

PLANNING

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PROJECT DELIVERY ACADEMY

MODULE 1: Planning and Programming

Org Chart Overview



▶ *What we do in Planning...*

Statewide Planning

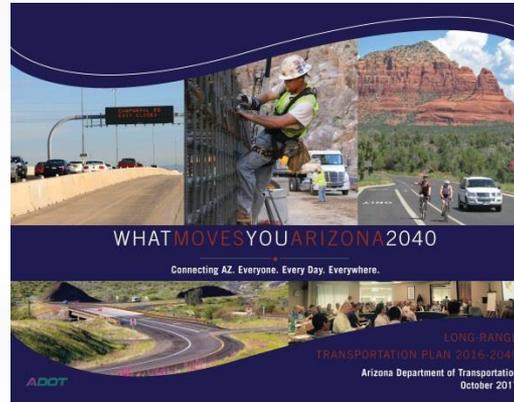
- Long Range Planning
- Freight & Rail Planning
- Tribal Coordination
- Bike & Pedestrian Planning

Regional Planning

- Planning to Programming (P2P)
- COG/MPO Oversight
- Planning Studies Program
- Planning Environmental Linkages (PEL)
- Planning Studies

WHAT MOVES YOU ARIZONA 2040

Long-Range Transportation Plan 2016-2040



Project Delivery Academy
July 8, 2020

Long Range Transportation Plan

Why Do We Have a Plan?



- **Federal Transportation Bill – Fixing America’s Surface Transportation Act (FAST Act)**
- **Signed by President Obama December 4, 2015**
- **Authorized \$305 Billion over 5 years – expires December 2020**
- **Arizona Revised Statutes**
- **Use of Federal Funds mandates that States have Long Range Plans**

Long Range Transportation Plan

What Does This Plan Do?



- Provides strategic direction to guide future investments in transportation
- Defines Goals, Objectives & Performance Measures
- Identifies long term (25 year planning horizon) Needs & Revenues Forecasts
- Stakeholder Outreach
- Sets Recommended Investment Choices: Expansion, Preservation, and Modernization

Long Range Transportation Plan

Purpose & Themes



- ▶ Provide policy direction to ADOT, MPOs, COGs and Other Partners on transportation performance, needs & priorities
- ▶ Establish a data-driven, performance-based policy framework to guide future project recommendations to the Board
- ▶ Focus on defining a Recommended Investment Choice (RIC) to help ADOT best invest limited resources in the state system
- ▶ Address statutory requirement for 5-Year Plan Update

Long Range Transportation Plan

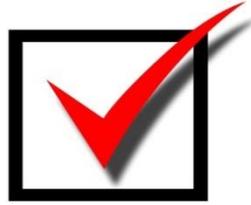
Performance: FHWA Goals



- ▶ ***Safety:*** Reduce fatalities and serious injuries
- ▶ ***Infrastructure Conditions:*** NHS in state of good repair
- ▶ ***Congestion Reduction:*** On NHS, in particular
- ▶ ***System Reliability:*** Surface transportation efficiency
- ▶ ***Freight Movement & Economic Vitality:*** Access to markets
- ▶ ***Environmental Sustainability:*** Protect/enhance environment

Long Range Transportation Plan

Citizen & Stakeholder Input



400+
MEETING
ATTENDEES



14,347
WEBSITE
HITS



312,428
FACEBOOK
REACHES



5,958
SURVEY
RESPONDENTS

Long Range Transportation Plan Stakeholder Workshop – Aug 2016

- ▶ **Broad Stakeholder Participation**
- ▶ **Used Decision Lens to gauge performance**
- ▶ **Results influenced Plan recommendation**



Long Range Transportation Plan

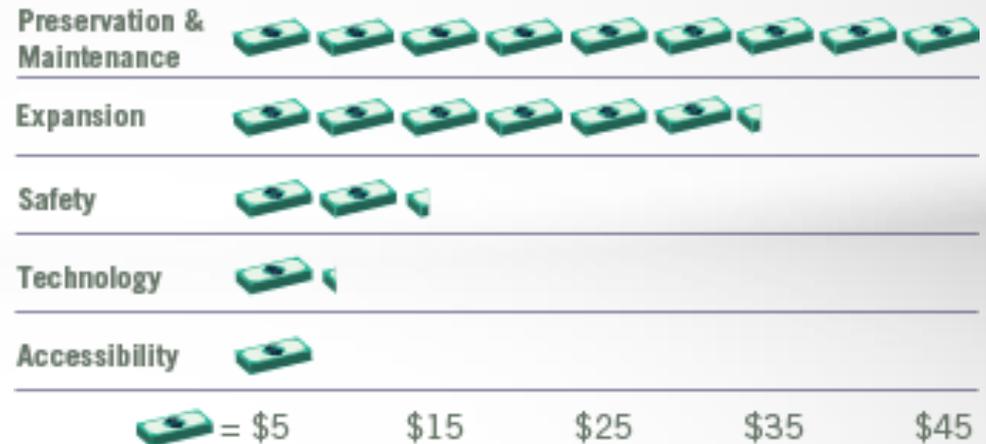
Citizen Survey Results



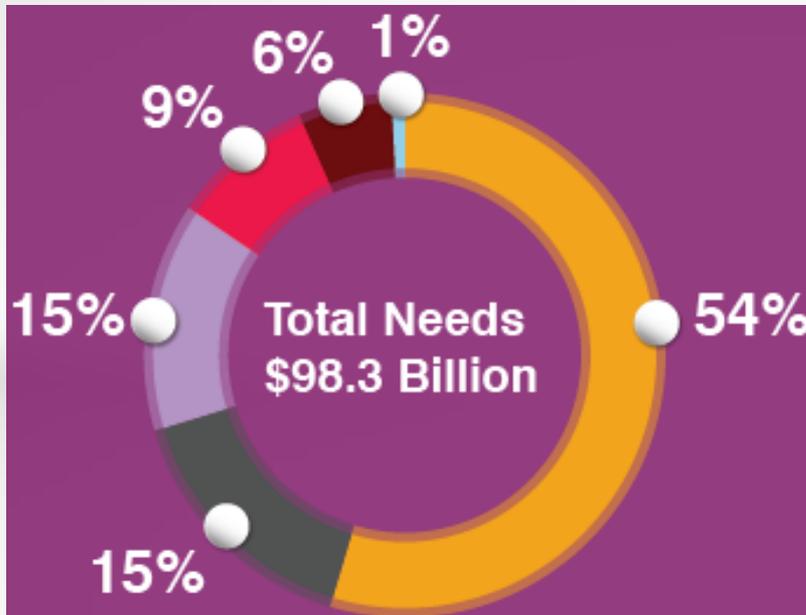
- ▶ Preference for System Preservation
- ▶ Expansion focus stronger in large Metro Areas
- ▶ All projects promote Safety

How Stakeholders Think ADOT Should Allocate Funding

PER \$100



Long Range Transportation Plan Needs – All Modes



Long Range Transportation Plan

Categories of Highway Need/Investment

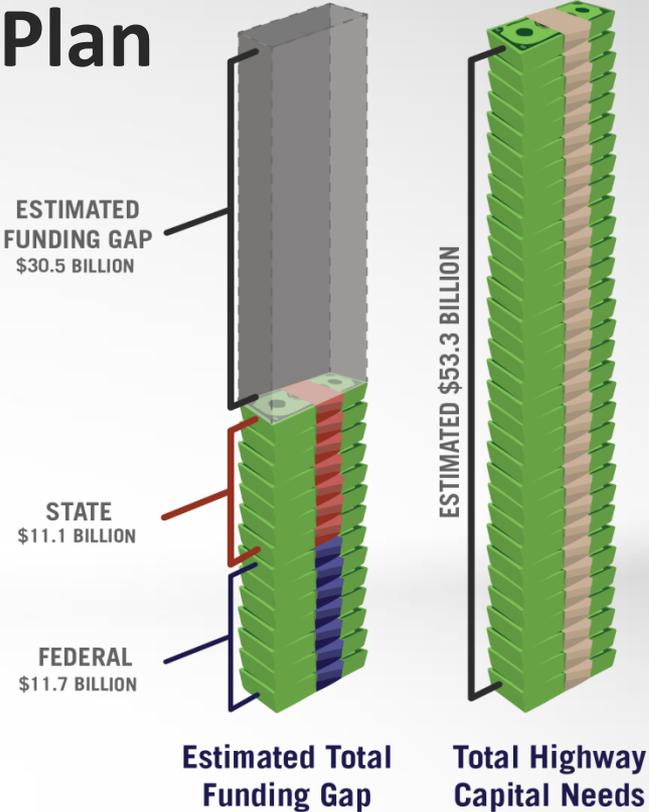


- ▶ ***Preservation:*** Investment to keep pavement smooth and maintain bridges
- ▶ ***Modernization:*** Non-capacity investment that improves safety & operations (e.g. adding shoulders or smart technology)
- ▶ ***Expansion:*** Investment that adds capacity to the highway system (e.g. new roads, added lanes or new interchanges)

Long Range Transportation Plan

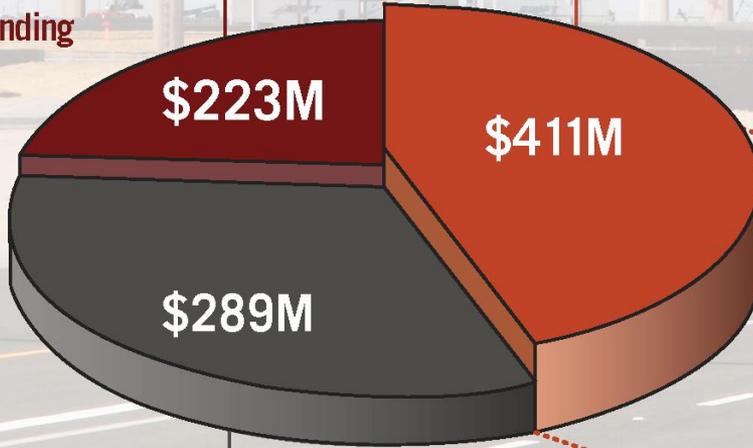
25-Year Highway Needs

- ▶ Preservation = \$9.236 B
- ▶ Modernization = \$9.962 B
- ▶ Expansion = \$34.054 B
- ▶ Total = \$53.3 B

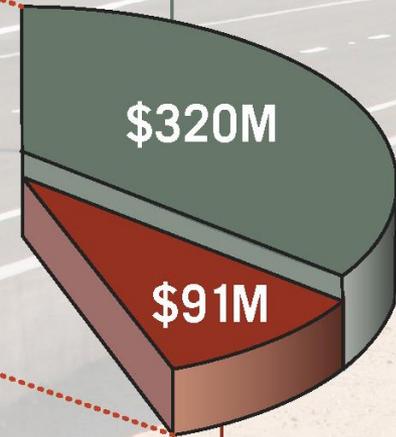


Dedicated Tax Revenue for MAG / PAG Project Funding

Greater Arizona Inter-regional State Road Funding



Preservation Projects



MAG / PAG Inter-regional State Road Funding

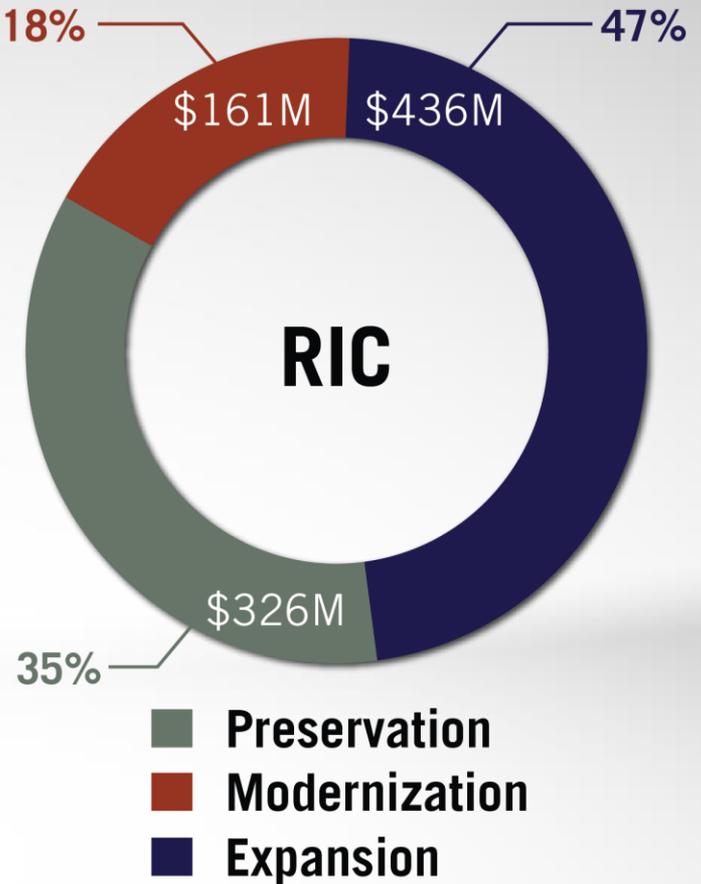
Modernization Projects

Total Average Annual Highway Capital Spending = \$923 Million

Long Range Transportation Plan

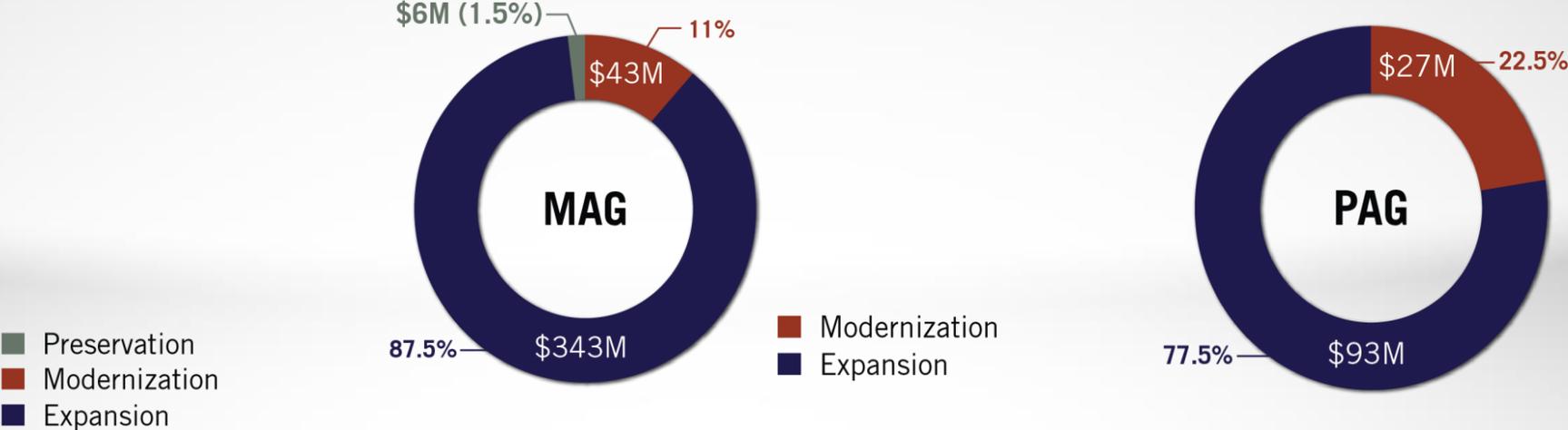
Recommended Investment Choice - Statewide

- ▶ System Preservation Needs Statewide
- ▶ Expansion focus in large Metro Areas
- ▶ Safety remains a priority



Long Range Transportation Plan

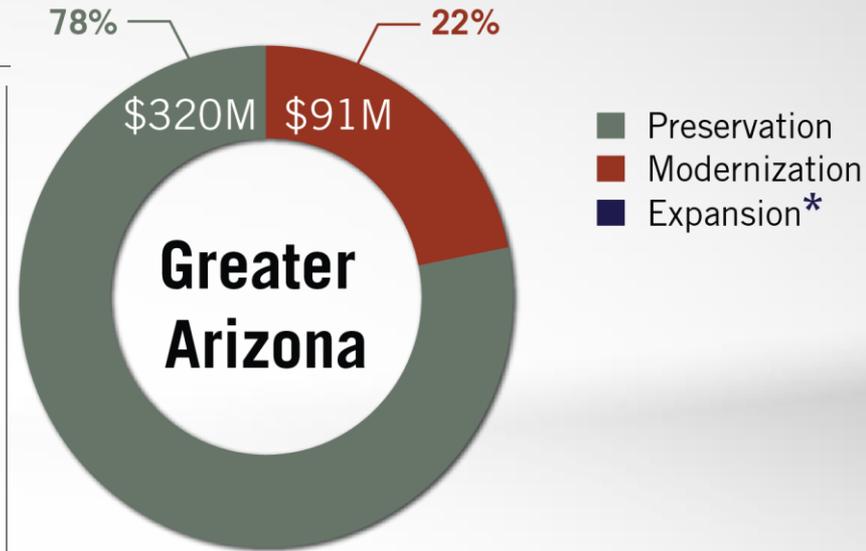
RIC – MAG and PAG – Expansion Focus



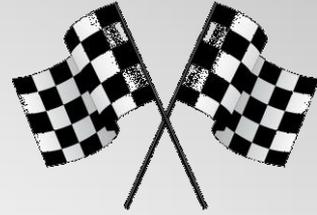
Long Range Transportation Plan

Recommended Investment Choice – Greater Arizona

- ▶ **System Preservation is Priority**
- ▶ **Fund the Highway Safety Improvement Program and Avoid System Obsolescence**
- ▶ *** Up to 5% of funding reserved for Expansion *only* to match federal grants or leverage third party contributions (or if Revenues incr.)**



Long Range Transportation Plan Summary and Recommendation



- ▶ **Greater Arizona:** Focus on Preservation of state highways and bridges, and keep safety a high priority; work with MPOs/COGs
- ▶ **MAG and PAG:** Respect their federal designation as leads for metropolitan area planning; preserve state highways as appropriate
- ▶ **Projects:** Use this Plan framework to guide ADOT project recommendations to the Board thru Five-Year Program process
- ▶ **Board Action:** Plan Approved February 16, 2018

Planning to Programming

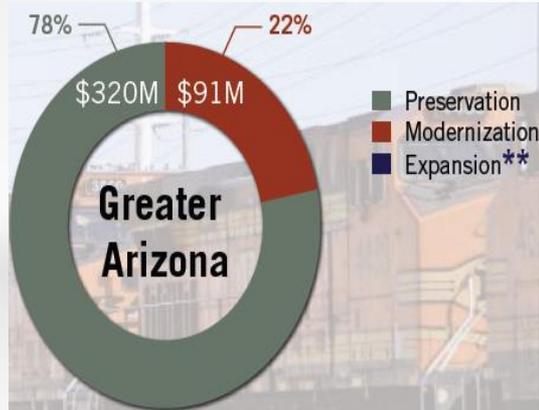
Overview



Project Delivery Academy

What is P2P?

Long Range Transportation Plan



Five-Year Construction Program



Why P2P?

- ❑ **Performance-Based Planning to Programming is the Law**
 - ▶ Federal Regulation (FAST Act)
 - 23 USC Section 135(d)(2), and 49 USC Section 5304(d)(2)
 - ▶ State Statute
 - ARS Title 28, Chapter 2, Article 7 (§ 28-501 through § 28-507)
- ❑ **Financial Stewardship**
 - Maximize Use of Public Funds

ADOT P2P Process Flowchart



*Expansion projects are prioritized on a five-year cycle, concurrent with ADOT's Long Range Transportation Plan

P2P Scoring Breakdown Pavement Preservation

PRESERVATION (PAVEMENT)

Activities that improve or sustain the condition of the transportation facility to a state of good repair

Pavement Preservation Scoring			
Technical (35%)	Performance Target (2021)	Measure / Criterion	Weighting
	% Interstate Good Condition = 48% % Interstate Poor Condition = 2% % Non-Interstate Good Condition = 31% % Non-Interstate Poor Condition = 6%	Pavement Condition: IRI, Cracking, & Rutting	35%
Total Technical Score			35%
District (30%)	Performance Target	Measure / Criterion	Weighting
	N/A	District Engineer Evaluation	30%
Total District Score			30%
Safety (25%)	Performance Target (2019)	Measure / Criterion	Weighting
	Fatalities = 5% increase Fatality Rate = 2% increase Serious Injuries = 1% decrease Serious Injury Rate = 4% decrease Non-Motorized = 3% increase	Level of Safety Service (LOSS)	25%
Total Safety Score			25%
Policy (10%)	Performance Target	Measure / Criterion	Weighting
	TTTR on Interstate = 1.23 (2021)	Freight Percentage (T-Factor)	3%
	N/A	Functional Classification	3%
	N/A	External Funding Contribution	4%
Total Policy Score			10%
			100%

**Subject to Change*

Work Types

Maintenance

- Concrete repair
- Flush shoulder /shoulder edge repair
- Leveling with premix
- Patching / blade laying
- Pothole repair
- Slide removal and rock patrol
- Spot filling cracks / crack seal
- Spot pavement profiling / AC grinding

Preservation

- AC grinding / milling
- Cape seal
- Chip seal
- Crack seal / fill
- Fog seal / flush
- Friction coarse (AR-ACFC / ACFC) / mill & fill or overlay of friction coarse
- Micro surface
- PCCP cross stitching
- PCCP dowel-bar retrofit (DBR)
- PCCP diamond grinding
- Slurry seal
- Spot repair
- Thin bonded overlay

Rehabilitation

- Major AC overlays
- Mill & fill (existing AC)

Reconstruction

- Removal and replacement of existing roadway section
- Spot reconstruction

P2P Scoring Breakdown

Bridge Preservation

PRESERVATION (BRIDGE)

Activities that improve or sustain the condition of the transportation facility to a state of good repair

Bridge Preservation Scoring			
Technical & Safety (60%)	Performance Target (2021)	Measure / Criterion	Weighting
	% NHS Bridges Good Condition = 52% % NHS Bridges Poor Condition = 4%	Bridge Engineer inspection of 22-26 criteria (depending on bridge type)	60%
Total Technical Score			60%
District (30%)	Performance Target	Measure / Criterion	Weighting
	N/A	District Engineer Evaluation	30%
Total District Score			30%
Policy (10%)	Performance Target	Measure / Criterion	Weighting
	TTR on Interstate = 1.23 (2021)	Freight Percentage (T-Factor)	3%
	N/A	Functional Classification	3%
	N/A	External Funding Contribution	4%
Total Policy Score			10%
			100%

**Subject to Change*

Work Types

Maintenance

- Approach overlay
- Barrier repair
- Drainage / hydrovac
- Channel work
- Cleaning
- Minor crash repair
- Pipe / culvert repair
- Scour repair (existing)
- Spall / pothole repair
- Structure maintenance
- Washing

Preservation

- Cyclical Maintenance Activities
- Deck joint / seal replacement
- Deck overlay
- Deck seal
- Major channel repair
- Painting (steel)
- Scour retrofit
- Seismic retrofit
- Slab jacking

Rehabilitation

- Major bridge element rehab / replacement
- Major crash repair
- Superstructure replacement

Reconstruction

- Bridge / culvert (over 20') replacement

P2P Scoring Breakdown Modernization

Modernization Scoring			
	Performance Target	Measure / Criterion	Weighting
Technical (35%)	Varies	Technical Group Project Ranking (Statewide)	35%
	Total Technical Score		35%
	Performance Target	Measure / Criterion	Weighting
District (30%)	N/A	District Engineer Evaluation	30%
	Total District Score		30%
	Performance Target (2019)	Measure / Criterion	Weighting
Safety (25%)	Fatalities = 5% increase Fatality Rate = 2% increase Serious Injuries = 1% decrease Serious Injury Rate = 4% decrease Non-Motorized = 3% increase	Level of Safety Service (LOSS)	25%
	Total Safety Score		25%
	Performance Target	Measure / Criterion	Weighting
Policy (10%)	TTTR on Interstate = 1.23 (2021)	Freight Percentage (T-Factor)	3%
	N/A	Functional Classification	3%
	N/A	External Funding Contribution	4%
Total Policy Score			10%
			100%

**Subject to Change*

MODERNIZATION

Improvements that upgrade efficiency, functionality, and safety without adding capacity

Work Types

- ADA / pedestrian
- Bicycle lane / shoulder
- Climbing / passing Lanes
- Drainage
- Fence (new / replacement)
- Guardrail (new / replacement)
- Intersection / interchange enhancement
 - New intersection
 - Reconfiguration
 - Roundabout
 - Ramp
 - Signal
 - Turn lanes
- Information Technology Systems (ITS)
- Pedestrian crossings
- Retrofit / correct functional obsolescence
- Rockfall mitigation
- Safety modifications / enhancements
- Tree removal / recovery area
- Traffic control and management
- Widening existing lanes / shoulders
- Wildlife crossings or mitigation

P2P Scoring Breakdown Expansion

EXPANSION

Improvements that add capacity by adding new facilities

Work Types

- New grade-separated overpass / underpass (if adding lanes)
 - Railroad X-ing
 - Interchange
 - DHOV Ramp
- New lanes
- New rail
- New routes / bypass

Expansion Scoring			
	Performance Target	Measure / Criterion	Weighting
Technical (50%)	N/A	Level of Service (LOS)	10%
	Peak Hour Excessive Delay per Capita = 10.9 hrs (2021)	Average System Speed	5%
	TTR on Interstate = 85.8% (2021) TTR Non-Interstate NHS = 74.9% (2021)	System Reliability	10%
	TTTR on Interstate = 1.23 (2021)	System Reliability (freight)	10%
	N/A	Cost Effectiveness	10%
	N/A	New Permanent Jobs Created	5%
	Total Technical Score		
District (25%)	Performance Target	Measure / Criterion	Weighting
	N/A	District Engineer Evaluation	25%
Total District Score			25%
Safety (15%)	Performance Target (2019)	Measure / Criterion	Weighting
	Fatalities = 5% increase Fatality Rate = 2% increase Serious Injuries = 1% decrease Serious Injury Rate = 4% decrease Non-Motorized = 3% increase	Level of Safety Service (LOSS)	7.5%
		Safety Benefit	7.5%
Total Safety Score			15%
Policy (10%)	Performance Target	Measure / Criterion	Weighting
	TTTR on Interstate = 1.23 (2021)	Freight Percentage (T-Factor)	3%
	N/A	Functional Classification	3%
	N/A	External Funding Contribution	4%
Total Policy Score			10%
			100%

**Subject to Change*

P2P Scoring Overview

Pavement Preservation

Annual Investment
Target:
\$260M

Scoring:
Technical = 35%
District = 30%
Safety = 25%
Policy = 10%

Bridge Preservation

Annual Investment
Target:
\$60M

Scoring:
Technical &
Safety = 60%
District = 30%
Policy = 10%

Modernization

Annual Investment
Target:
\$91M

Scoring:
Technical = 35%
District = 30%
Safety = 25%
Policy = 10%

Expansion

Annual Investment
Target:
\$0M

Scoring:
Technical = 50%
District = 25%
Safety = 15%
Policy = 10%

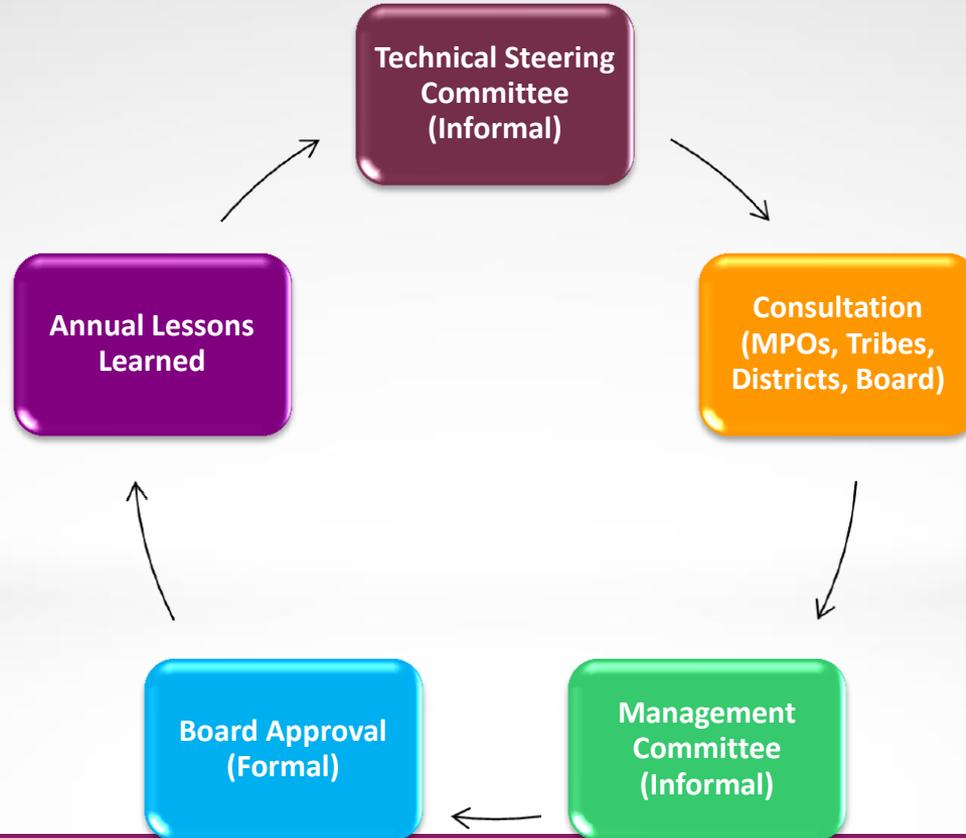
P2P Scoring Guidebook

P2P Scoring Guidebook Link:

<https://www.azdot.gov/planning/transportation-programming/planning-to-programming>



Continuous Improvement



Questions / Comments

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PROJECT DELIVERY ACADEMY

MODULE 1: Planning and Programming

QUESTIONS?

PROJECT DELIVERY ACADEMY

MODULE 1: Planning and Programming

THANK YOU