



Johnson City *MTPO*  
Metropolitan Transportation Planning Organization

# EXECUTIVE SUMMARY

## 2050 METROPOLITAN TRANSPORTATION PLAN

JOHNSON CITY MTPO

2022 - 2050

# A MOBILITY PLAN FOR **THE NEXT 30 YEARS** 2020 TO 2050



*This report was prepared in cooperation with the U.S. Department of Transportation, Federal Highway Administration, Federal Transit Administration, and the Tennessee Department of Transportation.*



## INTRODUCTION

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The Johnson City region is located in northeast Tennessee, approximately 60 miles north of Asheville, North Carolina and just a little over 30 miles south of the mountains of southwest Virginia. The region's transportation system is comprised of a diverse network of streets and highways, public transportation systems, walkways and bikeways, airports, and railroads. Each of these multimodal elements contribute to the efficient and safe movement of people and goods locally, regionally, and nationally.

Since the 1980s, local, state, and federal agencies have provided a continuing, cooperative, and comprehensive approach to transportation planning for the region, led primarily by the Johnson City Metropolitan Transportation Planning Organization (MTPO). A key effort in this planning process is the development of the federally-required Metropolitan Transportation Plan (MTP). Updated every five years, the 2050 MTP recommends a combination of both long-range and short-range strategies to accommodate population and economic growth expected in the region over the next 30 years.

The 2050 MTP includes a balanced, or fiscally-constrained, budget. This budget represents the full list of projects and programs that will be implemented between 2022 and 2050 and includes more than \$599 million in expected federal and state funds or local matching funds over the plan's 30-year horizon.

# REGIONAL GOALS

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As part of developing the 2050 MTP, the Johnson City MTPO established four key goals (supported by practical strategies) to guide future transportation decisions in the region.

## 1

### Improve Safety and Security throughout the MTPO Area Transportation System

- Reduce rates of crashes with serious injuries and fatalities
- Reduce secondary traffic crashes
- Establish initiatives (projects and programs) to improve the safety and security of vulnerable roadway users (e.g., pedestrians, cyclists, transit riders, and the young and old)
- Encourage partnerships with other transportation and non-transportation agencies to enhance transportation safety and security
- Increase the transportation system's resilience to climate change and extreme weather

## 2

### Mitigate Traffic Congestion along Major Routes in the MTPO Area

- Reduce travel delays between major areas of attractions in the MTPO study area
- Seek cost-effective management solutions and new technologies as a means of addressing congestion, reducing transportation delay, improving travel time reliability, and improving system operations
- Increase transit and other transportation demand management strategies
- Enhance the flow of raw materials and manufactured products

## REGIONAL GOALS, CONTINUED

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### 3

#### Promote Sustainable Economic Growth and Livability by Enhancing the MTPO Area Transportation System

- Maintain what we have – take a “state of good repair” approach to our community’s transportation assets
- Invest in the integration and connectivity of the transportation system, across and between modes, for people and freight, to support sustainable economic development and improve quality of life
- Promote alternative forms of transportation (such as walking, biking, and transit)
- Support transportation investments which minimize adverse impacts of surface transportation to historical, social, cultural, and natural environments, including stormwater impacts, and reduce transportation impacts on air-quality

### 4

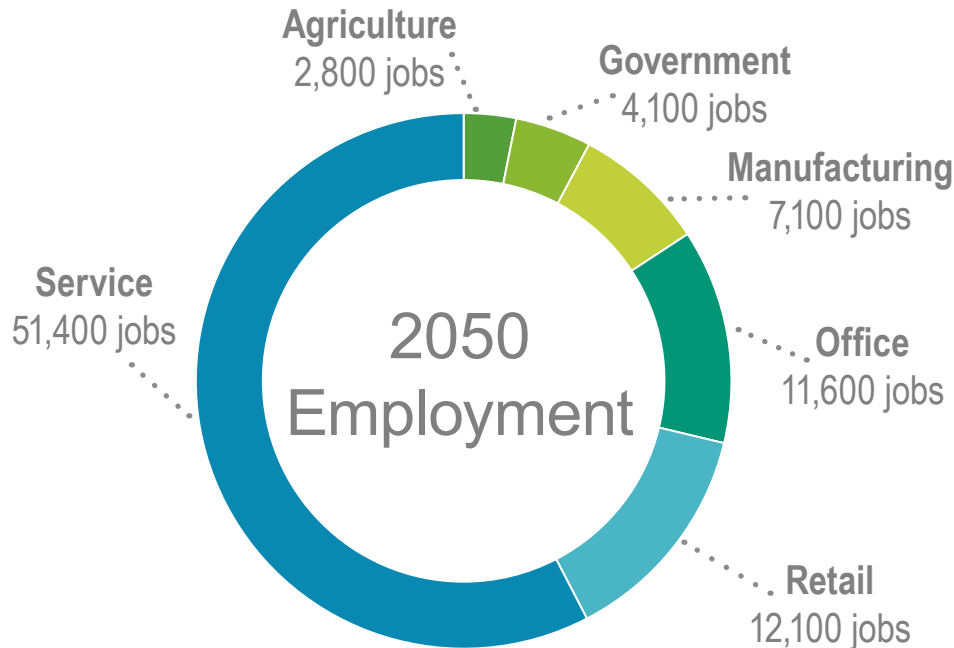
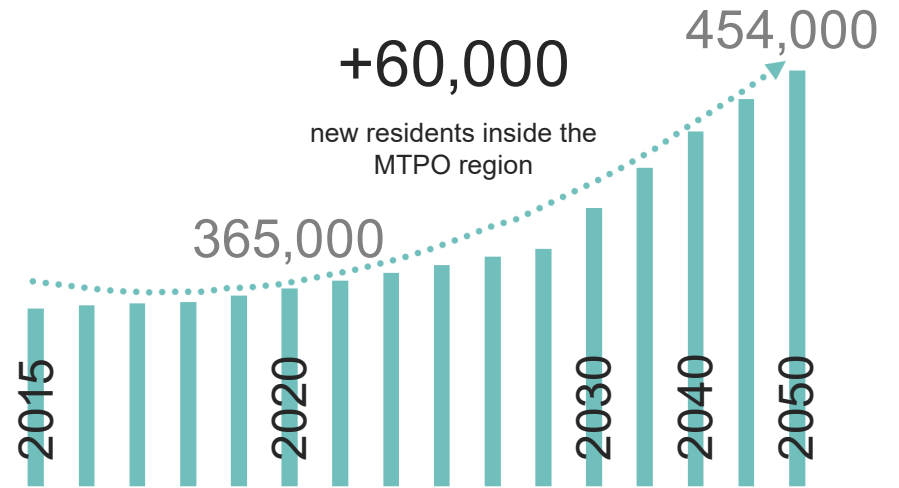
#### Enhance Regional Access to and from the MTPO Area

- Maintain and improve access to regional areas outside of the MTPO study area
- Support transportation investments and policies that work to create jobs and improve access to people, tourism, places, and goods while embracing access management and corridor management strategies that preserve the long-term functionality of a roadway’s capacity and safety
- Strategically target transportation investments to areas supportive of and conducive to growth and redevelopment initiatives

# POPULATION AND EMPLOYMENT TRENDS

Since the Johnson City Urbanized Area was designated as an MPO, the region has continued to grow, and this growth is expected to continue in the future. These increases in the region's population and employment affect travel patterns and the need for transportation choices so that residents and visitors can continue to access the places they need to go.

By 2050, the total population of Carter, Sullivan, Unicoi, and Washington counties is expected to exceed 454,000 people, which is a 24% increase since 2020. This growth in population is expected to be concentrated within the Johnson City MTPO's planning area and will be accompanied by an increase in populations over the age of 65.

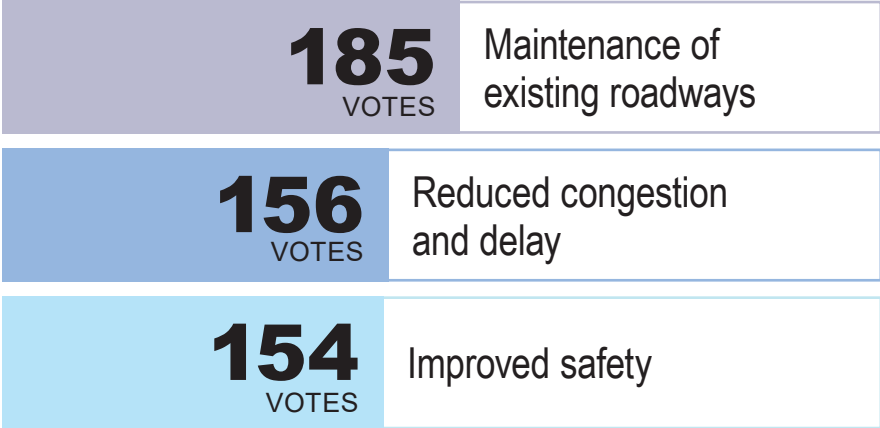


Employment characteristics in the Johnson City region have changed dramatically over the past several decades, which are most evident in job losses in the agricultural and manufacturing sectors. These changes are consistent with national trends and have been accompanied by increased employment in the retail, office, government, and service sectors. Between 2020 and 2050, employment in the MTPO area is forecasted to increase by more than 25%, to nearly 90,000 employees.

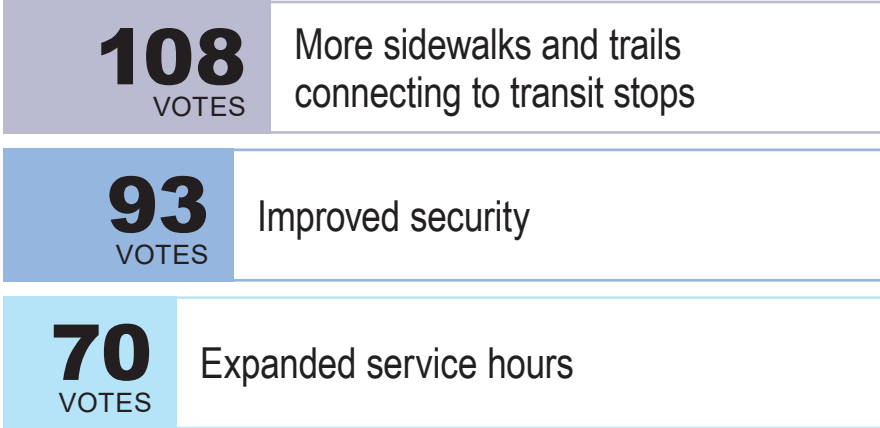
# PUBLIC AND STAKEHOLDER ENGAGEMENT

Public and stakeholder engagement is a critical component of the MTPO planning process that played a key role in the development of this plan. Engagement opportunities included both virtual and in-person stakeholder and public meetings, presentations to the MTPO Executive Board, online surveys and interactive mapping applications, and internet and social media outreach. Respondents provided feedback on their top priorities for the transportation system, including:

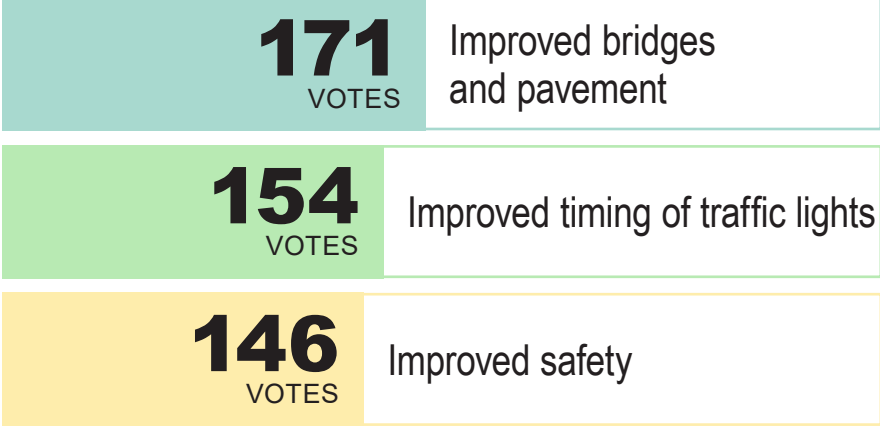
## OVERALL SYSTEM PRIORITIES



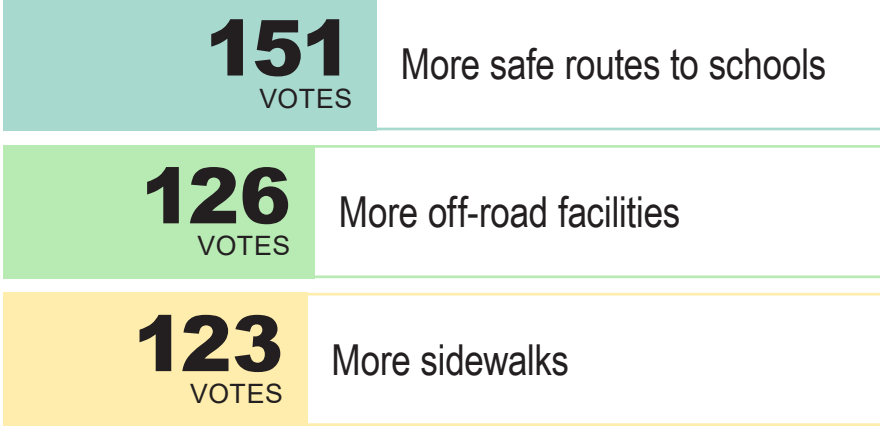
## PREFERRED TRANSIT IMPROVEMENTS



## PREFERRED ROADWAY IMPROVEMENTS



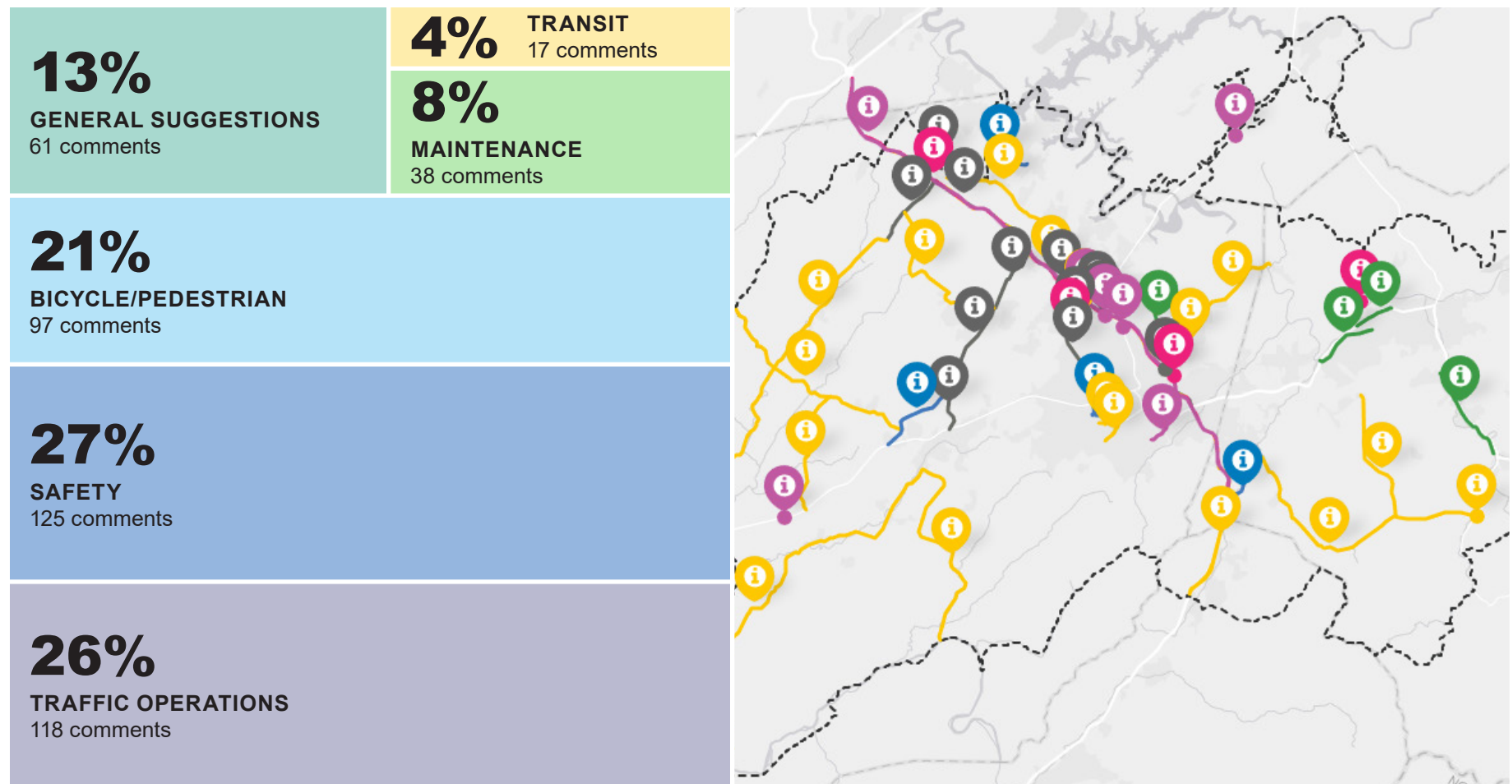
## PREFERRED BICYCLE AND PEDESTRIAN IMPROVEMENT



# TRANSPORTATION SYSTEM NEEDS

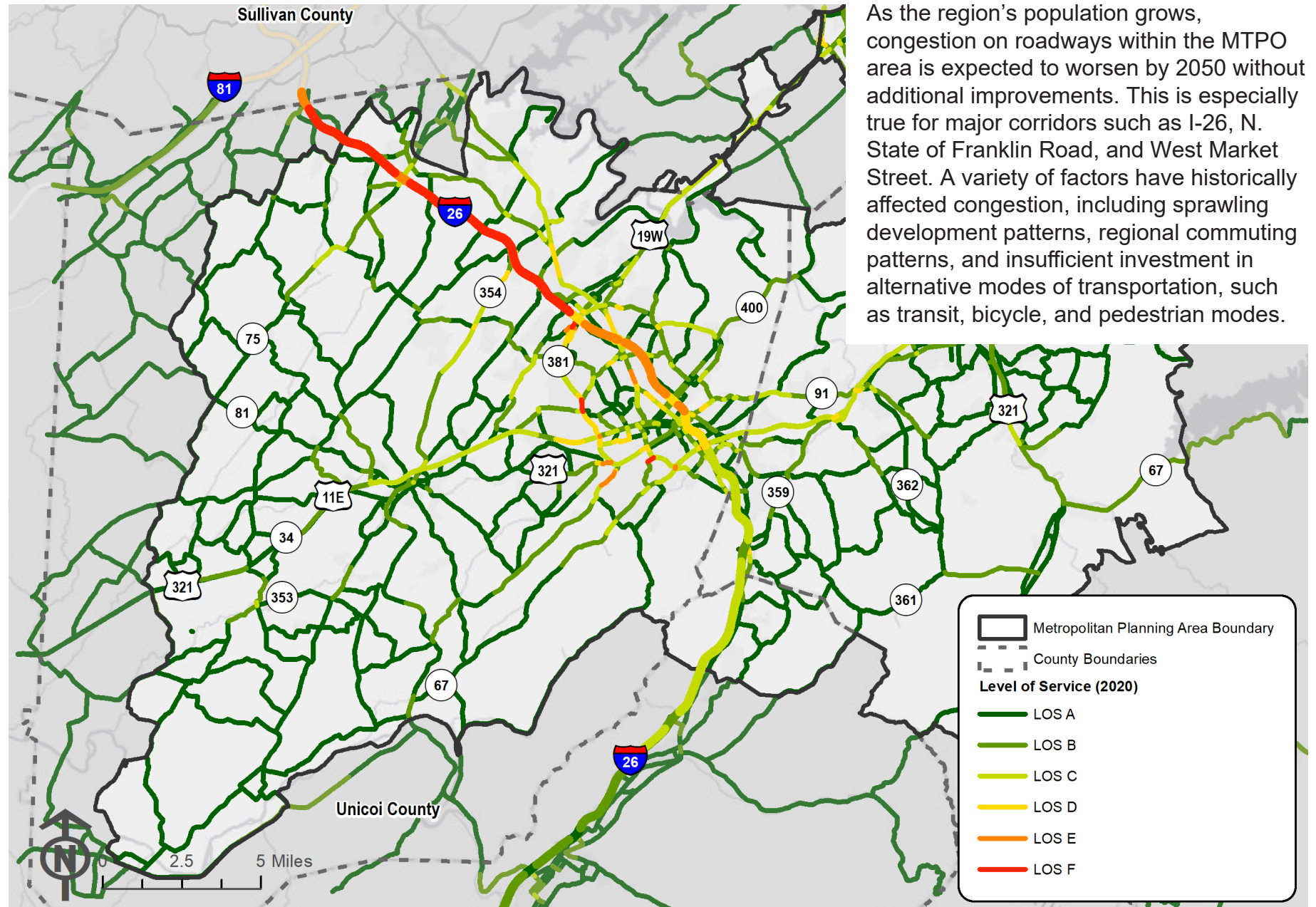
The 2050 MTP relies on both technical analysis and public input to identify deficiencies and needs of the transportation system. Using a travel demand model, the MTPO quantified the impacts of future population and employment growth on the transportation system, which allows the MTPO to better anticipate the need for improvements over the next 30 years.

In addition to the results of the technical modeling, commenters were able to provide input on issues they encounter every day via an online mapping application. The interactive map received 456 comment markers in the following categories, which helped inform the development of project recommendations:





# TRANSPORTATION SYSTEM NEEDS, CONTINUED

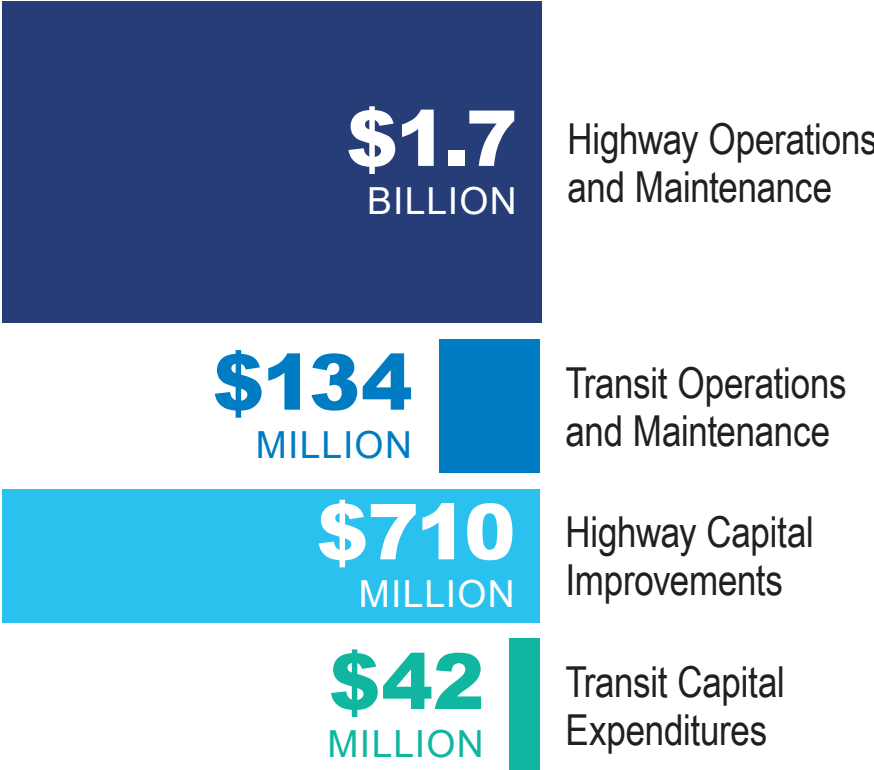


As the region's population grows, congestion on roadways within the MTPO area is expected to worsen by 2050 without additional improvements. This is especially true for major corridors such as I-26, N. State of Franklin Road, and West Market Street. A variety of factors have historically affected congestion, including sprawling development patterns, regional commuting patterns, and insufficient investment in alternative modes of transportation, such as transit, bicycle, and pedestrian modes.

# FUNDING AND REVENUE ALLOCATIONS

The ability to maintain, improve, and enhance transportation facilities and services in the MTPO area depends on the availability of financial resources to implement improvements. Funding for transportation comes from a variety of places, including federal, state, local, and private sources. For the 2050 MTP, historic trends were used to forecast revenues that would be available for investing in the region’s transportation infrastructure over the next 30 years.

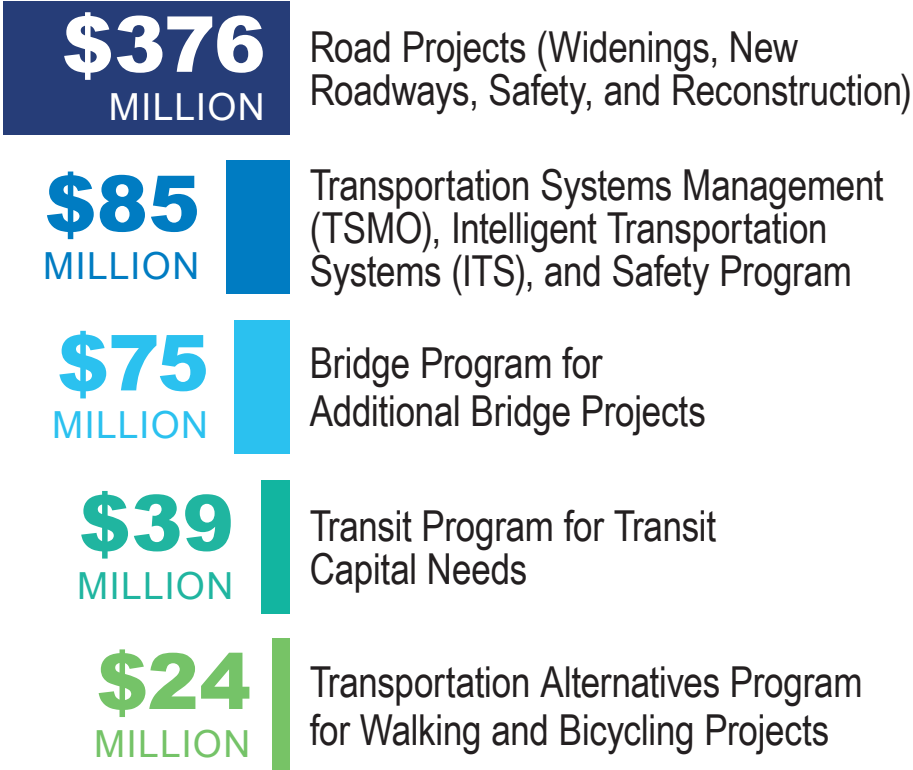
By 2050, the MTPO region can expect to receive over \$2.6 billion to support the following types of transportation projects:



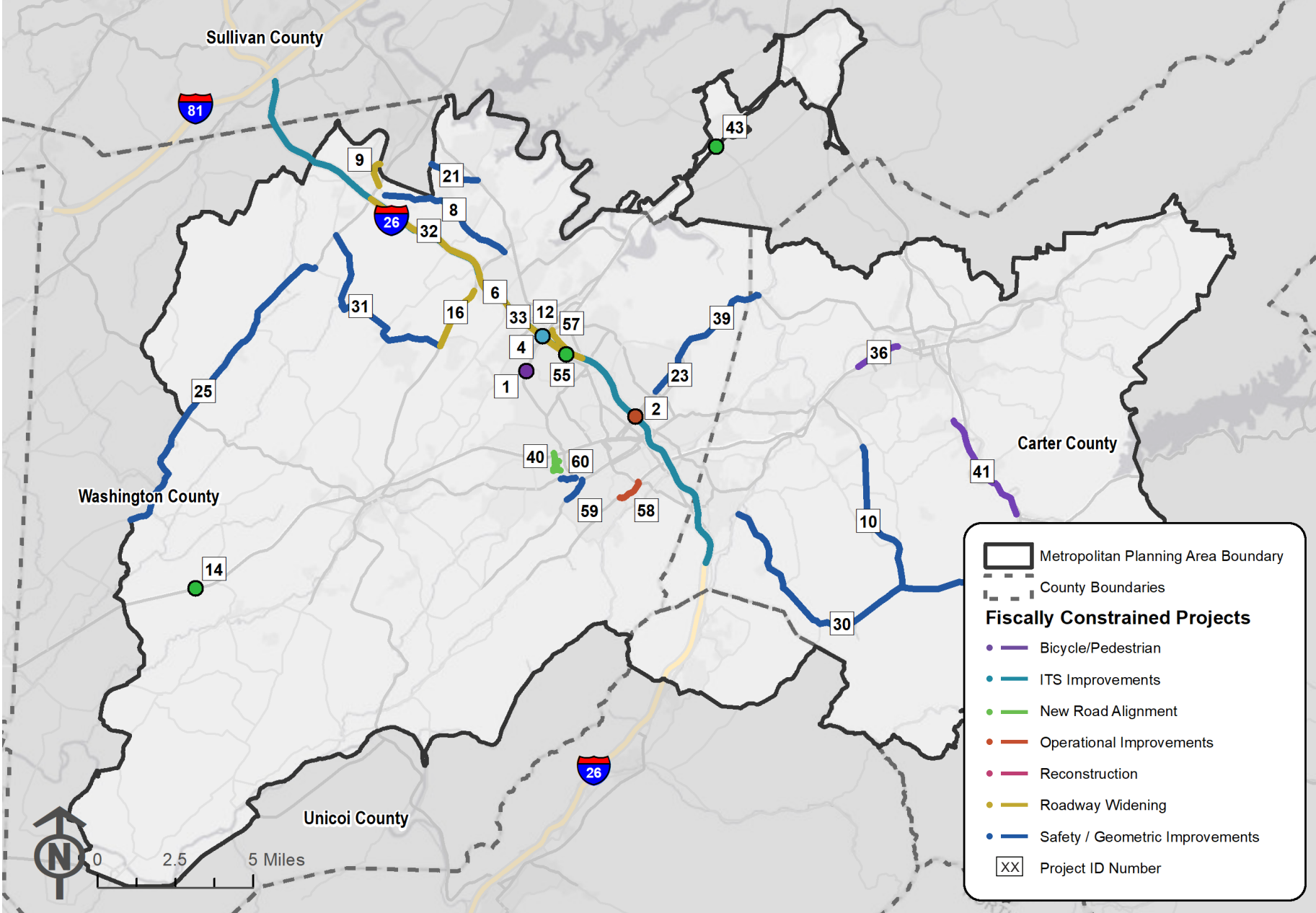
The need for and costs of improving the region’s transportation infrastructure were balanced against available revenues.

After determining which projects would help the MTPO reach its desired goals and objectives, projects were selected for inclusion in the MTP as being ‘Cost-Feasible’. This means that the MTPO can reasonably expect money to be available to fund these projects by 2050.

In total, the cost-feasible portion of the 2050 MTP includes:



# COST FEASIBLE PROJECTS



# COST FEASIBLE PROJECTS, CONTINUED

ID	Lead Agency	Project/Route Name	From/To	Type of Improvement	Description	YOE Cost	Funding Program
<b>Projects to be Completed 2023-2030</b>							
1	Johnson City	Adaptive Signal Control	System wide deployment throughout Johnson City	ITS Improvements	Deployment of real-time adaptive signal control technologies	\$255,256	STBG-L
4	TDOT	I-26 Exit 19-State of Franklin (SR 381) Interchange Signage (Project S6)	I-26 Exit 19-State of Franklin Road (SR 381) Interchange	Safety / Geometric Improvements	Install Additional Overhead Signage	\$316,518	HSIP
6	TDOT	I-26 ITS Deployment	MM 8 to MM 26	ITS Improvements	Cameras, DMS, Sensors and communications	\$9,189,227	NHPP
9	Washington County	Old Gray Station Road Section 1	Bobby Hicks Highway (SR 75) to Cherry Street	Roadway Widening	Improve roadway to 3-lane and shoulder	\$10,669,714	Local
10	TDOT	SR 362 Safety Improvements	Dry Creek Road (SR 361) to Big Springs Road	Safety / Geometric Improvements	Safety / geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$196,547	HSIP /STBG-S
14	Washington County	Washington County Industrial Park Traffic Signal	Intersection of Andrew Johnson Highway (SR 34 / US 11E) at Precision Boulevard/ Stockyard Road	Operational Improvements	Install new traffic signal	\$510,513	STBG-L
16	TDOT	Boones Creek Road (SR 354) Section 1	Christian Church Road to Highland Church Road	Roadway Widening	Widen existing 2-lane roadway to 4 lanes	\$17,740,314	STBG-S
30	TDOT	SR 361 Improvements	Okolona Road (SR 359) to Veterans Memorial Parkway (SR 37 / US 19E)	Safety / Geometric Improvements	Safety / geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$7,914,222	HSIP

# COST FEASIBLE PROJECTS, CONTINUED

ID	Lead Agency	Project/Route Name	From/To	Type of Improvement	Description	YOE Cost	Funding Program
<i>Projects to be Completed 2023-2030</i>							
40	Johnson City	Novus Drive Extension	West Market Street (SR 34 / US 11E) to McKinley Road	New Road Alignment	Construct new 2-lane road with median and additional turn lanes at intersections	\$15,315,379	Discretionary / STBG-L / Local
43	Sullivan County	Allison Road and Piney Flats Road Intersection Improvements	Bristol Highway (SR 34 / US 11E / US 19W) and Allison Road/Piney Flats Road	Operational Improvements	Intersection Improvement	\$3,190,704	STBG-L
55	Johnson City	Browns Mill Road and Peoples Street Roundabout	Browns Mill Road and Peoples Street Intersection	Operational Improvements	Install roundabout at the intersection of Browns Mill Road and Peoples Street	\$638,141	Local
57	Johnson City	Browns Mill Road Improvements	Browns Mill Road, from West Oakland Avenue to Peoples Street	Roadway Widening	Widen road, add turn lanes, add sidewalks	\$3,190,704	Local
58	Johnson City	Cherokee Road (SR 67)	Sinking Creek Road to University Parkway (SR 381 / US 321)	Operational Improvements	Operational improvements (including spot widenings, intersection improvements, turn lanes) at select locations as determined through project development	\$641,331	HSIP
60	Johnson City	West Walnut Street	Antioch Road to West State of Franklin Road (SR 381 / US 321)	Safety/ Geometric Improvements	Safety / geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$392,457	Local

## COST FEASIBLE PROJECTS, CONTINUED

ID	Lead Agency	Project/Route Name	From/To	Type of Improvement	Description	YOE Cost	Funding Program
<i>Projects to be Completed 2031-2050</i>							
2	TDOT	I-26 Exits 22 & 23 Interchange Improvements (Project C1)	East Unaka / Watauga Avenue (SR 400) to West Market / Main Street (SR 91)	Roadway Widening	Widen Eastbound Off-Ramp to Provide Option Lane	\$2,582,094	NHPP
8	Johnson City	Old Gray Station Road Section 3	Buckingham Road to Boones Creek Road (SR 354)	Safety / Geometric Improvements	Safety / geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$5,554,504	STBG-L
12	TDOT	I-26 Exit 19 - North State of Franklin Road (SR 381) Improvements	On and Off Ramps from I-26 at Exit 19-North State of Franklin Road (SR 381) Interchange	Operational Improvements	Reconfiguration, operational improvements, add turning lanes, on all approaches, etc.	\$60,048,687	NHPP
21	Washington County	Free Hill Road	Kingsport Highway (SR 36) to Cedar Creek Road	Safety / Geometric Improvements	Reconstruct 2 lane roadway addressing geometric issues	\$1,981,607	STBG-L
23	TDOT	East Unaka Avenue (SR 400)	Broadway Street to East Fairview Avenue	Safety / Geometric Improvements	Safety / geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$1,651,339	STBG-S
25	TDOT	SR 75 Improvements	Boonesborough Road to Andrew Johnson Highway (US 11E)	Safety / Geometric Improvements	Safety / geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$18,032,621	STBG-S






## COST FEASIBLE PROJECTS, CONTINUED

ID	Lead Agency	Project/Route Name	From/To	Type of Improvement	Description	YOE Cost	Funding Program
<i>Projects to be Completed 2031-2050</i>							
31	Washington County	Shadden Road / Highland Church Road	Suncrest Drive (SR 75) to Boones Creek Road (SR 354)	Safety / Geometric Improvements	Safety/geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$7,494,076	STBG-L
32	TDOT	I-26	Exit 13 to 17	Roadway Widening	Widen Existing 4-lane interstate to 6 lanes	\$85,479,306	NHPP
33	TDOT	I-26	Exit 17 to 20	Roadway Widening	Widen Existing 4-lane interstate to 6 lanes	\$87,821,204	NHPP
36	TDOT	Elk Avenue / Broad Street (SR 67)	Williams Avenue to Holly Lane	Bicycle / Pedestrian	Add sidewalks on north side of SR 67	\$6,341,141	STBG-S
39	TDOT	Watauga Road (SR 400)	East Fairview Avenue to Piney Flats Road	Safety / Geometric Improvements	Safety/geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$4,203,408	STBG-S
41	Carter County	Tweetsie Trail Extension	End of Tweetsie Trail at Hatcher Lane to Hampton, TN	Bicycle / Pedestrian	Trail extension, bridge rehabilitation over the Doe River and access through old railroad tunnel	\$14,391,669	Discretionary / STBG-L / Local
59	Johnson City	Greenwood Drive	Seminole Drive to West State of Franklin Road (US 321 / SR 381)	Safety / Geometric Improvements	Safety/geometric improvements (including paved shoulders, improvements at select locations) as determined through project development	\$1,209,326	Local

## NEXT STEPS

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The cost-feasible projects that are included in the 2050 MTP are now eligible to move forward in the project development process as outlined below.

-  **Project is included in the cost-feasible portion of the MTP**
-  **Project advances into the MTPO's 4-Year Transportation Improvement Program (TIP) for funding**
-  **Project development process begins, including preliminary engineering, environmental analysis, and final design**
-  **Project is constructed**
-  **Project is maintained in a state of good repair**



FOR MORE INFORMATION ABOUT THE 2050 MTP,  
VISIT [HTTPS://JCMPO.ORG](https://jcm-po.org)

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