

*Atlanta Regional*  
**MANAGED LANES**  
Implementation Plan

*Metro Atlanta*  
**OPS**  
OPERATIONAL PLANNING STUDY

Stakeholder Meeting #1  
January 24, 2013

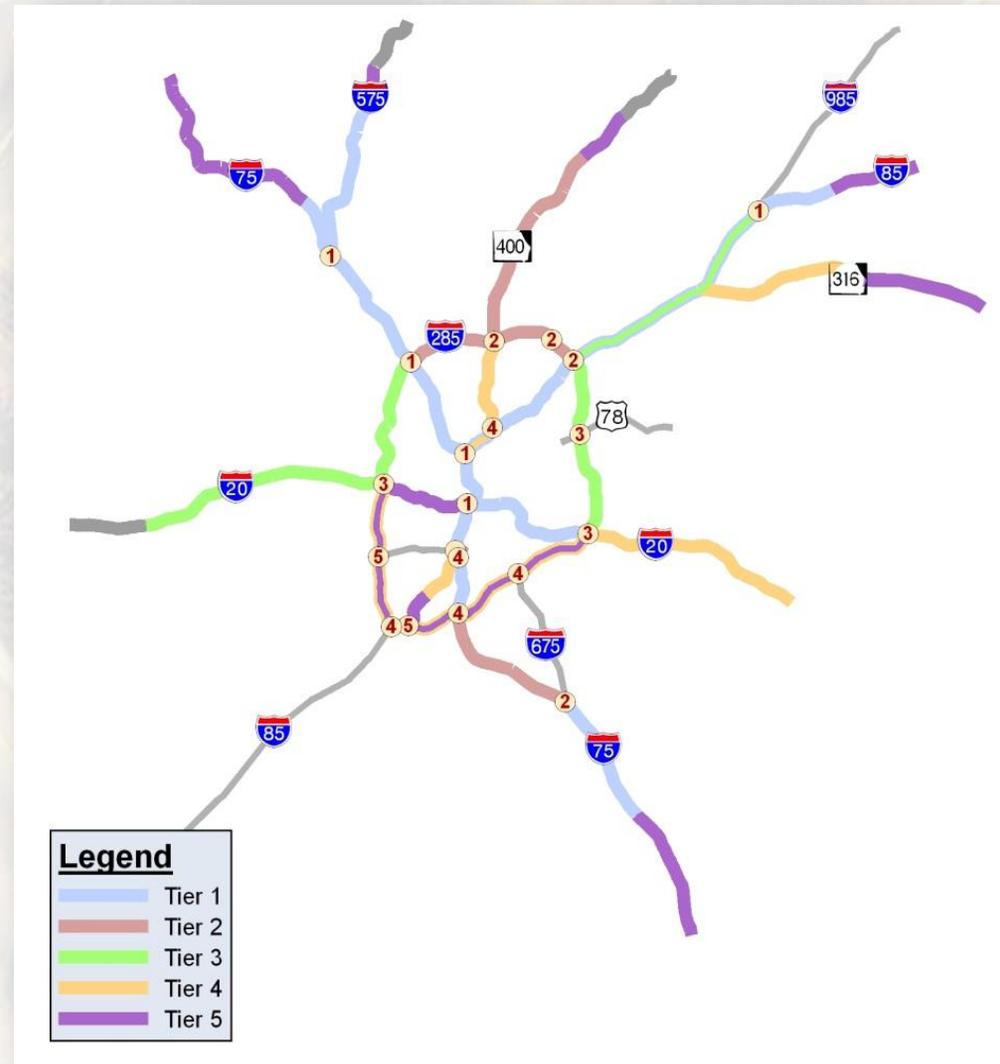


# Agenda

- Overview
- Schedule
- Corridor Screening Process
- Parameters
- Potential Strategies
- Current Activities
- Next Steps

# Overview – MLIP

- Previous Atlanta Regional Managed Lanes System Plan (MLSP) Goals:
  - Protect mobility
  - Maximize person/vehicle throughput
  - Minimize environmental impacts
  - Provide a financially feasible system
  - Design and maintain a flexible infrastructure for varying lane management



# Overview – MLIP

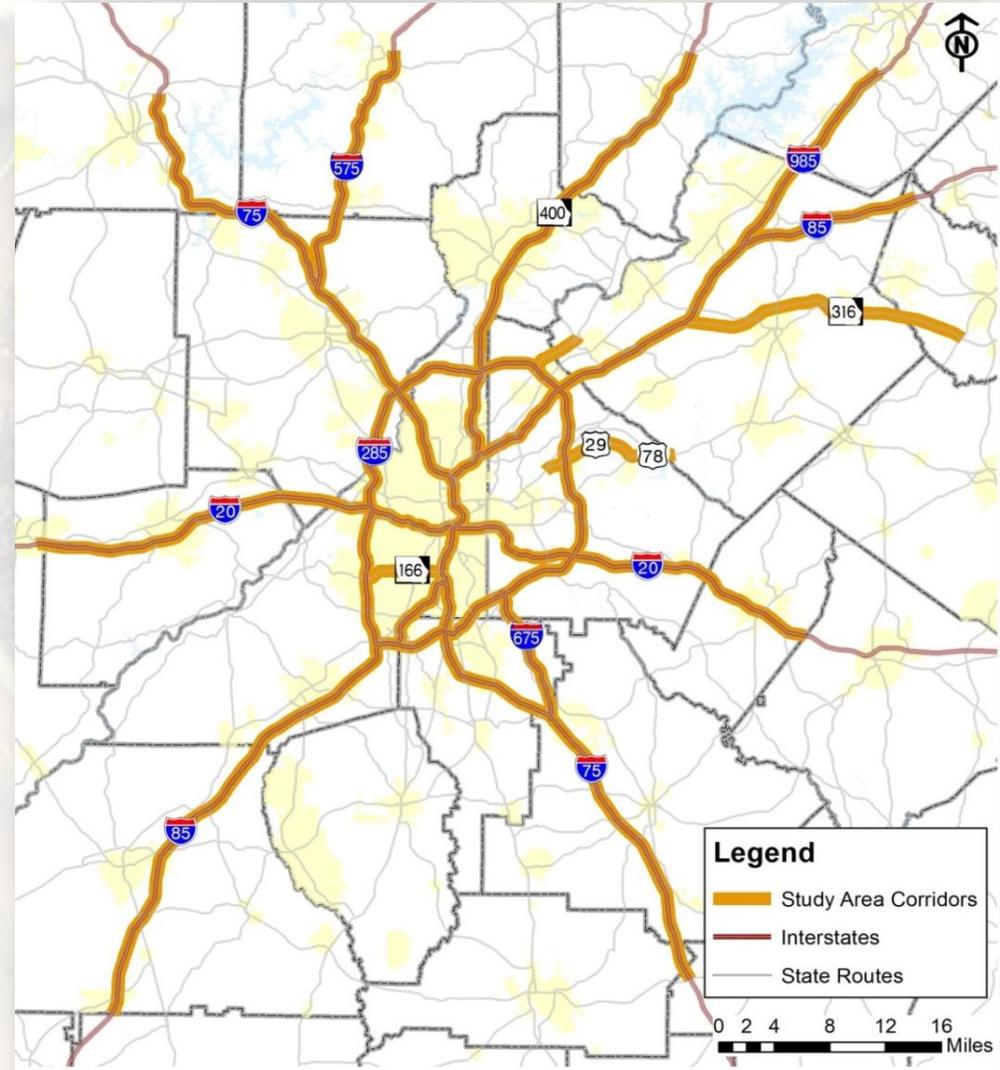
- Update MLSP as part of Managed Lanes Implementation Plan (MLIP) to:
  - Build upon previous MLSP goals
  - Reflect current funding constraints
  - Identify feasible locations for managed lane projects
  - Redefine and reprioritize projects from the previous plan based on current and future needs
  - Prioritize list of managed lane projects and accompanying financing strategies (P3 and traditional funding sources)
- Incorporate preliminary recommendations into RTP and TIP update, as appropriate during 2013

# Overview – OPS

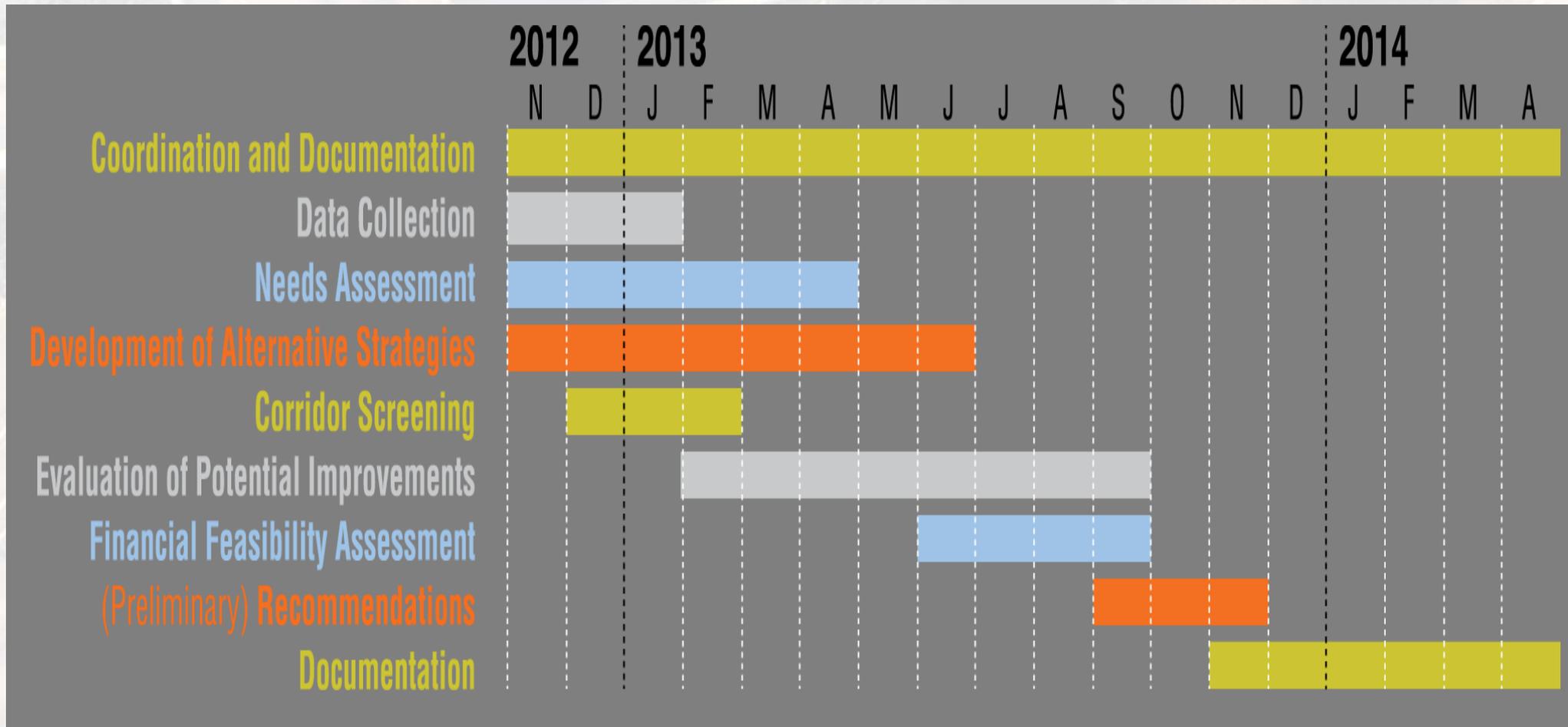
- Identify bottleneck areas
- Identify and evaluate potential low-cost improvements
- Document a prioritized list of operational projects

# Study Area

- All limited access facilities in metro Atlanta
  - Interchanges
  - Up to 5 selected arterials within the interchange area of influence



# Schedule



# Corridor Screening Process

- Recurring vs. nonrecurring congestion locations
- Physical limitations in median and/or shoulder
- Estimated benefit
- New capacity (i.e. shoulder lanes or reversible lanes during the peaks) evaluated as part of MLIP
- Operational improvements evaluated as part of OPS



# Planning Assumptions

- **MLIP**
  - All new capacity will likely be tolled
  - Remove HOV2+ to HOT3+ conversions from Atlanta MPO's Transportation Improvement Program (TIP)
  - Eliminate assumptions of long-term concession agreements
- **OPS**
  - Can be implemented within 6 months to 5 years
  - Low cost

# Potential Strategies

- Added Corridor Capacity
- Improved Design Geometrics
- Intelligent Transportation Systems (ITS)
- Freight
- Demand Management & Policy Considerations

# Potential Strategies

- Added Corridor Capacity
  - Bottleneck Mitigation
  - Managed Lanes
  - Reversible Lanes (e.g. moveable barriers)
  - Drivable / Hard Shoulder Running

# Potential Strategies

- Roadway Geometrics
  - Roundabouts
  - Diverging Diamonds Interchanges
  - Loop Ramps
  - Ramp Configuration
  - Channelization
  - Innovative Intersections
  - Minimum Intersection / Interchange & Ramp Spacing
  - Improvements to Median
  - Crash Investigation Sites

# Potential Strategies

- Intelligent Transportation Systems (ITS)
  - Traveler Information Systems
  - Quick Response Incident Clearance
  - Roadside & Motorist Assistance
  - ITS Support Infrastructure
  - CCTV Cameras / Traffic Flow Monitoring
  - Signal Operation & Management
  - Variable Speed Limits
  - Queue Warning
  - Dynamic Merge Control
  - Ramp Metering / Flow Control

# Potential Strategies

- Freight
  - Commercial Vehicle Geometric Accommodations
  - Truck Lane Restrictions
- Demand Management & Policy Considerations
  - Demand Management Strategies
  - Variable / Dynamic Pricing
  - Variable / Dynamic Ramp Closures
  - Vehicle Eligibility / Occupancy

# Non-Traditional Options

- Shoulder Lanes
- Moveable Barriers
- Variable Speed Limits

# Shoulder Lanes – Considerations

- Shoulder depth
- Shoulder width
- Bridge spans and pillar locations
- Entrance / exit ramp locations and volumes
- Additional signage
- Refuge sites (incidents and emergency access)
- Segment length

SR 400 Shoulder Lane



# Shoulder Lanes – Case Studies

- Washington State - US 2
  - 1.5 miles during PM only
- Minneapolis
  - 3.0 miles during AM & PM
  - Use left shoulder
  - Region wide bus shoulders
- UK M42 Highway
  - 10 miles
  - Shoulders used in conjunction with variable speed limits
- Netherlands
  - Use left and right shoulder

Sign in Washington



# Shoulder Lanes – Lessons Learned

- Capital costs vary dramatically based on existing infrastructure
- Develop overall active traffic management(ATM) system concept
- Pre-determine enforcement roles/processes, incident response, training, public outreach and education
- Regularly spaced video cameras to check for obstacles
- Regularly spaced emergency refuge areas with proper signing

# Moveable Barriers – Considerations

- Directional split of traffic and number of lanes
- Median and/or shoulder widths
- Borrow inside lane or shoulder for reverse direction and/or widen to the median
- Bridge spans and pillar locations
- Additional signage
- Capital and Operating & Maintenance costs
- Logistics of reversible lanes
- Segment length
- Estimated benefit (travel time savings)

# Moveable Barriers – Case Studies

- Honolulu H-1 Freeway
  - 12 mile HOV system during AM only
- Dallas Thornton Freeway/I-30
  - 5.2 mile managed lane during AM & PM
  - SOVs can use during incidents
- Colorado I-70
  - 13.5 mile EB Sundays



Source: Barrier Systems

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# Moveable Barriers – Lessons Learned

- Enforcement (if operated as a managed lane)
- Public education
- Dependable contractor
- Spare parts inventory
- Aggressive preventative maintenance
- Adequate staffing for enforcement, traffic incident management, and maintenance
- Consider multiple access points

# Variable Speed Limits – Considerations

- Availability of ITS infrastructure
- Overhead signs vs. shoulder and median signs
- Enforcement
- Regulatory vs. advisory
- Coordination with existing signs

# Variable Speed Limits – Case Studies

- Washington State
  - I-5 & I-90
- Minneapolis
  - Smart Lanes initiative
- UK M42 Highway
  - 10 mile
  - Variable speed limits used in conjunction with shoulder lanes
- Netherlands
  - In operation since 1981

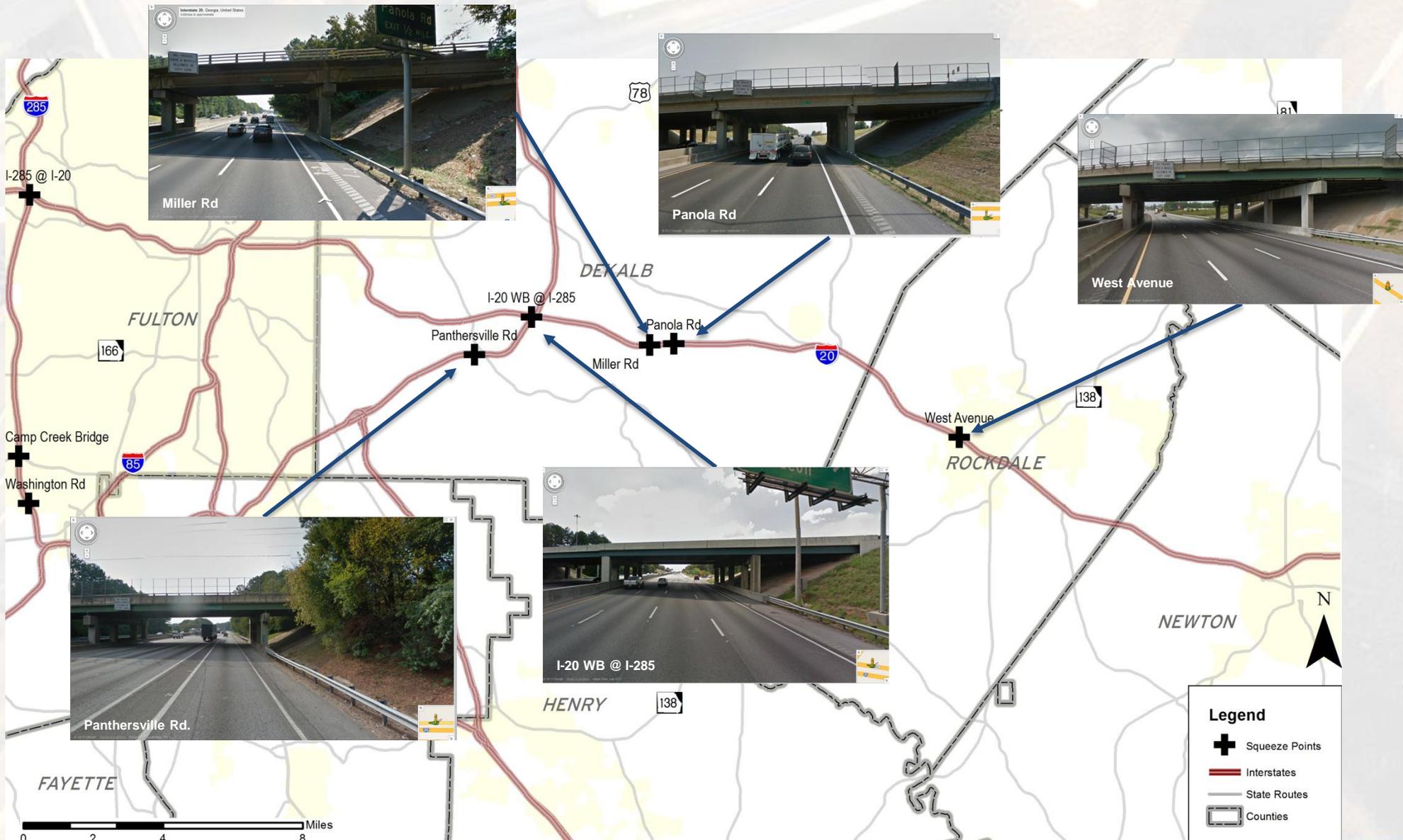
# Variable Speed Limits – Lessons Learned

- Provides congestion relief if speeds are adjusted prior to delays occurring
- Capital costs vary dramatically (signage, technology, emergency refuge areas)
- Develop overall active traffic management (ATM) system
- Pre-determine enforcement roles and processes, incident response, personnel training, public outreach and driver education plan

# Current Activities

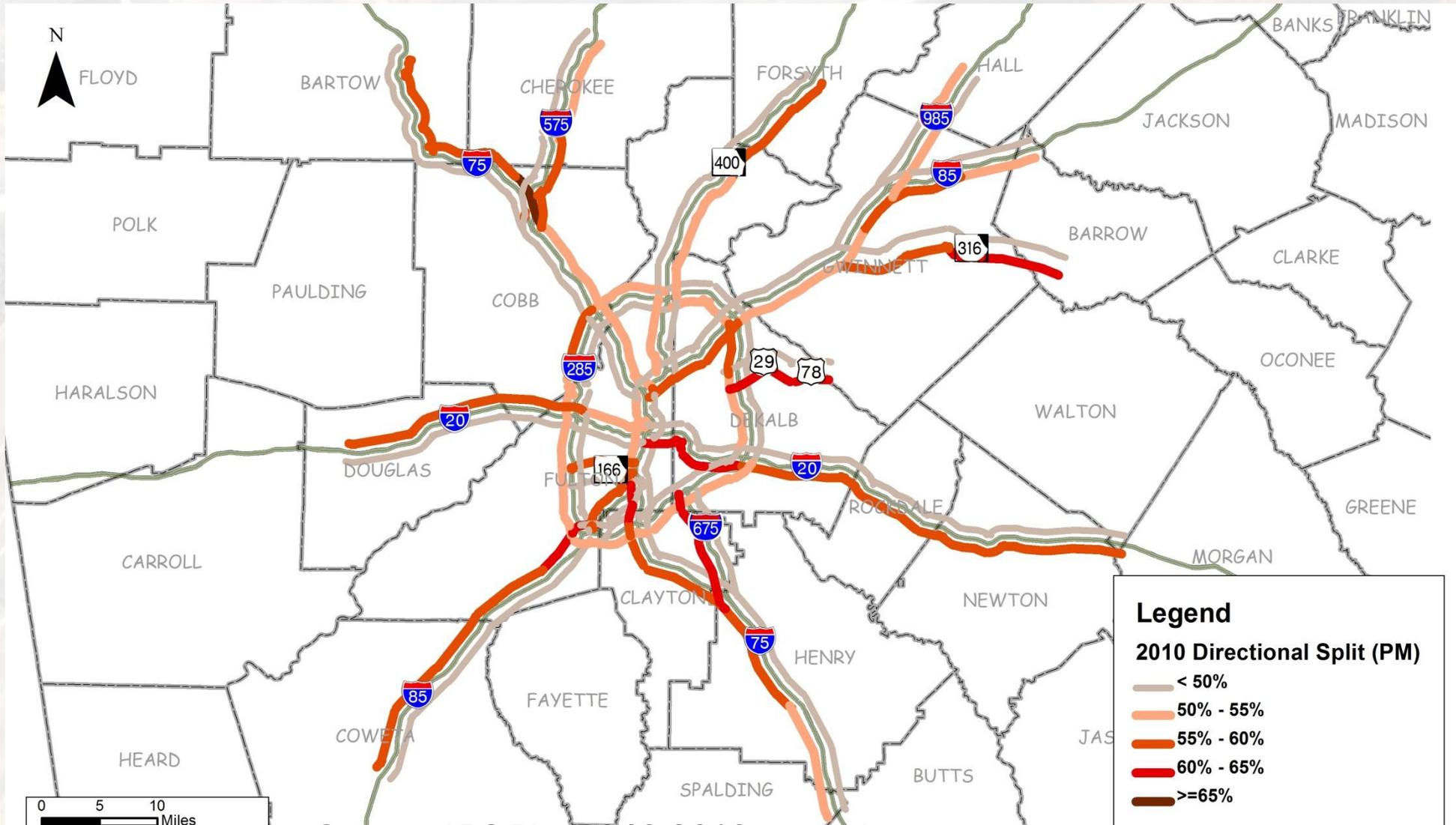
- Initial windshield survey to identify existing roadway characteristics
  - Shoulder width and pavement type
  - Horizontal clearances
  - Current lane widths
  - Median type and widths
- Analyzing directional splits and traffic volumes

# Windshield Survey Sample Data





# Directional Traffic Split – PM

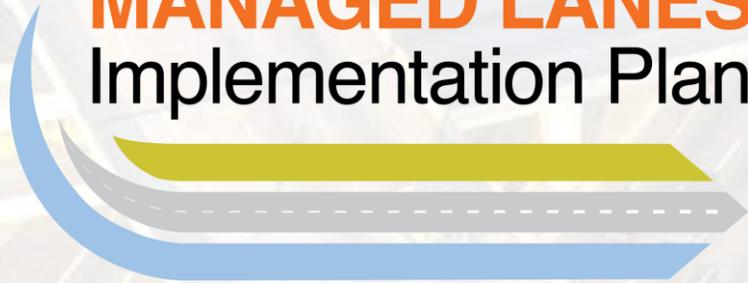


Source: ARC Plan2040 2010 network

# Next Steps

- Complete windshield survey and directional split analysis
- Post-process speed and volume data
- Determine needs (identify bottleneck areas)
- Complete corridor screening process
- Evaluate projects
- Recommend list of projects
- Develop financial plan for managed lane projects
- Coordinate with ARC throughout the process

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[www.dot.ga.gov/MLIP](http://www.dot.ga.gov/MLIP) and [www.dot.ga.gov/OPS](http://www.dot.ga.gov/OPS)

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