Southeast Corridor High Performance Transit Alternatives Study

Public Meetings

November 30 - December 2, 2004
Thanks for Coming!

- Introductions
- Needs and Goals
- What We’ve Heard
- Evaluation Criteria
- Alternatives Under Consideration
- Next Steps
- Your Questions and Comments
Needs and Goals

- Region has 15-year commitment to high-capacity transit
- East Corridor – Open in 2005
- Southeast Corridor – Alternatives Study
- Northeast Corridor - Next

Middle Tennessee Transit Network
Identifying the Need

- Analysis of Existing System, Future Plans
- Comments from the Public
- Recommendations of local leaders, transportation officials
Project Need and Goals

- Expand Mass Transit Options
- Address Traffic Congestion
- Enhance Economic Development
- Address Land Use
- Environmental Benefits
- Use Transportation Funding Efficiently
Key Findings

- Southeast Corridor is fastest growing in the Nashville region
- Corridor roadways face worsening traffic congestion
- Current plans do not provide sufficient roadway capacity or transit options to support future growth
Changing Demographics

United States: 1950

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1955

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1980

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1985

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1970

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1975

Male and Female Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1980

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1985

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1990

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 1995

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2000

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2005

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2010

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2015

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2020

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2025

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2090

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2095

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2040

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2045

Source: U.S. Census Bureau, International Data Base.
Changing Demographics

United States: 2050

Population (in millions)

Source: U.S. Census Bureau, International Data Base.
Making More Capacity

- Average passengers in a commuting automobile: about 1.1
- Seated capacity of a commuter bus: 50
- Seated capacity of a light rail vehicle: 90 (can operate in 2-3 car trains)
- Seated capacity of a commuter rail car: 135 (can operate in up to 4 car trains)
Vehicle Capacity

1 Person Car

2 Person Carpool

Vanpool

Bus

Light Rail

Commuter Rail

Number of Vehicles Needed to Carry 90 People
## Population Growth

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2015</th>
<th>2025</th>
<th>Percent Change 2000-2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davidson County Portion</td>
<td>177,101</td>
<td>200,698</td>
<td>227,450</td>
<td>28%</td>
</tr>
<tr>
<td>Rutherford County Portion</td>
<td>153,676</td>
<td>193,588</td>
<td>210,801</td>
<td>37%</td>
</tr>
<tr>
<td>Total Study Area</td>
<td>330,777</td>
<td>394,286</td>
<td>438,251</td>
<td>32%</td>
</tr>
</tbody>
</table>
## Traffic Congestion - I-24

<table>
<thead>
<tr>
<th>From I-40 Downtown Nashville to:</th>
<th>2003</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fesslers Lane</td>
<td>176,060 ADT, F LOS, 8 Lanes</td>
<td>216,557 ADT, F LOS, 8 Lanes</td>
</tr>
<tr>
<td>Briley Parkway (SR 155)</td>
<td>121,230 ADT, D LOS, 8 Lanes</td>
<td>133,746 ADT, E LOS, 8 Lanes</td>
</tr>
<tr>
<td>Bell Road</td>
<td>100,660 ADT, D LOS, 8 Lanes</td>
<td>140,220 ADT, E LOS, 8 Lanes</td>
</tr>
<tr>
<td>Old Hickory Blvd (SR 171)</td>
<td>102,180 ADT, D LOS, 8 Lanes</td>
<td>131,881 ADT, E LOS, 8 Lanes</td>
</tr>
<tr>
<td>Sam Ridley Pkwy (SR 266)</td>
<td>84,940 ADT, C LOS, 8 Lanes</td>
<td>123,583 ADT, E LOS, 8 Lanes</td>
</tr>
<tr>
<td>Nissan Drive (SR 102)</td>
<td>83,910 ADT, C LOS, 8 Lanes</td>
<td>103,948 ADT, D LOS, 8 Lanes</td>
</tr>
<tr>
<td>SR 840</td>
<td>80,710 ADT, E LOS, 8 Lanes</td>
<td>88,693 ADT, C LOS, 8 Lanes</td>
</tr>
<tr>
<td>SR 96</td>
<td>64,240 ADT, E LOS, 4 Lanes</td>
<td>92,954 ADT, C LOS, 8 Lanes</td>
</tr>
<tr>
<td>US 231</td>
<td>52,550 ADT, D LOS, 4 Lanes</td>
<td>88,572 ADT, C LOS, 8 Lanes</td>
</tr>
<tr>
<td>Rutherford/Coffee Co. Line</td>
<td>39,230 ADT, C LOS, 4 Lanes</td>
<td>62,710 ADT, E LOS, 4 Lanes</td>
</tr>
</tbody>
</table>

* Based on Nashville Area MPO 2025 Long Range Transportation Plan
Source: Nashville Area MPO and TDOT
# Traffic Congestion - Murfreesboro Road

<table>
<thead>
<tr>
<th>Murfreesboro Road</th>
<th>From 8th Avenue to:</th>
<th>2003</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Daily Traffic (ADT)</td>
<td>Level of Service (LOS)</td>
<td>Existing Number of Lanes</td>
</tr>
<tr>
<td>Fesslers Lane</td>
<td>28,700</td>
<td>B</td>
<td>5</td>
</tr>
<tr>
<td>Thompson Lane</td>
<td>24,340</td>
<td>B</td>
<td>5</td>
</tr>
<tr>
<td>Briley Pkwy (SR155)</td>
<td>27,670</td>
<td>A</td>
<td>7</td>
</tr>
<tr>
<td>Bell Road</td>
<td>37,510</td>
<td>F</td>
<td>4</td>
</tr>
<tr>
<td>OHB/Hobson Pike (SR 171)</td>
<td>21,820</td>
<td>B</td>
<td>4</td>
</tr>
<tr>
<td>Sam Ridley Pkwy</td>
<td>22,790</td>
<td>B</td>
<td>4</td>
</tr>
<tr>
<td>Nissan Pkwy</td>
<td>21,920</td>
<td>B</td>
<td>4</td>
</tr>
<tr>
<td>SR-840</td>
<td>40,780</td>
<td>F</td>
<td>4</td>
</tr>
<tr>
<td>SR 96</td>
<td>32,190</td>
<td>D</td>
<td>4</td>
</tr>
<tr>
<td>S Church Street (SR 231)</td>
<td>33,250</td>
<td>B</td>
<td>6</td>
</tr>
</tbody>
</table>

* Based on Nashville Area MPO 2025 Long Range Transportation Plan
Source: Nashville Area MPO and TDOT
What We Have Heard

- 200+ Visitors to Public Meetings and Forums
- Interviews with more than 20 Key Regional Leaders
- Input from the public through phone, e-mail, Web Site
What We Have Heard

- Need for Transit Options
- Skepticism that Nashville will Use Transit – “Car Town,” Rural Lifestyle
- Enthusiasm for Rail
- Need for “Cost-Realistic” Options
Evaluation of Alternatives

Three Step Evaluation Process

Initial Screening of Alternatives: Project Need and Goals, Order-of-Magnitude Costs

Detailed Screening of 3 Alternatives

Refinement of Alternative, Comparison of Alternative to Baseline
Evaluation of Alternatives

- Project Goals and Objectives
- Federal Transit Administration Evaluation Measures
  - Capital Investment Costs
  - Operating Costs
  - User Benefits
  - Financial Feasibility
Evaluation of Alternatives

- Expand Mass Transit Options
- Address Traffic Congestion
- **Enhance Economic Development**
- Address Land Use
- Environmental Benefits
- Use Transportation Funding Efficiently

**Objective:**
Provide improved access to employment centers throughout the corridor by providing improved transportation access and options
Evaluation of Alternatives

- Expand Mass Transit Options
- Address Traffic Congestion
- Enhance Economic Development
- Address Land Use
- Environmental Benefits
- Use Transportation Funding Efficiently

Initial Screening Measure:
Does the alternative improve access to downtown Nashville; to the Vanderbilt/West End area; to interchange city; to Dell; Nissan; downtown Murfreesboro/MTSU?
Evaluation of Alternatives

- Expand Mass Transit Options
- Address Traffic Congestion
- **Enhance Economic Development**
- Address Land Use
- Environmental Benefits
- Use Transportation Funding Efficiently

**Detailed Screening Measure:**
Distance of alternative stations/alignment from employment.
Potential Alternatives

- Modes = type of vehicle and guideway
Commuter Rail

Chicago METRA

Colorado Railcar FRA-Compatible Diesel Multiple Unit
Bus Rapid Transit

Las Vegas MAX

Curitiba, Brazil
Light Rail

Portland Streetcar

Sacramento, CA
Transit Oriented Development

- Transit-Supportive Development for existing and future growth
  - Development Pattern
  - Compact with Significant Concentration of Residential / Retail / Commercial
  - Orientation of Buildings
  - Pedestrian Elements
Transit Oriented Development

- Compact Development
- Mix of Uses within Small Area
- Walkable Scale
Is it Better This Way?

Emeryville, CA

BEFORE
…Or This Way?

Transit Makes Great Urban Development Work!
Alternative 1: I-24 LRT/BRT

Alternative 1: I-24 Corridor
Light Rail (LRT), Diesel Light Rail, or Bus Rapid Transit (BRT)
Alternative 2: I-24 BRT “Lite”

**ALTERNATIVE 2**

I-24 Corridor

BUS RAPID TRANSIT LIGHT* (BRTL)

*Low capital cost option which uses existing travel lanes with traffic signal priority.
Alternative 3: CSX Commuter Rail

ALTERNATIVE 3
CSX Corridor
COMMUTER RAIL,
OR DIESEL MULTIPLE UNITS (DMU)
Alternative 5: M’boro Road LRT/BRT

ALTERNATIVE 5
Murfreesboro Rd Corridor
LIGHT RAIL (LRT)
DIESEL LIGHT RAIL,
OR BUS RAPID TRANSIT (BRT)
Alternative 6: M’boro Road BRT “Lite”

ALTERNATIVE 6
Murfreesboro Rd Corridor
BUS RAPID TRANSIT LIGHT* (BRTL)
*Low capital cost option which uses existing travel lanes with traffic signal priority.
Phases of Analysis

- Purpose & Need, Goals and Objectives
- Development of “Sketch” Alternatives
- Analysis of “Sketch” Alternatives
- Identification of Final Alternatives
- Analysis of Final Alternatives
- Identification of Preferred Alternative
- Development of Financial Plan, Project Management Plan

Timeline:
- Summer 2004:
  - Scoping Meetings
  - FTA Scope Review
- Autumn 2004:
  - Public Forums
- Winter 2004-2005:
  - MPO, FTA Review
  - Community Meetings
- Spring 2005:
  - MPO, FTA Review
  - Community Meetings
- Summer 2005:
  - MPO, FTA Approval
What’s Next?

- Evaluate Alternatives
  - Analysis
  - Your Comments
- Evaluation Results: Winter
- Preferred Alternative Selected: Spring
- Preferred Alternative in Long-Range Plan
- Design and Environmental Analysis
- Best Case Implementation: 5-7 Years
Southeast Corridor High Performance Transit Alternatives Study

For More Information:

www.setransitstudy.com

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