

PART A - CONTACT INFORMATION	
1. Sponsoring Agency	City of Apache Junction
2. Contact Name	Raquel Schatz
3. Phone	(480) 474-8549
4. E-Mail Address	rschatz@ajcity.net
5. Mailing Address	575 East Baseline Avenue, Apache Junction, AZ 85119
(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
<input type="checkbox"/>	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
<input checked="" 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

NOTE: All ITS projects MUST involve eligible infrastructure improvements.

3. Other Improvements. Check all that apply:

Traffic signal system improvements at a single agency

PART B - CMAQ Score Data

- Traffic signal system improvements that apply to more than one agency
- Includes improvements to coordination between arterial and freeway traffic operations
- Project conforms to local land use plans
- 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:

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

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

Arterial ITS ▼

A. Project Title & Sponsor

Lead Agency	City of Apache Junction
Other Partnering Agencies	City of Mesa
Project Title	Install CCTV cameras and wireless communications to signals
Project Category	Arterial ITS

B. Project Goals & Objectives

Project Goals:
 Install wireless communications to all traffic signals to connect all 18 City of Apache Junction traffic signals to a central wireless tower to backhaul to City of Mesa fiber terminating at Mesa's traffic signal at Signal Butte/US60. The City will establish a separate license agreement for operations and management of infrastructure with the City of Mesa. The City will use this project to establish the infrastructure necessary for surveillance and signal management in Apache Junction.

Project Objectives:
 Establish traffic surveillance and monitoring capability at City signalized intersections by installing wireless radios at 18 traffic signals not yet connected by any communications method as well as CCTV cameras at nine (9) intersections along Apache Trail and Ironwood Drive. This project will provide the City with valuable traffic, incident and special event management capabilities as well as partnering with neighboring jurisdictions the City of Mesa for signal coordination across jurisdictional boundaries. Design for this project will occur using City funds prior to FY2018.

C. Project Information

Project Location Description - a PDF file of a map must be submitted to MAG as an attachment:
 Wireless radios will be located at all Apache Junction owned traffic signals (18 total) along Ironwood Drive, Apache Trail, Old West Highway, Tomahawk Rd, Superstition Blvd, Baseline Ave, 36th Ave, Phelps Dr, and Delaware Dr. A wireless tower will be installed at the intersection of Ironwood Dr and Broadway Ave to be a backhaul location to a new wireless radio installed on the City of Mesa signal at Signal Butte Rd and US60. CCTV cameras will be installed at signalized intersections along Apache Trail and Ironwood Dr and connected to the wireless communications network.

Scope of the Project:
 Purchase and install wireless radios and wireless radio tower to connect all Apache Junction traffic signals to the City of Mesa central control system. Purchase and install a total of nine (9) CCTV cameras along Apache Trail from Meridian Road to Idaho Road and Ironwood Drive from Superstition to US-60. The City would integrate new traffic signals and new CCTV into the City of Mesa central system under a separate local project. This integration into the City of Mesa system would allow permissions control to specific departments within the City and other adjacent agencies via RCN to control the cameras for traffic and incident management purposes.

PART C1 - ITS Project Information

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	ATMS01-14, ATMS03-13
2. Public Transportation	No	
3. Communications	Yes	ATMS03-13
4. Traveler Information	No	
5. Archived Data Mgmt	No	
6. ITS for Safety	Yes	ATMS08-05
7. ITS Planning	No	
8. Fwy-Arterial Operations	No	

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

E. Program Year Preference (enter FY2018 or FY2019)

Preferred program FY FY2018

F. Project Budget

	Federal Cost	Local Match (min 5.7%)	Total Cost
Amount	\$267,340.00	\$16,160.00	\$283,500.00
Cost percentage	94.3%	5.7%	

G. System Maintenance and Operations

Current staff resources available to support ITS operations at the local agency (in FTEs)	3
Additional staff resources required for fully utilizing features added by project (in FTEs)	None
Agency's estimated current annual ITS operations & maintenance (O&M) budget	\$20,000
Estimated additional annual O & M funds required for features added by this project	\$23,000
Estimated DATE from when required additional local O&M funds will be available	Jul-2017

PART C1 - ITS Project Information

Other comments:

Additional O&M required to support this project are being included within City budgeting on a year-by-year basis starting in 2017.

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

The project sponsor/lead agency City of Apache Junction intends to incorporate the Systems Engineering Analysis in the scope of work for the project's Design completed by the City prior to this project funding becoming available, following guidance on the ADOT's System Engineering Checklist provided at:

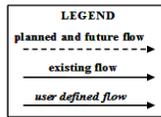
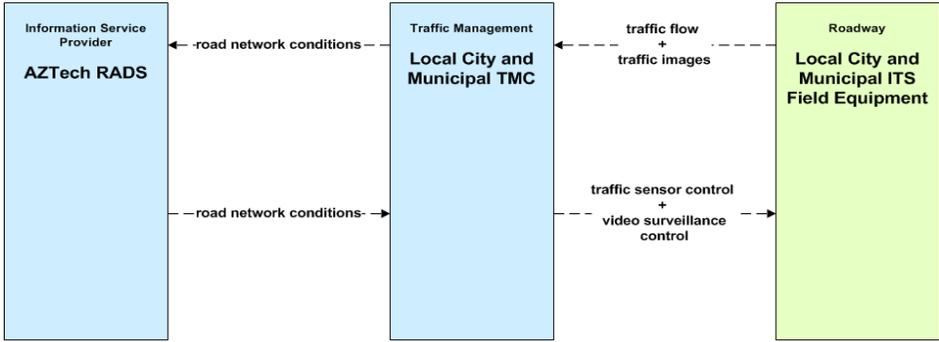
http://azmag.gov/Documents/ITS_2010-11-22_ITS-Systems-Engineering-and-Architecture-Compliance-Checklist.pdf

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.

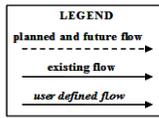
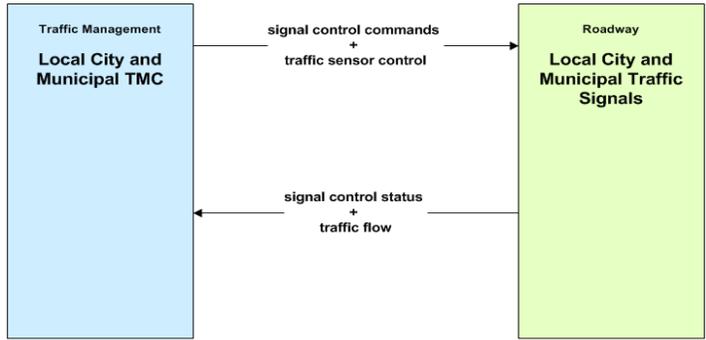
Insert Architecture Flow Diagrams in the space below:

**ATMS01 - Network Surveillance
Local Cities and Municipalities - Generic**

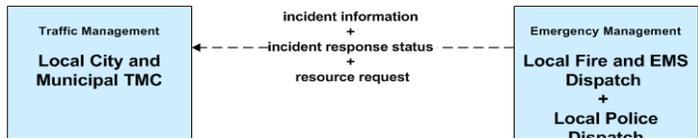


The planned and future flows are not necessarily being funded. They may reflect the desire to have the data link from either or both sides of the stakeholders.

**ATMS03 - Traffic Signal Control
Local Cities and Municipalities - Generic**



**ATMS08 - Traffic Incident Management System
Local Cities and Municipalities – Generic (TM to EM)**



PART C2 - ITS Architecture Flow Diagrams



LEGEND

- planned and future flow
- existing flow
- user defined flow

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 C2 - ITS Architecture Flow Diagrams

PART D1 - Detailed Cost Estimate					
				\$0	Yes
				\$0	Yes
SUBTOTAL - CONSTRUCTION				\$30,000	\$30,000

PART D1 - Detailed Cost Estimate

2. PROCUREMENT (Insert additional rows if necessary)

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
<i>Wireless Radio (at traffic signals)</i>	EA	18	\$4,500	\$81,000	Yes
<i>Wireless Radio (for backhaul to Mesa)</i>	EA	2	\$6,000	\$12,000	Yes
<i>CCTV Camera</i>	EA	9	\$5,000	\$45,000	Yes
					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
SUBTOTAL – PROCURMENT				\$138,000	\$138,000

3. OTHER ITEMS (Insert additional rows if necessary)

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
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
				\$0.00	Yes
SUBTOTAL - OTHER CONSTRUCTION LINE ITEMS				\$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?

PART D1 - Detailed Cost Estimate					
CONTRACTOR MOBILIZATION	LS	1	\$16,800.00	\$16,800.00	Yes
TRAFFIC CONTROL	LS	1	\$16,800.00	\$16,800.00	Yes
CONSTRUCTION SURVEY & LAYOUT	LS	1	\$23,530.00	\$23,530.00	Yes
CONSTRUCTION CONTINGENCIES	LS	1	\$8,400.00	\$8,400.00	Yes
CONSTRUCTION ADMINISTRATION	LS	1	\$19,970.00	\$19,970.00	Yes
SUBTOTAL – MOBILIZATION & ADMINISTRATION COSTS				\$ 85,500	\$85,500
TOTAL CONSTRUCTION OR IMPLEMENTATION COST				\$ 253,500	\$253,500

PART D1 - Detailed Cost Estimate					
D. ADOT Fee for PE Reviews and Staff Charges	LS	1	\$30,000	\$30,000	Yes
TOTAL ADOT Fee COST				\$30,000	\$30,000
E. TOTAL PROJECT COST				\$283,500	\$283,500
F. SUMMARY OF FEDERAL AND NON-FEDERAL FUNDS					
TOTAL COST FOR PROJECT CONSTRUCTION/IMPLEMENTATION					\$283,500
TOTAL COST FOR PROJECT ELIGIBLE FOR FEDERAL REIMBURSEMENT					\$283,500
TOTAL FEDERAL FUNDS @ 94.3% (.943 x Total Eligible Cost shown highlighted above)					\$267,341
LOCAL AGENCY MATCHING FUNDS (.057 x Total Cost shown highlighted above)					\$16,160
LOCAL AGENCY FUNDS <u>NOT</u> ELIGIBLE FOR FEDERAL REIMBURSEMENT					\$0

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.

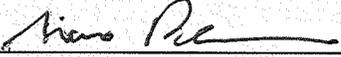
Section 1 - Total Project Budget

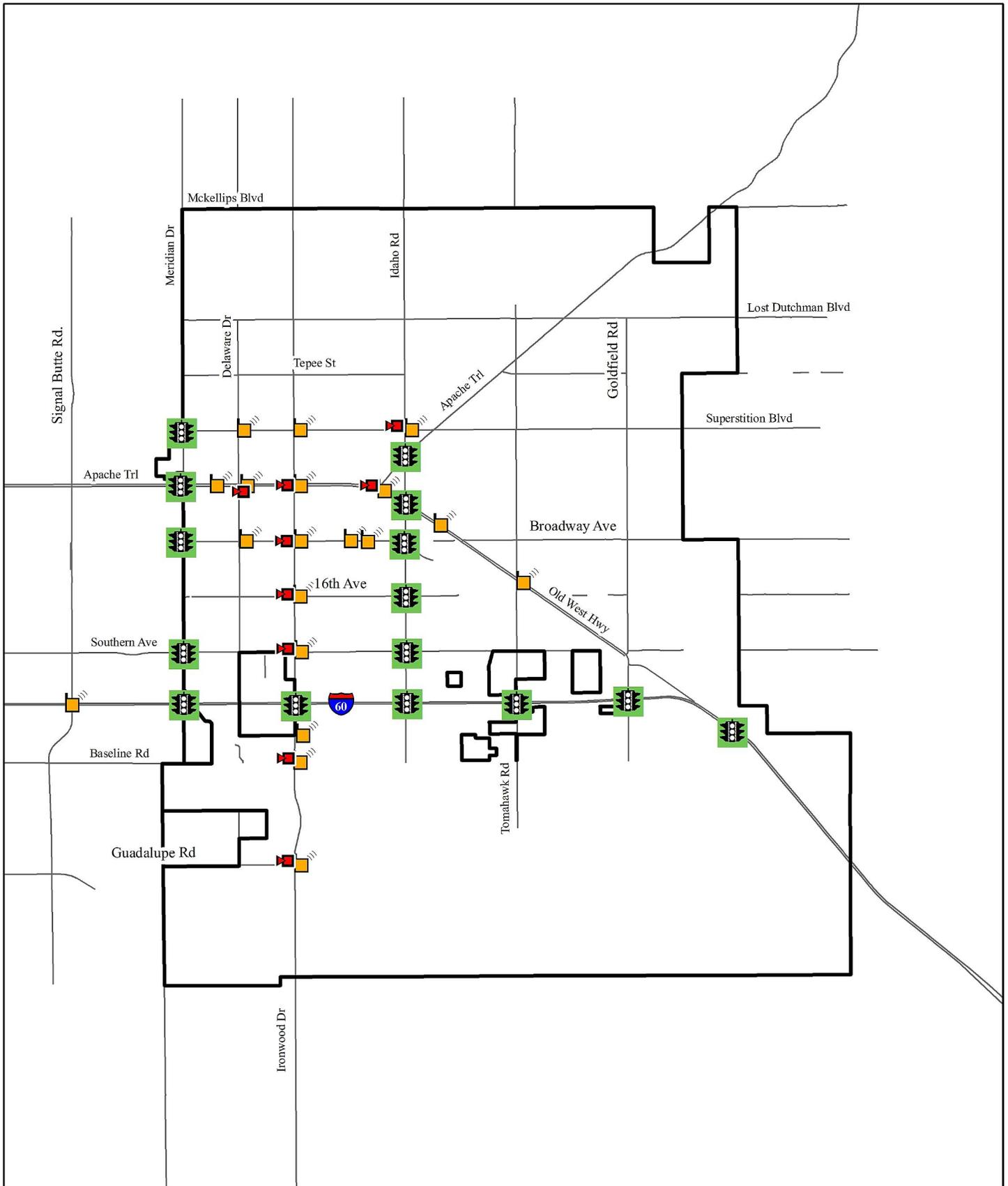
Cost Estimate for the Project from Part D1	Eligible Federal Cost	Local Cost Only	Total Cost	(Optional) Additional Notes
A. SCOPING (15% Preliminary Engineering Design) (Non-infrastructure projects: Only #2 applies).	\$ -	\$ -	\$ -	
B. FINAL PRELIMINARY ENGINEERING DESIGN - Stages II, III, IV and PS&E (Not applicable to non-infrastructure projects)	\$ -	\$ -	\$ -	
C. CONSTRUCTION OR IMPLEMENTATION				
1. CONSTRUCTION ELEMENTS	\$ 30,000	\$ -	\$ 30,000	
2. PROCUREMENT	\$ 138,000	\$ -	\$ 138,000	
3. OTHER ITEMS	\$ -	\$ -	\$ -	
4. MOBILIZATION AND ADMINISTRATION COSTS (Construction Only)	\$ 85,500	\$ -	\$ 85,500	
SUBTOTAL	\$ 253,500	\$ -	\$ 253,500	
D. ADOT Fee for PE Reviews and Staff Charges	\$ 30,000	\$ -	\$ 30,000	
Total Project Cost	\$ 283,500	\$ -	\$ 283,500	

Agency Programming

Please describe the programming of the project in the agency's own CIP/TIP.	The City has acquired an estimate from the City of Mesa for the license fee to extend the City's infrastructure onto City of Mesa's central system. The City is programming in the design of this project into FY2017 funding cycle to have the project designed for when funding becomes available in FY2018 for construction.
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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)				\$ -	\$ -	
2. Other (Optional)				\$ -	\$ -	
3. Other (Optional)				\$ -	\$ -	
4. Construction or Implementation	Install cameras and wireless infrastructure	2018	\$ 16,160	\$ 267,340	\$ 283,500	6%
Totals			\$ 16,160	\$ 267,340	\$ 283,500	6%

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:	Giao Pham
Title:	Public Works Director
Date:	09/17/2015
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	Yes
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



Basemap: ESRI ArcGIS Online Imagery, 2015

0 0.6 1.2 Miles

-  Proposed CCTV Camera
-  Proposed Wireless Radio
-  Non City-owned Traffic Signal
-  City of Apache Junction Municipal Boundary

