Presentation Outline

- Why Create an ITS Strategic Plan at the County Level?
- Hennepin County Overview
- Existing ITS Systems and Infrastructure
- ITS Strategic Plan Goals
- ITS Strategic Plan Framework
- Strategic Recommendations
- ITS Opportunities
- Conclusion
Project Partners

Hennepin

Minnesota Department of Transportation

Minnesota Guidestar

U.S. Department of Transportation
Federal Highway Administration

ITS Minnesota

SRF Consulting Group, Inc.

Engineers | Planners | Designers
Hennepin County Overview

- Most populous county in Minnesota
- Top 20 most populous county in Nation (2007 population 1.1 million)
- 563 centerline miles/1,814 lane miles
- 137 bridges, 748 signals, 51,000 signs
- 5,688,000 VMT
- 45 cities, 1 township
- 104 lakes
- Established 1852
• Diverse range of transportation systems
  – Urban areas (Minneapolis)
  – Suburban areas (western half of Twin Cities)
  – Large rural areas
  – Roads, rail and bicycle/pedestrian facilities
• Diverse range of transportation issues
  – Recurring/non-recurring congestion
  – Crashes at high-speed rural intersections
  – Maintenance responsibilities (i.e. winter maintenance)
• County has history of proactive approach to transportation planning
Why Create an ITS Strategic Plan at the County Level?

- ITS can benefit all transportation facilities
- Tool to educate County Commissioners and staff
- Tool to assist with ITS project/budget planning
- Strategic planning addresses many issues
  - How to incorporate ITS into County planning process
  - Identifies necessary institutional changes
  - Develops criteria for evaluating potential ITS projects
Strategic Plan Can Overcome Barriers

- Perception that ITS is too big, technical and expensive
- Plan can educate stakeholders
  - ITS can be simple and low-cost
  - ITS can provide real benefits to local issues
- Key counties are beginning to implement ITS, this will lead to further deployment
“Hennepin County is one of a handful of counties in the nation to proactively plan for ITS”
Existing ITS Systems and Infrastructure

- **Traffic Management Center**
  - Two work stations
  - Monitor CCTV and signal operations

- **Queue warning system**
Existing ITS Systems and Infrastructure (cont.)

- Signal Operations
  - Wireless interconnect
  - EVP
  - Ped countdown timers
  - Video Detection
• Fixed Anti-Icing System (FAST)
• Portable DMS
• Building fiber backbone
• County-wide WAN
• County-wide radio system
• Automated gate system
• Automatic Vehicle Location (AVL)
ITS Strategic Plan Goals

• Synthesize existing planning documents with traditional ITS goals
  – Goal 1: Improve transportation safety
  – Goal 2: Improve transportation mobility
  – Goal 3: Improve transportation system efficiency
  – Goal 4: Maintain system to protect investment

• Strategic Plan Guiding Principles
  – Applications with proven track record
  – High return on investment
  – Consider applications in both rural and urban areas
• Score ITS strategies against criteria
  – Suitable for County
  – Deployable in County
  – Maintainable by County
  – Mature/reliable technology
  – Measurable benefits
  – High benefit/cost ratio
Strategic Recommendations

• Use pilot deployments
  – Proof of concept before wider deployment
  – Allow staff to become familiar with technology

• Take a corridor approach
  – Target a specific corridor in order to maximize benefits
  – Lower operation and maintenance costs

• Assess additional resource needs
  – What new supporting infrastructure is needed?
  – What new staff resources are needed
• Examine operations and maintenance policies, procedures and practices
  – What operational needs will ITS systems require
  – What maintenance needs will ITS systems require
• Identify deployment corridors
• Categorize into short/medium/long term deployment
ITS Opportunities

• Integrate County road network into 511
• Expand AVL and integrate into TMC
• Deploy FAST system on County roadways and bridges
• Expand TMC functions and hours of operation
• Continue/expand video detection
• Upgrade signal controllers
• Deploy adaptive signal control (U of M)
• Expand wireless interconnect
• Consider alternative timing plans
• Continue/expand CCTV
• Non-intrusive traffic detection
• Expand fiber backbone
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How real-world transportation needs are being met by low-cost technologies, developed by local transportation professionals.
ITS “Simple Solutions” Projects

- Automated Anti- / De-Icing on Underpasses
- Automated Lane Indication System
- Community-Friendly Rail Warning System
- Early Notice Flood Warning
- In-Pavement Illuminated Crosswalk
- Speeding Vehicle Activated Traffic Signals
- Traveler Warnings for Spot Hazardous Conditions
- Wireless Pagers to Activate Warning Beacons

Source: http://inform.enterprise.prog.org/
• County leading the way in ITS strategic Planning
• ITS Strategic Plan is a living document that will be updated as new applications emerge
• ITS Strategic Plan offers platform to evaluate future ITS initiatives