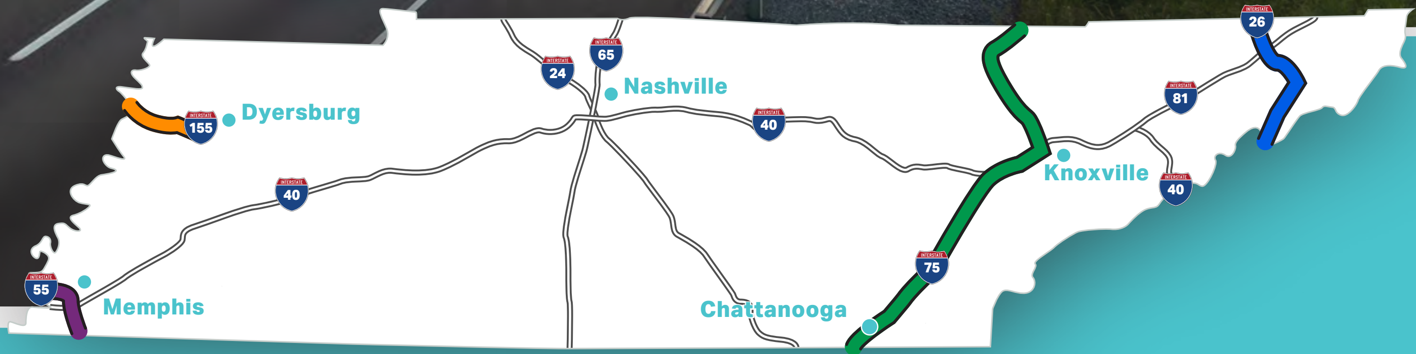
# I-55/75/26

## Multimodal Corridor Study

▶ Executive Summary





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**May 2020**

TN TDOT Department of Transportation

# I-55/75/26 Multimodal Corridor Study

## Executive Summary

## Introduction

Tennessee's interstates form the backbone of the state's transportation system, complemented by state highways, local roads, airports, railroads, transit systems, bicycle and pedestrian facilities, and waterborne navigation facilities. Tennessee's interstate highways carry about 30% of all vehicle miles traveled in the state, and 80% of all truck miles, making them the key component of the roadway system, facilitating the movement of people and goods across the state and across the country. Developing a multimodal transportation system that meets the changing needs of Tennessee's residents, businesses, and visitors will support the state's growth and provide a range of safe transportation options for everyone.

The I-55/75/26 Multimodal Corridor Study evaluated potential transportation improvements to address existing and emerging issues in the system. The analysis is centered on study areas surrounding four Interstate corridors: I-55 in southwestern Tennessee, I-155 in northwestern Tennessee, I-75 in the east-central part of the state, and I-26 in eastern Tennessee. Together, these corridors represent more than 200 miles of freeway traveling through urban and rural counties, supported by a robust network of non-freeway facilities.

The study considered innovative, long-range approaches to addressing multimodal issues and opportunities in these corridors. Solutions were developed to address traffic and congestion, operations and safety, expanded transportation choice, and the ways in which the transportation system supports economic growth, freight movement, and access to employment. The study included multiple opportunities for stakeholder involvement, including surveys, regional meetings, interactive online mapping and the guidance of a project advisory committee made up of representatives from each corridor's study area.

The I-55/75/26 Multimodal Corridor Study is documented in four technical memoranda and a final report. This Executive Summary presents an overview of the key transportation deficiencies identified in each corridor and the top ranked solutions for addressing those deficiencies. For technical details and full explanations of the planning process and its outcomes, please refer to the study documents. This Executive Summary outlines the general shape of the future of transportation in these interstate corridors, suggesting planning studies and projects that will enable them to function efficiently for Tennessee's residents, businesses, and visitors long into the future.

### Study Corridors


Four interstate corridors - I-55, I-155, I-75 and I-26 - are included in the study.

# I-55 Corridor

▶ Executive Summary

# I-55 Corridor Deficiencies & Solutions Summary

Safe, efficient, and equitable multimodal surface transportation is critical to the wellbeing and economic vitality of Tennessee. The I-55/75/26 Multimodal Corridor Study identified and evaluated potential improvements to address issues on four interstate corridors, including I-55. Solutions address traffic and congestion, operations and safety, transportation mode, and support for economic growth and freight movement.

The study included four core activities:

1. Evaluating transportation, demographic, and economic data.
2. Assessing system deficiencies to develop goals and performance measures.
3. Developing and evaluating feasible solutions.
4. Prioritizing actions to implement those solutions.

The I-55 corridor is critical for economic development and growth in the Memphis area. As the region continues to increase in population and employment, pressure on the interstate and adjacent highways also continues to increase. A suite of solutions to address existing and emerging problems was developed, and potential solutions were prioritized for their ability to meet the region's vision in a cost-effective manner while minimizing adverse environmental impacts.

## Performance Goals and Objectives — I-55

| Goals | Objectives | | |
|---|---|---|---|
| Provide efficient and reliable travel | Improve travel times and reduce delay | Provide transportation options for people and freight | Optimize freight movement |
| Improve safety conditions | Reduce crash rates along the corridor – especially at identified crash "hot spots" | Implement or upgrade technologies that promote safety and effective incident management | Improve bicycle and pedestrian accommodations |
| Coordinate transportation investments with economic development plans | Improve interchange on/off ramps | Coordinate with MPOs/RPOs to determine areas where new/improved Interstate access is needed | |
| Invest equitably throughout the corridor | Expand transportation options for traditionally underserved populations within the corridor | Consider regional transit options | Identify areas with the greatest data-driven needs |
| Protect the natural environment and sensitive resources within the corridor | Identify transportation improvements that are not likely to result in major impacts to environmental, social, and cultural resources | | |

# I-55 Corridor Overview & Transportation Deficiencies

The I-55 corridor extends 13 miles in southwestern Tennessee from the Arkansas state line and Mississippi River to the Mississippi state line. The freeway is a backbone travel route in Shelby County carrying up to 108,000 vehicles daily. This corridor also carries a significant amount of truck traffic as this area of Memphis is a freight hub for the entire region. Growth is anticipated in both population and employment, particularly around interchanges, leading to increased travel. Through data analysis and extensive stakeholder involvement, existing and future deficiencies affecting operations, safety, economic development and transportation equity were identified.

## I-55 Fast Facts

**Length**
13 Miles

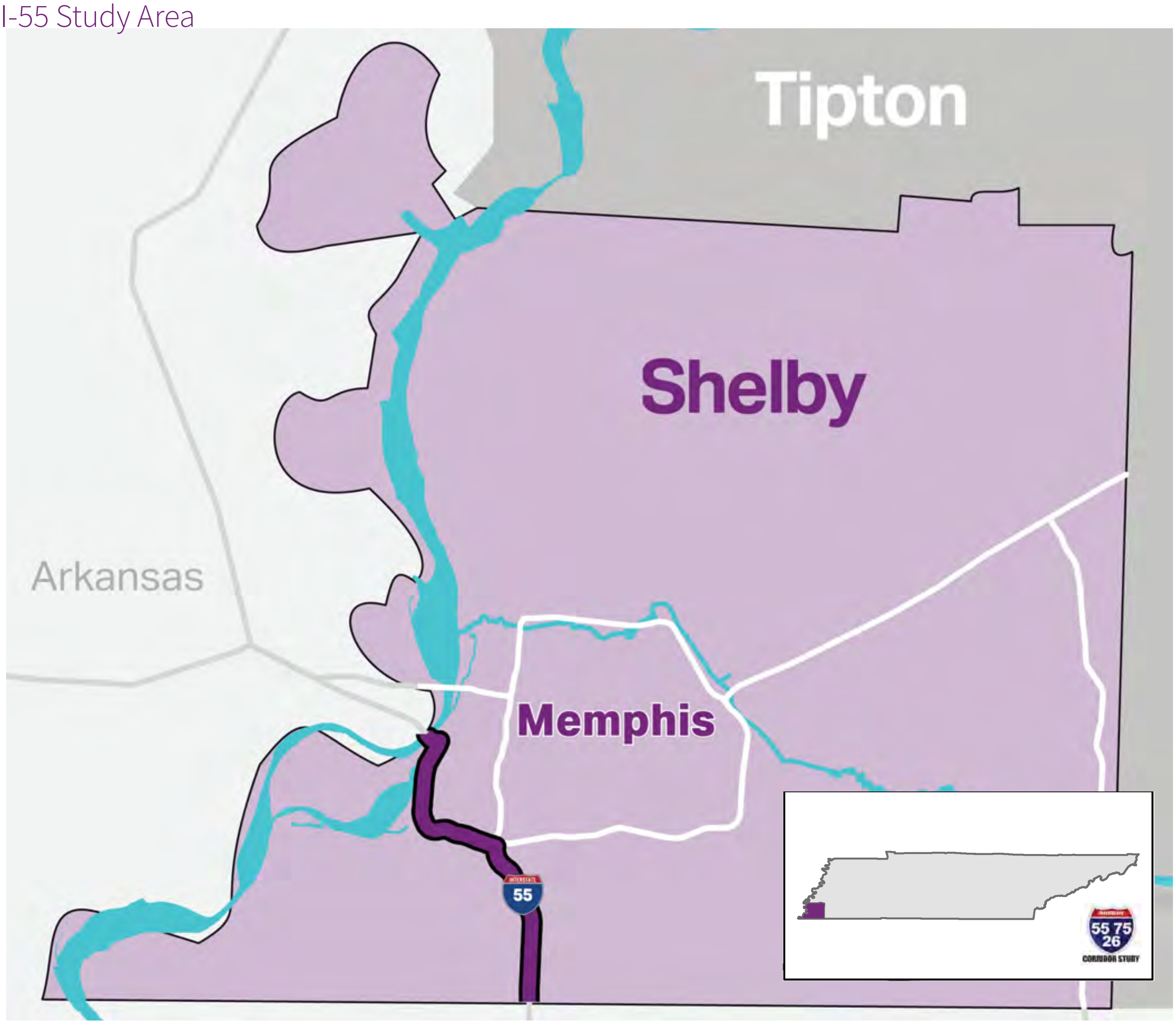
**Counties**
1
Shelby

**Traffic (Vehicles per Day)**
53,000-108,000

**Typical Section***
4 or 6 Lanes

*Varies north and south of I-240

## I-55 Study Area



# I-55 Key Existing Deficiencies and Future Needs


## Highway Capacity

1. Freeway congestion
2. Interchange congestion

## Safety

3. Areas with safety concerns
4. Inadequate signage leads to safety problems

## Freight

5. Potential freight traffic bottlenecks
6. Truck parking needed

## Economic Development

7. Potential for new interchange to accommodate growth

## Multimodal

8. Regional transit needed
9. Bicycle and pedestrian facilities needed through interchange
10. Improved local transit needed
11. Improved transit to airport and employers needed

## Pavement & Structures

12. Road pavement deficient
13. Fifteen corridor bridges eligible for rehabilitation

# I-55 Corridor Multimodal Transportation Solutions

Once the corridor deficiencies were identified and analyzed, a universe of alternatives – potential solutions addressing those deficiencies – was developed and evaluated against a set of goals and performance measures. The alternatives were analyzed for their impacts to safety, traffic congestion, freight movement, and other factors, as well as for how they might function individually and with other solutions over the long term. Twenty-seven alternatives were evaluated for locations throughout the corridor.

## Project Ranking Across all Modes/Strategies — I-55

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| C3 | Widen existing 4-lane bridge | Mississippi River Bridge | 14 | $164,000,000 | 0.1 | $11,714,300 |
| C2 | Improve interchange to maintain six lanes between ramps | McLemore Ave Interchange | 13 | $9,930,000 | 1.3 | $763,800 |
| S1 | Close Exit 12C; Convert enter/exit lanes to merge/exit lanes for I-55 | Metal Museum Drive Interchange | 12 | $567,000 | 21.2 | $47,300 |
| S7 | Realign Ramps | South 3rd (US-61)Street Interchange | 12 | $19,200,000 | 0.63 | $1,600,000 |
| S8 | Add advanced signage and pavement markings; Extend SB deceleration lane | I-240 Interchange | 11 | $1,560,000 | 7.1 | $141,800 |
| F2 | Add auxiliary lane between off-ramps and on-ramps at McLemore Avenue | McLemore Ave Interchange | 11 | $9,930,000 | 1.1 | $902,700 |
| TS1 | Advance warning and pull-off OR collapsible barrier in the median for over-dimensional vehicles | Advance of Mississippi River Bridge (WB approach) | 10 | $27,000 | 370.4 | $2,700 |
| S3 | Add pavement markings; add additional overhead signage | Metal Museum Drive Interchange | 10 | $249,000 | 40.2 | $24,900 |
| S4 | Add pavement markings | Metal Museum Drive Interchange | 10 | $345,000 | 30.0 | $34,500 |
| F5 | Apply signal coordination on adjacent arterial streets with heavy truck traffic manage on- and off- ramp congestion (Crump, McLemore, US-61, Brooks) | Throughout Corridor | 10 | $1,090,000 | 9.2 | $109,000 |
| TS2 | Install corridor management assets (ITS/DMS) | Throughout Corridor | 10 | $7,380,000 | 1.4 | $738,000 |
| S2 | Install additional jersey barrier | Metal Museum Drive Interchange | 9 | $55,700 | 337.1 | $3,000 |
| S5 | Interchange improvement: Use existing pavement width from removed exit 12C to provide additional merge and exit ramp space at Crump Blvd | Crump Blvd Interchange | 9 | $125,000 | 72.0 | $13,900 |
| S9 | Extend WB deceleration lane | I-240 Interchange | 9 | $2,000,000 | 4.5 | $222,200 |
| F3 | Resurface so that at least 90% of the corridor has good ride quality | Horn Lake Rd to Mississippi River | 9 | $3,120,000 | 2.9 | $346,700 |

## Project Ranking Across all Modes/Strategies (cont.) — I-55

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| S6 | Resurface Pavement | MS River Bridge to Mill Branch Rd | 9 | $6,520,000 | 1.4 | $724,400 |
| T2 | Improve shuttle service frequency to the Memphis Airport and major employment centers in its vicinity | All Transit Centers to Memphis Airport | 8 | $1,200,000 | 6.7 | $150,000 |
| T10 | Circulator shuttle allowing a more direct connection to places of employment | Memphis Intermodal Facility | 8 | $600,000 | 13.3 | $75,00 |
| F4 | Add overnight truck parking capacity (~100 spots) | Throughout Corridor | 8 | $2,440,000 | 3.3 | $305,000 |
| F6 | New interchange at Holmes Road | Holmes Rd | 8 | $29,700,000 | 0.3 | $3,712,500 |

Note: See full report for project details.

## Project Ranking Across all Modes/Strategies (Studies) — I-55

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| C1 | Evaluate options for increasing capacity and improving merge/diverge and weave areas between the US-61 and I-240 interchanges | I-240/I-69 to US-61 | 13 | $175,000 | N/A | N/A |
| F1 | Study interchange design to ensure safe efficient truck movement | I-240 Interchange | 10 | $25,000 | N/A | N/A |
| ED1 | Evaluate need for additional interstate access point to accommodate economic growth | I-240 to MS State Line | 8 | $100,000 | N/A | N/A |
| T12 | Study transit extension into DeSoto County (Mississippi) | US-61 to Goodman Rd (MS-305) | 8 | $50,000 | N/A | N/A |
| S10 | Evaluate need for additional drainage | Brooks Rd Interchange | 7 | $20,000 | N/A | N/A |
| BP1 | Conduct study to identify bike/ped accommodations at U.S. and S.R. interchanges, as well as the Brooks Road interchange | Throughout Corridor | 7 | $25,000 | N/A | N/A |

Note: See full report for project details.

The alternatives were screened for feasibility and effectiveness. The alternatives that advanced through the evaluation were finally ranked for their positive impact on transportation in the corridor and cost effectiveness. The ranked projects are shown below.

## Feasible Multimodal Solutions - Full List — I-55

# I-55 Corridor Top Ranked Transportation Solutions

The rankings indicate projects with the highest benefits to the corridor's multimodal transportation system and also shows projects that can be implemented with a smaller financial investment. The highest total benefit score a solution could receive is 15. In all, 11 projects and two studies were scored at 10 or higher, indicating their potential to effectively and efficiently address corridor transportation deficiencies.

## Top Ranked Transportation Solutions — I-55

# I-55 Corridor Long Term Vision

The transportation solutions recommended in this study would directly address the deficiencies identified through data analysis and by stakeholders.

Implemented together, they would improve multimodal transportation in the corridor in measurable ways, mitigating the adverse conditions that currently exist and those that are forecast to emerge as corridor population, economic activity, and travel grow.

## Performance Measure Summary — I-55

<table>
<tr><th rowspan="2">Goal</th><th rowspan="2" colspan="2">Performance Measure</th><th rowspan="2">Unit</th><th rowspan="2">Base (2010)</th><th rowspan="2">Trend (2040)</th><th rowspan="2">Build 2040</th><th colspan="2">% Change</th></tr>
<tr><th>(Base vs Trend)</th><th>(Trend vs Build)</th></tr>
<tr><td rowspan="11">Traffic Operations</td><td colspan="2">Traffic on interstate operates at LOS D or better</td><td>% of interstate operating at LOS D or better</td><td>87.5</td><td>80.8</td><td>86.9</td><td>8</td><td>7</td></tr>
<tr><td colspan="2">Total Daily Vehicle Miles Traveled (VMT)</td><td>Miles (1,000s)</td><td>20,726</td><td>25,572</td><td>25,504</td><td>23</td><td><1</td></tr>
<tr><td colspan="2">Total Daily Vehicle Hours of Travel (VHT)</td><td>Hours (1,000s)</td><td>725</td><td>958</td><td>956</td><td>32</td><td><1</td></tr>
<tr><td colspan="2">Total Peak Hour Vehicle Hours of Delay (VHD)</td><td>Hours</td><td>22.5</td><td>25.6</td><td>26.3</td><td>18</td><td>-1</td></tr>
<tr><td colspan="2">Total VMT / Trip</td><td>Miles</td><td>3.91</td><td>4.05</td><td>4.04</td><td>4</td><td><1</td></tr>
<tr><td colspan="2">Total Vehicle Minutes Traveled / Trip</td><td>Minutes</td><td>8.20</td><td>9.10</td><td>9.08</td><td>11</td><td><1</td></tr>
<tr><td rowspan="2">Average Peak Hour Travel Speed</td><td>Urban Interstate</td><td>MPH</td><td>46</td><td>41</td><td>43</td><td>-10</td><td>5</td></tr>
<tr><td>Rural Interstate</td><td>MPH</td><td>72</td><td>74</td><td>74</td><td>0</td><td>0</td></tr>
<tr><td colspan="2">Congested Travel Time between key O&D Pairs along Corridor (Total)</td><td>Minutes</td><td>100</td><td>111</td><td>106</td><td>11</td><td>-5</td></tr>
<tr><td colspan="2">Peak Hour Density at Improved Interchanges</td><td>Vehicles/Mile/Lane</td><td colspan="5">See “Traffic Operations Memo”</td></tr>
<tr><td colspan="2">Average and Max Queues at Improved Interchanges</td><td>Feet</td><td colspan="5">See “Traffic Operations Memo”</td></tr>
<tr><td>Safety</td><td colspan="2">Crash Reduction in Safety “Hot Spots”</td><td>Above or Below Average Crash Reduction Potential</td><td colspan="5">See “Safety Recommendations”</td></tr>
<tr><td rowspan="3">Operations & Maintenance</td><td colspan="2" rowspan="2">Bridge Condition (Sufficiency Rating)</td><td>% of bridges < 50</td><td>9</td><td>0</td><td>0</td><td>N/A</td><td>N/A</td></tr>
<tr><td>50 < % of bridges < 80</td><td>38</td><td>47</td><td>28</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="2">Pavement Condition (Resurfacing)</td><td>% of corridor resurfaced within the last 10 years</td><td>66</td><td>66</td><td>100</td><td>N/A</td><td>N/A</td></tr>
<tr><td rowspan="4">Multimodal</td><td colspan="2" rowspan="2">Pedestrian and Bicycle Accommodations at U.S. and State Route Interchanges</td><td>% interchanges with bike facilities</td><td>0</td><td>25</td><td>25</td><td>N/A</td><td>N/A</td></tr>
<tr><td>% interchanges with ped. facilities</td><td>100</td><td>100</td><td>100</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="2" rowspan="2">Freight (Truck Parking)</td><td># of rest area spots</td><td>13</td><td>13</td><td>13</td><td>0</td><td>0</td></tr>
<tr><td># of truck stop spots</td><td>88</td><td>88</td><td>188</td><td>0</td><td>114</td></tr>
</table>

Note: See full report for performance measure details.

INTERSTATE 55 75 26 CORRIDOR STUDY

TN TDOT Department of Transportation

# I-155 Corridor

▶ Executive Summary

# I-155 Corridor Deficiencies & Solutions Summary

Safe, efficient, and equitable multimodal surface transportation is critical to the wellbeing and economic vitality of Tennessee. The I-55/75/26 Multimodal Corridor Study evaluated potential improvements to address issues in four interstate corridors, including I-155. Solutions address traffic and congestion, operations and safety, transportation choice, and support for economic growth and freight movement.

The study included four core activities:

1. Evaluating transportation, demographic, and economic data.
2. Assessing system deficiencies to develop goals and performance measures.
3. Developing and evaluating feasible solutions.
4. Prioritizing actions to implement those solutions.

The I-155 corridor is critical for economic development and growth in northwestern Tennessee. As the region continues to increase in population and employment, pressure on the interstate and adjacent highways also continues to increase. A suite of solutions to address existing and emerging problems was developed, and potential solutions were prioritized for their ability to meet the region's vision in a cost-effective manner while minimizing adverse environmental impacts.

## Performance Goals and Objectives — I-155

| Goals | Objectives | | |
|---|---|---|---|
| Provide efficient and reliable travel | Improve travel times and reduce delay | Provide transportation options for people and freight | Optimize freight movement |
| Improve safety conditions | Reduce crash rates along the corridor – especially at identified crash "hot spots" | Implement or upgrade technologies that promote safety and effective incident management | Improve bicycle and pedestrian accommodations |
| Coordinate transportation investments with economic development plans | Improve interchange on/off ramps | Coordinate with MPOs/RPOs to determine areas where new/improved Interstate access is needed | |
| Invest equitably throughout the corridor | Expand transportation options for traditionally underserved populations within the corridor | Consider regional transit options | Identify areas with the greatest data-driven needs |
| Protect the natural environment and sensitive resources within the corridor | Identify transportation improvements that are not likely to result in major impacts to environmental, social, and cultural resources | | |

# I-155 Corridor Overview & Transportation Deficiencies

The I-155 corridor extends 16 miles in northwestern Tennessee from the Missouri state line and Mississippi River to Dyersburg. The freeway is a backbone travel route in the region, carrying up to 14,000 vehicles daily. Moderate growth is anticipated in both population and employment, leading to increased travel in the region. Through data analysis and extensive stakeholder involvement, existing and future deficiencies were identified affecting safety, economic development and transportation equity.

## I-155 Fast Facts

**Length**

16 Miles

**Counties**

4

| | |
|---|---|
| Dyer | Lauderdale |
| Lake | Obion |

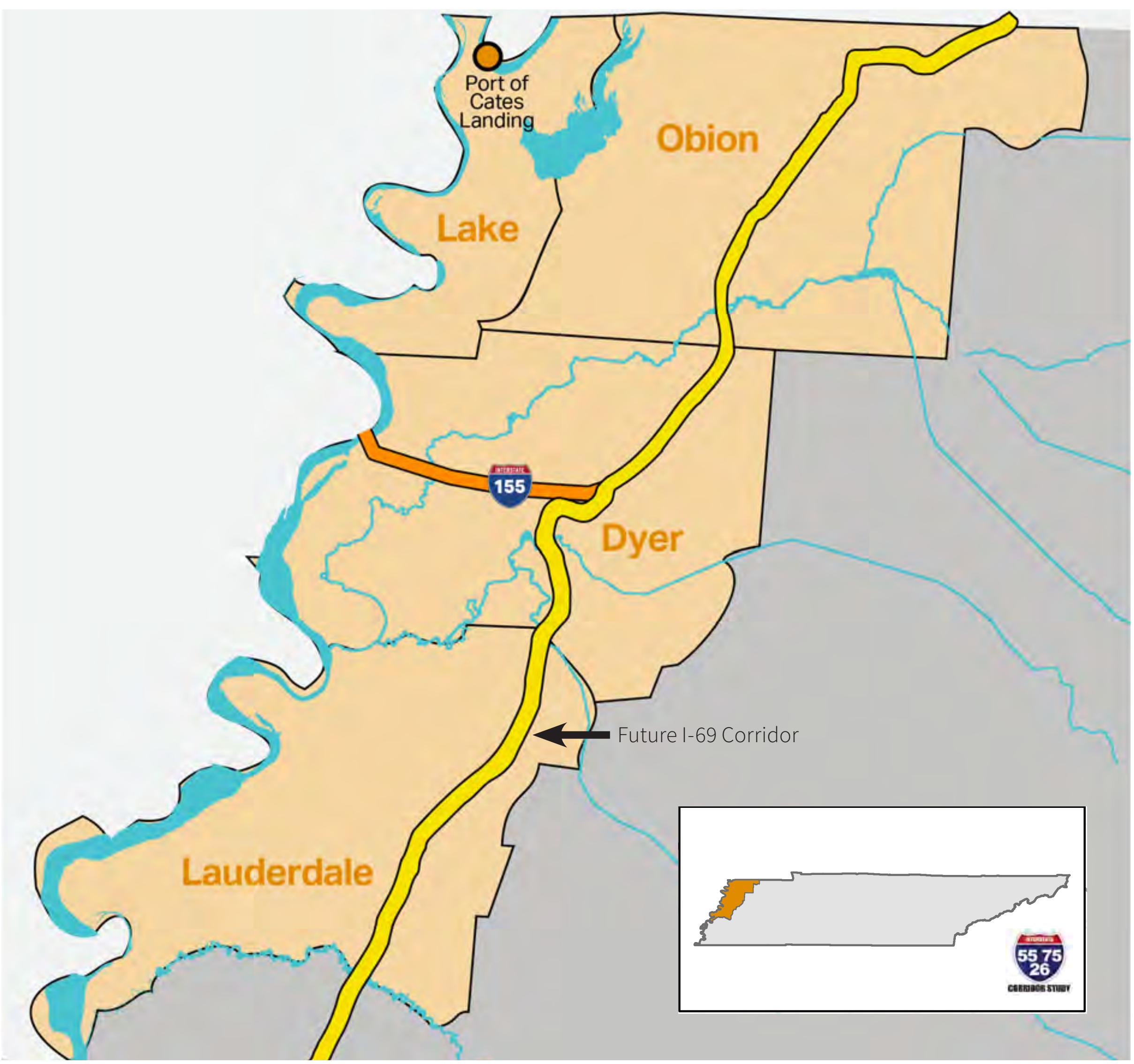
**Traffic** (Vehicles per Day)

10,000- 14,000

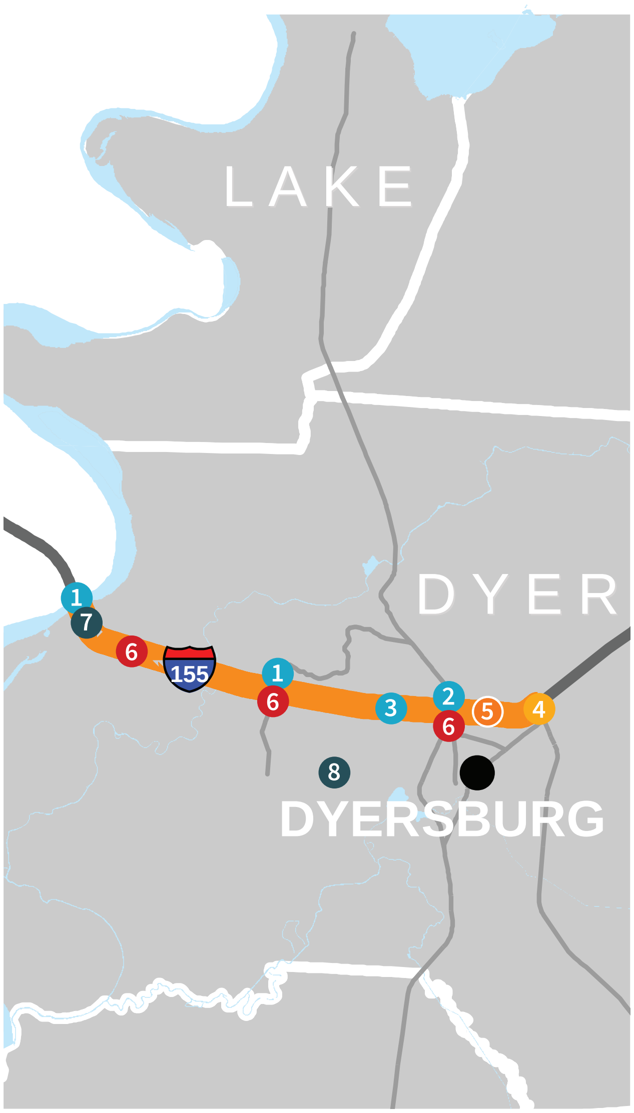
**Typical Section**

4 Lanes

## I-155 Study Area



# I-155 Key Existing Deficiencies and Future Needs




## Safety

1. Areas with safety concerns
2. Farm equipment blocks lanes
3. Hill and ice cause safety issues

## Freight

4. Truck crashes prevalent

## Economic Development

5. Industrial growth anticipated to increase truck traffic

## Multimodal

6. Bicycle and pedestrian facilities needed through interchange

## Pavement & Structures

7. Road pavement aging
8. Two corridor bridges eligible for rehabilitation

# I-155 Corridor Multimodal Transportation Solutions

Once the corridor deficiencies were identified and analyzed, a universe of alternatives – potential solutions addressing those deficiencies – was developed and evaluated against a set of goals and performance measures. The alternatives were analyzed for their impacts to safety, traffic congestion, freight movement, and other factors, as well as for how they might function individually and with other solutions over the long term. Eight alternatives were evaluated for locations throughout the corridor.

## Project Ranking Across all Modes/Strategies — I-155

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| S2 | Install lighting and longitudinal rumble stripes on WB approach to bridge | Mississippi River Bridge | 9 | $394,000 | 22.8 | $43,800 |
| F1 | Install warning system for snow, ice, and inclement weather | Great River Rd to Jenkinsville-Jamestown Rd | 9 | $250,000 | 36.0 | $27,800 |
| S1 | Install LED pavement markers | Entire Corridor | 8 | $112,000 | 71.4 | $14,000 |
| S3 | Install fencing | Lenox-Nauvoo Rd to Lake Rd | 8 | $573,000 | 14.0 | $71,600 |
| TS1 | Installation of structural impact monitoring system to identify severity of barge collisions | Mississippi River Bridge | 8 | $50,000 | 160.0 | $6,250 |
| TS2 | Installation of barge sensor monitoring system | Mississippi River Bridge | 8 | $200,000 | 40.0 | $25,000 |
| F3 | Install appropriate signage and increase enforcement to remove farm equipment from the interstate | Mississippi River Bridge to US-412 | 7 | $18,200 | 384.6 | $2,600 |

Note: See full report for project details.

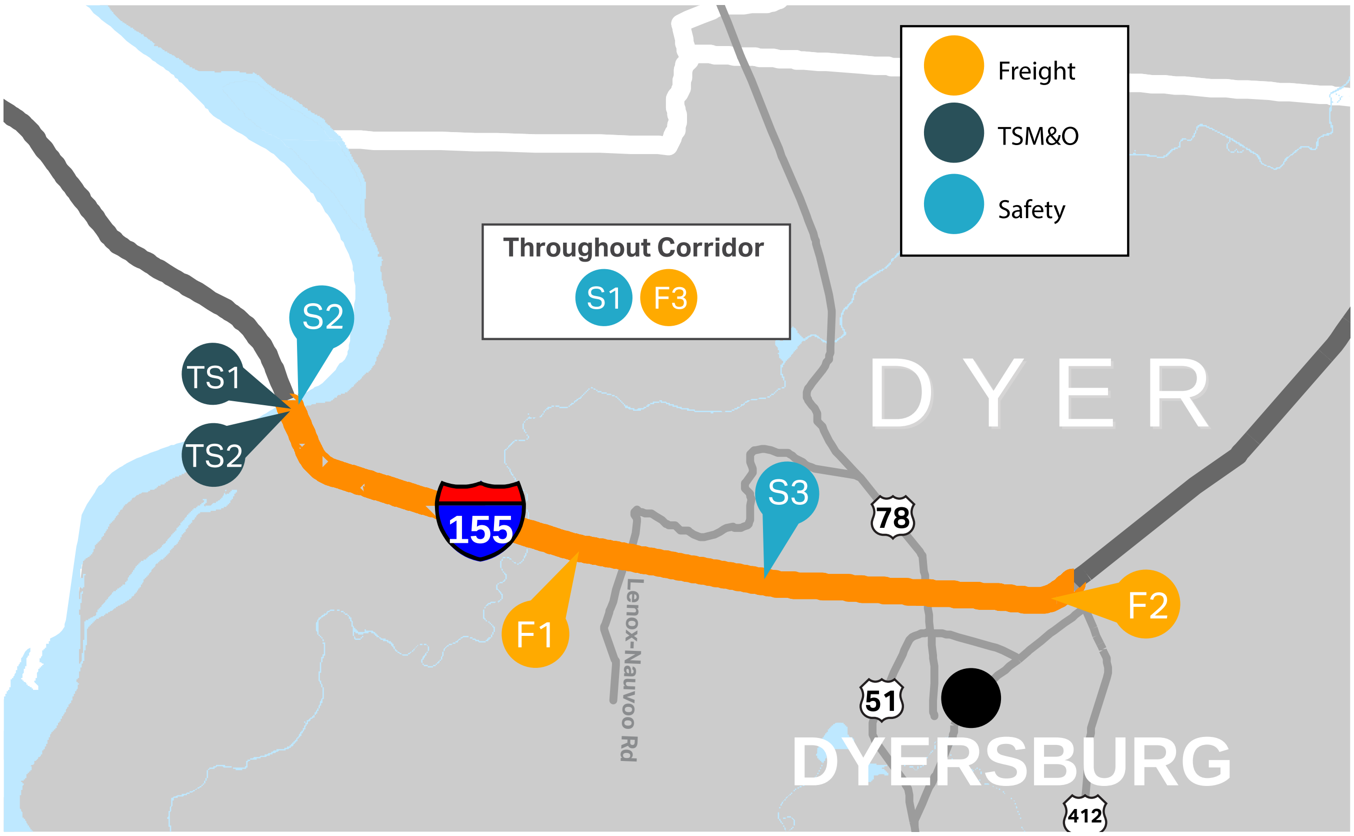
## Project Ranking Across all Modes/Strategies (Studies) — I-155

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| F2 | Evaluate the need to redesign interchange due to truck rollovers | US-412 Interchange | 7 | $25,000 | N/A | N/A |

Note: See full report for project details.

The alternatives were screened for feasibility and effectiveness. The alternatives that advanced through the evaluation were finally ranked for their positive impact on transportation in the corridor and cost effectiveness. The ranked projects are shown below.

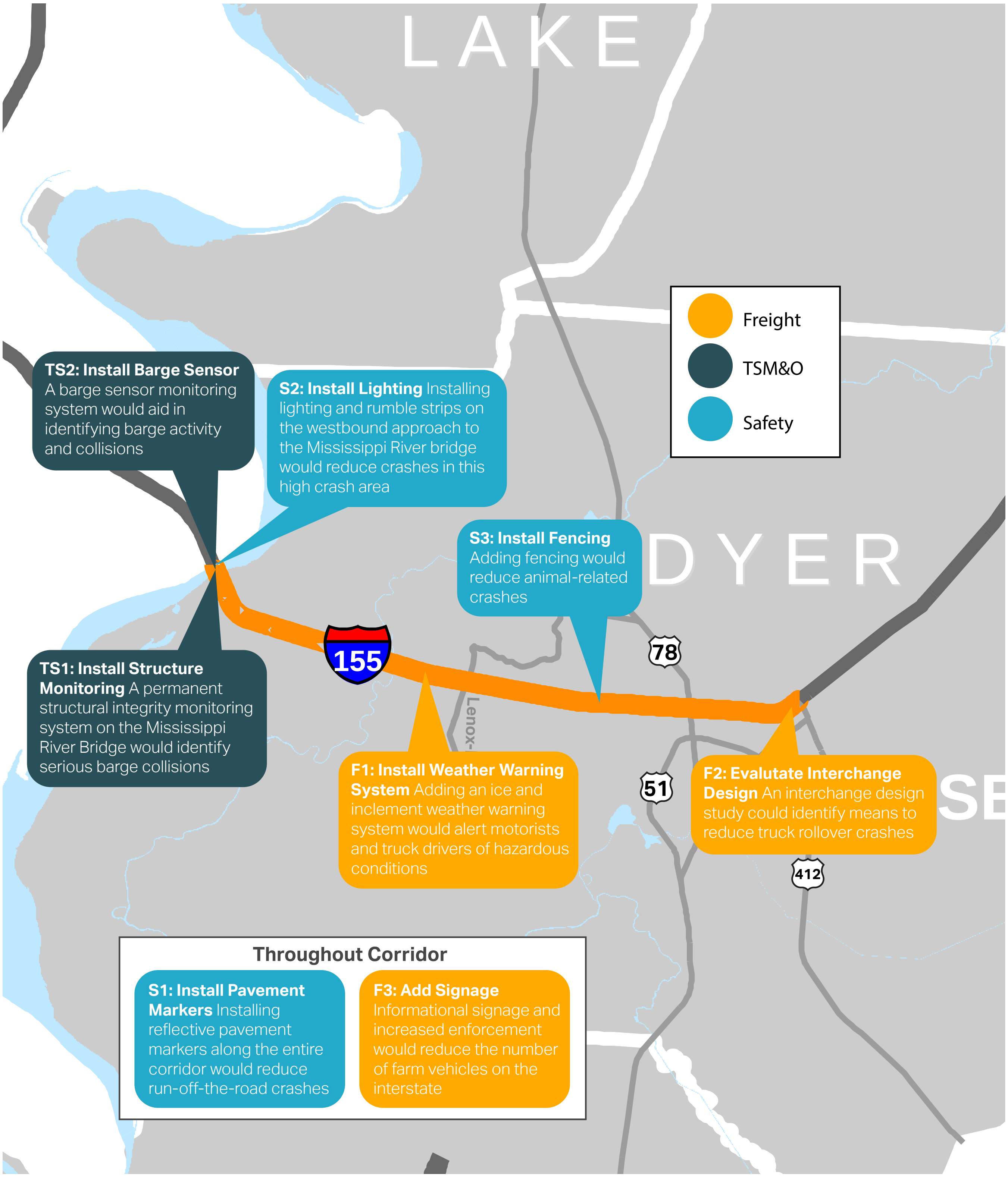
## Feasible Multimodal Solutions - Full List — I-155



# I-155 Corridor Top Ranked Transportation Solutions

The rankings indicate projects with the highest benefits to the corridor's multimodal transportation system and also shows projects that can be implemented with a smaller financial investment. The highest total benefit score a solution could receive is 15. All projects were scored between seven and nine, indicating a moderate potential to effectively and efficiently address corridor transportation deficiencies.

## Top Ranked Transportation Solutions — I-155



# I-155 Corridor Long Term Vision

The transportation solutions recommended in this study would directly address the deficiencies identified through data analysis and by stakeholders. Implemented together, they would improve multimodal transportation in the corridor in measurable ways, mitigating the adverse conditions that currently exist and those that are forecast to emerge as corridor population, economic activity, and travel grow.

## Performance Measure Summary — I-155

<table>
<tr><th rowspan="2">Goal</th><th rowspan="2" colspan="2">Performance Measure</th><th rowspan="2">Unit</th><th rowspan="2">Base (2010)</th><th rowspan="2">Trend (2040)</th><th rowspan="2">Build 2040</th><th colspan="2">% Change</th></tr>
<tr><th>(Base vs Trend)</th><th>(Trend vs Build)</th></tr>
<tr><td rowspan="11">Traffic Operations</td><td colspan="2">Traffic on interstate operates at LOS D or better</td><td>% of interstate operating at LOS D or better</td><td>100</td><td>100</td><td>100</td><td>0</td><td>0</td></tr>
<tr><td colspan="2">Total Daily Vehicle Miles Traveled (VMT)</td><td>Miles (1,000s)</td><td>2,430</td><td>3,058</td><td>3,058</td><td>26</td><td>0</td></tr>
<tr><td colspan="2">Total Daily Vehicle Hours of Travel (VHT)</td><td>Hours (1,000s)</td><td>55</td><td>67</td><td>67</td><td>20</td><td>0</td></tr>
<tr><td colspan="2">Total Peak Hour Vehicle Hours of Delay (VHD)</td><td>Hours</td><td>1.7</td><td>2.0</td><td>2.0</td><td>2</td><td>0</td></tr>
<tr><td colspan="2">Total VMT / Trip</td><td>Miles</td><td>5.65</td><td>5.98</td><td>5.98</td><td>6</td><td>0</td></tr>
<tr><td colspan="2">Total Vehicle Minutes Traveled / Trip</td><td>Minutes</td><td>7.70</td><td>7.80</td><td>7.80</td><td>1</td><td>0</td></tr>
<tr><td rowspan="2">Average Peak Hour Travel Speed</td><td>Urban Interstate</td><td>MPH</td><td>76</td><td>76</td><td>76</td><td>0</td><td>0</td></tr>
<tr><td>Rural Interstate</td><td>MPH</td><td>76</td><td>76</td><td>76</td><td>0</td><td>0</td></tr>
<tr><td colspan="2">Congested Travel Time between key O&D Pairs along Corridor (Total)</td><td>Minutes</td><td>48</td><td>49</td><td>49</td><td>2</td><td>0</td></tr>
<tr><td colspan="2">Peak Hour Density at Improved Interchanges</td><td>Vehicles/Mile/Lane</td><td colspan="5">See “Traffic Operations Memo”</td></tr>
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<tr><td colspan="2">Pavement Condition (Resurfacing)</td><td>% of corridor resurfaced within the last 10 years</td><td>95</td><td>95</td><td>95</td><td>N/A</td><td>N/A</td></tr>
<tr><td rowspan="4">Multimodal</td><td colspan="2" rowspan="2">Pedestrian and Bicycle Accommodations at U.S. and State Route Interchanges</td><td>% interchanges with bike facilities</td><td>0</td><td>0</td><td>0</td><td>N/A</td><td>N/A</td></tr>
<tr><td>% interchanges with ped. facilities</td><td>0</td><td>0</td><td>0</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="2" rowspan="2">Freight (Truck Parking)</td><td># of rest area spots</td><td>10</td><td>10</td><td>10</td><td>N/A</td><td>N/A</td></tr>
<tr><td># of truck stop spots</td><td>40</td><td>40</td><td>40</td><td>N/A</td><td>N/A</td></tr>
</table>

Note: See full report for performance measure details.

INTERSTATE 55 75 26 CORRIDOR STUDY

TN TDOT Department of Transportation

# I-75 Corridor

▶ Executive Summary

# I-75 Corridor Deficiencies & Solutions Summary

## Study Overview

Safe, efficient, and equitable multimodal surface transportation is critical to the wellbeing and economic vitality of Tennessee. The I-55/75/26 Multimodal Corridor Study evaluated potential improvements to address issues on four interstate corridors, including I-75. Solutions address traffic and congestion, operations and safety, transportation choice, and support for economic growth and freight movement.

The study included four core activities:

1. Evaluating transportation, demographic, and economic data.
2. Assessing system deficiencies to develop goals and performance measures.
3. Developing and evaluating feasible solutions.
4. Prioritizing actions to implement those solutions.

The I-75 corridor is critical for economic development and growth in Tennessee. As the region continues to increase in population and employment, pressure on the interstate and adjacent highways also continues to increase. A suite of solutions to address existing and emerging problems was developed, and potential solutions were prioritized for their ability to meet the region's vision in a cost-effective manner while minimizing adverse environmental impacts.

### Performance Goals and Objectives — I-75

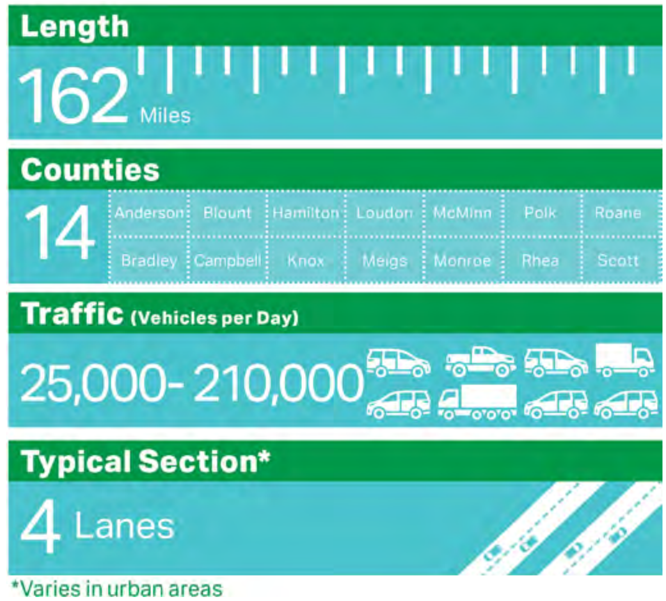
| Goals | Objectives | | |
|---|---|---|---|
| Provide efficient and reliable travel | Improve travel times and reduce delay | Provide transportation options for people and freight | Optimize freight movement |
| Improve safety conditions | Reduce crash rates along the corridor – especially at identified crash "hot spots" | Implement or upgrade technologies that promote safety and effective incident management | Improve bicycle and pedestrian accommodations |
| Coordinate transportation investments with economic development plans | Improve interchange on/off ramps | Coordinate with MPOs/RPOs to determine areas where new/improved Interstate access is needed | |
| Invest equitably throughout the corridor | Expand transportation options for traditionally underserved populations within the corridor | Consider regional transit options | Identify areas with the greatest data-driven needs |
| Protect the natural environment and sensitive resources within the corridor | Identify transportation improvements that are not likely to result in major impacts to environmental, social, and cultural resources | | |

# I-75 Corridor Overview and Transportation Deficiencies

The I-75 corridor extends 162 miles in eastern Tennessee from the Kentucky state line to the Georgia state line, and traverses the Knoxville and Chattanooga metropolitan areas. The freeway carries between 25,000 vehicles daily in the rural areas of Campbell County to more than 200,000 around Knoxville. The corridor serves as a backbone transportation route for economic development. With growth anticipated in both population and employment, particularly around interchanges, demands on the region's transportation system are expected to increase, leading to more congestion and traffic conflicts.

More than a dozen major projects are already programmed to address a variety of issues in the corridor, including widening projects and interchange improvements. Incorporating those projects and looking beyond them through data analysis and extensive stakeholder involvement, existing and future deficiencies affecting operations, safety, economic development and transportation equity were identified.

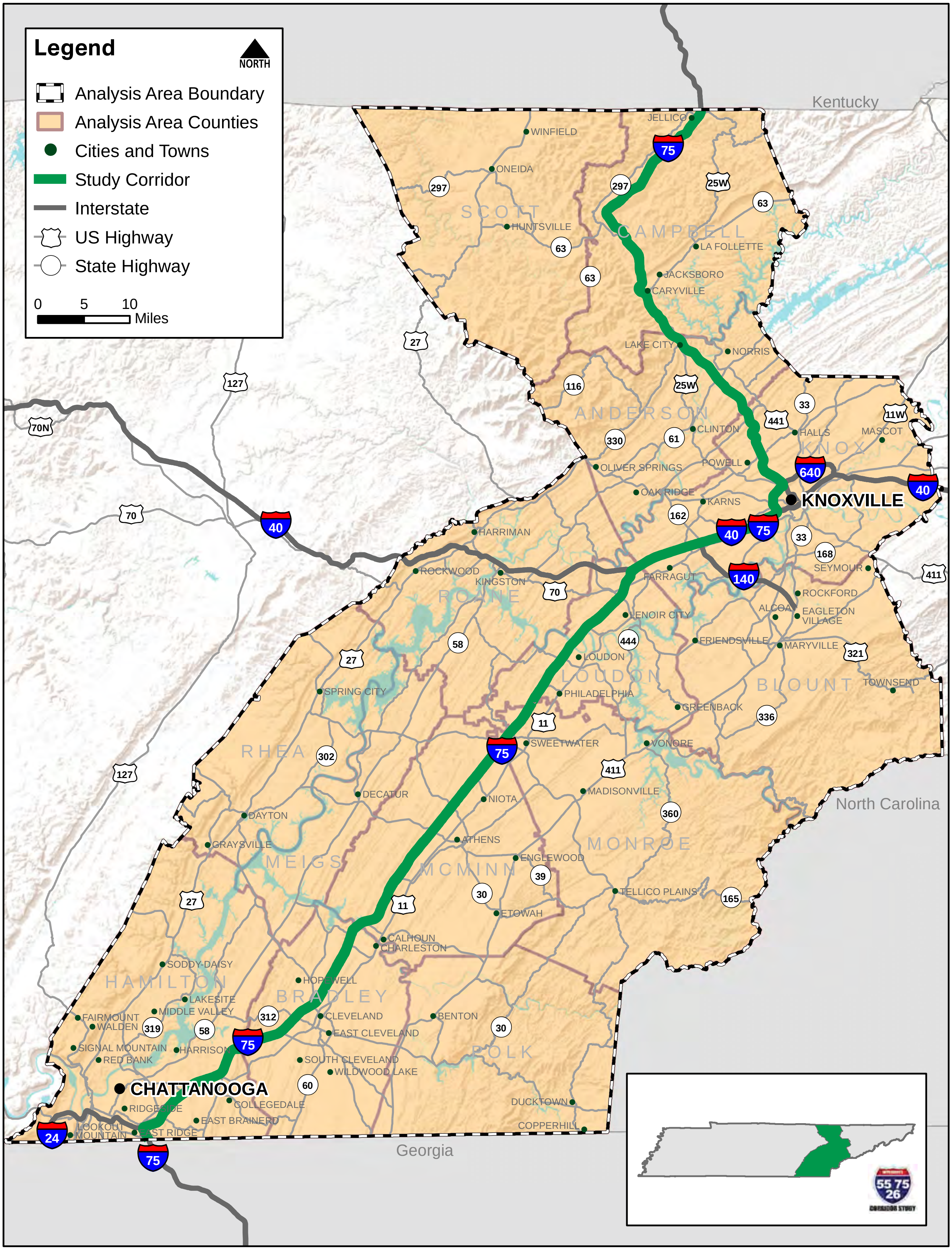
## I-75 Fast Facts





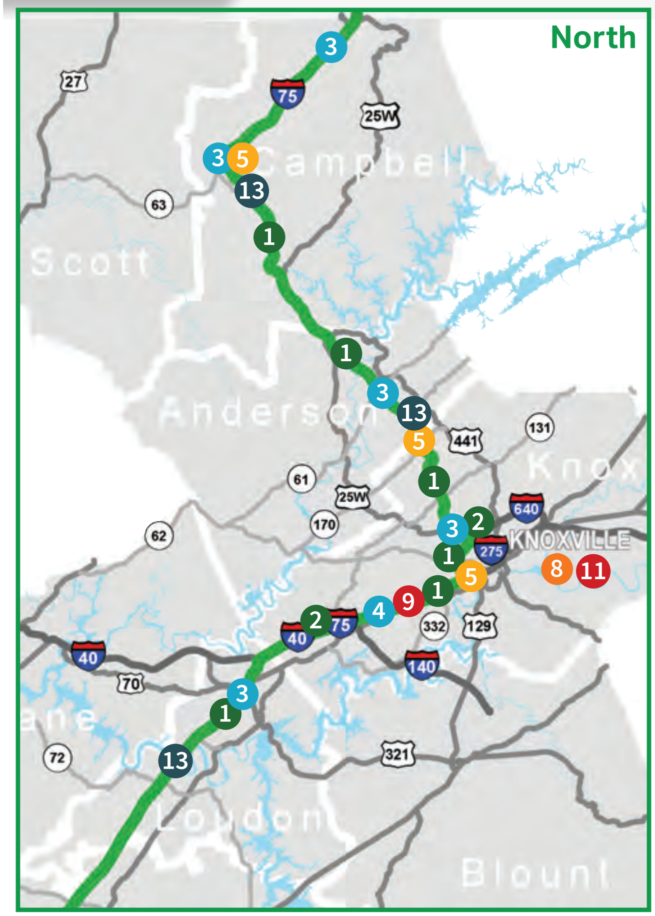
The I-75 corridor is being studied as part of a larger corridor study that also includes I-55, I-155, and I-26.

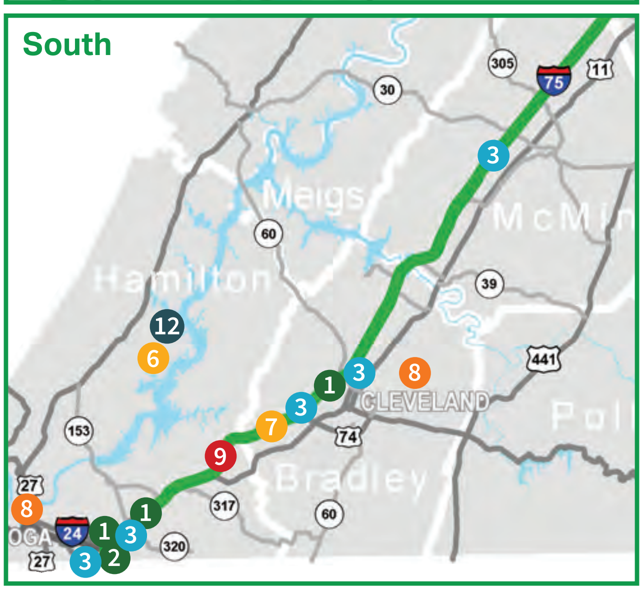
## I-75 Study Area



INTERSTATE 55 75 26 CORRIDOR STUDY

# I-75 Key Existing Deficiencies and Future Needs




## Highway Capacity

1. Freeway congestion
2. Interchange congestion

## Safety

3. Areas with safety concerns
4. Bike and pedestrian safety issues

## Freight

5. Potential freight traffic bottlenecks
6. Truck parking needed
7. Truck climbing lanes needed

## Economic Development

8. Employment growth expected

## Multimodal

9. Regional transit needed
10. Bicycle and pedestrian facilities needed through interchanges
11. Park-and-Ride lots needed

## Pavement & Structures

12. Road pavement deficient
13. Fifty-four corridor bridges eligible for rehabilitation (noted ones are structurally deficient)

# I-75 Corridor Multimodal Transportation Solutions

Once the corridor deficiencies were identified and analyzed, a universe of alternatives – potential solutions addressing those deficiencies – was developed and evaluated against a set of goals and performance measures. The alternatives were analyzed for their impacts to safety, traffic congestion, freight movement, and other factors, as well as for how they might function individually and with other solutions over the long term. Forty-three alternatives were evaluated for locations throughout the corridor.

## Project Ranking Across all Modes/Strategies — I-75

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| C2 | Widen existing four lane section | SR-72 to I-40 | 15 | $108,000,000 | 0.1 | $7,200,000 |
| C4 | Widen existing six lane section | Western Avenue to I-275 | 14 | $16,600,000 | 0.8 | $1,185,700 |
| C5 | Construct auxiliary lane NB between interchanges | Callahan Drive to SR-131 | 14 | $15,700,000 | 0.9 | $1,121,400 |
| C7 | Widen NB lanes; consider truck climbing lanes | US-441 to SR-63 | 14 | $77,900,000 | 0.2 | $5,564,300 |
| C1 | Widen existing four lane section | US-64 Bypass/US-75 to SR-60 | 13 | $40,700,000 | 0.3 | $3,130,800 |
| C6 | Widen existing four lane section; consider truck climbing lanes | SR-170 to US-441 | 13 | $131,700,000 | 0.1 | $10,130,800 |
| C8 | Widen/Apply TSM&O and/or Arterial Management Strategies to address forecasted congestion | I-75/I-24 Interchange to Georgia State Line | 12 | $8,110,000 | 1.5 | $675,800 |
| S5 | Add right-turn only lane on NB off-ramp | SR-61 (Charles G Seivers Blvd) Interchange | 11 | $406,000 | 27.1 | $37,000 |
| S10 | Install advanced signage and increase capacity of NB exit ramp; Modify interchange to remove weave caused by loop ramps | SR-320 (Brainerd Rd) Interchange | 11 | $15,000,000 | 0.7 | $1,363,600 |
| TS1 | Signal coordination on adjacent spillover streets to manage on-and off-ramp congestion | Brainerd Rd, Shallowford Rd, Harrison Rd, Kingston Pk, Central Ave Pk | 11 | $1,410,000 | 7.8 | $128,200 |
| TS3 | Integrated Corridor Management (with real-time technology platform) | Ringgold Rd to Shallowford Rd | 11 | $ 3,000,000 | 3.7 | $272,700 |
| C10 | Widen northbound to create auxiliary lane | Merchants Drive to Callahan Drive | 11 | $9,850,000 | 1.1 | $895,500 |
| S6 | Add pavement markings to indicate lanes for I-40 junction | Western Ave Interchange | 10 | $9,090 | 1,100.1 | $900 |
| S7 | Extend length of NB deceleration lane | US-321 Interchange | 10 | $1,740,000 | 5.8 | $174,000 |
| S9 | Increase length of NB and SB deceleration lane; Install advanced signage for NB off-ramp | SR-60 Interchange | 10 | $2,160,000 | 4.6 | $216,000 |
| F3 | Address bridge deficiency to maintain appropriate load carrying capacity | Tennessee River Bridge | 10 | $11,600,000 | 0.9 | $1,160,000 |
| F6 | Address bridge deficiency to maintain appropriate load carrying capacity | East Wolf Valley Rd Bridge | 10 | $ 1,230,000 | 8.1 | $123,000 |
| S3 | Extend length of SB deceleration and NB acceleration lanes | SR-63 (Oneida) Interchange | 9 | $2,100,000 | 4.3 | $233,300 |
| S4 | Extend length of NB and SB deceleration lanes | SR-63 (Caryville) Interchange | 9 | $2,100,000 | 4.3 | $233,300 |
| S2 | Speed limit reduction / warning signage/ retroreflective markers | Jellico Mountain Area | 8 | $262,000 | 30.5 | $32,800 |

Note: See full report for project details.

## Project Ranking Across all Modes/Strategies — I-75

| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| F2 | Resurface so that at least 90% of the corridor has good ride quality | Georgia State Line to Bradley County Line | 8 | $10,400,000 | 0.8 | $1,300,000 |
| F7 | Address bridge deficiency to maintain appropriate load carrying capacity | Bruce Gap Road Bridge | 8 | $903,000 | 8.9 | $112,900 |
| BP3 | Trail connector | Facilities west of I-75 to Camp Jordan Park | 8 | $7,290,000 | 1.1 | $911,300 |
| S8 | Install additional lighting on NB exit ramp | McMinn County Rest Area | 7 | $75,900 | 92.2 | $10,800 |
| F1 | Add overnight truck parking in or near Chattanooga | Georgia State Line to Bradley County Line | 7 | $1,270,000 | 5.5 | $181,400 |

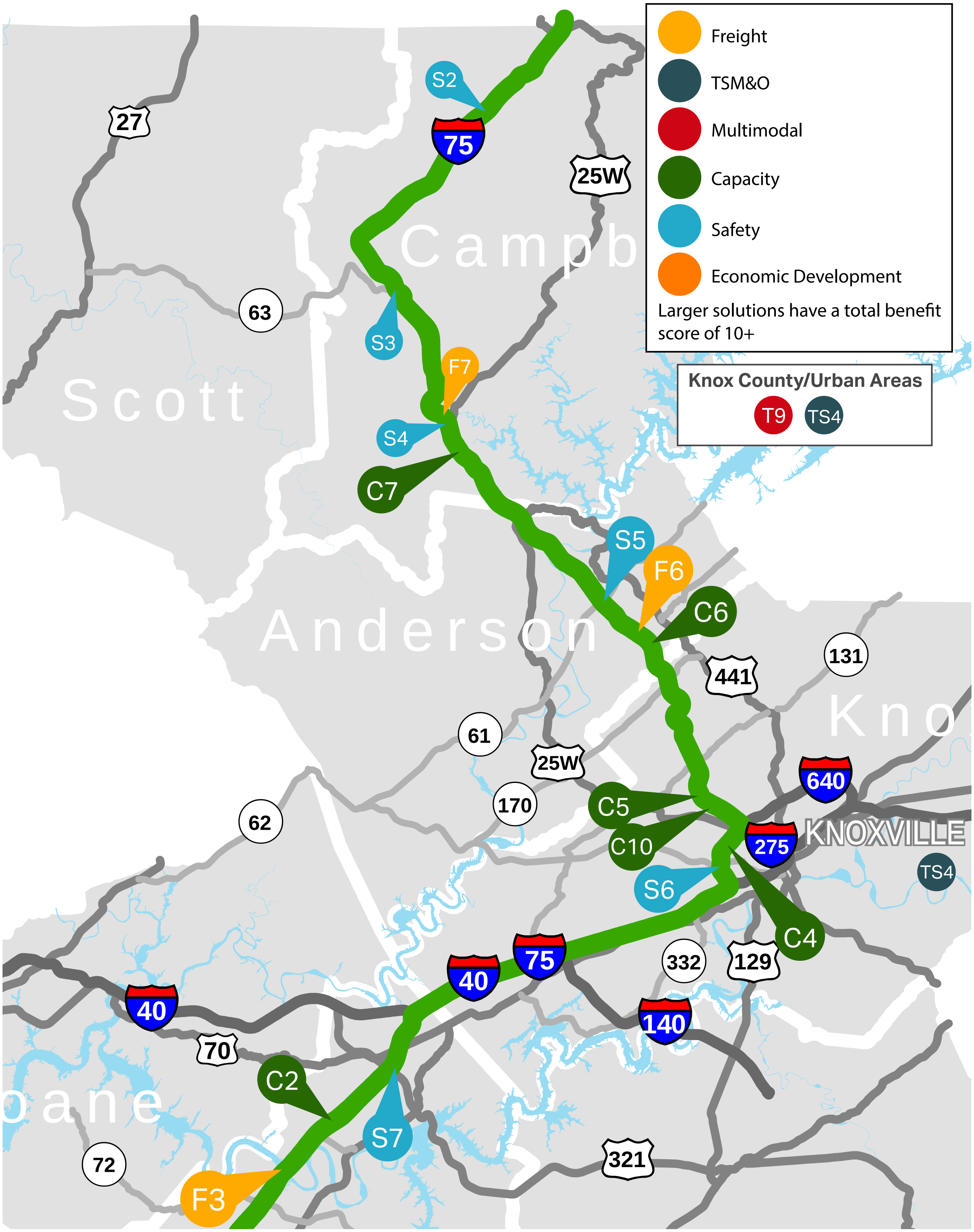
Note: See full report for project details.

## Project Ranking Across all Modes/Strategies (Studies) — I-75

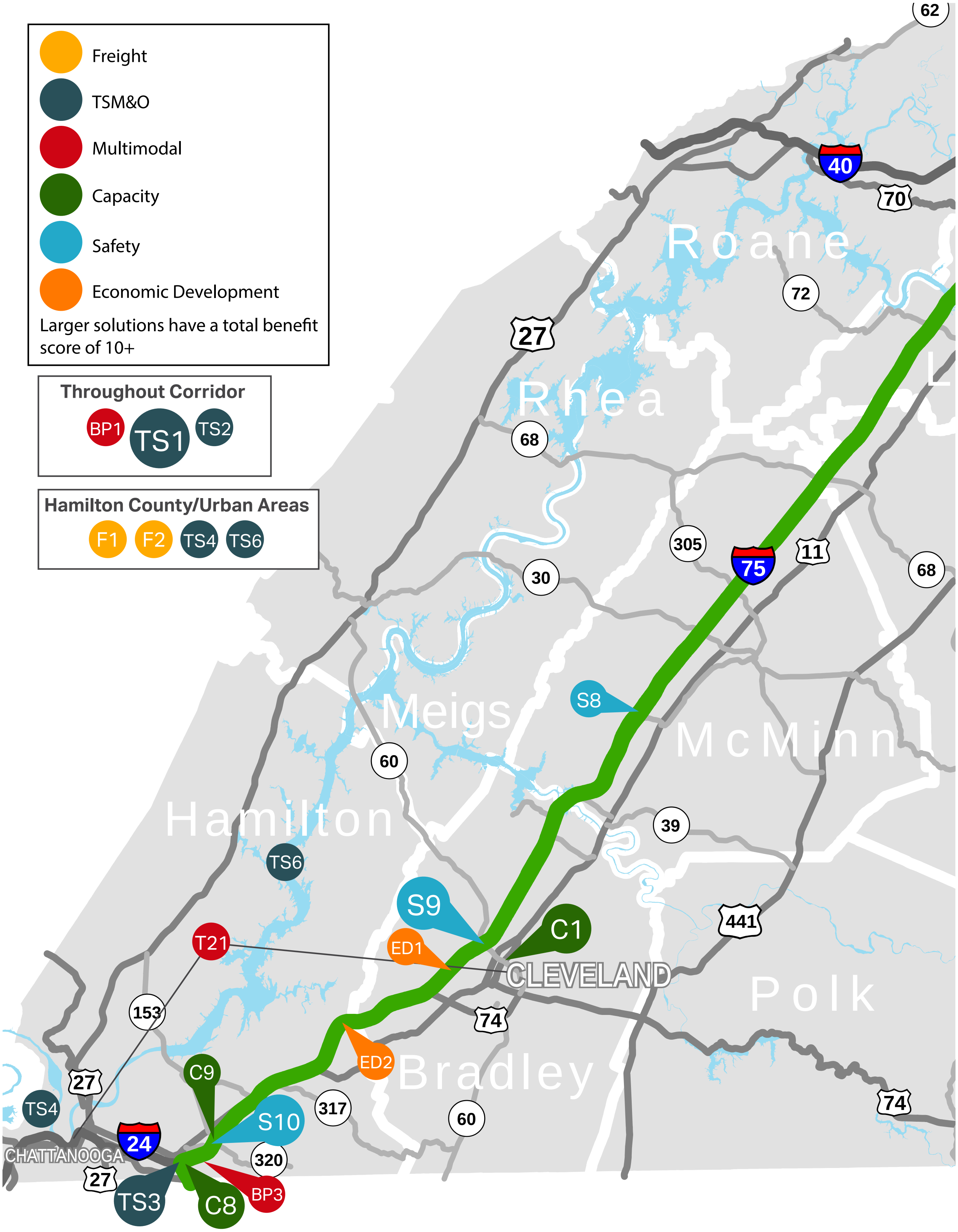
| ID | Project Description | Termini | Cost Efficiency | | | |
|---|---|---|---|---|---|---|
| | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| C9 | Evaluate options for increasing capacity and improving merge/diverge and weave areas between the SR-320 and SR-153 interchanges. | SR-320 to SR-153 | 13 | $200,000 | N/A | N/A |
| BP1 | Study to propose bike/ped connectivity and safety at existing U.S. and S.R. interchanges, as well as the Shallowford Rd interchange | Throughout Corridor | 12 | $100,000 | N/A | N/A |
| TS4 | Evaluate locations that would benefit from ramp metering and queue detection systems | Urban Areas of Chattanooga and Knoxville | 12 | $250,000 | N/A | N/A |
| TS6 | Evaluate balanced alternative routing opportunities | Hamilton County | 11 | $100,000 | N/A | N/A |
| ED1 | Evaluate need for additional interstate access point to accommodate economic growth | SR-60 to SR-74 | 11 | $100,000 | N/A | N/A |
| ED2 | Evaluate need for new interchange to accommodate growth (consider existing overpass for Ooltewah/Georgetown Rd) | Ooltewah to Cleveland | 11 | $100,000 | N/A | N/A |
| T9 | Study to establish a Regional Transit Authority to provide inter-county transit service | Knox County | 10 | $250,000 | N/A | N/A |
| T21 | Study commuter route between Chattanooga and Cleveland. Regional transit access would likely require implementation of a Regional Transit Authority | Chattanooga to Cleveland | 8 | $100,000 | N/A | N/A |
| TS2 | Conduct study to evaluate correlation between travel speed and crash severity | I-75 and adjacent, parallel arterials | 6 | $25,000 | N/A | N/A |

Note: See full report for project details.

## Feasible Multimodal Solutions - Full List — I-75 (north)



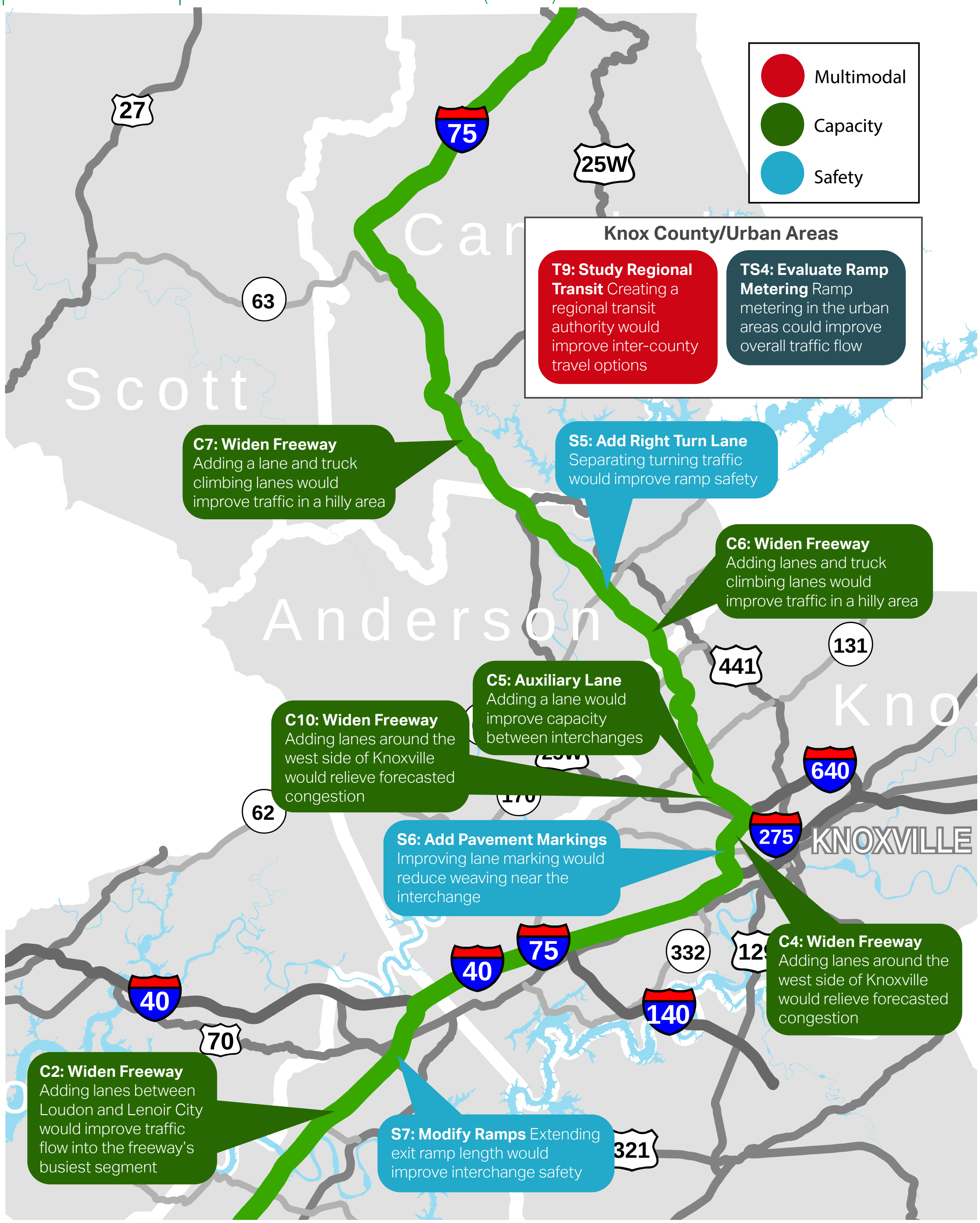
## Feasible Multimodal Solutions - Full List — I-75 (south)



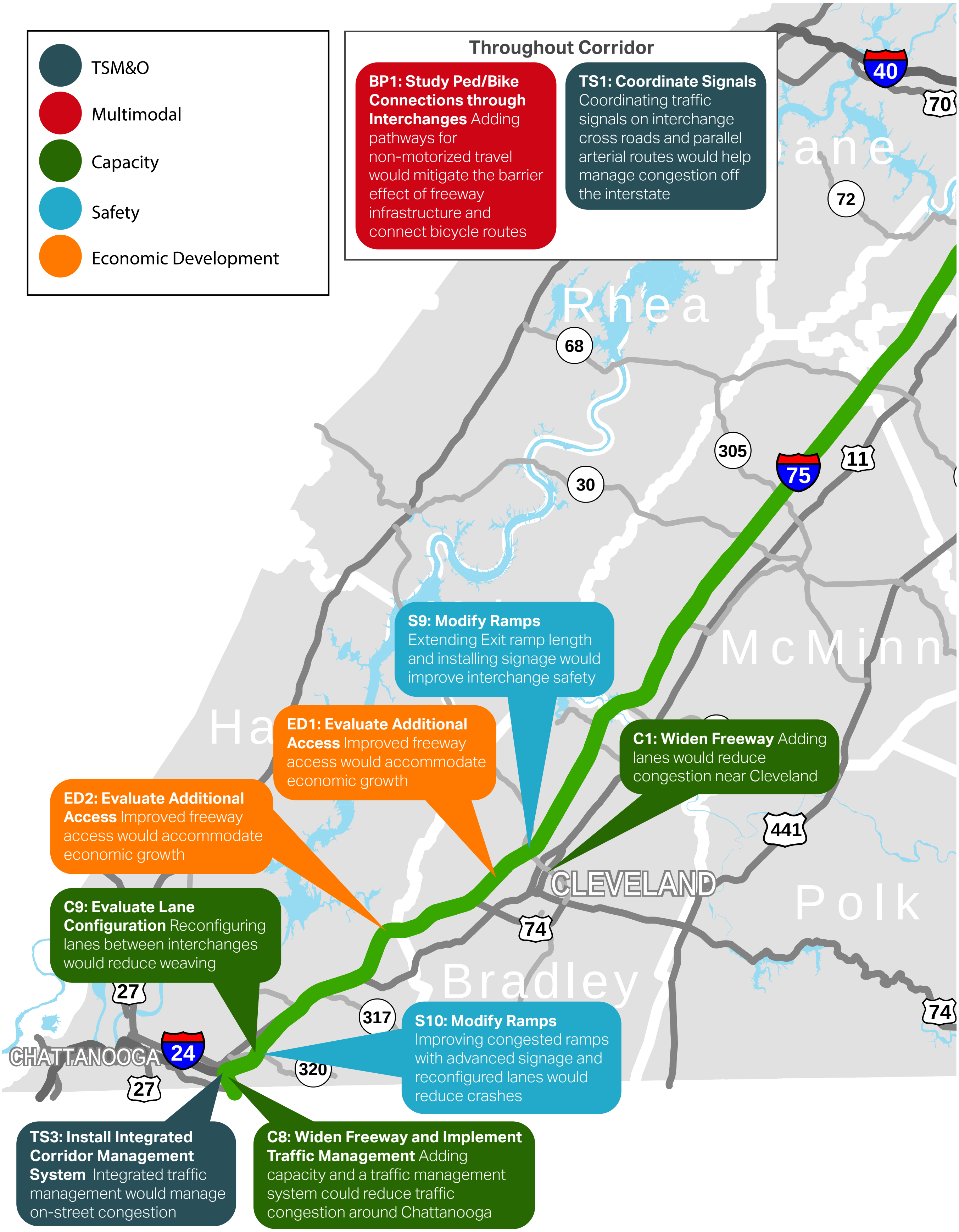
# I-75 Corridor Top Ranked Transportation Solutions

When evaluated side-by-side, the rankings indicate projects with high benefits to the corridor's multimodal transportation system and that can be implemented with smaller financial investment. The highest score a solution could receive is 15. In all, 17 projects and seven studies were scored at 10 or higher, indicating their potential to effectively and efficiently address corridor transportation deficiencies.

## Top Ranked Transportation Solutions — I-75 (north)



## Top Ranked Transportation Solutions — I-75 (south)



# I-75 Corridor Long Term Vision

The transportation solutions recommended in this study would directly address the deficiencies identified through data analysis and by stakeholders. Implemented together, they would improve multimodal transportation in the corridor in measurable ways, mitigating the adverse conditions that currently exist and those that are forecast to emerge as corridor population, economic activity, and travel grow.

## Performance Measure Summary — I-75

| Goal | Performance Measure | | Unit | Base (2010) | Trend (2040) | Build 2040 | % Change | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | (Base vs Trend) | (Trend vs Build) |
| Traffic Operations | Traffic on interstate operates at LOS D or betterw | | % of interstate operating at LOS D or better | 94.5 | 65.1 | 88.5 | 31 | 36 |
| | Total Daily Vehicle Miles Traveled (VMT) | | Miles (1,000s) | 38,071 | 51,409 | 50,271 | 35 | -2 |
| | Total Daily Vehicle Hours of Travel (VHT) | | Hours (1,000s) | 1,069 | 1,762 | 1,715 | 64 | -3 |
| | Total Peak Hour Vehicle Hours of Delay (VHD) | | Hours | 35.5 | 54.6 | 52.0 | 54 | -5 |
| | Total VMT / Trip | | Miles | 4.93 | 4.88 | 47.7 | -1 | -2 |
| | Total Vehicle Minutes Traveled / Trip | | Minutes | 1.68 | 2.06 | 2.05 | 22 | <1 |
| | Average Peak Hour Travel Speed | Urban Interstate | MPH | 49 | 40 | 48 | -19 | 20 |
| | | Rural Interstate | MPH | 67 | 54 | 60 | -20 | 12 |
| | Congested Travel Time between key O&D Pairs along Corridor (Total) | | Minutes | 328 | 412 | 380 | 26 | -8 |
| | Peak Hour Density at Improved Interchanges | | Vehicles/Mile/Lane | See "Traffic Operations Memo" | | | | |
| | Average and Max Queues at Improved Interchanges | | Feet | See "Traffic Operations Memo" | | | | |
| Safety | Crash Reduction in Safety "Hot Spots" | | Above or Below Average Crash Reduction Potential | See "Safety Recommendations" | | | | |
| Operations & Maintenance | Bridge Condition (Sufficiency Rating) | | % of bridges < 50 | 0 | 0 | 0 | N/A | N/A |
| | | | 50 < % of bridges < 80 | 30 | 28 | 20 | N/A | N/A |
| | Pavement Condition (Resurfacing) | | % of corridor resurfaced within the last 10 years | 74 | 76 | 88 | N/A | N/A |
| Multimodal | Pedestrian and Bicycle Accommodations at U.S. and State Route Interchanges | | % interchanges with bike facilities | 0 | 0 | 3 | N/A | N/A |
| | | | % interchanges with ped. facilities | 9 | 9 | 11 | N/A | N/A |
| | Freight (Truck Parking) | | # of rest area spots | 145 | 145 | 145 | 0 | 0 |
| | | | # of truck stop spots | 1,161 | 1,161 | 1,211 | 0 | 4 |

Note: See full report for performance measure details.

INTERSTATE 55 75 26 CORRIDOR STUDY

TN TDOT Department of Transportation

# I-26 Corridor

▶ Executive Summary

# I-26 Corridor Deficiencies & Solutions Summary

Safe, efficient, and equitable multimodal transportation is critical to the well-being and economic vitality of Tennessee. The I-55/75/26 Multimodal Corridor Study identified and evaluated potential improvements to address issues on four interstate corridors, including I-26. Solutions address traffic and congestion, operations and safety, transportation mode, and support for economic growth and freight movement.

The study included four core activities:

1. Evaluating transportation, demographic, and economic data.
2. Assessing system deficiencies to develop goals and performance measures.
3. Developing and evaluating feasible solutions.
4. Prioritizing actions to implement those solutions.

The I-26 corridor is critical for economic development and growth in northeast Tennessee. As the region continues to increase in population and employment, pressure on the interstate and adjacent highways also continues to increase. A suite of solutions to address existing and emerging problems was developed, and potential solutions were prioritized for their ability to meet the region's vision  in a cost-effective manner while minimizing adverse environmental impacts.

## Performance Goals and Objectives — I-26

| Goals | Objectives | | |
|---|---|---|---|
| Provide efficient and reliable travel | Improve travel times and reduce delay | Provide transportation options for people and freight | Optimize freight movement |
| Improve safety conditions | Reduce crash rates along the corridor – especially at identified crash "hot spots" | Implement or upgrade technologies that promote safety and effective incident management | Improve bicycle and pedestrian accommodations |
| Coordinate transportation investments with economic development plans | Improve interchange on/off ramps | Coordinate with MPOs/RPOs to determine areas where new/improved Interstate access is needed | |
| Invest equitably throughout the corridor | Expand transportation options for traditionally underserved populations within the corridor | Consider regional transit options | Identify areas with the greatest data-driven needs |
| Protect the natural environment and sensitive resources within the corridor | Identify transportation improvements that are not likely to result in major impacts to environmental, social, and cultural resources | | |

# I-26 Corridor Overview & Transportation Deficiencies

The I-26 corridor extends 54 miles in northeastern Tennessee from the North Carolina border to Kingsport, where the highway transitions to US 23. The interstate travels through rural and urban areas and carries between 8,000 (Unicoi County) and 64,000 (Johnson City) vehicles per day. Traffic is expected to increase as population and employment increase - especially around the urban interchanges. Through data analysis and extensive stakeholder involvement, existing and future deficiencies affecting operations, safety, economic development and transportation equity were identified.

## I-26 Fast Facts

**Length**

54 Miles

**Counties**

4

| | |
|---|---|
| Carter | Unicoi |
| Sullivan | Washington |

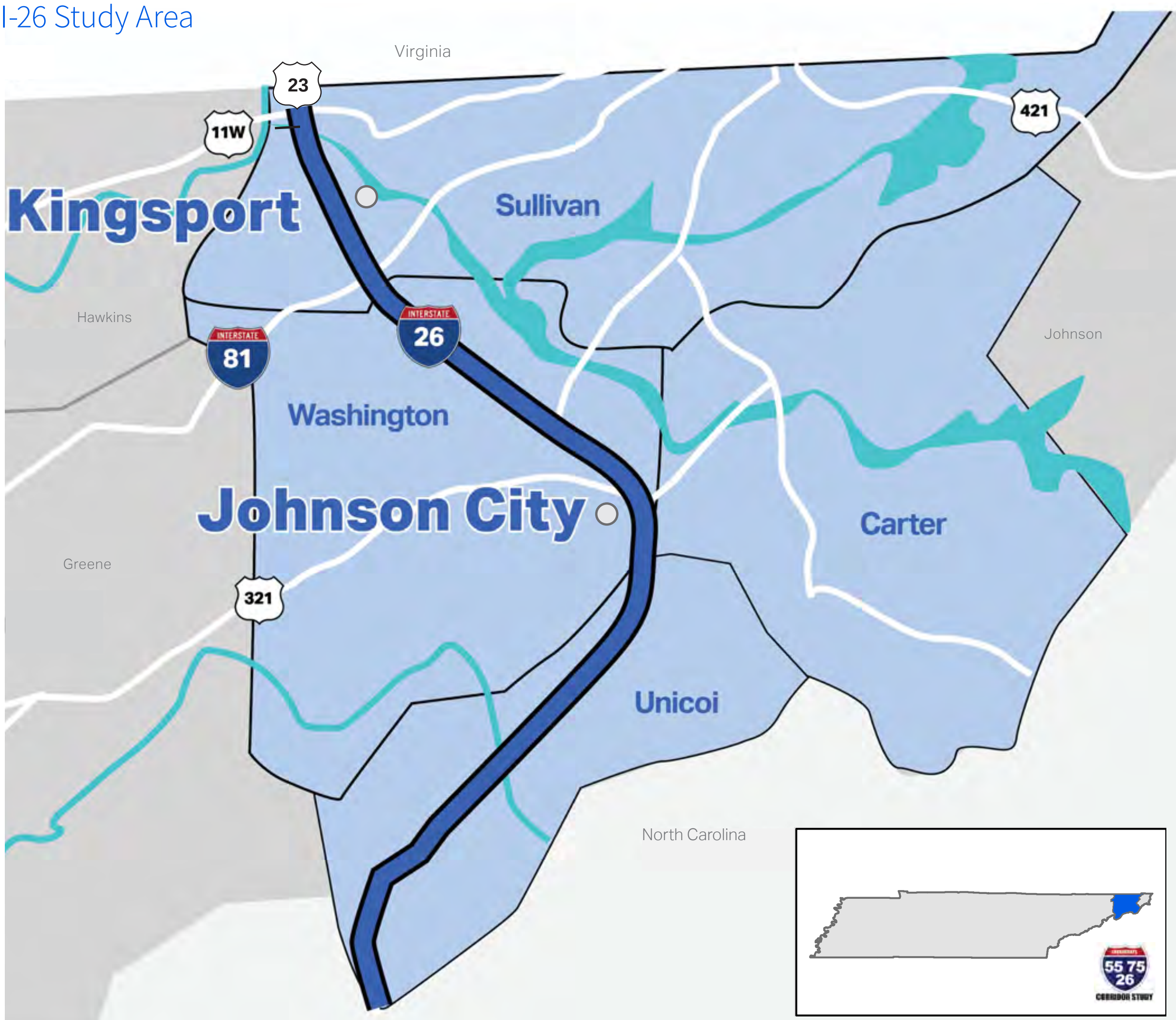
**Traffic** (Vehicles per Day)

8,000-64,000

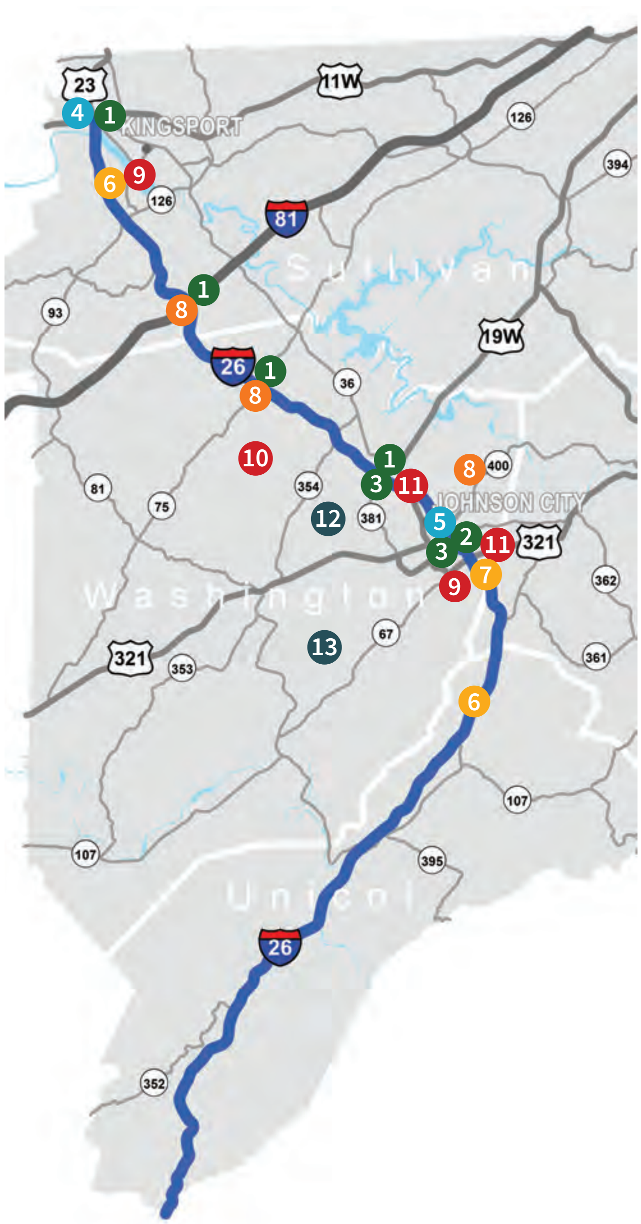
**Typical Section**

4 Lanes

## I-26 Study Area



# I-26 Key Existing Deficiencies and Future Needs




## Highway Capacity

1. Interchange congestion
2. Traffic bottlenecks
3. Truck climbing lanes needed

## Safety

4. Areas with safety concerns
5. Bike and pedestrian crashes at interchanges

## Freight

6. Freight traffic bottleneck
7. Truck parking needed

## Economic Development

8. Employment growth expected

## Multimodal

9. Park-and-Ride lots needed
10. Regional transit needed
11. Bicycle and pedestrian facilities needed through interchange

## Pavement & Structures

12. Road pavement aging in Washington County
13. Fifteen corridor bridges eligible for rehabilitation

# I-26 Corridor Multimodal Transportation Solutions

Once the corridor deficiencies were identified and analyzed, a universe of alternatives – potential solutions addressing those deficiencies – was developed and evaluated against a set of goals and performance measures. The alternatives were analyzed for their impacts to safety, traffic congestion, freight movement, and other factors, as well as for how they might function individually and with other solutions over the long term. Twenty-nine alternatives were evaluated for locations throughout the corridor.

## Project Ranking Across all Modes/Strategies — I-26

| ID | Project Description | Termini | Source of Solution | Cost Efficiency | | | |
|---|---|---|---|---|---|---|---|
| | | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| C1 | Widen Eastbound Off-Ramp to Provide Option Lane | SR-400 to SR-91 | Data Analysis | 12 | $1,290,000 | 9.3 | $107,500 |
| F4 | Install CCTV to Monitor Congestion & Accidents, Advise Trucks Via HAR | SR-381 to US-321 | Data Analysis | 11 | $1,950,000 | 5.6 | $177,300 |
| S2 | Widen Inside Shoulders | SR-93 to SR-347 | Public/ Stakeholder | 10 | $3,180,000 | 3.1 | $318,000 |
| S5 | Install Additional Lighting & Signage | Kingsport and Johnson City Urbanized Areas | Public/ Stakeholder | 10 | $6,490,000 | 1.5 | $649,000 |
| S7 | Install Additional Guardrail & Median Cable Barrier | Throughout Corridor | Public/ Stakeholder | 10 | $14,400,000 | 0.7 | $1,440,000 |
| TS2 | ITS Installation (CCTV & DMS) | Kingsport and Johnson City Urbanized Areas | Public/ Stakeholder | 10 | $3,270,000 | 3.1 | $327,000 |
| BP2 | Add Bicycle Lane/Multi-Use Path on US-11W Through I-26 Interchange | I-26 / US-11W Interchange | Data Analysis | 10 | $2,050,000 | 4.9 | $205,000 |
| S8 | Reconfigure Interchange to Address Ramp Geometry | I-26/I-81 Interchange | Public/ Stakeholder, TN Freight Plan | 9 | $18,000,000 | 0.5 | $2,000,000 |
| ED2 | Improve Interchange Capacity & Geometry to Accommodate Expected Economic Growth | I-26/I-81 Interchange | Public/ Stakeholder | 9 | $18,000,000 | 0.5 | $2,000,000 |
| S4 | Install Road Weather Information System | TN/NC State Line to Unicoi/Carter Co. Line | Public/ Stakeholder | 8 | $12,200,000 | 0.7 | $1,525,000 |
| S6 | Install Additional Overhead Signage | State of Franklin Rd. Interchange (SR-381) | Public/ Stakeholder | 8 | $248,000 | 32.3 | $31,000 |
| F5 | Add Overnight Parking Location (~50 spaces) | Along Corridor | Data Analysis | 8 | $1,270,000 | 6.3 | $158,800 |
| F2 | Add Eastbound Truck Climbing Lane | SR-93 to SR-347 | Kingsport MTPO 2040 LRTP | 8 | $6,720,000 | 1.2 | $840,000 |
| F7 | Add Eastbound Truck Climbing Lane | Flag Pond Rd to NC State Line | TN Freight Plan | 8 | $40,800,000 | 0.2 | $5,100,000 |

Note: See full report for project details.

## Project Ranking Across all Modes/Strategies — I-26

| ID | Project Description | Termini | Source of Solution | Cost Efficiency | | | |
|---|---|---|---|---|---|---|---|
| | | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| S1 | Install Fencing by Bays Mountain Nature Preserve | US-11W to Meadowview Pkwy | Data Analysis | 7 | $441,000 | 15.9 | $63,000 |
| F6 | Add Eastbound Truck Climbing Lane | Near Clear Branch Access | TN Freight Plan | 7 | $32,700,000 | 0.2 | $4,671,400 |
| TS5 | Construct Median Breaks to allow for EMS Vehicle Turnaround | Erwin to NC State Line | Public/ Stakeholder | 7 | $77,000 | 90.9 | $11,000 |
| T10 | Designate Park-and-Ride Lots Near SR-93, SR-347, SR-75 | Various Locations | Public/ Stakeholder | 7 | $906,000 | 7.7 | $129,400 |
| TS1 | HELP Truck Expansion to I-26 | Throughout Corridor | Public/ Stakeholder | 6 | $675,000 | 8.9 | $112,500 |

Note: See full report for project details.

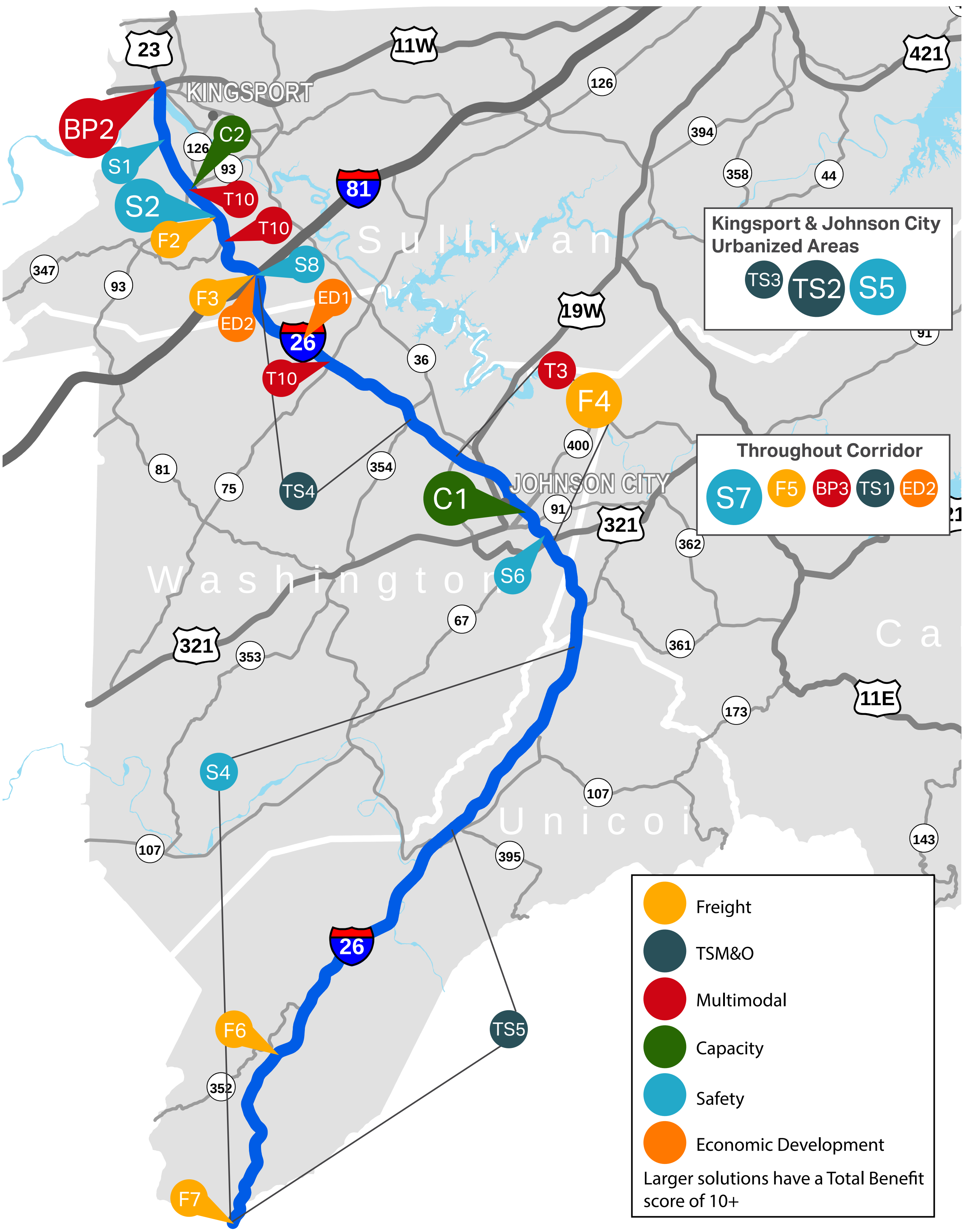
## Project Ranking Across all Modes/Strategies (Studies) — I-26

| ID | Project Description | Termini | Source of Solution | Cost Efficiency | | | |
|---|---|---|---|---|---|---|---|
| | | | | Total Benefit | Cost Estimate | Benefit Cost Index | Dollar per Benefit |
| TS3 | Evaluate Need for Ramp Metering | Kingsport and Johnson City Urbanized Areas | Public/ Stakeholder | 10 | $75,000 | N/A | N/A |
| T3 | Study Commuter Route Between JCT Transit Center & Citi Commerce Solutions/ Frontier Health (Gray) | Johnson City to Gray | JCT Comprehensive Operations Analysis | 10 | $50,000 | N/A | N/A |
| F3 | Study I-81/I-26 Interchange for Capacity, Truck Use | I-26/I-81 Interchange | Kingsport MTPO 2040 LRTP | 9 | $220,000 | N/A | N/A |
| TS4 | Conduct Speed Study | Eastern Star Rd to Boones Creek Rd (SR-354) | Public/ Stakeholder | 9 | $25,000 | N/A | N/A |
| ED1 | Evaluate Need for Additional Interstate Access Point | Eastern Star Rd to SR-75 | Public/ Stakeholder | 9 | $100,000 | N/A | N/A |
| T9 | Study Commuter Route Between Johnson City & Kingsport | Johnson City to Kingsport | Data Analysis | 9 | $75,000 | N/A | N/A |
| BP3 | Study to propose Bike/ Ped Connectivity & Safety Improvements at U.S. & State Route Interchanges | Throughout Corridor | Data Analysis | 9 | $50,000 | N/A | N/A |
| C2 | Evaluate Need for C-D Lanes and/or Other Improvements Between Interchanges | Meadowview Pkwy to SR-93/SR-126 | Public/ Stakeholder | 8 | $160,000 | N/A | N/A |

Note: See full report for project details.

The alternatives were screened for feasibility and effectiveness. The alternatives that advanced through the evaluation were finally ranked for their positive impact on transportation in the corridor and cost effectiveness. The ranked projects are shown below.

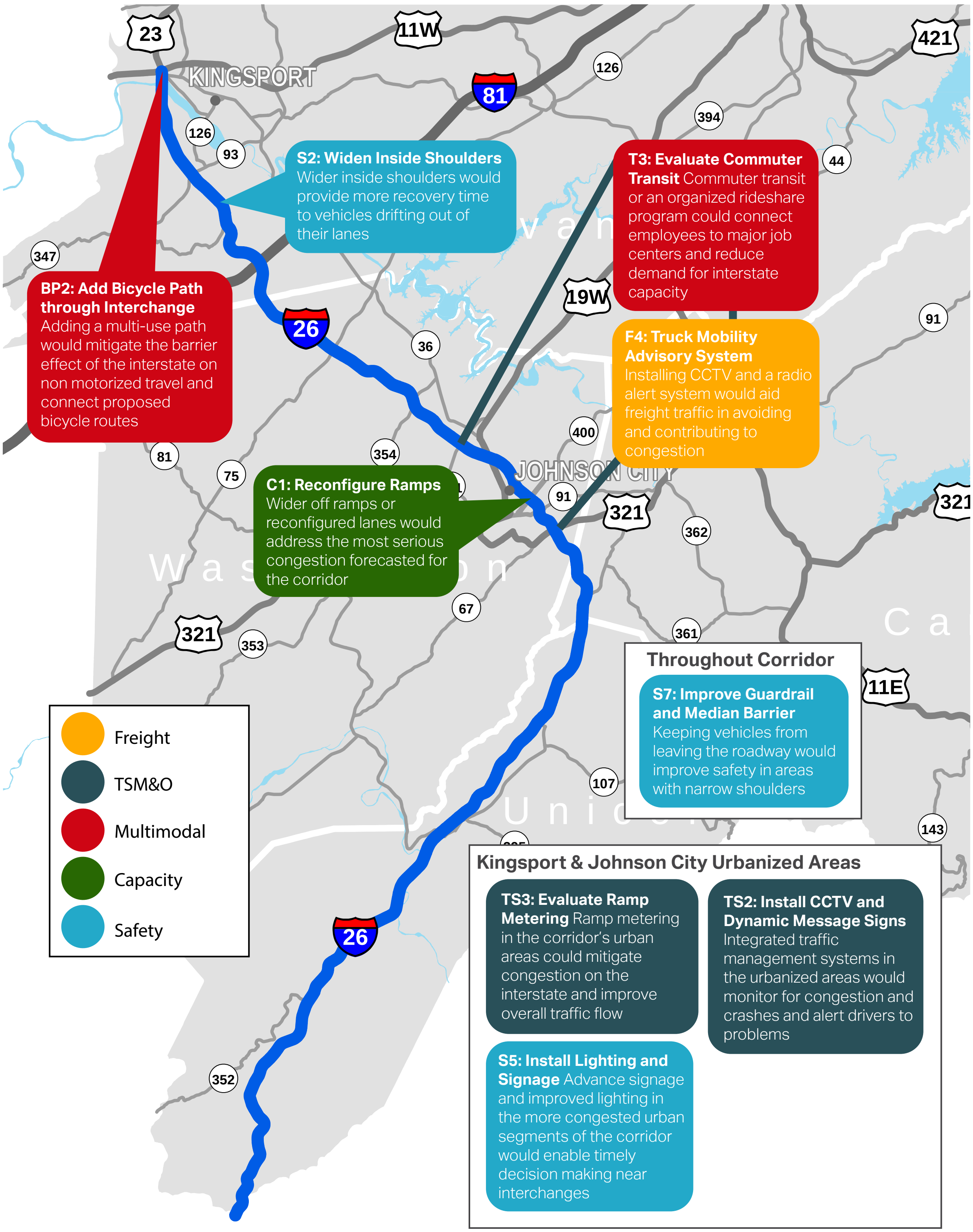
## Feasible Multimodal Solutions - Full List — I-26



# I-26 Corridor Top Ranked Transportation Solutions

The rankings indicate projects with the highest benefits to the corridor's multimodal transportation system and also shows projects that can be implemented with a smaller financial investment. The highest total benefit score a solution could receive is 15. In all, seven projects and two studies were scored at 10 or higher, indicating their potential to effectively and efficiently address corridor transportation deficiencies.

## Top Ranked Transportation Solutions — I-26



# I-26 Corridor Long Term Vision

The I-26 corridor is experiencing traffic growth, but appears to have enough capacity to accommodate this growth and congestion for the next two decades.

The transportation solutions recommended in this study would directly address the deficiencies identified through data analysis and by stakeholders. Implemented together, they would improve multimodal transportation in the corridor in measurable ways, mitigating the adverse conditions that currently exist and those that are forecast to emerge as corridor population, economic activity, and travel grow.

## Performance Measure Summary — I-26

| Goal | Performance Measure | | Unit | Base (2010) | Trend (2040) | Build 2040 | % Change (Base vs Trend) | % Change (Trend vs Build) |
|---|---|---|---|---|---|---|---|---|
| Traffic Operations | Traffic on interstate operates at LOS D or better | | % of interstate operating at LOS D or better | 100 | 99.6 | 99.6 | <1 | 0 |
| | Total Daily Vehicle Miles Traveled (VMT) | | Miles (1,000s) | 7,815 | 9,784 | 9,688 | 25 | -1 |
| | Total Daily Vehicle Hours of Travel (VHT) | | Hours (1,000s) | 211 | 259 | 258 | 23 | -1 |
| | Total Peak Hour Vehicle Hours of Delay (VHD) | | Hours | 7.3 | 9.4 | 9.35 | 28 | -1 |
| | Total VMT / Trip | | Miles | 4.26 | 4.32 | 4.28 | 1 | -1 |
| | Total Vehicle Minutes Traveled / Trip | | Minutes | 6.89 | 6.87 | 6.83 | 0 | -1 |
| | Average Peak Hour Travel Speed | Urban Interstate | MPH | 68 | 63 | 66 | -7 | 4 |
| | | Rural Interstate | MPH | 72 | 70 | 70 | -3 | 0 |
| | Congested Travel Time Between Key O&D Pairs along Corridor (Total) | | Minutes | 172 | 185 | 185 | 8 | 0 |
| | Peak Hour Density at Improved Interchanges | | Vehicles/Mile/Lane | See "Traffic Operations Memo" | | | | |
| | Average and Max Queues at Improved Interchanges | | Feet | See "Traffic Operations Memo" | | | | |
| Safety | Crash Reduction in Safety "hot spots" | | Above or Below Average Crash Reduction Potential | See "Safety Recommendations" | | | | |
| Operations & Maintenance | Bridge Condition (Sufficiency Rating) | | % of bridges < 50 | 0 | 0 | 0 | N/A | N/A |
| | | | 50 < % of bridges < 80 | 11 | 9 | 8 | N/A | N/A |
| | Pavement Condition (Resurfacing) | | % of corridor resurfaced within the last 10 years | 71 | 87 | 87 | N/A | N/A |
| Multimodal | Pedestrian and Bicycle Accommodations at U.S. and State Route Interchanges | | % interchanges with bike facilities | 33 | 33 | 40 | N/A | N/A |
| | | | % interchanges with ped. facilities | 27 | 27 | 27 | N/A | N/A |
| | Freight (Truck Parking) | | # of rest area spots | 53 | 53 | 53 | 0 | 0 |
| | | | # of truck stop spots | 0 | 0 | 50 | 0 | 100 |

Note: See full report for performance measure details.

INTERSTATE 55 75 26 CORRIDOR STUDY

TN TDOT Department of Transportation