

Project Overview: ICM, Upgrades, Existing Regional Operations Projects

Project Name								
Project Name (A short name for the project)	Pilot for Arterial Traffic Incident Management Program for ICM							
Agency Sponsor Information								
	Lead Agency	Agency #1	Agency #2	Agency #3	Agency #4	Agency #5	Agency #6	Agency #7
Agency Name	Maricopa County	Tempe	Phoenix	Mesa	Glendale	Scottsdale	Peoria	Chandler
Manager Name	Faisal Saleem	David Lucas	Bruce Littleton	Tricia Boyer	Allan Galicia	Hong Ho	Steve McKenzie	Srini Goundla
Manager Title	ITS Branch Manager	Civil Engineer, ITS/Transportation Systems Mgmt	Traffic Engineering Supervisor - Arterial Systems Management Section	Senior Transportation Engineer	ITS Analyst	Traffic Engineer Principal	ITS Engineer	Senior Engineer (Traffic Signal Systems)
Manager Phone	602.506.1241	480-350-8666	602-262-4690	480-644-5187	623 688 8579	(480) 312-7935	623-773-7994	480-782-3481
Manager Email	faisalsaleem@mail.maricopa.gov	David_Lucas@tempe.gov	bruce.littleton@phoenix.gov	tricia.boyer@mesaaz.gov	agalicia@glendalaz.com	Hhuo@Scottsdaleaz.gov	Steve.McKenzie@peoriaaz.gov	srivivas.goundla@chandleraz.gov
Project Description								
SM&O Strategy (The noncompetitive eligible projects identified in the SM&O Funding plan for FY2020-FY2022)	Project #14-Implement statewide arterial traffic incident response and management program for ICM - Pilot Project & Annual Evaluation by MAG							
Purpose (Describe what the project is supposed to accomplish - e.g. improve emergency response, reduce bottle necks at ramps, etc.)	Pilot improvement of incident response and coordination in relation to the Loop 101 ICM, improve corridor throughput and incident/traffic coordination during freeway closure events that divert traffic to adjacent arterials. Expand arterial traffic incident management resources to provide broader coverage and faster response times to incident needs.							
Location (A description of where the project is located and its limits. This may include multiple roadways)	Arterial roadways adjacent to the Loop 101 in the cities of Phoenix, Glendale, Peoria, Scottsdale, Tempe, Mesa, and Chandler, and Maricopa County, Arizona.							
Scope (Provide a general scope of the project)	<p>The project will support the expansion of the Regional Coordinating Action Team (REACT) to support Integrated Corridor Management (ICM) along the entire Loop 101 corridor that runs through the cities of Phoenix, Glendale, Peoria, Scottsdale, Tempe, Mesa, and Chandler. REACT provides emergency arterial incident management support for partnering agencies when an incident requires a closure of a roadway for at least two hours. They also coordinate with ADOT's ALERT team to support arterial traffic management during freeway ramp closures. The REACT service to be pursued for the project are specifically for ICM purposes, when a freeway or ramp closure forces traffic to divert onto adjacent arterial roadways. REACT teams will work with public safety, state, and local traffic operations staff to establish detour routes, support safe diversion of traffic onto detour routes, and safely route traffic back onto the freeway upstream of the closure or incident.</p> <p>The project will include:</p> <ul style="list-style-type: none"> -Procurement of vehicles and equipment for the expanded REACT to support ICM; -Explore opportunities to establish interoperable communications with local agency PD and TMCs for during- and after-business hours operations; -Conducting training for all Loop 101 partner agencies on the role of REACT, how to use them, and their role in the partnership; -Exploring opportunities to pilot the integration of local Police Computer-Aided Dispatch (CAD) into the Regional Archived Data System (RADS) with the City of Tempe Police Department; and -3 years of operations and maintenance costs for REACT support along Loop 101 for ICM <p>This project will be done in conjunction with the Loop 101 Mobility Project, which is federally funded and being administered by ADOT and managed by ADOT and MCDOT. The operations planning for Loop 101 Mobility Project will begin in mid-2019 (calendar year) and the overall project has a duration of four years. This MAG TIP project for REACT expansion will use the partnerships, concepts, and planning processes behind the Loop 101 Mobility Project to facilitate its implementation by 2021.</p>							
Project Description (Continued)								
Schedule (Provide a preliminary schedule for implementing the project)	<p>Quarter 2 2019: Operational Planning for Loop 101 Mobility Project Commences Q2 2020: ICM operational concepts for Loop 101 Mobility Project are completed Oct 2020: Obligation of federal funds Oct 2020 -Begin procurement process for REACT vehicles and equipment per TIP project -Begin exploring opportunities for pilot project to integrate City of Tempe Police CAD data into RADS per TIP project -Begin exploring pilot concepts for interoperable communications between REACT and local agency PD and TMCs (initial pilot is suggested with City of Phoenix)</p> <p>March 2021 - June 2021 -Tempe Police CAD software development, integration in RADS, and acceptance</p> <p>June 2021 -Conduct training with agency partners on REACT and ICM; this will be an ongoing, periodic activity</p> <p>October 2021 - September 2024 -Implement expanded REACT teams and ICM plans for Loop 101</p> <p>October 2022, 2023, and 2024 -MAG annual evaluation of pilot program</p>							

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<p>Impacts and Remediation (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)</p>	<p>There are no anticipated impacts of this project as there is no construction involved.</p>
<p>Public and Interagency Outreach and Coordination (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)</p>	<p>As an agency-based service that does not involve any construction or alteration of public infrastructure, no public engagement is necessary. Public agency outreach to local agency police, traffic, and streets departments are needed to make a REACT partnership most successful. Extensive engagement with these agencies will be completed as part of the Loop 101 Mobility Project, which will begin in mid-2019. All partner agencies identified for the project have indicated management-level support for this project in addition to financial support.</p>
<p>Annual Project Reporting (Each year a report on the implementation of the project will be presented to the MAG ITS Committee. This report should do the following: 1. Identify scope changes or potential scope changes. 2. Track progress on meeting the project schedule. 3. Provide an overview of the project budget, including expenditures to date. 4. Identify and track key performance measures. Describe the data, measures and process that will be collected, developed and implemented to prepare the annual report.)</p>	<p>*The MCDOT Project Manager will present an annual report for this project to the MAG ITS Committee. The annual report will identify the project tasks that have been completed to date and alignment with the identified project schedule, identify any scope changes that have occurred or are anticipated and alignment with the identified project budget, and report on the following key output measures during project implementation:</p> <ul style="list-style-type: none"> - Number of signed REACT agreements for ICM along Loop 101 - Number of partner agency staff trained on partnering with REACT - Annual O&M cost for the REACT program before and after Loop 101 ICM implementation - Success stories of interoperable communication between REACT responders and local agency police and TMC staff - Results from annual MAG pilot evaluation modeling/studies
<p>Estimated Total Project Cost</p>	<p>\$800,000</p>
<p>Estimated Date Complete</p>	<p>October 2024</p>

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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	Procure REACT vehicles and equipment	MCDOT	MCDOT	Procure two, fully equipped REACT vehicles, including truck-mounted message boards	2021		CMAQ	\$ 160,000		\$ 160,000
#2	Interoperable communications pilot	MCDOT and local agency identified for pilot	Various	Explore concepts to ensure reliable communications between REACT, local police, and local TMCs	2021		CMAQ	\$ 20,000		\$ 20,000
#3	Agency training	MCDOT and all Loop 101 partners	At local agency locations	Organize and conduct training and tabletop exercises for local agency Police, Streets, and TMC staff on REACT and ICM	2021		CMAQ	\$ 20,000		\$ 20,000
#4	Pilot integration of Tempe Police CAD	MCDOT and City of Tempe	MCDOT	Integrate City of Tempe Police CAD feed into RADS	2021		CMAQ	\$ 70,000	\$ -	\$ 70,000
#5	REACT O&M	MCDOT	MCDOT	3 years of operations and maintenance of REACT program for Loop 101 ICM and equipment	2021		CMAQ	\$ 530,000	\$ -	\$ 530,000
#6							None	\$ -	\$ -	\$ -
#7							None	\$ -	\$ -	\$ -
#8							None	\$ -	\$ -	\$ -
#9							None	\$ -	\$ -	\$ -
#10							None	\$ -	\$ -	\$ -
Total										\$ 800,000

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Requested Programming							
3. Proposed Programming	Work Phase	Year to be Programmed	Funding Source	Federal/State Amount	Local Amount	Total	Local Share
Construction		2021	CMAG	\$ 800,000		\$ 800,000	0.00%
None	None	None	None		\$ -	\$ -	0.00%
None	None	None	None	\$ -	\$ -	\$ -	0.00%
None	None	None	None	\$ -	\$ -	\$ -	0.00%
None	None	None	None	\$ -	\$ -	\$ -	0.00%
Total				800,000	-	800,000	

Notes: 1. Funds are available only for 2020 - 2022. 2. The minimum local share is 5.7% for federal aid projects.

- Commitments**
- All parties to the project acknowledge that as of the date of this overview the information provided is the most accurate and complete available.
 - All parties to this overview, agree to work collaboratively to implement the project as described in this overview.
 - Changes to this overview and the project it describes, will be approved by all parties and presented to the MAG ITS Committee for approval and recommendation for the approval of the MAG Regional Council.
 - The lead agency for this project will provide a status report to the MAG ITS Committee on the project on an annual basis or more often if needed.
 - It is understood by the sponsoring agencies that any equipment or products resulting from this project will be maintained by the sponsoring agencies.
 - It is recognized that should the parties fail to comply with these commitments or the ITS recommend against continuing the project, MAG may cancel the project.

Date 4/22/19

Date _____

Date _____

Date _____

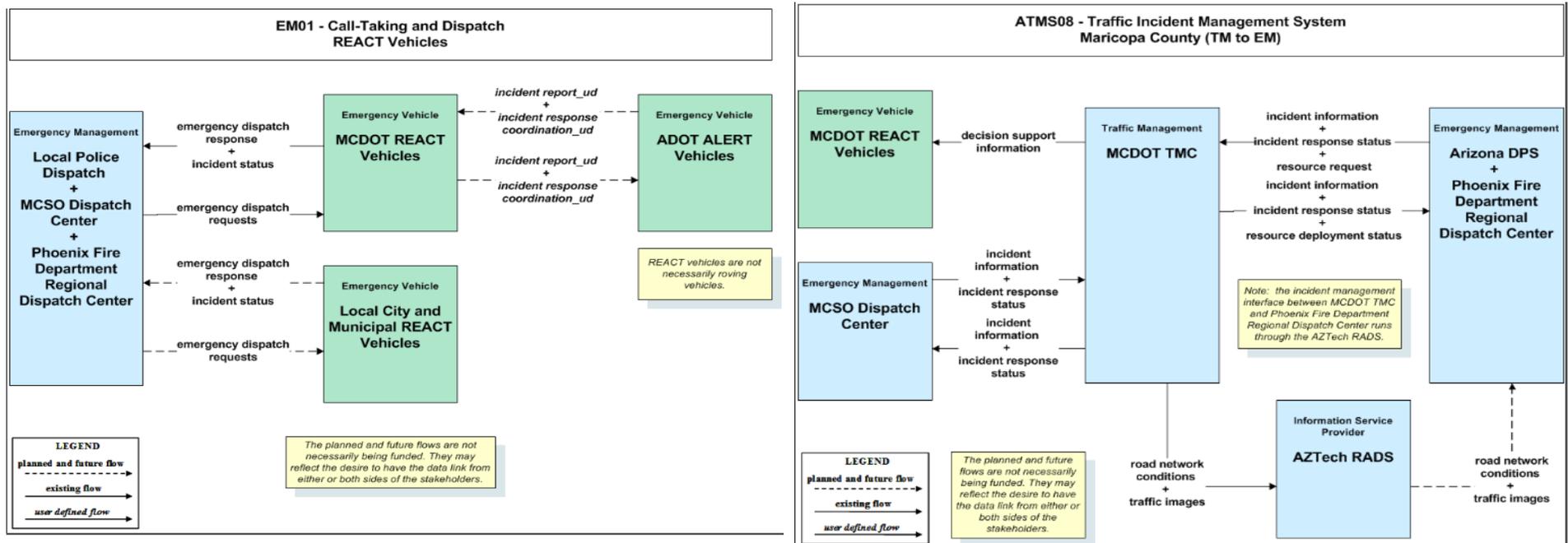
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ITS Architecture

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.

[MAG Regional ITS Architecture](#)



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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
2021	(Included in MAG annual pilot project evaluation) Loop 101 and local arterials adjacent to Loop 101	Travel time reliability	Corridor throughput			

Year	Segment Location	Performance Measure - Safety				
		Performance Measure #1	Performance Measure #2	Performance Measure #3	Performance Measure #4	Performance Measure #5
2021	(Included in MAG annual pilot project evaluation) Local arterials adjacent to Loop 101	Secondary incidents resulting from freeway closures				

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

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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
2021	(Included in MAG annual pilot project evaluation) Local arterials adjacent to Loop 101	Secondary incidents resulting from freeway closures	Freeway clearance time	Frequency of response to after-hours incidents		

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	No	No	Maricopa	SM&O

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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:

213,000 (total for all facilities listed in 'd')

b. Please describe how the ADT was estimated:

Included all arterials identified as arterial detour routes in the ICM Map for Loop 101. These arterial segments may be modified slightly based on results of the Loop 101 Mobility Project operational concept development, but should not change the overall outputs for this analysis. Used 2015 MAG average weekday ADT data to identify highest ADT recorded for identified arterials.

c. When was the ADT estimate developed:

Estimate developed in 2019 using 2015 MAG average weekday ADT data

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d. Name of the roadway section used for the ADT estimate:

107th Ave, 99th Ave, 91st Ave, 83rd Ave, Union Hills Dr, Deer Valley Rd, Scottsdale Rd, Hayden Rd, Dobson Rd

e. Starting limit of the roadway section:

107th Ave (I-10 to Bethany Home), 99th Ave (I-10 to Grand Ave), 91st Ave (I-10 to Grand Ave), 83rd Ave (I-10 to Bell Rd), Union Hills Dr (Loop 101 to Tatum), Deer Valley Rd (Lake Pleasant Pkwy to 59th Ave, Scottsdale Rd (Thompson Peak Pkwy to Chandler Blvd), Hayden Rd (Thunderbird to Loop 202 San Tan, Dobson Rd (Loop 202 Red Mountain to Loop 202 San Tan)

f. Ending limit of the roadway section:

see above

g. Length (miles):

total length of all segments in 'd' is 108.6 miles

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

4 to 6

i. Federal Functional Classification of the roadway section:

Principal Arterial

[Link to ADOT Functional Classification Maps](#)

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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	
<p>a. Enter the pre-improvement (current) average traffic speed of the corridor:</p>	<p>PM Peak Average Speed: 107th Ave (25 mph), 99th Ave (30 mph), 91st Ave (30 mph), 83rd Ave (26 mph), Union Hills Dr (32 mph), Deer Valley Rd (31 mph), Scottsdale Rd/Rural Rd (26 mph), Hayden Rd/McClintock Rd (27 mph), Dobson Rd (28 mph)</p>
<p>b. Enter the post-improvement average traffic speed of the corridor:</p>	<p>PM Peak Average Speed (post-improvement): 107th Ave (29 mph), 99th Ave (33 mph), 91st Ave (32 mph), 83rd Ave (30 mph), Union Hills Dr (35 mph), Deer Valley Rd (35 mph), Scottsdale Rd/Rural Rd (30 mph), Hayden Rd/McClintock Rd (31 mph), Dobson Rd (32 mph)</p>

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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