TOWN OF BUCKEYE

Town of Buckeye Public Works Department
423 E. Arizona Eastern Ave., Buckeye, AZ 85326
Phone: 623-349-6800 Fax: 623-349-6850

September 11, 2006

Attention Surath Joshua, PE, Ph.D.
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, Arizona 853003

RE: **FY 2009 MAG Intelligent Transportation Systems (ITS) TIP-CMAQ Federal Funding Application**

Location: **Miller Road and Monroe Avenue ITS Project, Town of Buckeye, Arizona**

Dear Mr. Joshua of the Maricopa Association of Governments:

It is with great pleasure that the Town of Buckeye submits an application for the **FY 2009 TIP Progam CMAQ Federal Funding Application for Intelligent Transportation Systems (ITS)**. The Town of Buckeye would like to thank you for the opportunity to apply for federal funding to complete a critical pedestrian connection with the Town.

Miller Road from Interstate 10 to Hazen Road is one of two primary north-south access routes to Historic Downtown Buckeye. In the future, Miller Road is slated to ultimately be a Major Arterial network connection between Interstate 10 and the future planned, ADOT SR801 East-West corridor (tentatively planned at Miller and Hazen Roads). Additionally, Monroe Avenue, a MAG Road of Regional Significance, is a vital east-west corridor connecting through Downtown Historic Buckeye, Arizona, from Miller Road on the west to the Town Police Department to the east. The community/development in this historic area dates back to the late 1800's which precedes sidewalks and paved roadways. The Town of Buckeye is eager to receive appropriate direction for the design and implementation of an ITS project plan for the Miller and Monroe corridors.

Buckeye recognizes that Maricopa County has many areas of need, however, we find that this project is worthy of consideration and believe that it does not only provide connections to local area transportation management systems, but also provides critical linkage to future Freeway Management Systems on a regional basis. However, this project's primary purpose would be to mitigate vehicular congestion and promote safety by shifting pedestrians from roadways to sidewalks and/or other future multimodal transportation facilities, such as: bus, park and ride, light rail and commuter rail facilities.

Please consider this application for approval. If you have any questions regarding the application, please feel free to call Thomas Chlebanowski 623-349-6804.

With appreciation and consideration,

Scott W. Lowe, P.E., C.E.M
Town of Buckeye Public Works Director
The Town of Buckeye Public Works Department

423 Arizona Eastern Ave.• Buckeye, Arizona 85326• (623) 349-6815• FAX (623) 349-6850

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Cover Sheet

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 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

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.

Deadlines and Transmittal Instructions: This form should be completed and returned to MAG Offices by **5:00 p.m. September 1, 2006**. The mailing address and FAX number for the MAG offices is:

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

If you wish to e-mail this information, please send it to state@mag.maricopa.gov.

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at www.mag.maricopa.gov. 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 Paul Ward 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.

1.	Name of the Agency Contact for the Project Request: **Thomas Chlebanowski, P.E.**	2.	Telephone: **623-349-6804**
3.	E-mail **tchlebanowski@buckeyeaz.gov**	4.	Date: **Sept 8, 2006**

This Page Left Blank

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

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 2008-2012 MAG Transportation Improvement Program. Currently funding is available only for **FY 2008, FY 2009, FY 2010 and FY 2012**.

Separate application forms are available for bicycle, pedestrian and transit projects. Also, a general application form is provided for projects that do not fit the categories listed. Freeway, street and rail transit projects will be programmed in a separate process, so please **DO NOT** use the general form to apply for funding for freeway, street and rail transit projects.

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

1. Sponsoring Agency Name: **Town of Buckeye, Arizona**	2. Year (Please check only one box): ☐ FY 2008 √ FY 2009 ☐ FY 2010 ☐ FY 2012
3. Project Location (The project limits if applicable): **Town of Buckeye-Miller Road (N-S) from I-10 (north limit) to Hazen Road (south limit). Monroe Street (E-W), the Town's Downtown main street from Miller Road (west limit) to Apache Road/Police Department (east limit).**	
4. Type of Work (Description of the work to be performed): **Along Miller Road, approximately 6 miles of a future Principal/Major Arterial will have 12 traffic signals (with ½ mile spacing). This corridor at full build out is slated for 130' ROW and is the Town of Buckeye's major connection route from Interstate 10 to Downtown Buckeye. Miller Road (N-S) also has a major intersection connection with downtown Buckeye Monroe Street, which is the main east-west street connection through downtown Buckeye. Monroe Street, which runs through downtown Buckeye, is considered by MAG to be a road of Regional Significance and forms an east-west critical connection from Miller Road that be an ITS connection that ultimately terminates at a Central Communication site at the Town of Buckeye Police Station.** **Both corridors will need smart/Intelligent Transportation Systems in the form of conduit segments, traffic signal equipment and possible wireless access points for communication uplinks to all of the current or planned traffic signals along them. The need to interconnect the traffic signals is for the purpose of efficient, optimal traffic timing that promotes traffic progression and mitigates congestion. This interconnection will be planned and designed to be integrated with the police department's central communication project that is currently being planned. This critical link from Miller Road to Apache along Monroe will establish continuity between traffic and police communication.**	
5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.): **$210,000.00**	6. Type of Federal Funds Requested (Please check only one box.): ☐ MAG STP √ CMAQ

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.): **$90,000.00**	8. Type of Local Funds to be Used: (Please check only one box.): ☐ HURF ☐ Impact Fees √ General Fund ☐ Bond Proceeds ☐ Sales Tax ☐ Private ☐ Property Tax ☐ Other, Please specify: _____
9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested): **$300,000.00**	

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part A: Project TIP Listing Information and Description

Section Two: Project Description

Please complete the following information for all projects. The information provided is necessary for MAG staff and modal technical advisory committees (TACs) to understand and evaluate the federal funding request. Information supplied under items 1, 2 and 3 will be provided to the TACs as part of the evaluation process.

1. 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.

   See attached maps for project location and project limits.

2. Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

3. Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

4. Explain how the project addresses multi-modal issues. For example, show how the project accommodates the needs of bicyclists and pedestrians by including facilities designed in accordance with: (a) MAG Pedestrian Plan 2000; (b) MAG Pedestrian Area Policies and Design Guidelines; (c) MAG Regional Bicycle Plan; (d) MAG Regional Off-Street System Plan. Describe the pedestrian and/or bicycle facility included in the project and how that facility meets the guidance of the above documents.

5. Explain how this facility meets the needs of older adults. For example, which design elements from FHWA's Highway Design Handbook For Older Drivers and Pedestrians will be incorporated into this project: (a) Larger, better-illuminated signs and higher contrast signage; (b) Advanced distance notification of required tasks (e.g. merge, four-way stops); (c) Consistent overhead placement of lane-use control signs; (d) Increase pedestrian control-signal timing based on an assumed walking speed of .85 meters per second; The use of protected-only operations in turning lanes; Any other older adult considerations.

6. Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

7. Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

ITS PROJECT APPLICATION FORM – FY 2008-2012 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.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: **3694**	2. Name of the Roadway Section Used for the ADT Estimate: **Tuthill Road (N-S) at Narramore Road**	3. Type of Facility to be Improved (Check only one box): √ Arterial > 4 legs (e.g. Grand) ☐ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **4-6 Lanes on Miller and 4 lanes on Monroe**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **6 Lanes on Miller and 4 lanes on Monroe**	6. Length of the Facility (in miles): **6 miles on Miller and 1 mile on Monroe Street to Police Dept.**
7. Township Coordinate of the Midpoint of the Facility: **T 1 South**	8 Range Coordinate of the Midpoint of the Facility: **R 3 West**	9. Section Coordinate of the Midpoint of the Facility: **Section 5**

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part B: CMS and CMAQ Data

10. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor: **Miller (15 mph-50 mph) on Monroe (15-40 mph)....depending on peak times.**

NOTE that 15 mph speed is for two localized school speed zones along the corridors. Additionally, these ITS corridors will improve progression and reduce delay.

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
√	Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐	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
☐	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

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)

√ Congestion Management System (CMS)
☐ Bridge Management System (BMS)
☐ Pavement Management System (PMS)
☐ Public Transportation Management System (PTMS)
☐ Safety Management System (SMS)
☐ Intermodal Management System (IMS)
☐ Other

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.

Because Miller Road is the one of the Town's two major (north-south) connections from the Interstate, as well as Monroe being the major corridor through downtown Buckeye this corridor, this project is considered at a number ONE PRIORITY.

ITS PROJECT APPLICATION FORM – FY 2008-2012 TIP
Part C: MAG Technical Committee Additional Information

General Instructions: This part is required for all ITS projects.

All ITS project requests should also include the coversheet, Part A and Part B of the Transportation Improvement (TIP) ITS Project Application Form.

Overview of the ITS Committee Rating System

The Rating System Subcommittee of the MAG ITS Committee is responsible for developing and refining the MAG ITS Project Rating System. The initial effort on developing a project rating system was launched in 1998 and was used to compare projects in 1998 and 1999. It was by no means a perfect system, but provided a systematic and an objective method to compare projects, taking into account key factors considered important by the committee. The subcommittee further revised this system in June 2000 and in August 2001. The current system was adopted by the MAG ITS Committee on September 6, 2001.

The primary purpose of the ITS Project Rating System is to help the MAG ITS Committee prioritize ITS projects submitted by member agencies for inclusion in the annual update of the Transportation Improvement Program (TIP). Only projects that qualify as ITS projects are rated using this system. How projects are deemed qualified as ITS projects eligible for federal funds, is based on the National ITS Architecture developed by the USDOT. A regional architecture that is compatible with the National ITS Architecture is a requirement for all major metropolitan regions. Such an architecture has been defined for the MAG region and is included in the MAG ITS Strategic Plan Update of April 2001. The National ITS Architecture refers to Market Packages as ITS applications that are tailored to fit real-world transportation problems. Market Package definitions contained within National ITS Architecture documents are used as the sole criteria to determine whether a candidate project submitted by a MAG member agency for inclusion in the TIP qualifies as an ITS project. Projects that may not meet federal requirements to qualify as an ITS project may qualify for federal funding as a street improvement project.

A number of factors are considered in the ITS Project Rating System. They ensure that projects that foster regional integration, consistency with regional architecture, cost-benefit ratio, and equity are given due credit in the project prioritization process. The rating system accomplishes the following:

- Provides the ability to rate projects submitted by all member agencies on an objective basis
- Encourages integrated rather than fragmented systems
- Encourages regional cooperation
- Encourages projects that extend seamlessly across boundaries
- Encourages projects that are likely to yield higher cost-benefits ratio
- Encourages higher matching funds by cities - stretches the federal funds for more projects

Website for ITS data entry

To provide information for the ITS project rating System and obtain the needed reports and other information on ITS see the MAG website at:

http://www.mag.maricopa.gov/detail.cms?item=3948

Contact Information

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

This Page Left Blank

SECTION-2

Question #1

SEE ATTACHED AREA MAPS FOR TOWN OF BUCKEYE PROJECT LOCATION AND LIMITS

ANSWERS TO QUESTIONS #2 thru #6

Question #2

Please attach a description of the project. This description should be no longer than 150 words and should include a description of the work to be performed, whether the project includes design, right-of-way acquisition and construction phases, identification of any major structures (e.g. bridges) to be constructed and the relationship of the project to other programmed and planned projects in the TIP, regional plan, local capital improvement programs or local plans.

Miller Road, approximately 6 miles of a future Principal/Major Arterial, will have 12 traffic signals (with ½ mile spacing). This corridor at full build out is slated as the Town's major connection route from Interstate 10 to Downtown Buckeye. Miller Road (N-S) also has a major intersection connection with downtown Buckeye Monroe Street, which is the main east-west street connection through downtown Buckeye. Monroe Ave forms an east-west critical connection from Miller Road and is an ITS backbone connection, ultimately terminating at a future communication hub at the Police Station.

The need for ITS in the form of conduit segments, traffic signal equipment and possible wireless access points for connection across irrigation canals and to uplink to ensure continuity of the corridor. The need to interconnect the traffic signals provides efficient, optimal traffic timing that promotes traffic progression and mitigates congestion and also promotes pedestrian interface with the transportation system.

Question #3

Please attach an explanation of why the project should receive MAG federal funding. This explanation should be no longer than 150 words and should describe the problem or goal the project is intended to address. If CMAQ funding is requested the explanation should indicate what air quality benefits are to be achieved by the project. The explanation could also describe the project's expected congestion mitigation or reduction impacts, service to underserved communities, safety benefits, usage levels, advancement of regional or multi-jurisdictional goals, improvement in network continuity and accessibility and other benefits.

The Miller and Monroe ITS Project should receive MAG federal funding because of the cross cutting population group that the project will eventually serve. The goal of the project is to promote pedestrian, vehicular, event, incident and safety Transportation System management while mitigating traffic congestion and ease of connectivity to future pedestrian/bicycle corridors, multimodal facilities (ie, future park and ride, bus and rail facilities). These future facilities will not be utilized if efficient access to multimodal facilities. The smart interconnection between the vehicular, pedestrian and para-transit facilities improve air quality through less congestion, improve safety by removing the pedestrian from the roadway corridor.

Additional to safety, the project will ideally promote a quality of life in the form of health and socio economic benefits to the pedestrian by promoting mobility to the ADA impaired, the elderly and children attending school throughout the corridor area.

Question #4

Explain how the project addresses multi-modal issues. For example, show how the project accommodates the needs of bicyclists and pedestrians by including facilities designed in accordance with: (a) MAG Pedestrian Plan 2000; (b) MAG Pedestrian Area Policies and Design Guidelines; (c) MAG Regional Bicycle Plan; (d) MAG Regional Off-Street System Plan. Describe the pedestrian and/or bicycle facility included in the project and how that facility meets the guidance of the above documents.

The goal of the project is to promote pedestrian, bicycle, vehicular, event, incident and safety Transportation System management while mitigating traffic congestion and adding to the ease of connectivity to future multimodal facilities such as pedestrian/bicycle corridors or future park and ride, bus and commuter rail facilities. These future facilities will not be utilized if efficient access to multimodal facilities is planned for and implemented. The smart interconnection between the vehicular, pedestrian and para-transit facilities through the use of improve air quality through less congestion on roadways, improved safety by removing the pedestrian from the roadway corridor, less congestion by enabling passengers to cycle and bus to destinations by the use of connectivity to multimodal transportation facilities.

Question #5

Explain how this facility meets the needs of older adults. For example, which design elements from FHWA's Highway Design Handbook For Older Drivers and Pedestrians will be incorporated into this project: (a) Larger, better-illuminated signs and higher contrast signage; (b) Advanced distance notification of required tasks (e.g. merge, four-way stops); (c) Consistent overhead placement of lane-use control signs; (d) Increase pedestrian control-signal timing based on an assumed walking speed of .85 meters per second; The use of protected-only operations in turning lanes; Any other older adult considerations.

Remembering that the elderly, may need more time for reaction to surroundings. The pedestrian control of the corridor will address signal timing to accommodate the pedestrian corridor usage by the elderly. Additionally, when elderly are in vehicular modes of travel, the corridors will address the advanced warning and placement of signage that has higher visibility through illumination and contrast in compliance w/ADA and FHWA Design Handbook for Older Drivers and Pedestrians.

Question #6

Please provide a cost breakdown for the project including quantities and unit costs used. This information is requested only for the purpose of aiding MAG staff in determining the eligibility of the project for the federal funding requested and for identifying potential problems with the cost estimate.

The following is an estimated itemized cost breakdown for the project.

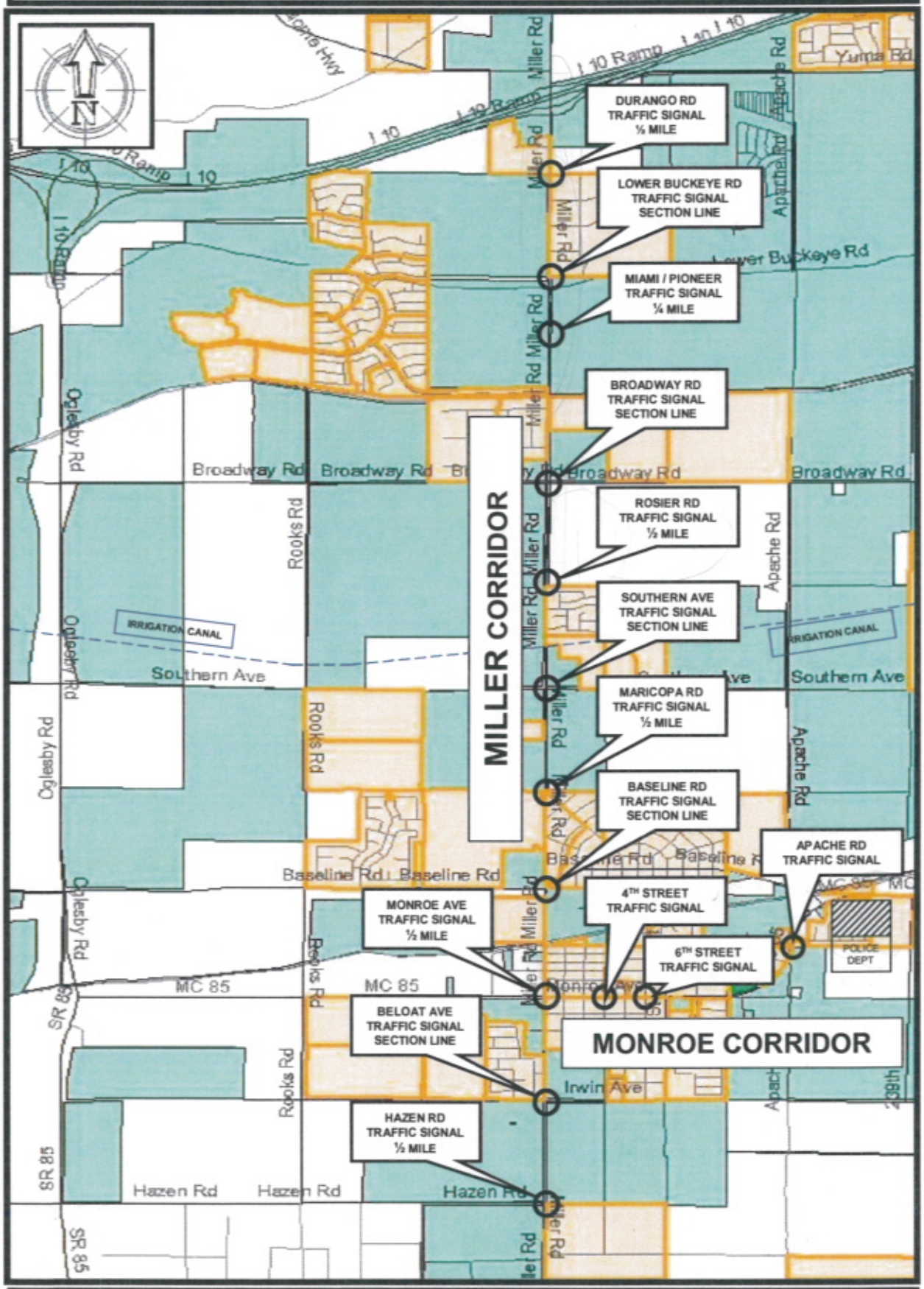
Design and Environmental	$ 90,000.00
Equipment, Conduit	$170,000.00
Construction Admin	$ 25,000.00
Contingency	$ 15,000.00
TOTAL	$300,000.00

Question #7

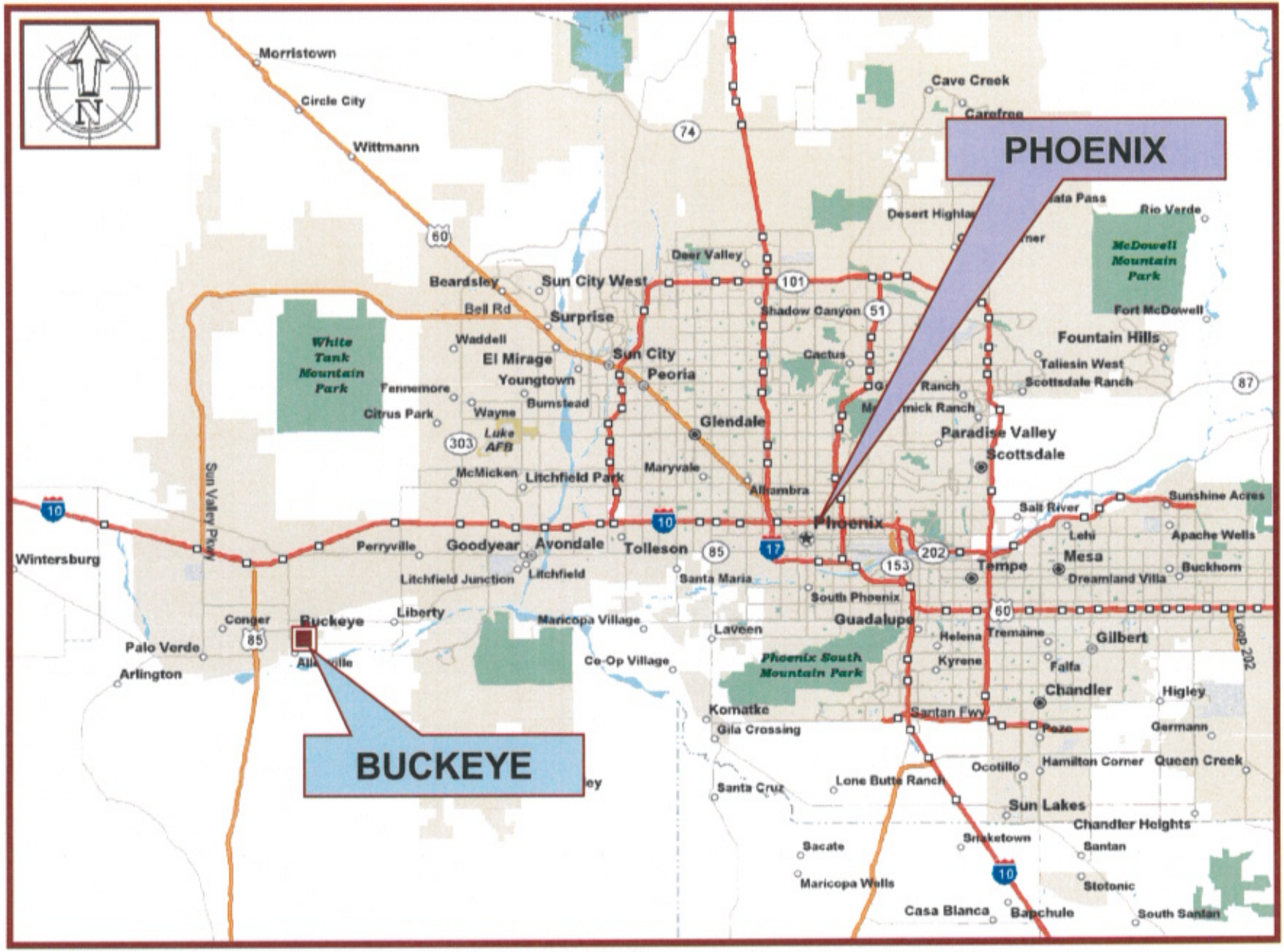
Please provide a schedule for obligating the project. Generally a construction project will require 18 months to design and obtain environmental, right-of-way and utilities clearance necessary to obligate the project. A design project will generally require 3 to 6 months to obligate.

Depending on the funding availability and provisioning, the project will be phased to accommodate the full planning and design of the corridors. In particular, the Monroe Ave Project could be Phase I of the project implementation plan. If needed and depending on whether funding allows, the staging of project phasing can be adjusted to optimize resources. The schedule for obligating this project is expected to follow 18 months for design, any environmental clearance that may be required as well as any utility clearances that may be necessary. Included will be the 3 to 6 month time to obligate it for TIP programming. Therefore, FY 2009 is the anticipated obligation time for construction and implementation of the first phase of the project.

PROPOSED ITS PROJECT CORRIDORS



TOWN OF BUCKEYE MILLER RD AND MONROE AVE ITS CORRIDOR PROJECT



GENERAL LOCATION MAP