UPDATE ON MAG MANAGED LANES DEVELOPMENT STRATEGY – PHASE I PROJECT

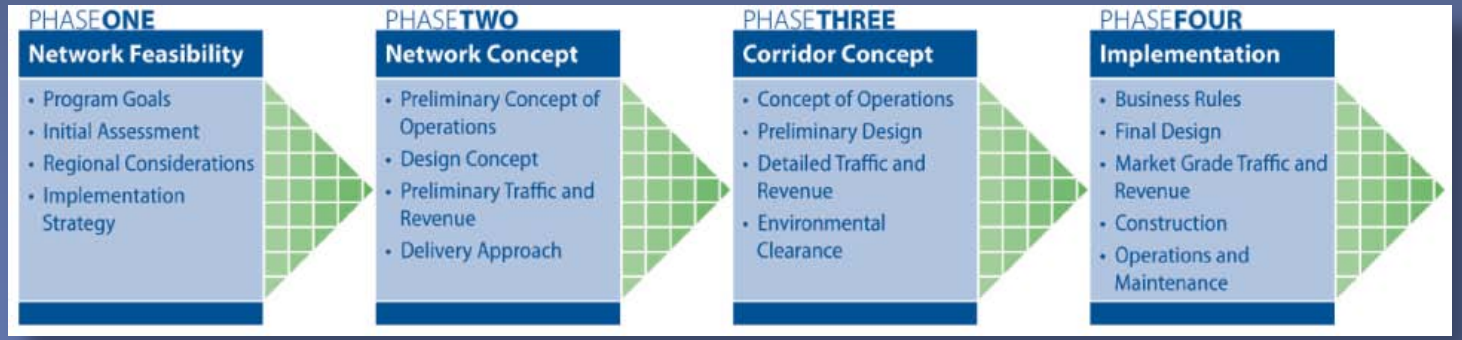
Transportation Policy Committee

October 19, 2011

MARICOPA ASSOCIATION of GOVERNMENTS

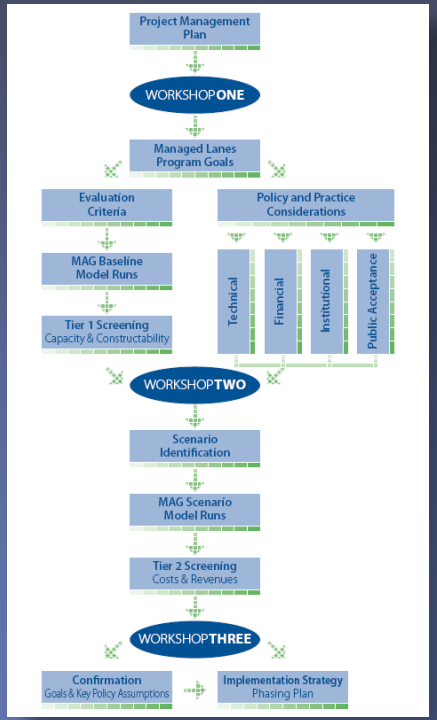
Overview of the Study Effort

- MAG Managed Lanes Network Study is the first phase in the project development process
  - Will determine network feasibility and implementation strategy
  - Establish the "rules of the game"



Overview of the Study Effort

- Study will evaluate
  - Future HOV needs
  - Viability of Managed Lanes
  - Legislative and institutional requirements
  - Traffic and revenue
  - Cost estimates
- Collaborative stakeholder involvement



Overview of the Study Effort

- Project duration is expected to be 9 months
- Stakeholder involvement at key milestones

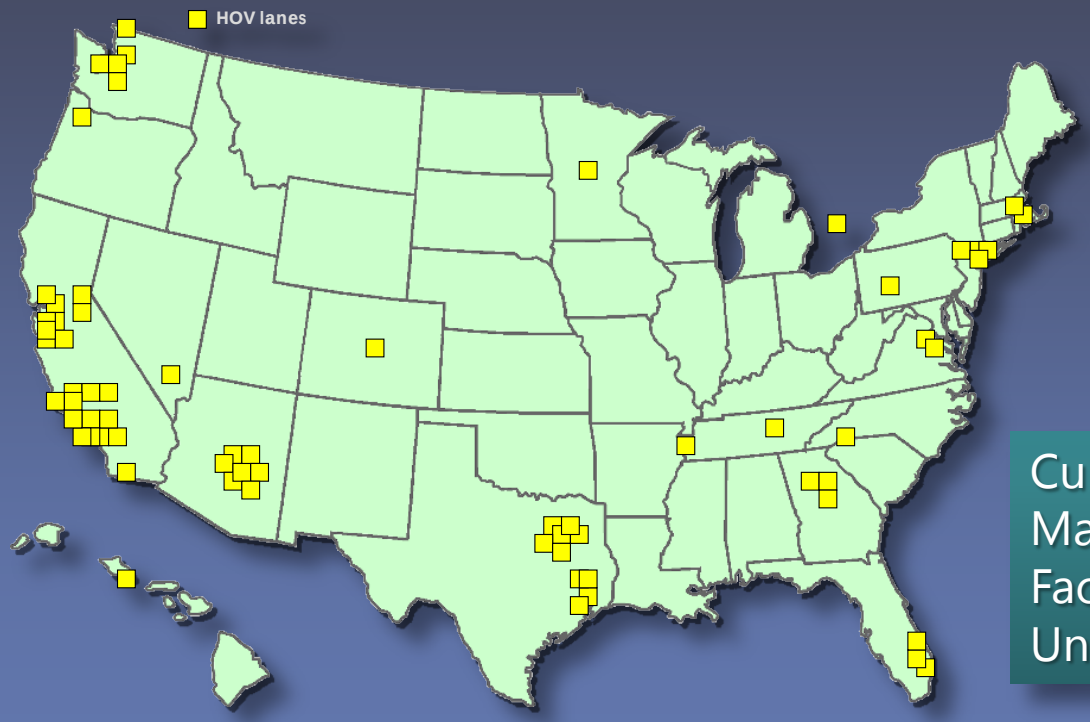
Managed Lanes Concept

- Managed Lanes are dedicated lanes for one or more user groups
- Proactively managed to provide better reliability and/or level-of-service
- Primary benefit is travel time savings

Managed Lanes Concept

- Many names:
  - High-Occupancy Vehicle (HOV) lanes
  - High-Occupancy Toll (HOT) lanes
  - Express Lanes
  - Express Toll Lanes (ETL)
  - Value Priced Lanes
- Names and branding vary by region and reflect different strategies:
  - Free-to-Go Lanes
  - Sane Lanes
  - MnPass Lanes
  - FastLanes

Lane Management Strategies



Currently, over 130 Managed Lanes Facilities in the United States

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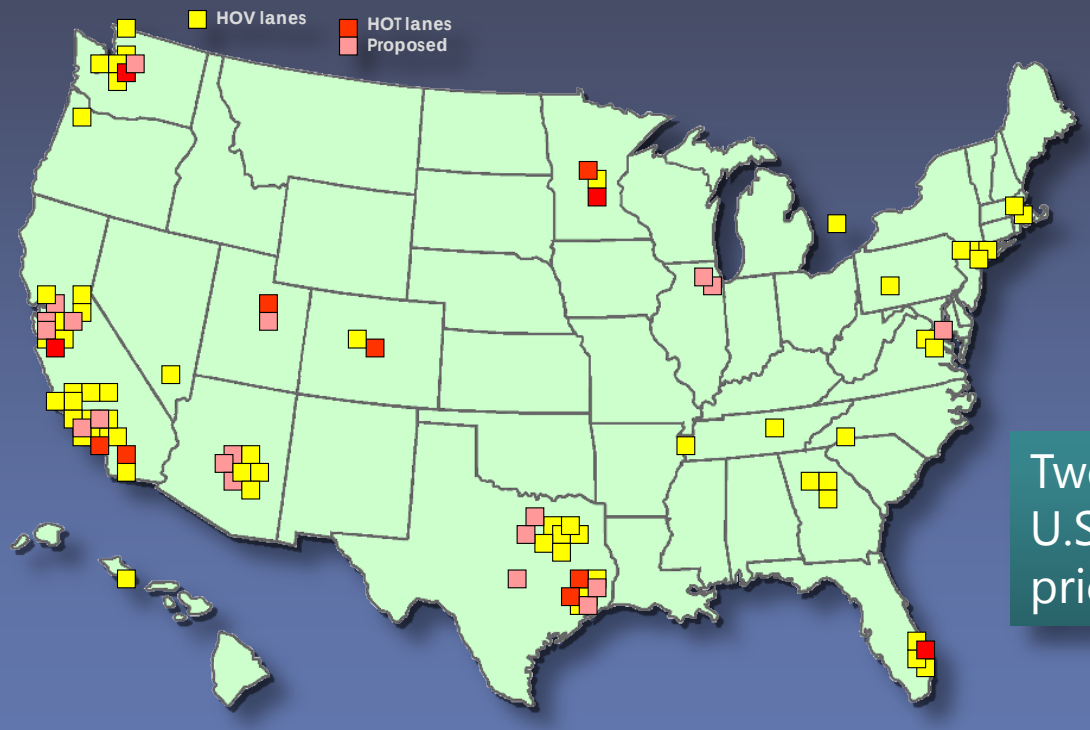
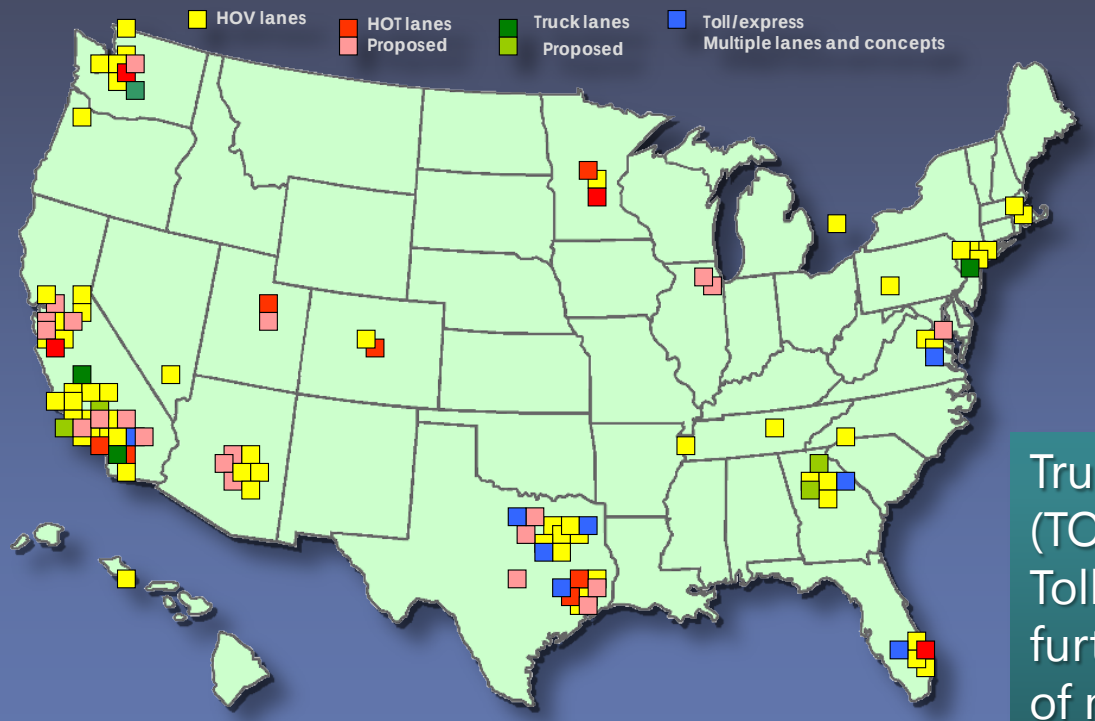
Lane Management Strategies



Twelve projects in U.S. currently use pricing

Lane Management Strategies



Truck-Only Toll (TOT) and Express Toll Lanes (ETL) are further adaptations of managed lanes

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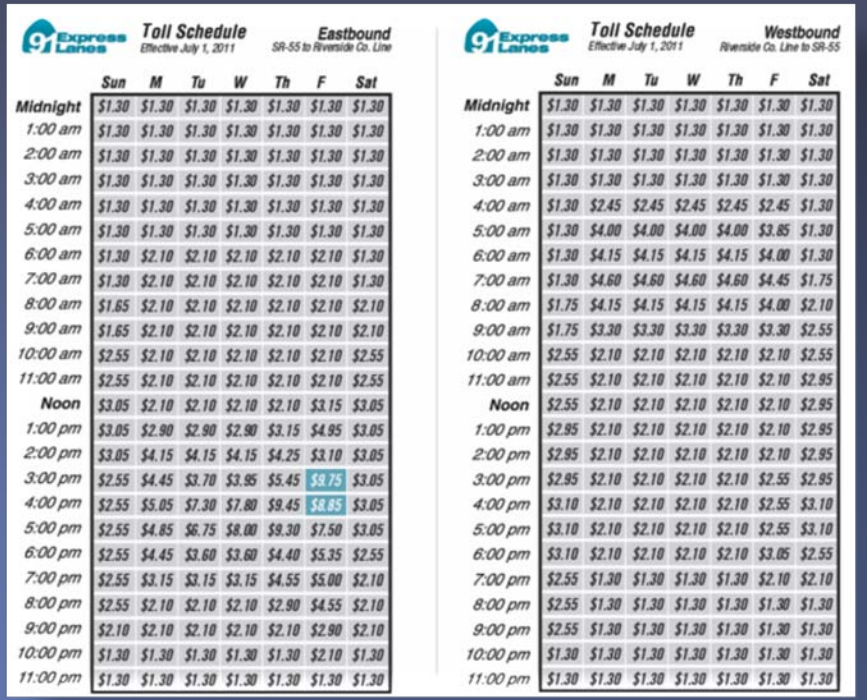
Existing Project Lessons Learned
SR-91, Orange County CA

- First managed lane to use value pricing and first fully automated toll facility
- Private consortium financed and built the project in exchange for a 35-year lease
- 10-mile facility provides 2-lanes in each direction with single entrance, exit and tolling location

Existing Project Lessons Learned
SR-91, Orange County CA

- Toll rates are *static variable*, based on a predetermined rate schedule
- Peak toll about $10.00 during Friday evening peak periods



91 Express Lanes — Toll Schedule — Effective July 1, 2011 — Eastbound — SR-55 to Riverside Co. Line

	Sun	M	Tu	W	Th	F	Sat
Midnight	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
1:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
2:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
3:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
4:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
5:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
6:00 am	$1.30	$2.10	$2.10	$2.10	$2.10	$2.10	$1.30
7:00 am	$1.30	$2.10	$2.10	$2.10	$2.10	$2.10	$1.30
8:00 am	$1.65	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10
9:00 am	$1.65	$2.10	$2.10	$2.10	$2.10	$2.10	$2.10
10:00 am	$2.55	$2.10	$2.10	$2.10	$2.10	$2.10	$2.55
11:00 am	$2.55	$2.10	$2.10	$2.10	$2.10	$2.10	$2.55
Noon	$3.05	$2.10	$2.10	$2.10	$2.10	$3.15	$3.05
1:00 pm	$3.05	$2.90	$2.90	$2.90	$3.15	$4.95	$3.05
2:00 pm	$3.05	$4.15	$4.15	$4.15	$4.25	$3.10	$3.05
3:00 pm	$2.55	$4.45	$3.70	$3.95	$5.45	$8.75	$3.05
4:00 pm	$2.55	$5.05	$7.30	$7.80	$9.45	$8.85	$3.05
5:00 pm	$2.55	$4.85	$6.75	$8.00	$9.30	$7.50	$3.05
6:00 pm	$2.55	$4.45	$3.60	$3.60	$4.40	$5.35	$2.55
7:00 pm	$2.55	$3.15	$3.15	$3.15	$4.55	$5.00	$2.10
8:00 pm	$2.55	$2.10	$2.10	$2.10	$2.90	$4.55	$2.10
9:00 pm	$2.10	$2.10	$2.10	$2.10	$2.10	$2.90	$2.10
10:00 pm	$1.30	$1.30	$1.30	$1.30	$1.30	$2.10	$1.30
11:00 pm	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30

91 Express Lanes — Toll Schedule — Effective July 1, 2011 — Westbound — Riverside Co. Line to SR-55

	Sun	M	Tu	W	Th	F	Sat
Midnight	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
1:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
2:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
3:00 am	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
4:00 am	$1.30	$2.45	$2.45	$2.45	$2.45	$2.45	$1.30
5:00 am	$1.30	$4.00	$4.00	$4.00	$4.00	$3.85	$1.30
6:00 am	$1.30	$4.15	$4.15	$4.15	$4.15	$4.00	$1.30
7:00 am	$1.30	$4.60	$4.60	$4.60	$4.60	$4.45	$1.75
8:00 am	$1.75	$4.15	$4.15	$4.15	$4.15	$4.00	$2.10
9:00 am	$1.75	$3.30	$3.30	$3.30	$3.30	$3.30	$2.55
10:00 am	$2.55	$2.10	$2.10	$2.10	$2.10	$2.10	$2.55
11:00 am	$2.55	$2.10	$2.10	$2.10	$2.10	$2.10	$2.95
Noon	$2.55	$2.10	$2.10	$2.10	$2.10	$2.10	$2.95
1:00 pm	$2.95	$2.10	$2.10	$2.10	$2.10	$2.10	$2.95
2:00 pm	$2.95	$2.10	$2.10	$2.10	$2.10	$2.10	$2.95
3:00 pm	$2.95	$2.10	$2.10	$2.10	$2.10	$2.55	$2.95
4:00 pm	$3.10	$2.10	$2.10	$2.10	$2.10	$2.55	$3.10
5:00 pm	$3.10	$2.10	$2.10	$2.10	$2.10	$2.55	$3.10
6:00 pm	$3.10	$2.10	$2.10	$2.10	$2.10	$3.05	$2.55
7:00 pm	$2.55	$1.30	$1.30	$1.30	$1.30	$2.10	$2.10
8:00 pm	$2.55	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
9:00 pm	$2.55	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
10:00 pm	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
11:00 pm	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30

Existing Project Lessons Learned
SR-91, Orange County CA

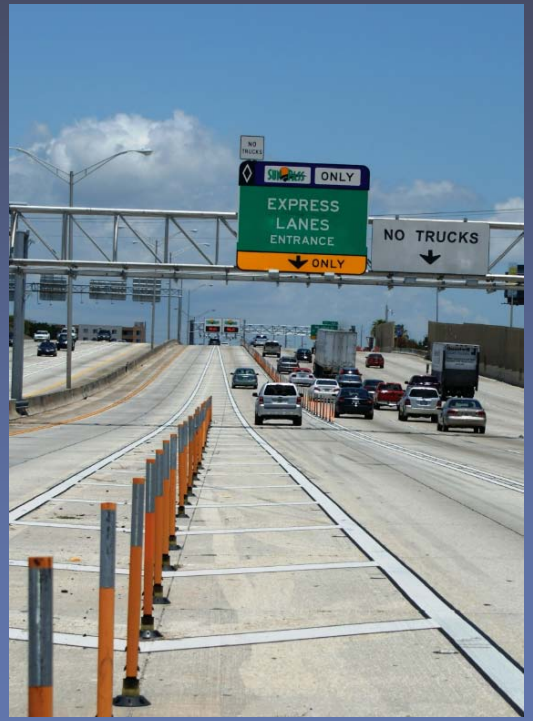
- OCTA (public agency) purchased the SR-91 lease from the PPP in 2003 for $207 million
- **Purchase was necessary to overcome a restrictive non-compete clause contained in lease**
- OCTA contracts management and operation of the facility
- SR-91 generates about $45 million in revenues annually
  - $36 million toll revenue
  - $9 million other fees

Existing Project Lessons Learned
I-95, Miami-Dade County FL

- 21 miles of HOV to HOT
- Single to dual lanes
- 8 miles NB opened 2008
- 8 miles SB opened 2010
- Public-public partnership
- Cost: $122 million

Existing Project Lessons Learned
I-95, Miami-Dade County FL

- Benefits extend to all users
- Improved HOV travel time
  - 2008 HOV: 20 mph
  - 2009 EL: 58 mph
- Improved GP travel time
  - 2008: 15 mph
  - 2009: 40 mph
- Net revenue of $850,000 per month



Existing Project Lessons Learned
I-15, San Diego County CA

- SANDAG and Caltrans partnered to extend and expand 2 reversible I-15 Express Lanes
- 20 mile extension
- 4 managed lanes with a moveable median barrier
- $1.3 billion DBB project cost is primarily funded by regional sales tax measure

Existing Project Lessons Learned
I-15, San Diego County CA

- Tolling is operated by SANDAG
- Bus rapid transit use DHOV ramps to park-and-ride lots
- 1999 Speeds:
  - 39 mph GP, 46 mph HOV
- 2009 Speeds:
  - 55 mph GP, 60 mph Express Lanes

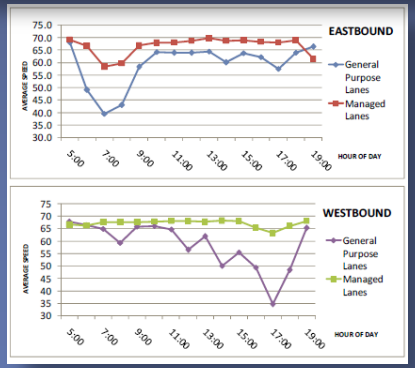
Image source: SANDAG

Existing Project Lessons Learned
I-10/Katy Freeway, Houston-Harris County TX

- Reconstruction using a public-public partnership (P2) that followed a concession model
- Replaced single reversible HOV lane with 4 toll lanes
- Added general-purpose and frontage road capacity

Existing Project Lessons Learned
I-10/Katy Freeway, Houston-Harris County TX

- The project integrates transit considerations with DHOV ramps to Metro park and ride facilities
- Stated goal is to provide more reliable travel times for Metro buses and HOVs
- Speeds
  - ML: 58 mph; GP: 36 mph



Existing Project Lessons Learned
I-35W, Minneapolis-Hennepin County MN

- Second in region
- First phase opened Oct 2009
  - converted 7-miles of HOT
  - 3-miles of "priced dynamic shoulder lane"
- Integrates BRT, variable lane management

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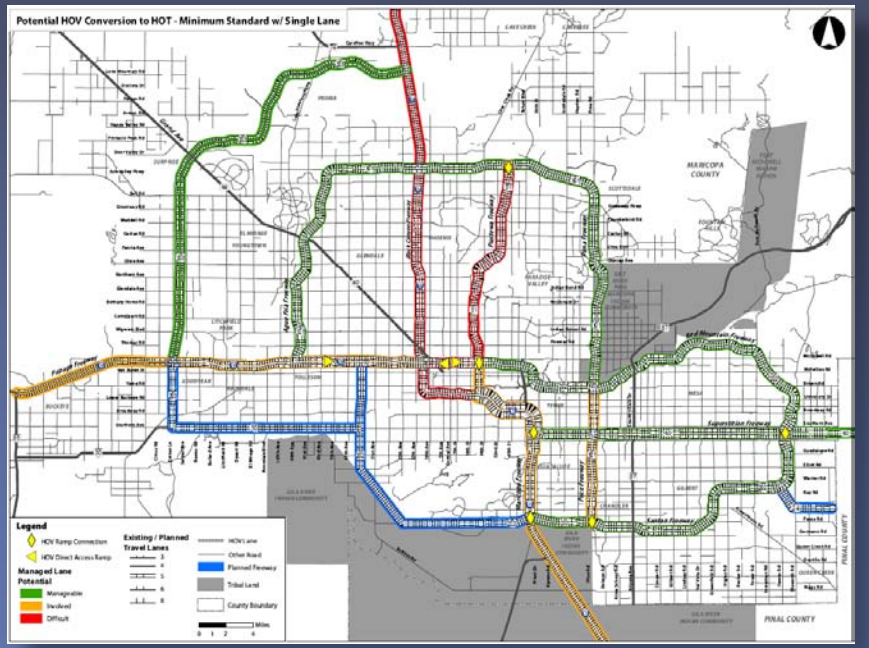
Options for Goals and Objectives

Goals	Objectives
Improved Mobility	▪ Reduce travel times and improve travel time reliability ▪ Manage travel demand and traffic congestion ▪ Improve/maximum existing system infrastructure ▪ Maximize use of technology ▪ Increase capacity ▪ Provide mobility options ▪ Improve transit service options, efficiency and reliability
Revenue Alternatives	▪ Leverage existing revenue sources ▪ Access new/alternative revenue sources ▪ Accelerate project delivery to complete the system ▪ Support ongoing operations and maintenance ▪ Support transit service provision ▪ Better plan future investments
Public and Political Support	▪ Support public education and outreach ▪ Identify/foster political champions ▪ Facilitate equitable distribution of costs whereby users pay for what they use
Improved Environmental Quality	▪ Provide air quality benefits ▪ Enhance quality of life

Next Steps

- Review existing HOV capacity to complete Initial Assessment
- Complete Policy and Practice White Papers
- Stakeholder Workshop to review screening results and recommend managed lanes options



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