The Cost of Essential Paratransit for Seniors and People with Disabilities

Daniel Peña
Metropolitan Council
Minneapolis-St. Paul, MN
Agenda

• Discuss how to address the issues that we are facing in paratransit today
• Paratransit in the Twin Cities
• Metro Mobility Needs Assessment Study
• What is being done throughout the country
Introduction

- Twin Cities, Minneapolis-Saint Paul, Minnesota
  - Population: 3,000,000
  - Seven Counties
- Metropolitan Council: Twin Cities MPO
- Metro Mobility: Twin Cities ADA Paratransit Service
  - Ran by the Metropolitan Council
Metro Mobility Service Area

• Both Federally Mandated and State Mandated Service Areas
Metro Mobility Issues

• Demand for paratransit service is increasing rapidly
• Service productivity has remained relatively unchanged
• Increased operating costs are stressing our resources
Increased Demand

- Metro Mobility ridership increased by 33% over five years
- Ridership grew from 1.5 million annual rides in 2011 to 2 million rides in 2015
Increased Demand

- Demand growing faster than forecasted
- By 2015 ridership was already 330,000 riders greater than the highest 2020 projections
No Increases in Service Productivity
Increased Operating Costs

- Annual operating expenses for Metro Mobility increased by 41% between 2011 to 2015 from $40 Million to $56 Million
Metro Mobility Needs Assessment

• Study to understand the demand for paratransit service
• Reviewed peer systems policies and performance
• Analyzed current ridership demand
• Developed a user friendly model for forecasting paratransit ridership for 2020, 2030 and 2040
• Analyzing ridership impacts of possible policy scenarios
Peer Analysis

- Baltimore MTA
- L.A. Access
- Houston METROLift
- Denver RTA
- Milwaukee MCTS
- Cleveland RTA
- Austin Capital Metro
- Portland TriMET LIFT

Trips per Capita:

- San Diego MTS Access: 0.24
- Baltimore MTA: 0.24
- L.A. Access: 0.35
- Houston METROLift: 0.38
- Denver RTA: 0.43
- Milwaukee MCTS: 0.46
- Cleveland RTA: 0.50
- Austin Capital Metro: 0.56
- Portland TriMET LIFT: 0.59
- Las Vegas: 0.61
- Metro Mobility: 0.87
- Pittsburgh Port Access: 1.07
Trip Analysis

Peak Standing Order trips are generally longer by ~ 5 miles

Median Standing Order trips are generally longer by ~ 1 miles
Demand Analysis

High Demand User Age Group: 55-70 years
Model Development
Metro Mobility Ridership Forecast Model

1. Modeling Year
Enter modeling year:
Year 2014

2. Socioeconomic Data
- Import SE Data
- Import Person Marginal Data
- Import Household Marginal Data

* The socioeconomic data contains total population, household and employment by traffic analysis zone (TAZ).
* The person marginal data contains total persons by traffic analysis zone (TAZ) and provides information about individuals’ gender, age, employment status and student status.
* The household marginal data contains the total number of households by traffic analysis zone (TAZ) and provides information about household income and household size.

3. Metro Mobility Service Area (Weekday, 2014)
- Weekday Federally Mandated (ADA) Service Area
  - The area within 0.4 miles of all-day local regular route service
  - Trips that begin and end in this zone are guaranteed and cannot be placed on standby
- Metro Mobility Service Area
  - Metro Mobility serves the Transit Taxing District as established by the Legislature in March 2006
  - Trips that begin or end outside of the ADA Service Area, but within the Metro Mobility Service Area will be placed on standby.
  - For information on service for specific locations, please call Metro Mobility customer service 615-662-1111.
  - Last updated July 2015

(From Metropolitan Council Metro Mobility)
* The existing Metro Mobility service area includes 9922 (out of 30007 TAZs)
Metro Mobility Forecast Model

<table>
<thead>
<tr>
<th>Error Allowance*</th>
<th>Lower End Projection</th>
<th>Higher End Projection</th>
<th>Ridership Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip Production</td>
<td>5%</td>
<td>809,000</td>
<td>895,000</td>
</tr>
</tbody>
</table>

*Recommended error allowance range is 5-15%

e = Error Allowance

\[ = R_{yr}(1 - e) \]

\[ = R_{yr}(1 + e) \]

\[ R_{yr} = \text{Estimated Total Ridership} \]
Metro Mobility Forecast Model

<table>
<thead>
<tr>
<th>District</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61,560</td>
<td>14,710</td>
<td>13,481</td>
<td>4,951</td>
<td>183</td>
<td>9,821</td>
<td>4,493</td>
<td>870</td>
<td>776</td>
</tr>
<tr>
<td>2</td>
<td>8,006</td>
<td>17,852</td>
<td>3,881</td>
<td>281</td>
<td>506</td>
<td>2,205</td>
<td>221</td>
<td>1,185</td>
<td>499</td>
</tr>
<tr>
<td>3</td>
<td>2,627</td>
<td>2,139</td>
<td>19,217</td>
<td>6,707</td>
<td>59</td>
<td>1,118</td>
<td>706</td>
<td>316</td>
<td>340</td>
</tr>
<tr>
<td>4</td>
<td>4,837</td>
<td>565</td>
<td>12,167</td>
<td>3,963</td>
<td>61</td>
<td>1,797</td>
<td>461</td>
<td>51</td>
<td>23</td>
</tr>
<tr>
<td>5</td>
<td>931</td>
<td>649</td>
<td>820</td>
<td>319</td>
<td>1,124</td>
<td>130</td>
<td>37</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>17,277</td>
<td>4,719</td>
<td>1,648</td>
<td>1,256</td>
<td>85</td>
<td>53,957</td>
<td>15,987</td>
<td>2,371</td>
<td>1,030</td>
</tr>
<tr>
<td>7</td>
<td>10,134</td>
<td>2,258</td>
<td>2,547</td>
<td>1,512</td>
<td>265</td>
<td>22,079</td>
<td>34,290</td>
<td>1,470</td>
<td>388</td>
</tr>
<tr>
<td>8</td>
<td>2,037</td>
<td>1,913</td>
<td>353</td>
<td>40</td>
<td>2</td>
<td>1,281</td>
<td>593</td>
<td>6,290</td>
<td>4,840</td>
</tr>
<tr>
<td>9</td>
<td>2,149</td>
<td>2,704</td>
<td>418</td>
<td>71</td>
<td>5</td>
<td>2,101</td>
<td>211</td>
<td>6,651</td>
<td>10,21</td>
</tr>
<tr>
<td>10</td>
<td>2,051</td>
<td>1,988</td>
<td>302</td>
<td>59</td>
<td>5</td>
<td>5,020</td>
<td>1,765</td>
<td>6,700</td>
<td>951</td>
</tr>
<tr>
<td>11</td>
<td>1,560</td>
<td>811</td>
<td>97</td>
<td>19</td>
<td>7</td>
<td>3,865</td>
<td>1,912</td>
<td>1,160</td>
<td>80</td>
</tr>
<tr>
<td>12</td>
<td>1,000</td>
<td>246</td>
<td>507</td>
<td>63</td>
<td>13</td>
<td>4,837</td>
<td>4,770</td>
<td>293</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>1,779</td>
<td>440</td>
<td>362</td>
<td>321</td>
<td>5</td>
<td>1,005</td>
<td>1,036</td>
<td>121</td>
<td>27</td>
</tr>
<tr>
<td>14</td>
<td>2,953</td>
<td>1,001</td>
<td>3,067</td>
<td>3,814</td>
<td>50</td>
<td>2,535</td>
<td>3,380</td>
<td>44</td>
<td>89</td>
</tr>
<tr>
<td>15</td>
<td>458</td>
<td>440</td>
<td>29</td>
<td>50</td>
<td>1,337</td>
<td>61</td>
<td>36</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td>16</td>
<td>732</td>
<td>864</td>
<td>459</td>
<td>24</td>
<td>7</td>
<td>499</td>
<td>40</td>
<td>312</td>
<td>2,890</td>
</tr>
<tr>
<td>17</td>
<td>4,262</td>
<td>6,680</td>
<td>5,831</td>
<td>1,721</td>
<td>760</td>
<td>624</td>
<td>112</td>
<td>255</td>
<td>97</td>
</tr>
<tr>
<td>18</td>
<td>7,057</td>
<td>4,391</td>
<td>6,589</td>
<td>1,694</td>
<td>358</td>
<td>501</td>
<td>64</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>142,314</td>
<td>64,840</td>
<td>72,176</td>
<td>12,092</td>
<td>4,733</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Top 10% O-D Ridership
Bottom 10% O-D Ridership

District to District Ridership

District Map
Policy Scenarios

• What would demand and operating expenses be if we were to...
  • Only provide service in federally mandated areas?
  • Expand service further to communities that are currently not being served?
  • More strictly enforced conditional eligibility criteria?
  • Raised or lowered fares?
Paratransit Innovations

• Public Private Partnerships
  • MBTA On-Demand Paratransit Pilot Program

• Improved Integration With Technology
  • Onboarding
  • Reservations
  • Dispatch and Routing
  • User Experience
    • SilverRide
Questions

• What new tools and approaches are there for providing paratransit service?
• As new technologies and private-public partnerships emerge, how well are the special needs of our community members being met?
• What can agencies and partners do to deliver quality service at a lower cost?