

# Data from Traffic Management Systems

A Minnesota Experience

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# Traffic Management Systems Data

- Sources
- Different Sets
- Accessing
- Uses

# Traffic Management Subsystems

- Traffic Detection
- Ramp Meter
- Motorist Advisory
- Closed Circuit Television
- Communications
- Control Room

# Traffic Management System Data Sets

- Traffic Data
- Operational Performance
- Diagnostic Information
- Architectural Information

# Traffic Data

- Data
  - Volume & Lane Occupancy (ordered pairs)
  - Generated from 3563 detectors
  - Generated every 30 seconds

# Traffic Data

- Data File Storage
  - After initial use in real time format
  - Day file in compressed binary format
  - Day file size:
    - 12-14 megabytes compressed
    - 35-40 megabytes uncompressed
  - Day file stored on network server

# Traffic Data

- Archival
  - Stored monthly on optical discs “ CD-R’s “
  - Work in progress

# Operational Performance Data

- Data
  - Which ramp meters are active
  - Ramp meter and mainline “target flows”
  - Ramp meter rates timings
  - Ramp meter overrides
  - CMS/VMS messages and usage log
  - Lane Control Signs usage log

# Operational Performance Data

- Storage
  - Current: Stored as a series of files as system changes are applied
  - Current: Stored in specialized formats
  - Future: Move to consolidated database
- Archival
  - Under discussion

# Diagnostic Data

- Data
  - Flagged detector data
  - Continuity data checks
  - Communications errors
  - Detector fault list

# Diagnostic Data

- Storage
  - Current: Not stored
  - Current: Stored with other data
  - Current: Stored in separate database
  - Future: Move to consolidated database
- Archival
  - Under discussion

# System Architecture

- Data
  - Equipment types used
  - Standards used
  - Communication protocols and links
  - Equipment location
  - Power sources

# System Architecture

- Storage
  - Current: Various locations and formats
  - Current: Various levels of integrity and accuracy
  - Future : Move to consolidated database
- Archival
  - Under discussion

# Data Access

- Real time data and information
  - Time - (0 - 5 minutes)
  - 30 second data aggregation
- Off-line data
  - Time - (next day access - earliest data set)
  - Variable 30 second - 24 hour aggregation
- Archived data
  - Time - (last year - earliest data set)
  - Variable - 30 second - 24 hour aggregation

# Data Uses

- Real time use
  - Run the ramp metering system
  - Support ramp metering oversight
  - Support of Highway Patrol
  - Driver Information

# Data Uses

- Off line
  - System Setup, Review and Maintenance
  - Freeway planning and development
  - Freeway performance
  - Federal reporting
  - Research

# Data from Traffic Management Systems

End