I-40 / I-81 CORRIDOR FEASIBILITY STUDY

I-40/I-81 Study Update

Memphis

March 31, 2008

Agenda

- I-40/I-81 – Tennessee's Major Artery
- Study Overview
- Process for Evaluating Potential Solutions
- Preliminary Study Results
- Remaining Steps

Corridor Importance

- A Corridor in the Strategic Investment Plan
- 55% of State's population live along the corridor (28 counties)
- Truck volumes along corridor are estimated to double by 2030; trucks carry 74% of freight in State
- Rail freight volumes projected to increase over 50% by 2030

Corridor Importance

- Major commuting route in urban areas
- Serves as a jurisdiction's "Main Street" and provides local access if parallel roads are congested or don't exist
- Demand along corridor is very different from original system function of facilitating interstate travel

Study Purpose

- Identify & address I-40/I-81 deficiencies
- Identify low-cost operational improvements along corridor
- Consider effectiveness of truck/rail diversion
- Consider multi-modal solutions

Identify, Evaluate & Prioritize Solutions That Address:

- Congestion & capacity
- Operations & maintenance
- Safety & security
- Freight movement & diversion
- Economic access
- Commuter patterns
- Inter-modal facilities (freight and/or passenger)

Study Corridor

- Bristol to Memphis, 550 Miles
- Includes 9 of State's 12 RPOs
- Crosses 8 of State's 11 MPOs/TPOs

Study Outcomes

- Projects & strategies for consideration by TDOT, MPOs/TPOs & RPOs
- Short, mid & long-range solutions and cost estimates

Previous Memphis Public Meeting

- Held on September 17, 2007
- Provided background on I-40/I-81 study
- Asked if there were deficiencies in the corridor beyond what we had identified
- Requested input into range of potential solutions to be considered

Purpose of Current Meeting

- Review study background
- Explain work accomplished since last meeting
- Present results of evaluation of potential solutions/projects for I-40/I-81 Corridor between Memphis and west of Jackson

Other Regional Stakeholder Meetings

- Jackson — April 1
- Nashville — April 3
- Knoxville — April 7
- Tri-Cities — April 8
- Cookeville — April 10

Initial Screening Process

- Five “packages” of multimodal solutions for corridor analysis for 2030
  - Existing + Committed Improvements
  - Roadway Capacity
  - Corridor Capacity
  - Operational Solutions
  - Rail-Focused Solutions
- Developed performance measures from statewide and urban area models
- Off-model analysis for selected measures

Purpose of Evaluation Process

- Identify solutions/projects with highest benefit/cost (B/C) ratios, recognizing that this measure represents only one factor in project assessment
- Identify solutions/projects that will provide benefits in short- and mid-term periods

Evaluation Process

- B/C ratios estimated for projects from those “packages” found to be significant
- Benefits for each project **monetized** to allow consistent measurement across evaluation criteria
- Roadway cost estimates consistent with TDOT methodology
- Projects evaluated for multiple planning horizons
- Benefits estimated **only** for I-40 & I-81

Evaluation Components

- Auto hours of recurrent delay
- Truck hours of recurrent delay
- Auto hours of non-recurrent (incident) delay
- Truck hours of non-recurrent (incident) delay
- Number of accidents
- Number of fatalities

Identified I-40 Widening Projects

- **Widen to 6 Lanes between Exit 18 (Germantown) and Exit 35 (SR-59)**
  - 2030 B/C ratio of 3.0 for widening 17-mile segment at estimated total cost of $151 million
  - Modeling analysis shows need for improvements between Exit 18 and Exit 24 (SR-385) by 2011 at cost of $42 million for 5-mile segment
  - Widening of remaining 12 miles (to Exit 35) needed by 2016 at cost of $109 million
  - Cost estimates are in 2008 dollars

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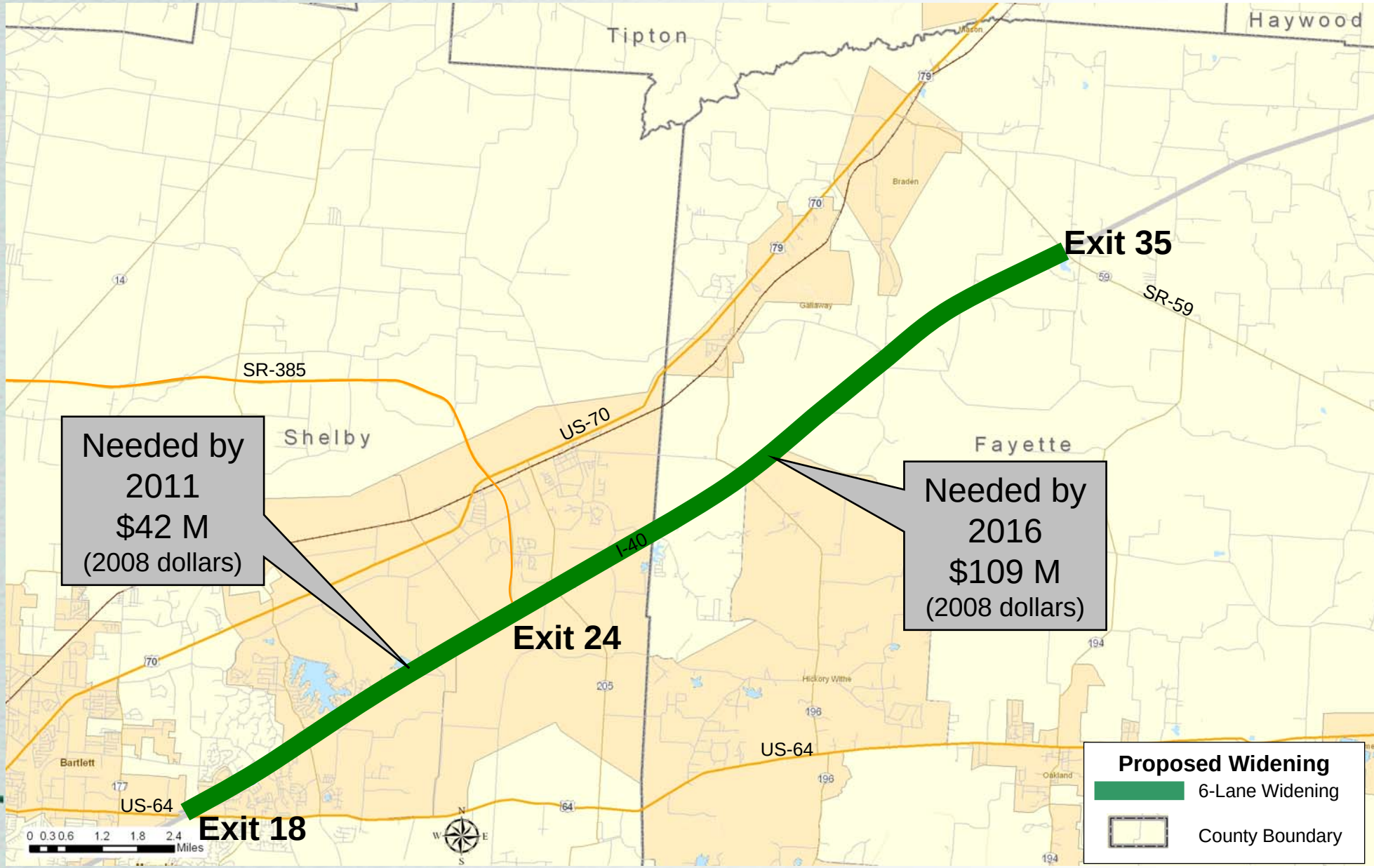
Proposed 6-Lane Widening of I-40



Identified I-40 Widening Projects

- **Widen to 8 Lanes between Exit 3 (SR-300) and Exit 12 (Sycamore View Rd)**
  - 2030 B/C ratio of 2.9 for widening 9-mile segment at estimated total cost of $109 million (2008 dollars)
  - Potential for new lanes being designated as high occupancy toll (HOT) or Truck Toll lanes

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Proposed 8-Lane Widening of I-40

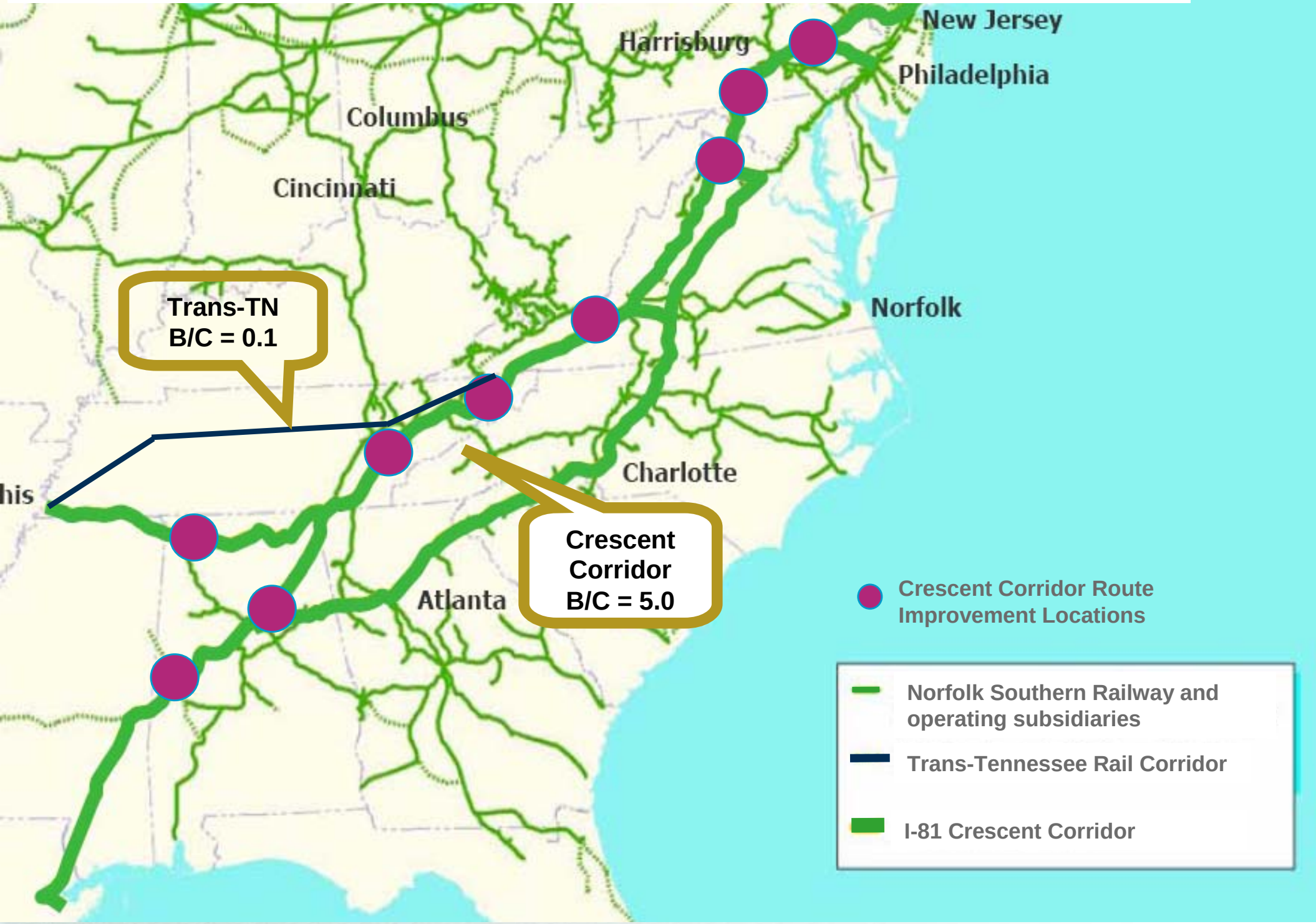
I-40 Corridor Capacity Projects

- **New Mississippi River bridge crossing**
  - 2030 B/C ratio of 2.0 for location north of existing I-40, based on estimated cost of $600 million
- **North 2nd/3rd Street Connector**
  - 2030 B/C ratio of 1.5 at estimated cost of $75 million

I-40 Rail-Focused Improvements

- **Norfolk Southern Crescent Corridor**
  - 2030 B/C ratio of 5.0 warranting further analysis of planned improvements in and out of the state
- **Trans-Tennessee Rail Corridor**
  - 2030 B/C ratio of 0.1, but only includes benefits for I-40/I-81 Corridor & economic benefits identified in *An Evaluation of Tennessee Rail Plan's Treatment of a Trans-Tennessee Rail Routing*

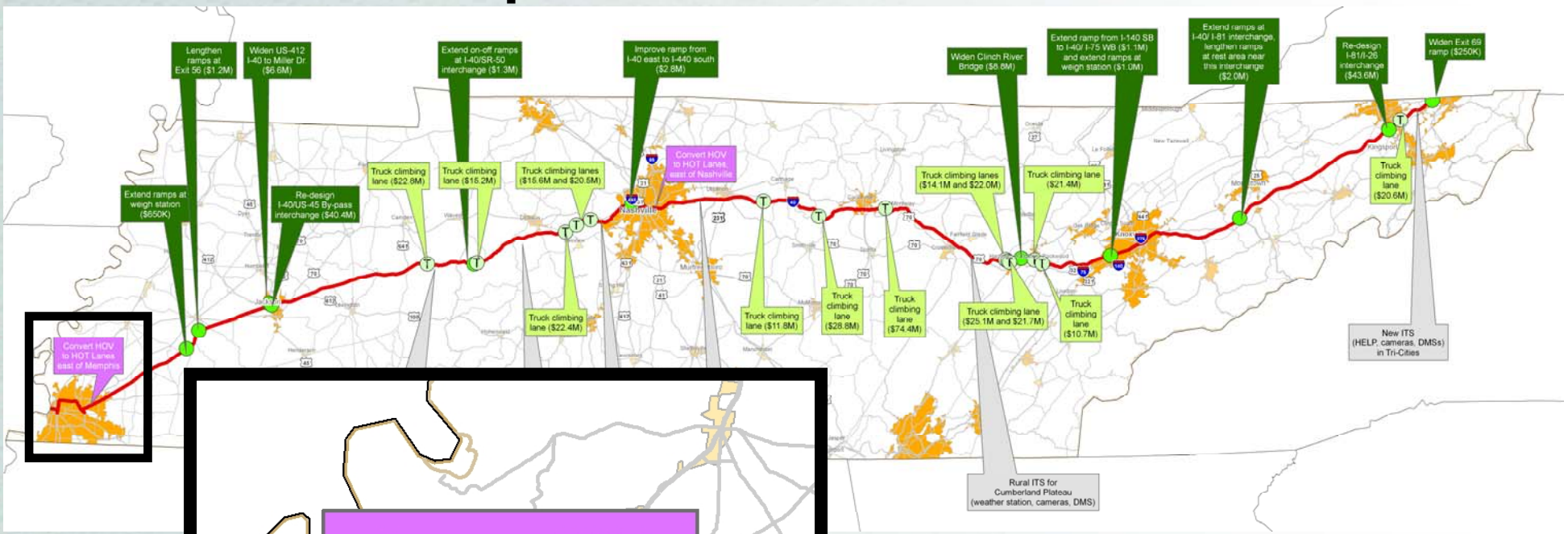
I-40/I-81 Rail Improvement Alternatives

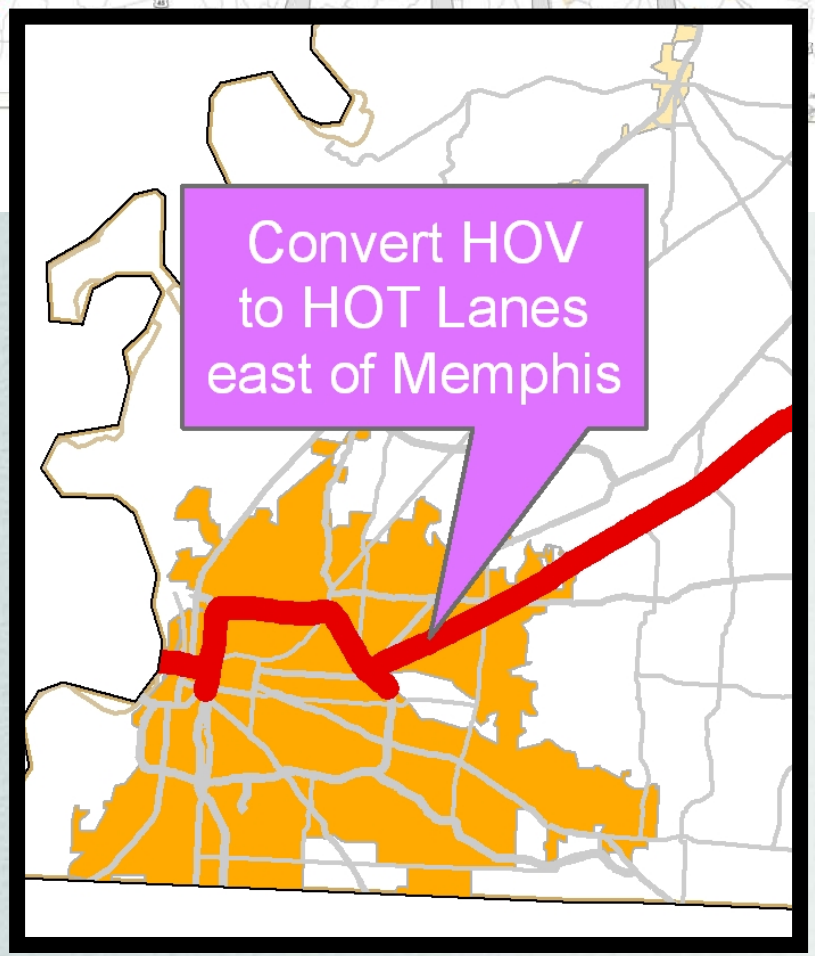


I-40 Operational Solutions

- Intelligent Transportation System (ITS) improvements
- Interchange, rest area & weigh station ramp improvements
- Truck climbing lanes
- High occupancy vehicle (HOV) or HOT lane expansion or conversion

I-40 Operational Solutions



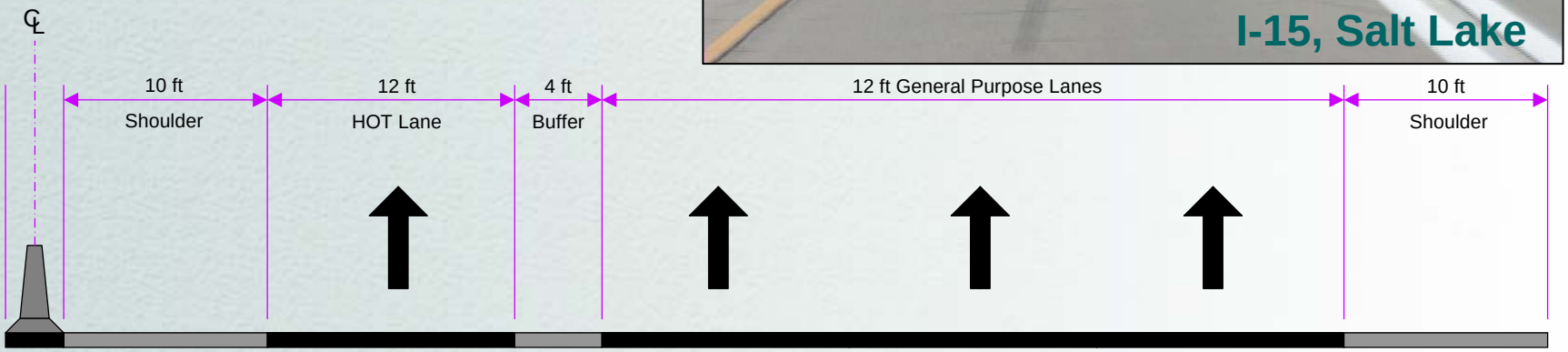


Potential I-40 HOT Lanes

- Reasonably good volume of HOVs in 2005
- Equal number of violators observed
- HOT lanes would permit single-occupant vehicles to pay for use of available lane capacity and reduce violators
- Would require change in state law to allow pricing on existing interstates
- Could provide dedicated funding for enforcement, but would not likely generate significant revenue

I-394, Minneapolis

I-15, Salt Lake

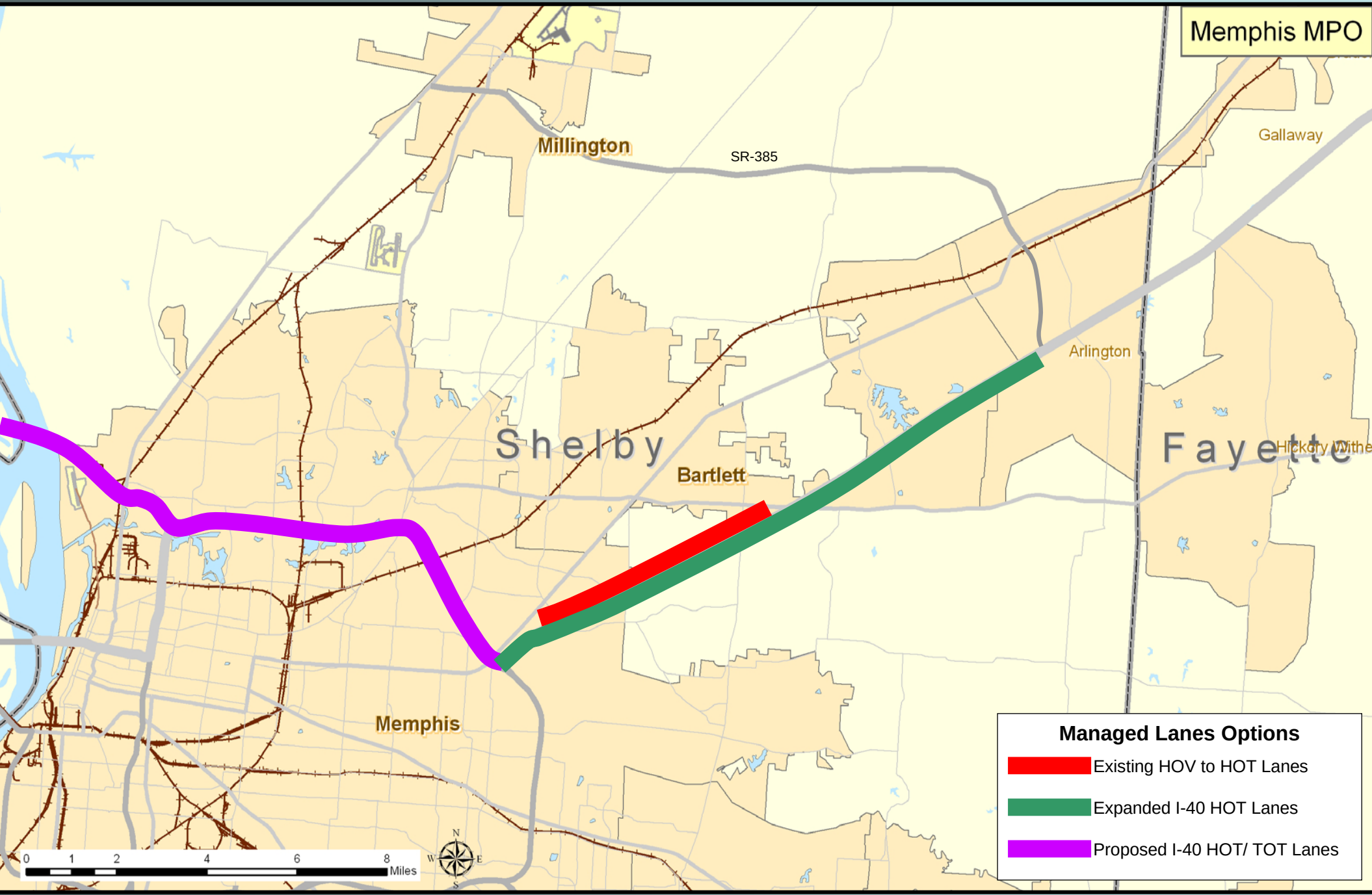


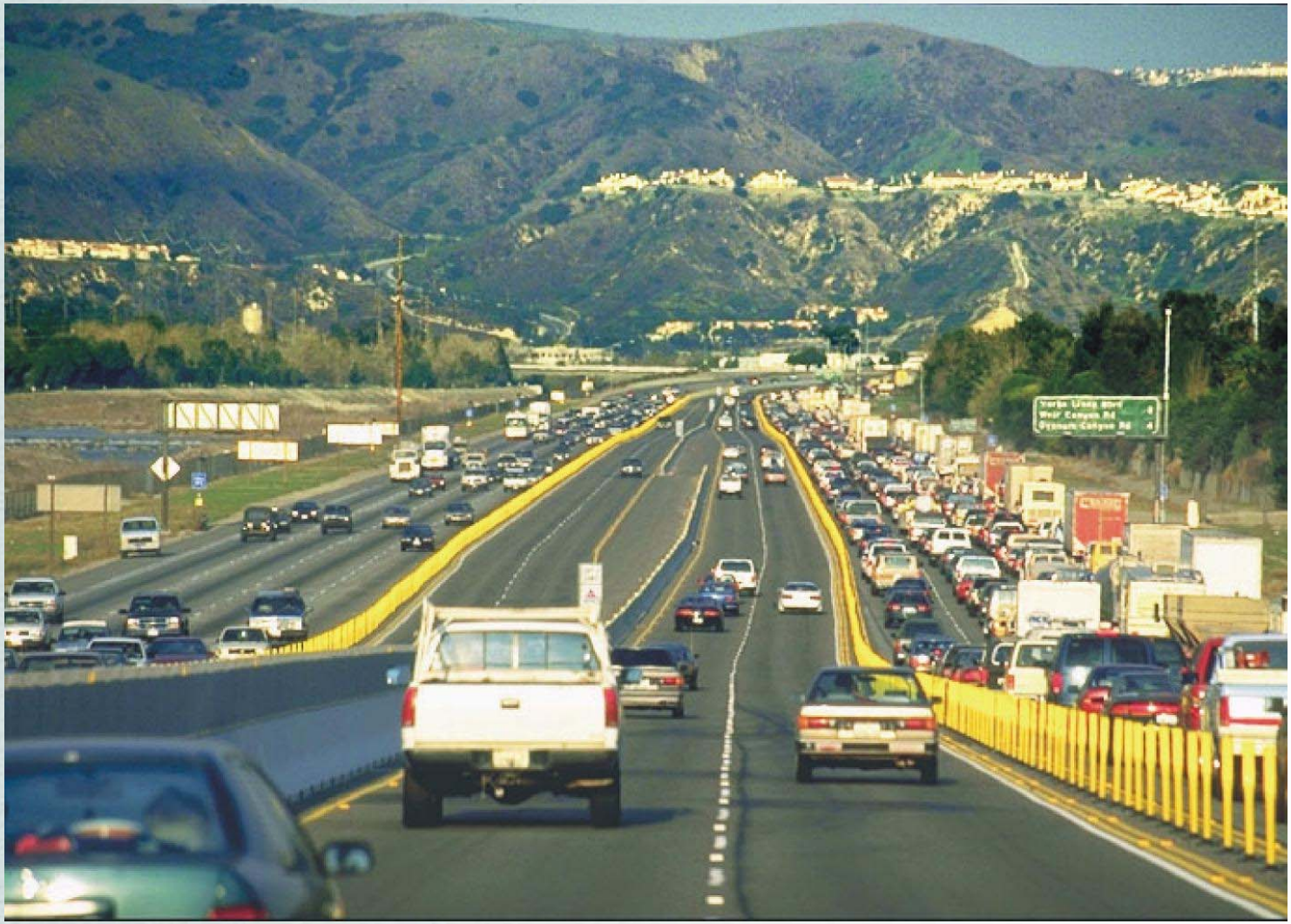
HOT Lane

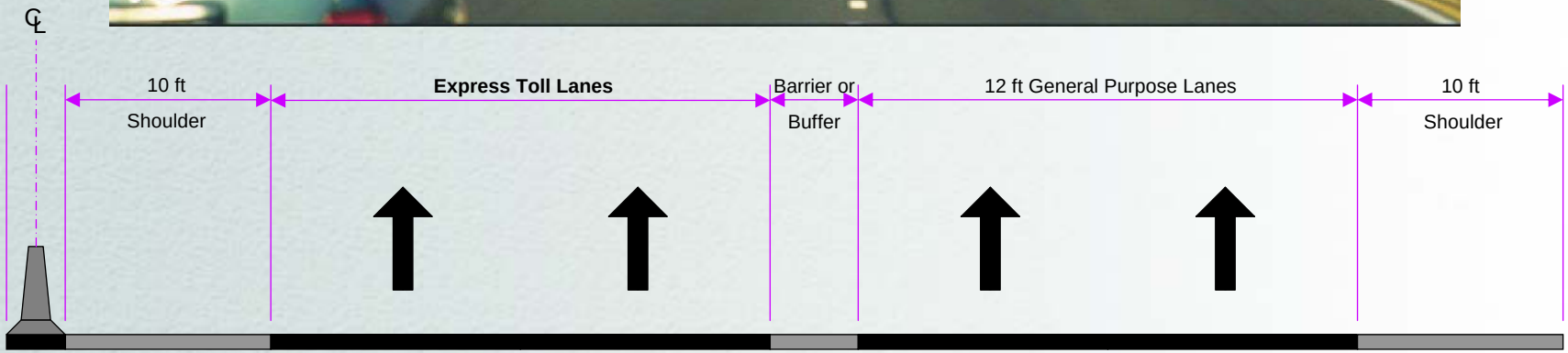
Potential I-40 HOT Lanes (cont.)

- Mid-term potential to extend HOV/HOT lanes eastward based on congestion
- Mid-term potential to provide dedicated ramps between I-40 HOT lanes and I-240
- Long-term potential for HOT/Truck Toll east to Arlington
- Long-term potential for HOT/Truck Toll lanes along I-40 to connect to future Mississippi River crossing

HOT/Truck Toll Lanes in Memphis







MANAGED EXPRESS / TRUCK TOLL Lanes

Project Programming

- Near-term, medium-term and long-term projects with highest B/C ratios identified for each region
- Projects divided into constructible segments
- Segments are programmed based on timing of impacts and availability of funds

Remaining Steps

Late April	Review public comments with TDOT
	Present draft corridor program to Commissioner
May	Complete capital program & Final Report

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For more information on the study, contact:

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