

PART A - CONTACT INFORMATION	
1. Sponsoring Agency	Maricopa County Department of Transportation
2. Contact Name	Faisal Saleem, Project Manager; Gail Chimel, Federal Aid Program Coordinator
3. Phone	(602) 506-1241, (601) 506-1795
4. E-Mail Address	faisalsaleem@mail.maricopa.gov; gailchimel@mail.maricopa.gov
5. Mailing Address	2901 W. Durango Street, Phoenix, AZ 85009
(OPTIONAL)	
GIS Submittal Instructions	

PART B - CMAQ Score Data

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.

1. Traffic Estimate and Roadway Characteristics

a. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:

b. Please Describe how the ADT was estimated:

c. When was the ADT estimate developed:

d. Name of the Roadway Section Used for the ADT Estimate:

e. Starting Limit of the Roadway Section:

f. Ending Limit of the Roadway Section:

g. Length (Miles)

h. Total Number of Through Lanes on the Roadway Section:

i. Federal Functional Classification of the Roadway Section:

[Link to Functional Classification Update at the MAG Website](#)

2. Improvements in Traffic Management & Operations.

a. Enter the pre-improvement (current) avg corridor traffic speed:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

	Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
	Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
X	Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

NOTE: All ITS projects MUST involve eligible infrastructure improvements.

3. Other Improvements. Check all that apply:

PART B - CMAQ Score Data	
<input type="checkbox"/>	Traffic signal system improvements at a single agency
<input checked="" type="checkbox"/>	Traffic signal system improvements that apply to more than one agency
<input checked="" type="checkbox"/>	Includes improvements to coordination between arterial and freeway traffic operations
<input type="checkbox"/>	Project conforms to local land use plans
<input type="checkbox"/>	Adds features to traffic signals that would better accommodate seniors at pedestrian crossings
4. Traffic Flow Improvement Due to Project (Not required for Traffic Mgmt & Operations Improvements)	
a. Enter the pre-improvement (current) average traffic speed of the corridor:	<input style="width: 80px;" type="text"/>
b. Enter the post-improvement (current) average traffic speed of the corridor:	<input style="width: 80px;" type="text"/>

PART C1 - ITS Project Information

Please enter information **ONLY** in highlighted cells
 Links to various websites are provided for additional information and help
 The worksheet titled "Part C Example" shows an example on how to enter information

Integrated Corridor Mgmt ▾

A. Project Title & Sponsor

Lead Agency	Maricopa County Department of Transportation
Other Partnering Agencies	
Project Title	Expanded MCDOT TMC Support for ICM and Upgrade MCDOT Network
Project Category	Integrated Corridor Management

B. Project Goals & Objectives

Project Goals:
 The goal of this project is to upgrade equipment at the MCDOT TMC to better support regional ICM goals of improved freeway/arterial coordination during incidents. MCDOT's networking and display equipment will need to be expanded and upgraded in the coming years. MCDOT plans to expand its support to local agencies with emergency traveler information and re-routing on arterials, which will include during business hours as well as after-hours on an as-needed basis. Another goal of this project is to coordinate with ADOT operators to provide arterial information on freeway DMS for major arterial incidents.

Project Objectives:
 Improve arterial mobility and traveler safety on key arterials by:
 *Upgrade MCDOT's video display and network equipment (switches, firewall, video wall server and operating system) to better support expanded operational activities for ICM and emergency freeway-to-arterial detours
 *Operational activities that will be enabled include: notifications to agency TMCs and travelers about incident impacts and arterial re-routing from freeway incidents
 *Support local agency arterial incident information and special event information dissemination on freeway DMS in coordination with the ADOT TOC
 *Collaborating with partner agencies for the preferred level of support from MCDOT and REACT for such events
 *Review future regional ICM needs

C. Project Information

Project Location Description - a PDF file of a map must be submitted to MAG as an attachment:
 Video display and network upgrades will be performed at the MCDOT TMC. This project will include support for other local participating agencies, implemented in a phased approach. It is anticipated that operations support will be for ICM initiatives along arterials parallel to major freeways including I-10, I-17, Loop 101, Loop 202 and US 60.

PART C1 - ITS Project Information

Scope of the Project:

This project will support regional ICM goals of improved freeway/arterial coordination during incidents by upgrading essential equipment at the MCDOT TMC, including video wall, network and associated hardware (switches, video wall server) as well as software (operating system). The scope will include procuring video wall equipment (additional screens and video wall server), installing and integrating this equipment, and procuring updated networking equipment. MCDOT will complete concept planning/design activities for technology upgrades in advance of the equipment procurement.

D. Identify Project Components in MAG Regional ITS Architecture

Service Area	Addressed in this Project (Yes or No)	Applicable ITS Service Packages http://www.azmag.gov/ITS/
1. Traffic Management	Yes	ATMS 07
2. Public Transportation	No	
3. Communications	No	
4. Traveler Information	Yes	ATMS06, ATIS01, ATIS02
5. Archived Data Mgmt	No	
6. ITS for Safety	Yes	ATMS08
7. ITS Planning	No	
8. Fwy-Arterial Operations	Yes	ATMS 07

NOTE: Insert the relevant Architecture Flow Diagrams in worksheet: Part C-ITSArchFlowDiags

E. Program Year Preference (enter FY2018 oor FY2019)

Preferred program FY

F. Project Budget

	Federal Cost	Local Match (min 5.7%)	Total Cost
Amount	\$299,874.00	\$108,126.00	\$408,000.00
Cost percentage	73.5%	26.5%	

PART C1 - ITS Project Information

G. System Maintenance and Operations

Current staff resources available to support ITS operations at the local agency (in FTEs)	6
Additional staff resources required for fully utilizing features added by project (in FTEs)	N/A
Agency's estimated current annual ITS operations & maintenance (O&M) budget	\$1,400,000
Estimated additional annual O & M funds required for features added by this project	\$3,000
Estimated DATE from when required additional local O&M funds will be available	Jul-2019

Other comments:

MCDOT will utilize existing staff at the TMC and the REACT team. Current staff resources include 5 positions in the MCDOT TMC, and .5 ITS Branch Manager and 0.5 ITS Branch Administrative Specialist. FY 19 funds for O&M will be available and will be programmed into MCDOT's ITS Branch budget. This will be added to MCDOT's budget in 2019 following the 1 year warranty on equipment installed in 2018.

H. Systems Engineering Analysis Requirement

Commitment to address the federal requirement for Systems Engineering Analysis:

Agency's intent to follow the process described in the 'V' diagram during the project development process

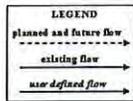
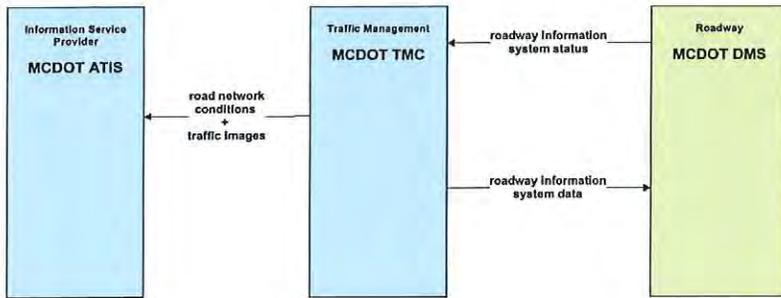
MCDOT is well versed with the Systems Engineering process and will conform to SEA analysis, including planning and concept development in advance of the funding from the MAG TIP.
http://azmag.gov/Documents/ITS_2010-11-22_ITS-Systems-Engineering-and-Architecture-Compliance-Checklist.pdf

PART C2 - ITS Architecture Flow Diagrams

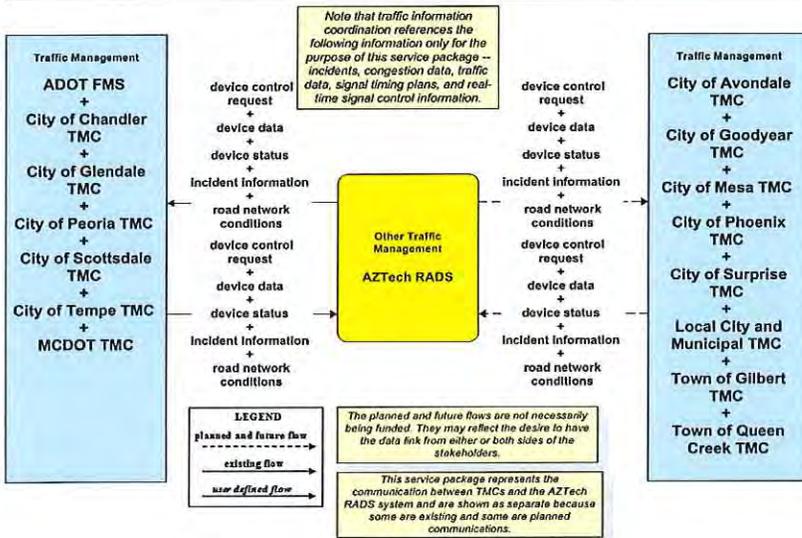
All relevant ITS Architecture Flow Diagrams MUST be inserted below for the relevant ITS Service Packages addressed by the proposed ITS project. This is to ensure that the project complies with the Regional ITS Architecture and meets a federal requirement for all federally funded ITS projects.

Insert Architecture Flow Diagrams in the space below:

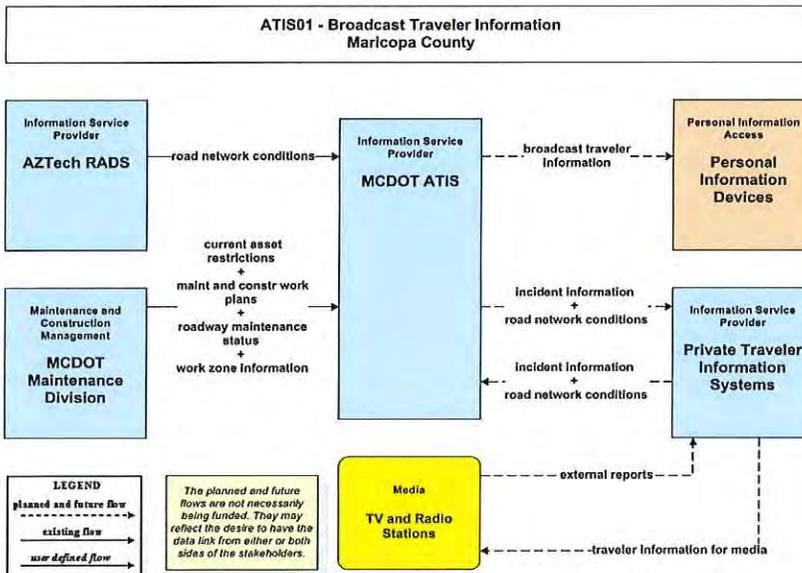
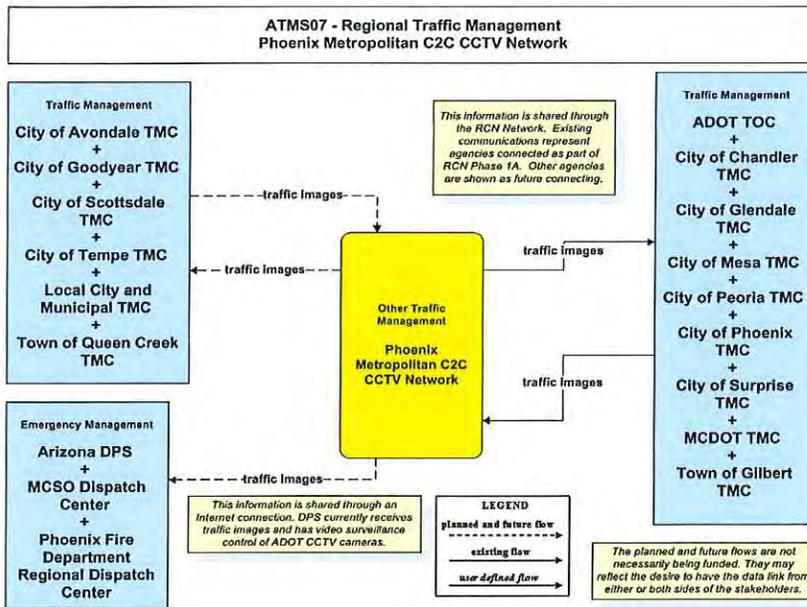
**ATMS06 - Traffic Information Dissemination
Maricopa County**



**ATMS07 - Regional Traffic Management
AZTech C2C TMS Network**

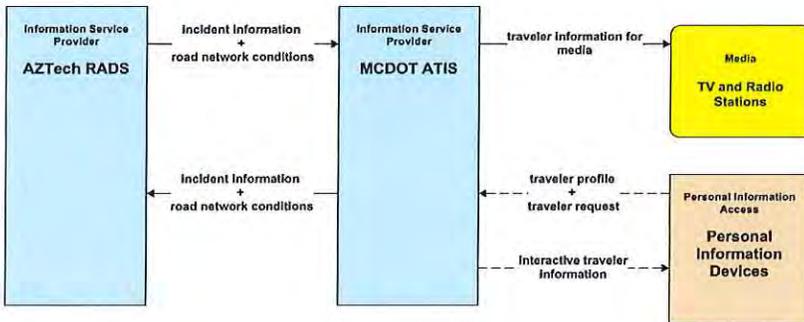


PART C2 - ITS Architecture Flow Diagrams



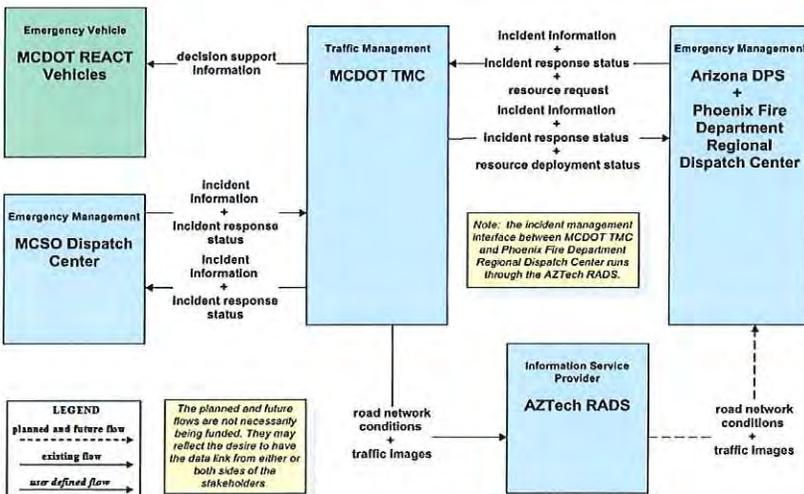
PART C2 - ITS Architecture Flow Diagrams

**ATIS02 - Interactive Traveler Information
Maricopa County**



The planned and future flows are not necessarily being funded. They may reflect the desire to have the data link from either or both sides of the stakeholders.

**ATMS08 - Traffic Incident Management System
Maricopa County (TM to EM)**



The planned and future flows are not necessarily being funded. They may reflect the desire to have the data link from either or both sides of the stakeholders.

PART D1 - Detailed Cost Estimate					
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
SUBTOTAL - CONSTRUCTION				\$0	\$0

PART D1 - Detailed Cost Estimate



4. MOBILIZATION AND ADMINISTRATION COSTS (Construction Only. If Section 1 is filled out, please fill out this section)

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
CONTRACTOR MOBILIZATION	LS	1		\$0.00	Yes
TRAFFIC CONTROL	LS	1		\$0.00	Yes
CONSTRUCTION SURVEY & LAYOUT	LS	1		\$0.00	Yes
CONSTRUCTION CONTINGENCIES	LS	1		\$0.00	Yes
CONSTRUCTION ADMINISTRATION	LS	1		\$0.00	Yes
SUBTOTAL – MOBILIZATION & ADMINISTRATION COSTS				\$ -	\$0
TOTAL CONSTRUCTION OR IMPLEMENTATION COST				\$ 318,000	\$ 318,000



D. ADOT Fee for PE Reviews and Staff Charges	LS	1	\$10,000	\$10,000	No
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TOTAL ADOT Fee COST				\$10,000	\$0
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E. TOTAL PROJECT COST				\$408,000	\$318,000
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F. SUMMARY OF FEDERAL AND NON-FEDERAL FUNDS

TOTAL COST FOR PROJECT CONSTRUCTION/IMPLEMENTATION	\$408,000
TOTAL COST FOR PROJECT ELIGIBLE FOR FEDERAL REIMBURSEMENT	\$318,000
TOTAL FEDERAL FUNDS @ 94.3% (.943 x Total Eligible Cost shown highlighted above)	\$299,874
LOCAL AGENCY MATCHING FUNDS (.057 x Total Cost shown highlighted above)	\$18,126
LOCAL AGENCY FUNDS <u>NOT</u> ELIGIBLE FOR FEDERAL REIMBURSEMENT	\$90,000

PART D2 - TOTAL PROJECT BUDGET AND TIP PROGRAMMING
(All Items are Required, Unless Identified as 'Optional')

Please provide a cost and programming estimate for the total project (e.g. the cost to complete all planned segment improvements). The design for the project should be programmed at least 1 year, preferably 2 years, prior to construction.

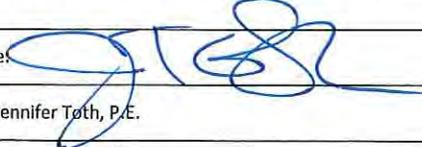
Section 1 - Total Project Budget

Cost Estimate for the Project from Part D1	Eligible Federal Cost	Local Cost Only	Total Cost	(Optional) Additional Notes
A. SCOPING (15% Preliminary Engineering Design) (Non-infrastructure projects: Only #2 applies).	\$ -	\$ 30,000	\$ 30,000	MCDOT will complete the Concept of Operations and System Engineering Analysis
B. FINAL PRELIMINARY ENGINEERING DESIGN - Stages II, III, IV and PS&E (Not applicable to non-infrastructure projects)	\$ -	\$ 50,000	\$ 50,000	Design and RFP for equipment
C. CONSTRUCTION OR IMPLEMENTATION				
1. CONSTRUCTION ELEMENTS	\$ -	\$ -	\$ -	
2. PROCUREMENT	\$ 299,874	\$ 18,126	\$ 318,000	
3. OTHER ITEMS	\$ -	\$ -	\$ -	
4. MOBILIZATION AND ADMINISTRATION COSTS (Construction Only)	\$ -	\$ -	\$ -	
SUBTOTAL	\$ 299,874	\$ 18,126	\$ 318,000	
D. ADOT Fee for PE Reviews and Staff Charges	\$ -	\$ 10,000	\$ 10,000	
Total Project Cost	\$ 299,874	\$ 108,126	\$ 408,000	

Agency Programming

Please describe the programming of the project in the agency's own CIP/TIP.	MCDOT will program this project into the MCDOT ITS Program budget for FY18. Additional O&M funds will be programmed into the MCDOT ITS Program budget in FY19 to cover equipment. The first year, equipment is under warranty.
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Requested MAG TIP Programming	Short Work Description (E.g. Construct HAWK)	Year (Choose One)	Local Cost	CMAQ Cost	Total Cost	Local Share
1. Scoping and PE (Optional)	System Engineering and Concept Plan	2017	\$ 30,000	\$ -	\$ 30,000	100%
2. Other (Optional)	Design, specifications, RFP	2017	\$ 50,000	\$ -	\$ 50,000	100%
3. Other (Optional)	ADOT Design Fee	2018	\$ 10,000	\$ -	\$ 10,000	100%
4. Construction or Implementation	upgrade and integrate equipment at MCDOT TMC	2018	\$ 18,126	\$ 299,874	\$ 318,000	6%
Totals			\$ 108,126	\$ 299,874	\$ 408,000	27%

PART E - SIGNATURE AND CHECKLIST	
As the jurisdiction's manager/administrator or designated representative, I certify that this application is accurate and complete and that the project will be included in the sponsoring MAG member agency's local CIP/TIP if the project is selected for federal funding.	
Signature: 	
Name: Jennifer Toth, P.E.	
Title: Director/County Engineer	
Sept. 18, 2015	
Checklist - OPTIONAL	
This check list is optional, but is included to facilitate applicant review and verification that all required fields in the form have been completed.	
PART A - Contacts	Complete?
Contact Information, fields 1 – 5 are complete	Yes
PART B - TIP Listing and CMAQ Score Data	Complete?
1. Traffic Estimate and Roadway Characteristics - Fields a - i are completed	Yes
2. Improvements in Traffic Management & Operations	Yes
3. Other Improvements - As applicable all fields are completed	Yes
4. Traffic Flow Improvement Due to Project	No
PART C1 - ITS Project Information	Complete?
Section A is Complete	Yes
Section B is Complete	Yes
Section C is Complete & A PDF file of map will be attached to the submittal to MAG	Yes
Section D is Complete & All relevant Architecture Flow Diagrams have been inserted in the worksheet	Yes
Section E is Complete	Yes
Section F is Complete	Yes
Section G is Complete	Yes
Section H is Complete	Yes
PART C2 - ITS Architecture Flow Diagrams have been inserted	Yes
PART D1 - Detailed Cost Estimate	Yes
PART D2 - TOTAL PROJECT BUDGET AND TIP PROGRAMMING	Yes
PART E - Signature & Checklist	Complete?
Form is signed	Yes
Name, title and date fields are completed.	Yes

