Mass Transit Sustainability

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Purpose

- Examine the financial sustainability faced by mass transit systems
  - St. Louis Metro
  - Chicago Regional Transit Authority (RTA)
- Determine Sustainability
- Examine Current Alternatives
- Advance Solutions
History

- 1950’s
  - Privately owned and operated
  - Competition with automobiles

- 1964 - Urban Mass Transportation Act
  - $375 million in capital assistance

- 1970 - Urban Mass Transportation Assistance Act
  - $11.8 billion over a six year period
  - capital and operating costs

Research Question: Is Mass Transit like Police and Fire Service?
## Mass Transit Funding

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Federal Funding (in billions)</th>
<th>Total Capital Federal Funding (in billions)</th>
<th>Total Operating Federal Funding (in billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>$6.29</td>
<td>$4.99</td>
<td>$1.30</td>
</tr>
<tr>
<td>2012</td>
<td>$10.86</td>
<td>$7.52</td>
<td>$3.34</td>
</tr>
<tr>
<td>Increase in Funding</td>
<td>$4.57</td>
<td>$2.53</td>
<td>$2.04</td>
</tr>
<tr>
<td>% increase</td>
<td>72.5%</td>
<td>40.1%</td>
<td>32.4%</td>
</tr>
</tbody>
</table>

Source: National Transit Database – Operating and Capital Funding; (http://www.ntdprogram.gov/ntdprogram/data.htm)
Mass Transit Funding

Federal Funding for Mass Transit 2002-2012

Source: National Transit Database – Operating and Capital Funding:
(http://www.ntdprogram.gov/ntdprogram/data.htm)
# Fare box Recovery

<table>
<thead>
<tr>
<th>St. Louis Metro</th>
<th>Fare box recovery (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro Bus</td>
<td>20.80%</td>
</tr>
<tr>
<td>Metro Link</td>
<td>27.20%</td>
</tr>
<tr>
<td>Call-a-Ride</td>
<td>4.90%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chicago RTA</th>
<th>Fare box recovery (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago Transit Authority</td>
<td>42.9%</td>
</tr>
<tr>
<td>PACE</td>
<td>13.3%</td>
</tr>
<tr>
<td>Metra Rail</td>
<td>47.5%</td>
</tr>
</tbody>
</table>

Source: Bi-State Agency CAFT for the year ended June 30, 2012 and 2013 CAFR, p. 25
Sustainability of U.S. Mass Transit Systems

- Conveniences provided by automobiles
- Low productivity and higher costs
- Stagnant ridership
- Aging infrastructures
- Federal, State, and Local Taxi Burden
Methodology

- Use of data from Comprehensive Annual Financial Reports (CAFR)
- In-sample estimation of linear regressions to determine the relationship between time and other single dependent variables
- Out-of-sample relationships projected over a 10-year period, using the previous estimated to calculate out-of-sample forecasts
St. Louis Metro: Transit Ridership

Transit System Average Weekday Ridership Metro St. Louis 2004-2013 and Trendline for 10 Years (linear model)

St. Louis Metro: Service Area Population

Bi-State Service Area Population, Metro St. Louis, 2004-2012 and 10 year Trendline

St. Louis Metro: Operating Data

Total Operating Revenues and Expenses Metro Transit St. Louis
2004-2013 and Trendline for 10 Years

St. Louis Metro: Assets and Debts

Total Assets and Total Debt Metro St. Louis 2004-2013 and Trendline for 10 Years

St. Louis Metro: Pension Plans

Unfunded Actuarial Accrued Liabilities for All Pension Plans, 2008-2012 and Trendline for 10 Years

RTA: Ridership

Source: Regional Transportation Authority, 2012, p. 107 (National Transit Database)
RTA: Chicago Area Population

Chicago Area Population, 2003-2012 and 10 year trend line

RTA: Revenue and Expenses

Primary Government Total Revenue and Expenses, 2003-2012 and trend line for 10 years

Source: Regional Transportation Authority, 2012, p. 93
RTA: Pension Plans

RTA Unfunded Actuarial Accrued Liabilities for All Pension Plans, 2007-2012 and Trendline for 10 Years

Source: Regional Transportation Authority, 2012, p. 75
Viable Alternatives

- Utilization of public-private partnership
- Reducing costs and increasing revenue
- Contracting out transit services to private parties
- Use of competitive tendering of routes
- Introduction of competition for innovative services
- Strategy to rein in growing debt
Improved Sustainability Through Case Studies

Four major factors exemplified elsewhere:

- Identify the core consumers
- Redirect services from suburbs to urban areas
- Change labor agreements related to pension plans
- Use of private sector
Potential Public Police Research Areas

- Is it fair to fund mass transit from a federal level when the usage are mostly at local?
- How to increase mass transit ridership & decrease public subsidies?
- What was original purpose of transit funding by the federal government? Can it be achieved?
- How are the European and other countries funding their mass transits?
Is U.S. Mass Transit Sustainable???

Questions