Minnesota GO
A Collaborative Vision for Transportation
Guidestar
MN ITS Statewide Plan

Agenda

• Overview of Statewide ITS Plan
  – What ITS is trying to accomplish and where it is warranted
  – Investment Scenarios
  – Early Findings

• Missing elements?
Statewide ITS Plan

What is ITS in this Plan?

• Technology systems that improve capacity, safety, efficiency and transportation system information collection/dissemination

• Typical ITS components: Cameras, Dynamic Message Signs, Sensors, Smart Signals, Ramp Meters, 511, Road Weather Systems, Communications, Tolling, Vehicle Systems (CVO, Fleet)

• Fuzzy line defines what is ITS and what is in this plan- example: Traffic Signals
Statewide ITS Plan

Purpose

• MnDOT has not had a statewide ITS Plan
• A plan states what ITS is trying to accomplish
• ITS Investments are generally District driven
• There is an identified need to coordinate ITS investment and priorities with more consistency across the state
• An ITS Plan developed now supports ITS within the upcoming MnSHIP Update
• Effort will be overlap with current MnDOT Transportation Asset Management Plan (TAMP) and District Safety Plans
Statewide ITS Plan

Content

• Plan will:
  – consider both capital and operational investment
  – begin to consider key policy issues on funding, staffing, investment priorities, etc.
  – link to policies of existing state and MPO plans and policies and coordinate with Transportation Asset Management Plan (TAMP)
  – maintain consistency with HIP, STIP and Highway System Operations Plan (HSOP)

• Plan has 10 year horizon so will include discussion on emerging technologies
## Statewide ITS Plan

### Comparison with TAMP

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<thead>
<tr>
<th></th>
<th>TAMP</th>
<th>ITS Plan</th>
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<td>Asset inventory, condition, replacement value</td>
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<td>Life-cycle cost considerations</td>
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<td>Asset management performance measures and targets</td>
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<td>Risk management analysis</td>
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<td>Performance gap assessment</td>
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<td>Financial plan</td>
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<td>Investment strategies</td>
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<td>Asset management implementation and future developments</td>
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<tr>
<td>Plan Horizon</td>
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Statewide ITS Plan

Stakeholder Involvement

• Plan focuses on MnDOT investment
• Most of Stakeholder engagement is internal
• External engagement includes MPOs and State Agencies with key stakes
• General public involvement not currently planned unless requested
Statewide ITS Plan

Investment Scenarios

• Scenarios described as:
  – Preferred Investment (Preservation, Enhancement, Expansion)
  – Modest Increase in Investment (Preservation + Enhancement)
  – Fiscal Constraint (Current investment level)

• Scenarios will consider:
  – Investment tradeoffs/priorities
  – Operating requirements
  – Logical phasing
Statewide ITS Plan

Schedule

• Kick-off in December 2014
• Final Plan expected in June 2015
• Stakeholder outreach will continue after plan completion
• Plan update cycle TBD
District Input on ITS

Initial Feedback

- ITS is a valuable tool used for safety, mobility, traveler information, monitoring and internal operational efficiency
- Greater MN Districts rely on central funding for ITS
- Design and operations approaches vary by District
- Capital investment decisions are dependent on maintenance support levels
- Systems with annual costs (power/comm/licenses) are often avoided in Greater Mn
- Communication systems drive investment decisions
- ITS Maintenance support is viewed as adequate by some and a gap by others
Statewide ITS Plan

Current and Potential Investments

• $4M/year from Central funding for planning and implementation
• Metro has $1M + amount in projects - mostly preservation
• Research investments
• Statewide system investments: varies
• One time funding (Federal or State)
• Operations investments: TBD
• NexTen/Governor’s Plan: $1.4M/year for non-Metro and significant MnPASS expansion
## ITS Investments

### Possible Greater MN Investments

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<tr>
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*Most ITS investment expected in DMS, CCTV, RICWS*
ITS Investments

Metro Investments

• Most freeway investment shifting to preservation of existing systems but not keeping up with needs
  – Example: over next 10 years there is a gap of 43 DMS that will reach end of life with no replacement funding. Total replacement cost for the 43 DMS is $5.6 M

• Arterial investments in fiber/cameras on major arterials continue
  – Expect full system build out by 2020

• Adding new freeway systems with construction (Hwy 610)
• MnPASS expanding to I-35E in 2015 and 2016, I-35W North and Lake Street in 2018-2019
• MnPASS switching toll system equipment in 2015
Statewide ITS Plan

Deciding on where to invest in ITS- Metro Strategy

• Freeways:
  – Goal of Instrumenting all freeways within Metro with Cameras, DMS, Fiber, Detection
  – MnPASS expansion based on planning process

• Arterials:
  – Goal of fiber, cameras, interconnected on all Major Arterials
  – Minor Arterials covered in general by Freeway systems (interchanges)

• Expansion is often opportunity driven by tying to construction projects or special funding for new concepts

• Note: Corresponding ITS Investment Goals not as developed in Greater MN Districts
Statewide ITS Plan

Organizational Discussion

• Organizational Elements and Current Model
  – Funding- Centralized and District
  – Design- Various District Capabilities
  – Maintenance- Centralized and Metro
  – Operations- Regional/MSP
ITS Statewide Systems

ITS without Borders

Systems

- Communications
- 511
- TMC/TOCC
- Fleet
- RWIS
- RICWS
- CVO
- Work Zone ITS
- Winter Closures
- Multi-State Systems

RICWS locations
Statewide ITS Communications
Developing Concept to support ITS statewide

Current Situation
• Systems are becoming borderless (Metro, D1, D3, D4)
• TOCC Consolidation and MnIT Role create challenges
• Desire for access to all devices from both Rochester and RTMC dispatch centers

Concept
• Fund one statewide network serving linking all districts, dispatch centers, and ITS devices
• Network would be built in stages
• Organizational and funding are the issues rather then technology
Future Systems

Final Chapter - Input opportunity

- What systems should or should NOT be considered over 10 years?

- Plan Elements Missed?
Statewide ITS Plan

Follow-up

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