

ITS PROJECT APPLICATION FORM FY 2009-2013 TIP

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2009-2013 MAG Transportation Improvement Program. Currently funding is available only for **FY 2013**.

Separate application forms are available for bicycle, pedestrian, air quality, and transit projects. Freeway, street and rail transit projects will be programmed in a separate process.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.
- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.
- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding. **PLEASE NOTE: Part C is only available electronically.** It is available at: <http://www.mag.maricopa.gov/project.cms?item=413>, or you can contact Leo Luo: lluo@mag.maricopa.gov, and he will send you the electronic file.

Deadlines and Transmittal Instructions: All sections should be completed and returned to MAG Offices by **5:00 p.m. September 7, 2007**. Please e-mail Judy Tadlock at MAG, jtadlock@mag.maricopa.gov this application (Part A & B). Part C is only available electronically as noted above. Please e-mail Leo Luo the completed Part C, excel file to lluo@mag.maricopa.gov. The mailing address and FAX number for the MAG offices is:

ATTN: Judy Tadlock
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at <http://www.mag.maricopa.gov/project.cms?item=413>. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Eileen Yazzie at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

| | |
|---|---|
| <p>1. Name of the Agency Contact for the Project Request:</p> <p style="text-align: center;">Jeffrey Herb, P.E., Traffic Engineer, Town of Gilbert</p> | <p>2. Telephone:</p> <p style="text-align: center;">(480) 503-6932</p> |
| <p>3. E-mail</p> <p style="text-align: center;">Jeffrey.Herb@ci.gilbert.az.us</p> | <p>4. Date:</p> <p style="text-align: center;">9/7/2007</p> |

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Part A: Project TIP Listing Information and Description

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

| | |
|---|--|
| <p>1. Sponsoring Agency Name:</p> <p>Town of Gilbert (Lead Agency) Town of Queen Creek (Partnering Agency)</p> | <p>2. Year (Please check box):</p> <p><input checked="" type="checkbox"/> FY 2013</p> |
| <p>3. Project Location (The project limits if applicable):</p> <p>Pecos Road – Greenfield to Power Roads Power Road – Pecos to Queen Creek Roads Germann Road – Power to Sossaman Roads</p> | |
| <p>4. Type of Work (Description of the work to be performed):</p> <p>The proposed project will install approximately five miles of fiber optic cable and associated communications hardware to complete a high-bandwidth, non-leased interconnection between the Traffic Operations Centers in the Towns of Gilbert (existing TOC) and Queen Creek (planned TOC, funded in FY2008). The work will include approximately 3.5 miles of new fiber optic cable in Gilbert and approximately 1.5 miles in Queen Creek (see attached map for route details). All associated splices, branch cables, and field network electronics are included.</p> <p>Note that all conduit and pull box infrastructure required for this work is existing, or will be installed as part of other Town-funded projects prior to installation of the cable. Therefore, no underground work or excavation is contemplated as part of this project, and so an expedited environmental review process is anticipated.</p> <p>Also, this project will incorporate five existing traffic signals on Power Rd into the Town of Gilbert’s central traffic signal management system. This includes the signals on Power Rd at Pecos Rd, Rittenhouse Rd, Germann Rd, Ryan Rd/Haven Crest Dr, and Queen Creek Rd.</p> <p>The project will also provide for shared CCTV surveillance capabilities at three critical intersections located at one-mile spacings along Power Rd on the common boundary between the towns. This includes the intersections of Power Rd at Pecos Rd, Germann Rd, and Queen Creek Rd. Both jurisdictions will share CCTV images and control by way of the center-to-center fiber optic connection installed with this project.</p> <p>Finally, engineering design services are also proposed to be included. The intention is to utilize the services of a consultant available through MAG’s ITS On-Call Contract in order to simplify the selection process. It is expected that the Town of Gilbert will remain as the lead agency for the consolidated design and construction, with on-going support from Queen Creek staff as appropriate.</p> | |
| <p>5. Amount of Federal Funds Requested (This amount cannot exceed 70.0 percent of the total cost of the project.):</p> <p>\$137,690.00 in total - Town of Gilbert (\$88,858) - Town of Queen Creek (\$48,832)</p> | <p>6. Type of Federal Funds Requested (Please check box.):</p> <p><input type="checkbox"/> MAG STP <input checked="" type="checkbox"/> CMAQ</p> |

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Part A: Project TIP Listing Information and Description

| | | | | | | | | | |
|--|---|-------------------------------|--------------------------------------|--|--|------------------------------------|----------------------------------|---------------------------------------|---|
| <p>7. Amount of Local Funds to be Used (This amount cannot be less than 30.0 percent of the total cost of the project.):</p> <p><u>\$59,010.00 in total</u> - Town of Gilbert (\$38,082) - Town of Queen Creek (\$20,928)</p> | <p>8. Type of Local Funds to be Used: (Please check <u>only one</u> box.):</p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> HURF</td> <td><input type="checkbox"/> Impact Fees</td> </tr> <tr> <td><input checked="" type="checkbox"/> General Fund</td> <td><input type="checkbox"/> Bond Proceeds</td> </tr> <tr> <td><input type="checkbox"/> Sales Tax</td> <td><input type="checkbox"/> Private</td> </tr> <tr> <td><input type="checkbox"/> Property Tax</td> <td><input type="checkbox"/> Other, Please specify: _____</td> </tr> </table> | <input type="checkbox"/> HURF | <input type="checkbox"/> Impact Fees | <input checked="" type="checkbox"/> General Fund | <input type="checkbox"/> Bond Proceeds | <input type="checkbox"/> Sales Tax | <input type="checkbox"/> Private | <input type="checkbox"/> Property Tax | <input type="checkbox"/> Other, Please specify: _____ |
| <input type="checkbox"/> HURF | <input type="checkbox"/> Impact Fees | | | | | | | | |
| <input checked="" type="checkbox"/> General Fund | <input type="checkbox"/> Bond Proceeds | | | | | | | | |
| <input type="checkbox"/> Sales Tax | <input type="checkbox"/> Private | | | | | | | | |
| <input type="checkbox"/> Property Tax | <input type="checkbox"/> Other, Please specify: _____ | | | | | | | | |
| <p>9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested):</p> <p>\$196,700.00</p> | | | | | | | | | |
| <p>10. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.</p> <p style="text-align: center;">- Project Site Map</p> | | | | | | | | | |

ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP

Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

| | | | | | | |
|--|--|--|---|---|---|--------------------------------|
| <p>1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:</p> <p style="text-align: center;">28,000</p> | <p>2. Name of the Roadway Section Used for the ADT Estimate:</p> <p style="text-align: center;">Power Rd (Pecos Rd to Germann Rd)</p> | <p>3. Type of Facility to be Improved (Check only <u>one</u> box):</p> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Arterial > 4 legs (e.g. Grand)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Arterial Street</td> </tr> <tr> <td><input type="checkbox"/> Collector Street</td> </tr> <tr> <td><input type="checkbox"/> Other</td> </tr> </table> | <input type="checkbox"/> Arterial > 4 legs (e.g. Grand) | <input checked="" type="checkbox"/> Arterial Street | <input type="checkbox"/> Collector Street | <input type="checkbox"/> Other |
| <input type="checkbox"/> Arterial > 4 legs (e.g. Grand) | | | | | | |
| <input checked="" type="checkbox"/> Arterial Street | | | | | | |
| <input type="checkbox"/> Collector Street | | | | | | |
| <input type="checkbox"/> Other | | | | | | |
| <p>4. Number of Through Lanes Currently on the Facility Prior to Project Completion (Do <u>not</u> include right, left or center turn lanes):</p> <p style="text-align: center;">6</p> | <p>5. Number of Through Lanes on the Facility After the Project is Completed (Do <u>not</u> include auxiliary lanes):</p> <p style="text-align: center;">6</p> | <p>6. Length of the Facility (in miles):</p> <p style="text-align: center;">7 miles</p> | | | | |

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Part B: CMS and CMAQ Data

| | | |
|---|---|--|
| 7. Township Coordinate of the Midpoint of the Facility: T2S | 8 Range Coordinate of the Midpoint of the Facility: R6E | 9. Section Coordinate of the Midpoint of the Facility: S12 |
|---|---|--|

10. If the project improves traffic signal coordination, please do the following:
- a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **45 MPH (posted, actual data not available)**
 - 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"/> Non-interconnected, pre-timed signals with old timing plan | Advanced computer-based control | 25.0 percent |
| <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 |

11. Other Project Information: (Check as many as are applicable):
- 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
 - The facility is on the adopted MAG Roads of Regional Significance Network
 - Adds Traffic Signals that increase pedestrian crossing time for seniors

- 12 Management System (Please check only one box)
- | | |
|---|---|
| <input checked="" type="checkbox"/> Congestion Management System (CMS) | <input type="checkbox"/> Safety Management System (SMS) |
| <input type="checkbox"/> Bridge Management System (BMS) | <input type="checkbox"/> Intermodal Management System (IMS) |
| <input type="checkbox"/> Pavement Management System (PMS) | <input type="checkbox"/> Other |
| <input type="checkbox"/> Public Transportation Management System (PTMS) | |

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.
- Priority 1**

Part C: MAG Technical Committee Additional Information

This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding. **Part C is only available electronically. It is available at: <http://www.mag.maricopa.gov/project.cms?item=413>, or you can contact Leo Luo: llo@mag.maricopa.gov, and he will send you the electronic file.**

Contact Information

Please contact Sarath Joshua or Leo Luo at (602) 254-6300 or sjoshua@mag.maricopa.gov, llo@mag.maricopa.gov for additional information or questions.

**FY 2009 - 2013 TIP - Programming 2013
MAG ITS Project Data Form**

Please enter project data **ONLY** in highlighted cells, save the file with the lead agency name in it - ie. Mesa ITS Projects.xls

Submit this Excel workbook to MAG via email to: LLUO@MAG.MARICOPA.GOV

Please use one worksheet per project, with the tab at the bottom indicating agency priority

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. If errors are detected alerts will pop-up in **red text**.

The worksheet titled "HELP" shows how to figure out your project's ITS Subsystems & Architecture Flows

Please enter required information in highlighted cells

A. Project Title & Sponsor

| | |
|----------------------------------|--|
| Lead Agency | Town of Gilbert |
| Other Partnering Agencies | Town of Queen Creek |
| ITS Project Title: | Gilbert-Queen Creek Center-to-Center Project |

B. Project Goals & Objectives

Project Goals:

To facilitate congestion mitigation through the coordinated flow of traffic and management of incidents across jurisdictional limits between the Towns of Gilbert and Queen Creek, with particular emphasis on facilities which lie on the common boundaries of the towns.

To provide for central traffic signal management and CCTV surveillance along a portion of Power Rd, a Principal Arterial and MAG Road of Regional Significance straddling the town boundaries.

Objectives:

-- To establish a high-bandwidth, non-leased interconnection between the Traffic Operations Centers for the Towns of Gilbert and Queen Creek by completing gaps in the existing or planned fiber optic infrastructure (by adding 3.5 miles in Gilbert and 1.5 miles in Queen Creek).

-- To connect existing, isolated traffic signals to the Town of Gilbert's existing central signal system. This includes the signals on Power Rd at Pecos Rd, Rittenhouse Rd, Germann Rd, Ryan Rd/Haven Crest Dr, and Queen Creek Rd.

-- To provide shared CCTV surveillance capabilities at three critical intersections at one-mile spacings along Power Rd on the common boundary between the towns. This includes Power Rd at Pecos Rd, Germann Rd, and Queen Creek Rd.

C. Define ITS Subsystems, Achitecture Flows, Communications & Arterial ITS Applications

| | |
|---|-----------|
| <u>SELECT ITS Subsystems:</u> http://www.iteris.com/itsarch/html/entity/pae | Yes or No |
| Center Subsystem | Yes |
| Traveler Subsystem | No |
| Field/Roadside Subsystem | Yes |
| Vehicle Subsystem | No |
| Communications Subsystem | Yes |

Architecture Flows (Information flows among four subsystems: Traveler, Center, Roadside and Vehicle Subsystems)

| From Subsystem | To Subsystem | Information flow |
|--|--|--|
| Center Subsystem-TOC | Center Subsystem-TOC | signal status, video images, video control |
| Roadside Subsystem-CCTV, Signal Controller | Center Subsystem-TOC | signal status, video images |
| Center Subsystem-TOC | Roadside Subsystem-Signal Controller, CCTV | signal control, video control |
| | | |
| | | |
| | | |
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| | | |
| | | |
| | | |

Communications: Required communications medium for data sharing with other agencies: (if applicable)

| From agency | To agency | data flow | Medium | Existing? | Future (year) mm/yyyy | Check Date with Project Schedule |
|-------------|-----------|-----------|--------|-----------|--------------------------|-------------------------------------|
| | | | | | | |

| | | | | | | |
|-------------|-------------|--|-------|---------|----------|--|
| Gilbert | Queen Creek | signal settings, traffic data, video images, video control | Fiber | Partial | Nov-2013 | |
| Queen Creek | Gilbert | signal settings, traffic data, video images, video control | Fiber | No | Nov-2013 | |
| | | | | | | |
| | | | | | | |

| <u>Arterial ITS applications</u> | Relevant Applications (ENTER: Yes or No) | <u>Applicable ITS User Services Addressed</u> http://www.iteris.com/itsarch/html/user/userserv.htm | <u>Applicable ITS Market Packages</u> http://www.iteris.com/itsarch/html/mp/mpindex.htm |
|--|---|---|---|
| 1. Traffic Management | Yes | 1.6, 1.7 | ATMS01, ATMS03, ATMS07, ATMS08 |
| 2. Transit Operations Support | No | | |
| 3. Interagency Data Sharing and Control | No | | |
| 4. Integrated Traveler Information | No | | |
| 5. Archived Data Management | No | | |
| 6. Incident Management | Yes | 1.7 | ATMS08 |
| 7. Freeway-Arterial | No | | |

D. Project Budget

- (1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed \$1 million per program year per agency.
- (2) Joint projects that involve 3 or more agencies may exceed \$1m in federal cost. Federal cost of each agency's component will not be counted against the \$1m limit.
- (3) There is no limit on the number of projects that may be submitted by an agency, but each project requires the 30 percent local cost match
- (4) For multijurisdictional projects, the federal and local shares of each partnering agency must be shown below.

| | Federal Cost | Local Match (min 30%) | Total Cost |
|----------------------------|---------------------|------------------------------|---------------------|
| Lead Agency | \$88,858.00 | \$38,082.00 | \$126,940.00 |
| Partnering Agency#1 | \$48,832.00 | \$20,928.00 | \$69,760.00 |
| Partnering Agency#2 | | | \$0.00 |
| Partnering Agency#3 | | | \$0.00 |
| Total | \$137,690.00 | \$59,010.00 | \$196,700.00 |
| Cost percentage | 70.0% | 30.0% | |

Note: Each participating agency should provide at least 30% local match for its share of the total cost

E. Project Schedule

The following project milestones and schedules are based on a typical project procurement process. Please select applicable milestones. Some ITS projects may follow an abbreviated process. ENTER estimated time for such a process

| Standard Project Milestones | Default Schedule for Process | Applicable Milestones (ENTER - Yes OR No) | Estimated Time to Milestone (ENTER #Months) | Estimated Date (Enter> mm/yyyy) |
|---|-------------------------------------|--|--|---|
| Apply for ADOT project number | | | | Nov-2012 |
| Receipt of ADOT project number | Jan-2013 | Yes | 2 | Jan-2013 |
| Initial DCR | Feb-2013 | No | | NA |
| Final DCR | Mar-2013 | No | | NA |
| 30% Preliminary Plans, Cost Estimate and Report | May-2013 | No | | NA |
| 60% Preliminary Plans, Cost Estimate and Report | Jul-2013 | Yes | 5 | Apr-2013 |
| Final Preliminary Plans, Cost Estimate and Report | Sep-2013 | Yes | 7 | Jun-2013 |
| Environmental Clearance | Jul-2013 | No | | NA |
| Utility Clearance | Aug-2013 | Yes | 7 | Jun-2013 |
| Right-of-Way Clearance | May-2013 | Yes | 7 | Jun-2013 |
| Approval of IGA | Nov-2013 | Yes | 14 | Jan-2014 |
| Obligation authority of Federal funds | Dec-2013 | Yes | 8 | Jul-2013 |
| Advertised Date | Feb-2014 | No | | NA |
| Final Deployment | Aug-2014 | Yes | 12 | Nov-2013 |

F. System Maintenance and Operations

Current staff resources available for ITS operations at the local agency (FTEs)

3

Additional staff resources required for fully utilizing features added by project (FTEs)

0

Estimated current annual ITS operations & maintenance budget

\$10,000

Estimated additional annual operations & maintenance funds required for features added by project

\$0

Estimated DATE from when required additional O&M funds will be available

N/A

check project schedule

Other comments:

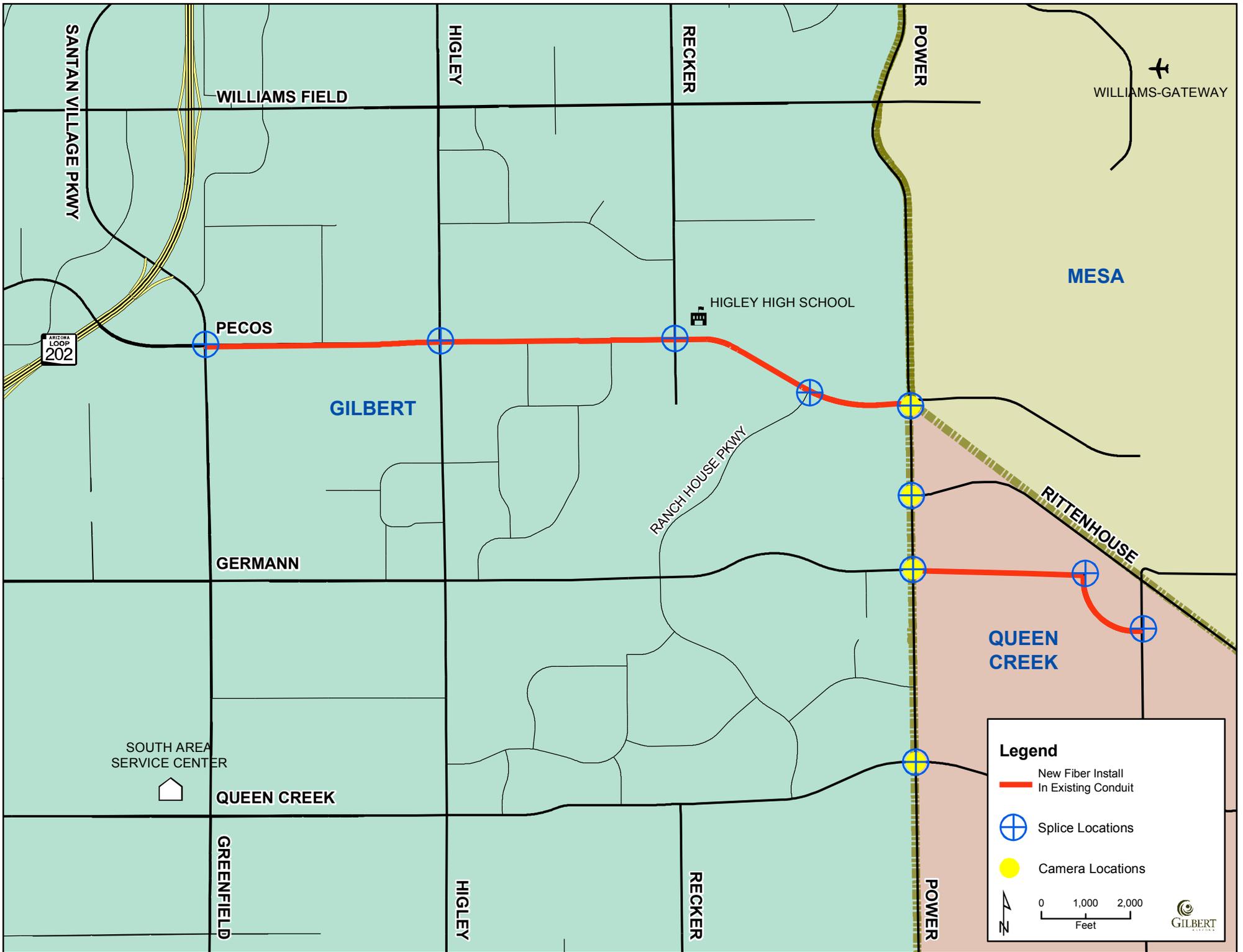
The Towns of Gilbert and Queen Creek already have an established Intergovernmental Agreement and good working relationship in place with regard to traffic signals because Gilbert staff presently provides both routine maintenance and emergency call-out service for the existing signals in Queen Creek. Although a new or updated agreement will be required for this project, both jurisdictions have a history of cooperating in this and other areas related to Public Works, and so a smooth deployment of this project is expected.

G. 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 (See Appendix A of Arterial ITS Plan) 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. The Systems Engineering Analysis will be carried out based on the document Systems Engineering for ITS published by FHWA in January 2007. A guidelines document prepared by FHWA (AZ office) and MAG dated August 2006 is also available (both are posted at the MAG website).



Legend

- New Fiber Install
- - - In Existing Conduit
- ⊕ Splice Locations
- Camera Locations

0 1,000 2,000
Feet

GILBERT