

| 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 | None |
| Project Title | Install fiber and conduit to connect to City Hall |
| Project Category | Arterial ITS |

B. Project Goals & Objectives

Project Goals:
 Provide interconnection between City Hall and the wireless backhaul radio at Ironwood Dr and Broadway Ave established in previous TIP project. Connects existing traffic signals in the City of Apache Junction with redundant communications and provides a reliable network for the City to use as a backbone for all communications in the City to manage traffic in day-to-day, incident and special event management conditions.

Project Objectives:
 Connect traffic signals via fiber communications for active management and operations accessible from City Hall. Provide fiber communications backhaul for traffic and public safety departments to have access to reliable intersection monitoring and control.

C. Project Information

Project Location Description - a PDF file of a map must be submitted to MAG as an attachment:
 Install fiber and conduit from City Hall at the intersection of Superstition Blvd and Idaho Rd along Superstition Rd west to Ironwood Dr and south along Ironwood Dr to Broadway Ave to connect the existing wireless backhaul radio tower (established by a previous TIP project).

Scope of the Project:
 Design conduit infrastructure and fiber along from City Hall at the intersection of Superstition Blvd and Idaho Rd along Superstition Rd west to Ironwood Dr and south along Ironwood Dr to Broadway Ave to connect the existing wireless backhaul radio tower. Infrastructure will connect to the City Hall complex as well as one of the two fire stations in the City.

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/ | NOTE: Insert the relevant Architecture Flow Diagrams in worksheet: Part C-ITSArchFlowDiags |
|----------------------------|---------------------------------------|---|---|
| 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 | No | | |
| 7. ITS Planning | No | | |
| 8. Fwy-Arterial Operations | No | | |

E. Program Year Preference (enter FY2018 or FY2019)

Preferred program FY

F. Project Budget

| | Federal Cost | Local Match (min 5.7%) | Total Cost |
|------------------------|--------------|------------------------|--------------|
| Amount | \$351,047.00 | \$21,220.00 | \$372,267.00 |
| 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 | \$5,000 |
| Estimated DATE from when required additional local O&M funds will be available | Jul-2018 |

PART C1 - ITS Project Information**Other comments:****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

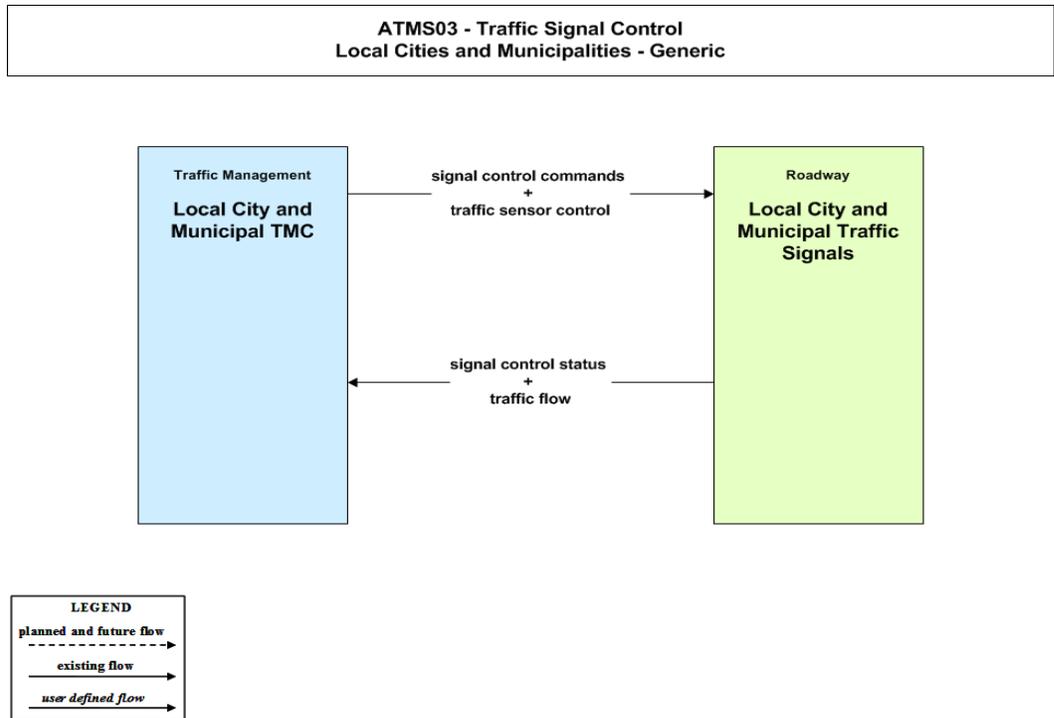
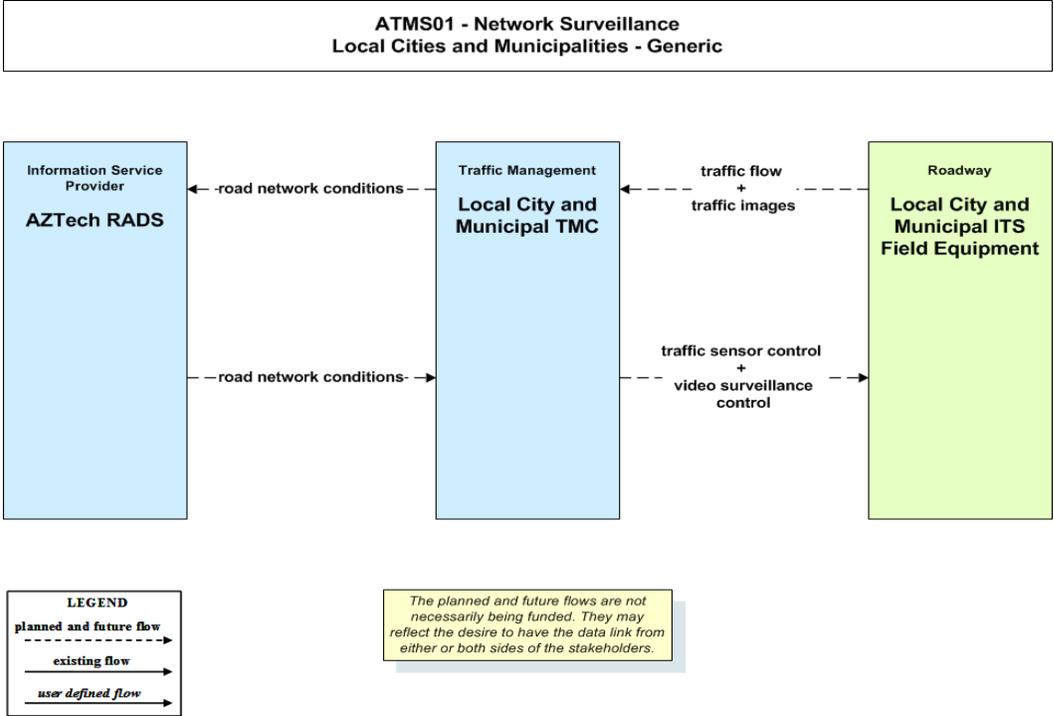
The project sponsor/lead agency City of Apache Junction intends to incorporate the Systems Engineering Analysis in the scope of work for the project's Design Concept Report, following guidance on the ADOT's System Engineering Checklist provided at:

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:



PART C2 - ITS Architecture Flow Diagrams

PART C2 - ITS Architecture Flow Diagrams

| PART D1 - Detailed Cost Estimate | | | | | |
|--|-----------|---------------|----------------|-----------------|--------------------|
| Item Description | Unit | Quant. | Unit Prices | Total | Eligible for CMAQ? |
| A. SCOPING (15% Preliminary Engineering Design) | | | | | |
| 1. SITE TOPOGRAPHIC SURVEY | LS | 0 | | \$0.00 | No |
| 2. PROJECT ASSESSMENT REPORT or DETAILED WORKPLAN | LS | 0 | | \$0.00 | No |
| 3. SYSTEMS ENGINEERING ANALYSIS (must address FHWA requirements) | LS | 0 | | \$0.00 | No |
| 4. ENVIRONMENTAL DETERMINATION (Infrastructure projects, including technical supporting documents) | LS | 0 | | \$0.00 | No |
| 5. HAZMAT ASSESSMENT | LS | 0 | | \$0.00 | No |
| SUBTOTAL – PROJECT SCOPING COSTS | | | | \$0.00 | \$0 |
| B. FINAL PRELIMINARY ENGINEERING DESIGN - Stages II, III, IV and PS&E | | | | | |
| Item Description | Unit | Quant. | Unit Prices | Total | Eligible for CMAQ? |
| 1. Right-of-Way Acquisition | LS | 0 | | \$0.00 | No |
| 2. Plans, Special Provisions or Bid Manual, Cost Estimate & Schedules. | LS | 0 | | \$0.00 | No |
| 3. GEOTECHNICAL INVESTIGATION and Materials & Pavement Design Report | LS | 0 | | \$0.00 | No |
| 4. DRAINAGE REPORT | LS | 0 | | \$0.00 | No |
| 5. Storm Water Pollution Prevention Plan (SWPPP) | LS | 0 | | \$0.00 | No |
| SUBTOTAL – PROJECT DESIGN COSTS | | | | \$0.00 | \$0 |
| C. CONSTRUCTION OR IMPLEMENTATION | | | | | |
| 1. CONSTRUCTION ELEMENTS (Insert additional rows if necessary) | | | | | |
| Item Description | Unit | Quant. | Unit Prices | Total | Eligible for CMAQ? |
| <i>New Conduit (2-3")</i> | <i>LF</i> | <i>9,240</i> | <i>\$8.00</i> | <i>\$73,920</i> | <i>Yes</i> |
| <i>New Conduit (2-3" Directional Drilled)</i> | <i>LF</i> | <i>3,960</i> | <i>\$25</i> | <i>\$99,000</i> | <i>Yes</i> |
| <i>No. 7 Pull Box (with extension)</i> | <i>EA</i> | <i>2</i> | <i>\$625</i> | <i>\$1,250</i> | <i>Yes</i> |
| <i>No. 9 Pull Box</i> | <i>EA</i> | <i>6</i> | <i>\$2,300</i> | <i>\$13,800</i> | <i>Yes</i> |
| <i>No. 9 Pull Box (Lid)</i> | <i>EA</i> | <i>6</i> | <i>\$1,500</i> | <i>\$9,000</i> | <i>Yes</i> |
| <i>Single Mode 12-Fiber Optic Cable</i> | <i>LF</i> | <i>1,320</i> | <i>\$2.00</i> | <i>\$2,640</i> | <i>Yes</i> |
| <i>Single Mode 96-Fiber Optic Cable</i> | <i>LF</i> | <i>13,200</i> | <i>\$2.50</i> | <i>\$33,000</i> | <i>Yes</i> |
| <i>Fiber Optic Splice Closure</i> | <i>EA</i> | <i>4</i> | <i>\$1,000</i> | <i>\$4,000</i> | <i>Yes</i> |
| <i>Fiber Termination Panel</i> | <i>EA</i> | <i>1</i> | <i>\$950</i> | <i>\$950</i> | <i>Yes</i> |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |

| PART D1 - Detailed Cost Estimate | | | | | |
|---|--|--|--|-----------|-----------|
| | | | | \$0 | Yes |
| | | | | \$0 | Yes |
| SUBTOTAL - CONSTRUCTION | | | | \$237,560 | \$237,560 |

| PART D1 - Detailed Cost Estimate | | | | | |
|---|----|---|-------------|-------------|------------|
| CONTRACTOR MOBILIZATION | LS | 1 | \$23,756.00 | \$23,756.00 | Yes |
| TRAFFIC CONTROL | LS | 1 | \$23,756.00 | \$23,756.00 | Yes |
| CONSTRUCTION SURVEY & LAYOUT | LS | 1 | \$33,258.00 | \$33,258.00 | Yes |
| CONSTRUCTION CONTINGENCIES | LS | 1 | \$11,878.00 | \$11,878.00 | Yes |
| CONSTRUCTION ADMINISTRATION | LS | 1 | \$27,058.00 | \$27,058.00 | Yes |
| SUBTOTAL – MOBILIZATION & ADMINISTRATION COSTS | | | | \$ 119,706 | \$119,706 |
| TOTAL CONSTRUCTION OR IMPLEMENTATION COST | | | | \$ 357,266 | \$ 357,266 |

| PART D1 - Detailed Cost Estimate | | | | | |
|---|----|---|----------|-----------|-----------|
| D. ADOT Fee for PE Reviews and Staff Charges | LS | 1 | \$15,000 | \$15,000 | Yes |
| TOTAL ADOT Fee COST | | | | \$15,000 | \$15,000 |
| E. TOTAL PROJECT COST | | | | \$372,266 | \$372,266 |
| F. SUMMARY OF FEDERAL AND NON-FEDERAL FUNDS | | | | | |
| TOTAL COST FOR PROJECT CONSTRUCTION/IMPLEMENTATION | | | | | \$372,266 |
| TOTAL COST FOR PROJECT ELIGIBLE FOR FEDERAL REIMBURSEMENT | | | | | \$372,266 |
| TOTAL FEDERAL FUNDS @ 94.3% (.943 x Total Eligible Cost shown highlighted above) | | | | | \$351,047 |
| LOCAL AGENCY MATCHING FUNDS (.057 x Total Cost shown highlighted above) | | | | | \$21,219 |
| 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

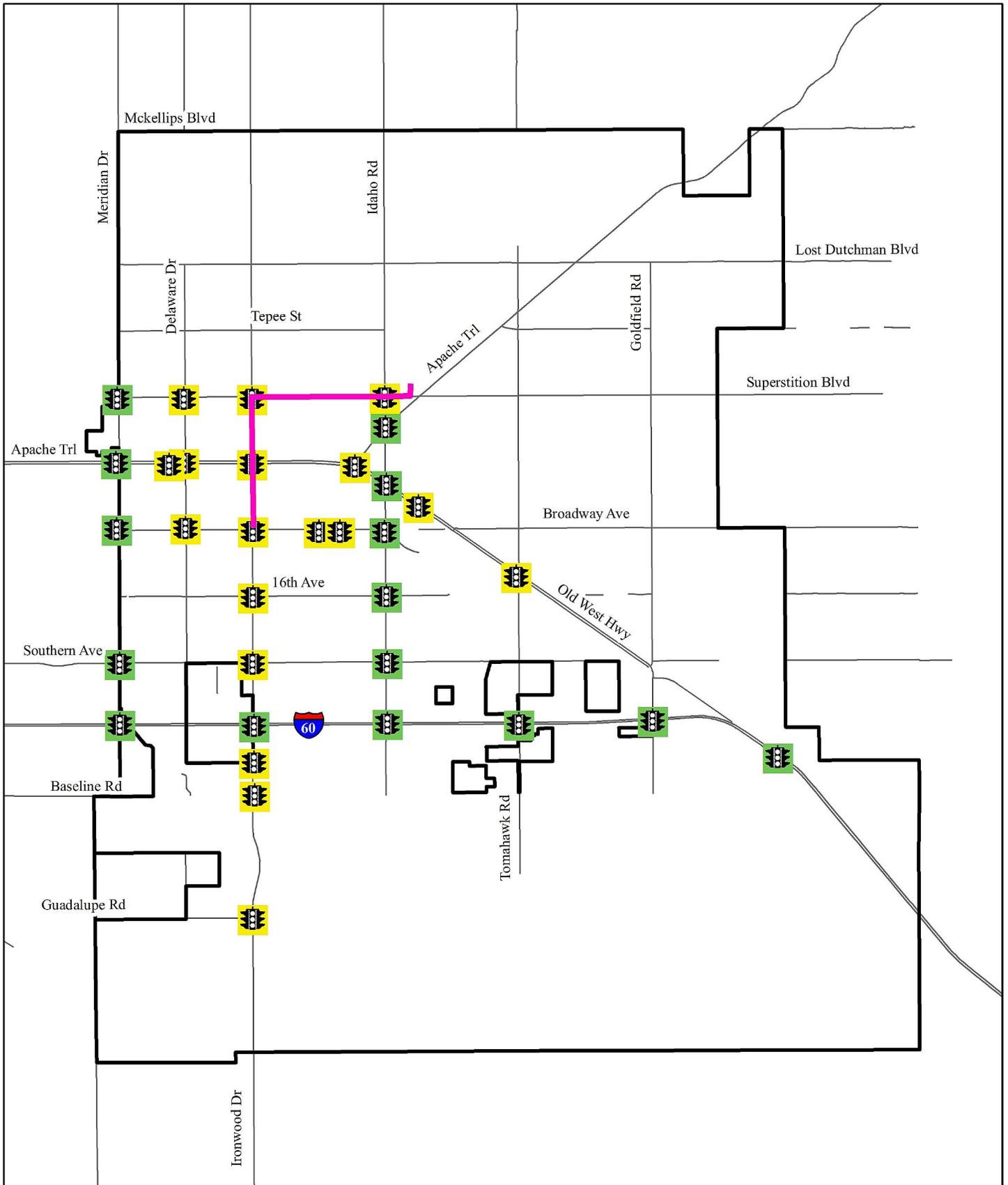
| Cost Estimate for the Project from Part D1 | Eligible Federal Cost | Local Cost Only | Total Cost | (Optional) Additional Notes |
|--|-----------------------|-----------------|------------|-----------------------------|
| A. SCOPING (15% Preliminary Engineering Design) (Non-infrastructure projects: 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 | \$ 237,560 | \$ - | \$ 237,560 | |
| 2. PROCUREMENT | \$ - | \$ - | \$ - | |
| 3. OTHER ITEMS | \$ - | \$ - | \$ - | |
| 4. MOBILIZATION AND ADMINISTRATION COSTS (Construction Only) | \$ 119,706 | \$ - | \$ 119,706 | |
| SUBTOTAL | \$ 357,266 | \$ - | \$ 357,266 | |
| D. ADOT Fee for PE Reviews and Staff Charges | \$ 15,000 | \$ - | \$ 15,000 | |
| Total Project Cost | \$ 372,266 | \$ - | \$ 372,266 | |

Agency Programming

| | |
|---|--|
| Please describe the programming of the project in the agency's own CIP/TIP. | The City is programming in the design of this project into FY2018 funding cycle to have the project ready for when funding becomes available in FY2019 for construction. |
|---|--|

| 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 fiber and conduit to connect to City Hall | 2019 | \$ 21,220 | \$ 351,047 | \$ 372,267 | 6% |
| Totals | | | \$ 21,220 | \$ 351,047 | \$ 372,267 | 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



City-owned Traffic Signal

Proposed Fiber



City of Apache Junction Municipal Boundary



Non City-owned Traffic Signal

0 0.5 1 Miles

