

Project Name				
<b>Project Name</b> (A short name for the project)		Wrong Way Driver Detection - L-101 (Auga Fria) & L-202 (Red Mountain)		
Agency Sponsor Information				
	Lead Agency	Agency #1	Agency #2	Agency #3
Agency Name	ADOT	Select an Agency	Select an Agency	Select an Agency
Manager Name	Susan Anderson			
Manager Title	Systems Technology Group Manager			
Manager Phone	602-712-6910			
Manager Email	<a href="mailto:SEAnderson@azdot.gov">SEAnderson@azdot.gov</a>			
Project Description				
<b>SM&amp;O Strategy</b> (The noncompetitive eligible projects identified in the SM&O Funding plan for FY2020-FY2022)		Project# 5-Wrong-way detection monitoring at all freeway off-ramps, with data archived in a regional database on all wrong-way entry occurrences		
<b>Purpose</b> (Describe what the project is supposed to accomplish - e.g. improve emergency response, reduce bottle necks at ramps, etc.)		To detect and keep record of wrong-way vehicles entering the Arizona freeway system from exit ramps. Upon detection Wrong-Way vehicles will be warned of their mistake by use of internally illuminated Wrong-Way signs with white LED trim, to get the motorists attention, giving them the opportunity to correct and avoid potential high speed head-on collisions.		
<b>Location</b> (A description of where the project is located and its limits. This may include multiple roadways)		L-101 West between Interstate 10 and Grand Avenue, and I-202 Red Mountain between I-10 (MP 0) and McClintock Drive.		
<b>Scope</b> (Provide a general scope of the project)		To install Wrong-Way thermal detection cameras and Wrong-Way internally illuminated warning signs with white LED trim. This includes purchasing the most advanced technology regarding Wrong-Way detection and warning equipment. 10 TIs along L-101 and 10 TIs along L-202.		

Project Description (Continued)	
<b>Schedule</b> (Provide a preliminary schedule for implementing the project)	We plan on implementing the Wrong-Way detection and warning system in the three year funding window MAG 2020-2022 budget years.
<b>Impacts and Remediation</b> (Describe the expected environmental, neighborhood and Title VI impacts of the project, anticipated utility relocations and traffic disruptions of the project and anticipated remediation measures)	These system improvements will not disrupt traffic. They will require trenching for sign power and communications in a new conduit and could include the construction of a signal pole foundation. All work will be done within existing ADOT right-of-way and any ground disturbance will be returned to its original condition.
<b>Public and Interagency Outreach and Coordination</b> (Describe measures to be used to inform and engage the public, businesses and affected public agencies regarding the project. The less mainstream a proposed project or new technology is, the more public outreach should be conducted)	The existing Wrong Way detection and warning pilot project along I-17 has already had public exposure and further public awareness outreaches should be considered as additional corridors become equipped with new Wrong-Way equipment.
	We will record the date of implementation and the schedule for changing the ramp meter timing from fixed time to responsive operations
<b>Estimated Total Project Cost</b>	\$1,039,290.00
<b>Estimated Date Complete</b>	6/1/2022

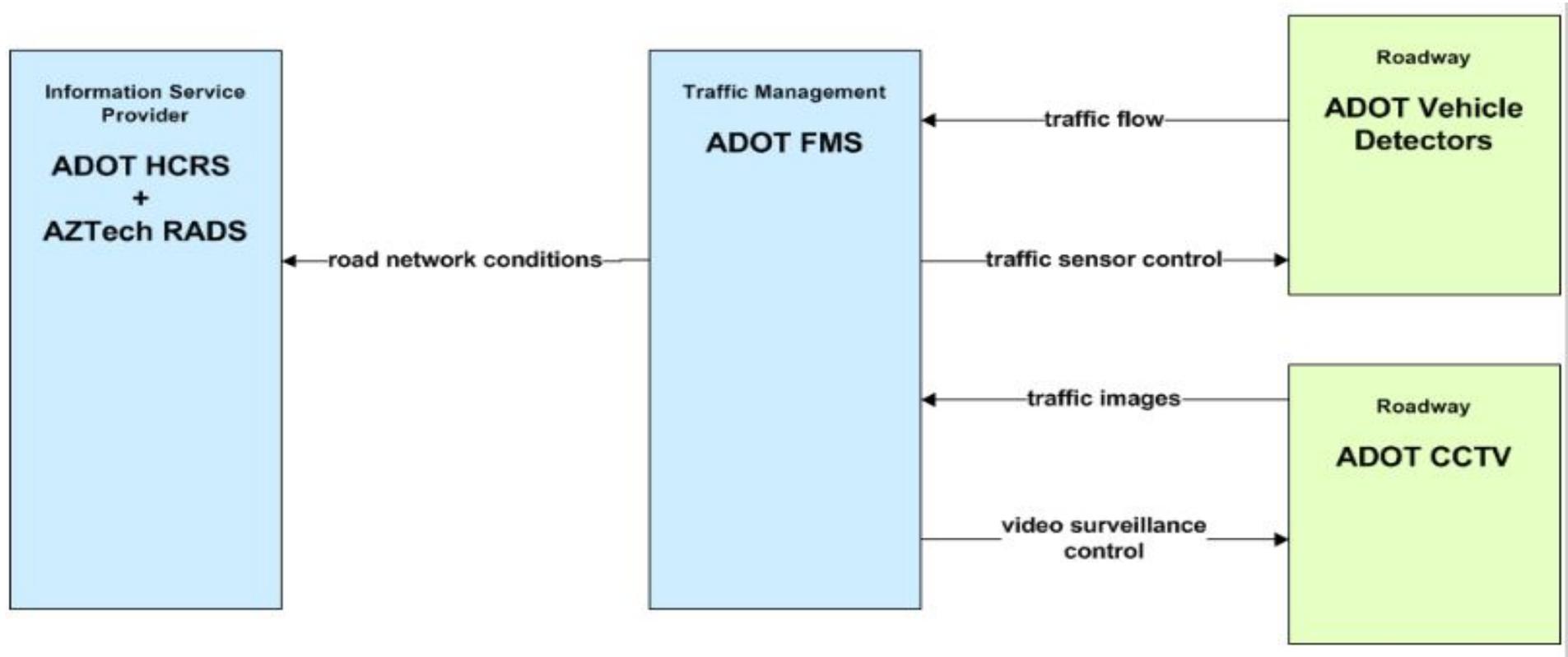
Budget Detail										
Item #	Work ID	Agency Responsible	Location of Work	Work to be Performed	Year in TIP	Year Open	Federal/State		Agency Match	Cost of Work
							Source	Amount		
#1	5	ADOT	L-101 West between Interstate 10 and Cardinals Way	Install Wrong-Way thermal detection cameras and internally illuminated warning signs	2020	2020	CMAQ	\$ 310,000	\$ 18,755	\$ 328,755
#2	5	ADOT	L-101 West between Glendale Avenue and Grand Avenue/1st Avenue & L-202 Red Mountain between I-10 (MP 0) and 32nd Street.	Install Wrong-Way thermal detection cameras and internally illuminated warning signs	2021	2021	CMAQ	\$ 350,000	\$ 21,175	\$ 371,175
#3	5	ADOT	L-202 Red Mountain between 40th Street and McClintock Drive.	Install Wrong-Way thermal detection cameras and internally illuminated warning signs	2022	2022	CMAQ	\$ 320,000	\$ 19,360	\$ 339,360
#4							None	\$ -	\$ -	\$ -
#5							None	\$ -	\$ -	\$ -
#6							None	\$ -	\$ -	\$ -
#7							None	\$ -	\$ -	\$ -
#8							None	\$ -	\$ -	\$ -
#9							None	\$ -	\$ -	\$ -
#10							None	\$ -	\$ -	\$ -
									<b>Total</b>	\$ 1,039,290



**ITS Architecture**

All relevant ITS Architecture Flow Diagrams MUST be inserted below for the relevant ITS Service Packages addressed by the proposed ITS project. This is to ensure that the project complies with the Regional ITS Architecture and meets a federal requirement for all federally funded ITS projects.

Find the relevant Service Packages addressed by the project in the MAG ITS Architecture (found in the link below). Copy and paste the graphic in the space provided. See example below.



**Performance Measures for SM&O Annual Report**

**Purpose and Description**

The purpose of annually measuring and reporting on the project overview is to measure how projects are addressing the SM&O Plan and Vision. Performance measures have been identified in the SM&O Plan, shown in the "SM&O PMs" worksheet. The performance measures are organized around the investment categories and identify metrics that will allow MAG to measure SM&O program impacts. MAG will be preparing an annual report on progress toward achieving the SM&O Vision, including the impact of SM&O investments.

The lead agency will propose one or more of the following performance measures categories to be reported on for the project: Mobility, Safety, Transit, Data Management & Communications, and Traffic Incident Management. The MAG ITS Committee will review that the proposed performance measures align with the SM&O Plan and Vision. A plan for reporting on the implementation and performance of the project to be presented to the MAG Intelligent Transportation Systems (ITS) Committee on an annual basis. The lead agency will report on the project up to one year after implementation.

The lead agency will identify that the project addresses federal performance categories, as required by the FAST Act.

Year	Segment Location	Performance Measure - Mobility				
		Performance Measure #1	Performance Measure #2	Performance Measure #3	Performance Measure #4	Performance Measure #5
2020	L-101 West between Interstate 10 and Cardinals Way	Safety				
2021	L-101 West between Glendale Avenue and Grand Avenue/1st Avenue & L-202 Red Mountain between I-10 (MP 0) and 32nd Street.	Safety				
2022	L-202 Red Mountain between 40th Street and McClintock Drive.	Safety				

Year	Segment Location	Performance Measure - Safety				
		Performance Measure #1	Performance Measure #2	Performance Measure #3	Performance Measure #4	Performance Measure #5

Year	Segment Location	Performance Measure - Transit				
		Performance Measure #1	Performance Measure #2	Performance Measure #3	Performance Measure #4	Performance Measure #5

Year	Segment Location	Performance Measure - Data Management & Communications				
		Performance Measure #1	Performance Measure #2	Performance Measure #3	Performance Measure #4	Performance Measure #5
Year	Segment Location	Performance Measure - Traffic Incident Management				
		Performance Measure #1	Performance Measure #2	Performance Measure #3	Performance Measure #4	Performance Measure #5

Federal Performance Measures									
This project addresses federal performance categories:	Performance Categories							AQ Area	In Program
	PM1	PM2T	PM2N	PM2B	PM3F	PM3S	PM3E		
	Safety	Transit Asset Condition	Pavement Condition	Bridge Condition	Travel Reliability	Non SOV Travel	CMAQ Emissions		
	Yes	No	No	No	Yes	Yes	Yes	Maricopa	SM&O

**Air Quality Evaluation Data and Considerations for the Project**

This part of the form is used to gather project related data to calculate an CMAQ Score and also gather the minimum data needed for a listing of the project in the Transportation Improvement Program.

**Federal Funding Eligibility**

All ITS projects to be funded with Federal CMAQ funds must be located within a nonattainment area. Please use the map provided in the tab named "Map" to verify that the project is located in a nonattainment area.

**Traffic Estimate and Roadway Characteristics**

a. Current Average Daily Traffic (ADT) on the facility or the nearest parallel facility of a similar facility type: 120,000 & 175,000

b. Please describe how the ADT was estimated: ADOT Statewide Model

c. When was the ADT estimate developed: 2016

d. Name of the roadway section used for the ADT estimate: L-101 (Agua Fria) & L-202 (Red Mtn.)

e. Starting limit of the roadway section: Interstate-10 & Interstate-10

f. Ending limit of the roadway section: Grand Ave/1st Ave & McClintock Drive

g. Length (miles): 10 Miles & 9 Miles

h. Total number of through lanes on the roadway section: 8 lanes & 10 lanes

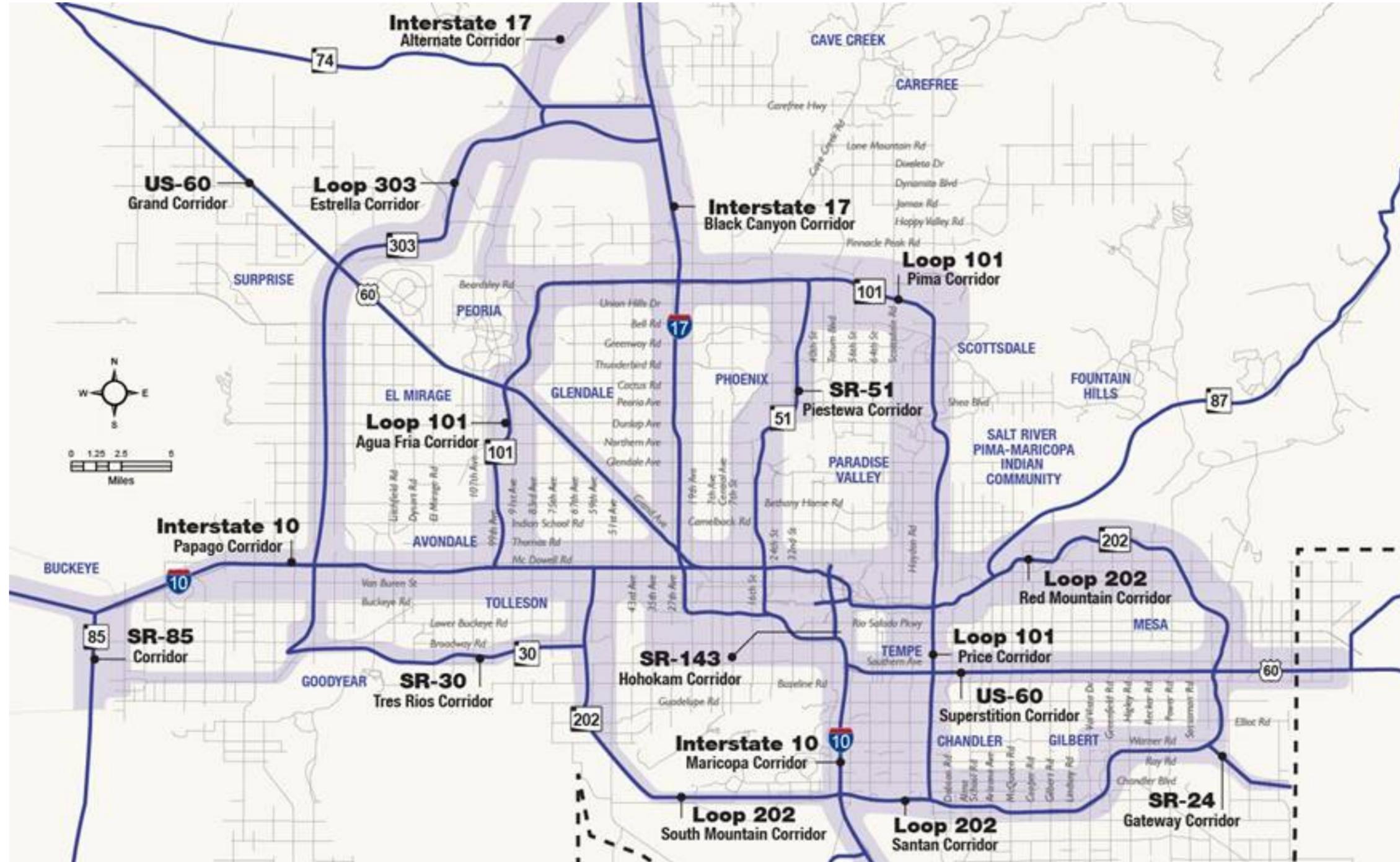
i. Federal Functional Classification of the roadway section: Freeway

[Link to ADOT Functional Classification Maps](#)

Traffic Speed Improvements: Please complete Subsection #1 or #2.			
Subsection #1: Traffic Signal Coordination Improvements			
Current pre-improvement (current) average traffic speed	Choose the best condition that describes the Before/After Condition of the project		
	Before Improvement Condition	After Improvement Condition	Benefit
0	Select Current Condition	None	None

Subsection #2: Traffic Improvements For Other Project Types	
a. Enter the pre-improvement (current) average traffic speed	62.1 & 51.3
b. Enter the post-improvement average traffic speed of the corridor:	62.1 & 51.3

Map of ICM Corridors Identified in the SM&O Plan



Systems Management & Operations Plan Performance Measures		
Investment Category	Performance Measure	Relevant Performance Metrics
Integrated Corridor Management	Incident Management	Freeway clearance time
		Annual number of secondary crashes
	Travel Time Reliability	95% planning time index
		Truck Travel Time Reliability (TTTR) Index
		Vehicle miles traveled (VMT)/year
	Corridor Throughput	Person throughput/year
		Transit route on-time performance
	Safety	Total fatal and injury crashes/year
Annual crash rate		
Regional Priority Arterials	Travel Time Reliability	95% planning time index
	Corridor Throughput	Vehicle miles traveled (VMT)/year
		Person throughput
	Safety	Total fatal and injury crashes/year
		Annual crash rate
	Transit Mobility	Transit route on-time performance
		Transit ridership
Regional Operations Priorities	After-hours TMC Operations	Frequency of response to after-hours traffic incidents
	Freeway Service Patrol	Number of assists per year
	Traveler Information and Alerts	Travel time coverage (miles)
		Regional mobile application subscribers