

**INTELLIGENT TRANSPORTATION APPLICATION**

**General Instructions:**

This Excel form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments (MAG) for Bicycle Projects to be included in the FY2014-FY 2018 MAG Transportation Improvement Program. Funding is available for Federal Fiscal Year (FFY) 2015, 2016 and 2017.

This application form includes:

- Part A - Contact and Project Description,
- PART B - ITS TIP Listing and CMAQ Score Data,
- PART C - ITS project Description,
- Part D - Checklist and Signature Page, and Transmittal Instructions and Schedule.

Each part is a separate tab of this excel file. Please complete Parts A - D. Alternative application forms are available upon request.

**Deadlines and Transmittal Instructions:**

Two copies of a printed, complete and signed application must be received in the MAG offices by **10:00 a.m. Wednesday, September 19, 2012**. The application is to be submitted electronically and should include ArcGIS shape files depicting the project location if they are available.

**Detailed transmittal instructions are located in a separate tab** in this excel sheet. Late applications **will not be accepted**.

If member agencies need additional information or have questions, they should contact Teri Kennedy or Stephen Tate at (602) 254-6300 or contact them by e-mail at the following addresses:

- <mailto:state@azmag.gov>
- <mailto:tkennedy@azmag.gov>
- <mailto:LLuo@azmag.gov>

**All information is required, unless noted by the word - Optional.**

**PART A - CONTACT AND PROJECT DESCRIPTION**

Contact Information	
1. Sponsoring Agency	City of Mesa
2. Contact Name	Avery Rhodes
3. Phone	(480) 644-4960
4. E-Mail Address	avery.rhodes@mesaaz.gov
5. Mailing Address	PO Box 1466, Mesa, AZ 85211-1466

(OPTIONAL)

If the applicant will be providing a GIS coverage (shapefile or geodatabase), please see the tab labeled "GIS Transmittal Instructions)

[GIS Submittal Instructions](#)

ITS Application from City of Mesa for 'Radio Communications Upgrade'

**PART B-ITS TIP Listing and CMAQ Score Data**

This part of the form identifies data to calculate an CMAQ Score and provide 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 in the 8-Hour Ozone Nonattainment Area. Please use the following link to verify that the map is located in the nonattainment area:

[Link to an 8-Hr Ozone Nonattainment Map on the MAG Website](#)

**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 Map on the MAG Website](#)

**2. Traffic Coordination Improvements. If the project improves traffic signal coordination, please do the following:**

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

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
<input type="checkbox"/> Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
<input type="checkbox"/> Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
<input type="checkbox"/> Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
<input type="checkbox"/> 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
<input type="checkbox"/> Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

**3. Other Improvements. Check all that apply:**

- Includes Traffic Signal Improvements for a Single Agency
- Includes Traffic Signal Improvements that Apply to More than One Agency
- Includes FMS Improvements
- The Project Conforms to Local Land Use Plans

Adds Traffic Signals that increase pedestrian crossing time for seniors

**4. Traffic Speed Impacts of the Project (Not required for Traffic Coordination Improvements)**

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

b. Enter the post-improvement (current) traffic speed of the traffic corridor:

ITS Application from City of Mesa for 'Radio Communications Upgrade'

**PART C -ITS project Description**

Please enter project data ONLY in highlighted cells, save the file with the lead agency name in it - ie. City 0 ITS Projects.xls  
 Submit this Excel workbook to MAG via email to: lluo@azmag.gov  
 Please use one worksheet per project, with the tab at the bottom indicating agency priority -- Mesa1, Mesa2,.. etc.  
 Links to various websites are provided for additional information and help  
 The worksheet titled "Example" shows an example on how to enter Data in the highlighted areas

Please enter required information in highlighted cells

**A. Project Title & Sponsor**

Lead Agency	City of Mesa
Other Partnering Agencies	
ITS Project Title:	Radio Communications Upgrade
Project Category:	Arterial ITS

**B. Project Goals & Objectives**

**Project Goals:**  
 Implement the ability to communicate to field devices wirelessly to support traffic management across the City.

**Objectives:**  
 Replace aging radio equipment and move from a congested and unlicensed frequency to a registered band that is less congested and will increase the bandwidth available to the City. Radio communications will support a wide variety of ITS devices to mitigate congestion such as traffic signal control, CCTV video viewing and control, dynamic message signs, and Anonymous Re-Identification travel time sensors.

**C. Project Information**

**Project Location:**  
 Multiple locations throughout the City. The City currently has 12 tower sites to support the access points for ITS communications. Remotes will be deployed at existing traffic signal locations and at other locations as needed.

**Scope of the project:**  
 Purchase 4 access points per radio tower on 12 existing radio towers for a total of 38 access points. Purchase 40 remotes to support field device communications back to the radio towers.

**D. Identify Components in MAG Regional ITS Architecture**

ITS applications	Relevant Applications (ENTER: Yes or No)	Applicable ITS Market Packages <a href="http://www.azmag.gov/ITS/">http://www.azmag.gov/ITS/</a>	Note: Please attach the Architecture Flow Diagram in the application
1. Traffic Management	No		
2. Transit Operations Support	No		
3. Communications	Yes		
4. Traveler Information	No		
5. Archived Data Management	No		
6. ITS for Safety	No		
7. ITS Plans	No		
8. Freeway-Arterial Operations	No		

**E. Program Year Preference**

First Choice       FY2015       FY2016       FY2017  
 Second Choice       FY2015       FY2016       FY2017  
 Third Choice       FY2015       FY2016       FY2017

**F. Project Budget**

	Federal Cost	Local Match (min 5.7%)	Total Cost
Amount	\$233,864.00	\$14,136.00	\$248,000.00
Cost percentage	94.3%	5.7%	

**G. Project Schedule**

The table below is provided as a tool to assist local agencies develop a project planning schedule. Column A shows standard project milestones and Column B shows the schedule based on a typical project procurement process. To generate a custom Project Schedule:(1) select applicable milestones in Column C;(2) Enter estimated time to complete milestone measured in months from project development start date in Column D; **NOTE: The project obligation date generated in cell E111 MUST occur before Sept 15th of the programmed fiscal year.** Determine the appropriate Project Activity Start Date (by trial-and-error) in order to obligate the project on time.

Standard Project Milestones	Default Schedule for Process	Applicable Milestones (ENTER - Yes OR No)	Estimated Time to Milestone (ENTER #Months)	Estimated Date
Apply for ADOT project number				Aug-2014
Receipt of ADOT project number	Oct-2014	Yes	1	Sep-2014
Initial DCR	Nov-2014	Yes	3	Nov-2014
Final DCR	Dec-2014	Yes	5	Jan-2015
30% Preliminary Plans, Cost Estimate and Report	Feb-2015	Yes	8	Apr-2015
60% Preliminary Plans, Cost Estimate and Report	Apr-2015	Yes	10	Jun-2015
Final Preliminary Plans, Cost Estimate and Report	Jun-2015	Yes	12	Aug-2015
Environmental Clearance	Apr-2015	Yes	11	Jul-2015
Utility Clearance	May-2015	Yes	11	Jul-2015
Right-of-Way Clearance	Feb-2015	Yes	11	Jul-2015
Approval of IGA	Aug-2015	No		NA
Obligation authority of Federal funds	Sep-2015	Yes	12	Aug-2015
Advised Date	Nov-2015	Yes	2	Oct-2015
Final Deployment	May-2016	Yes	6	Apr-2016

< ENTER mm/yyyy -- Project Activity €

**H. System Maintenance and Operations**

Current staff resources available for ITS operations at the local	19
Additional staff resources required for fully utilizing features added by	None
Estimated current annual ITS operations & maintenance budget	\$4,028,393
Estimated additional annual operations & maintenance funds required	\$0
Estimated DATE from when required additional O&M funds will be	Jul-2015

Other comments:

**I. 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

The project sponsor or lead agency intends to incorporate the Systems Engineering Analysis in the scope of work for the project's Design Concept Report. Details on the ADOT System Engineering Checklist can be found at:  
<http://www.azdot.gov/Highways/TTG/PDF/SystemsEngineeringChecklist.pdf>

**PART D - 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: *DK Cleavenger*

Name: *DANIEL K. CLEAVENGER*

Title: *TRANSPORTATION DEPARTMENT DIRECTOR (CITY OF MESA)*

Date: *9/18/12*

**WILL FILL OUT AFTER QUESTIONS APPROVED.**

**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.

<b>PART A - Contacts and Project Description Fields</b>	<b>Complete?</b>
Contact Information, fields 1 – 5 are complete	Yes
<b>PART B - TIP Listing and CMAQ Score Data</b>	<b>Complete?</b>
1. Traffic Estimate and Roadway Characteristics - Fields a - I are complete	
2. Traffic Coordination Improvements - as applicable table is complete	Yes
3. Other Improvements - As applicable all fields are completed	Yes
<b>PART C - Total Project Schedule and Budget Including All Segment Fields</b>	<b>Complete?</b>
Section A is Complete	Yes
Section B is Complete	Yes
Section C is Complete	Yes
Section D is Complete	Yes
Section E is Complete	Yes
Section F is Complete	Yes
Section G is Complete	Yes
Section H is Complete	Yes
Section I is Complete	Yes
<b>PART D - Signature Page Fields</b>	<b>Complete?</b>
Form is signed	Yes
Name, title and date fields are completed.	Yes

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## MAG CMAQ Project

### Intelligent Transportation Systems Project

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
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#### A. SCOPING (15% Preliminary Engineering Design)

(Non-infrastructure projects: Only #2 applies).

1. SITE TOPOGRAPHIC SURVEY	LS	0	\$50,000.00	\$0.00	No
2. PROJECT ASSESSMENT REPORT or DETAILED WORKPLAN	LS	1	\$5,000.00	\$5,000.00	No
3. SYSTEMS ENGINEERING ANALYSIS (must address FHWA requirements)	LS	0	\$10,000.00	\$0.00	No
4. ENVIRONMENTAL DETERMINATION (Infrastructure projects, including technical supporting documents)	LS	0	\$30,000.00	\$0.00	No
5. HAZMAT ASSESSMENT	LS	0		\$0.00	No
<b>SUBTOTAL – PROJECT SCOPING COSTS</b>				<b>\$5,000.00</b>	<b>\$0</b>

#### B. FINAL PRELIMINARY ENGINEERING DESIGN - Stages II, III, IV and PS&E

(Not applicable to non-infrastructure projects)

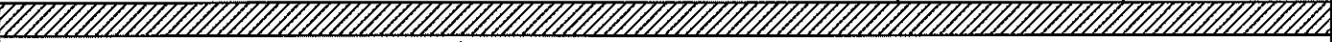
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
1. Right-of-Way Acquisition	LS	1		\$0.00	No
2. Plans, Special Provisions or Bid Manual, Cost Estimate & Schedules.	LS	1		\$0.00	No
3. GEOTECHNICAL INVESTIGATION and Materials & Pavement Design Report	LS	1		\$0.00	No
4. DRAINAGE REPORT	LS	1		\$0.00	No
5. Storm Water Pollution Prevention Plan (SWPPP)	LS	1		\$0.00	No
<b>SUBTOTAL – PROJECT DESIGN COSTS</b>				<b>\$0.00</b>	<b>\$0</b>

#### C. CONSTRUCTION OR IMPLEMENTATION

For non-infrastructure projects (no ground disturbing activities), address only parts 2, 3 and D.

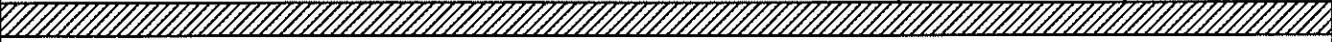
**1. CONSTRUCTION ELEMENTS (Insert additional rows if necessary)**

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
<b>SUBTOTAL - CONSTRUCTION</b>				\$0	\$0



**2. PROCUREMENT (Insert additional rows if necessary)**

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
<i>Radio Access Points</i>	EA	48	\$3,500	\$168,000	Yes
<i>Remotes</i>	EA	40	\$2,000	\$80,000	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
<b>SUBTOTAL – PROCURMENT</b>				\$248,000	\$248,000



**3. OTHER ITEMS**  
(Insert additional rows if necessary)

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
<b>SUBTOTAL - OTHER CONSTRUCTION LINE ITEMS</b>				\$0.00	\$0



**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
<b>SUBTOTAL – MOBILIZATION &amp; ADMINISTRATION COSTS</b>				\$ -	\$0
<b>TOTAL CONSTRUCTION OR IMPLEMENTATION COST</b>				\$ 248,000	\$ 248,000



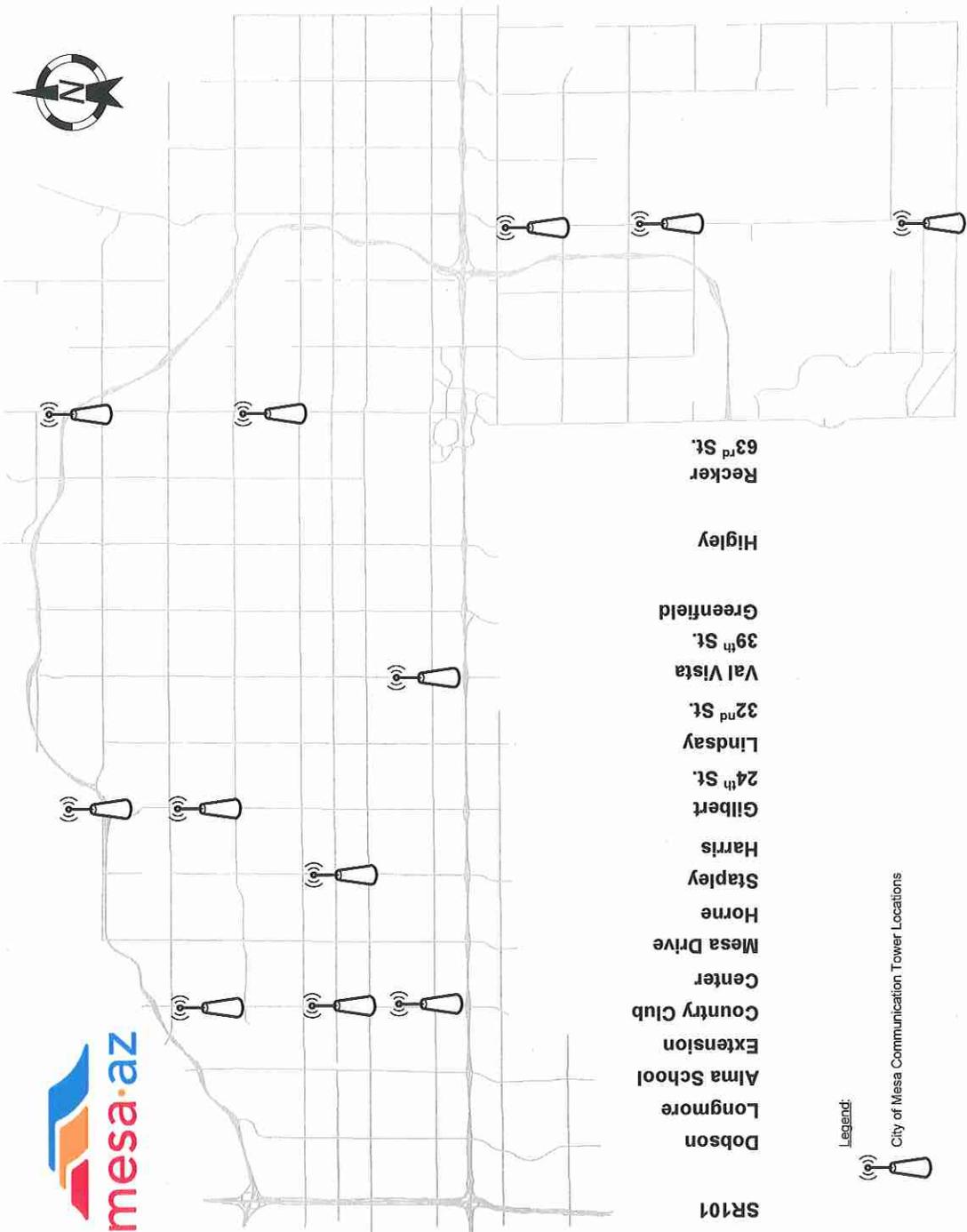
<b>D. ADOT Fee for PE Reviews and Staff Charges</b>	LS	1	\$5,000	\$5,000	No
<b>TOTAL ADOT Fee COST</b>				\$5,000	\$0



Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
<b>E. TOTAL PROJECT COST</b> (All <u>subtotals</u> + ADOT local projects review fee)				\$258,000	\$248,000
					

**F. SUMMARY OF FEDERAL AND NON-FEDERAL FUNDS**

TOTAL COST FOR PROJECT CONSTRUCTION/IMPLEMENTATION	\$258,000
TOTAL COST FOR PROJECT ELIGIBLE FOR FEDERAL REIMBURSEMENT	\$248,000
TOTAL FEDERAL FUNDS @ 94.3% (.943 x Total Eligible Cost shown highlighted above)	\$233,864
LOCAL AGENCY MATCHING FUNDS (.057 x Total Cost shown highlighted above)	\$14,136



- Thomas
- McDowell
- McKellips
- McLellan
- Brown
- 8<sup>th</sup> St.
- University
- Main
- Broadway
- 8<sup>th</sup> Ave.
- Southern
- Baseline
- Guadalupe
- Elliot
- Warner
- Ray
- Williams Field
- Pecos
- Germann

- SR101
- Dobson
- Longmore
- Alma School
- Extension
- Country Club
- Center
- Mesa Drive
- Horne
- Stapley
- Harris
- Gilbert
- 24<sup>th</sup> St.
- Lindsay
- 32<sup>nd</sup> St.
- Val Vista
- 39<sup>th</sup> St.
- Greenfield
- Higley
- Recker
- 63<sup>rd</sup> St.

- Power
- 72<sup>nd</sup> St.
- Sossaman
- Hawes
- Ellsworth
- Crismon
- Signal Butte
- Meridian

Legend:  
 City of Mesa Communication Tower Locations

