The background is a dark teal color. It features several large, semi-transparent light blue circles of varying sizes. In the top right corner, there is a solid red vertical rectangle.

Roles of TMCs in Incident Management on Managed Lanes

INTRODUCTION AND OVERVIEW

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Agenda

- ▶ Introduce Topic and Guidebook
- ▶ Definition of Managed Lane
- ▶ Importance of TIM in Managed Lanes
- ▶ Managed Lane Operating Environment
- ▶ Unique aspects of TIM in the Managed Lane Environment

Topic Introduction

- ▶ Narrow topic – nexus of:

- ▶ Roles of Transportation Management Centers
- ▶ Incident Management
- ▶ Managed Lane Environment

Roles of Transportation Management Centers in Incident Management on Managed Lanes



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Managed Lane Definition

- ▶ Formal Definition – Highway facilities or a set of lanes where operational strategies are proactively implemented and managed in response to changing conditions.
- ▶ Guidebook's Definition – Freeway managed lanes with actively managed operations and access restrictions that co-exist adjacent to non-managed general purpose lanes.
 - ▶ *A "Freeway within a Freeway"*



Importance of TIM in Managed Lanes

- ▶ Incidents affect high priority vehicles within the transportation network
 - ▶ Transit vehicles, buses, vanpools, & carpools
 - ▶ Drivers who place a high monetary value on time
- ▶ Higher vehicle occupancies → greater number of people affected by an incident
- ▶ Reliability is the key to success of managed lanes

Operating Environment – Physical Separation

- ▶ Continuous Access
- ▶ Shoulder
- ▶ Painted Buffer
- ▶ Electronic “Invisible” Barrier
- ▶ Plastic Post Barrier
- ▶ Permanent Physical Barrier
- ▶ Movable “Zipper” Barrier



Operating Environment – Access Control

- ▶ High Occupancy Vehicle (HOV)
- ▶ Express Toll Lane (ETL)
- ▶ High Occupancy / Toll (HOT)
- ▶ Bus / Transit

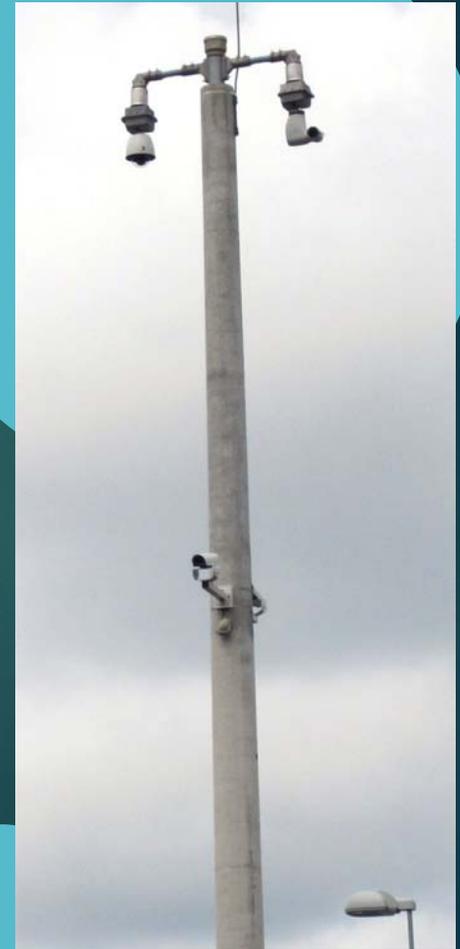


Unique Aspects of TIM in Managed Lanes

- ▶ Enhanced Traffic Management Capabilities
- ▶ Enhanced Operational Control
- ▶ Physical Access Constraints
- ▶ Interagency Coordination
- ▶ Financial Considerations

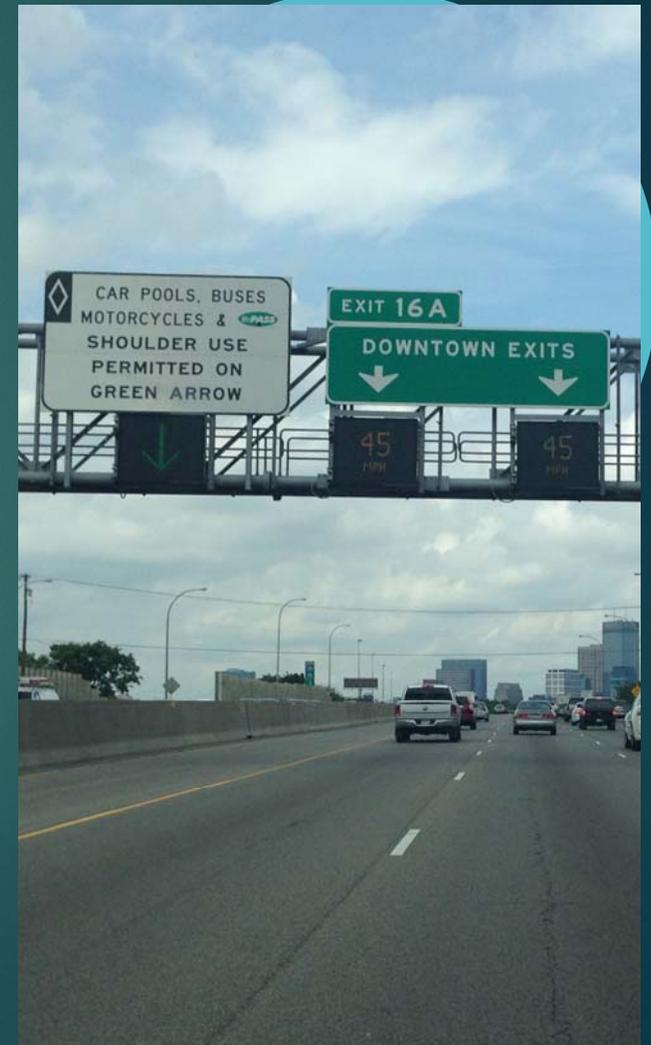
Traffic Management Capabilities

- ▶ Managed Lanes typically have enhanced TMC capability and functionality to enable proactive management
 - ▶ Cameras & Detection
 - ▶ Dedicated Personnel
 - ▶ Faster detection → faster response



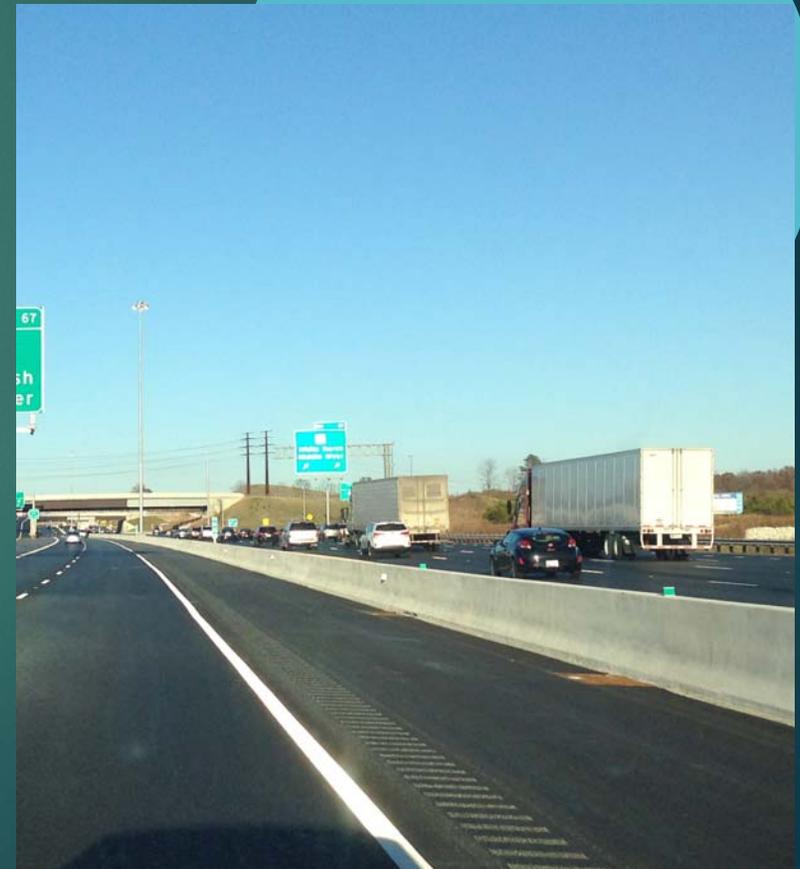
Enhanced Operational Control

- ▶ Managed Lanes may have operational tools that can be controlled by the TMC
 - ▶ Variable speed signing
 - ▶ Lane control signs
 - ▶ Zipper barriers
 - ▶ Ability to adjust/suspend tolls
 - ▶ Ability to adjust/suspend eligibility requirements
 - ▶ Access gates for closure/diversion



Physical Access Constraints

- ▶ Separation between “two freeways”
 - ▶ Painted barrier
 - ▶ Movable barrier
 - ▶ Permanent physical barrier
- ▶ Barrier may impact responder access
- ▶ Barrier may impact establishment of diversion



Interagency Coordination

- ▶ Multiple agencies operating within the right-of-way
 - ▶ Two public-sector agencies
 - ▶ Private operator of managed lanes
- ▶ Close coordination is needed for...
 - ▶ Design and Construction
 - ▶ Normal Operations
 - ▶ Routine Maintenance
 - ▶ Traffic Incident Management
- ▶ Incidents may affect both general purpose and managed lanes

Financial Considerations

- ▶ Some TIM strategies have financial implications:
 - ▶ Suspension of tolls and opening facility to all
 - ▶ Denying access to toll-paying vehicles not meeting occupancy threshold
 - ▶ Complete closure
 - ▶ Adjusting toll rates to discourage use during incident
- ▶ All priced managed lane operators have financial obligations to meet
- ▶ Financial needs must be balanced with TIM needs



Privately Operated Managed Lanes

- ▶ Strong incentive to minimize downtime
- ▶ Protection of proprietary information
- ▶ May not have long-standing relationships with response agencies
- ▶ Operator should negotiate agreements in advance

Case Study: I-495 Express Lanes

- ▶ Privately operated HOT lane facility adjacent to Virginia DOT-maintained general purpose lanes
- ▶ Separate TMCs
- ▶ Operator and Virginia DOT negotiated a detailed operating agreement
 - ▶ Covers a wide variety of potential scenarios
 - ▶ Communication protocols in place



Case Study: I-495 Express Lanes

- ▶ Agreement also covers...
 - ▶ Protocols for suspension of tolling in emergency
 - ▶ Ability to override DMS messages
 - ▶ Unified Command Team for serious incidents
 - ▶ Structure and protocol for non-critical communications