Arterial Transitway Corridors Study

CTS Research Conference- Innovative Transit
May 24, 2011
2030 Transportation Policy Plan

Three Types of Bus Transitways

Dedicated Busway
Highway BRT
Arterial BRT
## Transit Feasibility, AA, and Engineering Analysis

<table>
<thead>
<tr>
<th>Phase</th>
<th>Concept or Feasibility Study</th>
<th>Alternatives Analysis Study</th>
<th>Scoping &amp; Draft Environmental Impact Statement</th>
<th>Preliminary Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$30,000+ per corridor</td>
<td>$500,000 – 1,500,000+ per corridor</td>
<td>$2-3 million + (LRT) per corridor</td>
<td>$60 million + (LRT) per corridor</td>
</tr>
<tr>
<td>Scope</td>
<td>Basic estimation of corridor transit improvement idea</td>
<td>Detailed comparisons of corridor modes and alignments</td>
<td>Thorough evaluation of impacts</td>
<td>Detailed project engineering</td>
</tr>
</tbody>
</table>
Purpose of Study

• Eleven urban corridors in Minneapolis, St. Paul, and surrounding communities

• Develop service and facilities plan to improve
  – Transit speed
  – Reliability
  – Customer experience
  – Connections between major destinations
Study Tasks- For Eleven Arterial Transitway Corridors:

- Document Existing Conditions

- Explore potential transit improvements

- Develop Arterial BRT Concept for each corridor

- Evaluate Modes and Prioritize Corridors
Arterial Transitway Corridors Study

WHAT IS ARTERIAL BUS RAPID TRANSIT?
Goals of Arterial BRT:

- Faster Service
- Improved Experience

Effective & Attractive Transportation System

- Increased Ridership
- Stronger Perception of Transit
- Support Infill and Re-Development
- Support Employment Growth
How does arterial BRT achieve these goals?

Faster Service

- Signal Delay
- Boarding Delay
- Fewer Stops

Improved Experience

- Information & Reliability
- Improved Vehicles
- Improved Stations
Components of Arterial Bus Rapid Transit

Runningway

Service Planning

Technology

BRT- 15’ Service

1/2 mi.

Local- 30’ Service

1/8 mi.

Stations

Fare Collection

Vehicles

Identity/Branding
Arterial Transitway Corridors Study

ARTERIAL BRT ACROSS THE COUNTRY
Runningway
Stations
Vehicles
Fare Collection
Identity and Branding
Arterial BRT Experience in Other Regions

<table>
<thead>
<tr>
<th>Component</th>
<th>Typical Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel Time</td>
<td>15-25+% faster travel</td>
</tr>
<tr>
<td>Ridership</td>
<td>20-40+% increase</td>
</tr>
<tr>
<td>Capital Costs</td>
<td>$1 - $3 million/mile</td>
</tr>
</tbody>
</table>
Arterial Transitway Corridors Study

EXISTING CONDITIONS
Slow Bus Travel Speeds

Scheduled Bus Speed - Route 21, Lake Street
Hennepin Avenue to Hiawatha Ave

- Time of Day vs. Speed (MPH)
- WB (Blue) and EB (Red) Lines
- Data Points from 7:00 to 23:59
On-Time Performance

On Time: -1 to 5 min late

Metropolitan Council

Metro Transit
Transit Throughput

Westbound Lake St E, Chicago-Bloomington Aves, PM Peak Hr (4-5 PM)

- **12 Bus Trips** (3%)
- **440 Cars** (97%)
- **310 People On Buses** (36%)
- **560 People in Cars** (64%)

**Metropolitan Council**

**Metro Transit**
Non-Smartcard Fare Payment (Boarding Delay)

<table>
<thead>
<tr>
<th>Station</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hennepin</td>
<td>46%</td>
</tr>
<tr>
<td>American</td>
<td>58%</td>
</tr>
<tr>
<td>Snelling</td>
<td>67%</td>
</tr>
<tr>
<td>W 7th St</td>
<td>69%</td>
</tr>
<tr>
<td>Nicollet</td>
<td>72%</td>
</tr>
<tr>
<td>Broadway</td>
<td>72%</td>
</tr>
<tr>
<td>Lake</td>
<td>74%</td>
</tr>
<tr>
<td>Central</td>
<td>75%</td>
</tr>
<tr>
<td>Robert St</td>
<td>76%</td>
</tr>
<tr>
<td>Chicago</td>
<td>76%</td>
</tr>
<tr>
<td>E 7th St</td>
<td>81%</td>
</tr>
</tbody>
</table>

FAST

SLOW
ATCS: Next Steps

• Determine appropriate range of investments
  – Informed by peer region research
  – Applied to existing conditions

• Develop corridor concept plans
  – Service
  – Facilities
  – Responding to study needs

• Evaluate Performance
  – Costs and impacts
  – Ridership and mobility benefits

• Prioritize and Rank

Lake Street at Nicollet Avenue- 1,000 boardings/day
Arterial Transitway Corridors Study

Charles Carlson, AICP
Manager of Transitway Projects
Metro Transit Service Development
(612)349-7639
Study Corridor Service Productivity
Passengers / In-Service Hour

<table>
<thead>
<tr>
<th>Location</th>
<th>Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td>American</td>
<td>11</td>
</tr>
<tr>
<td>Robert St</td>
<td>33</td>
</tr>
<tr>
<td>Snelling</td>
<td>39</td>
</tr>
<tr>
<td>E 7th St</td>
<td>39</td>
</tr>
<tr>
<td>W 7th St</td>
<td>40</td>
</tr>
<tr>
<td>Broadway</td>
<td>40</td>
</tr>
<tr>
<td>Hennepin</td>
<td>43</td>
</tr>
<tr>
<td>Central</td>
<td>46</td>
</tr>
<tr>
<td>Nicollet</td>
<td>52</td>
</tr>
<tr>
<td>Chicago</td>
<td>55</td>
</tr>
<tr>
<td>Lake</td>
<td>59</td>
</tr>
</tbody>
</table>

Metropolitan Council

Metro Transit