Transportation Asset Management as Communication: Building the Case for Funding

Center for Transportation Research and Education
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Or...
What it Takes to Get Policy Makers to Give a Darn About Transportation Infrastructure Finance...

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Transportation Policy Institute
Communicate to whom and why:

- Citizens / Taxpayers / News Media / Advocates
  - To hold elected officials accountable
  - To help people understand value of the asset
  - To get people to recognize link between investment levels and system quality/performance

- Elected Officials (federal, state, local, & candidates)
  - So that policy makers can make informed judgments on budget priorities
  - So that investment decisions will be made with full knowledge of costs and consequences
Using Asset Management to convey infrastructure investment needs:

- Asset management can be an effective tool to build a persuasive case to enhance transportation investments.
- For optimal effectiveness, asset management information should be just one element of a broader message.
Funding Street Construction and Maintenance in Minnesota Cities

Providing the tools to help cities preserve their road and bridge capital assets

January 2003

Sponsored by:
City Engineers Association of Minnesota
The Minnesota Chapter of the American Public Works Association
League of Minnesota Cities

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Funding a Balanced Roadway Construction Program in Lake County

A Report on the Status of the Lake County Highway Department’s Efforts to Both Maintain and Improve the County’s Roadway System

Prepared by the Transportation Policy Institute for the Lake County Highway Department
State of Ohio Road and Bridge Transportation Funding Primer & Investment Needs report

The Ohio Road and Bridge Transportation Funding Primer & Investment Needs Report

Conducted by the Transportation Policy Institute for the Ohio Construction Information Association

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Foundation of message: Communicating Fiscal / Political Climate
Example: Minnesota’s Fiscal Climate

- Faced a $4.5 billion general fund deficit prior to the 2003 Legislative session.
- Governor and many Legislators signed “No Tax Increase” pledge
- Dedicated funds (gas tax and vehicle registration fees) no longer adequate to support both expansion and maintenance needs
Communicate infrastructure needs

2 Elements of “Needs”
- Demands on system
- Funding trends

Infrastructure Needs

Fiscal / Political Climate
Traffic congestion is bad... and getting worse.

1995 PM Peak Congested Corridors

- Principal Arterials
- Congested Corridors*

* Corridors where volume to capacity ratio is 1.5 or greater are identified as congested based on regional travel demand model results.

2020 PM Peak Congested Corridors

- Principal Arterials
- Congested Corridors*

* Corridors where volume to capacity ratio is 1.5 or greater are identified as congested based on regional travel demand model results.
Traffic volumes are increasing across the entire state (1990-2000)

<table>
<thead>
<tr>
<th>District</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>District 1</td>
<td>20%</td>
</tr>
<tr>
<td>District 2</td>
<td>22%</td>
</tr>
<tr>
<td>District 3</td>
<td>50%</td>
</tr>
<tr>
<td>District 4</td>
<td>24%</td>
</tr>
<tr>
<td>Metro</td>
<td>35%</td>
</tr>
<tr>
<td>District 6</td>
<td>29%</td>
</tr>
<tr>
<td>District 7</td>
<td>20%</td>
</tr>
<tr>
<td>District 8</td>
<td>21%</td>
</tr>
</tbody>
</table>

Source: Mn/DOT
Freight movement is also increasing demands on city roadways and bridges.

Aging infrastructure will require greater maintenance costs in the future (e.g. bridges)

Age of Minnesota's City Bridges 10 ft and Over by Decade Constructed

Maturing bridges requiring greater maintenance and rehabilitation
Costs of road construction and maintenance is has grown rapidly in recent years...

Minnesota Construction Composite Cost Index
1991-2001
(Base Year: 1991)
... which means that the purchasing power of dedicated revenues has declined, in real terms.

- The line chart compares total revenues in constant dollars compared to inflation adjusted dollars.
- The bar chart shows the inflation adjusted “value” of the 20 cent gas tax.
Largest source of new revenues since 1990 has been from property taxes and special assessments.

Exhibit 7-A: The most significant new funding since 1990 for roads and bridges has come from property taxes and special assessments.

Source: Office of the State Auditor, Governmental Information Division.
Communicate value of Infrastructure

“Value” can be defined as:
- Economic value
- Public safety value
- Contribution to property value
**Scale and condition of the road and bridge network**

<table>
<thead>
<tr>
<th>Roadway System</th>
<th>Total Mileage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate</td>
<td>1,331</td>
</tr>
<tr>
<td>Turnpike</td>
<td>241</td>
</tr>
<tr>
<td>State System</td>
<td>17,970</td>
</tr>
<tr>
<td>County</td>
<td>29,199</td>
</tr>
<tr>
<td>Township</td>
<td>40,461</td>
</tr>
<tr>
<td>Municipal Streets</td>
<td>24,485</td>
</tr>
<tr>
<td>State Park Roads</td>
<td>2,500</td>
</tr>
<tr>
<td>US Forest Service Roads</td>
<td>25</td>
</tr>
<tr>
<td>National Park Service Roads</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116,219</strong></td>
</tr>
</tbody>
</table>

Source: ODOT Transportation Facts Book
Public Safety

- Typically, two-thirds of traffic fatalities occur on 2-lane, 2-way roads
- Identify specific projects that address safety hazards
The final piece: Asset Management data

Elements of Asset Management Piece:
1. What is “Asset Management”?
2. Road and Bridge condition info
3. Budget scenarios
Asset management implies ACTIVE maintenance plan for public infrastructure

What is PMP?
- PMP is a maintenance plan for streets
- It reduces the overall cost of street repair by taking the “right action at the right time” which reduces assessment rates:
  - to adjacent property owners (25% of reconstruct)
  - to all taxpayers by prolonging street life

Why do we have PMP?
- Existing methods were leading to system failure
Cost of roadway maintenance increases as roadways age

[Diagram showing the relationship between pavement condition index and age of the street, divided into low cost maintenance, moderate cost special maintenance, and high cost reconstruct phases.]
Example: McLeod County, MN: Provide statistical info on condition of road system.
Example: Lake County, MN bridges: condition, and current funding status

<table>
<thead>
<tr>
<th>Bridge #</th>
<th>Feature Crossed</th>
<th>Deficiency Status</th>
<th>Sufficiency Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0309</td>
<td>Over LTVS Mining Co.</td>
<td>Functionally Obsolete</td>
<td>74.0</td>
</tr>
<tr>
<td>38504</td>
<td>East Branch Beaver River</td>
<td>Structurally Deficient</td>
<td>68.4</td>
</tr>
<tr>
<td>7227</td>
<td>West Branch Beaver River</td>
<td>Structurally Deficient</td>
<td>58.2</td>
</tr>
<tr>
<td>7914</td>
<td>Little Knife River</td>
<td>Structurally Deficient</td>
<td>49.2</td>
</tr>
<tr>
<td>88807</td>
<td>East Split Rock River</td>
<td>Structurally Deficient</td>
<td>11.1</td>
</tr>
<tr>
<td>92228</td>
<td>Knife River</td>
<td>Structurally Deficient</td>
<td>53.3</td>
</tr>
<tr>
<td>88814</td>
<td>Little Knife River</td>
<td>Structurally Deficient</td>
<td>53.2</td>
</tr>
<tr>
<td>92384</td>
<td>Little Stewart River</td>
<td>Structurally Deficient</td>
<td>40.6</td>
</tr>
<tr>
<td>L8087</td>
<td>8th St. over Skunk Creek</td>
<td>Structurally Deficient</td>
<td>54.3</td>
</tr>
</tbody>
</table>
Example: City of Woodbury, MN: What are projected costs? 
Projected funding levels?

2 Budget Scenario Projections

1. Scenario 1: Impact on pavement condition index (PCI) at current funding levels

2. Scenario 2: Estimated costs to maintain current PCI
Asset Management as communication: Elements of Message:

The right action at the right time...

- Prolongs pavement life
- Reduces the overall cost (taxes, assessments)
- Supports economic growth
- Enhances roadway safety
- Increases property values
Asset Management as communication: ultimate objectives

- Raise awareness of transportation infrastructure needs
- Achieve better budget outcomes