For information and discussion.

Recommendation from the MAG Managed Lanes Network Development Strategy – Phase I Study

MAG Management Committee
May 8, 2013

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INTERSTATE 495 Capitol Beltway Express Lanes, Northern Virginia

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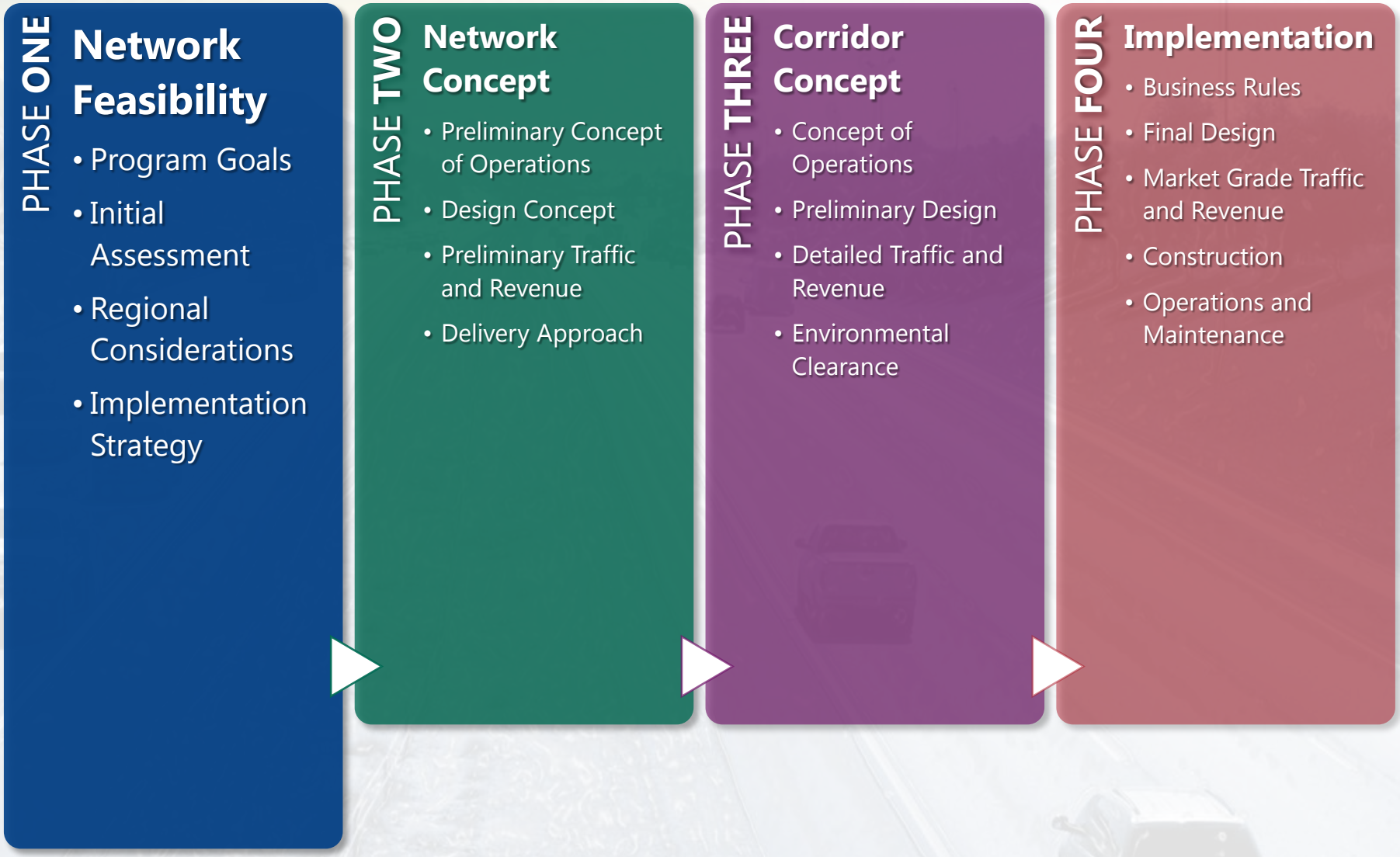
MAG Managed Lanes Network Development Strategy

In part response to HB2396 enabling Public-Private Partnership (P3) opportunities in Arizona.



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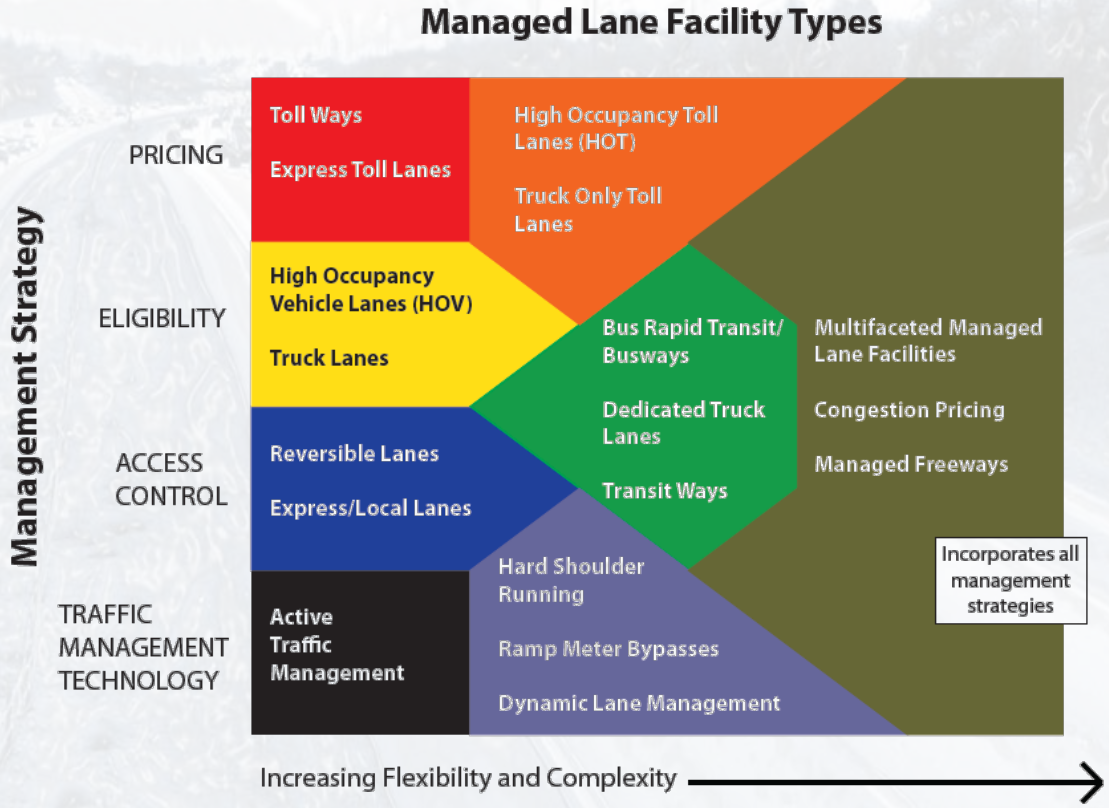
Express Lanes Concept

- Managed Lanes are dedicated lanes for one or more user groups.
- Proactively managed to provide better reliability and/or level-of-service.
- Benefits in **travel time savings and reliability**, as well as:
  - Commuter Choices.
  - Enhanced Transit Services.
  - Positive Environmental Impacts.
  - Revenue.



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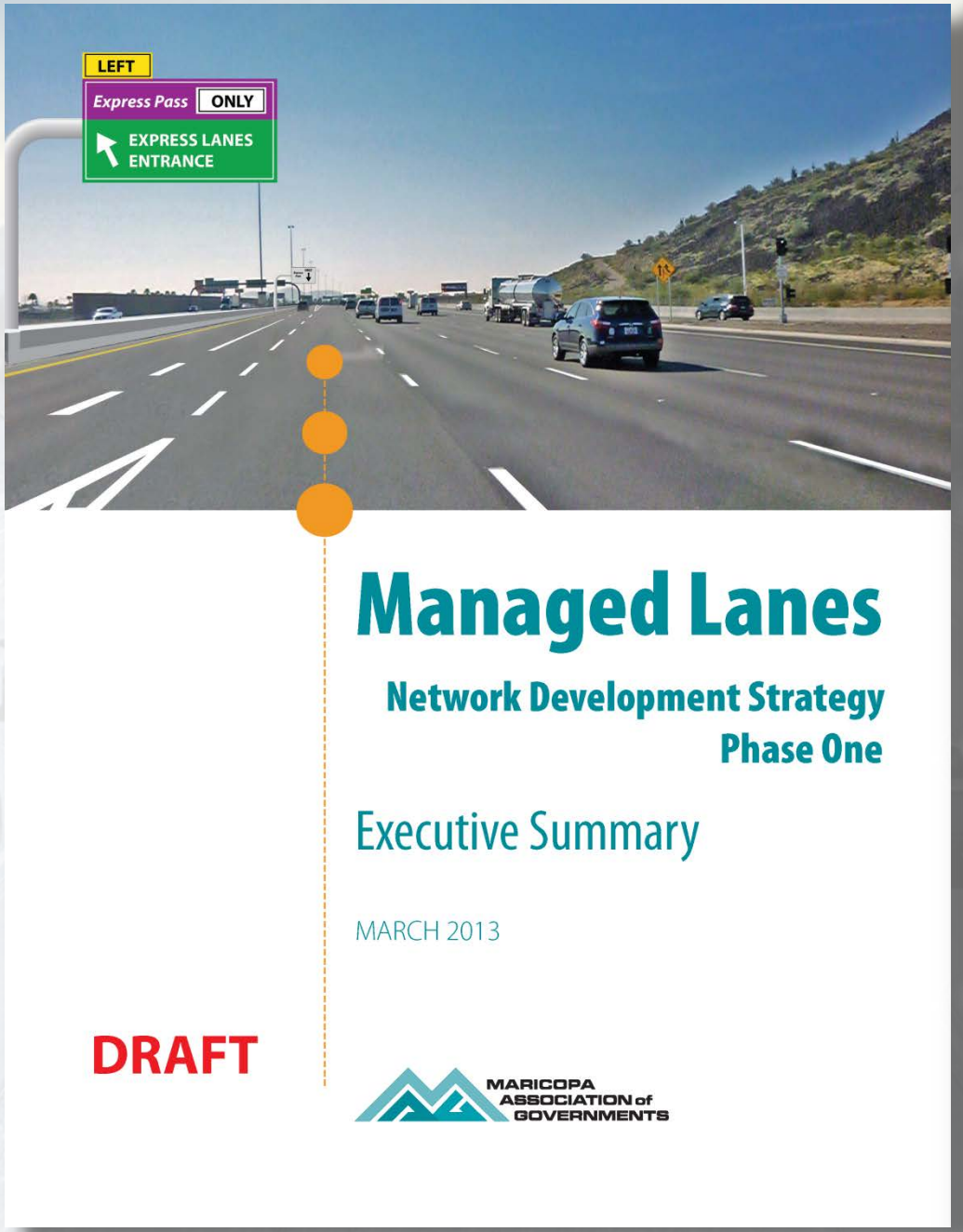
MAG Managed Lanes Network Development Strategy

- Phase I completed.
- Phase II scheduled to begin Summer 2013.



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Operating Policy and Practice Considerations

- Lane Separation and Access.
- Hours of Operation.
- Occupancy Requirements.
- Pricing Methods.
- **Active Traffic Management (ATM):**
  - Reducing potential for crashes when speed and conditions change.
  - Reducing congestion with variable speed limits, lane control, and hard shoulder running.
  - Improving reliability and enhancing information to motorists.
  - Providing meaningful traffic-flow benefits at a relatively low cost without tolling.

Approaching West Seattle Freeway Exit 163, Seattle WA

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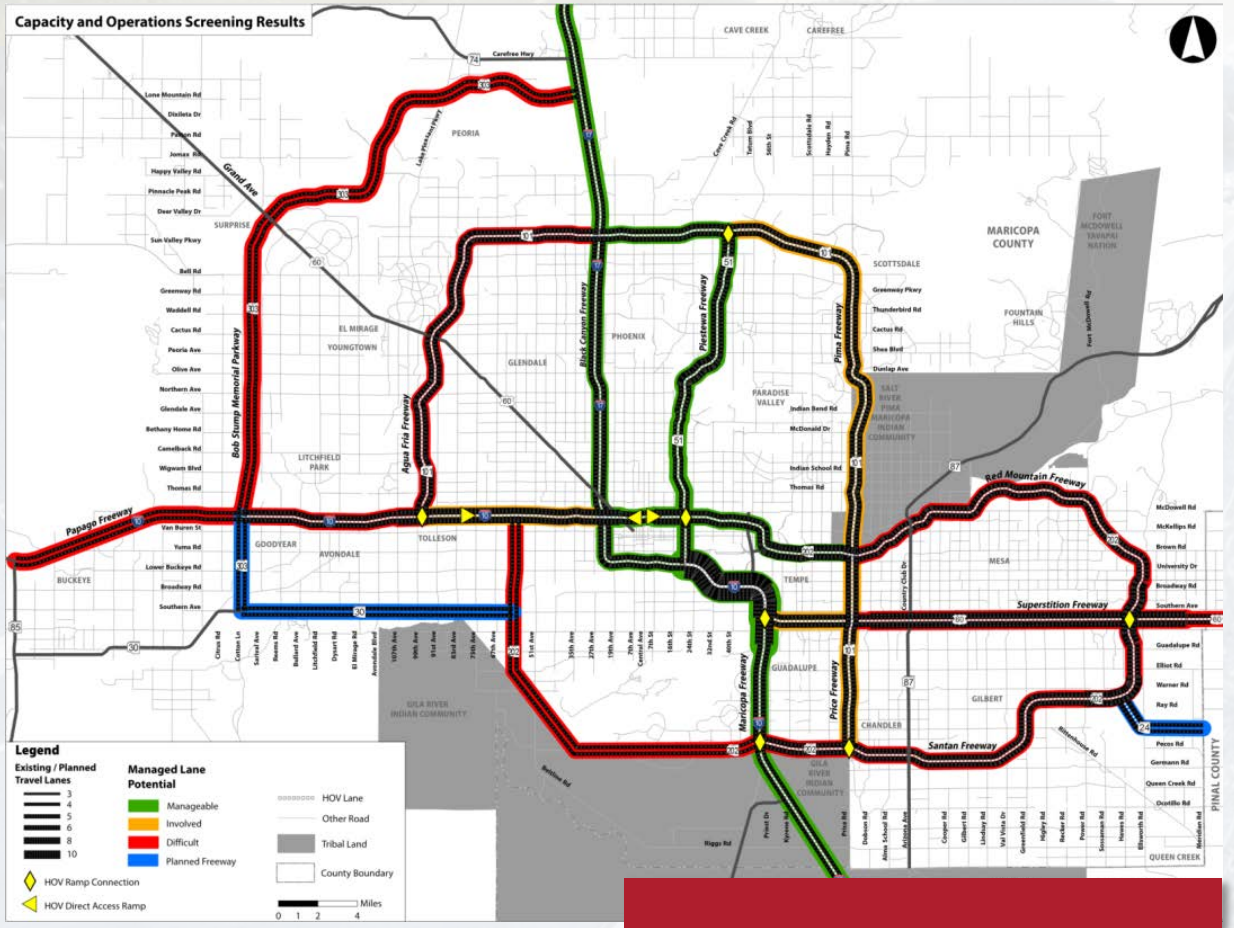
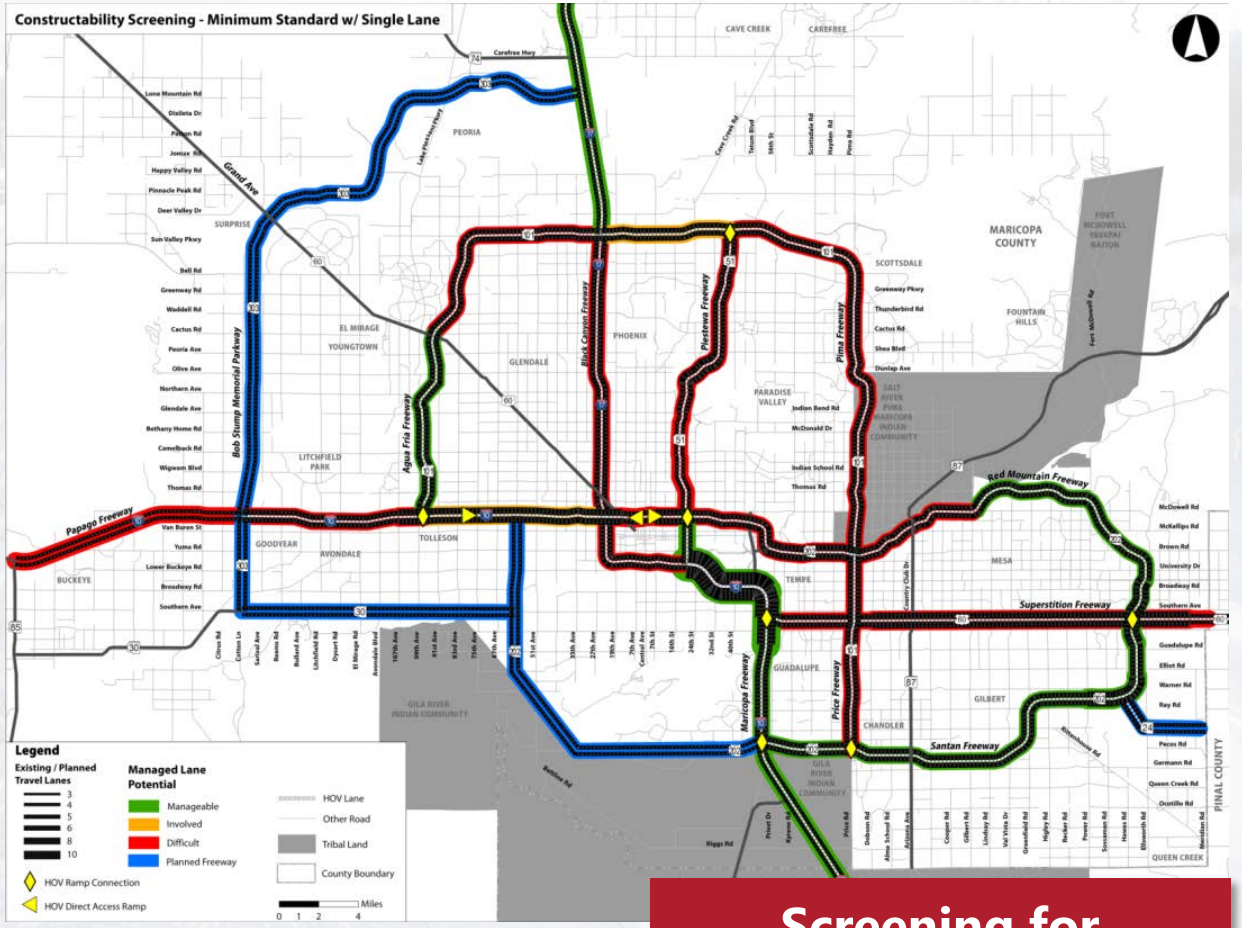
Express Lanes



Screening for Capacity
2031 MAG Regional Freeway Network



Screening for Constructability
2031 MAG Regional Freeway Network

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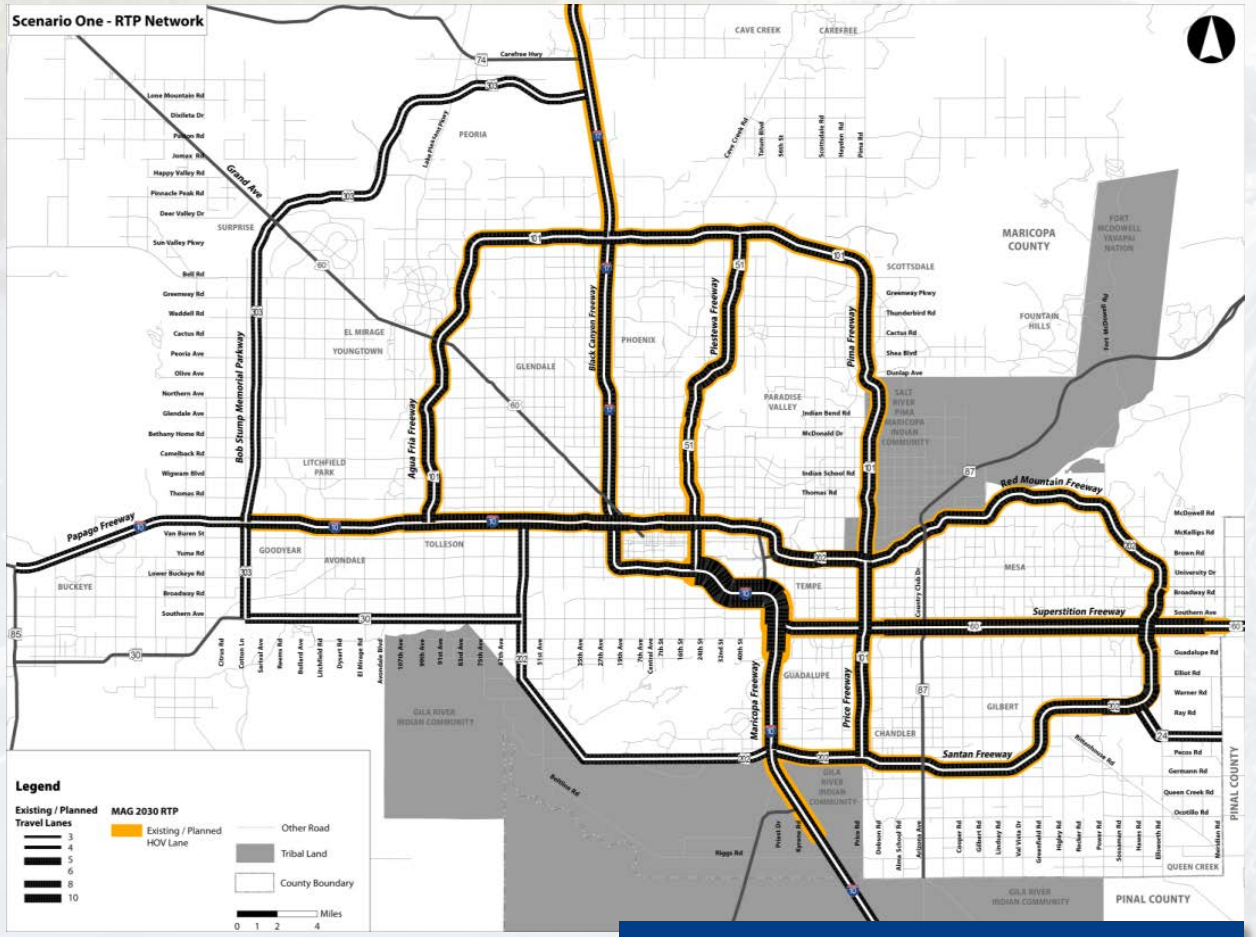
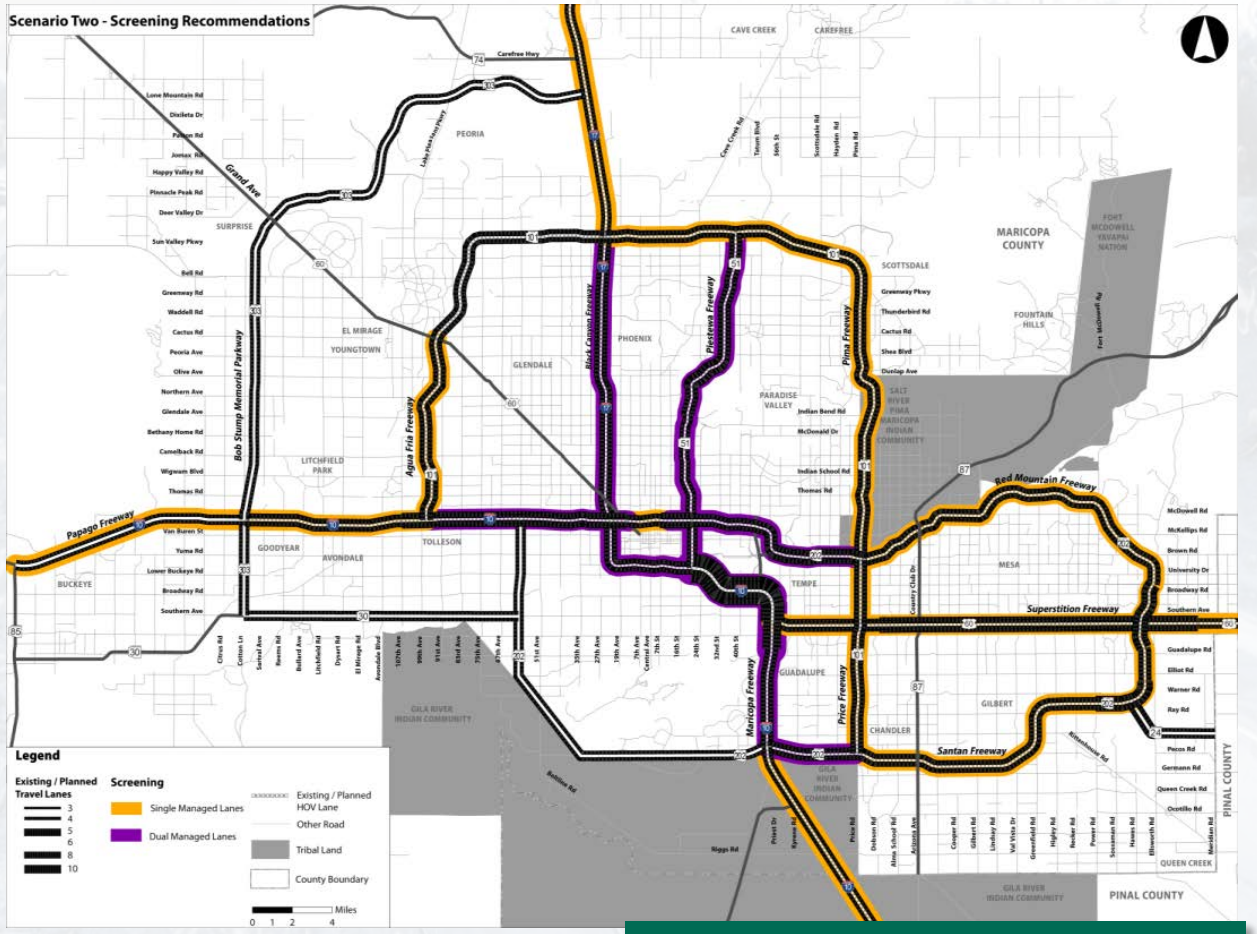
Express Lanes



Scenario 1 – HOT 1
SINGLE LANE SYSTEM



Scenario 2 – HOT 2
DUAL LANE SYSTEM

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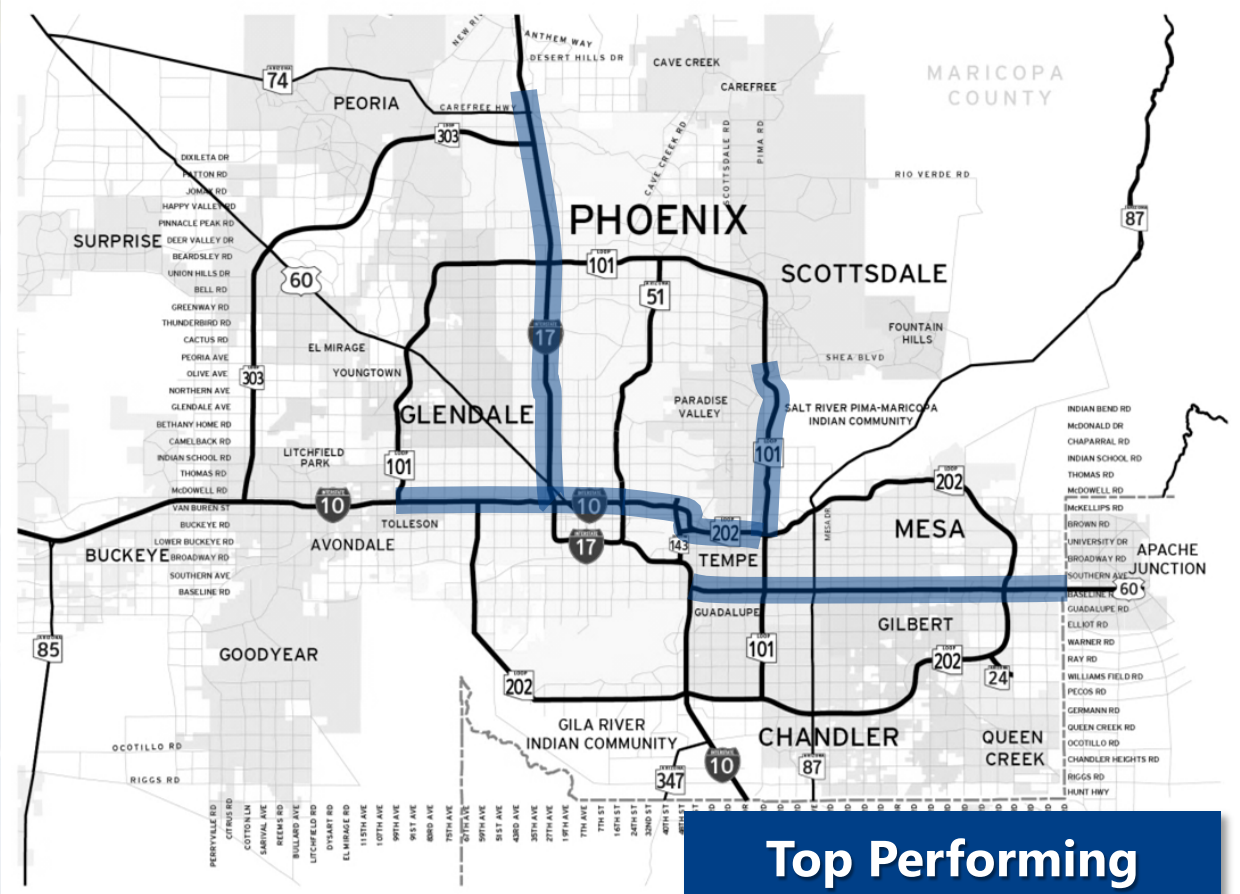
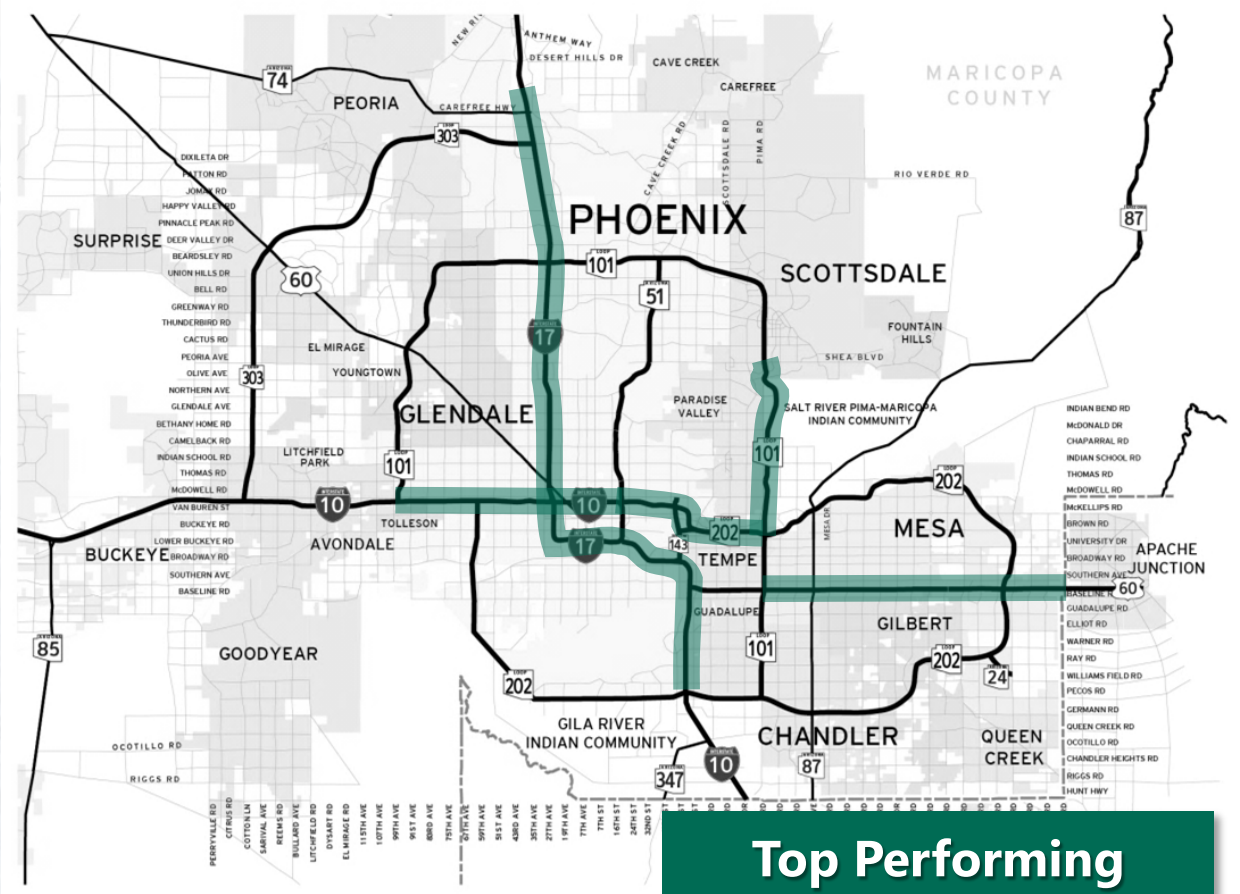
Express Lanes



Top Performing Segments
YEAR 2031 SINGLE LANE SYSTEM



Top Performing Segments
YEAR 2031 DUAL LANE SYSTEM

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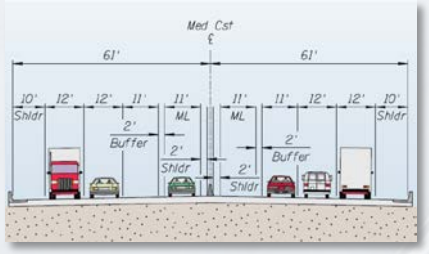
Revenue Forecasts and Costs

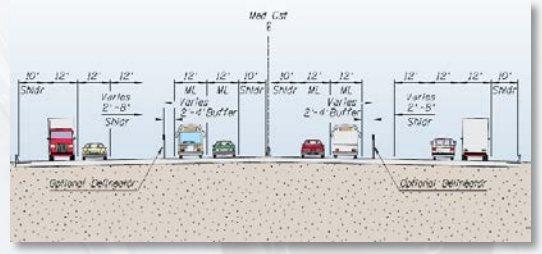
Scenario 1	2010 Dollar Values (millions)	Inflation Adjusted (millions)
2015 Revenue	$170 - $210	-
2031 Revenue	$240 - $290	$150 - $190
Lifecycle Revenue (2015-2045)	$7,300 - $9,000	$4,800 - $5,800
Lifecycle Cost (2015-2045)	--	$1,900 - $2,400
Lifecycle Net Cashflow (2015-2045)	--	$2,900 - $3,400

Scenario 2	2010 Dollar Values (millions)	Inflation Adjusted (millions)
2015 Revenue	$170 - $210	-
2031 Revenue	$310 - $380	$200 - $240
Lifecycle Revenue (2015-2045)	$9,700 - $11,900	$6,000 - $7,400
Lifecycle Cost* (2015-2045)	--	$4,600 - $5,700
Lifecycle Net Cashflow (2015-2045)	--	$1,400 - $1,700



Costs:

- Tolling Items
- Roadway and Structural Items
- Operations and Maintenance



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Based on the findings, it is recommended that MAG and its key transportation partners actively pursue implementing a broad array of enhanced mobility options, including the use of **Managed Lanes**, **Congestion Pricing**, **Active Traffic Management**, and other similar innovative transportation solutions.

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Based on the findings, it is recommended that MAG and its key transportation partners actively pursue implementing a broad array of enhanced mobility options, including the use of **Managed Lanes**, **Congestion Pricing**, **Active Traffic Management**, and other similar innovative transportation solutions.

Develop a **unified branding** strategy for enhancing mobility in the MAG region to capitalize on the success of projects that focus on maximizing system performance and productivity.

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Prioritize implementing an **Active Traffic Management demonstration on the I-10/Papago Freeway** to promote the benefits of integrated managed lanes strategies.

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ARIZONA DEPARTMENT OF PUBLIC SAFETY

MARICOPA COUNTY ARIZONA

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BUCKEYE ARIZONA

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VALLEY METRO

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Determine **possible congestion pricing demonstration projects** to pursue as an initial proof of concept.

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Prioritize implementing an **Active Traffic Management demonstration on the I-10/Papago Freeway** to promote the benefits of integrated managed lanes strategies.

Determine **possible congestion pricing demonstration projects** to pursue as an initial proof of concept.

Use **guiding policies** to further enhance existing HOV operations or to facilitate the introduction of HOT operations on the regional freeway system.

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For information and discussion.

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