Chattanooga-Hamilton County / North Georgia
2040 Regional Transportation Plan

* A Performance Based Planning Success Story

2013 AMPO Annual Conference
October 25, 2013

Presentation Overview

- Chattanooga region
- Chattanooga 2040 Regional Transportation Plan (RTP)
- Performance-based plan development
- Performance framework
- Implementing the framework
- Key outcomes and takeaways
Chattanooga Region

- 443,000 people with 26% growth over plan horizon
- 216,000 jobs with 39% growth over plan horizon
- 19 jurisdictions (four counties and 15 municipalities)
- 2,110 lane-miles

Need for New Investment Approach

- Nationally:
  - Transportation funds lagging, at same time that transportation needs have increased
  - Emphasis on asset management, coupled with less revenue, has serious implications on revenue availability for new infrastructure
  - Multimodal capital investments must be identified in transparent processes that are performance-driven and outcome-based

- In Chattanooga:
  - Shift to multimodal investment has been limited in its geographic extent
  - Large areas throughout region remain dangerous to pedestrians and cyclists and inaccessible to transit users
Chattanooga 2040 RTP

• Focus on strategic, performance-based investment decisions
• Extensive stakeholder engagement
  – Core Technical Team (CTT) and Community Advisory Committee (CAC)
  – Two half-day leadership forums
  – Multiple on line survey efforts and questionnaires
  – Five topic-based workshops
  – Social media

CAC members complete an exercise on transportation challenges at their first meeting

Chattanooga 2040 RTP (continued)

• Integration of asset-management principles coupled with system preservation funding analysis
  – Identified optimal funding levels needed to maintain roads and bridges over life of the plan
  – Doubling of maintenance funding needed
• New tools to support improved evaluation
  – GIS methods for multimodal gap analysis and health/accessibility analysis
  – Off-model calculator for evaluating smaller-scale system operations and bicycle and pedestrian improvements
  – Greatly improved travel demand model with ability to model transit
Performance-Based Plan Process

- Supports transparent decision-making in competitive funding environment
- Provides context, helps organize steps of plan development
- Key metrics to track positive outcomes
- Ensures investment decisions align with long-term goals
- Helps agency manage expectations
- Preparation for new requirements under MAP-21
  - Safety
  - Infrastructure condition
  - Congestion reduction
  - System reliability
  - Freight movement and economic vitality
  - Environmental sustainability
  - Project delivery

Steps of Performance-Based Process

The traditional approach focuses on five key elements

- Goals and Objectives
- Performance Measures
- Target Setting
- Allocate Resources
- Measure and Report Results
Define Goals and Objectives

• First critical step in the process
• Based on extensive outreach efforts conducted early in plan development
  – CAC and CTT meetings
  – First regional leadership symposium
  – Transit visioning workshop
  – Public open house and public questionnaires
  – Stakeholder interviews

We heard about many needs and frustrations. Defining tailored solutions that address the many, often-competing needs was the challenge.
**“Community to Region” Framework**

**INVESTMENT NEEDS THAT SUPPORT:**
- Local, multimodal connections and access to community resources
- Advance livability and quality of life principles

**Community to Region**

**INVESTMENT NEEDS THAT SUPPORT:**
- Strategic, multimodal connections between communities and regional activity/economic centers to support economic development

**Region to Region**

**INVESTMENT NEEDS THAT SUPPORT:**
- Mobility and intermodal improvements to ensure region is well connected within the state and the nation
- Support economic competitiveness and advance overall economic development potential

---

**Scale 1-Goals/Objectives**

**Goal**

**BUILD AND MAINTAIN SAFE AND HEALTHY COMMUNITIES**

**Objectives**

- Support walkable and bicycle-friendly communities that promote safe connections to community resources
- Provide incentives for complete streets project design
- Encourage investments anchored in integrated transportation and land use planning that support desired community character
- Improve safety through improved system operations, preventative maintenance, and ADA compliance
- Prioritize investments in areas where local land use and development regulations support healthy, safe communities
- Prioritize investment that improves multimodal access to existing or planned transit hubs or that fills gaps in existing multimodal system
- Encourage connected street network
Scale 1-Example Projects

Within Community

Ringold Road Bike Lanes

Jenkins Road Widening

Goal
CONNECT COMMUNITIES IN THE REGION BY PROVIDING MULTIMODAL TRAVEL OPTIONS TO ACTIVITY AND ECONOMIC CENTERS

Objectives
• Preserve, maintain, and improve existing infrastructure before adding new capacity
• Provide incentives for complete streets project design
• Encourage corridor improvements anchored in integrated transportation and land use planning that support desired community character
• Improve mobility and support economic development by providing expanded set of travel options, with emphasis on public transit
• Improve travel time reliability through improved system operations
• Incentive corridor protection plans

Scale 2-Goals/Objectives

Goal
CONNECT COMMUNITIES IN THE REGION BY PROVIDING MULTIMODAL TRAVEL OPTIONS TO ACTIVITY AND ECONOMIC CENTERS

Objectives
• Preserve, maintain, and improve existing infrastructure before adding new capacity
• Provide incentives for complete streets project design
• Encourage corridor improvements anchored in integrated transportation and land use planning that support desired community character
• Improve mobility and support economic development by providing expanded set of travel options, with emphasis on public transit
• Improve travel time reliability through improved system operations
• Incentive corridor protection plans
Scale 2-Example Projects

Community to Region

- Dupont Parkway Extension
- Signal Mountain Road

Scale 3-Goals/Objectives

Goal
GROW ECONOMIC OPPORTUNITY THROUGH STRATEGIC INVESTMENT IN CRITICAL REGIONAL INFRASTRUCTURE

Objectives
• Preserve, maintain, and improve existing infrastructure before adding new capacity
• Support continued economic growth of the region by improving intermodal connections that reduce delay for both people and goods
• Reduce delay on critical regional thoroughfares with minimal impact to community, historic and environmental resources
• Improve the efficiency and reliability of freight, cargo, and goods movement by reducing delay on corridors critical to freight movement
• Improve travel time reliability through improved system operations
The Chattanooga 2040 RTP varied goals and objectives by the need and purpose (“scale”) of investment breaking the traditional, linear approach.
Intent of Revised Approach

- Enable balanced consideration of investment needs across three geographic scales
- Infuse context into the project evaluation process to better match solutions to needs
- Provide flexible approach to project evaluation to support livability considerations at community level without impeding mobility and economic considerations at regional level

Define Performance Measures

- Align with regional and national goals and objectives
- Vital few
- Easy to communicate, transparent
- Existing, readily available data and tools
- For this approach, very important to apply same set of (mode-neutral) performance measures across different scales to ensure objective evaluation
## 2040 RTP Performance Measures

<table>
<thead>
<tr>
<th>PM Categories*</th>
<th>Project Level Measures</th>
<th>Systems Level Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Maintenance</td>
<td>1. Project addresses pavement, bridge deficiency</td>
<td>1. Percent pavement in good condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Percent bridge in good condition</td>
</tr>
<tr>
<td>Congestion Reduction</td>
<td>2. Project reduces delay (VHD)</td>
<td>3. Average commute trip time, auto and transit</td>
</tr>
<tr>
<td></td>
<td>• Interstate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Corridor to/within key center</td>
<td></td>
</tr>
<tr>
<td>Safety and Security</td>
<td>3. Project reduces fatal or serious crashes</td>
<td>4. Level of dedicated safety funding</td>
</tr>
<tr>
<td></td>
<td>4. Addresses security or emergency response need, provides network redundancy</td>
<td></td>
</tr>
<tr>
<td>Economic Growth/Freight Movement</td>
<td>5. Project reduces delay (VHD)</td>
<td>5. Annual congestion costs, trucks and autos</td>
</tr>
<tr>
<td></td>
<td>• Intermodal connection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Freight corridor/area</td>
<td></td>
</tr>
<tr>
<td>Environmental Sustainability</td>
<td>6. Project reduces VMT</td>
<td>6. VMT per capita</td>
</tr>
<tr>
<td></td>
<td>7. Promotes safe, nonmotorized access; integrates complete streets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. In keeping with community character</td>
<td></td>
</tr>
<tr>
<td>System Reliability</td>
<td>9. Adopted corridor protection plan</td>
<td>7. Level of funding for system operations</td>
</tr>
<tr>
<td></td>
<td>10. Project fills gap in existing system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. Improves efficiency through ITS</td>
<td></td>
</tr>
<tr>
<td>Project Delivery</td>
<td>12. Supported by TDOT and local jurisdictions</td>
<td>8. Percent projects completed or advanced from previous plan</td>
</tr>
</tbody>
</table>

*Align with MAP-21 National Goal Area

## Weight Performance Measures

- Weighting system varies across three scales
  - **Within Community**
  - **Community to Region**
  - **Region to Region**
- Weights vary by level of significance of each measure for each scale
- TPO membership involved in defining weights
- Different weighting system allows projects to be scored and ranked according to unique needs of each scale
### Weight Performance Measures

<table>
<thead>
<tr>
<th>PM Categories</th>
<th>Project Level Measures</th>
<th>Within Community</th>
<th>Community to Region</th>
<th>Region to Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Maintenance</td>
<td>1. Project addresses pavement, bridge deficiency</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Congestion Reduction</td>
<td>2. Project reduces delay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Interstate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Corridor to/within key center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety and Security</td>
<td>3. Project reduces fatal or serious crashes</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>4. Addresses security or emergency response need, provides network redundancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Growth/Freight Movement</td>
<td>5. Project reduces delay</td>
<td>5</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>• Intermodal connection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Freight corridor/area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Sustainability</td>
<td>6. Project reduces VMT</td>
<td>30</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>7. Promotes safe, nonmotorized access; integrates complete streets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. In keeping with community character</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Reliability</td>
<td>9. Adopted corridor protection plan</td>
<td>15</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>10. Project fills gap in existing system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. Improves efficiency through ITS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Delivery</td>
<td>12. Supported by TDOT and local jurisdictions</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

### Assign Projects to Scale

- Project’s need and purpose
- Location and proximity to community or environmental assets
- Functional classification
- Note: TPO membership reviewed assigned scales prior to project scoring
Score Projects

- Within each scale, projects evaluated relative to one another for each of the 12 performance measures
- Weights applied for each measure, given scale of project
- Points summed across all measures to produce individual project scores
- 100 point score across 12 performance measures

Scoring and Ranking Outcomes

- Process yielded three ranked lists; one for each scale
- Projects were combined into one rank based on scores
- Projects were grouped into four tiers ("Rank 1, Rank 2, etc.") based on groupings of scores
- Process produced:
  - Blend of high ranking projects (by project type and across geographic scales) for the fiscally constrained 2040 RTP
  - Objective support for variety of investments given the mode-neutral performance evaluation
  - Focus on performance and priorities – Priorities established before funding source entered discussion
  - All projects Rank 1 and 2 were funded in the 2040 RTP
Key 2040 RTP Outcomes

- Doubling of system preservation funding levels - fully funded long-term needs
- Doubling of funding for bicycle and pedestrian improvements.
- Strategic roadway and transit capacity expansion improvements
- Identification of two, new major transit capital projects
- Identification of targeted safety and system operations funding set-asides
- Process carried forward in TIP

A balanced plan..
Take-Aways

- Appropriate weighting is critical
  - “Watering down” this approach will not work
- Must have a manageable number of projects
  - It takes time to understand context
  - Supports more refined performance evaluation

Take-Aways (continued)

- Need tools in place to evaluate off-model projects
- Need to keep the measures simple and mode-neutral to ensure objective, cross-“scale” analysis
- A combination of qualitative and quantitative measures is OK; does not preclude an objective ranking
- Important to carry forward into TIP process
- Other potential applications
  - E.g., Community to Region Framework for new countywide Comprehensive Vision & Places Strategy for the City of Chattanooga