A Strategic Master Plan for public transportation that will maximize public mobility and enhance economic development in Nashville/Davidson County

Project Objectives

- Provide a realistic and forward looking Strategic Master Plan for the future.
- Obtain meaningful public input to insure that MTA is meeting the needs of riders, stakeholders and the general public as effectively as possible.
- Find ways to rethink and reposition MTA services to meet growing needs and shifting development patterns.
- Promote regional coordination recognizing the transportation needs do not stop at county boundaries.
- Develop a plan for a more stable funding structure for public transit.

Strategic Master Plan
Project Schedule

October/November 2008 | Collect data; review existing studies; review MTA performance
November 2008 | Initial public meetings; analyze market data; review peer transit systems
December 2008 | Identify opportunities; develop prioritization approach
January 2009 | Public meetings for presentation and feedback on opportunities for MTA improvements/investments
January/February 2009 | Develop recommendations for services, priorities, regional coordination and funding
March 2009 | Public meetings presenting the Draft Strategic Master Plan
Outline of the Project

**Phase I: Public Outreach**
- Three rounds of public meetings to get input at the beginning of the project, after alternatives are developed, and on the Draft Strategic Master Plan.
- Meetings with a Coordinating Committee made up of MTA, Metro Planning, Metro Public Works, TDOT and MPO representatives.
- Meetings with other policymakers and groups interested in transit.

**Phase II: Data Review and Market Analysis**
- Collect data on MTA service and ridership and compare with other transit agencies in other cities. What can be learned from best practices elsewhere?
- Collect data from Metro and the MPO on future growth and plans. We want to draw a picture of the region and show how MTA is serving it and how it might serve it in the future.
- Identify areas to be served, types of service, and service characteristics that MTA will seek to provide in the short and long term.

**Phase III: Opportunities and Constraints**
- How shall we prioritize which investments to make? Tell us what you think.
- What are the opportunities that the MTA should pursue to improve transit service?
- How shall the MTA coordinate with counties outside of Davidson?
- How do we fund existing service and future improvements?

**Phase IV: Strategic Master Plan**
- Finalize the vision and identify public transportation service goals and the prioritization process to lead us to that vision.
- Document this in a written document.

- **Done**
- **In Progress**
Snapshot of Nashville MTA

- MTA Operates 200 Vehicles
  - 137 Buses
  - 63 AccessRide Vans
- Operates 35 Bus Routes
- 5.6 Million Miles Driven Annually
- 30,000 Weekday Rides
- 780,000 Monthly Rides
- Continued Increases in Ridership
  - Over 8 Million Rides in FY 2006
  - 8.5 Million in FY 2007
  - 9.4 Million in FY 2008
- Projected to reach 10 Million FY 2009

Ridership for 2002-2008

Nashville MTA ridership is growing very quickly
Public Outreach Meetings

- 5 Public meetings held: November 17 – 19
- 5 Public meetings: January 20 – 23
- Stakeholder Workshop: December 16

Attitude Change Leading to Increased Transit Use

Influence on Increased Transit Use

- Service Improvement: 55%
- Ease of Use: 25%
- Approval of Others: 23%

Transit Cooperative Research Program: Report 123

What is most important to you? (November meetings)

<table>
<thead>
<tr>
<th>Improvement</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service frequency</td>
<td>1</td>
</tr>
<tr>
<td>More info at stops</td>
<td>2</td>
</tr>
<tr>
<td>On-time performance</td>
<td>2</td>
</tr>
<tr>
<td>Make service faster</td>
<td>2</td>
</tr>
<tr>
<td>Connect downtown with major employer</td>
<td>3</td>
</tr>
<tr>
<td>More shelters</td>
<td>3</td>
</tr>
<tr>
<td>Service to new neighborhoods</td>
<td>4</td>
</tr>
<tr>
<td>Eliminate transfers</td>
<td>5</td>
</tr>
</tbody>
</table>

What are priorities for transit? Rank them. (December meeting)

<table>
<thead>
<tr>
<th>Item</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase frequency</td>
<td>1</td>
</tr>
<tr>
<td>Downtown Circulator</td>
<td>2</td>
</tr>
<tr>
<td>Cross-town routes</td>
<td>3</td>
</tr>
<tr>
<td>Upgraded stops / technology for information</td>
<td>4</td>
</tr>
<tr>
<td>Public education and marketing</td>
<td>5</td>
</tr>
<tr>
<td>MTA part of planning process</td>
<td>6</td>
</tr>
<tr>
<td>Reliability of service</td>
<td>6</td>
</tr>
<tr>
<td>Provide service to areas with no other transportation</td>
<td>7</td>
</tr>
</tbody>
</table>
Synthesis of What We Learned

**More Buses / More Often**
- Increase frequency on key routes
- Establish ‘targets’ for minimum frequency by type of service and time of day
- Most requested improvement from public input

**Make Transit Trips Faster**
- More competitive with auto travel time
- Increase speed by reducing number of stops, adding traffic signal priority, etc.
- Create more direct transit connections (mini-hubs outside of downtown, cross-town routes)

**Serve New Areas**
- Provide transit to access neighborhoods or employers that don’t have service today

**Easier to Use**
- Simpler services
  - Fewer branches or route modifications
  - Predictable schedule (‘clockface headways’)
    (e.g. :15, :45)
- Transit information is easier to get
  - Schedules (Google Transit)
  - Real time information about bus schedules

**Improve Image of Transit**
- Marketing, “How to Use Transit” training, enhanced amenities
MTA Challenges in Serving the Region

Over 148,000 Employees working for 959 Employers are within ½ mile of MTA Routes, nearly ¾ of the County’s jobs.

The yellow area is where frequent MTA service is available within ¼ mile. The pink area has less frequent service.

Homes are harder to serve as they are more spread out. There are around 95,000 homes within ½ mile of MTA routes, but this is only around 38% of the households in the county. It is challenging for transit to serve the light purple areas.

This map shows housing which consists of more than a single family home. The MTA does a good job of serving many of the larger multifamily developments.
We are developing a model that predicts ridership change when changes in the transit system are made. The model will allow us to understand the impact of various “What If??” scenarios.

**Sample Output / Analysis**

*Estimating the transit access to jobs*

Identifying areas with good walk access to transit.

Identifying the commute flows that are not well served by transit

The lines indicate the largest commute flows that are not well served by MTA. Most are from outside of the county, but note the relatively thick line east of downtown that could be better served by transit.
Comparison With Other Systems

Criteria for peers
- Similar service area
- Similar service density
- Prefer southeastern or close-by systems
- Places other people might use as comparisons (capital cities)
- Exemplary systems
- None of the peers fits all of these criteria

- Memphis Area Transit Authority (MATA)
- Transit Authority of River City (Louisville KY)
- Greater Richmond Transit Company (Richmond VA)
- Charlotte Area Transit System (Charlotte NC)
- Capital Metropolitan Transportation Authority (Austin TX)
- Hillsborough Area Regional Transit Authority (Tampa FL)
- Indianapolis and Marion County Public Transportation (IN)
- Greater Dayton Regional Transit Authority (OH)
- Connecticut Transit - Hartford Division (Hartford CT)
- Central Oklahoma Transp. and Parking Authority (OK)
- Capital Area Transit (Raleigh NC)
- Niagara Frontier (Buffalo NY)
- Pioneer Valley (Springfield MA)
- Jacksonville FL

Population Density (persons/sq. mile)

Source: National Transit Database 2006 data
Conclusions from Peers

- Nashville challenged by trying to serve a less dense area than many peers
- Doing OK in efficiency
- Compared to other cities, fares cover more of the operating costs
- Provides less service per capita than peers on average
MTA: Part of the Region’s Mobility

A Concept for Transit in the Region

Opportunities for Regionalism

- Improved integration of transportation, land use, and urban design policies
- Increased coordination between local comprehensive plans

More and better transportation options represented in the regional plan
More reliable approach to funding transit options

Metro’s Green Ribbon Committee Survey

What Single Sustainable Practice Would you Most Like to See in Nashville?

- Increased availability of locally-grown and organic foods 9%
- Green building incentives 9%
- Increased use of renewable energy 14%
- More/ improved open spaces 9%
- Increased recycling 13%
- Increased availability of mass transportation 30%
- Water conservation 2%
- Other 10%

In Metro, transit is viewed as more than transportation – it is also part of creating a sustainable future.
The Funding Question

MTA Operating Funds

Typical Transit Revenue Sources
- Operating Revenues: 20-25%
- Farebox Returns
- Advertisement Sales
- State/ Federal Grants: 25-40%
- Local/ Regional Support: 40-50%
- General Fund AND/OR
- Dedicated Revenue Source

To make the case for funding:
- Establish a clear vision for service improvements
- Identify realistic, supported projects
- Deliver what you promise

Efforts on-going in Nashville region to establish dedicated funding for transit
Setting Priorities

Setting Priorities - Provide Funding Allocation for each Priority

If there were new dedicated funding, how might the new funding be spread among the priorities?

- More buses/more often
- Faster transit trips
- Serve new areas
- Easier to use
- Improve image

Funding Priorities Should Be Tied into Performance Measures

- Standards for frequency and service span by class of service
  - Half hour service needed to attract more riders
  - Hourly service will generate modest ridership
  - More frequent service if justified by passenger loads
- Standards for speed of service
  - Transit vs. Auto travel time
- Standards for coverage by class of service
  - By time of day, day of week
- Performance ranking

Some Examples of Possible Performance Measures

<table>
<thead>
<tr>
<th>Service Class</th>
<th>Span of Service</th>
<th>Minimum Frequency</th>
<th>Hours Service Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most Frequent</td>
<td>Peak (Monday-Friday 6am-9am and 3pm-6pm)</td>
<td>30 minutes</td>
<td>18 Hours</td>
</tr>
<tr>
<td></td>
<td>Midday (6am-9am)</td>
<td>45 minutes</td>
<td></td>
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<tr>
<td></td>
<td>Evening</td>
<td>60 minutes</td>
<td></td>
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<tr>
<td></td>
<td>Weekends (9am-3pm)</td>
<td>45 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weekends (9am-3pm and 7pm-11pm)</td>
<td>60 minutes</td>
<td>18 hours</td>
</tr>
<tr>
<td>Frequent</td>
<td>Peak (Monday-Friday 6am-9am and 3pm-6pm)</td>
<td>60 minutes</td>
<td>17 Hours</td>
</tr>
<tr>
<td></td>
<td>Midday (6am-9am)</td>
<td>75 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evening</td>
<td>60 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weekends</td>
<td>60 minutes</td>
<td>(if service is provided)</td>
</tr>
<tr>
<td>Commuter</td>
<td>Peak (Monday-Friday 6am-9am and 3pm-6pm)</td>
<td>30 minutes</td>
<td>17 Hours</td>
</tr>
<tr>
<td>Shuttle</td>
<td>Peak (Monday-Friday 6am-9am and 3pm-6pm)</td>
<td>30 minutes</td>
<td>12 Hours</td>
</tr>
<tr>
<td></td>
<td>Midday (6am-9am)</td>
<td>20 minutes</td>
<td></td>
</tr>
<tr>
<td>BRT</td>
<td>Peak (Monday-Friday 6am-9am and 3pm-6pm)</td>
<td>10 minutes</td>
<td>17 Hours</td>
</tr>
<tr>
<td></td>
<td>Midday (6am-9am)</td>
<td>15 minutes</td>
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<td>15 minutes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weekends Midday (9am-3pm)</td>
<td>30 minutes</td>
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</tr>
</tbody>
</table>

Perception Grade | Travel Time Difference (min) | General Comments
A | 0 | Transit faster than automobile
B | 1-15 | Transit and auto trips close to equal
C | 16-30 | Generally acceptable for all riders
D | 31-45 | Round trip at least one hour longer by transit
E | 46-60 | Will attract limited ridership
F | Greater than 60 | Unacceptable to most riders

Difference between transit and auto travel time

<table>
<thead>
<tr>
<th>Service Class</th>
<th>Maximum Load Factor</th>
<th>Bus Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRT</td>
<td>1.5</td>
<td>Standing Room Only</td>
</tr>
<tr>
<td>Shuttle</td>
<td>1.25</td>
<td>Stands</td>
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</tr>
<tr>
<td>Commuter</td>
<td>1</td>
<td>No stands</td>
</tr>
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</table>

Load Factor is passengers / seats
Opportunities

Introduce Bus Rapid Transit on Gallatin Road

- Recommended Components
  - Unique buses
  - Convert curb lane of Cumberland River Bridge to bus/HOV Lane
  - Install traffic signal priority, with early and extended green for BRT
  - BRT should stop at “Stations”, located approx. ¼ mile apart
  - Install “Next Bus” Signs at BRT Stations

Service Pattern

- BRT to Sam’s (local stops beyond Madison Sq.)
  - 20 min peak
  - 30 min. midday & Sat. headways

- BRT to Madison Sq.
  - 10 min peak
  - 15 min. midday & Sat. headways

- #26 Gallatin Local
  - 20 min peak
  - 30 min. midday & Sat. headways

Cost Estimate

- Op Cost ~ $2.4 mill/yr
- Cap Cost ~ $10 mill

Timeframe

- 2 yrs to implement

Mini – Hub Concept

- Designing and Evaluating Mini-Hubs
  - Consider existing transfers in proposing route changes
  - Evaluate mobility impacts using model
  - Faster, more direct connections between neighborhoods
  - Estimate increased cost due to longer routes
  - Six mini-hubs shown in concept
  - About 10 routes affected, maybe 5 with major lengthening

Cost Estimate

- Op Cost ~ $2-3 mill/yr
- Cap Cost ~ $1.5 mill

Timeframe

- 1 yr to implement
## Opportunities

### Increased Frequency

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* More Buses/More Often
* Easier to Use

### Additional Frequency per Proposed Standards

- **Most Frequent Routes – Daytime**
  - 6-Lebanon Road
  - 12-Nolensville
  - 15-Murfreesboro
  - 17-12th Ave. S
  - 22-Bordeaux
  - 23- Dickerson
  - 28-Meridian

- **Frequent Routes**
  - 2-Belmont - evening
  - 6-Lebanon - daytime
  - 8-8th Ave S - daytime

### Commuter – weekday peak

- 41, 93, 94, 33X, 35X, 37X, 38X, 96X

### Downtown Circulator Concept

* More Buses/More Often
* Faster Transit Trips
* Easier to Use

#### Role of Downtown Circulator

- Provide frequent, convenient service through broader downtown area
- Make connections between office, entertainment, train, MCC
- Serve employees, downtown residents, train riders, visitors
- Modifications in future could serve Convention Center, Gulch

### Cost Estimate

- **Op Cost ~ $1.5-2 mill/yr**
- **Cap Cost ~ $4 mill**

### Timeframe

- 1 yr to implement if funded