Presenters Comments

This video you are about to watch is the I-75 corridor feasibility study PowerPoint that was presented to the public at public information meetings held in mid-September 2009 by the Tennessee Department of Transportation.

These meetings were held in Chattanooga, Cleveland, and Knoxville.
Presenters Comments

These information meetings presented to the public an extensive overview of the multimodal solutions developed for the corridor. The meeting also allowed for public comment on the study.

MEETING AGENDA

- Purpose of the Meeting
- Project Overview and Status
- Overview of Multi-Modal Solutions
- Comments and Questions
The purpose of this study is to identify deficiencies and develop solutions to address capacity and congestion, operations and maintenance, safety and security, freight movements and diversion, economic access, and commuter travel demand.

STUDY PURPOSE

- Identify and address deficiencies
- Evaluate potential for diversion of freight from truck to rail or other mode
- Develop multi-modal solutions
The results of the study will be a list of prioritized projects that can be implemented by the state of Tennessee. These solutions will be grouped in packages to address congestion, freight diversion, operational improvements, and compared to the no-build alternative.

Each package of solutions will be evaluated independently from the other. The projects will be ranked using a cost-benefit ratio, the Tennessee Project Evaluation System, and input from the public and key stakeholders.

The list will consist of short-term, mid-term, and long-range projects that can be implemented by 2011, 2016, and 2030, respectively.
**Presenters Comments**

I-75 is an important transportation link for the region and for the state of Tennessee. It serves as a commuter route in urban and rural areas and provides access if parallel routes are congested.

This interstate is 162 miles long and passes through three of the state’s rural planning organizations and three of the state’s metropolitan planning organizations. These planning organizations help establish priorities for roadway projects in the long-range transportation plan of the state.

I-75 also has a significant impact on the economy of each region by allowing for freight movement and economic access for industry.

**Study Corridor**

From Chattanooga at Georgia State Line to Kentucky State Line (162 Miles)
Presenters Comments

The first two packages of solutions directly address capacity and congestion along the corridor. The roadway capacity package of solutions includes projects to improve the capacity along the route by adding lanes to I-75 itself.

The corridor capacity package of solutions provides for improving routes that are parallel to I-75 to allow traffic to divert to those routes and thereby reduce congestion on I-75.

The following series of slides provides an overview of the roadway capacity improvements along I-75 corridor.

The project description, length, and estimated costs are shown with each roadway capacity improvement. Each table is followed by a map showing the project limits.

Capacity and Congestion

- Roadway Capacity Solutions
- Corridor Capacity Solutions
Presenters Comments

This table lists the roadway capacity improvements for the Chattanooga and Cleveland metropolitan planning areas starting from the Georgia state line — ID letter A in Hamilton County — through the Cleveland area — ID letter I — in Bradley and McMinn Counties.

All of the costs provided in the table are in terms of thousands of dollars.

<table>
<thead>
<tr>
<th>ID</th>
<th>County</th>
<th>Project Description</th>
<th>Length (mi.)</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Hamilton</td>
<td>Widen from 8 lanes to 8 lane from the Georgia State Line to Ringgold Road</td>
<td>0.6</td>
<td>$13,400</td>
</tr>
<tr>
<td>B</td>
<td>Hamilton</td>
<td>Widen from 8 lanes to 10 lanes from Ringgold Road to the I-24/I-75 Junction</td>
<td>0.6</td>
<td>$5,270</td>
</tr>
<tr>
<td>C</td>
<td>Hamilton</td>
<td>Improve the I-75/I-24 Interchange to provide three lanes for the I-75 movements through the interchange</td>
<td>0.7</td>
<td>$30,160</td>
</tr>
<tr>
<td>D, E</td>
<td>Hamilton</td>
<td>Widen from 8 lanes to 10 lanes from the I-24/I-75 junction to East Brainerd Road (SR 320)</td>
<td>1.8</td>
<td>$46,275</td>
</tr>
<tr>
<td>F</td>
<td>Hamilton</td>
<td>Widen southbound I-75 to 4 lanes from East Brainerd Road to SR 153</td>
<td>1.0</td>
<td>$41,175</td>
</tr>
<tr>
<td>G</td>
<td>Hamilton</td>
<td>Widen I-75 from 6 lanes to 8 lanes from Volunteer Ordnance Road to just south of US 64</td>
<td>2.1</td>
<td>$19,990</td>
</tr>
<tr>
<td>H</td>
<td>Hamilton/Bradley</td>
<td>Widen I-75 from 4 lanes to 6 lanes from north of US 64 to US 74</td>
<td>8.6</td>
<td>$82,525</td>
</tr>
<tr>
<td>I</td>
<td>Bradley/McMinn</td>
<td>Widen I-75 from 4 lanes to 6 lanes from US 74 to SR 163</td>
<td>16.0</td>
<td>$181,225</td>
</tr>
</tbody>
</table>
Presenters Comments

The roadway capacity improvements are shown in red. Starting with the letter A on this map, the improvements include widening this stretch of I-75 from six lanes to eight lanes.

For letter B, widening it from eight lanes to 10 lanes.

For letter C, improving the I-75/I-24 interchange to provide three lanes for the I-75 movements through the interchange.

For letters D and E, widen I-75 from eight lanes to 10 lanes.

For letter F, widen southbound I-75 to four lanes.

For letter G, widen I-75 from six lanes to eight lanes.

For letter H, widen I-75 from four lanes to six lanes.
Presenters Comments
And for segment I, widen I-75 from four lanes to six lanes.
Presenters Comments

As in the previous slide, this table shows the roadway capacity improvements starting in McMinn County from State Route 163 — ID letter J — to the I-40/I-75 junction in Loudon County.
Presenters Comments

The segments of I-75 identified as section J through M are to be widened from four lanes to six lanes.
The segment of I-75 identified as N is to be widened from four to six lanes and the I-40/I-75 interchange is to be improved to provide for three through lanes on I-75.
Presenters Comments

This table lists the roadway capacity improvements, labeled O – W, through Knox County.

<table>
<thead>
<tr>
<th>ID</th>
<th>County</th>
<th>Project Description</th>
<th>Length (mi.)</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>O, P</td>
<td>Loudon/Knox</td>
<td>Widen I-75 from 6 to 10 lanes from the I-40/I-75 east to Pellissippi Pkwy (SR 162)</td>
<td>9.2</td>
<td>$255,530</td>
</tr>
<tr>
<td>Q, R, S</td>
<td>Knox</td>
<td>Widen I-75 from 8 to 10 lanes from Pellissippi Pkwy (SR 162) to the I-40/I-75/I-640 Junction</td>
<td>8.3</td>
<td>$254,085</td>
</tr>
<tr>
<td>T</td>
<td>Knox</td>
<td>Improve the I-75/I-40 Interchange to provide three through lanes on I-75</td>
<td>0.3</td>
<td>$17,065</td>
</tr>
<tr>
<td>U</td>
<td>Knox</td>
<td>Improve the I-75/I-640/I-275 Interchange to provide 2 through lanes for I-75</td>
<td>0.7</td>
<td>$56,335</td>
</tr>
<tr>
<td>V</td>
<td>Knox</td>
<td>Widen I-75 from 8 lanes to 8 lanes from the I-75/I-640/I-275 Junction to Emory Road (SR 131)</td>
<td>4.6</td>
<td>$127,530</td>
</tr>
<tr>
<td>W</td>
<td>Knox</td>
<td>Widen I-75 from 4 lanes to 6 lanes from Emory Road (SR 131) to Raccoon Valley Road (SR 170)</td>
<td>4.7</td>
<td>$82,885</td>
</tr>
</tbody>
</table>
**Presenters Comments**

Segments O and P provide for the widening of I-40 and I-75 from six to 10 lanes.

Segments Q, R, and S provide for the widening of I-40 and I-75 from eight to 10 lanes.

Segment T improves the interchange at I-75 and I-40 and I-640 by providing three through lanes on the I-75 movements.

Segment U provides for two through lanes in each direction on I-75 on the I-75/I-640/I-275 interchange.

Segment V provides for the widening of I-75 from six to eight lanes while Segment W provides for the widening of I-75 from four to six lanes.
**Presenters Comments**

This table shows the remaining roadway capacity improvements along the corridor through Anderson and Knox Counties.

<table>
<thead>
<tr>
<th>ID</th>
<th>County</th>
<th>Project Description</th>
<th>Length (mi.)</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Knox/Anderson</td>
<td>Widen I-75 from 4 to 6 lanes from Raccoon Valley Road (SR 170) to Andersonville Hwy (SR 61)</td>
<td>5.6</td>
<td>$68,170</td>
</tr>
<tr>
<td>Y</td>
<td>Anderson</td>
<td>Widen I-75 from 4 to 6 lanes from Andersonville Highway to Cherry Bottom Road (SR 116)</td>
<td>6.5</td>
<td>$111,895</td>
</tr>
<tr>
<td>Z</td>
<td>Anderson</td>
<td>Widen I-75 from 4 to 6 lanes from Cherry Bottom Road (SR 116) to Campbell County</td>
<td>0.6</td>
<td>$11,115</td>
</tr>
<tr>
<td>AA</td>
<td>Campbell</td>
<td>Widen I-75 from 4 to 6 lanes from Anderson County to SR 83 (US 25W)</td>
<td>4.6</td>
<td>$107,730</td>
</tr>
</tbody>
</table>
Presenters Comments

Segments X through AA are to be widened from four to six lanes.
Presenters Comments

Now we are going to talk about the second package of multimodal solutions identified for I-75 known as corridor capacity improvements.

These improvements will reduce congestion along corridors that are parallel to I-75 that experience increased traffic that is diverting from I-75. These solutions include improving existing routes or constructing routes on new alignment.

As with the roadway capacity improvements, a description of the projects from south to north is provided in tabular format, followed by maps showing the project locations.

This table shows the corridor capacity improvements in the Chattanooga metropolitan planning organization area, the Cleveland metropolitan planning organization area, McMinn County, and Monroe County.
Corridor capacity improvements are green on this map.

The solid green line indicates improvements to existing routes while the dashed green line indicates routes constructed on new alignment.

The improvements include:

- Widening State Route 321 and Georgia Route 240 from two to four lanes from US 41 in Ringgold, Georgia, to US 64 in Tennessee
- Constructing a new four-lane interstate type facility, the Chattanooga Bypass, from I-75 south of Ringgold, GA to I-75 near the Hamilton and Bradley County line, and
- Widening US 64 and US 11 from four to six lanes from Little Debbie Parkway to State Route 317, and from two to four lanes from State Route 317 to US 74.
Corridor Capacity

Presenters Comments
On this map, the corridor capacity improvement is to provide one additional lane in each direction along US 11 from US 74 to State Route 308—also known as Lauderdale Memorial Highway.
For this stretch in McMinn and Monroe Counties, the corridor capacity improvements include providing one additional lane in each direction along US 11 from State Route 308 (also known as Lauderdale Memorial Highway) to just north of the Hiwassee River, and widening US 11 from two to four lanes from the Hiwassee River to State Route 68.

The other improvement is to widen US 11 from two to four lanes from State Route 68 to State Route 72.
Presenters Comments

This table shows additional improvements to US 11 and other routes through Loudon and Knox Counties.

<table>
<thead>
<tr>
<th>Region</th>
<th>Route</th>
<th>Project Limits and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loudon County</td>
<td>US 11</td>
<td>Widen route from 2 to 4 lanes from SR 72 to N Street in Lenoir City. Widen from 2 to 4 lanes from Magnolia Street/Monument Street to US 70.</td>
</tr>
<tr>
<td>Knox County</td>
<td>US 70</td>
<td>Widen route from 5 to 7 lanes from US 11 to I-140.</td>
</tr>
<tr>
<td>Knoxville</td>
<td>SR 162 and SR 62</td>
<td>Widen from 4 lanes divided to 6 lanes and reconstruct intersections to provide full access control along SR 162 from Lovell Road to SR 62. Widen existing 4 lane divided on SR 62 to 6 lanes.</td>
</tr>
<tr>
<td>Knoxville</td>
<td>SR 131 to Ball Camp Pike to Schaad Road to Callahan Drive</td>
<td>Widen SR 131 from SR 162 to Middlebrook Pike and construct a new 800 foot connector route to Ball Camp Pike. Widen Ball Camp Pike from 2 to 4 lanes from Middlebrook Pike to Ball Road. Widen Ball Road from Ball Camp Pike to SR 62. Widen SR 62 from Ball Road to Schaad Road. Widen Schaad Road from SR 162 to Pleasant Ridge Road. Widen existing Callahan Drive from 4 lane divided/5 lanes to 6 lanes and 7 lanes from Pleasant Ridge Road to I-75.</td>
</tr>
</tbody>
</table>
Presenters Comments

As seen on this map, the corridor capacity improvements include widening US 11 from two to four lanes from State Route 72 to US 70, and widening US 70 from five to seven lanes from US 11 to I-140.
**Presenters Comments**

For the Knoxville area, the improvements include widening State Route 162 from four to six lanes and provide full access control from Lovell Road to State Route 62.

For State Route 62, widen it from four to six lanes from State Route 162 to State Route 170.

For the east/west corridors, widening them from two to four lanes. These include State Route 131, Ball Camp Pike, Schaad Road, and Callahan Drive from State Route 162 to I-75.

For the proposed Knoxville Beltway, construct a four-lane interstate type facility from the I-40/I-75 junction west of Knoxville to I-75 just north of the Knox County line, and

Widen State Route 170 from State Route 62 to I-75.
Here are the additional corridor capacity improvements for Knox, Anderson, and Campbell Counties.

<table>
<thead>
<tr>
<th>Region</th>
<th>Route</th>
<th>Project Limits and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knox County</td>
<td>Knoxville Beltway</td>
<td>Construct new 4 lane access-controlled facility from the I-40/I-75 junction to I-75 in Anderson County.</td>
</tr>
<tr>
<td>Anderson County</td>
<td>SR 170</td>
<td>Widen route from 2 lanes to 4 lanes from SR 62 to I-75.</td>
</tr>
<tr>
<td>Anderson County</td>
<td>US 25W</td>
<td>Widen from 2 to 4 lanes from SR 61 to Landrum Road. Widen from 2 to 4 lanes from Old Cane Creek Road/Shaw Lane to Hill Street/Mason Avenue.</td>
</tr>
<tr>
<td>Campbell County</td>
<td>SR 116</td>
<td>Widen route from 2 to 4 lanes from I-75 to Howard Baker Road (US 25W/SR 63).</td>
</tr>
</tbody>
</table>
These include widening US 25 from two to four lanes from State Route 61 to Landrum and from Old Cane Creek to Mason Avenue, and widening State Route 116 from two to four lanes from I-75 to Howard Baker Road (State Route 63).
Presenters Comments

The third package of multimodal solutions is operations and maintenance. This diverse group of improvements ranges from constructing truck climbing lanes to installing intelligent transportation systems—also known as ITS.

Also geometric improvements to I-75 and additional park and ride facilities were included in this package of solutions.

The feasibility of managed lanes also was evaluated as part of this group of solutions.
Presenters Comments

The majority of operational improvements are related to deficient cross-section elements, such as inadequate shoulder widths.

Other types of improvements include reconstructing the I-75 and I-24 interchange and lengthening the acceleration and deceleration lanes at the southbound Scenic Overlook at the Bradley and Hamilton County line.
Again, the majority of operational improvements along the northern portion of the study area are related to inadequate shoulder widths.

Other operational improvements include widening westbound I-75 from the I-40 and I-75 junction to Watt Road, and reconstructing the I-75 and US 25 west interchange in Jellico.
Presenters Comments

Included in the operations and maintenance package of solutions is the construction of truck climbing lanes.

The locations of these truck climbing lanes were based on the identification of four-lane segments of I-75 that have long steep slopes.

While the majority of new truck climbing lanes are in Campbell County, around Jellico Mountain, there also are truck climbing lanes in Bradley and Knox Counties.

The locations of these truck climbing lanes shown here are provided in the next three maps.

Also, there are segments of I-75 that experience rock fall or rock slides. When these occur, there is a delay associated with clearing the debris and reopening the roadway. A crossover can be constructed on I-75 to allow traffic to flow during this or other types of maintenance operations. Crossover locations also shown on the following maps with a green circle.
Here on this map, a new southbound I-75 truck climbing lane is shown on the approach to White Oak Mountain.
Here new truck climbing lanes and crossovers are shown in Knox, Anderson, and Campbell Counties.
Truck climbing lanes and crossovers are shown in the vicinity of Jellico Mountain in Campbell County.
Another group of projects included in the operations and maintenance package of multimodal solutions is intelligent transportation systems—also known as ITS. ITS encompasses a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system’s infrastructure, these technologies relieve congestion and improve safety.

Along I-75 we looked at the existing ITS systems and the potential to implement ITS to improve capacity.

For example, in Hamilton and Bradley Counties, we suggest expanding ITS instrumentation from the Ooltewey and Georgetown Pike to State Route 60.

In Knoxville where the ITS system called SmartWay is in place, we suggest expanding the urban coverage to improve the various corridors.

Fog and severe weather detection systems are another element of ITS and implementing them in Campbell County will help improve safety along that corridor.

For the rural segments along the entire corridor, deploying ITS will help with route diversion and keep traffic moving during an incident on I-75.
Presenters Comments

Other rural ITS improvements include instrumentation and communications at interchanges that experience a high crash rate, such as in Monroe, Loudon, Knox, Anderson, and Campbell Counties.

ITS at these locations will allow for monitoring conditions, alerting emergency response, and route diversion.
Managed lanes are another element of the operations and maintenance package of solutions evaluated for the urban areas along the I-75 corridor.

Managed lanes are lanes that allow only certain types of vehicles during peak hours, such as vehicles with two or more people, transit vehicles, and emergency vehicles.

The most common type of managed lane is known as a high occupancy vehicle or HOV lane. In Tennessee, HOV lanes are currently in use in Memphis and Nashville and restrict use during peak periods of travel to two or more occupants in each private vehicle.

High occupancy toll lanes also were evaluated as part of this study. These are commonly referred to as HOT lanes and have the same sort of restriction as an HOV lane, except that under certain circumstances, private single occupant users may be able to pay a toll to use the lanes.

Based on our findings, there are no places along I-75 where HOV or HOT lanes would be a feasible option.
While park and ride facilities are not in of themselves a solution to congestion on I-75, they are tools to support other solutions such as express transit service and other travel demand management strategies.

Expansion of park and ride facilities in the urban areas was evaluated. Analysis was conducted to identify new park and ride locations along the study corridor.

Proposed park and ride facilities along I-75 are listed here and are shown on the following maps for the Chattanooga and Knoxville urban areas.

- Chattanooga Region
- Georgia State Route 151
- Cloud Springs Road
- Lee highway
- Knoxville
  - US 321
  - Emory Road (SR 131)
Presenters Comments

For the Chattanooga region, the existing park and ride facility, shown in red, is located at Hamilton Place.

New park and ride facilities, shown in green, are located at State Route 151 and Cloud Springs Road in Georgia, and at Lee Highway in Tennessee.
In the Knoxville region, the existing park and ride facilities are at Campbell Station Road and Cedar Bluff Road.

New facilities are shown at US 321 and at Emory Road.
Presenters Comments

The final package of multimodal solutions that were evaluated relates to freight flow and diversion.

The idea of freight diversion is that through targeted incentives, alternative modes for moving freight can be enhanced and truck traffic reduced along the corridor.

As an example, rail can be enhanced to allow faster transit times and as a result, containers normally moved by trucks, can be moved on rail.

As rail is a private entity operating on their own right-of-way, these types of projects are typically outside the realm of traditional Tennessee Department of Transportation projects.

There are, however, some opportunities to divert freight from truck to rail and/or barge. The opportunities evaluated as part of this study included improvements made to the Norfolk Southern Railroad’s Crescent Corridor Program, marketing rail diversion, financial incentives, and minimizing highway/railroad grade crossing conflicts.

Freight Flow and Diversion

- Truck/Rail and Waterways Freight Diversion
- Crescent Corridor Program
- Marketing Rail Diversion
- Financial Incentives
- Minimize Highway/Rail Conflicts
Presenters Comments

The Norfolk Southern Railroad’s Crescent Corridor main lines are shown in yellow and represent track that extends from New Jersey to Memphis and to New Orleans.

The Crescent Corridor is a $2.5 billion initiative to provide double tracking, sidings, purchase of rolling stock, and intermodal facilities.

Intermodal improvements along the corridor are shown as purple circles.

A new intermodal facility is proposed by the railroad just west of Knoxville and just east of Memphis in Tennessee.

Although the Crescent Corridor is a private sector initiative, there may be opportunities to partner with the railroad to identify issues and implement projects that can benefit both the railroad and the roadway network.

Freight Flow and Diversion
In summary, there were five multimodal packages of solutions evaluated:
- The no-build alternative,
- Roadway capacity improvements,
- Corridor capacity improvements,
- Operations and maintenance improvements, and
- Freight diversion

Each of these solutions was evaluated independently using the same evaluation criteria for the project horizon year of 2030. The performance measures included:
- Vehicle hours traveled,
- Recurring travel delay,
- Travel time across the corridor,
- Travel delay across the corridor,
- Change number of crashes, and
- Change in number of fatalities.
**Presenters Comments**

To properly compare such disparate projects, a benefit to cost comparison was conducted for each of the projects identified as part of the multimodal solutions.

The first step in performing this comparison was to estimate the cost of each project.

The benefit of each project in terms of the performance measures was then calculated.

A value, in terms of dollars, is then assigned to each benefit associated with the project.

The benefit is then compared to the cost of the project. The larger the benefit/cost ratio, the better the project.
The monetary values associated with the benefits were taken from the Federal Highway Administration's Highway Economic Requirements System and the ITS Deployment Analysis System and are consistent with the Tennessee Department of Transportation’s I-40 and I-81 corridor feasibility study.

<table>
<thead>
<tr>
<th>Performance Metric</th>
<th>Monetary Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Congestion for Autos</td>
<td>$19.82/hour of delay</td>
</tr>
<tr>
<td>Recurrent Congestion for Trucks</td>
<td>$36.05/hour of delay</td>
</tr>
<tr>
<td>Non-recurrent Congestion for Autos</td>
<td>$39.64/hour of delay</td>
</tr>
<tr>
<td>Non-recurrent Congestion for Trucks</td>
<td>$72.10/hour of delay</td>
</tr>
<tr>
<td>Crashes</td>
<td>$8,500/crash</td>
</tr>
<tr>
<td>Fatalities</td>
<td>$4,300,000 per fatality</td>
</tr>
<tr>
<td>Auto Air Pollution Costs</td>
<td>$0.011 per VMT</td>
</tr>
<tr>
<td>Truck Air Pollution Costs</td>
<td>$0.039 per VMT</td>
</tr>
</tbody>
</table>
Presenters Comments

Due to the nature of the freight diversion package of solutions, the cost benefit calculation will be evaluated slightly differently than the other multimodal solutions.

The benefits to the I-75 corridor will be compared to the cost of the entire Norfolk Southern’s Crescent Corridor program.

The benefit cost ratio for the grade separation improvements will be calculated according to the benefits and established methodology of the Federal Railroad Administration.

Benefit/Cost of Freight Focused Package of Solutions

- B/C Ratio for System Improvements
- B/C Ratio for Rail Crossing Separations
Presenters Comments

The next steps toward completing this project include:
• Completing the cost benefit analysis,
• Documenting and addressing public comments,
• Prioritizing the multimodal solutions, and developing the I-75 corridor planning document.

Next Steps

• Complete Benefit Cost Analysis

• Document and Address Your Comments

• Prioritize Multi-Modal Solutions, and Develop I-75 Corridor Plan
Presenters Comments

So if you have any questions related to this presentation, you can submit them in a number of ways.
Presenters Comments

One, you can contact Terry Gladden, the project manager for this study, either by phone or email.

Or you can go to the project web site at www.tennesseei75.com. This site contains a public comment form that you can print, fill out, and submit to the Department. But this form has to be submitted to the department October 19, 2009.

The project web site also contains much more information related to the study, so please visit for further information about this project.

Thank you.

For information or questions about the study, please contact:

Mr. Terry Gladden
TDOT Long Range Planning Office Division
Phone: (615) 741-3629
Email: Terry.Gladden@tn.gov

or visit: www.tennesseei75.com