



FAMPO 2050 METROPOLITAN TRANSPORTATION PLAN



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FAMPO 2050 Metropolitan Transportation Plan

Executive Summary

Prepared for:
Fayetteville Area Metropolitan Planning Organization (FAMPO)



Prepared by:
Kittelson & Associates, Inc.

In Association With:
RS&H, Inc.

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Introduction

Overview of FAMPO

The Fayetteville Area Metropolitan Planning Organization (FAMPO) was established in 1975 and includes a population of over 400,000 as of the 2020 U.S. Census. As shown in Figure 3, FAMPO includes all or parts of Cumberland, Robeson, Hoke, and Harnett Counties, as well as the City of Fayetteville, City of Raeford, Town of Spring Lake, Town of Hope Mills, Town of Eastover, and Town of Parkton. Metropolitan Planning Organizations (MPOs) are established and funded by the federal government for urbanized areas, with the goal of distributing funding collaboratively and comprehensively.

Overview of the 2050 MTP

A Metropolitan Transportation Plan (MTP) is a long-range plan for multimodal transportation improvements in an MPO region, typically for a 25- to 30-year horizon, that establishes transportation goals and objectives and assesses and prioritizes future needs. The FAMPO MTP was last updated in 2019 and included a planning horizon of 2045.



Figure 1. MTP Logo

Branded as *Sandhills Safe and Connected*, the FAMPO 2050 MTP Update is a comprehensive overhaul of the previous multimodal MTP elements and included an extensive review of recent planning and project programming efforts, including the FAMPO Congestion Management Process (CMP), FAMPO

Comprehensive Transportation Plan (CTP), and NCDOT State Transportation Improvement Program (STIP). The public and Title VI communities were engaged throughout the MTP development through a detailed project website and online comment map, online surveys, two online open houses, and two pop-up events.

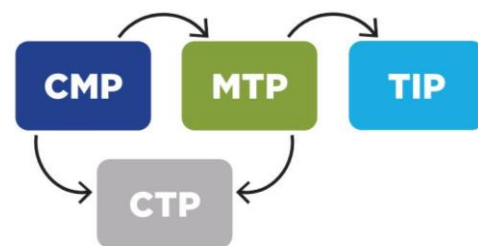


Figure 2. Relationship to Other Plans

FAMPO Boards and Committees

FAMPO is officially governed by the Transportation Advisory Committee (TAC), who lean upon recommendations from the Citizen Advisory Committee (CAC) and Technical Coordinating Committee (TCC). The membership of the TAC is primarily made up of elected officials and appointed representatives of the FAMPO member jurisdictions and is established through the FAMPO Memorandum of Understanding (MOU), which was last updated in 2021. The MOU also identifies the voting structure of all three committees. While the TCC is made up of additional agency staff from FAMPO member jurisdictions, NCDOT, and agency partners, members from any profession can be appointed to the CAC. The TAC, TCC, and CAC were all heavily involved in the development of the 2050 MTP and identification of critical transportation needs. Further information on agency engagement is provided in a later section of this executive summary and in the attached Technical Memorandum 1.

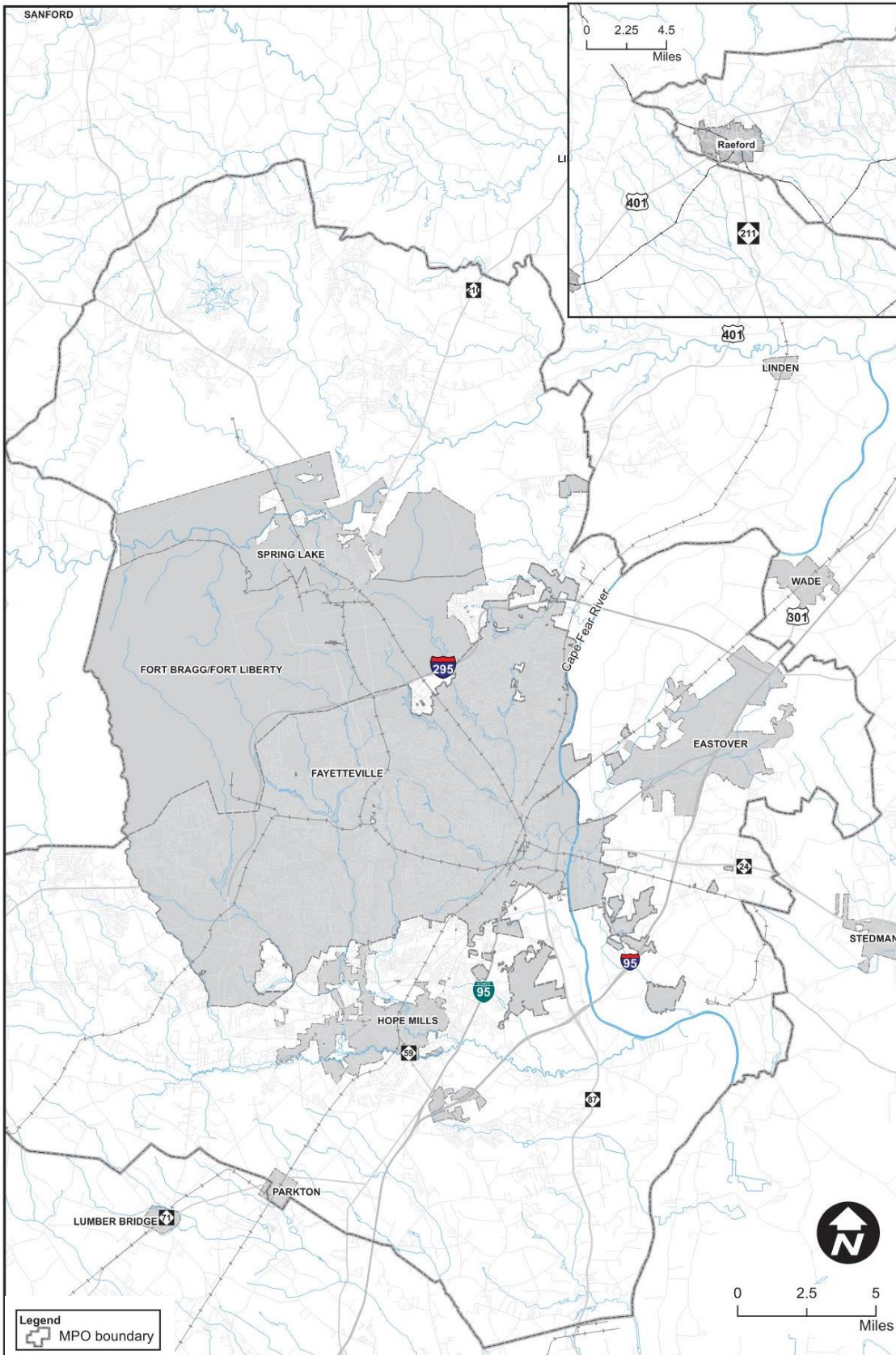


Figure 3. Project Study Area

Highlights of the MTP

Significant updates to the MTP include the following:

- Comprehensive review and assessment of multimodal project needs from recent plans and programs;
- Revamped system performance assessment for the MPO planning area;
- Updated socioeconomic projections for the MPO planning area;
- Scenario testing of project needs based on major changes in regional land use and transportation;
- Planning-level cost estimates for high-scoring projects, as well as identified funding sources;
- Virtual public engagement methods to broaden the reach of the MTP and expand opportunities for public feedback.

4. Policy Review and System Performance Report
5. Performance Measures Matrix and Targets
6. Scenario Testing Results
7. Project Evaluation Table
8. Fiscally-Constrained Project List

MTP Development Timeline

Figure 4 provides a description of the schedule for the development of the 2050 MTP. The MTP preparation officially kicked off in February 2023 and began with a review of recently-adopted plans and the latest policy, as well as preparation of the MTP public engagement plan. Key milestones for the MTP were online open house #1, held in July 2023, and online open house #2, held in February 2024, as well as the MTP steering committee workshops, which were held three to six weeks before each respective online open house, as well as at the end of the MTP development in April 2024.

Organization of the MTP

This executive summary is organized as follows:

- Goals, Objectives, and Performance Measures;
- Public and Agency Engagement;
- Planning Area Assessment;
- Scenario Testing;
- Financial Plan Development;
- Project Identification and Prioritization;
- Performance Management; and
- Recommendations, Actions, and Strategies.

To serve as an accessible reference point for current and future transportation planning and programming, this executive summary is supplemented by the following eight Technical Memoranda:

1. Public Engagement Plan
2. Public and Agency Engagement Summary
3. Plan Review Synthesis and Draft Project List

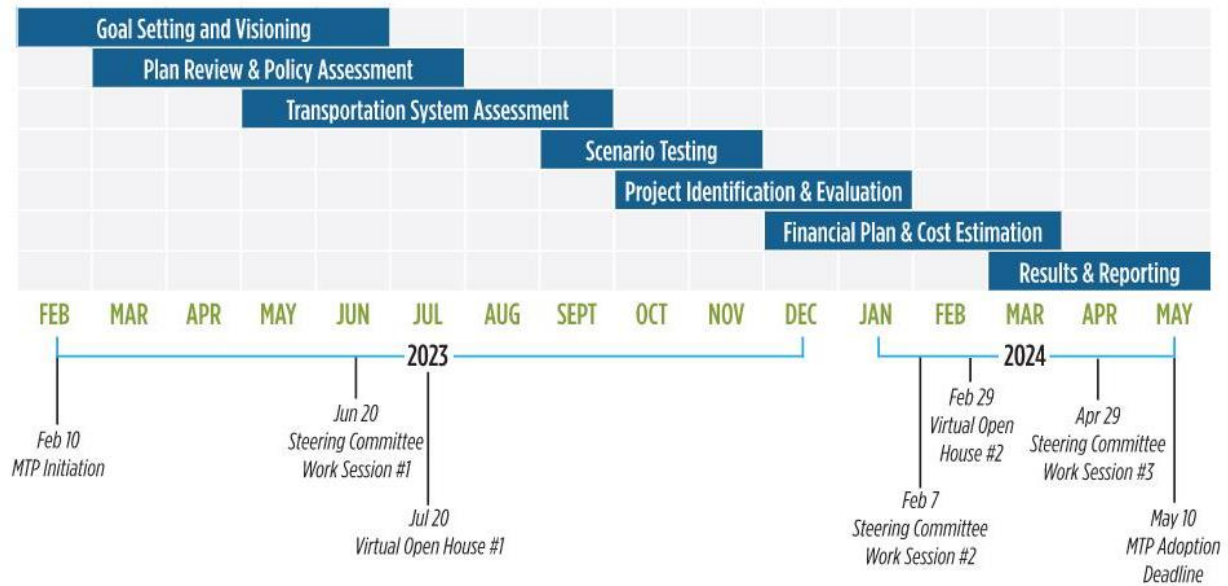


Figure 4. 2050 MTP Schedule

Goals, Objectives, and Performance Measures

Federal Planning Factors

Federal regulations stipulate requirements for MPOs for the preparation of MTPs. Federal code states the MTP process shall provide for consideration and implementation of projects, strategies, and services that address the following ten planning factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
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 development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;

8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

A full discussion of federal requirements for MTPs, including the FAMPO activities that support each requirement, is included in the Policy Assessment within Technical Memorandum 4.

Goals and Objectives Preparation

The goals and objectives established for the 2050 MTP guide the development of this plan as well as FAMPO's overall planning initiatives over the next five years. FAMPO reviewed previously adopted goals and objectives, discussed goals and objectives with the Steering Committee at multiple meetings and partner agencies at the first steering committee work session, and sought public input at a virtual Open House and via an online survey prior to adopting the 2050 MTP goals and objectives. Through these efforts, eight goals were developed to address FAMPO's overarching mission (Figure 5). Each of these goals was supported by several objectives.

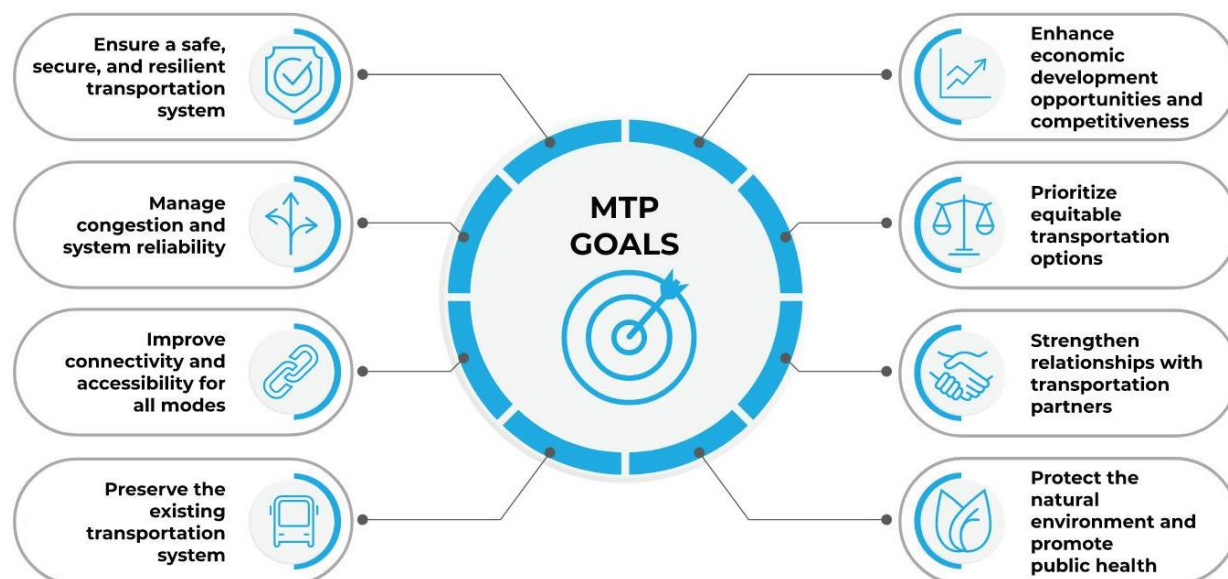


Figure 5. FAMPO 2050 MTP Goals

Table 1 on the following page lists both the goals and objectives that were adopted for the MTP.

Performance Management

Performance-based planning and programming is a requirement of the MTP development process and is intended to connect performance outcomes to investment decisions. It is an ongoing process that consists of regular coordination among the FAMPO, NCDOT, and transit providers with specific requirements outlined for each respective entity. The MTP serves as the primary source for the FAMPO to highlight the requirements, updates, integration activities, and outcomes associated with performance-based planning.

FAMPO coordinates with NCDOT and transit providers to develop and monitor targets for a series of required performance measures in the following categories:

- Safety,
- Infrastructure Condition,
- System Performance,
- Transit Asset Management, and
- Transit Safety.

An additional discussion of these performance measures is provided within the Performance Management Section of this document. Full details are available in the System Performance Report attached to this document in the form of Technical Memorandum 4.

Table 1. 2050 MTP Goals and Objectives

Goal	Objectives
Ensure a safe, secure, and resilient transportation system	- Support efforts to reduce the number of traffic fatalities and serious injuries - Improve safety for all modes and users - Minimize conflicts between different modes of travel - Reduce system vulnerability and improve system resiliency
Manage congestion and system reliability	- Improve travel time reliability on the transportation system - Implement and monitor effectiveness of congestion management strategies - Adapt transportation infrastructure and technologies to meet changing traveler needs and desires
Improve connectivity and accessibility for all modes	- Encourage land development patterns that promote transportation efficiency - Increase access to essential services and activity centers - Enhance regional connectivity
Preserve the existing transportation system	- Maintain existing transportation facilities in good condition - Utilize technology and innovation to maximize sustainability of the transportation system - Prioritize maintenance when allocating funding
Enhance economic development opportunities and competitiveness	- Promote improvements that facilitate the efficient movement of freight - Improve project delivery for all modes - Explore and pursue alternative funding sources
Prioritize equitable transportation options	- Invest in the multimodal transportation system - Design the transportation system for all users - Equitably distribute transportation investments
Strengthen relationships with transportation partners	- Regularly coordinate with resource agencies, EJ communities, neighboring MPOs, and other key partners - Participate in transportation-related planning efforts initiated by other agencies and organizations throughout the region - Expand outreach and engagement techniques
Protect the natural environment and promote public health	- Minimize or mitigate impacts to natural and cultural resources - Reduce emissions from mobile sources - Provide transportation solutions that contribute to improved public health

Public and Agency Engagement

Public Engagement Plan

FAMPO strived to actively involve the community in guiding the development of the 2050 MTP through a variety of intentional participation methods. The following five methods for collecting public feedback were identified:

- Project Website
- Interactive Project Story Map
- Online Surveys
- Virtual Open House Events
- In-Person Outreach Events

All efforts were promoted by online and print marketing material (flyers) including a QR code to the project website. These methods were documented in a Public Engagement Plan developed specifically for the 2050 MTP. The Public Engagement Plan identified specific materials needed for outreach and interactive engagement, as well as targeted outreach to Environmental Justice (EJ) Communities and specific strategies to increase engagement. In addition to the Public Engagement Plan, the FAMPO-wide Public Involvement Plan was revised to include up-to-date timelines for the project planning process and the latest innovative and applicable methods for effective public outreach. These two plans are attached in the form of Technical Memorandum 1.

Project Website

A dedicated project website, [Sandhills Safe and Connected](#) (Figure 6), was developed to serve as a central hub for information regarding the MTP development including project background, process and timeline, project updates, important dates and opportunities for feedback, and more. The comprehensive online presence helped to

reach a broad audience by allowing residents to give feedback at their convenience and serve as a place to collect and present data and information during the development of the MTP. A total of 1,785 visits to the project website were recorded from 935 unique IP addresses. Peak website activity occurred in June/July 2023 and January/February 2024 in advance of the first and second virtual open house events.

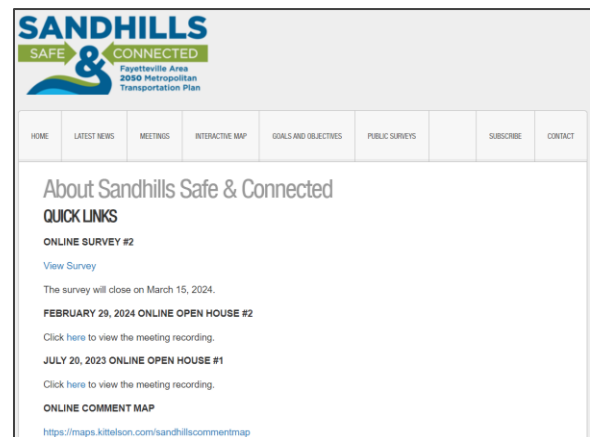


Figure 6. Project Website

Interactive Story Map

Additionally, an online interactive story map was created to invite participants to visualize a list of nearly 500 potential transportation improvements within the FAMPO boundary and understand their potential impact on the community. This list was extracted from the draft project list developed as part of the MTP plan review and contained detailed information about the extents of each project and types of improvements. The map was color coded by each mode: Roadway (including at-grade rail crossing improvements), Pedestrian, Bicycle, Multiuse Path, and Transit. This clickable, filterable, online map enabled residents to provide feedback on identified potential projects

as well as add to the map by pinpointing specific transportation issues or express desired improvements in the current transportation network. During later stages of the MTP development, the story map (Figure 7) was updated to include only the highest-scoring projects eligible for inclusion in the MTP financially-constrained list of projects.

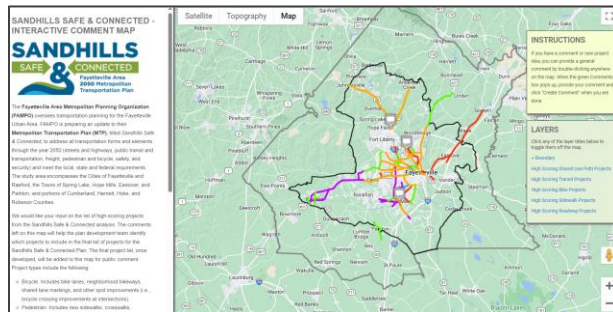


Figure 7. Interactive Project Story Map

The public were encouraged to review these projects and comment on their relevance and need, as well as identify any projects that just missed the threshold and should be reconsidered for prioritization. A list of comments received on the Story Map are provided in Technical Memorandum 2.

Online Surveys

To further assess public sentiment, two online surveys were conducted as part of two distinct phases of the MTP development. These surveys, hosted on SurveyMonkey®, provided valuable insights at different stages of the planning process, helping the project team to understand evolving community preferences and priorities. The first online survey prompted respondents to share their priorities for the established project goals, priorities for how transportation investment is most needed, and it collected information on how residents prefer to get around. Detailed survey responses are included in Technical Memorandum 2.

The second survey (Figure 8), which took place once a list of high-scoring projects were

developed, prompted respondents to select their top projects for each mode. Both surveys collected demographic information and were offered in paper format at in-person events.

FAMPO 2050 Metropolitan Transportation Plan Public Survey - Public Engagement Two

This survey contains a list of 10 questions that will ask for feedback on prospective transportation related projects in the greater Fayetteville area. This region includes incorporated and unincorporated areas of Cumberland, Harnett, Hoke, Moore, and Robeson Counties. We are interested in learning what transportation improvement projects are important to you. This survey will ask about proposed projects for the modes of Roadway, Bicycle Facilities, Pedestrian Facilities, Multiuse Paths, and Public Transportation. A number of projects have been identified for each mode. You will be asked to select the projects that are of most importance to you. **The corridors have been bolded**, with project details included for more information.

1. Please select up to FIVE of the following **roadway** improvement projects in the region that you would like to see prioritized for construction

- ☐ **US 401 Bypass (Pamalee Drive)** - From Bragg Blvd to NC 210 (Murchison Road); Upgrade existing multi-lane facility with continuous center left turn lane to add raised center median with access management improvements. Include bicycle and pedestrian improvements and bus pullouts
- ☐ **Cliffdale Road** - From Reilly Road to McPherson Church Road; Construct a concrete median with directional crossovers. Sidewalks.
- ☐ **Skibo Road** - From Raeford Road to Bragg Blvd bridge; Incorporate a series intersection safety improvements
- ☐ **NC 210 (Murchison Road)** - From Langdon Street to US 401 Bypass; Modernize roadway to multi-lanes and add sidewalks and bike lanes on both sides of the road or multi-use path.

Figure 8. Online Survey #2

Virtual Open House Events

Two virtual public open houses took place to offer additional opportunities for input from community members. Times for the meetings were selected to optimize engagement by accommodating individuals who work conventional or late shift schedules. Each online open house took place over Zoom from 4:00 pm to 7:00 pm on a weekday. A brief presentation was held at 4:30 pm with a chance for questions and comments from attendees; and was then repeated at 6:30 pm.

The first open house was held on Thursday July 20, 2023. The meeting involved a presentation including an overview of the project, background on MTPs, funding, schedule, goals and objectives, the draft project list, and public engagement efforts. The second open-house was held on February 29, 2024 and involved a presentation including a recap of the project scoring and prioritization methods and an interactive activity covering the high-scoring projects in each mode.

Both virtual open house presentations were recorded and linked to the project website so that the public could review and continue to participate in the interactive survey and comment map activities throughout the MTP development.

In-Person Outreach Events

In addition to the online efforts, FAMPO recognized the importance of engaging with community members in person. Two significant in-person public events, one in each phase of the project, were identified to directly interact with the community. These events took place at sporting events in partnership with Sustainable Sandhills in a tabling format.

The first event took place at a Fayetteville Woodpeckers baseball game on Friday, September 8, 2023 (Figure 9).



Figure 9. Woodpeckers Pop-Up Event

Kittelson and FAMPO staff engaged with attendees to gather input on the public's transportation-related priorities for the Fayetteville area. In this phase of the plan, members of the public were introduced to the MTP and its purpose and asked to provide general feedback on the types of improvements they wanted to see in the Fayetteville region; their preferences for how they wish to get

around in years to come, and locations throughout the region that pose the greatest mobility challenges. This event provided a relaxed and informal setting for residents to share their thoughts and concerns, contributing to a more comprehensive understanding of community needs.

The second in-person event occurred on Friday, February 2, 2024, during a Fayetteville Marksman hockey game (Figure 10). At this event, which took place in the same fashion as the first public event, the project team presented a draft list of the highest scoring transportation improvement projects in the form of a poster board. This event allowed for direct community input on specific projects in each mode before finalizing the project list for inclusion in the MTP.



Figure 10. Marksmen Pop-Up Event

EJ Communities

A critical need in developing a public engagement plan for MPO-wide long-range planning efforts is to engage with Environmental Justice Communities. The United States Environmental Protection Agency (USEPA) defines EJ communities as marginalized

populations that have been exposed to harm from hazardous waste, resource extraction, and other land uses from which they do not receive benefits. A related group are Title VI populations, under which the USEPA has a responsibility to ensure that funds are “not being used to subsidize discrimination based on race, color, or national origin.” Historically, Title VI populations, including minority and low-income groups, have been overexposed to environmental hazards as well as transportation disinvestment or disproportionate impact.

FAMPO developed a series of maps identifying Title VI populations, including a heat map of areas with the highest proportion of low-income, minority, and/or zero-car households. These communities were specifically engaged with through the MTP outreach at two high-profile events that were free admission to all: the Fayetteville Dogwood Festival, held April 28-30, 2023, and the Fayetteville Juneteenth Jubilee, held June 17-18, 2023. FAMPO and City of Fayetteville staff attended these events and used the opportunity to advertise the MTP, point interested residents to the project website, and collect feedback and questions ahead of the first virtual open house event. In addition to specific engagement of EJ communities, socioeconomic data were a critical factor in evaluating and ranking transportation project needs, as described later in this document. The MTP also includes an assessment of how project investments are distributed among areas with Title VI populations.

Agency Engagement

FAMPO and its partners collaborated in the development of the 2050 MTP by holding regular meetings and interactive work sessions. In addition to monthly progress meetings with the consultant team and core steering committee members from NCDOT Transportation Planning Division (TPD), NCDOT

Divisions 6 and 8, Federal Highway Administration (FHWA), and City of Fayetteville, three project steering committee meetings took place at critical phases of the MTP development. These work sessions were aimed at soliciting input from staff from FAMPO member jurisdictions and representatives from the CAC, TCC, and TAC. The first steering committee meeting was held on June 20, 2023 after the plan review and synthesis was prepared and project goals and objectives were identified. The purpose of the first work session was to review the draft project list for consideration, fill in gaps in project needs, identify performance measures, and discuss scenario testing.

The second steering committee meeting was held on February 6, 2024. This meeting took place after the scenario testing and project scoring were completed, with the purpose of reviewing the high-scoring project list and identifying an appropriate threshold to advance toward the financial plan and funding assessment. Both the first and second steering committee meetings were held within six weeks of a virtual open house and had the added benefit of sharing draft public engagement materials for review.

The third steering committee meeting was held on April 29, 2024 to review the MTP draft deliverables and solicit feedback. The goal of this meeting was to prepare the MTP for final review and adoption by the FAMPO Transportation Advisory Committee (TAC) and review by FHWA. This combination of online platforms and in-person events and agency engagement succeeded in fostering meaningful dialogue between the project team and FAMPO community. The insights gathered from these efforts played an important role in shaping the 2050 MTP to best serve the needs of the FAMPO member jurisdictions.

Planning Area Assessment

A key component of an MTP is to establish a baseline for population and employment data for the MPO. This section provides a summary of the anticipated socio-economic projections for the region, as well as an assessment of land use and environmental features. Together with the plan review described in Technical Memorandum 3, this assessment replaces the traditional "Existing Conditions" assessment that is typically provided within the MTP development process.

Transportation Assessment

The FAMPO 2050 Multimodal Congestion Management Process, completed in 2022, included a comprehensive assessment of existing and future transportation needs throughout the region. The CMP focused on 43 strategic transportation corridors, mostly at-grade, NCDOT maintained facilities, and provided a detailed review of functional classification, traffic speed, and daily traffic volume on each facility. The sidewalk, shared-use path, and bicycle network was also mapped for the entire region, and the CMP included a bicycle level of traffic stress (BLTS) analysis for the 43 focus corridors. Multimodal safety data reviewed included the highest-crash intersections over the latest five years, as well as the latest ten years of crash data involving a pedestrian or bicyclist.

As required for Transportation Management Areas (TMAs), or all MPOs with a population of 200,000 or more, the CMP also assessed travel time and travel time reliability data along major roadway corridors within the region. The CMP also generated a list of "hot spot" locations, or intersections along the focus corridors that were identified to operate at level of service "E" or "F" within the next 25 years. Transit-supportive areas

were identified based on a review of demographic and land use data, as well as existing transit routes and ridership.

The CMP concluded with a list of 75 total project needs to address multimodal transportation safety and mobility, spanning the following modes:

- Roadway (traffic congestion and safety),
- Pedestrian,
- Bicycle,
- Transit, and
- At-grade rail crossings.

Specific focus was given to 1) freight-supportive modes and facilities, and 2) prioritizing projects that serve EJ communities. The CMP provided planning-level cost estimates for all high-priority projects and included a corridor profile for each of the 43 focus corridors that described the transportation data, existing and future conditions assessment, and list of multimodal transportation needs. Due to the comprehensive nature of the CMP, the recommendations from the CMP have been incorporated into the 2050 MTP Update, with the opportunity for further refinement of the analysis, scenario testing, and more detailed project evaluation, as described later in this document.

Population

The population within the FAMPO planning area is expected to reach 462,655 by 2050. All four counties within the FAMPO planning area are projected to experience overall increases in population by 2050, with most of the growth likely to be concentrated in municipalities and along major roadways.

The population is largely concentrated in Cumberland County, with much of it located in

or directly surrounding the City of Fayetteville. However, the rate of growth in Cumberland County is only outpacing that of Robeson County (8.9% compared to 5.0%). Growth rates in Harnett and Hoke counties have been outpacing Cumberland County in recent years, a trend that is anticipated to continue through 2050. Cumberland County is growing at about half of the rate of the planning area as a whole (8.9% compared to 17.4%).

Table 2 shows FAMPO's anticipated population projections by county between 2020 and 2050. Hoke County is expected to experience the

highest growth rate of the four counties, which is also higher than the overall planning area (56.3% compared to 17.4%). Harnett County is expected to have the next highest growth rate, over double that of the overall planning area (41.0% compared to 17.4%). Cumberland and Robeson counties are expected to experience the lowest growth rates, which are lower than that of the overall planning area (8.9% and 5.0% respectively compared to 17.4%). A detailed list of population projections over the same time period broken down by Traffic Analysis Zone (TAZ)¹ is provided in Technical Memorandum 3.

Table 2. FAMPO Population Projections

Location	2020	2050	Absolute Growth (2020-2050)	% Growth (2020-2050)
FAMPO planning Area	394,265	462,655	68,390	17.4%
Cumberland County	320,254	348,806	28,552	8.9%
Harnett County	91,898	129,603	37,705	41.0%
Hoke County	51,661	80,771	29,110	56.3%
Robeson County	23,493	24,663	1,170	5.0%

Source: Travel Demand Model

Note: The FAMPO planning area includes portions of Cumberland, Hoke, Robeson, and Harnett counties.

Employment

The employment (number of employees) in the FAMPO planning area is projected to grow by 47.6%, which is higher than the projected population growth of 17.4%. The number of employees is anticipated to reach 184,449 by 2050. Like population, employment is largely concentrated in Cumberland County, with much of it located in the City of Fayetteville.

Anticipated employment growth by county between 2020 and 2050 is displayed in Table 3. Technical Memorandum 3 provides the anticipated percent of employment growth by TAZ for the same time period. As with population, the percent of employment growth is highest in Hoke County, which also significantly exceeds the overall planning area growth (86.7% compared to 47.6%). Cumberland and Harnett counties are expected to experience similar growth to the overall planning area (44.5% and 43.3% respectively compared to

¹ A TAZ is the unit of geography used in the Transportation Demand Model (TDM) to measure population and employment growth.

47.6%). Robeson County is expected to experience the lowest growth rate of the four counties and less than half the growth rate of

the overall planning area (20.8% compared to 47.6%).

Table 3. FAMPO Employment Projections

Location	2020	2050	Absolute Growth (2020-2050)	% Growth (2020-2050)
FAMPO planning Area	124,955	184,449	59,494	47.6%
Cumberland County	113,717	164,279	50,562	44.5%
Harnett County	18,926	27,114	8,188	43.3%
Hoke County	10,127	18,906	8,779	86.7%
Robeson County	6,089	7,357	1,268	20.8%

Source: Travel Demand Model

Note: The FAMPO planning area includes portions of Cumberland, Hoke, Robeson, and Harnett counties

Land Use

The majority of the FAMPO planning area is comprised of single family residential and rural residential land uses. Population density is greatest within municipal limits, specifically within downtown Fayetteville where there is a mix of uses and a concentration of higher density residential. Outside of Fayetteville, residential land uses are concentrated in the City of Raeford and Towns of Spring Lake, Hope Mills, Eastover, and Parkton. Residential growth is highest in the Hoke and Harnett county portions of the planning area. Agricultural land uses are located outside of municipal limits, especially in Hoke and Robeson counties. Many of these areas are urbanizing with a range of uses as water and sewer services are extended to these portions of the planning area.

Parks/Open Space/Conservation Areas in the planning area include a large Natural Heritage Program Natural Area in southwest Harnett County, Carvers Creek State Park in Cumberland County, as well as areas along the Cape Fear River in Fayetteville/Cumberland County, and along various creeks. Commercial uses are

concentrated at major intersections and along major roadways including US 401, I-95, NC 210 (Murchison Rd) and NC 24/NC 87 (Bragg Blvd), with the largest concentration along US 401 (Skibo Road) in Fayetteville. Smaller commercial nodes are located along US 401 and in Rockfish and Davis Bridge in Hoke County and along NC 24/NC 87 and NC 210 adjacent to Fort Liberty in Spring Lake (Harnett County).

Public and private schools are located throughout the planning area, with the largest university—Fayetteville State University—located on Murchison Rd north of downtown Fayetteville. Small office buildings and office parks are located near commercial uses on major roads. Other notable office/institutional uses include the Cape Fear Valley Hospital in Fayetteville and hospitals along US 401 in Hoke County, Crown Coliseum southwest of downtown Fayetteville, and a water treatment plant and landfill along the Cape Fear River in Fayetteville. The CMP and subsequent planning efforts have identified the need to provide additional pedestrian infrastructure (sidewalks

and crosswalks) to support safer transportation for children walking to school.

Housing within FAMPO primarily consists of single-family dwellings, with multifamily units concentrated on the north side of Downtown and along the Ramsey Street, Cliffdale Road, and Raeford Road corridors. Additional multifamily housing is also concentrated on the southern edge of Fort Liberty and along the NC 24 and NC 210 corridors in Spring Lake. As a result of annexation, the street layout within the City of Fayetteville primarily consists of disconnected local streets, which has caused challenges during major flooding and other events that have cut single-access neighborhoods off from the surrounding transportation network. The Hope Mills CMP, FAMPO 2050 CMP, and other recent planning efforts have identified the need for more connectivity and a more resilient transportation network.

Industrial uses are concentrated south of I-95 Business and just south of I-295 and Fort Liberty. There is also a Goodyear Tire Plant on US 401 at the border with Cumberland County. Other notable land uses in the planning area include Fort Liberty (formerly Fort Bragg) in northwest Cumberland County and the Fayetteville Regional Airport in southern Fayetteville.

The CMP, adopted in 2022, provided a detailed review of existing and future land uses in the following three special areas identified by FAMPO:

- Skibo Road corridor adjacent to Cross Creek Mall;
- Murchison Road corridor adjacent to Fayetteville State University; and
- Former Military Business Park bounded by Bragg Boulevard, Santa Fe Drive, All American Freeway, and I-295.

These areas are all expected to experience substantial redevelopment in the next 10 years, with implications on transportation planning.

Environmental Features

The CMP also included a detailed assessment of environmental, natural, and cultural resources, and this assessment was carried forth into the MTP for purposes of evaluating and scoring individual transportation projects. The most notable environmental resource in the FAMPO planning area is the Cape Fear River that runs along the eastern edge of the City of Fayetteville in eastern Cumberland County. Tributaries of the Cape Fear River that traverse the planning area including Beaver Creek, Little Rockfish Creek, Branson Creek, Cross Creek, and Little Cross Creek. There are also numerous ponds and lakes including Glenville Lake, Upchurch Pond, and Bonnie Doone Lake. Wetlands and floodplains are located in proximity to the river, creeks, and waterbodies. Due to the urban nature of the area, the Cape Fear River and its tributaries are listed as impaired waters (classified as 303(d)). Additionally, some areas surrounding Glenville Lake, Cross Creek, and the Cape Fear River are classified as Critical Water Supply Watershed. These areas have a greater pollution risk than other portions of the watershed. The areas adjoining and upstream of these critical areas are designated as Protected Water Supply Watershed, also requiring protection measures.

According to the North Carolina Department of Environmental Quality (NCDEQ), there are numerous hazardous waste sites and underground storage tanks concentrated along major roadways and within municipal limits, especially within the City of Fayetteville. Some hog farms operate in the outer portions of the planning area. Non-auto modal transportation projects (bike, ped, transit) can provide positive environmental benefits like reduced congestion and improved air quality. While FAMPO is in attainment for air quality, the MPO has taken steps to ensure it remains in attainment through implementation of an Ozone Advance Program to address and prevent high ozone levels.

Scenario Planning

Background

Effective long-range planning should involve a range of scenarios. The conventional method for forecasting travel demand into the future is to consider base and future year projections from the regional travel demand model, which is the FAMPO Travel Demand Model. The regional travel demand model includes both “no-build” and “build” scenarios. The No Build scenario reflects forecasted population and employment growth, but with only existing and fully-committed transportation projects. These are projects that are either under construction or funded and programmed for completion within the first 10 years of the STIP (through year 2035). The 2050 MTP assessment also considered a “build” scenario, in which major transportation improvement projects such as new roadways or roadway expansions contained within the most recent FAMPO CTP are also assumed to be completed. This reflects a reasonable “ultimate” build-out assuming funding for these projects becomes available before 2050.

Prepared in 2022, the FAMPO CMP included a planning-level assessment of future year (2050) travel demand and needs assessment along a series of over 40 major roadway corridors. The scenario planning in the 2050 MTP incorporates the results of the CMP and builds upon the analysis by incorporating a range of additional scenarios for consideration beyond the no build and build scenarios.

Scenario Development

In addition to the scenarios described above, FAMPO explored two scenarios related to the level of activity at Fort Liberty Military Installation. In recognition that Fort Liberty drives much of the region’s economic activity, the MTP also evaluated model results in the case

of either a 50 percent decrease or a 50 percent increase in activity at Fort Liberty, modeled by employment within the Fort Liberty footprint. While this did not constitute a detailed, comprehensive assessment of changes of other economic activities within the region, this exercise was useful for exploring the need for major transportation improvements relative to the unique aspects of the region’s economy.

Travel Demand Projections

After all scenarios were modeled, annual growth rates were developed for major roadway corridors around the region consistent with the methodology described in the CMP. These growth rates were shared and reviewed by NCDOT TPD staff and are provided in detail in Technical Memorandum 6. The results of the assessment found that the build scenario reflecting existing plus committed transportation improvement projects from the CTP was adequate to service transportation demand into the future regardless of changes in the activity level at Fort Liberty, up to an increase of 50 percent from today’s employment.

Other Considerations

The MTP should consider other trends in travel demand as project needs are identified, particularly as the vehicle fleet continues to evolve. One consideration is the proliferation of connected and autonomous vehicles (CAVs), which have the ability to increase the efficiency of the transportation network and essentially raise the capacity of existing roadways without physical expansion. While CAVs are not yet a major share of the vehicle fleet, it is expected that the transportation system will become more resilient as these new technologies proliferate.

Financial Plan Development

Overview

The financial plan is a key component of demonstrating that the MTP is financially feasible, meaning programmed projects will not exceed projected funding. FAMPO's 2050 MTP financial plan consists of developing funding projections from various anticipated revenue sources to allocate to transportation improvements over the next ten years (2026-2035), as well as anticipated funding expenditures proposed through 2050 (2036-2050).

Revenue Sources

Transportation funding for FAMPO is primarily from federal and state sources, as follows:

- Strategic Transportation Investments (STI),
- Discretionary,
- Transit,
- Maintenance, and
- Other (Local, Private, etc.).

Strategic Transportation Investments

In North Carolina, the STI law mandates how a significant portion of that funding is allocated to priority projects throughout the state. The STI defines three specific project categories, each of which represents a defined geography within the state – Statewide, Regional (7 total regions), and Division (14 total divisions). FAMPO's planning area includes two regions (C and E) and two divisions (6 and 8). A designated proportion of total funding is also assigned to each category. The division and regional boundaries specific to FAMPO are shown in Figure 11.

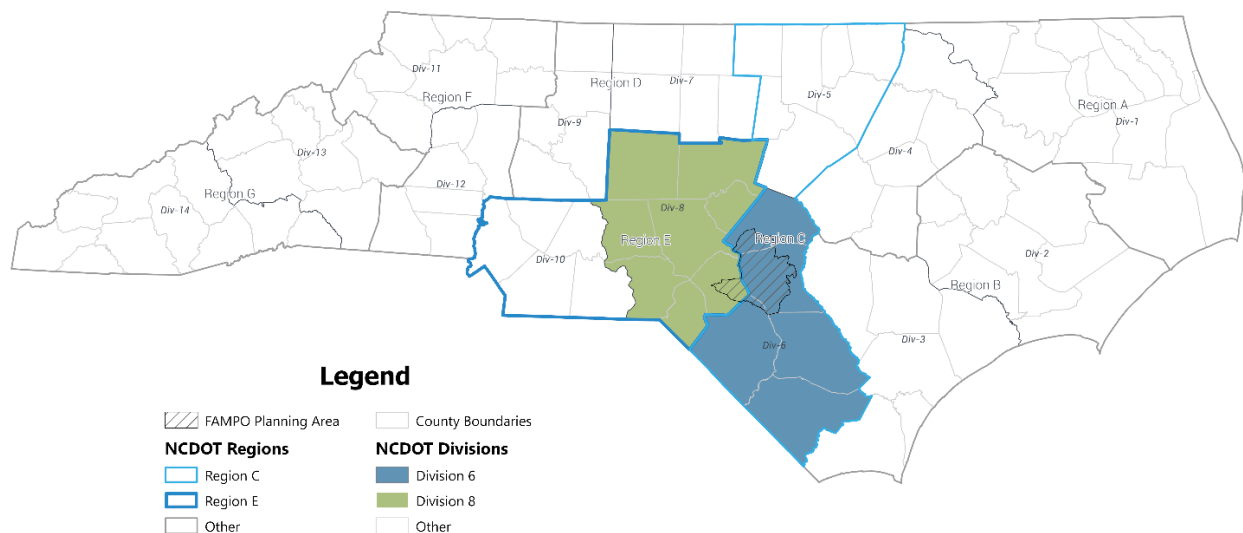


Figure 11. NCDOT Division and Regional Boundaries

As shown in Figure 12, forty percent (40%) of available funds are allocated to projects in the Statewide Mobility category, 30% to projects in the Regional Impact category, and 30% to projects in the Division Needs category.

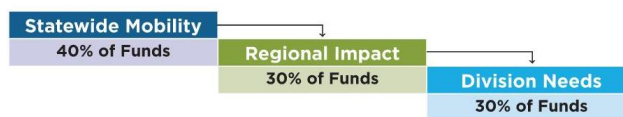


Figure 12. NCDOT STI Funding

STI revenue for the first 10 years of the MTP (2026-2035) was derived from the funding availability provided by NCDOT for each respective STI category (Statewide, Regional,

Division), based on the available budget remaining after projects have been programmed in the State Transportation Improvement Program (STIP). Population within FAMPO's planning area was then used to determine the MPO's share of the total available STI funding amount. For the future years of the MTP (2036-2050), the annual STIP budget (baseline budget from August 2023) was used as a starting point and then projected out to the year 2050, using a 3% escalation factor to be consistent with prior assumptions by NCDOT Divisions 6 and 8.

For the FAMPO 2050 MTP, STI funding is applied to capital roadway projects, as displayed in Table 4.

Table 4. STI Roadway Funding Projections

STI Tier	2026-2035 Funding (\$M)	2036-2050 Funding (\$M)	Total (\$M)
Statewide	\$ 148	\$ 843	\$ 991
Region C	\$ 197	\$ 698	\$ 895
Region E	\$ 1	\$ 88	\$ 89
Division 6	\$ 107	\$ 678	\$ 784
Division 8	\$ 5	\$ 118	\$ 123
Total	\$ 459	\$ 2,424	\$ 2,883

Discretionary Funding

FAMPO also receives federal discretionary funding, a flexible revenue source that is directly distributed to and utilized by the MPO. Discretionary revenue sources for FAMPO include the following:

- Surface Transportation Block Grant-Direct Attributable (STBG-DA)
- Transportation Alternatives Program (TAP)
- Carbon Reduction

Each source of discretionary revenue has specific allocation guidelines and funding can be applied to a variety of projects. FAMPO has recommended policies to shift the transportation network toward more connected, multi-modal, and equitable infrastructure. To support these policy recommendations, the 2050 MTP assumes that all discretionary funding will be applied to bicycle and pedestrian projects. Baseline discretionary funding amounts were provided by NCDOT and projected out to the year 2050 using a 3% escalation factor.

Table 5 lists the discretionary funding projections for FAMPO's 2050 MTP.

Table 5. Discretionary Bicycle and Pedestrian Funding Projections

Discretionary Source	2026-2035 Funding (\$M)	2036-2050 Funding (\$M)	Total (\$M)
Unused STBG-DA	\$ 30	N/A	\$ 30
STBG-DA	\$ 20	\$ 38	\$ 57
TAP-DA	\$ 2	\$ 5	\$ 7
Carbon Reduction	\$ 1	\$ 3	\$ 4
Total	\$ 53	\$ 45	\$ 98

Transit Funding

The Fayetteville Area System of Transit (FAST) is the primary provider of public transportation in the FAMPO planning area. Revenue for FAST is mostly provided from federal sources and is applied to capital projects, operations, and maintenance activities. Transit funding projections for the 2050 MTP are based on the FY2024 budget for FAST from the City of

Fayetteville's Approved Annual Budget. This was then projected out for future years using a nominal 1% escalation rate. FAMPO's 2050 MTP transit funding projections are provided in Table 6. Finally, it was assumed that 10% of transit funding would go toward new service expansion (either expansion to new routes or more frequent service on existing routes), so the values in Table 6 have been divided by a factor of 10.

Table 6. Transit Funding Projections

Funding Type	2026-2035 Funding (\$M)	2036-2050 Funding (\$M)	Total (\$M)
Other Taxes	0.7	1.2	1.8
Intergovernmental Revenues	3.3	5.3	8.6
Functional Revenues	1.2	1.9	3.1
Other Revenues	0.2	0.3	0.4
Other Financing Sources	8.2	13.4	21.6
Total	\$ 13.5	\$ 22.0	\$ 35.5

Maintenance Funding

To determine maintenance funding projections for the 2050 MTP, budgets were obtained from NCDOT Division 6 and Division 8 for fiscal year 2024. For consistency with other funding projections, the 3% annual inflation factor was applied to the base year maintenance funding amount and projected through the year 2050, to

anticipate the total maintenance budget for each respective NCDOT Division. Population was also used to estimate FAMPO's share of maintenance revenues within each respective Division. Table 7 shows the maintenance funding projections for the 2050 MTP.

Table 7. Maintenance Funding Projections

Funding Type	2026-2035 Funding (\$M)	2036-2050 Funding (\$M)	Total (\$M)
FAMPO Share - Division 6	\$ 86	\$ 187	\$ 273
FAMPO Share - Division 8	\$ 52	\$ 112	\$ 164
Total	\$ 138	\$ 299	\$ 437

Other Revenue Sources

LOCAL REVENUE

Local member jurisdictions of FAMPO contribute funding toward transportation projects via local match (for example, a 20% local match is required when federal discretionary funds are awarded) and voter-approved bond referendums. While local funds may contribute to projects in the MTP, specific amounts are not identified because they fluctuate often and are unpredictable in the long term.

PRIVATE REVENUE

Public-private partnerships (PPPs) are agreements between a public agency and

private company in which each party contributes funding to complete an infrastructure project. This is another revenue source that is difficult to predict; therefore, projections for anticipated private funding are not included in the 2050 MTP. In addition to public private partnerships, transportation projects can be funded through private development contributions, either as off-site mitigation or system development taxes. Both NCDOT and the City of Fayetteville can require transportation improvements to offset traffic impacts as a result of private development through the development review process.

Project Identification and Prioritization

Plan Review

A comprehensive review of existing plans and documents was conducted as a part of the 2050 MTP update. The primary purpose of the review was to document existing needs and deficiencies and to develop a list of candidate projects for prioritization. Given the comprehensive extent of recent plan preparation, particularly the CMP, adopted in 2022, this plan review, together with the planning area assessment described earlier in this document, form the “Existing Conditions” assessment that is typically included in the MTP development process.

The following plans and documents were reviewed:

- FAMPO 2045 MTP
- FAMPO 2050 Multi-modal Congestion Management Process (CMP)
- FAMPO/Cumberland County Comprehensive Transportation Plan (CTP)
- Fayetteville-Raleigh Passenger Rail Feasibility Study
- ITS Strategic Deployment Plan Update
- Sandhills Bicycle and Pedestrian Plan
- Fayetteville Comprehensive Pedestrian Plan
- Fayetteville Bicycle Plan
- Center City Parks & Trails Master Plan
- NCDOT STIP
- NCDOT Strategic Transportation Prioritization (SPOT 6.0)
- Roadway projects include new roadways, widenings, grade separations, intersection improvements, ITS projects, modernization projects, and access management projects. If a highway project was unprogrammed/unfunded and sidewalk or bicycle improvements were also identified along the road, the pedestrian and bicycle treatments were included with the highway project.
- Bicycle projects include stand-alone bicycle projects and retrofitting existing roads with bicycle accommodations such as bicycle lanes, separated bicycle lanes, and bicycle crossings.
- Pedestrian projects include stand-alone sidewalk projects and retrofitting existing roads with new sidewalks, filling sidewalk gaps, pedestrian refuges, pedestrian crossing upgrades, ADA compliant ramps, and/or pedestrian signal heads.
- Shared use path projects include multi-use path and trail projects.
- Transit projects include operation of new transit routes and provision of amenities.

All of the candidate projects were compiled into a draft project list spreadsheet, sorted by mode, and reviewed with the MTP Steering Committee. Modes included roadway, bicycle, pedestrian, shared use path, and transit, as follows:

The MTP Steering Committee provided input on project status, limits, and descriptions. Projects were consolidated or amended as appropriate. The projects were then divided into two lists: a fiscally-constrained (financially feasible) project list and an unprogrammed/ unfunded projects list.

All fiscally-constrained projects are included in the MTP, either in the first 10 years (2026-2035) or the horizon year of the MTP (2050). Projects that are not currently committed within the STIP were carried forward to prioritization (see the Fiscally-Constrained Project List for details).

FAMPO 2050 MTP Ranking Methodology

FAMPO developed a ranking methodology to score all candidate projects using a variety of criteria that aligned with the 2050 MTP goals. A series of evaluation criteria were identified for each of the MTP goals and objectives. Separate evaluation criteria and weights were applied for each mode of transportation. The individual evaluation criteria and scoring methodology are discussed in Technical Memorandum 5, and the complete project evaluation table is included in Technical Memorandum 7.

Project Identification

The MTP fiscally-constrained project list contains projects of various modes that already have committed funding in the STIP, along with candidate projects that are considered for inclusion through an evaluation process. According to NCDOT guidance for preparation of Comprehensive Transportation Plans (CTPs), committed projects include the existing transportation network as well as any projects programmed within the first five years of the current STIP, including funding for construction, utilities, or right-of-way. These projects have been assessed as part of previous planning and prioritization efforts, such as NCDOT's Strategic Transportation Prioritization (SPOT) Process and FAMPO's discretionary project approval process. Other projects that fall into this category include transit improvements that are funded with grants and direct allocations to transit agencies, who then determine project priorities. Committed maintenance projects are identified through coordination between the respective NCDOT division office and FAMPO to confirm priorities.

The 2050 MTP candidate projects come from a variety of previous planning initiatives. They were then reviewed by the Steering Committee and the public and assessed using a ranking methodology developed for the FAMPO 2050 MTP. A total of 560 candidate projects were considered for inclusion in this MTP. These are designated the "Draft Project List" and are included in Technical Memorandum 3.

Project Evaluation

A performance measures matrix was developed to evaluate each of the candidate projects based on a series of evaluation criteria. These performance measures were tied to the MTP goals and objectives and were consistent across all modes. Conversely, the evaluation criteria were specific to each mode, although some criteria applied to more than one mode. The list of performance measures and evaluation criteria is provided in Table 8. Technical Memorandum 5 provides a more detailed discussion of the development of the MTP performance measures and evaluation criteria. Projects that scored highest using FAMPO's ranking methodology were considered first when programming the MTP project list. The high scoring projects were categorized as Roadway, Bicycle, Pedestrian, Shared Use Path, and Transit. Typically, projects with a score higher than 50 were considered high scoring. A detailed project evaluation matrix including project scores is provided in Technical Memorandum 7.

Table 8. Project Evaluation Criteria

Goal	Evaluation Criteria
Ensure a safe, secure, and resilient transportation system	Fatal/injury crashes in the past 10 years Number of high-crash (>50 in the last 5 years) locations Sidewalk/bicycle facility coverage Bicycle LTS 100-year floodplain
Manage congestion and system reliability	Level of Travel Time Reliability (LOTTR) Number of hot spots (LOS E or F) in 2050 Whether location is on the state EV-corridor list
Improve connectivity and accessibility for all modes	Number of community resources/activity centers within 1/4 mile Number of essential services within 1/4 mile Whether the project overlaps with an existing/planned ped/bike/transit facility Whether the project creates a roadway/path on new alignment
Preserve the existing transportation system	Whether the project is a maintenance project (e.g. resurfacing) Whether the project requires new ROW NCDOT pavement/bridge condition along project
Enhance economic development opportunities and competitiveness	Whether the project is on the NCDOT freight network Number of major employers/employment within 1/4 mile Whether the project is eligible for DA funding
Prioritize equitable transportation options	Number of non-automobile modes serviced by the project NCDOT TDI/prevalence of Title VI populations within 1/2 mile
Strengthen relationships with transportation partners	Number of plans the project appears in Number of agencies serviced by the project Number of public comments supporting the project
Protect the natural environment and promote public health	Number of natural/cultural resources within 1/4 mile Whether the project complies with TDM strategies

Cost Estimates

A planning-level cost estimate was calculated for all high scoring projects for the base year 2024. These costs were developed utilizing several layers of assumptions and will ultimately be refined as projects are moved forward into statewide prioritization. Costs considered the

general value of construction, right-of-way (where applicable) and labor, as well as a limited projection for inflation. Project cost estimates are necessary to demonstrate financial feasibility, to ensure the total cost of the projects programmed in the MTP does not exceed the

anticipated funding projections in the Financial Plan. The base year cost estimate was used to program MTP projects for the years 2026-2035—while construction costs may continue to inflate over the ten-year period, the cost estimates for these projects include a contingency factor for unknown increases in cost. For the years 2036-2050, an annual escalation factor of 3% was applied to the mid-point of the time horizon for all projects (e.g., 2043, a total of 19 years from the baseline 2024 cost estimate year). This inflation rate was confirmed with NCDOT Division 6 and 8 staff. Detailed cost estimates and assumptions are provided in Technical Memorandum 8.

Fiscally-Constrained Project List

The fiscally-constrained project list is a significant component of the MTP. FAMPO identified numerous candidate projects from various plans and initiatives to be considered for inclusion in its 2050 MTP. Those projects were then evaluated and given a score and cost estimates were prepared for those that scored highest. Based on the score and cost, as well as available funding outlined in the Financial Plan, the projects were programmed in the MTP.

Demonstrating that the MTP is financially feasible is the culmination of the Financial Plan, project prioritization, and cost estimating efforts. For the first 10 years of the MTP (2026-2035), projects were programmed using the baseline cost estimate until there was not sufficient funding to program any more projects. The remaining funding balance was carried over to the outer years of the MTP (2036-2050) and additional projects were programmed using the escalated cost estimates until there was no longer sufficient funding to program projects.

A total of \$2.88 billion dollars was available for programming roadway projects, \$98.4 million for bicycle/pedestrian/shared use path projects, and \$35.5 million for transit service expansion. A detailed discussion of the assumptions and methods that were utilized in preparing the fiscally-constrained project list is included in Technical Memorandum 8.

2050 MTP Projects

FAMPO's 2050 MTP consists of 34 committed roadway, pedestrian, bicycle, and shared-use path projects and 51 additional financially feasible roadway, pedestrian, bicycle, shared-use path, and transit expansion projects identified from the high-scoring list of candidate projects. Projects are programmed by mode and discussed in more detail in the following sections.

ROADWAY PROJECTS

Committed roadway projects are also programmed in the first 10 years of the MTP and included in Table 9. For uncommitted projects, roadway projects were organized by STI category and then programmed based on score. If a high scoring project had a cost that exceeded the remaining funds available, the next highest scoring project on the list that met the funding availability was programmed instead. All high scoring projects are programmed in the MTP, meaning if the project was not able to be programmed in the first 10 years, it was programmed in the outer years. A total of 30 roadway projects are programmed in FAMPO's 2050 MTP using this methodology, as shown in Table 10 (2026-2035) and Table 11 (2036-2050). Technical Memorandum 8 includes a detailed description of each project.

Table 9. Committed Roadway Projects

TIP No.	Project Name	County	City/Town	STI Category	Total Project Cost
I-5986	I-95	Cumberland	N/A	Reg C	\$ 518,265,000
I-5987	I-95	Cumberland	N/A	SW	\$ 712,173,000
R-2303	NC 24	Cumberland	N/A	Div 6	\$ 464,173,000
X-0002	I-295	Cumberland	N/A	SW	\$ 320,483,000
U-4403	US 401 (Ramsey St)	Cumberland	Fayetteville	Reg C/Div 6	\$ 103,451,000
U-6229	NC 24 (Bragg Blvd)	Cumberland	Fayetteville	Reg C	\$ 7,400,000
U-3422	SR 1003 (Camden Rd)	Cumberland	Fayetteville	Div 6	\$ 52,005,000
U-4709	U-3422	Cumberland	Hope Mills	Div 6	\$ 26,231,000
U-2810	SR 1003 (Camden Rd)	Cumberland	Hope Mills	Reg C/Div 6	\$ 53,156,000
U-5798	SR 1102 (Gillis Hill Rd)	Cumberland	N/A	Div 6	\$ 46,271,000
U-2519	I-295	Cumberland	N/A	Reg C/SW	\$ 855,029,000
U-4900	NC 210 (Murchison Rd)	Cumberland	Fayetteville	Ex	\$ 32,983,000
U-3465	SR 1121 (Ray Rd)	Harnett	N/A	Div 6	\$ 40,292,000
U-5798	SR 1102 (Gillis Hill Rd)	Hoke	N/A	Div 8	\$ 46,271,000
U-5753	SR 1305 (Wayside Rd)/SR 1418 (Lindsay Rd)	Hoke	N/A	Div 8	\$ 96,170,000
R-5709	NC 211	Hoke	Raeford	Reg E	\$ 216,088,000
U-4405	US 401 (Raeford Rd)	Cumberland	Fayetteville	Div 6	\$ 169,648,000
HE-0012	Fayetteville (New Road)	Cumberland	Fayetteville	Div 6	\$ 1,170,000
U-5742	Fayetteville (Traffic Signal System)	Cumberland	Fayetteville	Reg C	\$ 9,769,000
W-5519	I-95 BUS/US 301	Cumberland	Fayetteville	Reg C	\$ 10,123,000
U-4404	Cliffdale Rd	Cumberland	Fayetteville	Div 6	\$ 15,812,000
U-5857	SR 1406 (Rockfish Rd)	Hoke	N/A	Div 8	\$ 69,701,000
U-5101A	SR 1437 (Shaw Rd)	Cumberland	Fayetteville	Div 6	\$ 67,858,000
HS-2006C	NC 53 (Cedar Creek Rd)	Cumberland	Fayetteville	Reg C	\$ 1,910,000
I-5987B	I-95 South of Future I-295	Robeson	N/A	Reg C	\$ 363,716,000
U-6073	Fisher Rd	Cumberland	Fayetteville	Div 6	\$ 45,100,000

Table 10. Fiscally-Constrained Roadway Projects (2026-2035)

MTP Project ID	TIP No.	Project Name	County	City/Town	STI Category	Total Project Cost (2024 \$)	Total Score
R-1		US 401 Bypass (Pamalee Dr)	Cumberland	Fayetteville	Reg C	\$ 50,615,200.00	74
R-2	U-6133	Skibo Rd	Cumberland	Fayetteville	Reg C	\$ 19,500,000.00	72
R-3	U-6209	Cliffdale Rd	Cumberland	Fayetteville	Div 6	\$ 86,000,000.00	70
R-4	U-6133	Skibo Rd	Cumberland	Fayetteville	Reg C	\$ 30,500,000.00	70
R-5		NC 210 (Murchison Rd)	Cumberland	Fayetteville	Reg C	\$ 7,500,000.00	66
R-7	U-4403B	Ramsey St	Cumberland	Fayetteville	Reg C	\$ 55,145,000.00	66
R-8		US 401 Bypass (Country Club Dr)	Cumberland	Fayetteville	Reg C	\$ 26,700,000.00	64
R-16		Morganton Rd	Cumberland	Fayetteville	Div 6	\$ 33,316,615.01	58
R-19	HL-0036	Main Street	Cumberland	Hope Mills	Div 6	\$ 449,000.00	56

Table 11. Fiscally-Constrained Roadway Projects (2036-2050)

MTP Project ID	TIP No.	Project Name	County	City/Town	STI Category	Total Project Cost (Future \$)	Total Score
R-6	U-4405B,C	Raeford Rd	Cumberland	Fayetteville	Div 6	\$ 61,372,711.86	66
R-9	U-5015	NC 210 (Murchison Rd)	Cumberland	Fayetteville	Reg C	\$ 44,539,053.75	62
R-10	U-4405	Raeford Rd	Cumberland	Fayetteville	Div 6	\$ 175,178,761.71	62
R-12	R-2529	NC 24/NC 27	Harnett		Reg C	\$ 48,572,117.67	60
R-14	U-4403C	Ramsey St	Cumberland	Fayetteville	Div 6	\$ 154,357,630.84	60
R-17	U-4405A,B,C	Raeford Rd	Cumberland	Fayetteville	Div 6	\$ 40,330,639.22	58
R-20		NC 210 (Lillington Hwy)	Cumberland	Spring Lake	Reg C	\$ 24,373,734.14	56
R-22		NC 24/NC 87	Harnett	N/A	Reg C	\$ 75,751,461.49	56
R-24		Russell St	Cumberland	Fayetteville	Div 6	\$ 11,748,490.56	56
R-25		Yadkin Rd	Cumberland	Fayetteville	Div 6	\$ 31,861,204.98	56
R-27		NC 24/NC 87	Harnett		Reg C	\$ 58,216,400.96	54
R-30		Cumberland Rd	Cumberland	Fayetteville	Div 6	\$ 33,316,615.01	52
R-31		NC 24/NC 87	Cumberland	Spring Lake	Div 6	\$ 110,470,881.34	52
R-33		NC 210	Cumberland	Fayetteville	Reg C	\$ 23,660,057.17	50
R-34		NC 401 (Robeson St)	Cumberland	Fayetteville	Reg C	\$ 100,125,195.63	50
R-35	U-4414	All-American Fwy	Cumberland	Fayetteville	Reg C	\$ 121,987,909.10	48
R-41		I-95	Cumberland		SW	\$ 611,447,560.71	42
R-36		US 401	Hoke		Reg E	\$ 88,376,705.08	42
R-37		US 401 Bus (Fayetteville Rd)	Hoke	Raeford	Div 8	\$ 20,840,000.00	40
R-38		NC 20	Hoke		Div 8	\$ 65,756,476.99	36
R-42		I-95	Cumberland		SW	\$ 372,970,737.49	29

BICYCLE, PEDESTRIAN, AND SHARED-USE PATH PROJECTS

Bicycle, pedestrian, and shared use path projects were all scored separately using similar criteria but were programmed in the MTP using the same anticipated revenue sources. They were programmed based on project score and mode, to include a variety of these types of projects in the MTP, until all available funds were utilized.

A total of 9 committed bicycle, pedestrian, and shared-use path projects are shown in Table 12. New fiscally-constrained bicycle, pedestrian, and shared-use path projects are shown in Table 13 (2026-2035) and Table 14 (2036-2050). These include five bicycle, five pedestrian, and five shared use path projects, in addition to the committed projects programmed in the first 10 years.

Table 12. Committed Bicycle, Pedestrian, and Shared-Use Path Projects

TIP No.	Project Name	County	City/Town	Total Project Cost
EB-5800*	SR 2251	Cumberland	N/A	\$ 988,000
EB-5541	Big Cross Creek Greenway	Cumberland	N/A	\$ 720,000
EB-4539	Off-Road Multi-Use Trail	Cumberland	N/A	\$ 3,350,000
EB-5907	Greenway	Cumberland	Fayetteville	\$ 936,000
EB-5540	Little Cross Creek Greenway Extn	Cumberland	Fayetteville	\$ 825,000
EB-6030	US 401 Bypass (Skibo Rd)	Cumberland	Fayetteville	\$ 600,000
EB-6031	US 401 (Ramsey St)	Cumberland	Fayetteville	\$ 85,000
EB-6032	NC 59 (Hope Mills Rd)	Cumberland	Fayetteville	\$ 398,000
HL-0036	NC 59 (North Main St)	Cumberland	Hope Mills	\$ 499,000

*This project has been completed at the time of publication of this document and is included here for informational purposes only.

Table 13. Fiscally-Constrained Pedestrian, Bicycle, and Shared-Use Path Projects (2026-2035)

MTP Project ID	TIP No.	Project Name	County	City/Town	Total Project Cost (2024 \$)	Total Score
B-1	U-6229	Raeford Rd	Cumberland	Fayetteville	\$ 8,500,000	70
P-1		N Fayetteville St	Robeson	Parkton	\$ 10,510,000	70
M-1		Sunnyside School Rd	Cumberland	Fayetteville	\$ 4,470,000	64
P-2		Owen Dr	Cumberland	Fayetteville	\$ 3,740,000	68
P-3		Bragg Blvd	Cumberland	Fayetteville	\$ 7,500,000	68
B-2		Fort Bragg Rd	Cumberland	Fayetteville	\$ 1,100,000	66
B-3		Cumberland Rd	Cumberland	Hope Mills	\$ 6,000,000	66
M-2		Bragg Blvd	Cumberland	Fayetteville	\$ 10,110,000	60
B-4		Fort Bragg Rd	Cumberland	Fayetteville	\$ 1,000,000	66
B-7		Hay St	Cumberland	Fayetteville	\$ 140,000	64

Table 14. Fiscally-Constrained Pedestrian, Bicycle, and Shared-Use Path Projects (2036-2050)

MTP Project ID	TIP No.	Project Name	County	City/Town	Total Project Cost (Future \$)	Total Score
B-5		Langdon St	Cumberland	Fayetteville	\$ 2,595,189	66
M-3		US 401 (Skibo Rd)	Cumberland	Fayetteville	\$ 9,661,818	56
P-7		Morganton Rd	Cumberland	Fayetteville	\$ 13,151,295	56
P-8		Yadkin Rd/ N McPherson Church Rd	Cumberland	Fayetteville	\$ 7,014,024	56
M-4		Morganton Rd	Cumberland	Fayetteville	\$ 3,173,846	54
M-5		E Manchester Rd	Cumberland	N/A	\$ 2,226,953	52
M-6		Cliffdale Rd	Cumberland	Fayetteville	\$ 6,856,209	50

TRANSIT PROJECTS

FAST provides public transportation services within the FAMPO planning area. FAMPO works closely with FAST to identify future opportunities to expand transit services, infrastructure, and operations. Transit projects were evaluated for inclusion in the MTP development process. The public transportation providers typically identify funding and approve projects through their respective governing boards. Transit expansion and capital projects such as new routes and

more frequent service on existing routes were considered for inclusion in the MTP. Tables 15 and 16 list the fiscally-constrained transit projects for the MTP.

Note that transit operations and maintenance funding is an annualized cost that was not considered when assigning available funding sources, as the budget calculations described in the MTP Financial Plan assume that 10% of revenue will be applied to capital projects and new service expansion.

Table 15. Fiscally-Constrained Transit Projects (2026-2035)

MTP Project ID	TIP No.	Project Name	County	City/Town	Total Project Cost (2024 \$)	Total Score
T-1		Ramsey St	Cumberland	Fayetteville	\$ 5,000,000	52
T-2		Murchison Rd	Cumberland	Fayetteville	\$ 7,000,000	52

Table 16. Fiscally-Constrained Transit Projects (2036-2050)

MTP Project ID	TIP No.	Project Name	County	City/Town	Total Project Cost (Future \$)	Total Score
T-6		Skibo Rd	Cumberland	Fayetteville	\$ 7,014,024	46
T-7		Glensford Dr	Cumberland	Fayetteville	\$ 4,383,765	42

OTHER

In addition to the projects identified, FAMPO coordinates and allocates funding to other transportation modes as well. These projects are typically identified by outside agencies, member jurisdictions, or through planning studies and include aviation, rail, and freight-related improvements but are not funded by FHWA. One committed aviation project is programmed in the MTP: project AV-5734 for

the Fayetteville Regional Airport. A total of \$3,440,000 has been committed to airport improvements in the STIP and will be funded by NCDOT and the Federal Aviation Administration (FAA).

SUMMARY

Figure 13 displays a map of all fiscally-constrained (non-committed) projects described in the 2050 MTP.

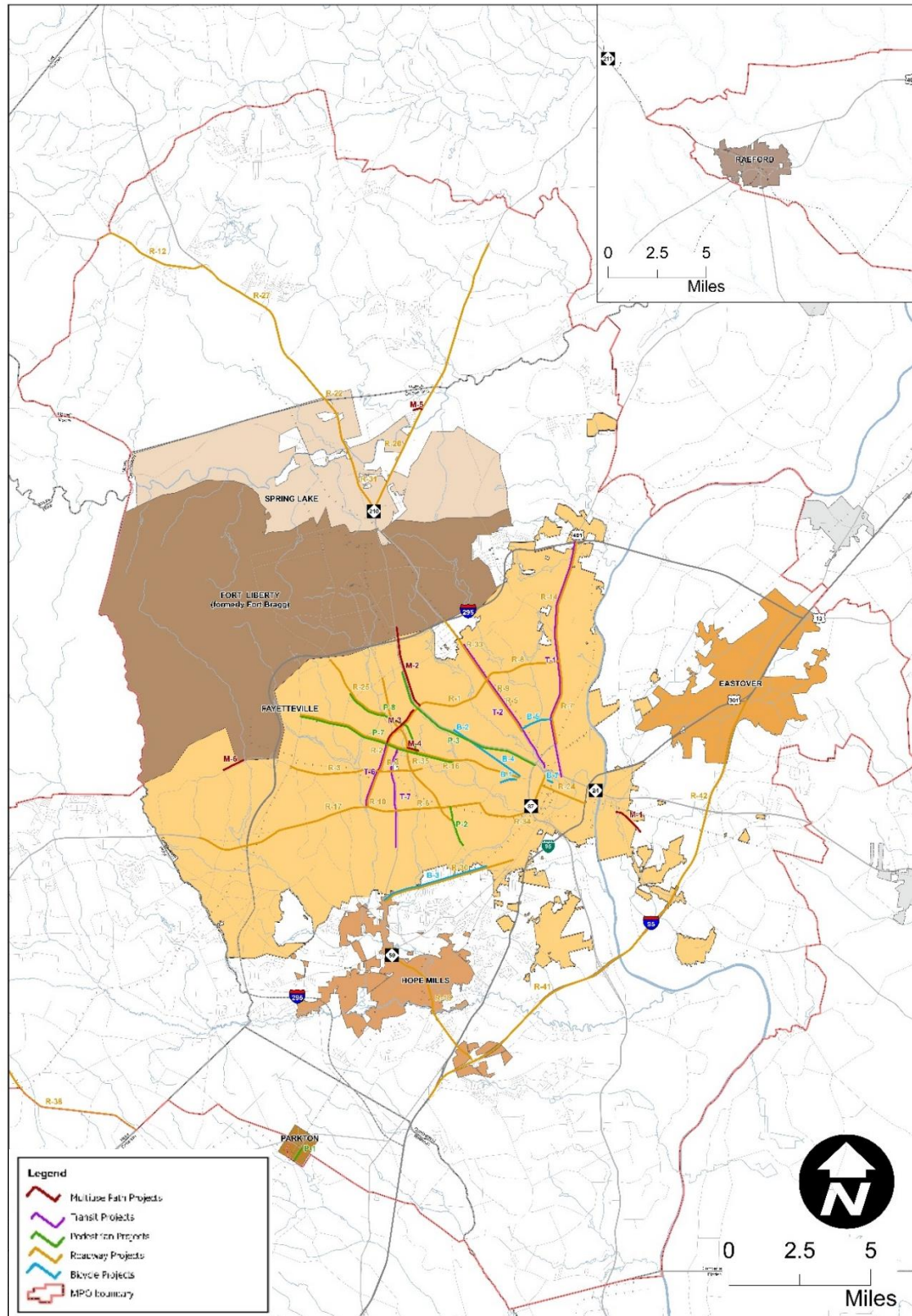


Figure 13. Map of Fiscally-Constrained Projects*

*Does not include existing+committed projects

EJ Analysis of Projects

While the fiscally-constrained project list in this MTP was developed with a range of EJ-related performance measures included in the project evaluation, it is critical to assess the MTP funding sources and overall financial plan with respect to investment in historically underserved areas of the region. The following summarizes the analysis of where individual projects within this MTP are being allocated and which of the EJ communities identified in the public engagement plan are being serviced by transportation investments. Figure 14 displays a map of the committed and fiscally-constrained roadway, bicycle, pedestrian, and shared-use path projects overlaying EJ communities within the whole of the FAMPO planning area, including Fort Liberty. This analysis used the NCDOT EJ index, which is based on the relative concentration of racial minorities, ethnic minorities, and low-income populations². U.S. Census block groups are given a score from 1 through 12 relative to the statewide average. For purposes of this assessment, a score of 8 or greater was considered an EJ community because it reflected a concentration of disadvantage populations well in excess of the statewide average. The projects listed in the following discussion all service areas with an EJ score of 8 or greater, which are also highlighted on the map in Figure 14.

BENEFITS AND BURDENS ANALYSIS

The projects identified in the map in Figure 14 generally provide a benefit to the EJ areas. These projects include the following:

- **Roadway.** Projects that address safety, add pedestrian/bicyclist facilities, and/or encourage economic investment can be

considered a benefit to EJ communities. Most of the fiscally-constrained projects as well as a few existing STIP projects (W-5519, U-4405, and HS-2006C) fit this description.

- **Pedestrian, Bicycle, and Shared-Use Path Projects.** These projects are inherently beneficial to EJ communities because they provide transportation connectivity for residents that do not own an automobile.
- **Transit Projects.** Transit improvements, whether extension of service to new areas or more frequent service or amenities also service populations with limited car ownership and were all considered EJ projects.

While most of the projects in the MTP are considered beneficial to the community, some may represent a burden due to right-of-way needs or other impacts. Several of the committed STIP projects in EJ communities are traditional roadway widening projects that may disproportionately affect these communities. Additionally, there are several projects that are located in the same geographic area that is reflective of an EJ community, including the areas immediately north and east of Downtown Fayetteville, as well as the Murchison Road corridor. While new projects in the MTP reflect complete streets investment and prioritize non-motorized travel, these communities may still be considered overburdened compared to the remainder of the FAMPO planning area due to the right-of-way needs associated with these projects.

²<https://storymaps.arcgis.com/stories/7e3bbd00fe014a77b5f1620334209712>

SUMMARY

Table 17 provides a summary of the committed and fiscally-constrained MTP project funding for EJ and non-EJ communities within the MPO. As shown, approximately 23 percent of the committed roadway, bicycle, pedestrian, and shared-use path projects are located in EJ communities. 64 percent of fiscally-constrained projects in the first 10 years of the MTP are located in EJ communities, and 34 percent of

fiscally-constrained projects in the last 15 years of the MTP are located in EJ communities. The high percentages associated with the fiscally-constrained project list (both in the first 10 years and the last 15 years of the MTP) are generally representative of investment in EJ communities, as several of the performance measures used to rank and prioritize these projects were related to servicing equitable communities. A detailed tabular summary of these projects is provided in Technical Memorandum 8.

Table 17. EJ Analysis of MTP Projects

Project Year	Combined EJ Project Cost	Combined Non-EJ Project Cost	Total Project Cost	% EJ Projects
Committed	\$ 981,306,000	\$ 3,372,343,000	\$ 4,353,649,000	23%
2026-2035	\$ 211,141,815	\$ 118,985,000	\$ 330,126,815	64%
2036-2050	\$ 800,253,663	\$ 1,531,077,806	\$ 2,331,331,469	34%

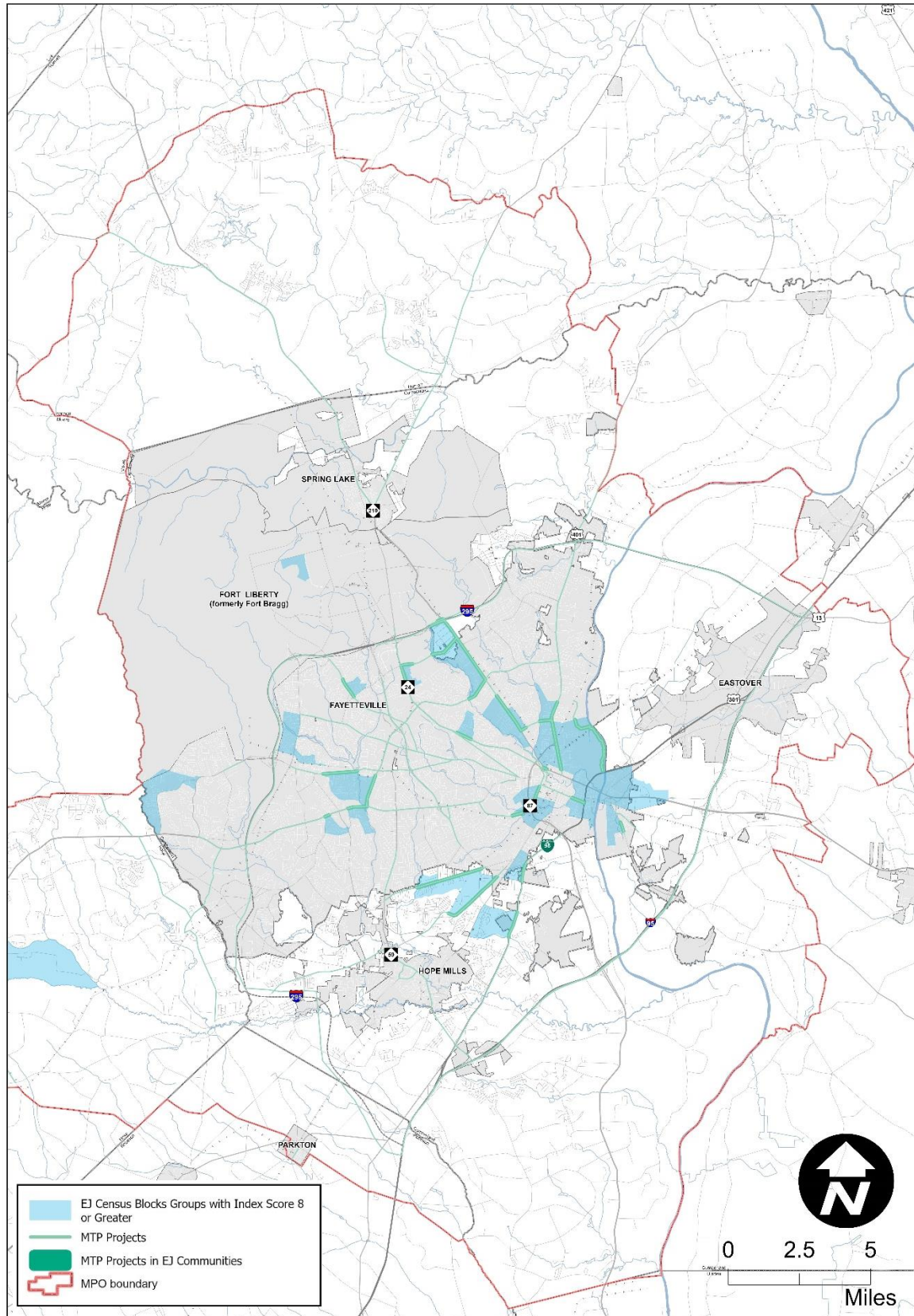


Figure 14. EJ Analysis of MTP Projects Map

Performance Management

Overview

The 2050 MTP included a detailed assessment of federal and non-federal performance measures for the transportation system. Performance-based planning is critical to the development of any MTP and is intended to inform public officials with decision-making regarding transportation investments. The MTP will serve as the primary reference for FAMPO regarding the requirements and outcomes for performance-based planning. The five performance measure categories are as follows (Figure 15):

- Safety;
- Pavement and Bridge Condition;
- System Performance, Freight, Congestion Mitigation, and Air Quality Improvement Program;
- Transit Asset Management; and
- Transit Safety.



Figure 15. System Performance Measures

These are discussed in the following sections, and a detailed description and assessment of these federal and non-federal performance targets is provided in Technical Memorandum 4.

In December 2023, FHWA published a new final rule that establishes a method for the measurement and reporting of greenhouse gas (GHG) emissions associated with transportation. This rule was later vacated in March 2024.

Safety Performance

Current statewide safety targets address calendar year 2024 and are based on a five-year rolling average of historical data and anticipated trends. North Carolina established statewide safety performance targets for 2024 in August 2023, and FAMPO adopted/approved the 2024 North Carolina statewide safety performance targets on March 24, 2024.

The projects in the MTP will increase the safety of the transportation system for motorized and non-motorized users as required by the Planning Rule. The plan includes the following safety goal and associated objectives – Ensure a safe, secure, and resilient transportation system. Safety was also a major criterion in the project ranking. Projects that meet the safety goal and scored the highest in the safety project evaluation criteria are roadway projects that remove center left turn lanes, incorporate reduced conflict intersections (RCIs), and include bicycle and pedestrian treatments. Key projects are R1, R2, R3, and R4. The fiscally-constrained project list also includes several bike lane, sidewalk, and pedestrian improvements at signalized intersections projects that also help the MPO make progress toward its safety targets.

Pavement and Bridge Condition

The MTP addresses infrastructure preservation, identifies pavement and bridge infrastructure needs within the metropolitan planning area, and allocates funding for targeted infrastructure improvements. The plan includes the following goal and associated objectives – Preserve the existing transportation system. FAMPO has also completed studies and improvements to regionally significant roadway corridors including Bragg Boulevard and Murchison Road.

The NCDOT STIP contains 10 committed bridge replacement projects in the FAMPO planning area. Additionally, NCDOT has a designated Highway Maintenance Improvement Program (HMIP). The 2024 HMIP plan includes 29 projects in Cumberland County (\$6.625M), 33 projects in Harnett County (\$5.097M), 43 projects in Robeson County (\$8.627M), and 39 projects in Hoke County \$3.026M).

System Performance, Freight, Congestion Mitigation & Air Quality Improvement Program

The MTP addresses reliability, freight movement, and congestion and identifies needs for each of these issues within the metropolitan planning area and allocates funding for targeted improvements. The plan includes the following related goals and associated objectives – Manage congestion and system reliability and Enhance economic development opportunities and competitiveness. FAMPO updated its CMP in 2022 and has completed several corridor studies to address travel time reliability and congestion. FAMPO also coordinates with Fort Liberty to identify and program freight protection measures and manage congestion around the base. Projects that meet the above goals and scored the highest in the congestion, system reliability, and economic development evaluation criteria are roadway projects that incorporate reduced conflict intersections (RCIs), intersection improvements, and access management. Key projects are R4, R6, and R23.

Transit Asset Management Performance

The Federal Transit Administration (FTA) published the final Transit Asset management (TAM) rule in 2016, which applies to all recipients and subrecipients of Federal transit funding that own, operate, or manage public transportation capital assets. The rule defines the term “state of

good repair,” requires that public transportation providers develop and implement TAM plans and establishes state of good repair standards and performance measures for four asset categories: transit equipment, rolling stock, transit infrastructure, and facilities. On January 24, 2024, the FAMPO agreed to support the FY24 FAST transit asset management targets, thus agreeing to program projects that, once implemented, will make progress toward achieving the transit provider(s) targets.

Transit Safety Performance

The public transportation providers subject to FTA’s Public Transportation Agency Safety Plan (PTASP) requirements operating in the MPO region include the following:

- Fayetteville Area System of Transit (FAST)
- Community Transportation Program (Cumberland County)*
- Hoke Area Transit Service (Hoke County)
- Harnett Area Rural Transit Systems (HARTS)(Harnett County)

*This is the first year Cumberland County is subject to PTASP requirements and their plan (and associated targets) are currently under development.

The MTP System Performance Report discusses the condition and performance of the transportation system for each applicable target as well as the progress achieved by the MPO in meeting targets in comparison with performance recorded in previous reports. The FTA transit safety performance measures are relatively new, with transit providers adopting an initial PTASP that includes transit safety performance and targets in July 2020. In future MTP updates, additional transit safety performance data will be available to allow a fuller discussion of trends and progress toward achieving targets. This information will be included in the next System Performance Report.

Recommendations, Strategies, and Activities

Recommended Projects

The recommended projects in this document are divided into five categories:

- Roadway,
- Pedestrian,
- Bicycle,
- Mult-use Path, and
- Transit.

As described in earlier sections, these projects have a dedicated funding source identified and can be prioritized through the 2050 MTP planning year. The projects have been discussed with and are supported by the public and MPO boards and committee members, and they address the MTP goals, objectives, and performance measures as noted by their high score within the project prioritization activities. A detailed tabular list of these projects, the project extents, estimated cost and funding sources, and project evaluation is provided in Technical Memorandum 8.

Systemwide Strategies and Activities

The following programmatic and policy-level recommendations were identified in FAMPO's comprehensive CMP, adopted in 2022, and remain applicable within the timeline and context of the MTP:

- Prioritize pedestrian improvements around schools;
- Establish a bicycle and pedestrian advisory committee;
- Implement local bicycle and pedestrian plans;

- Improve street connectivity between neighborhoods;
- Expand transit service throughout the region and to underserved communities; and
- Evaluate rail relocation and prioritize improvements at at-grade rail crossings.

Together with the MTP-specific projects, these strategies have been developed in collaboration with the public, FAMPO member jurisdictions, and MPO boards and committees.

Transportation Demand Management

Transportation demand management (TDM) refers to strategies that increase transportation choices and help spread demand away from peak hour automobile trips. These strategies include the following:

- Shifting employee shift times to begin and/or end outside the traditional morning and afternoon peak periods (7-9 AM and 4-6 PM);
- Encouraging a four-day work schedule;
- Encouraging a hybrid in-person/work from home work schedule;
- Providing mode choices other than single-occupancy vehicle travel; and
- Encouraging ridesharing/carpool travel.

TDM should continue to be a strategy utilized by FAMPO and its member jurisdictions to help reduce peak hour automobile demand and make better use of the existing transportation system without traditional roadway capacity improvements.

New and Emerging Technologies

Intelligent Transportation Systems (ITS) and integrated corridor management continue to be a viable technology for the FAMPO region. ITS includes a wide range of treatments such as the following:

- Wireless traffic monitoring systems;
- Probe-based vehicle data monitoring;
- Emergency vehicle notification systems;
- Automated speed and/or red-light running enforcement;
- Variable speed limits;
- Adaptive traffic signal control;
- Transit signal priority;
- Ramp metering; and
- Hard shoulder running, including bus rapid transit.

The Federal Highway Administration offers several resources for the planning and implementation of these systems, many of which are either being utilized or will be applicable for the FAMPO region by the year 2050.

Connected and Autonomous Vehicle (CAV) infrastructure will become a necessity as these vehicles continue to increase their market share within the vehicle fleet. Pavement markings, traffic signals, roadside sensors, high-definition mapping, asset and data management, and security systems are all critical toward supporting the future proliferation of CAVs within the region.

A quickly-growing innovation within the transportation network is Electric Vehicle (EV) technology. As more vehicle owners prefer electric energy sources over typical combustion engine automobiles, the FAMPO region will need to increase the number of publicly-accessible EV charging stations, as well as the robustness of the existing technology to enable widespread and convenient use. Established by

the IJJA, the National Electric Vehicle Infrastructure (NEVI) Formula provides information on funding eligibility and program support for EV charging infrastructure. To fulfill these requirements, NCDOT published the North Carolina plan Update for EV Infrastructure Deployment in August 2023 that identifies several Alternative Fuel Corridors (AFCs), including I-95 through the FAMPO area.

Environmental Mitigation and Resiliency

FAMPO is located on a unique position within North Carolina's Fall Line where flooding and other natural hazards are becoming more frequent. The projects and strategies included in this MTP are intended to promote the resiliency and redundancy of the transportation network without creating additional barriers or compounding existing environmental issues. FAMPO and its partners should continue to monitor changing land uses and redevelopment to mitigate environmental impacts while creating a sustainable transportation network that provides resiliency during inclement weather and other major events.

NCDOT adopted an official resilience policy in September 2021 that identifies several steps to incorporate within programmatic and long-range planning efforts to improve the resiliency and reliability of processes and infrastructure. Several related plans include the I-95 / I-40 Flood Resilience Study, published in August 2019, which includes strategies and improvements for I-95 through the FAMPO area. The NCDOT 2023 Climate Strategy Report is the latest adopted assessment of statewide vulnerabilities to climate change and also addresses EJ and related inequity. NCDOT also publishes annual Resilience Strategy Reports that provide monitoring of resilience-related programs and their effectiveness toward mitigating the impacts of major flooding events.

These plans identify several statewide policies intended to strengthen the resiliency of the transportation network and limit environmental impacts.

Next Steps

Subsequent to adoption of the FAMPO 2050 MTP Update, FAMPO, NCDOT, and FHWA will work to implement the MTP recommendations as well as monitor the performance of projects as they are programmed and constructed. FAMPO and its member jurisdictions should continue to solicit feedback and encourage conversations regarding transportation needs in the region beyond the recommendations and strategies within this MTP. Future opportunities for public and agency engagement include the CMP, which focuses on congestion mitigation needs but has historically been much more comprehensive and inclusive of multimodal safety and mobility, and the CTP, which will be continually updated based on identified project needs and the progress of project programming and implementation.