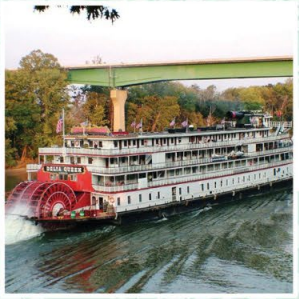
2050 METROPOLITAN TRANSPORTATION PLAN

DECEMBER **2023**




CUMBERLAND RIVERCENTER
CUMBERLAND RIVERCENTER
PAUL P. CONROY

RESOLUTION 2024-01

APPROVING THE 2050 METROPOLITAN TRANSPORTATION PLAN (MTP) OF THE CLARKSVILLE URBANIZED AREA METROPOLITAN PLANNING ORGANIZATION (CUAMPO)

WHEREAS, a comprehensive and continuing transportation planning program must be carried out cooperatively in order to ensure that funds for transportation projects are effectively allocated to the Clarksville Urbanized Area; and

WHEREAS, the draft 2050 MTP addresses the federal planning factors and goals under the current federal transportation legislation, the Infrastructure Investment and Jobs Act (IIJA)/ Bipartisan Infrastructure Law (BIL): and

WHEREAS, the Final Metropolitan Transportation Plan provides a 26-year blueprint for transportation investments based on a series of stated community goals, financial capability and environmental considerations; and

WHEREAS, the federal and state review process of the draft 2050 MTP is completed; and

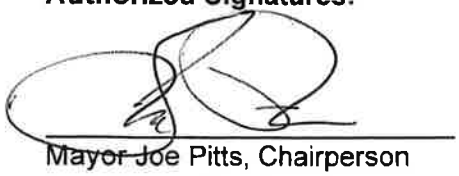
WHEREAS, opportunity for public review and comment, as indicated in the Public Participation Plan, began for this document on December 11, 2023;

WHEREAS, members of the Metropolitan Planning Organization Technical Coordinating Committee and Executive Board does agree that the Updated 2050 Metropolitan Transportation Plan will effectively advance the transportation planning program through FY2050 and should be made available for public comments;

NOW THEREFORE BE IT RESOLVED, that the Metropolitan Planning Organization's Executive Board hereby adopts the 2050 Metropolitan Transportation Plan of the Clarksville Urbanized Area Transportation Study.

RESOLUTION APPROVED: January 11, 2024

Authorized Signatures:



Mayor Joe Pitts, Chairperson
MPO Executive Board

Clarksville Urban Area Metropolitan Planning Organization
329 Main Street
Clarksville, TN 37040
(931) 645-7448

This document was prepared and published by the Clarksville Urbanized Area Metropolitan Planning Organization (CUAMPO) and was developed in cooperation with the following public entities who also provided financial assistance:

- Federal Transit Administration (FTA)
- Federal Highway Administration (FHWA)
- Tennessee Department of Transportation (TDOT)
- Kentucky Transportation Cabinet (KYTC)
- City of Clarksville
- Montgomery County, Tennessee
- Christian County, Kentucky

This financial assistance notwithstanding, the contents of this document do not necessarily reflect the official views or policies of the funding agencies. It is CUAMPO's policy not to exclude, deny, or discriminate on the basis of race, color, national origin, ethnicity, immigration status, sex, gender, gender identity and expression, sexual orientation, age, religion, veteran status, familial or marital status, disability, medical or genetic condition, or any other characteristic protected under applicable federal or state law in its hiring or employment practices, or in its admission to, access to, or operations of its programs, services, or activities. For all inquiries regarding the application of this accessibility statement and related policies, please contact Stan Williams, at: (931) 645-7448 or stan.williams@cityofclarksville.com.

Note: The photographs used in this document are for illustrative purposes only. Photographs used were submitted to the CUAMPO by the public.

List of Acronyms and Definitions

AFC - Alternative Fuel Corridor

BIL - Bipartisan Infrastructure Law (same as IIJA)

CAAA - Clean Air Act Amendments

CFR - Code of Federal Regulations

3-C - Comprehensive, Continuing and Cooperative Transportation Planning Process

CMAQ - Congestion Mitigation and Air Quality Improvement Program

CMP - Congestion Management Process

CTS - Clarksville Transit System

CUAMPO - Clarksville Urbanized Area MPO

EB - Executive Board

EJ - Environmental Justice

EPA - Environmental Protection Agency

E+C - Existing + Committed

FHWA - Federal Highway Administration

FTA - Federal Transit Administration

FAST Act - Fixing America's Surface Transportation Act

IIJA - Infrastructure Investment and Jobs Act (same as BIL)

ITS – Intelligent Transportation Systems

KYTC - Kentucky Transportation Cabinet

MPA - Metropolitan Planning Area

MPO - Metropolitan Planning Organization

MTP - Metropolitan Transportation Plan

NAAQS - National Ambient Air Quality Standards

NHS - National Highway System

PP - Participation Plan

SGR - State of Good Repair

STRAHNET - Strategic Highway Network

STBG - Surface Transportation Block Grant Program

STP - Surface Transportation Program

TDEC - Tennessee Department of Environment and Conservation

TDOT - Tennessee Department of Transportation

TDM - Transportation Demand Management

TIP - Transportation Improvement Program

TTTR - Truck Travel Time Reliability

ULB - Useful Life Benchmark

VHD - Vehicle Hours of Delay

VHT - Vehicle Hours Traveled

VMT - Vehicle Miles Traveled

Table of Contents

SECTION 1: THE MPO AND THE MTP

The Federal-Aid Highway Act of 1962 first required metropolitan transportation planning as a condition for using federal funds for transportation projects in urban areas with populations meeting or exceeding 50,000 people. That legislation, and subsequent legislations, encouraged a comprehensive, continuing, and cooperative (3-C) transportation planning process.

The Clarksville Urbanized Area MPO (CUAMPO) was formed in 1977 and provides the 3-C approach to transportation planning for the Clarksville Metropolitan Planning Area (MPA) which encompasses the entirety of Montgomery County, Tennessee, and a portion of Fort Campbell and Oak Grove in Kentucky. Even though Fort Campbell is located in the MPA, it is responsible for its own planning and is not subject to the metropolitan planning process carried out by CUAMPO.

Federal regulations are used to develop and implement short- and long-term transportation plans that meet community objectives. A multi-modal planning approach assures a vibrant and growing transportation network that includes roads, rail, transit systems, pedestrian/bicycle trails, airports, and waterways.

The 2050 Clarksville Metropolitan Transportation Plan (MTP) is the defining vision for the region's transportation system and establishes long-term goals, objectives, and transportation priorities over the next 27 years. The MTP is updated every five (5) years to reflect new trends and priorities, incorporate new funding assumptions, and maintain compliance with Federal Regulations.

CLARKSVILLE MPA

Legend

- MPA Boundary
- Fort Campbell (within MPA)
- Travel Demand Model Boundary

Over 215,000
People living within the MPA

Over 879,000
Daily trips within the MPA

A LONG-RANGE PLAN FOR THE REGION'S MULTIMODAL TRANSPORTATION SYSTEM

This plan is a continuation of previous planning efforts and builds upon the 2045 MTP. The CUAMPO works with TDOT, KYTC, local jurisdictions, and multiple federal, state, and local agencies to craft a comprehensive plan that is coordinated and consistent with the goals and progress of the MPO's partner agencies.

REGIONWIDE AND STATEWIDE PLANNING EFFORTS

Analysis of the region's transportation infrastructure and details about the MTP development are discussed in the following Technical Reports:

1. **Transportation Modeling and Forecasting** – Updates to the model's inputs and forecast data
2. **State of Current System** – Inventory and assessment of the existing infrastructure
3. **Transportation Performance Management** – Existing performance targets and regional performance
4. **Needs Assessment** – Discussion of anticipated growth and analysis of existing and future needs
5. **Plan Development** – Review of public outreach, forecast funding, project prioritization, and selection of MTP projects

WHAT GUIDES THE MTP?

The MTP is governed by federal requirements for Metropolitan Planning under *23 Code of Federal Regulations (CFR) 450*. The current transportation legislation is the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). Requirements for the MTP include:

In 2015, the Clarksville MPO did not have to demonstrate conformity for the 2008 8-hour ozone standard due to the revocation of the 1997 8-hour ozone standard by EPA. However, this was vacated by the South Coast II Decision on Feb. 16, 2018, via USCA Case No. 15-1123. As a result, the Clarksville MPO must demonstrate conformity for the MTP and TIP. While the MTP is updated every five years, it should be noted that air quality conformity is conducted every four years due to South Coast II. The MPO will produce the conformity determination report and submit for Interagency Consultation, Federal Agency, and general public review before adopting. These efforts will use the most up-to-date Travel Demand Model and data.

Federal legislation requires the MTP to consider the following ten (10) 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.

Consistent with the previous MTP updates, this update leverages other statewide, regional, and local planning efforts and included close collaboration with

- TDOT
- KYTC
- Montgomery County, Tennessee
- Christian County, Kentucky
- City of Clarksville, Tennessee
- City of Oak Grove, Kentucky,
- City of Hopkinsville, Kentucky
- FHWA
- FTA
- local agencies

As described in this document and accompanying Technical Reports, the 2050 MTP provides an assessment of the current system (*Technical Report #2: State of Current System)* and outlines the overall system needs (*Technical Report #4: Needs Assessment)*, financial constraints (*Technical Report #5: Plan Development)*, and a list of improvements to achieve the region's transportation goals (*Technical Report #5: Plan Development)*.

MTP REVISIONS

Periodically, as needs and conditions change, it becomes necessary to revise the MTP. CUAMPO defines the situations and procedures when a formal amendment would be appropriate. 23 CFR 450.104 provides the following definition:

> "Amendment means a revision to a long-range statewide or metropolitan transportation plan, TIP, or STIP that involves a major change to a project included in a metropolitan transportation plan, TIP, or STIP, including the addition or deletion of a project or a major change in project cost, project/project phase initiation dates, or a major change in design concept or design scope (e.g., changing project termini or the number of through traffic lanes or changing the number of stations in the case of fixed guideway transit projects). Changes to projects that are included only for illustrative purposes do not require an amendment. An amendment is a revision that requires public review and comment and a redemonstration of fiscal constraint. If an amendment involves "non-exempt" projects in nonattainment and maintenance areas, a conformity determination is required."

TRANSPORTATION EQUITY

Federal legislation and executive orders prohibit discrimination and/or exclusion from participation in any program or activity receiving federal financial assistance on the basis of race, color, national origin, disability, income, minority-status, or limited English Proficiency. The MPO's Participation Plan (PP) specifies how the MPO prevents discrimination and accommodates these populations. The PP is available from the MPO.

Title VI of the Civil Rights Act of 1964 ensures that no person is excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, or national origin. The Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 encourages the participation of people with disabilities in the development of transportation and paratransit plans and services.

SECTION 2: PLANNING PROCESS AND OUTREACH

MTP PLANNING PROCESS

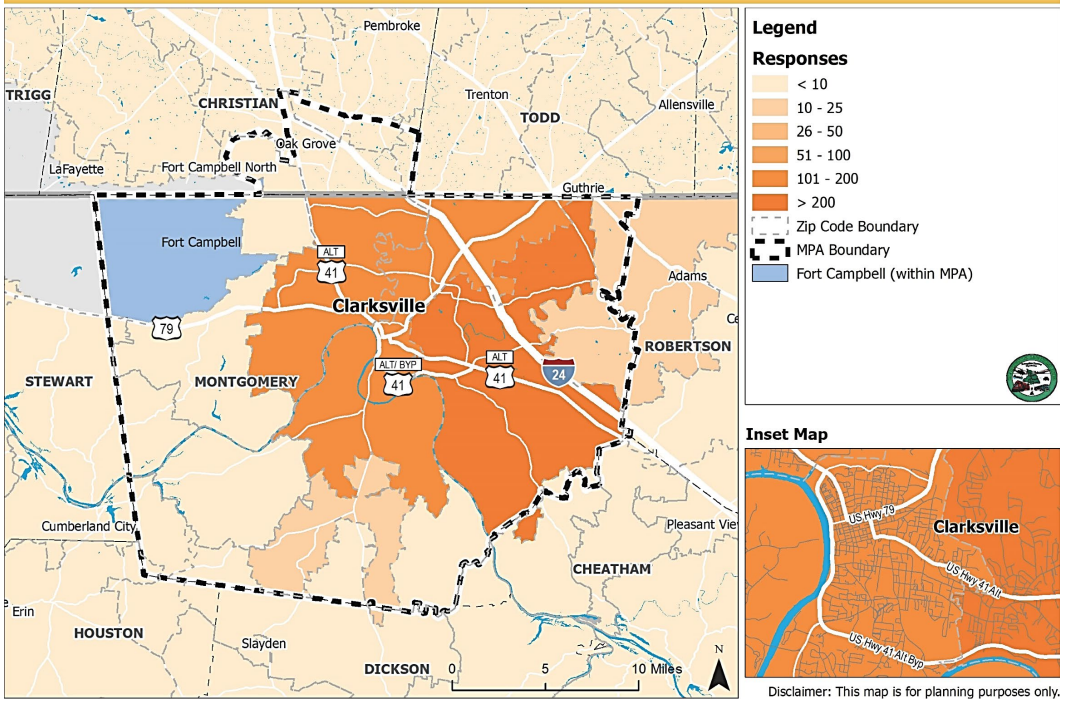
The MTP identifies the transportation needs and goals of residents, businesses, and visitors; compares various investment strategies based on impacts to the transportation system; and presents a plan of action for the region. The planning process includes the consideration and implementation of projects, strategies, and services that address the federal planning factors discussed in the previous section.

CLARKSVILLE URBANIZED AREA MPO PLANNING PROCESS

OUTREACH AND ENGAGEMENT

Development of the MTP was guided by input from the general public, stakeholders, and CUAMPO partners. These groups provided important insight into local and regional concerns and priorities related to transportation. Input was solicited through public outreach surveys, social media, and government websites. The goal of the outreach process was to understand the needs of the Clarksville Urbanized Area and assist with developing long-term strategies for improvements. Public surveys, discussed in *Technical Report #5: Plan Development*, were conducted throughout the region to provide a better understanding of public opinions about transportation system improvements and transportation funding options.

Public Outreach Respondents by ZIP Code



Disclaimer: This map is for planning purposes only.

OUTREACH & ENGAGEMENT RESULTS

Various online and in-person engagement opportunities were offered, with Spanish opportunities offered as necessary.

Round 1

- Online Survey
  - Paper Version Offered via Community Leaders
- 750 Completed Surveys

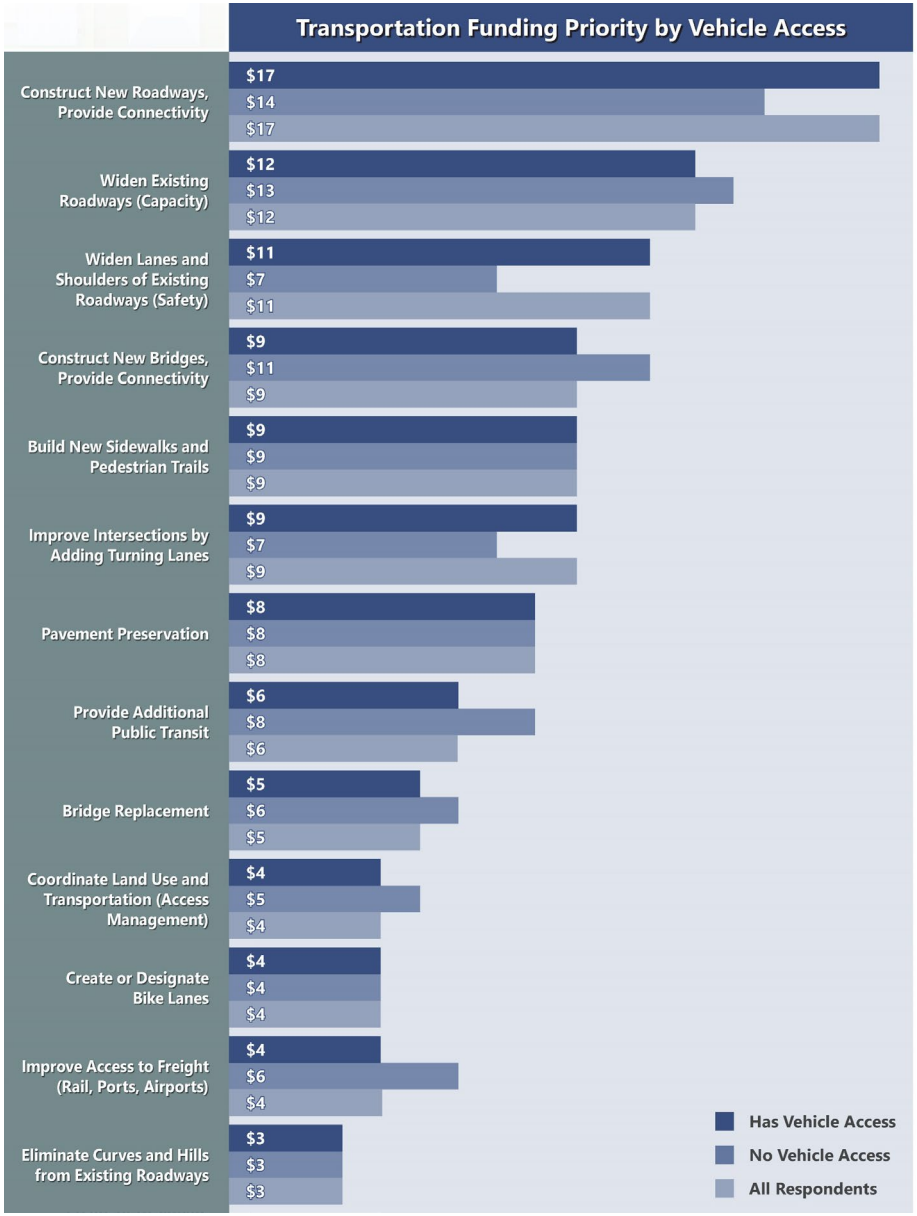
Round 2

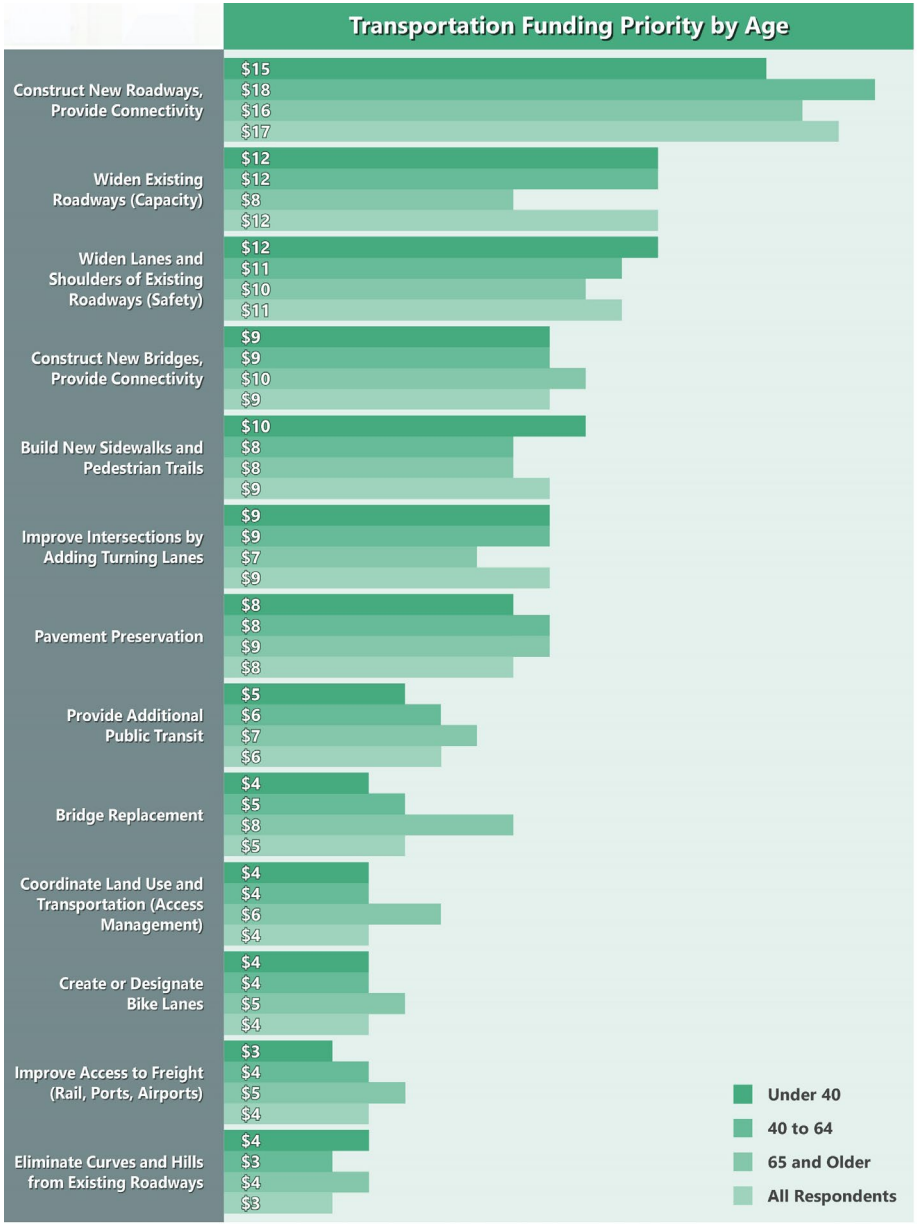
- Two Open-House Public Meetings
- Draft Report Available Online and at MPO Office
- Executive Board (EB) Adoption January 2024

ESTABLISHING TRANSPORTATION PRIORITIES

The outreach phase of the 2050 MTP occurred at the beginning of the plan development, and key findings from this phase helped guide the planning process. Federal regulations combined with input from the public, stakeholders, and MPO partners helped to establish the transportation priorities.

Survey results showed that reducing roadway congestion is perceived as the greatest need within the region, followed by improvements in safety for all users. New roadways and connectivity were identified as the top funding priority. Additional results from the public outreach activities are described in *Technical Report #5: Plan Development*.


Transportation Funding Priority by Vehicle Access
Construct New Roadways, Provide Connectivity
$17
$14
$17
Widen Existing Roadways (Capacity)
$12
$13
$12
Widen Lanes and Shoulders of Existing Roadways (Safety)
$11
$7
$11
Construct New Bridges, Provide Connectivity
$9
$11
$9
Build New Sidewalks and Pedestrian Trails
$9
$9
$9
Improve Intersections by Adding Turning Lanes
$9
$7
$9
Pavement Preservation
$8
$8
$8
Provide Additional Public Transit
$6
$8
$6
Bridge Replacement
$5
$6
$5
Coordinate Land Use and Transportation (Access Management)
$4
$5
$4
Create or Designate Bike Lanes
$4
$4
$4
Improve Access to Freight (Rail, Ports, Airports)
$4
$6
$4
Eliminate Curves and Hills from Existing Roadways
$3
$3
$3
Has Vehicle Access
No Vehicle Access
All Respondents


Transportation Funding Priority by Age
Construct New Roadways, Provide Connectivity
$15
$18
$16
$17
Widen Existing Roadways (Capacity)
$12
$12
$8
$12
Widen Lanes and Shoulders of Existing Roadways (Safety)
$12
$11
$10
$11
Construct New Bridges, Provide Connectivity
$9
$9
$10
$9
Build New Sidewalks and Pedestrian Trails
$10
$8
$8
$9
Improve Intersections by Adding Turning Lanes
$9
$9
$7
$9
Pavement Preservation
$8
$8
$9
$8
Provide Additional Public Transit
$5
$6
$7
$6
Bridge Replacement
$4
$5
$8
$5
Coordinate Land Use and Transportation (Access Management)
$4
$4
$6
$4
Create or Designate Bike Lanes
$4
$4
$5
$4
Improve Access to Freight (Rail, Ports, Airports)
$3
$4
$5
$4
Eliminate Curves and Hills from Existing Roadways
$4
$3
$4
$3
Under 40
40 to 64
65 and Older
All Respondents

TRANSPORTATION SURVEY KEY WORDS BY CATEGORY

Current Concerns

Lack of police enforcement, **Lack of roadway connectivity,** Need a new river crossing, **Need better managed land development, Need to improve public transit,** Poor access management, Poor pedestrian facilities, Poor roadway maintenance, Poor roadway safety, **Too few bike lanes**

Solutions

Access management on Wilma Rudolph Blvd, **Add more pedestrian facilities (sidewalks),** Build access roads, Downtown Bus Rapid Transit, Extend 101st to SR-48, I-24 interchange at Dunlop Ln, **Improve pedestrian facilities,** Increase public transit, Longer turn lanes, Loop around Clarksville, More roundabouts, **Passenger Rail, Re-time traffic signals,** Southwest Bypass, Widen I-24, Widen roadways, Widen Trenton Rd

Congested Roadways

101st Airborne Pkwy, Boot Hill, Fort Campbell Blvd, **I-24, Madison St,** New Providence Blvd, Providence Blvd, **Riverside Dr,** Rossview Rd, **Tiny Town Rd, Trenton Rd,** US-41A, **Warfield Blvd, Wilma Rudolph Blvd**

Roadways with Safety Issues

101st Airborne Pkwy, Dunbar Cave Rd, **Fort Campbell Blvd,** I-24, **Madison St,** Memorial Dr, **New Providence Blvd, Peachers Mill Rd,** Providence Blvd, **Riverside Dr, Rossview Rd,** SR-76, **Tiny Town Rd, Trenton Rd,** US-41A, **Wilma Rudolph Blvd**

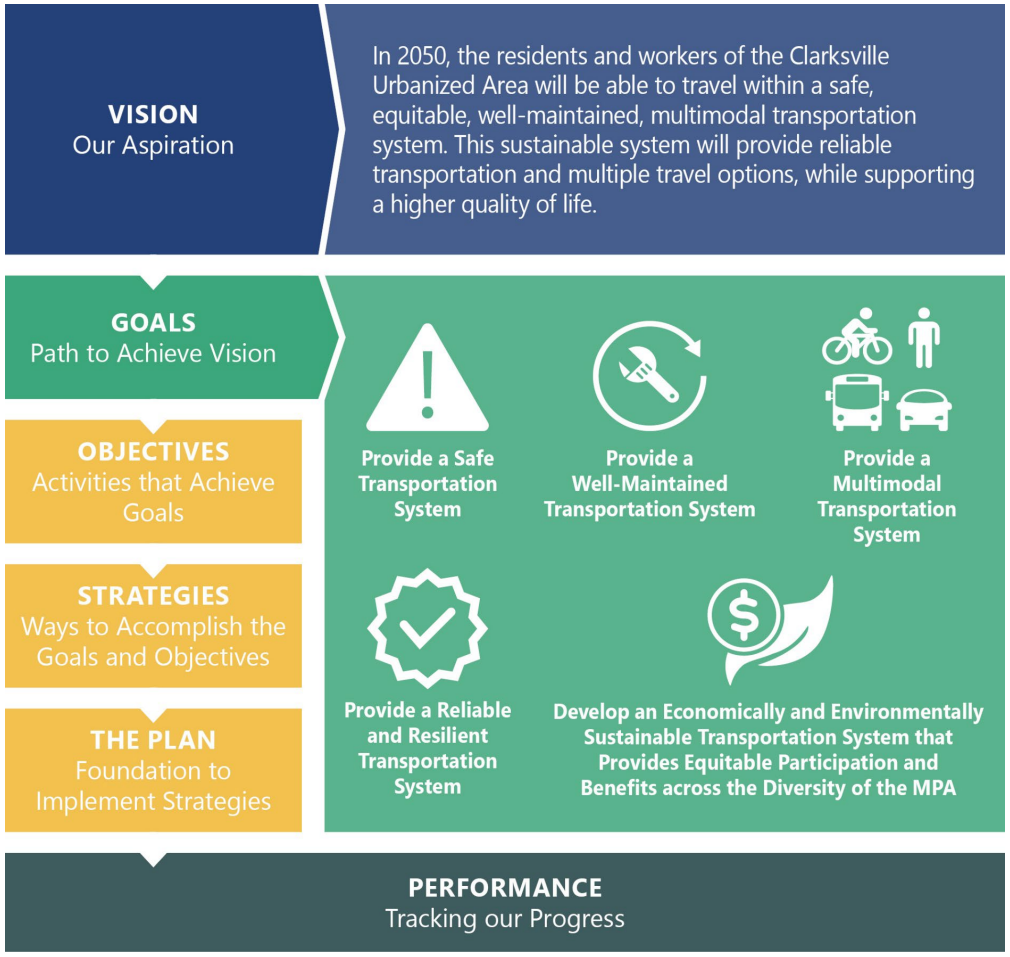
Using the feedback provided by the public and stakeholders, the CUAMPO revised its vision statement, goals, and objectives to reflect the public's vision. The vision statement, goals, and objectives, along with performance measures and targets, will guide the direction of the region's transportation system through 2050.

SECTION 3: MTP 2050 GOALS AND OBJECTIVES

The following Goals and Objectives, endorsed by CUAMPO, guided the development of the 2050 Metropolitan Transportation Plan to work towards Clarksville MPA's vision for their future transportation system. These goals are consistent with previous plan updates and directly align with the federal planning factors established in the Fixing America's Surface Transportation (FAST) Act and continued in the IIJA. The plan's strategic framework, goals and objectives, and their relationship to the national planning goals are discussed in *Technical Report #5: Plan Development.*

CLARKSVILLE URBANIZED AREA MPO GOALS AND OBJECTIVES

For each goal identified for the Clarksville Urbanized Area MPO, objectives were defined that clarify and expand upon the goal statement. These activity-based objectives were used to identify specific strategies that help the MPO achieve its stated goals.



Goal #1: Provide a Safe Transportation System

A. Pursue funding for transportation improvements that are designed to reduce crashes resulting in fatalities or serious injuries and decrease crash rates.
B. Coordinate with local and state police agencies to continue improvement of crash record management and analysis to identify focus areas for engineering, education, enforcement, and emergency response efforts.
C. Increase the redundancy and diversity of the transportation network by increasing the number of emergency evacuation alternatives for multiple modes of transportation.
D. Improve the ability to provide timely traveler information and emergency response support concerning incidents within the transportation system by increasing the use of Intelligent Transportation Systems on corridors and at intersections.

Goal #2: Provide a Well-Maintained Transportation System

A. Repair roadways and bridges that are in poor condition or likely to be in poor condition in the near future.
B. Ensure transit facilities and vehicles are in a State of Good Repair, as required by the Federal Transit Administration.
C. Increase maintenance on sidewalk, crosswalk, bicycle, and multi-use path infrastructure that require replacement or rehabilitation, particularly on arterials and collectors.
D. Ensure airport equipment, facilities, and pavement are in good condition.
E. Ensure active railroad infrastructure is in good condition, especially tracks, vehicles, bridges, and roadway crossings.

Goal #3: Provide a Multimodal Transportation System

A. Emphasize improvements and projects that enable a regional multimodal network in accordance with the *Transportation 2020+ Plan* and Greenway and Blueway Master Plan.
B. Increase the number and accessibility of multimodal facilities including public intermodal facilities that complement existing private intermodal facilities.
C. Increase connectivity to desirable locations, add or update amenities at major transit stops, and improve on-time performance to increase transit service convenience, safety, and security for all transit users.
D. Increase incentives and programs that encourage local employees to use transit.
E. Increase transit passenger trips while reducing the operating cost per passenger trip.
F. Analyze and revise transit routes as the population and destinations change by continuing to use strategic plans, operational analyses, public hearings, and surveys.
G. When economically feasible or demand requires, expand fixed-route and paratransit/demand response transit service hours on weekdays, and add weekend service.
H. Support the development of commercial flights to and from the Clarksville Regional Airport.
I. Continue to monitor opportunities to be involved in the development of high-speed passenger rail service.

Goal #4: Provide a Reliable and Resilient Transportation System

A. Encourage coordination of land use and transportation planning to provide safe and adequate roadway connections between varying land uses.
B. Emphasize transportation improvements to reduce average in-vehicle travel time and reduce both annual vehicle miles and hours traveled per capita.
C. Implement an integrated roadway network of arterials and collectors that promotes efficient travel and reduces cut-through traffic on residential streets.
D. Minimize railroad freight delay by improving operations and minimizing conflicts between rail and roadway infrastructure.
E. Emphasize roadway improvements that maintain average speeds and increase travel time reliability on major freight corridors, including accommodations for anticipated truck volumes, weights, and connectivity to other freight modes.
F. Work with local agencies and jurisdictions to implement projects that improve roadway drainage and manage stormwater impacts.
G. Implement projects that provide multiple options and routes for transportation users to reach their destinations.

Goal #5: Develop an Economically and Environmentally Sustainable Transportation System that Provides Equitable Participation and Benefits across the Diversity of the MPA

A. Avoid transportation projects in historic sites, park or recreation areas, environmentally sensitive areas, flood plains, karst areas, natural or scenic vistas, and other natural wildlife or forested areas when a feasible and prudent alternative exists.
B. Ensure that programmed transportation projects have no significant adverse impacts to Environmental Justice communities and benefit traditionally underserved communities when possible.
C. Pursue transportation improvements that improve air quality, reduce vehicle emissions, and protect water quality.
D. Promote transportation improvements that enhance the natural environment and the region's sense of place.
E. Encourage mixed-use and infill development within the region's future land use to reduce urban sprawl and longer trips.
F. Provide meaningful participation in the transportation decision-making process by including representation from a variety of urban, suburban, and rural communities.

THIS PAGE INTENTIONALLY LEFT BLANK


CLARKSVILLE

SECTION 4: TRANSPORTATION INVESTMENT NEEDS

A well-connected and high-quality multimodal transportation system is vital to the growing economy and quality of life in the Clarksville MPA. Sustained transportation infrastructure investments support safe and efficient travel for residents, workers, and tourists. The MPA's transportation network requires significant investment to preserve, modernize, and expand infrastructure to meet the changing needs of the growing population and economy. This section summarizes the existing transportation network, anticipated growth within the region, and the impact the growth will have on the transportation network.

Key Benefits of Transportation Investment

- Safer travel
- Shorter and more reliable travel times
- Increased accessibility
- Expanded access to jobs
- Improved quality of life
- Enhanced economic competitiveness

A MULTIMODAL SYSTEM SNAPSHOT

Cargo moving from ports to rails and roadways, and eventually to the doorsteps of residents and retailers, relies upon the region's multimodal transportation system. Multimodal options are also critical to provide employment access for the region's residents and commuters as well as tourist access to the MPA's attractions. The inventory below, discussed in *Technical Report #2: State of Current System*, provides a snap-shot of scale and demand on the region's transportation system.

Railroads

45 MILES OF RAILROAD TRACKS in the MPA and **1** CLASS I RAILROAD

Aviation

ONE PUBLIC USE AIRPORT, Clarksville Regional Airport, also known as Outlaw Field

Ports

4 SINGLE USE PORTS in the MPA

Highways

Over **420** CENTERLINE MILES of roadway functionally classified as Collector or higher in the MPA

Bike & Pedestrian

Network consists of approximately **219** MILES of pedestrian and bicycle facilities

Transit

CTS serves nearly 600,000 passenger trips* annually

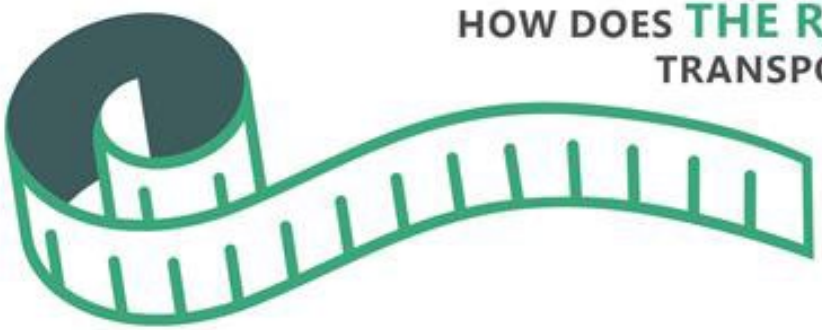
*Pre-COVID

Bridges

Over **177** **BRIDGES** or **BRIDGE-LIKE STRUCTURES** within, or in close proximity to, the MPA

	MPA	UNITED STATES
DRIVE ALONE	83%	75%
CARPOOL	8%	9%
PUBLIC TRANSPORTATION	1%	5%
WALK	4%	3%
WORK AT HOME	3%	7%
OTHER	1%	1%

Source: ACS 2020 5-Year Estimates



HOW DOES THE REGION'S TRANSPORTATION MEASURE UP?

Interstate Pavements

35.0% (TN) | 19.0% (KY) of interstate pavements are in **GOOD** condition

0.0% (TN) | 24.0% (KY) of interstate pavements are in **POOR** condition

Roadway Safety

29 **FATALITIES** per year | **163** **SERIOUS INJURIES** per year

Non-Interstate NHS Pavements

74.0% (TN) | 67.0% (KY) of non-interstate pavements are in **GOOD** condition

0.0% (TN) | 1.0% (KY) of non-interstate pavements are in **POOR** condition

Bicyclist/Pedestrian Safety

14 **FATALITIES** or **SERIOUS INJURIES** among non-motorized users per year

Bridge Quality

30.0% (TN) | 38.6% (KY) of bridges are in **GOOD** condition

0.0% (TN) | 0.0% (KY) of bridges are in **POOR** condition

Transit Safety

0 **FATALITIES** | **4** **INJURIES** among transit users per year

Roadway Reliability

88.1% reliable interstate | **93.8%** reliable non-interstate NHS routes

Transit Condition

0% of buses are not in a **STATE OF GOOD REPAIR (SGR)**

Freight

The Region has a **TRUCK TRAVEL TIME RELIABILITY (TTTR) INDEX** of **1.83**

Source : Technical Report #3 : Transportation Performance Management

NHS - National Highway System

GROWTH FUELING TRANSPORTATION DEMAND

Trends in transportation, travel behavior, and revenue vary over time with changing economic and population characteristics, energy regulations, environmental concerns, new technologies, and political transitions. The most direct influence on transportation demand is the presence of people and their access to jobs, goods, and/or services. Consequently, total population is usually an indicator of overall system use for a region.

Population

Future population projections show that the MPA and surrounding area will continue to grow, with approximately 133,000 additional residents by 2050, as shown in **Table 1**.

Economy

Between 2019 and 2050, the total number of employees is expected to increase by approximately 71 percent, resulting in approximately 99,000 employees in 2050 as shown in **Table 1**.

TABLE 1: FORECAST POPULATION AND EMPLOYMENT GROWTH, 2019-2050

Population					
County	Year				Change in Persons 2019-2050
	2019	2030	2040	2050	
Christian County	8,672	8,288	7,758	7,240	-1,432
Montgomery County	206,468	251,313	294,080	340,843	134,375
MPA Total	**215,140**	**259,601**	**301,838**	**348,083**	**132,943**
Employment					
County	Year				Change in Employees 2019-2050
	2019	2030	2040	2050	
Christian County	1,530	1,637	1,715	1,792	262
Montgomery County	55,987	69,346	82,555	96,784	40,797
MPA Total	**57,517**	**70,983**	**84,270**	**98,576**	**41,059**

Note: Forecast population and employment values are best estimates based on data analysis discussed in *Technical Report #5: Plan Development*.

Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT)

VMT measures the total number of miles traveled by all vehicles within a certain area. Increasing VMT suggests new vehicles on the roadways or longer travel times as people take longer routes to avoid congestion. As discussed in *Technical Report #4: Needs Assessment*, the projected growth in population and employment will increase demand and result in additional VMT and VHT, as shown in the figure below. Total daily VMT and VHT are estimated to increase by 42 percent and 106 percent, respectively, from 2019 to 2050, assuming that no additional projects are added to the Existing + Committed (E+C) Transportation Network. The E+C Transportation Network is defined as roadways which are open for traffic, are currently under construction, or are identified in the Transportation Improvement Program (TIP) with programmed construction funding.

ANNUAL VEHICLE MILES TRAVELED AND VEHICLE HOURS TRAVELED, 2019 AND 2050

	2019 Existing Roadway Network (Millions)	Change 2019-2050 (Millions)	2050 Existing and Committed Network (Millions)	Change in VMT 2019-2050	Change in VHT 2019-2050
Total Annual VMT	1,277	540	1,817	42%	
Total Annual VHT	40	43	83		106%

Environmental Factors

There is a significant relationship between environmental hazards and their impacts on transportation infrastructure and operations. The region's threats and hazards are categorized by natural, infrastructure, and human-caused hazards. Events like tornadoes and flooding reiterate the importance of creating sufficient evacuation routes. Infrastructure hazards such as bridge damage and dam failures can disrupt everyday transportation activities and deteriorate existing infrastructure. Creating a resilient system that can easily respond to system disruption ensures that the MPA's critical infrastructure is protected during unforeseen hazards.

Urbanization of the Population

Changes in travel behavior are mainly driven by evolving needs and wants depending on where people live. Residents seek convenient access to jobs, school, social gatherings, or recreation venues.

Global Policy and Transportation Investments

Global trade continues to increase through international trade agreements. In addition, technological advancements and unforeseen events like COVID-19 can significantly increase the demand for freight movement across the state.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 5: FUNDING AVAILABILITY

The CUAMPO has prepared a roadmap to meet the region's future multimodal transportation needs to the maximum extent possible with a limited amount of funding. Transportation investments are necessary to maintain existing infrastructure, modernize/upgrade existing assets, and provide additional capacity through system expansion or travel demand management while maintaining air quality conformity. Funding for transportation within the region comes from a variety of federal, state, and local sources. Historically, most transportation funding has come from federal sources through the FHWA and the FTA, while the remaining funding is provided by a variety of state taxes and fees, as well as local and private sources.

Anticipated Available Funds

Historically federal funding has increased each year, and the new IIJA has continued this trend. As discussed in *Technical Report #5: Plan Development*, the available data, analysis of historical funding, and future funding projections show that the estimated available funding from federal, state, and local sources for the MTP 2050 update is approximately $7.0 billion as shown in **Table 2**.

TABLE 2: CLARKSVILLE MPA ANTICIPATED REVENUES, 2026-2050

Stage	Forecast Funds
Stage 1 (2023-2026; TIP)	$362,645,034
Stage 2 (2027-2030)	$755,083,904
Stage 3 (2031-2040)	$2,483,872,342
Stage 4 (2041-2050)	$3,652,680,512
Total	$7,254,281,792

The anticipated funding is further broken down by source in **Table 3** through **Table 5**.

TABLE 3: ROADWAY CAPITAL REVENUE BY SOURCE

	2023-2026	2027-2030	2031-2040	2041-2050	2027-2050 Total
FLAP	$1,664,000	$2,493,119	$8,246,148	$12,206,314	**$24,609,581**
HIP	$801,769	$1,149,898	$3,803,359	$5,629,901	**$11,384,926**
NHPP	$17,000,000	$10,645,992	$35,212,289	$52,122,789	**$114,981,070**
STBG - S	$22,252,000	$62,667,348	$207,276,202	$306,819,414	**$599,014,964**
STBG - L	$31,281,156	$13,248,968	$43,821,795	$64,866,962	**$153,218,881**
STBG - TA	$1,818,233	$2,882,789	$9,535,006	$14,114,138	**$28,350,166**
CMAQ	$955,440	$1,766,529	$5,842,906	$8,648,928	**$17,213,803**
HSIP	$540,000	$2,610,800	$8,635,387	$12,782,482	**$24,568,669**
HSIP - R	$90,000	$129,078	$426,934	$631,966	**$1,277,978**
HPP (Earmark)	$2,400,000	$2,296,488	$7,595,778	$11,243,607	**$23,535,872**
State Match - TN	$10,563,442	$19,359,639	$64,033,225	$94,784,815	**$188,741,120**
State Match - KY	$1,600,000	$2,195,255	$6,401,779	$7,958,105	**$18,155,138**
Local Match - TN	$8,311,766	$26,472,297	$87,558,791	$129,608,400	**$251,951,254**
Local	$32,886,161	$47,165,357	$156,002,389	$230,921,645	**$466,975,551**
KY STBG-S	$6,400,000	$11,868,095	$34,609,618	$43,023,503	**$95,901,217**
KY SPP- State Construction	$7,390,000	$10,139,332	$29,568,217	$36,756,496	**$83,854,045**
Totals	**$145,953,967**	**$217,090,984**	**$708,569,823**	**$1,032,119,462**	$2,103,734,236

TABLE 4: ROADWAY OPERATING AND MAINTENANCE REVENUE BY SOURCE

	2023-2026	2027-2030	2031-2040	2041-2050	2023-2050 Total
Tennessee					
City of Clarksville	$73,888,474	$277,005,630	$916,213,571	$1,356,219,903	$2,623,327,578
Montgomery County	$31,016,173	$87,311,629	$288,788,713	$427,477,842	$834,594,356
TDOT	$105,707,331	$155,612,557	$514,698,335	$761,879,269	$1,537,897,491
Tennessee Total	**$210,611,978**	**$519,929,816**	**$1,719,700,619**	**$2,545,577,013**	**$4,995,819,426**
Kentucky					
City of Oak Grove	$1,092,615	$4,021,643	$13,301,838	$19,689,970	$38,106,066
City of Hopkinsville	$140,133	$597,666	$1,976,819	$2,926,176	$5,500,662
Christian County	$1,019,143	$2,858,107	$9,453,369	$13,993,296	$26,304,772
KYTC	$3,827,198	$10,585,687	$30,869,873	$38,374,595	$79,830,156
Kentucky Total	**$6,079,089**	**$18,063,104**	**$55,601,900**	**$74,984,036**	**$154,728,130**
MPA Totals	**$216,691,067**	**$537,992,920**	**$1,775,302,519**	**$2,620,561,049**	**$5,150,547,556**

TABLE 5: TRANSIT REVENUES BY FUNDING CATEGORY

Funding Category	2023-2026	2027-2030	2031-2040	2041-2050	2026-2050 Total
5307	$21,214,875	$12,715,248	$42,056,483	$62,253,868	$21,214,875
5310	$316,476	$212,159	$701,728	$1,038,729	$316,476
5339	$4,203,167	$2,770,113	$9,162,322	$13,562,474	$4,203,167
Operating & Maintenance	$22,308,128	$17,341,653	$57,358,608	$84,904,752	$22,308,128
Total	**$48,042,646**	**$33,039,172**	**$109,279,141**	**$161,759,824**	**$48,042,646**

SECTION 6: STAGED IMPROVEMENT PROGRAM

ROADWAY CAPITAL AND MAINTENANCE PROJECTS

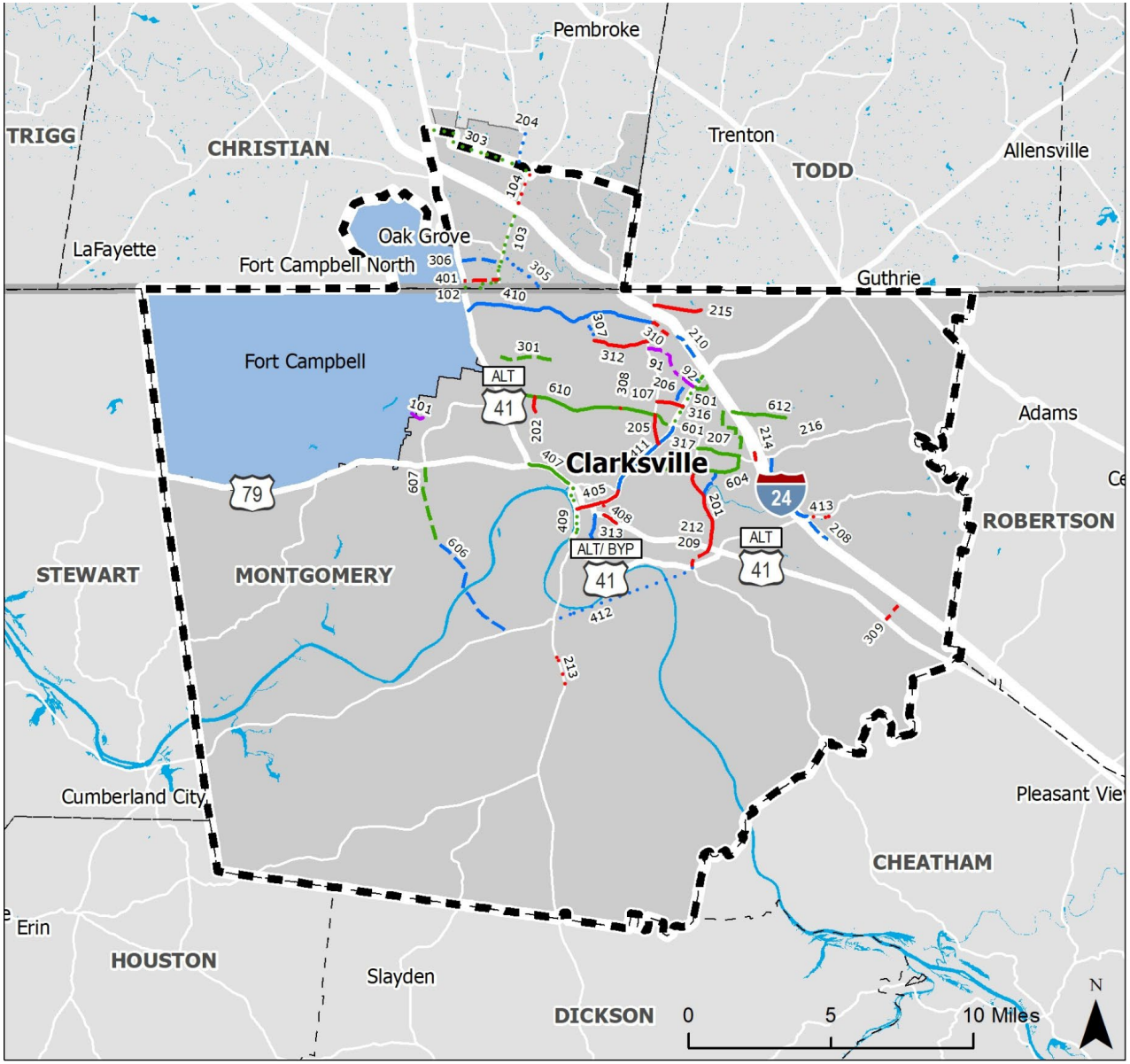
The fiscally constrained plan is the list of capital and maintenance transportation projects that best addresses the needs of the region and can be implemented within the anticipated available funding. *Technical Report #5: Plan Development* describes project development, cost estimates, prioritization, and implementation.

The first projects planned for implementation are identified in the Existing Plus Committed (E+C) Transportation Network. Displayed in **Table 6**, the E+C Transportation Network are roadways which are open to traffic, currently under construction, or identified in the Transportation Improvement Program (TIP) with programmed construction funding. The remaining transportation projects comprising the MPA's fiscally constrained list are displayed in **Table 7**. These projects were identified by the member agencies and the general public for prioritized construction using the remaining funds forecasted to be available.

The MPA's visionary projects, shown in **Table 8**, are unfunded or unprogrammed in the fiscally constrained list of projects. The MTP's financial summary is displayed in **Table 9**.

TABLE 6: CLARKSVILLE URBANIZED AREA MPO EXISTING PLUS COMMITTED PROJECTS

Project ID	Roadway	Location	Improvement	Opening Year
3	Dunbar Cave Rd	0.07 mile south of Moss Rd to Rossview Rd	Realignment	2026
	Rossview Rd	Before Keysburg Rd to Cardinal Ln Cardinal Ln to Powell Rd	Widen from 2 to 3 Lanes Widen from 2 to 5 Lanes	2026
4	KY-911	US 41A to KY- 115	Widen from 2 to 5 Lanes	2025
8	SR-374	South of Dunbar Cave Rd to West of Stokes Rd	Widen from 2 to 5 Lanes	Complete
9	SR-149/SR-13	SR-149 from River Rd to SR-13 SR-13 from SR-149 to Zinc Plant Rd	Widen from 2 to 5 Lanes	2023



Legend

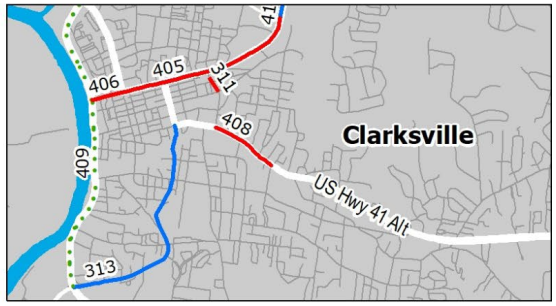
Stage 1 (2023-2026, TIP)
- New Roadway
- Widening

Stage 2 (2027-2030)
- New Roadway
- Widening
- Other/Multiple

Stage 3 (2031-2040)
- New Roadway
- Widening
- Other/Multiple

Stage 4 (2041-2050)
- New Roadway
- Widening
- Other/Multiple
- MPA Boundary
- Fort Campbell (within MPA)
- Travel Demand Model Boundary

Inset Map



Disclaimer: This map is for planning purposes only.

TABLE 7: FISCALLY CONSTRAINED PROJECTS

MTP ID	Roadway	Limits	Project Description	Length	State	Total Stage (YOE) Cost	Funding Source
Stage 1 (2023 – 2026, TIP)							
6	SR-374 PROP	SR-76 to South of Dotsonville Rd	Right-of-Way	2.90	TN	$3,200,000	HPP/STBG – S
50	Wilma Rudolph Blvd	Industrial Park Access Rd to SR-374	Adaptive Signal System	2.47	TN	$955,440	CMAQ
91	Spring Creek Pkwy	Trenton Rd to Spring Creek	New 4/5 Lane Roadway	1.44	TN	$13,000,000	Local
92	Spring Creek Pkwy	Spring Creek to Wilma Rudolph Blvd	New 4/5 Lane Roadway with Bridge	0.88	TN	$13,000,000	STBG – L/Local
94	SR-48/Trenton Rd	SR-374 to I-24	Widen to 5 lanes	3.70	TN	$23,000,000	STBG - S
95	SR-237/Rossview Rd	east of International Blvd. to east of Kirkwood Rd	Widen to 5 lanes	3.12	TN	$9,002,211	STBG - L
96	I-24	KY/TN State line to SR-76	Widening 4 to 6 lanes – Design Only	11.63	TN	$2,000,000	NHPP
97	I-24	I-24 @ KY-115 Interchange	Interchange Reconstruction Design and Study	--	KY	$700,000	KY SPP- State Construction
101*	Lafayette Rd	Walnut Grove Rd through Ft Campbell Gate	Widen from 2 to 5 Lanes	0.37	TN	$2,330,000	STBG - L
1001	Enhancement - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$4,212,134	Varies
1002	Safety - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$21,061,226	Varies
1003	Bridge - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$57,918,301	Varies
1004	Overlay - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$42,122,451	Varies
1005	Maintenance - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$6,318,340	Varies
1006	Reconstruction - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$78,979,527	Varies
1011	Enhancement - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$121,579	Varies
1012	Safety - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$607,910	Varies
1013	Bridge - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$1,671,750	Varies
1014	Overlay - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$1,215,819	Varies
1015	Maintenance - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$182,372	Varies
1016	Reconstruction - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$2,279,659	Varies
Stage 2 (2027 – 2030)							
55	SR-12/Ashland City Rd	@ Excell Rd, Hickory Point Rd, and East Old Ashland City Rd	Intersection Improvements	--	TN	$4,068,771	STBG - L
609	Varies	Varies	Signal Retiming Project in City of Clarksville	--	TN	$93,074	CMAQ
608	Passenger Rail Study	Clarksville to Nashville	Study for Passenger Rail Feasibility	--	TN	$93,074	CMAQ
602	US 79/Wilma Rudolph Boulevard	Kraft St to I-24	Access Management and Safety Study	--	TN	$93,074	HSIP

MTP ID	Roadway	Limits	Project Description	Length	State	Total Stage (YOE) Cost	Funding Source
215	Tylertown Road	Trenton Rd to Oakland Rd	Widen to 4 Lanes	1.68	TN	$13,043,127	Local
316	Needmore Road	Wilma Rudolph Blvd to Trenton Road	Widen to 4 Lanes	0.95	TN	$7,365,430	Local
312	Hazelwood Rd	Trenton Rd to Needmore	Widen from 2 to 5 Lanes	1.99	TN	$20,338,801	Local
408	Madison Street	10th Street to Pageant Lane	Widen from 3 Lanes to 4 Lanes	0.53	TN	$4,109,603	Local
308	Whitfield Rd/ Old Trenton Rd	Needmore Rd to SR-374	Reconstruct with CTL	0.22	TN	$927,941	Local
311	New Roadway	9th St to 10th St	New 2 Lane Roadway	0.13	TN	$883,335	Local
214	I-24	@ Exit 8 EB Off Ramp	Widen to 2 Lanes	0.25	TN	$8,376,655	NHPP
202	Peachers Mill Rd	Pine Mountain Rd to Stonecrossing Dr	Widen from 3 to 4 Lanes	0.54	TN	$4,207,865	STBG - L
309	Dixie Bee Rd Ext	Sango Rd to US 41A	New 2 Lane Roadway	0.67	TN	$4,493,580	STBG - L
201	SR-374 (Warfield Blvd)	Memorial Dr to Dunbar Cave Rd	Widen from 2 to 4 Lanes	2.07	TN	$16,073,948	STBG - S
212	SR-374 (Richview Rd)	Memorial Dr to US 41A (Madison St)	Widen from 3 to 5 Lanes	0.78	TN	$6,017,076	STBG - S
205	SR-48 (Trenton Rd)	SR-13/US79 (Wilma Rudolph Blvd) to SR-374	Widen from 2 to 5 Lanes	1.03	TN	$10,568,928	STBG - S
213	SR 13/48	River Road to Old Hwy 48	Center Turn Lane	1.03	TN	$4,328,823	STBG - S
405	SR 48 (College St)	N 2nd St (US 41A) to Kraft St	Widen to 6 Lanes	1.43	TN	$11,054,431	STBG - S
310	SR-236 (Tiny Town Rd) Ext	Extension to Meriwether Rd	New 2 Lane Roadway	0.75	TN	$5,036,990	STBG - S
209	SR-374 (Richview Rd Ext)	SR-12 (Madison St) to US 41A Bypass	New 4 Lane Roadway	0.97	TN	$13,221,745	STBG - S
406	SR 48 (College St)	Riverside Dr to N 2nd St (US 41A)	Widen to 4 Lanes	0.24	TN	$1,884,747	STBG - S
413	SR 76	I-24 to Woodson Rd	Reconstruct with CTL	0.70	TN	$2,947,412	STBG - S
104	KY-115 (Pembroke)	I-24 to KY-1453 (Elmo @ Barker's Mill Rd)	Reconstruct with CTL	1.17	KY	$4,943,773	KY SPP- State Construction
401	Ft Campbell Gate 4 Ext	US 41A (Ft Campbell Blvd) to KY-115 (Pembroke-Oak Grove Rd)	New 2 Lane Roadway	1.23	KY	$8,275,961	KY STBG-S
2001	Enhancement - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$10,398,335	Varies
2002	Safety - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$51,993,050	Varies
2003	Bridge - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$142,980,717	Varies
2004	Overlay - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$103,986,101	Varies
2005	Maintenance - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$15,597,846	Varies
2006	Reconstruction - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$194,973,767	Varies
2011	Enhancement - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$361,253	Varies
2012	Safety - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$1,806,313	Varies
2013	Bridge - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$4,967,354	Varies

MTP ID	Roadway	Limits	Project Description	Length	State	Total Stage (YOE) Cost	Funding Source
2014	Overlay - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$3,612,626	Varies
2015	Maintenance - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$541,891	Varies
2016	Reconstruction - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$6,773,667	Varies
			Stage 3 (2031 – 2040)				
317	Rossview Road	SR 374 to Dunbar Cave Rd	Widen to 5 Lanes	1.52	TN	$20,416,576	Local
314	Dunbar Cave Road	Wilma Rudolph Blvd (US 79/SR 13) to Rossview Rd (SR 237)	Widen to 4 Lanes	4.42	TN	$45,087,222	Local
207	Professional Park Dr Ext	Extension to Cardinal Ln	New 2 Lane Roadway	2.19	TN	$19,280,666	Local
301	Jack Miller Blvd Ext	Tobacco Rd to Peachers Mill Rd	New 4 Lane Roadway	1.95	TN	$34,971,033	Local
612	Dunlop Ln	Alexander Blvd to Rollow Ln	Widen to 4 Lanes Divided	1.88	TN	$32,476,706	Local
407	US 79 (Providence Blvd)	US 41A/Fort Campbell Blvd to Red River	Widen to 6 Lanes	1.60	TN	$16,283,793	NHPP
601	US 79/Wilma Rudolph Boulevard	SR 374/Warfield Blvd to I-24	Widen from 6 Lanes with CTL to 6 Lanes Divided	2.05	TN	$20,922,918	NHPP
409	Riverside Drive	Providence Blvd to Cumberland Dr	Road Diet	2.36	TN	$25,589,113	STBG - L
501	Spring Creek Pkwy	US 79/Wilma Rudolph Blvd to Ted Crozier Blvd	New 4/5 Lane Roadway	0.80	TN	$14,285,215	STBG - L
610	SR-374/101st Airborne Division Pkwy	US 41A/Fort Campbell Blvd to US 79/Wilma Rudolph Blvd	Widen to 6 Lanes	6.12	TN	$62,455,841	STBG - S
607	SR-374 Extension North Phase 1	Dotsonville Rd to US 79/SR 6 (Dover Rd)	New 4 Lane Divided Roadway	2.86	TN	$55,840,559	STBG - S
103	KY-115 (Pembroke- Oak Grove Rd)	KY-400 (State Line Rd) to I-24	Reconstruct with CTL	2.56	KY	$14,239,072	KY SPP- State Construction
102	KY-400 (State Line Rd)	US 41A (Ft Campbell Blvd) to KY-115 (Pembroke-Oak Grove Rd)	Reconstruct with CTL	1.38	KY	$7,672,689	KY SPP- State Construction
303	KY-1453 (Elmo Rd)	US 41A (Ft Campbell Blvd) to KY-115 (Pembroke-Oak Grove Rd)	Reconstruct with CTL	4.18	KY	$23,219,980	KY STBG-S
3001	Enhancement - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$34,393,148	Varies
3002	Safety - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$171,970,289	Varies
3003	Bridge - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$472,917,727	Varies
3004	Overlay - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$343,940,579	Varies
3005	Maintenance - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$51,590,859	Varies
3006	Reconstruction - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$644,888,017	Varies
3011	Enhancement - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$1,112,010	Varies
3012	Safety - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$5,560,197	Varies
3013	Bridge - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$15,290,524	Varies

MTP ID	Roadway	Limits	Project Description	Length	State	Total Stage (YOE) Cost	Funding Source
3014	Overlay - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$11,120,395	Varies
3015	Maintenance - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$1,668,052	Varies
3016	Reconstruction - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$20,850,722	Varies
Stage 4 (2041 – 2050)							
410	Tiny Town Road	US 41A to Trenton Rd	Widen to 6 Lanes with CTL	6.84	TN	$136,354,664	Local
210	Kennedy Ln Ext	Extension to Meriwether Rd	New 2 Lane Roadway	1.08	TN	$14,082,051	Local
206	New Roadway	Fair Brook Place to Needmore Rd	New 3 Lane Roadway	1.35	TN	$24,132,649	Local
307	Needmore Rd	Hazelwood Rd to SR-236 (Tiny Town Rd)	Reconstruct with CTL	0.92	TN	$7,597,531	Local
313	Cumberland Dr	Ashland City Rd (SR 12) to Madison St (SR 76)	Widen to 4 Lanes	1.85	TN	$27,907,353	Local
411	US 79/Wilma Rudolph Boulevard	US 79/Kraft St to SR 374/Warfield Blvd	Widen from 5 Lanes to 6 Lanes Divided	3.03	TN	$45,735,460	NHPP
208	International Blvd Ext	SR-237 (Rossview Rd) to SR-76 to Trough Springs Rd	New 2 Lane Roadway	3.77	TN	$49,251,452	STBG - L
604	Shady Bluff Trail	SR-374/Warfield Blvd to Dunbar Cave Rd	New 4 Lane Roadway	1.02	TN	$26,997,696	STBG - L
412	SR-374 Ext	SR-13/48 to SR-12	New 2 Lane Roadway and Bridge	5.26	TN	$129,104,562	STBG - S
606	SR-374 Extension North Phase 2	SR-149 to Dotsonville Rd	New 4 Lane Divided Roadway and Bridge	4.25	TN	$243,694,861	STBG - S
305	Hugh Hunter/ Gritton Church Rd	KY-911 (Thompsonville Ln) to Allen Rd	Reconstruction	1.92	KY	$15,794,580	KY SPP- State Construction
204	KY-109 (Bradshaw Rd)	KY-1453 (Elmo Rd) to Bradshaw-Fidelio Rd	Reconstruct with CTL	1.36	KY	$11,179,491	KY SPP- State Construction
306	Ft Campbell Gate 5 Ext	US 41A (Ft Campbell Blvd) to KY-115 (Pembroke-Oak Grove Rd)	New 2 Lane Roadway	1.48	KY	$19,380,093	KY STBG-S
4001	Enhancement - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$50,910,260	Varies
4002	Safety - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$254,558,038	Varies
4003	Bridge - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$700,033,763	Varies
4004	Overlay - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$509,116,076	Varies
4005	Maintenance - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$76,367,075	Varies
4006	Reconstruction - TN	Varies	Line-Item Operation and Maintenance Funding	--	TN	$954,591,801	Varies
4011	Enhancement - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$1,499,643	Varies
4012	Safety - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$7,498,414	Varies
4013	Bridge - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$20,620,612	Varies
4014	Overlay - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$14,996,827	Varies

MTP ID	Roadway	Limits	Project Description	Length	State	Total Stage (YOE) Cost	Funding Source
4015	Maintenance - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$2,249,514	Varies
4016	Reconstruction - KY	Varies	Line-Item Operation and Maintenance Funding	--	KY	$28,119,026	Varies

Note: Stages represent finite time periods in which projects receive funding and become completed and open to traffic. Stage 1 reflects the CUAMPO Transportation Improvement Program and contains projects from Year 2023 through Year 2026.

Stage 2 encompasses projects that will be completed from 2027 through 2030.

Stage 3 encompasses projects that will be completed from 2031 through 2040.

Stage 4 encompasses projects that will be completed from 2041 through 2050.

**Values reflect 2023-2026 TIP; additional funds are anticipated to be available in FY2024 due to recent Transportation Management Area status.*

TABLE 8: CLARKSVILLE URBANIZED AREA MPO VISIONARY (UNFUNDED) TRANSPORTATION IMPROVEMENTS

MTP ID	Roadway	Limits	Project Description	Total 2023 Cost	Length	State
211	8th St connector	Needmore Rd to Peterson Ln	New 2 Lane Roadway	$13,807,206	2.56	TN
611	Dotsonville Rd	Chapel Rd to US 79/Dover Rd	Widen to 4 Lanes Divided	$38,801,727	3.67	TN
105	I-24	KY/TN State line to SR-76	Widening 4 to 6 lanes	$331,602,961	10.31	TN
403	I-24	1 Mile South of Dunlop Ln	New Interstate Interchange	$30,000,000	--	TN
605	I-24	I-24 @ SR-48/Trenton Rd	Reconstruct Interchange	$30,000,000	--	TN
404	I-24	SR-76 to SR-256 in Robertson County	Widen from 4 to 6 Lanes	$210,234,316	6.54	TN
304	US 41A Bypass (Ashland City Rd)	US 41A/SR-112 to SR-13	Widen from 2/3 to 5 Lanes	$46,134,446	5.59	TN
315	I-24	@ Dixie Bee Road	New interchange	$30,000,000	--	TN
603	Old Russellville Pike	US 79/Kraft St to Dunbar Cave Rd	New 4 Lane Roadway, New Bridge, and Widen to 4 Lanes	$43,121,752	1.65	TN
93	I-24	I-24 @ KY-115 Interchange	Reconstruct Interchange and add CTL	$22,500,000	--	KY
302	Oatts-Riggins Rd	KY-400 (State Line Rd) to KY-911 (Thompsonville Ln)	New 3 Lane Roadway	$11,514,237	1.56	KY
203	KY-117	US 41A (Ft Campbell Blvd) to KY-115 (Pembroke-Oak Grove Rd)	New 5 Lane Roadway	$37,830,572	2.91	KY
402	I-24	US 41A (Ft Campbell Blvd) to TN State Line	Widen from 4 to 6 Lanes	$240,532,025	7.48	KY

TABLE 9: FINANCIAL SUMMARY

	Stage 1 (2023 – 2026 TIP)			Stage 2 (2027 – 2030)			Stage 3 (2031-2040)		
	Program Cost	Revenue	Balance	Program Cost	Revenue	Balance	Program Cost	Revenue	Balance
FLAP	$1,664,000	$1,664,000	$0	$0	$2,493,119	$2,493,119	$0	$8,246,148	$8,246,148
HIP	$0	$801,769	$801,769	$0	$1,149,898	$1,149,898	$0	$3,803,359	$3,803,359
NHPP	$1,600,000	$17,000,000	$15,400,000	$7,538,990	$10,645,992	$3,107,002	$29,765,369	$35,212,289	$5,446,920
STBG - S	$17,600,000	$22,252,000	$4,652,000	$56,907,281	$62,667,348	$5,760,068	$94,637,120	$207,276,202	$112,639,082
STBG - L	$25,001,789	$31,281,156	$6,279,367	$10,216,173	$13,248,968	$3,032,795	$34,458,374	$43,821,795	$9,363,421
STBG - TA	$0	$1,818,233	$1,818,233	$0	$2,882,789	$2,882,789	$0	$9,535,006	$9,535,006
CMAQ	$0	$955,440	$955,440	$148,918	$1,766,529	$1,617,611	$0	$5,842,906	$5,842,906
HSIP	$0	$540,000	$540,000	$83,767	$2,610,800	$2,527,034	$0	$8,635,387	$8,635,387
HSIP - R	$0	$90,000	$90,000	$0	$129,078	$129,078	$0	$426,934	$426,934
HPP (Earmark)	$1,920,000	$2,400,000	$480,000	$0	$2,296,488	$2,296,488	$0	$7,595,778	$7,595,778
State Match - TN	$5,480,422	$10,563,442	$5,083,020	$15,111,023	$19,359,639	$4,248,616	$33,659,534	$64,033,225	$30,373,691
State Match – KY	$0	$1,600,000	$1,600,000	$1,655,192	$2,195,255	$540,062	$4,643,996	$6,401,779	$1,757,783
Local Match - TN	$8,266,000	$8,311,766	$45,766	$2,554,043	$26,472,297	$23,918,254	$2,857,043	$87,558,791	$84,701,748
Local - TN	$26,000,000	$32,886,161	$6,886,161	$46,668,237	$47,165,357	$497,120	$152,232,203	$156,002,389	$3,770,186
KY STBG-S	$0	$6,400,000	$6,400,000	$6,620,769	$11,868,095	$5,247,327	$18,575,984	$34,609,618	$16,033,634
KY SPP- State Construction	$0	$7,390,000	$7,390,000	$4,943,773	$10,139,332	$5,195,560	$21,911,761	$29,568,217	$7,656,456
Total Capital Improvements	**$87,532,211**	**$145,953,967**	**$58,421,756**	**$152,448,165**	**$217,090,984**	**$64,642,819**	**$392,741,384**	**$708,569,823**	**$315,828,439**
Total Tennessee O&M	**$210,611,978**	**$210,611,978**	**$0**	**$519,929,816**	**$519,929,816**	**$0**	**$1,719,700,619**	**$1,719,700,619**	**$0**
Total Kentucky O&M	**$6,079,089**	**$6,079,089**	**$0**	**$18,063,104**	**$18,063,104**	**$0**	**$55,601,900**	**$55,601,900**	**$0**
Transit Capital	$0	$25,734,518	$25,734,518	$0	$15,697,519	$15,697,519	$0	$51,920,533	$51,920,533
Transit O&M	$22,308,128	$22,308,128	$0	$17,341,653	$17,341,653	$0	$57,358,608	$57,358,608	$0
Total Transit	**$22,308,128**	**$48,042,646**	**$25,734,518**	**$17,341,653**	**$33,039,172**	**$15,697,519**	**$57,358,608**	**$109,279,141**	**$51,920,533**
Total MTP	**$326,531,406**	**$410,687,680**	**$84,156,274**	**$707,782,737**	**$788,123,075**	**$80,340,338**	**$2,225,402,511**	**$2,593,151,483**	**$367,748,972**

Stage 4 (2041-2050)			Total Staged Program		
Program Cost	Revenue	Balance	Program Cost	Revenue	Balance
$0	$12,206,314	$12,206,314	$1,664,000	$24,609,581	$22,945,581
$0	$5,629,901	$5,629,901	$0	$11,384,926	$11,384,926
$36,588,368	$52,122,789	$15,534,422	$75,492,726	$114,981,070	$39,488,344
$298,239,538	$306,819,414	$8,579,876	$467,383,939	$599,014,964	$131,631,025
$60,999,318	$64,866,962	$3,867,644	$130,675,653	$153,218,881	$22,543,227
$0	$14,114,138	$14,114,138	$0	$28,350,166	$28,350,166
$0	$8,648,928	$8,648,928	$148,918	$17,213,803	$17,064,885
$0	$12,782,482	$12,782,482	$83,767	$24,568,669	$24,484,903
$0	$631,966	$631,966	$0	$1,277,978	$1,277,978
$0	$11,243,607	$11,243,607	$1,920,000	$23,535,872	$21,615,872
$83,706,976	$94,784,815	$11,077,838	$137,957,955	$188,741,120	$50,783,165
$3,876,019	$7,958,105	$4,082,086	$10,175,207	$18,155,138	$7,979,931
$15,249,829	$129,608,400	$114,358,570	$28,926,916	$251,951,254	$223,024,338
$210,074,248	$230,921,645	$20,847,397	$434,974,687	$466,975,551	$32,000,864
$0	$43,023,503	$43,023,503	$25,196,753	$95,901,217	$70,704,464
$26,974,071	$36,756,496	$9,782,424	$53,829,605	$83,854,045	$30,024,440
$735,708,367	**$1,032,119,462**	**$296,411,095**	**$1,368,430,126**	**$2,103,734,236**	**$735,304,110**
$2,545,577,013	**$2,545,577,013**	**$0**	**$4,995,819,426**	**$4,995,819,426**	**$0**
$74,984,036	**$74,984,036**	**$0**	**$154,728,130**	**$154,728,130**	**$0**
$0	$76,855,072	$76,855,072	$0	$170,207,642	$170,207,642
$84,904,752	$84,904,752	$0	$181,913,141	$181,913,141	$0
$84,904,752	**$161,759,824**	**$76,855,072**	**$181,913,141**	**$352,120,783**	**$170,207,642**
$3,441,174,168	**$3,814,440,336**	**$373,266,167**	**$6,700,890,823**	**$7,606,402,575**	**$905,511,752**

CLARKSVILLE URBANIZED AREA MPO STRATEGIES

The following strategies were identified from a technical needs assessment, stakeholder and public input, and existing documents and policies. These strategies will enable the region to achieve the previously stated transportation goals and objectives.

Prioritize Maintenance (Short-Range)

Improving the current system continues to be a priority for the Clarksville Region. This strategy was also mentioned as a priority by local jurisdictions, stakeholders, and the public throughout the plan development. In addition to capital improvements, the region should continue focusing on maintenance projects.

Responsibly Expand Roadway System (Long-Range)

Funding for new roadways or existing roadway widening is limited. Projects receive higher priority if they produce congestion reduction benefits for lesser cost, support non-motorized travel, increase safety, support economic development, and/or accommodate freight movement. The region should focus on promoting projects that meet these criteria.

Redesign Key Corridors and Intersections (Short-Range)

This plan identified segments and intersections that can be redesigned or studied to improve safety, efficiency, and accessibility for all roadway users. For example, traffic and safety studies are recommended along US-79/Wilma Rudolph Blvd and US 41A/Fort Campbell Blvd due to the high frequency of public comments about these locations.

Expand Biking and Walking Infrastructure (Short-Range)

The use of bicycle and pedestrian facilities is encouraged to promote healthy activity, reduce traffic and congestion, and expand multi-modal transportation options. In addition to implementing the facilities identified in *Transportation 2020+*, bicycle and pedestrian facility improvements that can be combined with roadway projects are encouraged. Roadway improvement projects are also encouraged to incorporate Context Sensitive Solutions and Complete Streets approaches.

Address Freight Bottlenecks and Needs (Long-Range)

Several large employers within the region rely upon freight vehicles to move their products within the MPA. Strategies for maintaining or improving freight movement include implementing projects that reduce delay for freight vehicles, both intra-regional freight trips and trips that connect to other regions.

Support and Expand Public Transit (Short-Range)

The MPO supports Clarksville Transit System's (CTS) public transit initiatives and the projects identified in *Transportation 2020+*. Additionally, the MPO can assist with obtaining funds or applying for grants to implement these projects.

Monitor Emerging Technology Options (Short-Range)

Transportation technology is changing rapidly, affecting the infrastructure and the vehicles that use it. Trends such as increased Intelligent Transportation System (ITS) usage and connected and autonomous vehicles are consistently being monitored by the MPO. When feasible, new technology is considered for implementation within the MPA.

Support Alternative Fuel Vehicles and Infrastructure (Short-Range)

The MPO supports the Tennessee Department of Transportation's (TDOT) and Kentucky Transportation Cabinet's (KYTC) alternative fuels corridors and will work with these agencies to implement infrastructure that supports the use of alternative fuels.

Establish a Safety Management System (Short-Range)

The typical traffic safety program includes maintenance of a crash record system, identification of hazardous locations, engineering studies, selection of countermeasures, prioritization of projects, planning and implementation, and evaluation. Many of these activities are currently undertaken by CUAMPO and its partner agencies. The MPO can serve as a liaison between the partner agencies to further advance these activities. Recently, the MPO was selected as a recipient of a Safe Streets and Roads for All grant to improve safety within the region.

Encourage Transportation Demand Management (TDM) (Short-Range)

Continued use of existing TDM practices, such as expanded telecommuting, ridesharing, and transit usage, is encouraged by the MPO. Additionally, the MPO can work with its partners to implement flex-time work schedules, staggered work hours among major employers, and the use of park-and-ride facilities.

THIS PAGE INTENTIONALLY LEFT BLANK

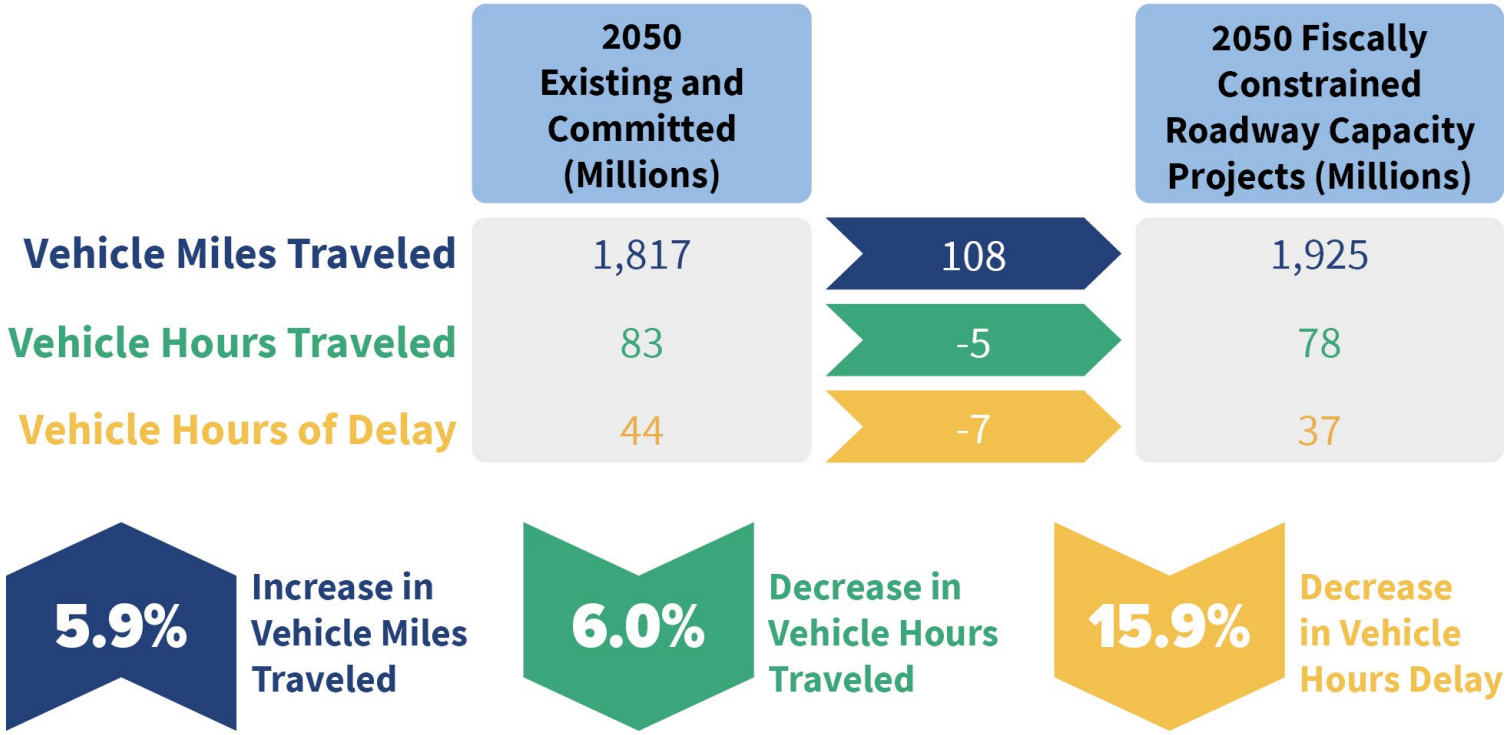

CITY OF CLARKSVILLE
CITY HALL
usbank

SECTION 7: PLAN PERFORMANCE AND SUMMARY

STAGED IMPROVEMENT PROGRAM IMPACTS

As discussed in Section 4, the MPA currently experiences nearly 1.3 million Vehicle Miles Traveled annually, which is projected to increase to over 1.8 million Vehicle Miles Traveled by 2050 based on anticipated growth and the implementation of the committed roadway projects. The amount of travel time is expected to double. By implementing the Staged Improvement Program described in Section 6, the MPA could potentially experience a reduction in travel time by nearly six (6) percent, and nearly sixteen (16) percent in delay when compared to a network with no further improvements.

CHANGE IN ANNUAL MEASURES OF EFFECTIVENESS BY IMPLEMENTING STAGED IMPROVEMENT PROGRAM



Note: Measures of Effectiveness obtained from the Travel Demand Model are estimated outcomes.

ENVIRONMENTAL SCREENING AND ENVIRONMENTAL JUSTICE

Environmental Screening and Mitigation

Environmental screening was conducted to determine the impacts of transportation projects in the MPA on known environmental resources in the region. This plan proposes wide-ranging transportation investments that include intersection improvements, widening and construction of new roads, and the addition of non-motorized facilities. Project impacts on the environment depend on the type and scope of the project. By considering environmental impacts early in the planning process, opportunities are increased for inter-agency coordination, expedited project delivery, and outcomes that are more environmentally sustainable.

Each project analyzed during the MTP was screened for potential impacts to:

- wetlands
- waterways
- national register of historic places and properties
- historic districts
- hazardous materials and storage

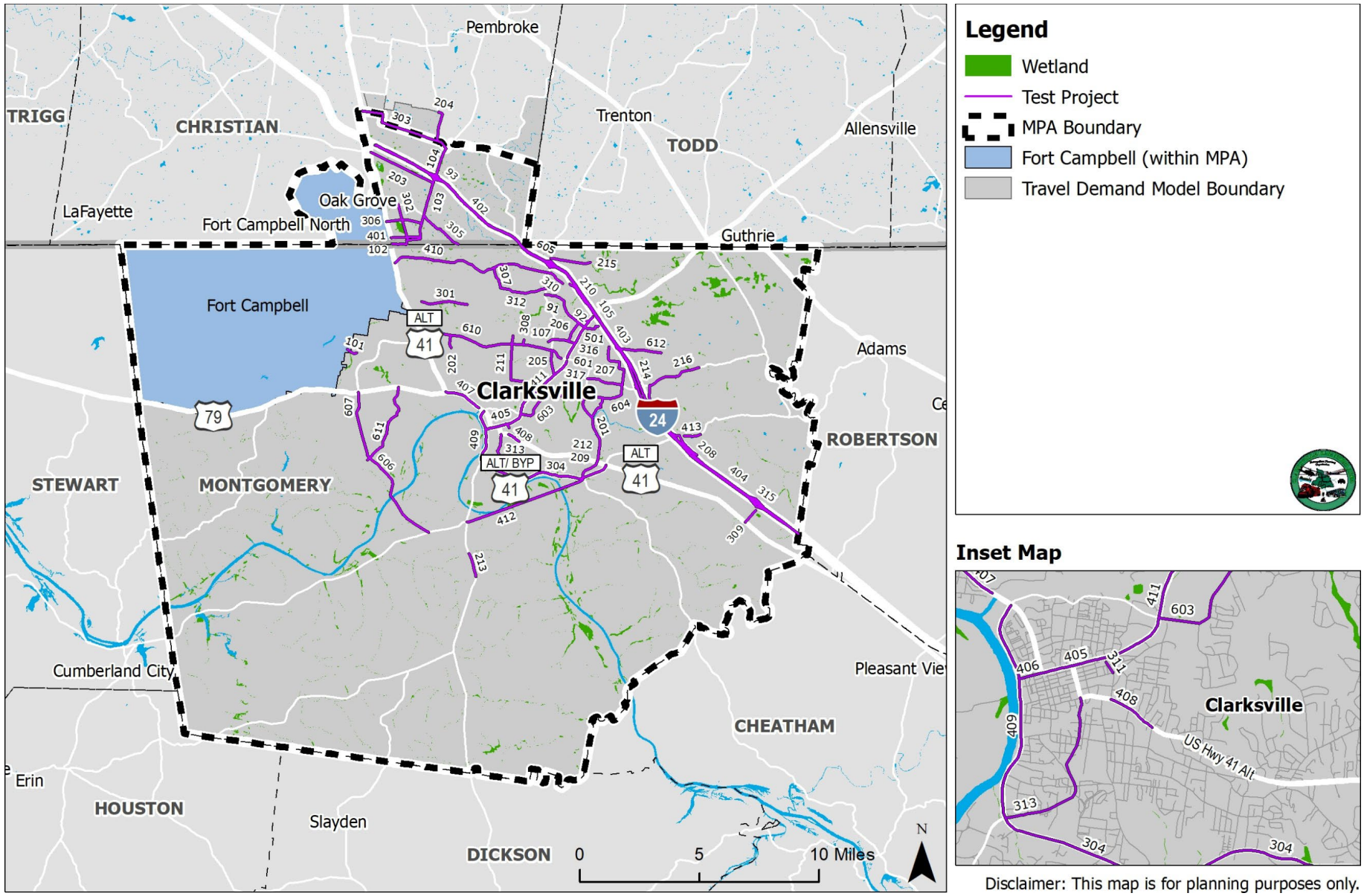
A geospatial analysis of each MTP project was conducted to examine its potential impact on environmental resources as shown in the maps that follow. Projects that would negatively impact these resources received fewer points during project prioritization. The number of projects that could potentially impact these resources is displayed in **Table 10**. Mitigation measures, including changes to potential transportation projects to reduce these impacts, are described in *Technical Report #5: Plan Development*.

The CUAMPO works with resource agencies in the long-range planning process and in the project development process when appropriate. Not every project will require the same level of mitigation, and project impacts on environmentally sensitive areas will be analyzed on a project-by-project basis to determine appropriate mitigation strategies.

TABLE 10: NUMBER OF PROJECTS WITH POTENTIAL DIRECT IMPACTS BY RESOURCE TYPE

Resource Type	Projects with Potential Impacts
Wetlands, Waterways, and Waters	45
Airports	2
Park, Reserve, Public Land	5
State Park	3
Wildlife Management Area	0
National Register of Historic Places Property or District	10
Churches/Cemeteries	24
Superfund Sites	N/A

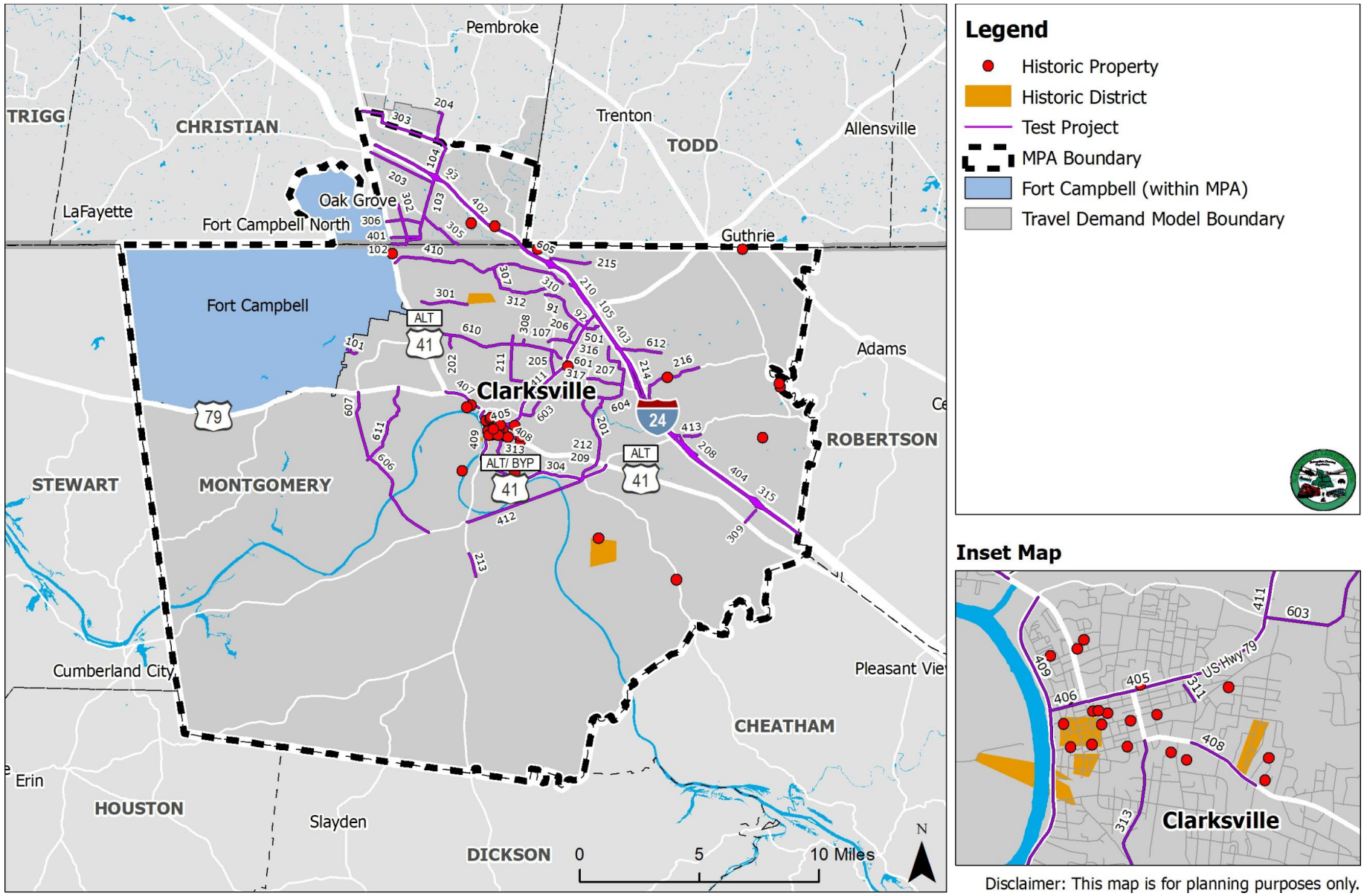
WETLANDS AND WATER FEATURES



Disclaimer: This map is for planning purposes only.

Source: National Wetlands Inventory

HISTORIC PROPERTIES AND DISTRICTS



Source: National Register of Historic Places

Environmental Justice

Currently, four Executive orders govern Environmental Justice Initiatives. *Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* was signed in 1994. It reaffirms the intent of Title VI of the Civil Rights Act of 1964, NEPA, and other federal laws, regulations, and policies by establishing the following Environmental Justice (EJ) principles for all federal agencies and agencies receiving federal funds.

Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government was signed in 2021. It sets expectations for a whole government approach to advancing equity for all. It establishes a directive for federal agencies to consult with members of communities that have historically been underrepresented, underserved, or subject to discrimination by the Federal Government, its policies, and/or programs and seeks to evaluate opportunities to increase coordination, communication, and engagement with community-based organizations and civil rights organizations.

Executive Order 14008: Tackling the Climate Crisis at Home and Abroad was signed in 2021. It directs federal agencies to develop programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.

Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All was signed in 2023. It defines environmental justice as "the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment…" The executive order outlines an ambitious approach to environmental justice that is informed by scientific research, high-quality data, and meaningful engagement with communities.

Additional information about these Executive Orders can be found in *Technical Report #5: Plan Development.* The maps on the following page display potential impacts to Environmental Justice populations within the MPA. These impacts are also noted in the individual Project Factsheets included in Appendix B of *Technical Report #5: Plan Development*.

Disproportionately high and adverse effects are identified by determining if the effects are appreciably more severe or greater in magnitude on the minority or low-income population than the adverse effects suffered by the non-minority or non-low-income population. In this EJ assessment, U.S. Census data and local knowledge were used to identify the area demographics to recognize potential "communities of concern." Communities of concern are areas where the percentage of low-income households or minorities is greater than that of the entire MPA.

Mitigation - To prevent disproportionately high and adverse effects on minority or low-income populations early in the planning process, project sponsors are encouraged to conduct robust community and stakeholder engagement in the project design phase. This engagement is especially important for projects located in areas with a disproportionately high minority and/or low-income population. For projects in areas that may experience EJ concerns, in-depth discussions are needed to explore the impacts to these communities.

Analysis of Benefits and Burdens

During the MTP development process, projects with expected EJ impacts were examined to identify their positive and negative consequences on minority and low-income communities. A full list of roadway capital projects located partially or completely within EJ communities is provided in Appendix B of *Technical Report #5: Plan Development*.

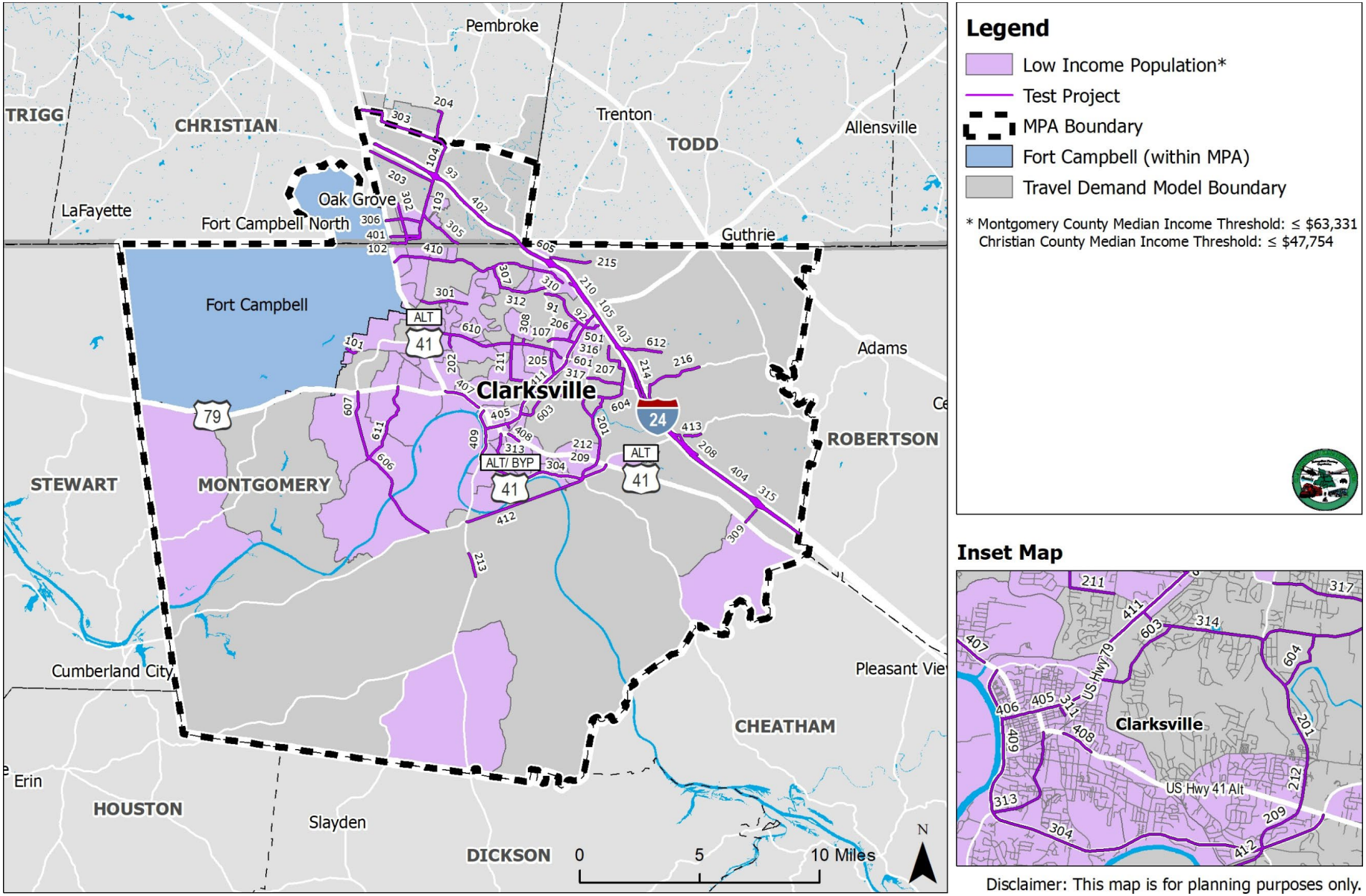
New roadways can benefit EJ communities by improving access and creating opportunities for walking, biking, and public transit. Road widening projects also provide an opportunity to add or improve pedestrian and bicycle facilities and transit stops consistent with the *Transportation 2020+* plan or CTS's strategic plan.

However, new capacity projects may negatively impact areas where residents travel on foot or bicycle by implementing higher vehicle speeds and increased crossing distances for pedestrians. These impacts could be mitigated by seeking community input and considering all user needs during the NEPA and design processes.

Of the $1.39 billion anticipated to be spent as part of MTP 2050, approximately $566 million will be spent in or adjacent to Historically Disadvantaged Communities. This results in nearly 41 percent of funding being spent to support these communities and is in-line with the Justice 40 Initiative.

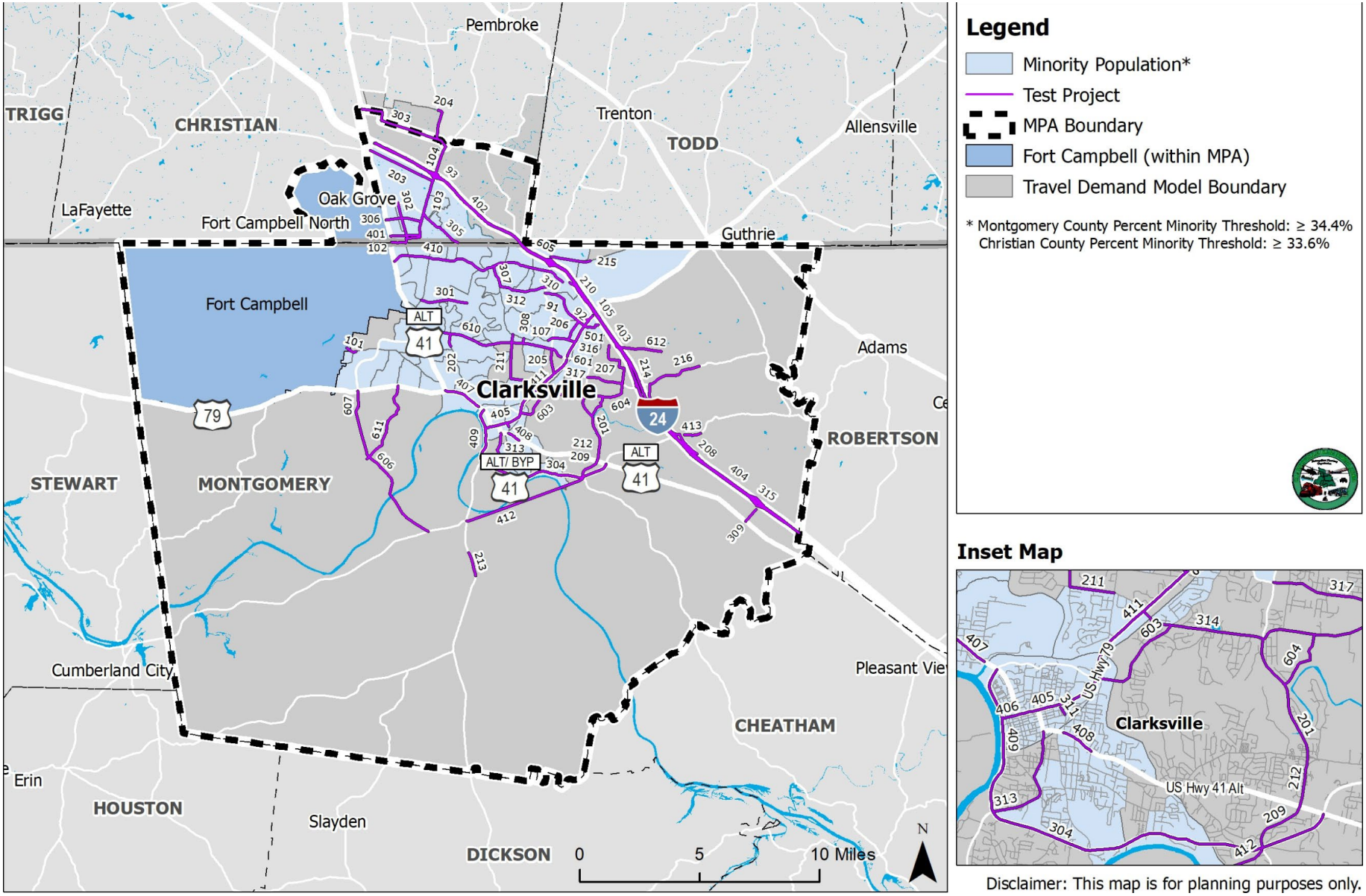
In addition to roadway capital projects, smaller scale projects such as pedestrian and bicycle facilities, improved signalization, roadway maintenance, and safety improvements often require little or no right-of-way acquisition and can play a key role in communities with a larger percentage of residents who walk, bike, or ride transit. These projects will likely be implemented throughout the MPA based on specific needs over the life of the plan, and many of these improvements will be developed in conjunction with proposed capital projects.

LOW-INCOME POPULATIONS



Disclaimer: This map is for planning purposes only.

Source: American Community Survey



Disclaimer: This map is for planning purposes only.

Source: American Community Survey