Matching Revenue Streams to Needs

CTS Research Conference May 23, 2013
MnDOT Family of Plans
Why is MnSHIP important?

• MnDOT charged with constructing, operating, and maintaining the 12,000 mile state highway system
• Minnesota’s economic vitality and quality of life depends upon a strong, well-connected, multimodal transportation network
• MnSHIP is a fiscally constrained 20-year capital investment plan which guides and communicates MnDOT’s investment decisions for this system
• MnSHIP provides transparency and builds trust
How does MnSHIP affect planning & programming?

MnSHIP establishes investment priorities

Districts create 10-year plan of projects & programs

Projects implemented annually through programming schedule

Annual performance management cycle ensures consistency with MnSHIP investment priorities

Consistent?
Matching state highway revenue...

State Programs
- State Fuel Tax 31%
- Vehicle Sales Tax 8%
- Vehicle Registration Tax - 21%
- State Trunk Hwy Bonds 9%

Federal Aid Highway Program
- Federal Fuel Tax 31%

State Trunk Highway Fund

Capital revenue 2013 – 2032 = $18 billion
...knowing inflation impacts buying power...

2012 dollars (in millions) under 5% inflation assumption

State Fiscal Year

Capital Revenue for State Road Construction (Millions)
…to evolving transportation needs…

- Aging highway system, requiring more expensive and long-term repairs
  - 50% of MnDOT’s pavements are over 50 years old
  - 35% of MnDOT’s bridges are over 50 years old
- Increasing emphasis on a multimodal system
- Increasing pressure on state highways to support local economic development and quality of life
...in 10 investment categories...

**Asset Management**
1. Pavement Condition
2. Bridge Condition
3. Roadside Infrastructure Condition

**Traveler Safety**
4. Traveler Safety

**Critical Connections**
5. Interregional Corridor Mobility
6. Twin Cities Mobility
7. Bicycle Infrastructure
8. Accessible Pedestrian Infrastructure

**Regional + Community Improvement Priorities**
9. Regional + Community Improvement Priorities

**Project Support**
10. Project Support
...is a challenge

Summary of MnDOT’s capital investment needs

• $30 billion in investment needs to meet performance targets and key objectives
  – Asset Management: $17.6 billion
  – Traveler Safety: $1.3 billion
  – Critical Connections: $5.7 billion
  – Regional + Community Improvement Priorities: $1.7 billion
  – Project Support: $2.9 billion

• Likely many additional local and regional concerns and opportunities beyond $30 billion
Gather information

- Key factors & assumptions
  - Revenue = $18B
  - Needs = $30B
  - Federal policy (MAP-21)
  - State requirements
  - MnDOT policy
  - Impact on operations
  - Public input
Assemble scenarios

- For each investment category, created multiple performance levels (similar to service level)
- Incorporated risk assessment to help analyze tradeoffs
## Performance level concept

<table>
<thead>
<tr>
<th>Investment Level</th>
<th>Performance Level 0</th>
<th>Performance Level 1</th>
<th>Performance Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risks</td>
<td>MR</td>
<td>RR</td>
<td>MR</td>
</tr>
</tbody>
</table>

- Greater Cost
- Greater Risk
- Current investment Level

**Minnesotta GO**
**20-Year State Highway Investment Plan**

**A Collaborative Vision for Transportation**
Analyze scenarios

- Public input (Phase 1): Sep-Nov 2012
- MnDOT input: Dec 2012
Evaluating investment approaches

- Asset Management
- Traveler Safety
- Critical Connections
- Regional + Community Improvement Priorities
- Project Support
Approach preference: stakeholder engagement meetings

- Statewide, a slight plurality (36%) of meeting attendees selected Approach C
- Support for Approach C much stronger in the Twin Cities Metro than in Greater Minnesota
Online interactive scenario tool
Approach preference: online interactive scenario tool

- A slight majority (53%) of online respondents selected Approach C

- Strong divide between Greater Minnesota and Metro-area respondents
Key themes from public outreach

- Pursue a diverse range of investments
- Address pavement needs strategically
- A statewide network of well-maintained roads is critically important to freight movement and regional access
- Promote economic competitiveness and quality of life through greater mobility investment
- Remain responsive to evolving needs
General agreement that making progress towards all goals and objectives is desirable to support a strong, multimodal, well-connected network.

MnDOT leaned more towards A; public leaned more towards C.

Greater MnDOT emphasis on asset condition (pavement, bridge, roadside infrastructure condition).

Greater public emphasis on mobility and local priorities.
Develop investment programs

Gather Information

<table>
<thead>
<tr>
<th>MnDOT Policy</th>
<th>Current Investment Direction</th>
<th>Revenue Projection</th>
<th>System Condition Projections</th>
<th>Risk Identification</th>
<th>Federal &amp; State Requirements</th>
</tr>
</thead>
</table>

Assemble Scenarios

Analyze Scenarios

Public Input

MnDOT Input

Develop Investment Programs

Set Investment Priorities

Select Projects

Identify Long-Term Strategies

Manage 7 key capital investment risks

**GASB-34:** poor pavement & bridge condition jeopardizes state bond rating

**Federal policy:** failure to achieve MAP-21 targets on NHS results in lose of funding flexibility

**MnDOT policy:** misalignment with 50-year Vision & Multimodal Policy Plan results in loss of public trust

**Bridges:** deferring bridge investments viewed as an unwise/unsafe strategy

**Responsiveness:** less flexible investment limits responsiveness to local econ. dvpt./quality of life opportunities

**Maintenance budget:** untimely or reduced capital investment leads to unsustainable maintenance costs

**Public input:** investment inconsistent with MnSHIP public outreach results in loss of public trust
Set priorities and select projects

- Created varying investment priorities over the twenty year period to achieve outcomes that manage key risks
  - Years 1-10
  - Years 11-20
Setting investment priorities

• Summary of rationale
  – Diversify investments and mitigate the key agency risks for as long as possible
  – Produce a plan that meets GASB 34 thresholds
  – Meet MAP-21 targets (known and anticipated); use all federal funds and maximize flexibility
  – Maintain district flexibility where possible
Planned investments Year 1-10

Total: $7.8 billion

**Biggest strengths**
- Diversity, some progress in all investment categories
- Mitigates key risks
- Aligns well with public input

**Biggest weaknesses**
- Limited response to growing and evolving needs
- Asset conditions decline on non-NHS (lower volume highways)
Planned investments Year 11-20

Total: $9.2 billion

Biggest strengths

- Federal and state performance requirements met (assets at GASB 34 condition thresholds)
- Alleviate some of growing pressure on operations budget to keep roads safe

Biggest weaknesses

- Assets decline on higher volume highways
- No appreciable progress towards non-asset goals
- Many unfunded needs in all categories
### Mitigation of key capital risks

<table>
<thead>
<tr>
<th>Key capital investment risks</th>
<th>Mitigated risk by 2023 (of 3)</th>
<th>Mitigated risk by 2033 (of 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GASB-34</strong>: poor pavement &amp; bridge condition jeopardizes state bond rating</td>
<td>✔ ✔ ✔</td>
<td>-</td>
</tr>
<tr>
<td><strong>Federal policy</strong>: failure to achieve MAP-21 targets on NHS results in lose of funding flexibility</td>
<td>✔ ✔ ✔</td>
<td>-</td>
</tr>
<tr>
<td><strong>MnDOT policy</strong>: misalignment with 50-year Vision &amp; Multimodal Policy Plan results in loss of public trust</td>
<td>✔ ✔ ✔</td>
<td>-</td>
</tr>
<tr>
<td><strong>Bridges</strong>: deferring bridge investments viewed as an unwise/unsafe strategy</td>
<td>✔ ✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Responsiveness</strong>: less flexible investment limits responsiveness to local economic development and quality of life opportunities</td>
<td>✔ ✔ ✔</td>
<td>-</td>
</tr>
<tr>
<td><strong>Maintenance budget</strong>: untimely or reduced capital investment leads to unsustainable maintenance costs</td>
<td>✔ ✔ ✔</td>
<td>-</td>
</tr>
<tr>
<td><strong>Public input</strong>: investment inconsistent with MnSHIP public outreach results in loss of public trust</td>
<td>✔ ✔ ✔</td>
<td>-</td>
</tr>
</tbody>
</table>
Selecting projects to achieve outcomes: two investment programs

Project support:
expenditures to deliver; varies depending on the project mix

Statewide performance program:
achieves performance that manages risk associated with statewide travel; programmed collaboratively among districts, specialty, and central offices

District risk management program:
manages risk associated most closely with regional and local travel; programmed at the district level

Expenditures to Deliver:
- Statewide performance program: 45%
- District risk management program: 45%
- Project support: 10%
<table>
<thead>
<tr>
<th>Current conditions</th>
<th>Through 2023</th>
<th>Through 2033</th>
<th>2033 Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interstate NHS pavements</td>
<td>2.4% poor (45 miles)</td>
<td>2% poor (40 miles)</td>
<td>2% poor (40 miles)</td>
</tr>
<tr>
<td>Other NHS pavements</td>
<td>4.3% poor (250 miles)</td>
<td>4% poor (230 miles)</td>
<td>11-13% poor (690 miles)</td>
</tr>
<tr>
<td>Non-NHS pavements</td>
<td>7.5% poor (505 miles)</td>
<td>11-13% poor (810 miles)</td>
<td>11-13% poor (810 miles)</td>
</tr>
<tr>
<td>NHS bridges</td>
<td>4.7% poor</td>
<td>2-3% poor</td>
<td>8% poor</td>
</tr>
<tr>
<td>Non-NHS bridges</td>
<td>2.1% poor</td>
<td>4-6% poor</td>
<td>6-12% poor</td>
</tr>
<tr>
<td>Roadside infrastructure</td>
<td>Many aging assets; few fixes at optimal point in life cycle</td>
<td>Focus on NHS; condition of many assets declines</td>
<td>Focus on NHS; condition of many assets declines</td>
</tr>
</tbody>
</table>
## Outcomes – Critical Connections

<table>
<thead>
<tr>
<th></th>
<th>Current conditions</th>
<th>Through 2023</th>
<th>Through 2033</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twin Cities Mobility</td>
<td>21.4% congested during peak travel periods</td>
<td>Targeted investments to address spot &amp; operational issues. Also, complete:</td>
<td>No investment. Congestion and reliability issues worsen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I-35E MnPASS in St. Paul</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MN610 extension to I-94</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I-94 MnPASS Minneapolis to St. Paul</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I-35W MnPASS Minneapolis to US10</td>
<td></td>
</tr>
<tr>
<td>Interregional Corridor</td>
<td>Performance target met (average corridor</td>
<td>No investment. Performance target met, though average speed declines on</td>
<td>No investment. Three highways need work to meet targets</td>
</tr>
<tr>
<td>(IRC) Mobility</td>
<td>travel speed)</td>
<td>several corridors</td>
<td></td>
</tr>
<tr>
<td>Accessible Pedestrian</td>
<td>50% curb ramps, 27% signalized intersections</td>
<td>Most signalized intersections and curb ramps are ADA compliant.</td>
<td>Focus on maintaining ADA compliance</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>ADA compliant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicycle Infrastructure</td>
<td>Not well known, study/plan in progress</td>
<td>Accommodate primarily as part of bridge and pavement projects</td>
<td>Maintain high priority accommodations</td>
</tr>
</tbody>
</table>
# Outcomes – Safety and RCIPs

<table>
<thead>
<tr>
<th></th>
<th>Current conditions</th>
<th>Through 2023</th>
<th>Through 2033</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traveler Safety</strong></td>
<td>In 2012, 388 deaths on state highways, a 40% reduction in 10-yrs</td>
<td>Focus on lower cost, high benefit treatments. Address several locations with a crash history. Continue to partner in TZD initiative</td>
<td>Focus almost exclusively on lower cost, high benefit treatments. Continue to partner in TZD initiative.</td>
</tr>
<tr>
<td><strong>Regional and Community Improvement Priorities (RCIPs)</strong></td>
<td>Invest through: • district add-ons in local communities • major projects in Greater Minnesota • statewide solicitations</td>
<td>Address through partnerships, design add-ons, and a few stand alone projects including • Several interchanges statewide • Several urban reconstructions • US1 Eagles Next area reconstruction &amp; passing lane • MN60 2 to 4 lane Windom-Mtn. Lake • TH371 2 to 4 lane Nisswa-Jenkins • US14 2 to 4 lane N. Mankato-Nicollet</td>
<td>No investment. Little-to-no ability to address local concerns, partner, or spur economic development.</td>
</tr>
</tbody>
</table>
Given the $12 billion funding gap, there will be many unfunded priorities.

Closing the gap is consistent with Transportation Finance Advisory Committee recommendations.

In the absence of or in addition to new revenue, MnDOT will pursue strategies to stretch available funding:
- Internally-oriented
- Externally-oriented

Identify long-term strategies
Phase 2 public outreach and beyond

• May/June 2013:
  – District meetings and webinars
• July 2013: official public comment period
• End of August 2013: adoption
• Beyond August 2013
  – Annual 10-year Work Plan updates projects
  – Annual performance management cycle ensures consistency with MnSHIP investment priorities
Thank You

Ryan Wilson, P.E., AICP
MnSHIP Project Manager
Office of Capital Programs and Performance Measures
Minnesota Department of Transportation
651.366.3537
ryan.wilson@state.mn.us

MnSHIP website – follow and participate
Google “MnDOT MnSHIP” or
http://www.dot.state.mn.us/planning/statehighwayinvestmentplan/