Outline

• ATM strategy background

• How will the ATM operate?
# ATM Strategy Identification

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<th>ATM Strategy</th>
<th>Corridor</th>
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<td>Queue Warning</td>
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<tr>
<td>Dynamic Shoulder Use</td>
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- ● Tier 1 Strategy
- ○ Tier 2 Strategy
ATM Functional & Operational Descriptions
Ramp Metering Operation

• Advance warning signs
• Releases vehicles one at a time
• Detectors provide input to the program that calculates metering rates
  • Ramp detectors detect queues
• Rate decreases as congestion on freeway increase
• Rate increases as queues build
  • Rates at neighboring ramps decrease if short queues there
• Rate increases as freeway congestion reduces
Monitor and Mitigate Ramp Queues

- Monitoring ramp queues
  - Queue detectors
    - Multiple locations
    - System can provide alarms
  - Cameras
    - Placed to see the length of the ramp

- Managing ramp queues
  - Automatic adjustments
    - At the ramp with long queues
    - At neighboring ramps
  - Manual adjustments
Ramp Metering Operations
Conditions to Use Ramp Metering

• Normal congestion
• Traffic incidents
• Work zones
• Special events
Dynamic Shoulder Use

• Normally, set operational times
  • Some flexibility
• Visually sweep dynamic shoulder lane
• Request highway helper assistance
• Enforcement/emergency response can request closing shoulder
• Signing options
  • Across all lanes
  • Over the shoulder lane only
Dynamic Shoulder Use

LEGEND

Western Limit
Eastern Limit
Project Area
Conditions to Use Dynamic Shoulders

- Normal congestion
- Traffic incidents
  - Depends on location and conditions
- Work zones
  - Depends on location and conditions
- Special events
  - Depends on location and conditions
Queue Warning Operation

• Warn drivers of unexpected congestion

• Automated with operator override
  • Warning message is based on conditions

• Can be used anytime unexpected congestion occurs
Speed Advisory Operation

- Provide recommended speed ahead of congestion
  - Based on downstream speeds
- Automated with operator override
- Signing options
  - Shoulder Mount
  - Cantilever
  - Overhead
  - Over every lane
    - Integrate other strategies
Next Steps

• Develop Concept of Operations Document – End of June

• Stakeholder Feedback – Early July

• Online Engagement planned for Fall 2020

• Share you comments: https://iowadot.gov/desmoinesicm/