportation improvements, the idea behind tax-increment financing is that the improvement bonds are repaid with dedicated revenues from the incremental increase in property taxes as a result of such improvements (and increase in property value due to the improvements). New Mexico does allow for tax increment financing.
- *Focusing Resources, Economic Investment and Guidance to Help Transportation (FREIGHT) Act of 2010*: The intent of this act is to transform the nation's transportation policy and guide investments by focusing on the freight network. The FREIGHT Act provides a comprehensive, systemic approach to infrastructure investment that addresses the nation's commerce needs while providing a solid foundation to help the nation meet its energy, environmental, and safety goals. The bill also calls for the creation of a new National Freight Infrastructure Grants Initiative—a competitive, merit-based program with broad eligibility for multi-modal freight investment designed to focus funds where they will provide the most public benefit.
- *Federal loans and credit programs*: There are several federal loan and credit programs available. The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides federal credit assistance financing for surface transportation projects in the form of direct loans, loan guarantees, and standby lines of credit. Projects must be of national and regional significance (in other words, included on the long-range transportation system map). TIFIA financing is generally offered at more favorable interest rates than can be found in private capital markets, and highway, transit, railroad, intermodal freight, and port access projects are eligible for assistance. Each dollar of federal funds can provide up to \$10 in TIFIA credit transportation infrastructure investment.

For improvements on the freight rail system (which may in turn benefit the state's and region's passenger rail system), the Railroad Rehabilitation & Improvement Financing (RRIF) Program provides direct federal loans and loan guarantees to finance development of railroad infrastructure. Under this program the Federal Railroad Administrator is authorized to provide direct loans and loan guarantees up to \$35 billion, up to \$7 billion of which is reserved for projects benefiting freight railroads other than Class I carriers (regional and short-line railroads would be eligible). Funding can be applied to track and equipment, intermodal facilities, bridges, buildings and shops, and rail yards. A number of other innovative federal financing programs are available but may require state authorization and approval.

Maintenance, Operations, and Infrastructure Preservation Funding

In addition to projecting revenues for capital construction, funding available for the maintenance and operations of the entire transportation system is also estimated. Preservation and maintenance of the existing infrastructure is critical and a significant portion of transportation funding is utilized for infrastructure preservation such as roadway rehabilitation, bridge repairs, transit vehicle replacement, etc. Maintenance and operations (M&O) includes routine highway maintenance, railroad track maintenance, bus and train vehicle repairs and fuel, equipment maintenance and repair, snow plowing and salting/sanding operations, bike trail maintenance, and transit services operations.

The Transportation Improvement Program funds many capital infrastructure preservation projects on major roads, bridges, and transit systems, transit vehicle purchases and replacements, and some funding for transit operations. Generally, routine M&O is not programmed in the TIP. However, M&O expenditures must be accounted for in the total amount of funding available for transportation purposes in the MTP. Funds used for maintenance and operations are included in the funding projections of available resources. The projections of both revenues available for M&O and the estimates of M&O expenditures are explained in the following section.

Maintenance and Operations Expenditures

Maintenance and operations expenditures have been projected for the time period of the MTP with the various jurisdictions providing their projected expenditures. The MTP focuses on federal-aid eligible highways and transit systems. However, maintenance and operations budgets do not distinguish between funds spent on major roadways or local streets. Therefore, the methodology used for this MTP is to consider all agencies' entire M&O budgets and entire M&O expenditures to determine how much funding remains available for capital transportation purposes, the vast majority of which is spent on major streets that are roadways generally eligible for federal-aid. Appendix N provides more detailed summaries of projected maintenance and operations expenditures.

Projections of New Mexico's state revenue for transportation purposes include \$415.7 million allocated to the metro area through 2040. This includes funding for NMDOT District 3 maintenance and operations. Please refer to NMDOT's statewide long range plan for further analysis of New Mexico highway funding.

Table 4-10: Projected State and Local Maintenance & Operations Expenditures

Jurisdiction	Total FFY 2012-2040 (in \$1,000s)
Local Jurisdictions	\$5,233,835
NMDOT District 3	\$415,755
Total Projected M&O Expenditures	\$5,649,590

Capital Project Expenditures

Capital expenditures are listed by project in Appendix A. Public capital expenditures include all projects funded with federal dollars and all regionally-significant projects funded with state, local, or private funds. The amount of funding available for capital transportation projects was determined by analyzing all revenues available and funds needed for M&O expenditures (see Table 4-10).

Table 4-11: Funds Available for Capital Transportation Projects

Anticipated Funds Available for Transportation 2012-2040	Amount (in \$1,000s)
Federal Funds for Transportation Projects	\$4,201,826
State Funds Available	\$630,154
Local Funds Available	\$5,905,378
Total Public Revenue Available	\$10,737,358
Private Developer Funding for Transportation Projects	\$1,207,800
Total of All Funds Available for Transportation	\$11,945,159
Projected Cost of Maintenance & Operations for All Agencies	\$5,649,590
Remaining Funds Available for Transportation Projects	\$6,295,569

Note 1: Estimates of federal funds use the FFY 2015 obligation rate for all fiscal years.

Note 2: One percent growth is assumed for all federal highway categories from FFY 2022 through 2040.

Note 3: Reduction of funds due to debt service is reflected in all Federal Highway categories through FFY 2027 with funds restored from FFY 2028 through FY 2040 and assumes no additional debt service is encumbered. Refer to Appendices L and M for more information.

Capital Project Expenditures by Project Type

About \$2.2 billion, or approximately 35 percent, of all capital funds will be used to expand highway capacity, compared to one half in the 2035 MTP. However, over 53 percent less public funding is identified for capacity expansion than the 2035 MTP, with funds being shifted to preserving the current highway and bridge infrastructure. Overall, public expenditures for preservation increased by 66 percent compared to the previous MTP. Approximately 29 percent of all funding will be spent on transit, compared to 18 percent in the 2035 MTP. This is a significant increase over the 2035 MTP, and much of it is attributed to additional federal transit funds allocated to the region and discussed earlier in this chapter. This has the potential to greatly expand transit services and will be an important step in achieving the transit mode share goal of 20 percent of trips by transit on priority corridors by 2040. Pedestrian/bicycle and safety projects are also expected to receive higher levels of funding compared to

the projects proposed in the previous MTP. Together, these trends in funding reflect a shift in transportation investment priorities across the AMPA, particularly from capacity expansion to infrastructure preservation. Table 4-12 provides a comparison of project funding between the 2035 and 2040 MTPs.

Figure 4-6: 2040 MTP Projects by Type

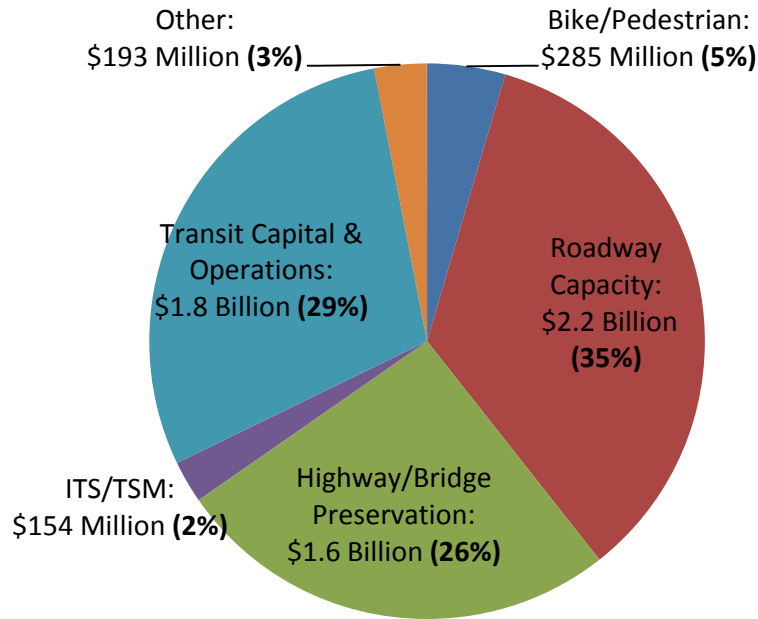


Table 4-12: Project Expenditures by Type of Project, Comparison of 2035 and 2040 MTPs

Project Type	Amount - 2035 MTP	Amount - 2040 MTP	Difference 2040 vs 2035 MTP	Numerical Difference
Bike/Ped Projects (Public)	\$241,302,104	\$263,944,607	9%	\$22,642,503
Bike/Ped Projects (Private)	\$15,859,250	\$21,193,000	34%	\$5,333,750
Roadway Capacity (Public)	\$2,248,608,711	\$1,036,980,106	-54%	-\$1,211,628,605
Roadway Capacity (Private)	\$770,129,498	\$1,155,881,922	50%	\$385,752,424
Highway & Bridge Preservation	\$987,183,864	\$1,633,985,094	66%	\$646,801,230
ITS/TSM Projects	\$194,534,713	\$154,255,556	-21%	-\$40,279,157
Miscellaneous	\$271,608,555	\$75,131,684	-72%	-\$196,476,871
Safety Projects	\$64,389,139	\$80,858,290	26%	\$16,469,151
Travel Demand Management	\$35,340,413	\$37,164,786	5%	\$1,824,373
Transit Projects	\$1,077,503,135	\$1,834,671,248	70%	\$757,168,113
Total	\$5,906,459,382	\$6,294,066,293	7%	\$387,606,911

Note: See following section for definitions of project type.

4.4.3 MTP Projects Summary

All proposed MTP projects are listed in Appendix A. Listed below are some significant and noteworthy projects. In the past, MTPs have included very long-range projects and new roadways which were included in the previous *Future Albuquerque Area Bikeways and Streets (FAABS)* document. Given the fiscal constraints of funding availability and the timing of development and need for these projects, some of these very long-range projects will not be built within the timeframe of the *2040 MTP* and are therefore not included in this plan. They will, however, remain in the Long Range Roadway System, an element of the LRTS Guide. Appendix B contains a summary listing of these special projects and their status in the *2040 MTP*.

The metropolitan planning organization's purpose is to focus primarily on transportation projects of regional significance.

- For **roadways** this refers to those on the federal-aid system. The federal-aid system is determined by highway functional classification which classifies highways and streets based on the function the roadway serves in the overall roadway network. The highway functional classification for the AMPA was revised as a result of the 2010 U.S. Census receiving final federal approval in February 2014. Roadways eligible for federal-aid are those classified as minor collectors and above in the Albuquerque Large Urbanized Area and the Los Lunas Small Urbanized Area and major collectors and above in rural areas with some exceptions such as special federal funding for off-system bridges, safety improvements, and other special categories of projects.
- For **transit** projects this refers to those transit services that receive federal funding and/or provide inter-regional connectivity (i.e., NM Rail Runner), intra-regional connectivity (ABQ Ride and Rio Metro services), and services for special needs populations.
- Regionally significant **bicycle and pedestrian projects** are those receiving federal funds and/or those providing regional connectivity (i.e., the Bosque Trail) and those facilities which are part of the regional bikeway network.

Project Type Categories

Projects in the *2040 MTP* are categorized by one of eight project types: Bike/Pedestrian, Capacity Projects, Highway & Bridge Preservation, ITS-TSM, Safety, TDM, Transit, and Miscellaneous. How a project is categorized is based on the primary reason for the project even though a project may include elements of several categories. For example, a highway reconstruction project's primary purpose may be to rebuild a poor roadway without any additional lanes, but the project could include a new bike trail, replacement of sidewalks, and upgraded traffic signals; however, the project would be categorized as a Highway & Bridge Preservation project. These categories are defined as follows:

- *Bike/Pedestrian Projects* include self-explanatory for bicycle trails, bike lanes, and sidewalks, but they include projects such as modifying curbs to comply with the Americans with Disabilities Act (ADA), bike lockers, and bicycle safety education programs for children

- *Capacity Projects* are investments that increase the through-traffic capacity of a roadway or street by adding a significant length of a through-lane. This includes road widening projects, new roadways, bridge widening, and new bridges. It generally does not include projects adding turn-lanes at intersections or the reconstruction/reconfiguration of an interchange unless a new through-lane(s) to the main line is added.
- *Highway and Bridge Preservation Projects* do not add additional through-lanes but improve the condition of the roadway through resurfacing, rehabilitation, reconstruction, restoration, bridge rehabilitation, bridge replacement, bridge deck replacement, bridge repairs, and other similar projects
- *Intelligent Transportation Systems-Transportation Systems Management Projects* improve the flow of traffic, convey traveler information to the users and/or affect the overall transportation network. Projects such as installing electronic message signs, constructing a traffic management center, upgrading traffic signal equipment, interconnection of traffic signals and its associated communication network, motorist courtesy patrols (H.E.L.P. trucks) which expedite removal of vehicle breakdowns, traffic data collection, and other similar projects.
- *Safety Projects* are focused on rectifying deficiencies that result in unsafe conditions. These include intersection improvements, railroad crossing improvements, median barriers, guardrails, road realignments (such as removing a dangerous curve), adding passing lanes to improve safety (not to increase through-traffic capacity), pedestrian signal upgrades, safe routes to schools improvements, street lighting to improve safety, upgrade of signage and pavement markings, etc. Funding of safety projects generally requires data indicating the existence of unsafe conditions.
- *TDM (Travel Demand Management) Projects* help manage the level of travel on the transportation network by encouraging alternate modes of transportation and/or shifting travel demand away from peak hours
- *Transit Projects* include all public transportation services such as ABQ Ride and Rio Metro transit services, the New Mexico Rail Runner Express, and transit services for special needs populations. This includes vehicle purchases/replacements, bus stop facilities and shelters, train stations, park and ride lots, railroad track improvements, Bus Rapid Transit (BRT) construction and implementation, fare collection systems, transit planning, tribal transit programs, and eligible operational costs. Some funding for transit projects is allocated by a formula, thus increases in ridership and some service expansion can result in additional federal funding.
- *Miscellaneous Projects* constitute planning studies, beautification projects, street lighting projects (not safety related), long-term right-of-way acquisition, and some types of multi-modal improvements that do not fit into the other categories

Project Cost Estimating, Timing, and Analysis

Capital project costs are estimated by using one of two methods. Some projected costs were provided by the various lead agencies or from corridor studies and transit studies. Some project costs are derived from engineers' estimates, environmental documents or initial project scoping reports. This applies primarily to projects in the MTP and included in the TIP through 2021. Unit costs for various project

elements derived cooperatively among the major agencies have been used to estimate capital project costs for those projects that have no other documented cost estimates. An annual growth rate of two percent has been applied to project costs beyond the TIP based on agencies' or developers' estimated time frame for project implementation.

Private funds used for construction of transportation infrastructure have been projected to equal the cost estimates of each privately-funded project. Private development costs are provided by developers in proposed project master plans and other documents. The cumulative costs of all privately developed transportation capital infrastructure is considered "private capital revenue." As noted before, these revenues are cancelled-out by the costs of the privately-funded projects. Generally, privately-funded projects have no direct impact on fiscal constraint.

Timeframes are used for project implementation and travel demand modeling analysis. A project falls into a timeframe based on when the project is expected to be substantially implemented. For example a roadway project falls into the "near" timeframe if the project is expected to be substantially completed and open to traffic in the year 2025 or earlier. As a result, all projects fall into one of two time periods which is used for modeling congestion and other analyses.

The timeframes for project implementation are compatible between this MTP and the previous *2035 MTP*. The *2035 MTP* used "Early" = 2008-2015, "Mid" = 2016–2025, and "Late" = 2026–2035. This plan uses two timeframes: "Near Term" = 2012–2025 and "Late" = 2026–2040. As a result, since the proposed timing of most projects included in both MTPs are unchanged, the cost estimates for most projects are usually the same between the two MTPs, particularly those in the "Late" time frame. Some costs were revised based on review from the project's lead agency, particularly those in the "near" time frame. To be clear, all projects in Appendix A noted as "Funded" are in the "near-term."

Major Roadway Projects

- Unser Blvd Corridor Improvements: complete Unser Blvd as a four lane north-south arterial
- I-25 & Paseo del Norte Interchange Reconstruction: project is under construction and is expected to be completed in 2015
- I-25 Improvements between Jefferson St and San Antonio Dr: improve safety and access at the I-25 interchanges
- I-25 Widening between Broadway Blvd and Rio Bravo Blvd: widen the freeway from four to six lanes
- I-25 & Rio Bravo Interchange Reconstruction: redesign the interchange and improve traffic flow through the intersections
- I-25 & Cesar Chavez Interchange Reconstruction: rebuild and possibly reconfigure the interchange
- I-25 & Montgomery Blvd Interchange Reconstruction: rebuild/reconfigure the interchange
- I-25 & US 550 Interchange Reconstruction: project is under construction and includes a reconfiguration of the interchange

- Sunport Blvd Extension: project is currently under design and will extend Sunport Blvd to Broadway Blvd and has generated a companion project to improve Woodward St between 2nd St and Broadway Blvd
- Central Ave Improvements: address vehicular traffic, pedestrians and transit along various segments
- NM 528 Widening: widen the highway between Southern Blvd and Northern Blvd from four to six lanes
- Northern Blvd Expansion: design and right-of-way acquisition to widen the roadway
- Westside Blvd Widening: complete the four lane expansion between Unser Blvd and NM 528
- Rio Bravo Boulevard: eastbound bridge replacement
- Los Lunas River Crossing: construct a new interchange at I-25 on the south side of Los Lunas along Morris Rd and build a new road and bridge over the Rio Grande. Purchase of right-of-way is underway
- NM 6 Bridge Replacement over the Rio Grande
- NM 337 Bridge Replacement in Chilili
- SP 85 Bridge in Cochiti Pueblo: build a bridge to restore the roadway damaged as a result of the severe rain, thus providing residents a safe crossing of an arroyo
- Bridge Blvd Reconstruction: address vehicular traffic, pedestrian, and transit conditions between Old Coors Blvd and the Rio Grande
- Paseo del Volcan & I-40 Interchange Rights-of-Way Acquisition: secure the land needed for the future construction of the interchange

Major Transit Projects

Several projects focus on increasing transit mode share to 20 percent by 2040 on corridors included in the priority transit network (see Chapter 3.4). Other transit projects will maintain and expand existing service levels.

- Albuquerque Rapid Transit (ART): implement Bus Rapid Transit along Central Ave. The project is currently under development and service could begin operations in 2017. Some features of this service will be similar to features along light-rail lines: raised platforms for quick boarding, off-board fare collection, signal priority at traffic signals, doors on both sides of the buses, frequent service, and dedicated transit lanes in certain sections for fast and efficient operation.
- UNM/CNM/Sunport High Capacity Transit: planning will begin for improved transit service in the University of New Mexico/Central New Mexico Community College/Sunport area. This service will complement the nearby ART service on Central Ave (described above).
- Metro Area Enhanced Transit Improvements: provide higher level transit service to possible areas such as the northwest metro/Rio Rancho area and others to be determined
- Commuter Rail: Alameda Siding Improvements will improve Rail Runner operations and shorten time schedules by providing locations for trains to pass each other. Other projects will consider improvements and refinements to NM Rail Runner Express service such as increased service and

headways, along with infrastructure improvements such as new sidings, double-tracking sections as necessary and major rehabilitation of locomotives and railcars in the later years.

- Park and Ride Development: park and ride facilities will be developed as the metropolitan area expands in order to meet growing demand

Major Bicycle/Pedestrian Projects

- Paseo del Norte Corridor Trail: provide a continuous bike/pedestrian trail along Paseo del Norte and will be constructed in phases
- Santo Domingo Multi-Use Trail: provide a safe connection from the village to the NM Rail Runner Station and the Santo Domingo Trading Post
- University Blvd Multi-Modal Improvements: construct missing bike lanes
- 2nd Street – Valle de Oro Trail: construct a multi-use trail in the South Valley with a connection to the new Valle de Oro National Wildlife Refuge and other existing trails
- Tijeras Area Projects: construct pedestrian, bicycle and drainage improvements in the village
- Trail Resurfacing and Reconstruction: resurface and/or reconstruct several existing trails in need of improvement
- Albuquerque Bike Share Program: provide short-term bike rentals in key areas for trip completion. This extends transit and pedestrian trips by providing convenient bicycles.
- Alameda Drain Trail: connect the North Valley to the existing bikeway network
- Central Ave Railroad Crossing Connectivity Improvements: improve pedestrian connectivity between Downtown and East Downtown as part of the "Innovation Corridor"

Major ITS Projects

- ITS Regional Transportation Management Center (RTMC): the most significant ITS project planned for the metro area, this project will establish a regional center to enable traffic engineers to maximize highway capacity, manage and divert traffic, change signal timing and signal coordination, and manage incidents as needed based on actual traffic conditions