

# Metro-Atlanta Managed Lanes System Plan

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Alternative Financing and Program Delivery Committees  
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# AGENDA

- Status of Metro-Atlanta Managed Lanes System Plan
- Decisions
- Next Steps

# Overview of Toll Roads & Managed Lanes

- Toll Roads
  - All lanes tolled
  - Toll purpose is to help finance the road (in addition to traditional funds)
  - Toll is typically fixed (not managed/fluctuating based on traffic demands)

# Overview of Toll Roads and Managed Lanes

- Managed Lanes
  - Adjacent to existing General Purpose (GP) lanes
  - Toll purpose is to regulate demand/travel speeds
  - Secondary toll benefit, assist with construction/operating costs
    - Toll revenues will not cover construction costs, *unless* convert existing lanes (minimal costs)
  - Provides reliable travel options in peak periods



# Managed Lane System Plan Purpose

- SOV lanes can no longer address the traffic growth and demands placed on our system
- Managed Lanes will more efficiently operate the system, offering reliable trip times & provide travel options
- Ensure various related activities are coordinated:
  - HOV Projects under design
  - Various typical sections under consideration
  - PPI Projects under development/consideration
    - I-75 NW Corridor
    - SR 400
    - I-20 East
    - I-285 West

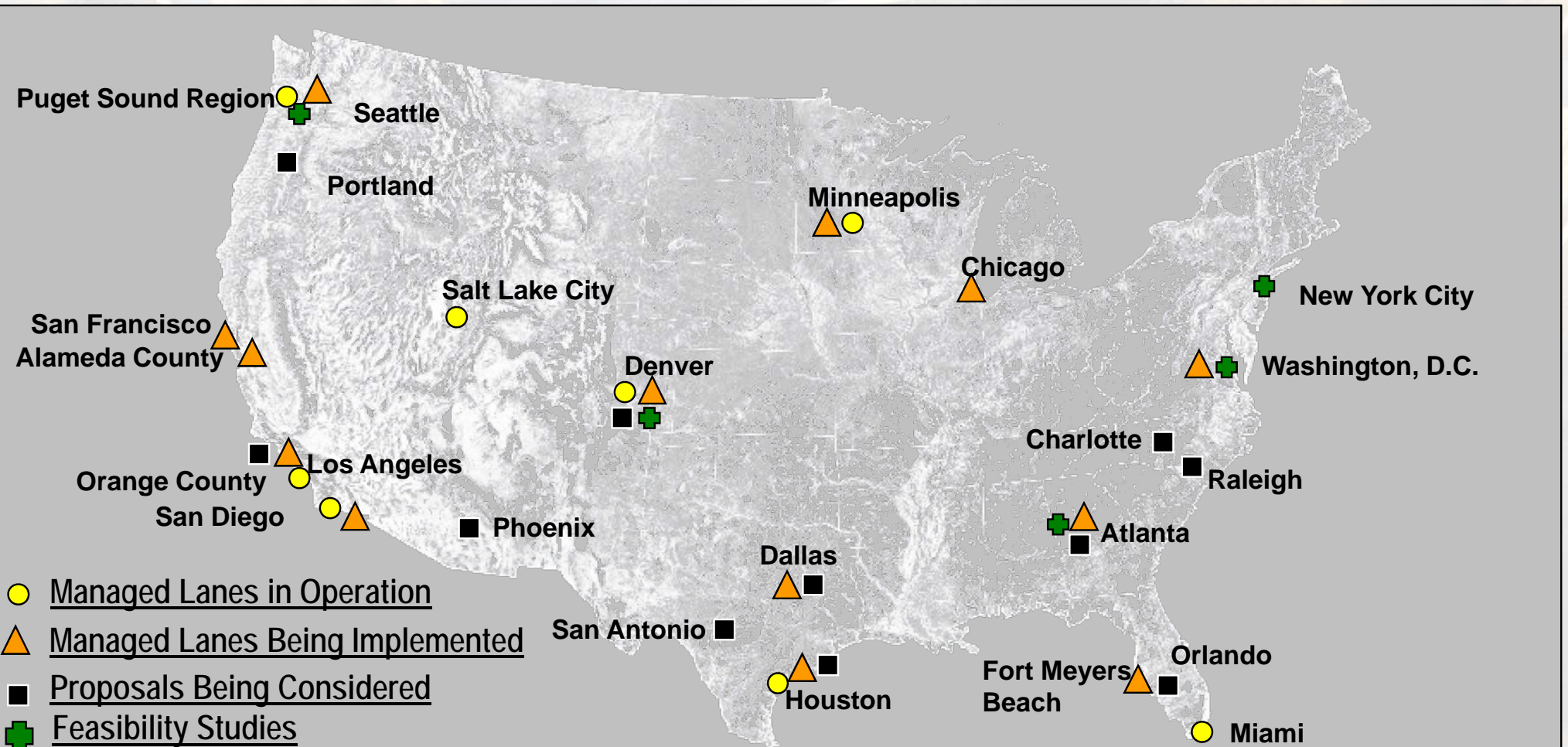
# Managed Lane System Plan Purpose

- System-wide approach underway
- Each corridor may have different strategies, based on corridor needs
- Coordinates with ARC's Managed Lane Policy
- MLSP Implementation Strategy will consider/weigh:
  - Revenue/Funding Options
  - Constructability
  - Demand
  - Impacts

# Managed Lane System Plan Purpose

- Coordinating with all transportation planning partners
  - External:
    - SRTA
    - GRTA
    - ARC
    - Transit Planning Board
    - Chamber of Commerce
    - FHWA
    - Governor's Office (invited)
  - Internal:
    - Innovative Finance
    - Innovative Project Delivery
    - Urban Design
    - Traffic Operations
    - Policy Analysis Bureau

# US Managed Lane Activity



# GDOT's Managed Lane System Plan (Criteria & Results)

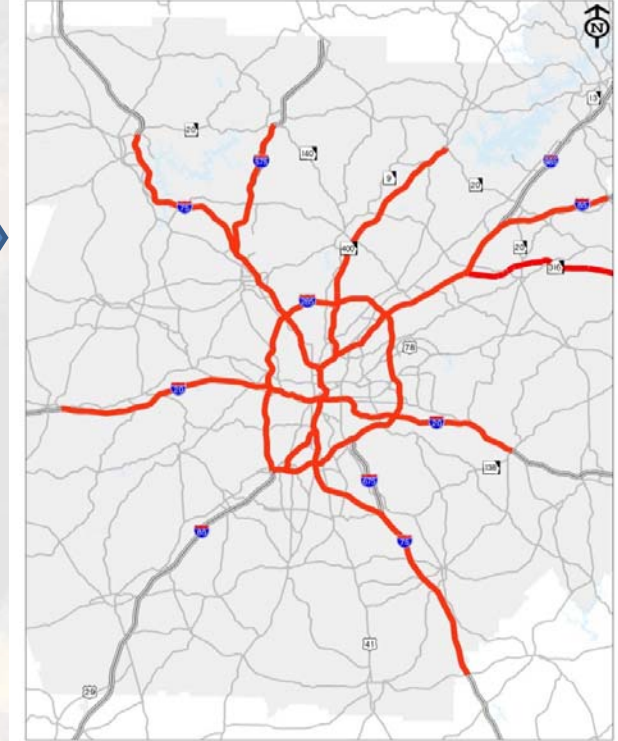
## GDOT - HOV System Plan (2002)



### Screened Criteria

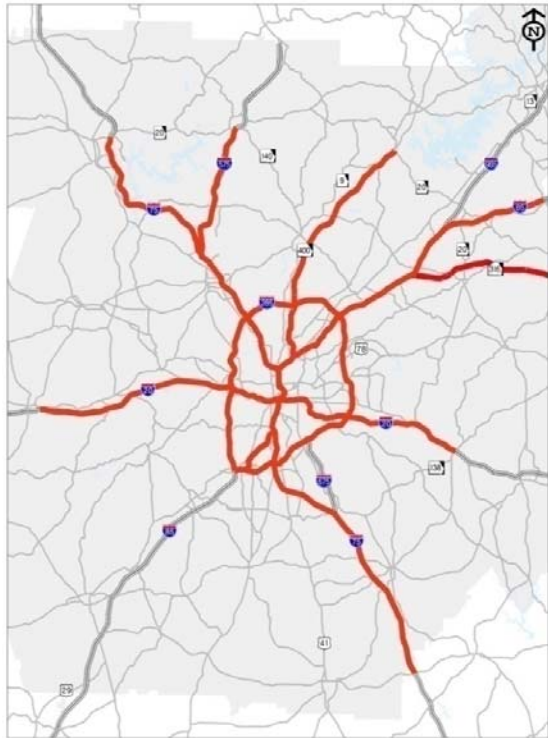
- Functional Classification
- Presence of Existing Managed Lanes
- Trip Lengths: > 10 mi.
- % of vehicles with 2+ occupants
- **Total Vehicles**
- Total Trucks
- Total HOVs
- **Volume to Capacity (V/C) Ratio**
- Duration of Congestion (# of Hours)
- Travel Time Index
- % Persons residing within 5 mi. (2005)
- % Persons residing within 5 mi. (2030)
- % Jobs located within 5 mi. (2005)
- % Jobs located within 5 mi. (2030)
- EJ populations located along corridor
- Interchanges per mile
- Number of System Connections
- Number of Freight Connections
- Presence of Existing Express Bus
- Presence of Planned **Express Bus/BRT**
- Presence of Existing Park & Ride Lots
- Presence of Planned **Park & Ride Lots**
- Candidate for Truck Only Lanes
- Design Activity Already Underway
- PPI Proposed on Corridor

## Initial Corridor-Level Screening Results



# Menu of Managed Lanes Treatment

## Corridor-Level Screening Results

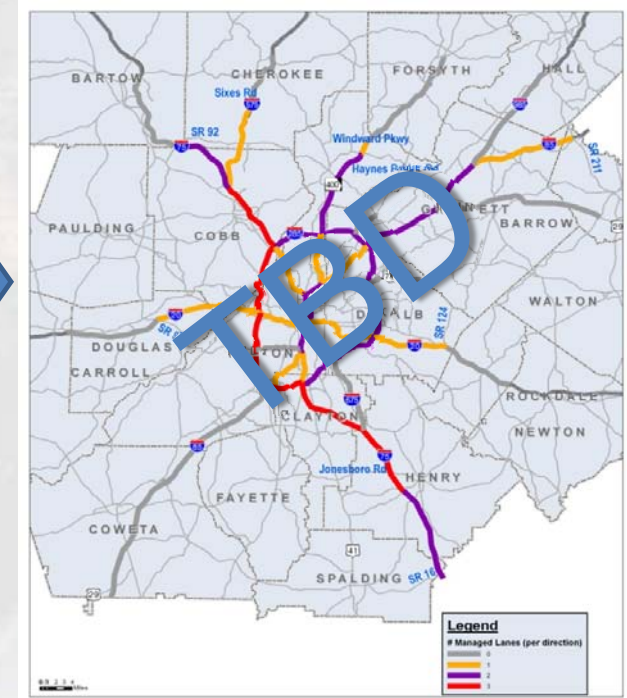


## Options under consideration

- Lane Operations
  - Reversible Lanes
  - Bi-directional Lanes (2 way travel)
- Number of Lanes
  - 1 lane in each direction
  - 2 lanes in each direction
- Facility Location
  - Elevated
  - At-grade
  - Inside median
  - Outside median

**\*Ensure system-wide interface between corridors**

## System-wide Implementation Strategy

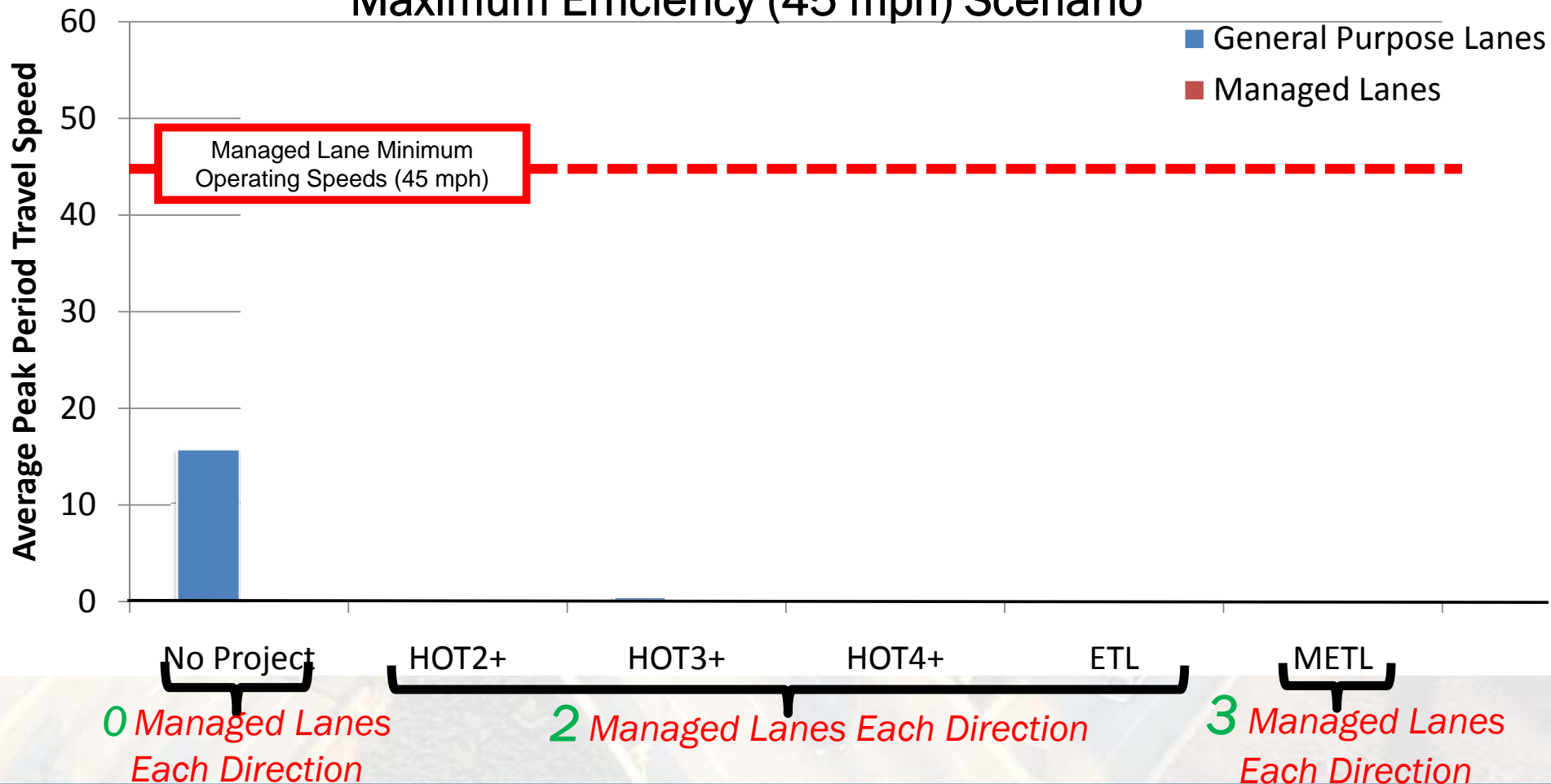




# SAMPLE CORRIDOR

I-285 North Corridor (I-75 to I-85) **2030** Travel Speeds (MPH)

Maximum Efficiency (45 mph) Scenario



# Key Decisions

1. Occupancy (HOV/HOT/ETL)
2. Maximum Revenue vs. Maximum Efficiency
3. Who is allowed access:
  - Cars + Transit + Light Duty Trucks
  - Cars + Transit + *All* Trucks
4. Convert Existing General Purpose (GP) Lane to Managed Lane

*No decisions need to be made today, begin considering the various options*

# Decision #1 – Occupancy

- **HOV 2+** Over used, unreliable trip times (for cars and transit)
  - *As congested as General Purpose lanes in future*
  - *Diminished carpooling advantage*
- **HOV 3+** Under used, reliable trip times
  - *Fewer vehicles, “empty lane syndrome”*
- **HOT 3+** Optimal use, reliable trip times
  - *Continues to reward carpooling*
  - *Produces greatest reduction in vehicle hours of delay*
  - *Allows all customers to use all travel lanes*

# Decision #1 – Occupancy

## April 16, 2009 Board Resolution on HOT 3+

- Board passes resolution allowing HOT 3+ on “initial implementation of a network of congestion-priced toll lanes in the Metropolitan Atlanta region” (*I-85 corridor, north of I-285*)
- “the Board desires to have the *entire system* operate as consistently as possible...”
- Vehicles with preferential use of HOT lanes:
  - Over the road buses
  - Motorcycles
  - Alternative Fueled Vehicles
  - On-call emergency vehicles
  - Passenger vehicles with 3 or more persons

**RECOMMENDATION: HOT 3+ SCENARIO**

# Decision #2

## Maximum Revenue or Maximum Efficiency?

- Maximum *Revenue*: Charge whatever the market will bear, in order to generate most revenue
- Maximum *Efficiency*: Managed Lanes “value priced” to maintain a minimum 45 mph travel speed

# Decision #2

## Maximum Revenue or Maximum Efficiency?



## Decision #2

### Maximum Revenue or Maximum Efficiency?

- Pros of Maximum Efficiency Strategy:
  - Manages the entire system more efficiently
  - Benefits to more users (greatest reduction in delay)
  - Consistent with goals and objectives (increases throughput of people/cars)
  - Flexibility for financing (could increase revenues if revenues are off, for PPI)
  - Anticipate less public resistance in comparison to maximum revenue

## Decision #2

### Maximum Revenue or Maximum Efficiency?

- Cons of Maximum Efficiency Strategy:
  - Slightly less revenue
- Maximum Efficiency Observations & Key Points:
  - System-wide, toll revenues decline only 8% (HOT 3+) between maximum revenue and maximum efficiency
  - Consistent with Plan's goal (maximizing the movement of people/vehicles)
  - Anticipate greater public acceptance

**RECOMMENDATION: MAXIMUM EFFICIENCY (45 MPH)**

# Decision #3

## Who is allowed to access lanes?

- Eligibility options:
  - Cars + Transit + Light Duty Trucks (2 axles)
  - Cars + Transit + *All* Trucks
- Positives of allowing heavy duty trucks in managed lanes:
  - Addresses some of truck traffic growth
  - Provides mobility options for trucks
  - Slightly greater revenue potential

# Decision #3 (cont'd)

## Who is allowed to access lanes?

- Negatives of allowing heavy duty trucks in managed lanes:
  - Truck trips only experience minimal overall time savings (saves 5% of 12 hour trip), insignificant for long haul trip.
  - Trucks in managed lanes will likely result in a 3 lane managed lane (instead of 2 managed lanes in each direction), increasing costs
  - Trucks increase long-term roadway maintenance requirements and costs
  - Likely to introduce more trucks onto arterials at peak-periods
  - Potential operational issues associated with trucks using GP left lanes to access/exit managed lanes
- Heavy duty trucks only comprise approximately 6% of the peak-period traffic on Metro Atlanta Interstates

**RECOMMENDATION: ACCOMMODATE CARS + TRANSIT + LIGHT DUTY TRUCKS**

# Decision #4

## Convert Existing GP Lane to a Managed Lane?

- Ideally, provide 2 Managed Lanes in each direction, as warranted
- *However*, unable to construct additional lanes in some locations (cost and/or impacts)
  - Example: Downtown Connector has severe right-of-way constraints



## Decision #4 (cont'd)

# Convert Existing GP Lane to a Managed Lane?

- Most cost-effective option in order to provide 2 Managed Lanes (in each direction) could include pursuit of “conversion” scenarios, such as:
  - Convert an existing GP or HOV Lane (if available) *and* construct 1 new ML; *or*
  - Convert existing HOV lane *and* convert existing GP lane (i.e. Downtown Connector)

## Decision #4 *(cont'd)*

# Convert Existing GP to a Managed Lane?

- Depending on the conversion scenario, system-wide, converting GP to ML may result in:
  - Construction cost reduction of approximately 10%-50%, depending on conversion scenario
  - Projected toll revenues could increase by 10%-30%
  - Operational impacts vary by corridor

## Decision #4 (cont'd)

# Convert Existing GP to a Managed Lane?

- General Purpose Lane Conversion Observations:
  - Public resistance anticipated
  - Requires reversal of June 2005 Board Policy on tolling existing general purpose lanes (*if using PPI*)
  - Georgia allowed to toll existing lanes on Interstate (granted under Value Pricing Pilot Program)

**QUESTION: IS CONVERSION OF GP LANES AN OPTION?**

# Next Steps

- Gather Board input and reach final decisions:
  - *Occupancy (HOT 2+/HOT 3+/HOT 4+/ETL)?*
  - *Maximum Efficiency (45 mph) or Maximum Revenue?*
  - *Access to Managed Lanes (Cars + Transit + Light Duty Trucks + Heavy Duty Trucks)?*
  - *Convert existing General Purpose Lanes to Managed Lanes?*
- Present MLSP findings and recommended implementation strategy, future meeting



# Questions?