Agenda

Corridor Profile Studies Kick off Meeting
ADOT Auditorium
June 25, 2014
9 am to 12 PM

- Welcome; Scott Omer
- Strategic Corridor Overview; Mike Kies 20 Mins
- System Performance; Thor Anderson 15 Mins
- Project Background, findings and challenges for all three corridors (10-12 mins presentation plus 5 mins Q&A for each Corridor)
  - I-19 (URS)
  - I – 17 (AECOM)
  - I – 40 (Kimley - Horn)

Break (10:30 am for 10 mins)

- Open Discussion
  - One Vision
  - Meeting Frequency, Location
  - Misc (Procurement, Asset Management, HPMS database etc)
Corridor Profile Studies – Kickoff Meeting

Planning to Programming Linkage (P2P)
Roadway Recommendations

Key Roadway Features

- Maintenance of current system and enhance safety for multimodal transportation
- New alternate routes to key high-capacity corridors (e.g., I-17, I-10, south and west bypass of Phoenix metro)
- New Interstate (I-11) along existing US 93 corridor
- Over 600 miles of new freeways in Sun Corridor Megalopolitan region
- Environmental preservation through use of existing corridors and mitigation strategies
- Connectivity between activity centers (e.g., Pinal County, Yavapai County)
ADOT’s Long Range Plan

- Recommended Investment Choice (RIC)

- Preservation 34%
- Modernization 29%
- Expansion 27%
- Non-Highway 10%
2006 – 2013 ADOT Highway Spending
Includes MAG & PAG

- Expansion: 76%
- Preservation: 14%
- Modernization: 10%
- Non-Highway: 10%
- Expansion: 27%
- Preservation: 34%
- Modernization: 29%

(RIC)
Average ADOT Funding Allocation
(millions of dollars)

- Dedicated Regional Project Funding: $505
- Inter-regional State Road Funding: $285
- Non-capacity Federal Programs: $100
- Pavement Preservation / Maintenance: $260
- New Capacity & Major Projects: $25

Total $890 million/yr
### Vision to Programming

**How do transportation projects move from initial visioning stages to programming (funding for construction)?**

#### Universe of Projects

The existing universe of projects was defined through the bQAZ Statewide Transportation Planning Framework.

#### Project Type

Projects are sorted into four main project categories:

- **Modernization**
  - add shoulders
  - straighten curves
- **Expansion**
  - add lanes
  - new highways
  - HOV lanes
- **Preservation**
  - pavement
  - bridges
- **Non-Highway Modes**
  - rail
  - transit
  - air

#### Percentage of Funds

Goals and objectives from the Long-Range Transportation Plan are used to determine funding for projects in each category.

#### Performance Scoring

Projects are scored based upon specific "Performance Measure" criteria (such as pavement condition, congestion levels, travel time).

#### Prioritization

Best performing projects are programmed to receive funding through the 5-Year Plan.

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<table>
<thead>
<tr>
<th>Performance Criteria</th>
<th>5-Year Plan</th>
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<tbody>
<tr>
<td>A+</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Modernization</th>
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<tbody>
<tr>
<td>add shoulders</td>
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</tr>
<tr>
<td>straighten curves</td>
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<table>
<thead>
<tr>
<th>Expansion</th>
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<tbody>
<tr>
<td>add lanes</td>
<td></td>
</tr>
<tr>
<td>new highways</td>
<td></td>
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<tr>
<td>HOV lanes</td>
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<table>
<thead>
<tr>
<th>Preservation</th>
<th>3</th>
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<tbody>
<tr>
<td>pavement</td>
<td></td>
</tr>
<tr>
<td>bridges</td>
<td></td>
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<table>
<thead>
<tr>
<th>Non-Highway Modes</th>
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<tr>
<td>rail</td>
<td>1</td>
</tr>
<tr>
<td>transit</td>
<td>2</td>
</tr>
<tr>
<td>air</td>
<td>3</td>
</tr>
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</table>
Linking Planning to Programming

Statewide Transportation System Planning Process

Strategic Investments
- Preservation
- Modernization
- Expansion

Development Program
YEARS 6-10
- Preservation Funding Levels
- Modernization Expansion

Delivery Program
YEARS 1-5
Projects

System Performance
- Annual Performance Report
- Performance Measures
- System Analysis

ADOT
# Annual Program Update

## ROLES

- Approval
- Development Program
- Delivery Program

## STRUCTURE

- State Transportation Board
- PRIORITY PLANNING ADVISORY COMMITTEE
  MPD, ITD & Finance Leadership
- ADOT STRATEGIC COMMITTEE
  (MPD, ITD & Finance Leadership)

## RESPONSIBILITIES

- **Approve Development and Delivery Programs**
- **Submit Programs to Governor**
- **Verify Development and Delivery Programs meet planning goals**
- ** Solicit final stakeholder input - public hearings/website**
- **Update State Transportation Board**
- **Obtain current funding forecast**
- **Perform risk-based scenario analysis**
- **Rebalance allocations to investment categories to best meet targets**
- **Recommend preferred scenario for Development and Delivery Programs**
- **Update State Transportation Board**
- **Review project nominations**
- **Discuss need for weighing evaluation criteria**
- **Rank projects per investment category**
- **Evaluate how well targets are met**
- **Review investment category allocation emphasis**

## INVESTMENT CATEGORY TEAMS

- **Preservation multimodal**
- **Modernization multimodal**
- **Expansion multimodal**

## STATEWIDE & REGIONAL IMPROVEMENTS

- District Team
- Technical Expertise
- Public

## SYSTEM REVIEW TEAMS

- **10 Districts & 1 Statewide**
Corridor Vision

- Key Commerce Corridors
Corridor Performance and Needs

PAVEMENT SURFACE CONDITION

Statewide Pavement Condition
2011-2012

<table>
<thead>
<tr>
<th>Condition</th>
<th>Miles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>3617</td>
<td>62%</td>
</tr>
<tr>
<td>Fair</td>
<td>1410</td>
<td>24%</td>
</tr>
<tr>
<td>Poor</td>
<td>778</td>
<td>13%</td>
</tr>
<tr>
<td>Total</td>
<td>5805</td>
<td></td>
</tr>
</tbody>
</table>
Solution Sets

- Minor Preservation
- Basic Preservation
- Rehabilitation
- Reconstruction
- Operational Improvements
- Active Traffic Management
- Safety Improvements
- Minor Capacity Improvements
- Major Capacity Improvements
- New Facilities

- Preservation
- Modernization
- Expansion
Solution Sets

- Minor Preservation
- Basic Preservation
- Rehabilitation
- Reconstruction
- Operational Improvements
- Active Traffic Management
- Safety Improvements
- Minor Capacity Improvements
- Major Capacity Improvements
- New Facilities

PRESERVATION  MODERNIZATION  EXPANSION
Solution Sets

Focused Attention

Minor Preservation  Basic Preservation  Rehabilitation  Reconstruction  Operational Improvements  Active Traffic Management  Safety Improvements  Minor Capacity Improvements  Major Capacity Improvements  New Facilities

PRESERVATION  MODERNIZATION  EXPANSION
Life Cycle Considerations

- **Past Performance**
  - 1964 Bridge Constructed
  - 1986 Deck Replaced
  - 1999 Girders Repaired

- **Future Options**
  - Replaced Structure Option: Performance Curve
    - Projected 75-Year Life Cycle
  - Maintenance Structure Option: Performance Curves
    - Frequent Repairs/Upgrades

- **Construction Costs**
  - $5 Million
  - $10 Million
  - $15 Million
  - $20 Million
  - $25 Million
  - $30 Million

**Figure 8-5: Maintenance**
## Life Cycle Considerations

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
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<td>Year 2013, 2S 60/50</td>
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<tr>
<td>2011</td>
<td>Year 2014, 2S</td>
</tr>
<tr>
<td>2012</td>
<td>Year 2015, 3S</td>
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<tr>
<td>2013</td>
<td>Year 2016, 3S</td>
</tr>
<tr>
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<td>2016</td>
<td>Year 2019, 3S</td>
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<td>2017</td>
<td>Year 2020, 3S</td>
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<tr>
<td>2018</td>
<td>Year 2021, 3S</td>
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<tr>
<td>2019</td>
<td>Year 2022, 3S</td>
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<td>2029</td>
<td>Year 2032, 3S</td>
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<tr>
<td>2030</td>
<td>Year 2033, 3S</td>
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### Table 3: SSC 12 STIP by Year and Corridor Segment

<table>
<thead>
<tr>
<th>Year</th>
<th>STIP</th>
<th>Corridor Segment</th>
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<tbody>
<tr>
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<td>12.01</td>
<td>Year 2013, 2S 60/50</td>
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<td>12.02</td>
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<td>2013</td>
<td>12.04</td>
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<td>2014</td>
<td>12.05</td>
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<td>2015</td>
<td>12.06</td>
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<td>2016</td>
<td>12.07</td>
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<td>2017</td>
<td>12.08</td>
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<td>2018</td>
<td>12.09</td>
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<td>2019</td>
<td>12.10</td>
<td>Year 2022, 3S</td>
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</tbody>
</table>

### Legend
- 1B: 10/30/10
- 35: Mill/Live/Overlay
- 35: Mill/Live/Overlay
- 43: Mill/Live/Overlay
Risked Based Programming

MODERNIZATION
- add shoulders
- straighten curves
- % →

EXPANSION
- add lanes
- new highways
- HOV lanes
- % →

PRESERVATION
- pavement
- bridges
- % →

PERFORMANCE CRITERIA

A
A+
C
B+
B
D
B-

5 - YEAR PLAN

1
2
3
# P2P Project Scoring Process

<table>
<thead>
<tr>
<th>Score</th>
<th>USI</th>
<th>RT</th>
<th>BMP</th>
<th>CO</th>
<th>LOCATION</th>
<th>.TypeOfWork</th>
<th>COST ($000)</th>
<th>2015</th>
<th>2016</th>
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<th>2018</th>
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<tr>
<td>91.65</td>
<td>US</td>
<td>180</td>
<td>338.4</td>
<td>AP</td>
<td>BEAVER DAM-RANCH (EB &amp; WB)</td>
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<td>$0</td>
<td>$5,300</td>
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<tr>
<td>90</td>
<td>US</td>
<td>191</td>
<td>481.9</td>
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<td>180</td>
<td>216.2</td>
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<td>87.05</td>
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<td>175.85</td>
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<td>Pavement Preservation</td>
<td>5500</td>
<td>0</td>
<td>0</td>
<td>5500</td>
<td>0</td>
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<tr>
<td>83.35</td>
<td>I</td>
<td>10</td>
<td>112.33</td>
<td>MA</td>
<td>SR 85 - VERRADO (EB)</td>
<td>RR (4&quot;TL, 3&quot; PL) &amp; AR-ACFC</td>
<td>$6,000</td>
<td>$6,000</td>
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<td>$0</td>
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<tr>
<td>81.7</td>
<td>SR</td>
<td>89</td>
<td>386.6</td>
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<td>PUMPHOUSE WASH -</td>
<td>Remove 3&quot; AC, replace with</td>
<td>$2,400</td>
<td>$2,400</td>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>81.65</td>
<td>US</td>
<td>89</td>
<td>510</td>
<td>CN</td>
<td>GRAY SPOT WASH - NORTH RED HILL</td>
<td>3&quot; AC + FR</td>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>81.65</td>
<td>US</td>
<td>180</td>
<td>407</td>
<td>AP</td>
<td>JUAN CARILLO - FH275</td>
<td>RR 3&quot; AC &amp; AR &amp; ACFC</td>
<td>$1,600</td>
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<td>81.65</td>
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<td>191</td>
<td>317</td>
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<td>CEMETARY ROAD TO GENERATING STATION ROAD</td>
<td>RR 3&quot; AC &amp; SUBGRADE RECONSTRUCTION</td>
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<td>US</td>
<td>191</td>
<td>436</td>
<td>AP</td>
<td>MP 436 TO CHINLE</td>
<td>RR 3&quot; AC+FR</td>
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<td>80</td>
<td>I</td>
<td>10</td>
<td>42</td>
<td>LA</td>
<td>MP 42 TO HOVATTER RD</td>
<td>RR(4&quot; TL, 3&quot; PL) + AR ACFC</td>
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<td>$11,250</td>
<td>$0</td>
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<tr>
<td>80</td>
<td>I</td>
<td>40</td>
<td>56.94</td>
<td>MO</td>
<td>Rattlesnake Wash - JCT US 93</td>
<td>RR (5&quot; TL, 3&quot; PL) &amp; AR-ACFC</td>
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<td>$0</td>
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<td>78.35</td>
<td>I</td>
<td>10</td>
<td>163.5</td>
<td>MA</td>
<td>WILD HORSE PASS TO SR 347 (QUEEN CREEK ROAD)</td>
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<td>$0</td>
<td>$5,500</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>78.35</td>
<td>US</td>
<td>191</td>
<td>113.5</td>
<td>GH</td>
<td>JCT SR-366 TO FAIRGROUNDS</td>
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<td>$0</td>
<td>$0</td>
<td>$2,041</td>
<td>$0</td>
<td>$0</td>
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<td>78.35</td>
<td>SR</td>
<td>186</td>
<td>328.2</td>
<td>CH</td>
<td>WILLCOX - KANSAS SETTLEMENT</td>
<td>R &amp; R 3&quot; AC &amp; CHIP SEAL</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$0</td>
<td>$0</td>
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<td>$0</td>
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<tr>
<td>78.35</td>
<td>SR</td>
<td>61</td>
<td>362</td>
<td>AP</td>
<td>EAST TO CONCHO</td>
<td>RR 3&quot; AC + FR</td>
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<td>$0</td>
<td>$0</td>
<td>$2,570</td>
<td>$0</td>
<td>$0</td>
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</table>
Program Organization

- 3 Year Program
- 9 Strategic Corridors
- FY15; 3-4 more studies
Program Organization

ADOT - MPD

Consultant Collaboration Team

17
ADOT PM
TAC
Consultant

19
ADOT PM
TAC
Consultant

40
ADOT PM
TAC
Consultant

ADOT PM
TAC
Consultant

ADOT PM
TAC
Consultant

ADOT PM
TAC
Consultant

ADOT PM
TAC
Consultant
Project purpose:
establish the
"Baseline"
Interdisciplinary Coordination

System Performance Reporting process - data, inputs, and ideas derive from multiple sources:

- Management – ITD, MPD
- Planning & Programming
- Transportation Analysis – HPMS, Modeling, GIS
- Asset Groups – Bridge, Pavement
- Safety Groups – Traffic, Safety
- Communications
System Performance Reporting process pursues guidance from key resources:

- MAP-21 Requirements
- P2P Link - Overall framework to guide future years
- AASHTO SCOPM guidance
- Existing Annual Reports to FHWA (i.e. HPMS)
- Transportation asset management planning
**Approach**

Address Performance at **Statewide** and **District** levels

Focus is on **State System**

**Intranet** and **PDF** summary

**Maps** + **Charts** + **Dashboard graphics** + **Text**

**Interactive Map** for zooming in and cumulative features

**PDF maps** for quick reference, printing and presentations

**MAP-21 Performance Goal Areas**

**Good, Fair, and Poor** rating system
MAP-21 Performance Goal Areas

- Pavement Condition
- Bridge Condition
- Safety
- Congestion
- Freight
- CMAQ

Focus of FIRST System Performance Report
The International Roughness Index (IRI) was chosen by FHWA as the Highway Performance Monitoring System (HPMS) standard reference roughness index. The IRI is recorded as the number of inches per roadway mile that provide ride quality in categories defined as good, fair, or poor. FHWA and ADOT have set different thresholds for those categories. All Annual System Performance maps are based on ADOT thresholds, which are more stringent than those of FHWA.

The cracking index is recorded as a percentage of a 1000-square-foot area of roadway at each milepost. To estimate cracking, the road surface is compared with photos for which percent cracking was previously determined.
ADOT Pavement Condition by Districts
Statewide Pavement Condition
2011-2012

<table>
<thead>
<tr>
<th>Condition</th>
<th>Miles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>3617</td>
<td>62%</td>
</tr>
<tr>
<td>Fair</td>
<td>1410</td>
<td>24%</td>
</tr>
<tr>
<td>Poor</td>
<td>778</td>
<td>13%</td>
</tr>
<tr>
<td>Total:</td>
<td>5805</td>
<td></td>
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</table>
Phoenix District
Pavement Condition 2011-2012

<table>
<thead>
<tr>
<th>Condition</th>
<th>Miles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>322</td>
<td>80%</td>
</tr>
<tr>
<td>Fair</td>
<td>55</td>
<td>14%</td>
</tr>
<tr>
<td>Poor</td>
<td>27</td>
<td>7%</td>
</tr>
</tbody>
</table>

Total: 405
The condition of bridges on the state highway system is determined through regular inspection. System performance assessment maps depict three levels of condition – good, fair, and poor.

- **Good**: Primary structural elements exhibit a range from no problems to some minor deterioration.
- **Fair**: Primary structural elements are sound, but may have deficiencies such as minor section loss, deterioration, cracking, spalling, or scour.
- **Poor**: Advanced section loss, deterioration, cracking, spalling, scour, or seriously affected primary structural components.
Safety

- **Number of Fatalities**—Five-year moving average of the count of the number of fatalities on all public roads for a calendar year.

- **Fatality Rate**—Five-year moving average of the Number of Fatalities divided by the Vehicle Miles Traveled (VMT) for a calendar year.

- **Number of Serious Injuries**—Five-year moving average of the count of the number of serious injuries on all public roads for a calendar year.

- **Serious Injury Rate**—Five-year moving average of the Number of Serious Injuries divided by the Vehicle Miles Traveled (VMT) for a calendar year.
Level of service (LOS) - High-level traffic operations analysis is based on road capacity and traffic volume information from the 2010 Arizona Statewide Travel Demand Model. The analysis is based on the volume-to-capacity (V/C) ratios generated by the travel demand model, but uses LOS categories that are consistent with those described in the 2010 Highway Capacity Manual.
Freight

- FHWA GIS data – Interstates only.
- The **travel time index (TTI)** is the ratio of the average peak period travel time as compared to a free-flow travel time. In other words, the TTI reflects the extra time spent in traffic during peak times as compared to periods of light traffic.
- The **planning time index (PTI)** is the ratio of the total time needed to ensure 95% on-time arrival as compared to a free-flow travel time. The PTI can be considered the extra time needed during peak traffic periods to prevent being late.
Project Kick-off Meeting
June 25, 2014
Project Location

- Length = 63 miles
- 23 Existing TI’s
- 2 proposed TI’s
I-19 – Multiple Roles

- Major Intrastate & International Corridor for Commerce
  - CANAMEX Trade Corridor
  - Congressional designated High-priority Corridor for International Trade

- Regional Corridor serves several small communities between Tucson and Nogales
Study Objectives

• Link project decision-making and investments to strategic goals
  – Safety, Mobility, and Economic Growth

• Match solutions with deficiencies in measured performance

• Prioritize improvements that efficiently preserve, modernize, and expand transportation
Major Public Sector Stakeholders

- ADOT MPD
- ADOT Tucson District
- FHWA
- PAG and SEAGO
- Pima and Santa Cruz County
- City of Tucson, Town of Sahuarita & City of Nogales
- Nogales and Mariposa POE
- Tohono O’odham Nation, San Xavier District
I-19 Challenges

- Heavy truck traffic in mix with commuters
- Urban - congestion
- Rural – aging infrastructure
- How to apply new corridor profile methodology in context with previous results
Process Challenges

• New Corridor P2P Process

• Coordination is Critical - Establish and maintain communication, coordination, and collaboration with Stakeholders
  – Project Management Team (PMT)
  – Technical Advisory Committee (TAC)
  – Consultant Collaboration Team (CCT)
Literature Review

• Compile previous studies that have been conducted along the corridor for comparison with improvements identified with this project
  – Framework Studies
  – Regional Planning Studies
  – Planning Assistance for Rural Areas (PARA) Studies
  – ADOT Design Concept Studies and Final Design
Prior Corridor Improvement Recommendations

Legend:
- TI Recently Reconstructed/Improved
- Reconstruct TI
- Proposed New TI
- Improve TI
- (F) Functionally Obsolete Bridge

# # 2010 ADT (2030 ADT)
---
2030 LOS F  
2030 LOS A-C

Number of Lanes: 2030

Legend:
- Interstate 10
- U.S. Highway & State Route
- Local Road
- Town
- City Boundary
- County Boundary
- River

Surface Management:
- U.S. Bureau of Land Management
- U.S. Bureau of Reclamation
- U.S. Forest Service
- U.S. National Park Service
- U.S. Fish and Wildlife Service

Indian Reservation
- Military
- Local or State Parks
- State Trust Land
- State Game and Fish
- Private

Miles
---
0 10 20 30 40 50 60 70 80 90

MP 18.1
MP 39.5
MP 56.9
MP 63.0

WIDEN TO 6 LANES

BEGIN PROJECT MP 0.0

END PROJECT MP 63.0

MPD 072A-14: I-19; Nogales to Jct. I-10 Corridor Profile Study
Project Work Plan

- Inventory past recommendations for improvements
- Provide overall assessment of corridor health based on system performance measures
- Recommend a range of solution sets to help improve performance
- Utilize risk-based decision process
- Complete a P2P ranking of proposed improvements
- Recommend strategic investment initiatives
P2P Investment Categories

Strategic Investments Preservation
- Preservation Index
  - Pavement
  - Bridge
  - Other Roadway Facilities
  - Non-highway

Modernization
- Modernization Index
  - Roadway
  - Bridge
  - Facilities
  - Operations
  - Non-Highway
  - Minor Projects

Expansion
- Expansion Index
  - Roadway
  - Facilities
  - Non-Highway

GIS Based Mapping Analysis
Life Cycle Costs and Risk Assessment Inform Priorities

- User Costs
- Agency Costs
- Combined Costs

System Performance

Optimal Agency Investments Reduce User Costs
Solution Sets

1 = Single Solution
2 = Combined Solution
3 = Composite Solution
QUESTIONS?
Kick-off Meeting
June 25, 2014

I-17, Jct. SR 101L to Jct. I-40
Corridor Profile Study
Study Area
Agency Stakeholders

- ADOT
- FHWA
- MAG
- CYMPO
- FMPO
- Maricopa County
- Yavapai County
- Coconino County
- Phoenix
- New River
- Cordes Junction
- Camp Verde
- Flagstaff
- BLM
- ASLD
Initial Literature Review

Relevant Studies/Plans

• ADOT Tentative Five-Year Program, 2015-2019
• MAG Regional Transportation Plan (2014 Update)
• I-17, SR 101L to New River TI, Final DCR (2004)
• I-17, New River TI to SR 69, Initial DCR (2009)
• I-17, SR 179 to I-40, Final DCR (2012)
• Statewide Framework Study (2010)
• Long-Range Transportation Plan 2010-2035 (2011)
ADOT Tentative Five-Year Program, 2015-2019

- Six bridge rehabilitation projects
- Two pavement preservation projects
MAG Regional Transportation Plan

- Updated in January 2014
- SR 74 to Anthem Way, HOV Widening (FY 27 -35)
- Anthem Way to New River, GPL Widening (FY 27 -35)
- SR 303L, Happy Valley to I-17 (FY 27 -35)
Initial Literature Review

I-17, SR 101L to New River TI (H5162 01L)

• Final DCR (2004)
• MP 214 to 244
• Recommended (for 2025 design year):
  o 5 General Purpose + 1 HOV south of Carefree Hwy
  o 4 General Purpose + 1 HOV between Carefree Hwy and New River TI
  o 4 General Purpose north of New River TI
Initial Literature Review

I-17, New River TI to SR 69 (H6800 01L)

- Initial DCR (2009)
- MP 232 to 262
- Suggested 4 lanes in each direction of travel for 2030 design year
- Evaluated numerous realignment options
- No final recommendations
Initial Literature Review

I-17, SR 179 to I-40 (H6960 01L)

- Final DCR (2012)
- MP 299 to 340
- Recommended (for 2035 design year):
  - 3 lanes in each direction of travel
  - Minor alignment adjustments
Project Challenges

Corridor Challenges

• Travel demand in southern section
• Mountainous areas
• Alignment issues
• Lack of alternate route
• Limited funding
Project Challenges

Process Challenges

• New Corridor P2P Process
• Study consistency
• Performance measures
• Risk assessment
## Risk Assessment

### Frequency/Likelihood

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Low = 0.69  
Moderate = 0.78  
High = 0.85  
Extreme = 0.94
Questions or Comments?
PROJECT KICK-OFF MEETING
JUNE 25, 2014
INTERSTATE 40

- **Termini:** Barstow CA - Wilmington NC
- **Construction:** 1960s and 1970s
- **Purpose and Need:** Transcontinental Military Transport
- **Modes:**
  - international traffic
  - interregional traffic
  - tourist traffic
  - commercial trucks
  - BNSF
  - Amtrak
  - bicycles
INTERSTATE 40, STATE LINE TO JCT. I-17

- **Length:** 195 miles
- **Elevation Change:** 1,000 to 7,000 feet
- **Follows:** Historic Route 66
- **Development Issues:**
  - soil conditions
  - structures
  - AASHTO stds.
  - environmental
  - urban area capacity
PUBLIC SECTOR STAKEHOLDERS

- ADOT Flagstaff and Kingman Districts
- ADOT MPD, ITD and DMV
- CALTRANS
- DPS, ADEQ, SHPO, AG&F and NAU
- Topock and Sanders POE
- FHWA, BLM, USFS, USF&WS, Grand Canyon NP, Coconino and Kaibab NF and Havasu National Wildlife Refuge
- FMPO, NACOG and WACOG
- Coconino, Kingman and Yavapai Counties
- Flagstaff, Williams, Ash Fork, Seligman and Kingman
- Hualapai Tribe
PRIVATE SECTOR STAKEHOLDERS

- BNSF, Amtrak and Grand Canyon Railway
- Greyhound and Local Transit Providers
- El Paso Natural Gas
- Communications Providers
- Underground Utility Providers
- Above-ground Utility Provider
- Intermodal Facility Operators
INITIAL LITERATURE SEARCH

- Corridor-Specific
- Statewide/Regional Plans and Programs
- Mode-Specific
- Location-Specific
- Capital Projects
- Pavement Preservation Projects
- Bridge Inspections
- Databases
INITIAL LITERATURE SEARCH

Corridor-Specific

- Strategic Plan for Early Deployment of ITS on I-40 (1997)
- I-40 Multi-modal Corridor Profile Study (1999)
INITIAL LITERATURE SEARCH

Statewide/Regional Plans and Programs

- NACOG Regional Transportation Coordination Plan (2007)
- FMPO Pathways 2030 Regional Transportation Plan (2009)
- Transportation Planning Framework Study, Western/Northern Arizona Region (2009)
- Statewide Transportation Planning Framework Study (2010)
- What Moves You Arizona, Long-Range Transportation Plan 2010-2035 (2011)
- 2014-2018 State Transportation Improvement Program
- WACOG Transportation Three Year Coordination Plan Update 2014-2015 (2013)
- Climbing and Passing Lane Prioritization Study (2014)
INITIAL LITERATURE SEARCH

- Mode-Specific
  - I-40 Transamericana Transportation Corridor Feasibility Study (1994)
  - Arizona Multimodal Freight Analysis Study (2007)
  - Arizona State Rail Plan (2007)
  - Statewide Rail Framework Study (2010)
  - Statewide Bicycle and Pedestrian Plan Update (2013)
  - ADOT Ports of Entry Study (2013)
INITIAL LITERATURE SEARCH

Location-Specific

- I-40 IDCR, Bellemont to Winona (2011)
INITIAL LITERATURE SEARCH

- Capital Projects
- Pavement Preservation Projects
- Bridge Inpections
INITIAL LITERATURE SEARCH

Databases

- ALISS (Safety Data Mart)
- Pavement Management System
- Bridge Inventory
- Monitoring System Highway Performance
- State Highway Log
- Arizona Transportation Information System
- Transportation Data Management System
- Statewide Travel Demand Model
- Intelligent Transportation Systems
- Performance Controlled System
CHALLENGES

→ Project
  - Soil condition mitigation/pavement preservation
  - AASHTO standards
  - Urban area capacity
  - I-11 impacts on future I-40 performance

→ Process
  - Evolving study process consistency
  - Performance measure consistency
  - Segment definition consistency
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<td>Kate</td>
<td>Bandier</td>
<td>ADOT-SPMC</td>
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<td>602-331-2603</td>
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<td>778-226-4530</td>
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<td>746-226-4530</td>
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<tr>
<td>Seft</td>
<td>Omer</td>
<td>ADOT</td>
<td><a href="mailto:aomer@azdot.gov">aomer@azdot.gov</a></td>
<td>746-226-4530</td>
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