Metro Highway System Investment Study

A joint effort of the Metropolitan Council and Minnesota Department of Transportation
Background

As the region grows, increased travel demand on our aging Metro Highway System will continue to create additional transportation challenges

– Preservation
– Safety
– Congestion
State Road Construction Program

State Road Construction Program Funding Through 2030
(Metro-Area Allocations, in millions)

- Bridges: $1,290 / 35%
- Pavement and Other Preservation: $1,320 M / 36%
- Community Improvements / Cooperative Agreement / Team Transit / Other Safety: $190 / 5%
- Congestion Mitigation Safety Capacity: $900 / 24%
Year 2030 Congestion

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Funding constraints

• Adding capacity to fully eliminate congestion would cost more than $40 billion over next 20 years

• If used alone, state gas tax would need more than $2 per gallon increase
Constrained budgets

- Historically, transportation plans have called for major expansion to mitigate congestion
- Many projects carried over from plan to plan
- 2009 plan left 12 major expansion projects unfunded, estimated at $3 billion
Year 2030 Congestion
Year 2030 Congestion

Congested Principal Arterial Segments* in 2030 with existing system and TIP projects**

- Principal Arterial
- Planned Principal Arterial

Expansion Projects

*Congested: the condition occurring when the modeled volume on a road equals or exceeds the theoretical capacity of the road at least one hour a day.

** TIP (Transportation Improvement Program): an adopted 3-year program of projects

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Year 2030 Congestion

Metro Highway System Investment Study
Policy direction

- Metropolitan Council Transportation Policy Plan
- Mn/DOT Metro District Highway Investment Plan
- Mn/DOT Statewide Transportation Plan

Metro Highway System Investment Study
MHSIS goals

- Develop a long range vision for the metropolitan highway system
- Identify alternatives to improve highway system performance and mobility
- Solicit input from transportation stakeholders
Region’s congestion needs 21st century solution

- System-wide management
- Technology-based applications
- Multi-modal approach
- Strategic capacity expansions
- Fiscally-constrained approach
New investment strategy

• Realistic
• Innovative
• Focuses available funds for most system-wide benefit
Our goal is to effectively use every inch of pavement so that we have the most efficient transportation system possible.

Victor Mendez, Federal Highway Administrator
September 2009
System-wide management

- Active Traffic Management (ATM) applications
- Lower-cost/high-benefit capacity and safety improvements
- New managed lanes
Active Traffic Management

The next step in congestion management
System management currently used in metro area

• Freeway Operations: cameras, loop detectors, ramp meters, changeable message signs
• Arterial Operations: Coordinated signal routes
• High Occupancy Vehicle Lanes (HOV) implemented on I35 & I-394
• Bus only shoulder system
• 511 Traveler information
• Freeway Incident Response and Safety Team (FIRST)
• Pricing – MnPASS and Urban Partnership Agreement (UPA)
Active Traffic Management – Today and Tomorrow

• Technology used to constantly adapt to changing highway conditions
  – Queue warning
  – Variable speed limits
  – Speed harmonization
  – Junction control
  – Travel time signs
  – Dynamic traffic rerouting
Managed lane system

- Move more people, more reliably
- Facilitate increased capacity within existing rights of way
- Provide greater speed/reliability for transit
- Encourage greater transit use
- Provide congestion-free managed lanes for those who choose to pay or ride transit
A new way of doing business

- Focused on move more people, more reliably
- Multi-modal, innovative, technology-based, problem-focused
- Applying new approaches to address specific needs
- An effective approach regardless of available funding levels
Benefits of new approach

• Recognizes uncertainties of transportation revenue forecasts
• Creates reservoir of prioritized projects
• Allows flexibility to advance projects if additional revenues arise
• Provides greatest regional benefit if current revenue forecasts prove true
MHSIS Maps

• Potential Solutions/Related Efforts
  – Congestion Management Safety Plan (CMSP) Problem Areas
  – Lower-cost, high-benefit solutions
  – Major corridor reassessments
  – Safety considerations
MHSIS goals for system performance

- Increase people-moving capacity of metropolitan highway system
- Provide alternatives to traveling in congested conditions
- Implement strategic and affordable investments to manage use of existing facilities
- Increase trip reliability for corridor users
- Encourage increased transit use
Potential Solutions to Evaluate
Evaluation criteria

Performance measures to compare potential investments include:

• Person throughput
• Travel time savings
• Cost effectiveness
• Trip reliability
• Transit suitability