

**INTELLIGENT TRANSPORTATION SYSTEMS - PROJECT APPLICATION**  
**CMAQ Funding Available for Federal Fiscal Year 2020, 2021 and 2022**

**General Instructions:**

This Excel-based Project Application form must be used to request federal Congestion Mitigation and Air Quality (CMAQ) funds available through the Maricopa Association of Governments (MAG) for qualified ITS Projects. The following funding amounts are estimated to be available:

- Federal Fiscal Year 2020 - \$13.9 million
- Federal Fiscal Year 2021 - \$15.0 million
- Federal Fiscal Year 2022 - \$15.5 million

The maximum amount requested per project application will be as follows:

- A maximum of \$2.0 million for a project with a single agency,
- A maximum of \$3.5 million for a project with one agency and one partner agency (a total of two agencies), and
- A maximum of \$5.0 million for a project with one lead agency and two or more partner agencies (a total of three or more agencies).

Approved projects will be included in the FY2018 - FY2022 MAG Transportation Improvement Program. This application form includes the following sheets to be filled by the submitting jurisdiction:

- Contact Information -- for agency submitting the application
- CMAQ Data
- ITS Project Information
- ITS Architecture
- Project Cost Estimate
- Budget & Signature
- Application Checklist

**TRANSMITTAL INSTRUCTIONS and SCHEDULE**

The due date and time for project applications to be submitted to MAG is by 10:00 a.m. on Monday, September 16, 2019

**Application Submittal Instructions:**

- 1) Submit this Excel application electronically.

To transmit the application electronically, please save the completed Excel file using the following file naming convention - Avondale-1.xlsx, Avondale-2.xlsx, Phoenix-1.xlsx etc.

- 2) Submit a PDF that includes a printed, signed application & project map to MAG via email.

To transmit the PDF version of the application, a) have the "Project Budget" sheet signed by the jurisdiction's designated representative, and b) a project map that includes the geographical coverage of the project, project features and project attributes. Scan the application, with the signed application and map, and save the PDF file using the following file naming convention - Avondale-1.pdf, Avondale-2.pdf, Phoenix-1.pdf etc.

- 3) Submit all additional attachments of GIS coverage (shape file, geo database, or KMZ) to MAG via email.

Additional GIS coverage material is not required, but it is highly encouraged to submit. If additional GIS coverage material is available, please see the tab labeled "GIS Submittal Instructions" for more details on GIS format instructions.

**Application Submittal Requirements:**

A successful transmittal of the application must include Application Submittal Instructions steps 1 and 2. Step 3 is optional, but is highly encouraged. Please submit the Excel file application, PDF file application and all associated attachments to this application to MAG via one of the two transmittal methods instructed below.

Submission deadline: 10:00 a.m. on Monday, September 16, 2019

**INTELLIGENT TRANSPORTATION SYSTEMS - PROJECT APPLICATION**  
**CMAQ Funding Available for Federal Fiscal Year 2020, 2021 and 2022**

**Transmittal Instructions:**

Two methods are provided to transmit files to MAG as follows:

Method 1 EMAIL: To Email the application to MAG, please do the following:

1. Save the files to be transmitted to MAG in a place you can find
2. Click on the following hyperlink to open an email window, attach the application files and press the send button.

[EMAIL APPLICATION TO MAG](#)

Method 2 DROPBOX: If the application is to large to be sent by email or you would like immediate confirmation of your transmittal, please do the following:

1. Save all files to be transmitted to MAG in a place you can find
2. ZIP the files using the same naming convention as the spreadsheet
3. Click the following hyperlink to upload the files to Dropbox

[DROP THE APPLICATION IN THE BOX](#)

**Application Workshops and Open Working Group Meeting Schedule\***

Date	Time	Room	Event
Tuesday, August 6, 2019	1:30 - 3:00 PM	Saguaro	Workshop on MAG Transportation Programming and Federal Fund Project Applications
Tuesday, August 13, 2019	10:00 - 11:00 AM	Chaparral	Open Working Group - Federal Fund Project Applications
Tuesday, August 27, 2019	1:00 - 2:00 PM	Chaparral	Open Working Group - Federal Fund Project Applications

\* All meetings will be held on the 2nd floor of the MAG Offices at 302 N. 1st Avenue, Phoenix, AZ 85003

**MAG CONTACT INFORMATION**

Contact Name	Phone	E-Mail Address
Stephen Tate (TIP)	602-254-6300	<a href="mailto:State@azmag.gov">State@azmag.gov</a>
Eric Nava (ITS)	602-254-6300	<a href="mailto:enava@azmag.gov">enava@azmag.gov</a>

Contact Information	
1. Lead Agency	City of Phoenix
2. Contact Name	Bruce Littleton
3. Phone	602-262-4690
4. E-Mail Address	bruce.littleton@phoenix.gov
5. Mailing Address	200 West Washington Street, 6th Floor, Phoenix, AZ 85003-1611

CMAQ 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 facility type:	121,203
b. Please describe how the ADT was estimated:	Average volumes along each corridor were calculated and then summed. Includes 99th Avenue north of Camelback Road (9,609), 99th Avenue south of Camelback Road (13,988), Indian School Road east of 99th Avenue (24,525), Indian School Road east of SR Loop 101 (24,921), Indian School Road east of 91st Avenue (25,698), Indian School Road east of 83rd Avenue (32,258), Indian School Road west of 75th Avenue (34,768), Indian School Road east of 75th Avenue (34,805), Indian School Road west of 67th Avenue (36,285), Indian School Road east of 67th Avenue (32,728), Indian School Road west of Maryvale Parkway (42,920), Indian School Road west of 51st Avenue (46,156), Indian School Road east of 51st Avenue (43,647), Indian School Road west of 47th Avenue (40,820), Indian School Road east of 43rd Avenue (46,786), Indian School Road west of Grand Avenue (47,181), Indian School Road east of Grand Avenue (56,431), Indian School Road east of 31st Avenue (52,022), Indian School Road west of 27th Avenue (51,907), Indian School Road east of 27th Avenue (54,473), 27th Avenue south of Campbell Avenue (21,303), and 27th Avenue south of Camelback Road (23,514), Camelback Road east of 27th Avenue (46,532).
c. When was the ADT estimate developed:	Estimate developed in 2019 using 2018 MAG Transportation Data Management System average grown weekday AADT from the most recent counted years.
d. Name of the roadway section used for the ADT estimate:	99th Avenue, Indian School Road, 27th Avenue and Camelback Road.
e. Starting limit of the roadway section:	99th Avenue from Cardinals Way to Indian School Road, Indian School Road from 99th Avenue to 27th Avenue, 27th Avenue from Indian School Road to Camelback Road, and Camelback Road from 27th Avenue to 23rd Avenue.
f. Ending limit of the roadway section:	See above.

CMAQ Data	
g. Length (miles):	12.5
h. Total number of through lanes on the roadway section:	6
i. Federal Functional Classification of the roadway section:	Principal Arterial - Other <a href="#">Link to ADOT Functional Classification Maps</a>

**CMAQ Data**

**2. Improvements in Traffic Management & Operations**

a. Enter the pre-improvement (current) average corridor traffic speed: 27

b. In the table, check the box that best describes the project (Check only one box):

	Before (pre-improvement) condition	After (post-improvement) condition	Expected increase in speed
<input checked="" 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	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
- 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: (populated from #2a) 27

b. Enter the post-improvement average traffic speed of the corridor: 32

## ITS Project Information

Enter information in highlighted cells ONLY. Links to various websites are provided for additional information and help.

### 1. Project Title & Sponsor

a. Project Title	Indian School Fiber Transportation Enhancement Project
b. Lead Agency	City of Phoenix
c. Other Partnering Agencies	City of Glendale and Maricopa County Department of Transportation (MCDOT)

### 2. Project Type

Prioritize SMO Buckets for the funding application

First Priority	Bucket #2 – Regional Priority Arterials
Second Priority	Bucket #3 – Local Priority Corridors
Third Priority	(Please Select a Bucket)

### 3. Project Goals & Objectives

a. Project Goals

Connect and provide reliable communication for the City of Phoenix's traffic signals and ITS devices to extend the City's real-time management capability along the Indian School Road Corridor and connect to the City of Glendale and MCDOT existing fiber optic infrastructure. The project will provide a fiber node facility in the western part of the city that enables more reliable network routing for City ITS devices near the area. The project will provide interagency connection between City of Phoenix, City of Glendale, and MCDOT Traffic Management Centers (TMC) to support direct traffic, incident, and special event management coordination.

b. Project Objectives

Construct 12.5 miles of new fiber optic infrastructure along the regional priority arterial Indian School Road corridor to get reliable communications to the City of Phoenix Traffic Management Center to the western edge of the City. This project will create a new fiber node facility to serve the western part of the City to create more reliable network routing for all City traffic signals and ITS devices. The fiber optic infrastructure will connect to MCDOT and Glendale traffic signals to provide interagency direct connection from the Phoenix TMC to the MCDOT TMC and the City of Glendale TMC to support direct traffic, incident, and special event management coordination. This project is also anticipated to be used in the future by the Department of Homeland Security to connect City Emergency Operations Centers. Fiber sharing between agencies will enable redundant paths for agencies to utilize to support their own ITS communication networks.

### 4. Project Information

a. Project location description

This project is primarily located on the Indian School Road Corridor. The project begins at 99th Avenue and Cardinals Way and runs south for two-miles until Indian School Road. It continues east on Indian School Road for 9-miles and continues north on 27th Avenue for one-mile until Camelback Road. The project continues east on Camelback Road for a 1/2-mile, terminating at the City of Phoenix Fire Station #18 on 22nd Avenue.

Note: a PDF file of a map must be submitted to MAG as an attachment.

ITS Project Information	
b. Scope of the project	Install conduit, pull boxes, fiber, splice closures, ethernet switches, termination panels, and layer 3 network switch along the 12.5-mile corridor. The project will connect fiber infrastructure to existing traffic signal cabinets and provide a Layer 3 switch to serve as a fiber node facility at one City of Phoenix Fire Station in the and connect the fiber to another Fire Station in the western part of the City. The project will also connect neighboring agency fiber infrastructure for direct interagency communication.

## ITS Project Information

### 5. Identify Project Components in MAG Regional ITS Architecture

Service Area	Addressed in this Project? (Dropdown: Y/N)	<a href="#">Applicable ITS Service Packages</a>
Traffic Management	Yes	ATMS01, ATMS03, ATMS07
Maintenance and Construction		
Public Transportation		
Traveler Information		
Emergency Management		
Archived Data Management		

NOTE: Insert the relevant ITS Architecture flow diagram in the "ITS Architecture" worksheet.

### 6. Quantitative Criteria

Enter Quantitative Criteria for Bucket(s) selected in Section 2 "Project Type"

Average Daily Traffic (ADT) from 'CMAQ Data' tab in this funding application.	121,203
Crashes Per Mile Per Year (MAG Will Complete)	
Maximum Peak Period Travel Time Index (MAG Will Complete)	
Percentage network communication connectivity to traffic signals & ITS devices.	100%
Regional Priority Corridor Ranking (Enter shares of work in "Regional Priority - Top 100")	46.92
Latest year of your agency's Operations/Management Center upgrade.	2017

### 7. Program Year Preference

Preferred Program Year

2020

ITS Project Information				
<b>8. Project Budget by SMO Strategy</b>				
Strategies for Bucket #1 – ICM Corridors	Federal Cost	Local Match (min 5.7%)	Total Cost	Share of Total Project
2-Real-time CCTV monitoring capabilities at all major-major arterial intersections on ICM corridors				
3-Vehicle and pedestrian actuated detection at all signalized intersections to support signal operations and real-time collection of data collection, including data on turning movement counts				
11-Regional Asset Upgrade/Replace Program - ICM Corridors & Priority Arterials				
Total				
Cost Percentage				
Strategies for Bucket #2 – Regional Priority Arterials	Federal Cost	Local Match (min 5.7%)	Total Cost	Share of Total Project
8-Real-time visual monitoring capability at all major-major intersections on Priority Arterials				0%
9-Additional detection at signalized intersections for real-time collection of data, including turning movement counts stored by individual agencies and archived in RADS				0%
10-Reliable communications between TMCs and major-major intersections to facilitate remote management of traffic operations - Adds both fiber and wireless infrastructure	\$ 4,497,499.50			100%
11-Regional Asset Upgrade/Replace Program - ICM Corridors & Priority Arterials				0%
Total	\$ 4,497,499.50	\$ 271,853.10	\$ 4,769,352.60	100%
Cost Percentage	94.3%	5.7%		
Strategies for Bucket #3 – Local Priority Corridors	Federal Cost	Local Match (min 5.7%)	Total Cost	Share of Total Project
12-Local priority ITS projects	\$ 4,497,499.50			100%
Total	\$ 4,497,499.50	\$ 271,853.10	\$ 4,769,352.60	100%
Cost Percentage	94.3%	5.7%		

## ITS Project Information

### 9. System Maintenance and Operations

a. Current staff resources available to support ITS operations at the local agency (in FTEs)	7
b. Additional staff resources required for fully utilizing features added by project (in FTEs)	None
c. Agency's estimated current annual ITS operations & maintenance (O & M) budget	\$4,800,000
d. Estimated additional annual O & M funds required for features added by this project	\$0
e. Estimated DATE from when required additional local O & M funds will be available	N/A
f. Other comments	Additional infrastructure added as part of this project will be incorporated into the City's existing annual operations and maintenance budget with no new staffing anticipated.

### 10. Systems Engineering Analysis Requirement

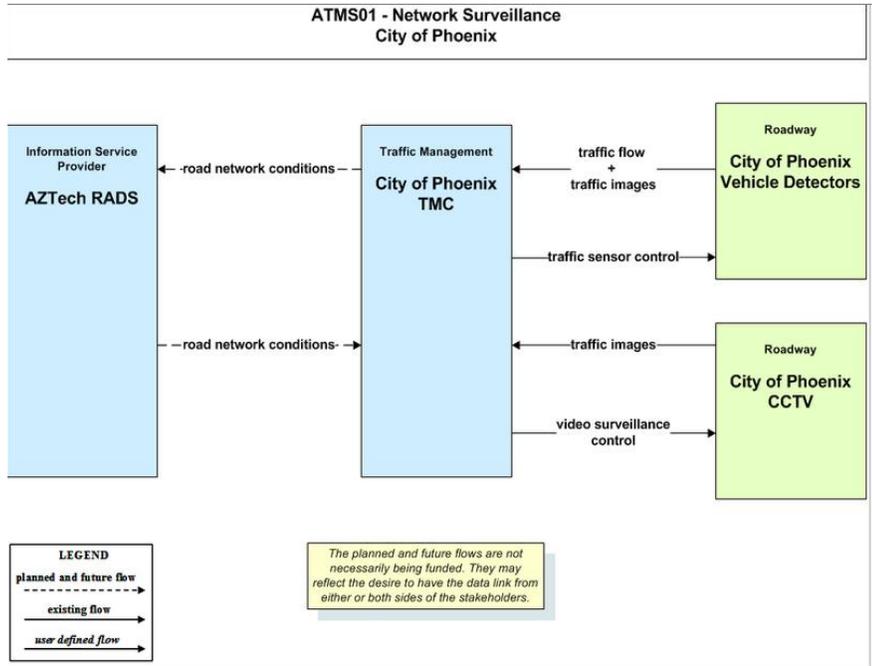
Commitment to address the federal requirement for Systems Engineering Analysis: Agency's intent to follow the process described in the 'V' diagram during the project development process. <a href="#">ADOT Systems Engineering Checklist</a>	
The project sponsor/lead agency of this application intends to incorporate the Systems Engineering Analysis in the project's scope of work, following guidance on the ADOT's System Engineering Checklist.	<input checked="" type="checkbox"/> Yes, the agency intends to follow the process.

# ITS Architecture Flow Diagram

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.

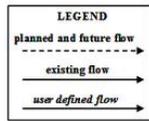
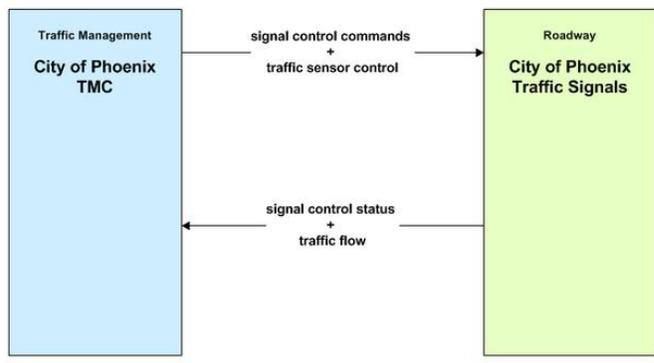
Find the relevant Service Packages addressed by the project in the MAG ITS Architecture (found in the link below). Copy and paste the graphic in the space provided.

[MAG Regional ITS Architecture](#)



## ATMS03 - Traffic Signal Control

City of Phoenix



## ATMS07 - Regional Traffic Management

Phoenix Metropolitan C2C CCTV Network



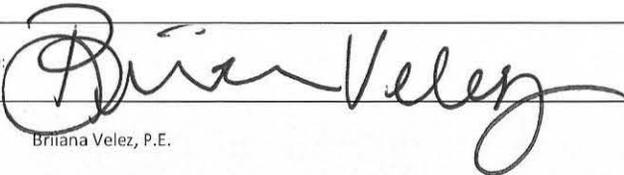
PROJECT COST ESTIMATE WORKSHEET (Cost Estimates Are Required Regardless of Programming)										
DESIGN	REQUESTED PROGRAMMING (Complete if item will be programmed in the MAG TIP)	Location Description	This project is primarily located on the Indian School Road Corridor. The project begins at 99th Avenue and Cardinals Way and runs south for two-miles until Indian School Road. It continues east on Indian School Road for 9-miles and continues north on 27th Avenue for one-mile until Camelback Road. The project continues east on Camelback Road for a 1/2-mile, terminating at the City of Phoenix Fire Station #18 on 22nd Avenue.							
		Work Description	Install conduit, pull boxes, fiber, splice closures, ethernet switches, termination panels, and layer 3 network switch along the 12.5-mile corridor. The project will connect fiber infrastructure to existing traffic signal cabinets and provide a Layer 3 switch to serve as a fiber node facility at one City of Phoenix Fire Station in the and connect the fiber to another Fire Station in the western part of the City. The project will also connect neighboring agency fiber infrastructure for direct interagency communication.							
		Funding Source	Local							
		Preferred Year to Program Work	2020							
	COST ESTIMATE FOR DESIGN			UNITS	QUANTITY	UNIT COST	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL
	PRELIMINARY ENGINEERING (15% plans) (Required for Budget)	Project Assessment Report with 15% Plans	EA	1	50,000	\$ 50,000.00	No	-	50,000	-
						\$ -	No	-	-	-
						\$ -	No	-	-	-
						\$ -	No	-	-	-
	SUBTOTAL - PRELIMINARY ENGINEERING COSTS					\$ 50,000.00				50,000
FINAL DESIGN (30, 60, 95, 100% plans) (Required for Budget)	Final Design with 100% Plans, Specifications, and Cost Estimate	EA	1	130,000	\$ 130,000.00	No	-	130,000	-	
					\$ -	No	-	-	-	
					\$ -	No	-	-	-	
					\$ -	No	-	-	-	
SUBTOTAL - FINAL DESIGN COSTS					\$ 130,000.00				130,000	
TOTAL PRELIMINARY ENGINEERING AND DESIGN COST AVAILABLE FOR PROGRAMMING					\$ 180,000.00				180,000	
PROCUREMENT	REQUESTED PROGRAMMING	Location Description								
		Work Description								
		Funding Source								
		Preferred Year to Program Work								
	COST ESTIMATE FOR PROCUREMENT			UNITS	QUANTITY	UNIT COST	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL
	PROCUREMENT COSTS						\$ -	Yes	-	-
							\$ -	Yes	-	-
							\$ -	Yes	-	-
							\$ -	Yes	-	-
							\$ -	Yes	-	-
						\$ -	Yes	-	-	
						\$ -	Yes	-	-	
						\$ -	Yes	-	-	
TOTAL - PROCUREMENT					\$ -				-	
CONSTRUCTION	REQUESTED PROGRAMMING (Complete only if Construction will be programmed in the MAG TIP)	Location Description	This project is primarily located on the Indian School Road Corridor. The project begins at 99th Avenue and Cardinals Way and runs south for two-miles until Indian School Road. It continues east on Indian School Road for 9-miles and continues north on 27th Avenue for one-mile until Camelback Road. The project continues east on Camelback Road for a 1/2-mile, terminating at the City of Phoenix Fire Station #18 on 22nd Avenue.							
		Work Description	Install conduit, pull boxes, fiber, splice closures, ethernet switches, termination panels, and layer 3 network switch along the 12.5-mile corridor. The project will connect fiber infrastructure to existing traffic signal cabinets and provide a Layer 3 switch to serve as a fiber node facility at one City of Phoenix Fire Station in the and connect the fiber to another Fire Station in the western part of the City. The project will also connect neighboring agency fiber infrastructure for direct interagency communication.							
		Funding Source	CMAQ							
		Preferred Year to Program Work	2020							
	COST ESTIMATE FOR CONSTRUCTION			UNITS	QUANTITY	UNIT COST	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL
	UTILITY RELOCATIONS (Required for Budget, May be 0 if no Utilities)						\$ -	Yes	-	-
							\$ -	Yes	-	-
							\$ -	Yes	-	-
							\$ -	Yes	-	-
	The cost of utility relocation for the transportation project are eligible for federal aid if the costs/activities involved are directly related to the transportation project. Generally, burying overhead utilities is cost prohibitive.									
SUBTOTAL - UTILITY RELOCATION COSTS					\$ -				-	
CONSTRUCTION (Required for Budget)	ELECTRICAL CONDUIT (2 - 1.25") (PVC)	L.F.T.	20,070	40.00	\$ 802,800.00	Yes	757,040	45,760	-	
	ELECTRICAL CONDUIT (2 - 1.25") (HDPE DIRECTIONAL DRILL)	L.F.T.	37,454	45.00	\$ 1,685,430.00	Yes	1,589,360	96,070	-	
	ELECTRICAL CONDUIT (3") (RIGID METAL)	L.F.T.	1,220	100.00	\$ 122,000.00	Yes	115,046	6,954	-	
	PULL BOX (NO. 7) (WITH EXTENSION)	EACH	43	700.00	\$ 30,100.00	Yes	28,384	1,716	-	
	PULL BOX (NO. 9) (CITY OF PHOENIX)	EACH	34	4,000.00	\$ 136,000.00	Yes	128,248	7,752	-	
	BRIDGE JUNCTION BOX (CAST METAL)	EACH	2	600.00	\$ 1,200.00	Yes	1,132	68	-	
	FIBER OPTIC EQUIPMENT (TERMINATION PANEL)	EACH	2	250.00	\$ 500.00	Yes	472	29	-	
	ELECTRICAL SYSTEM (LAYER 3 NETWORK SWITCH)	EACH	1	14,500.00	\$ 14,500.00	Yes	13,674	827	-	
	FIBER OPTIC EQUIPMENT (FIELD HARDENED ETHERNET SWITCH)	EACH	27	6,000.00	\$ 162,000.00	Yes	152,766	9,234	-	
	SINGLE MODE FIBER OPTIC CABLE (144 FIBERS)	L.F.T.	71,750	4.00	\$ 287,000.00	Yes	270,641	16,359	-	
	FIBER OPTIC SPLICE CLOSURE (CITY OF PHOENIX)	EACH	25	2,500.00	\$ 62,500.00	Yes	58,938	3,563	-	
	FIBER OPTIC EQUIPMENT (BREAK-AWAY CONNECTOR SYSTEM)	EACH	24	1,500.00	\$ 36,000.00	Yes	33,948	2,052	-	
	FORCE ACCOUNT WORK (PULL BOX & CONDUIT RECONDITIONING)	L.SUM	1	20,000.00	\$ 20,000.00	Yes	18,860	1,140	-	
	SUBTOTAL - CONSTRUCTION COST					\$ 3,360,030.00		3,168,508	191,522	-
MOBILIZATION AND ADMINISTRATION COSTS	CONTRACTOR MOBILIZATION (Typically 8% of construction cost)			268,442	\$ 268,442.40	Yes	253,141	15,301	-	
	TRAFFIC CONTROL (0-8% of construction cost)			167,777	\$ 167,776.50	Yes	158,213	9,563	-	
	CONSTRUCTION SURVEY & LAYOUT (Typically 1% of construction cost)			33,555	\$ 33,555.30	Yes	31,643	1,913	-	
	CONSTRUCTION CONTINGENCIES (Typically 5% of construction cost)			335,553	\$ 335,553.00	Yes	316,426	19,127	-	
	CONSTRUCTION ADMINISTRATION (Averaging 18% of construction cost)			603,995	\$ 603,995.40	Yes	569,568	34,428	-	
SUBTOTAL - MOBILIZATION & ADMINISTRATION COSTS					\$ 1,409,322.60		1,328,991	80,331	-	
TOTAL UTILITIES, CONSTRUCTION AND MOBILIZATION FOR PROGRAMMING					\$ 4,769,352.60		4,497,500	271,853	-	
ADOT REVIEW FEE	Please enter "Yes" if your agency is certified accepted by ADOT for construction		Yes							
	ADOT REVIEW FEE	AGENCY TYPE	RATE	HOURS	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL		
	Contracts and Specs \ Advertise Project	Non CA	55	100	\$ -	No	-	-		
	District \ Review Stage Submittals	Non CA	50	40	\$ -	No	-	-		
	Environmental Planning \ Issue Clearance	All	50	40	\$ 2,000	No	-	2,000		
	Right of Way \ Issue Clearance	Non CA	55	24	\$ -	No	-	-		
	Compliance Review \ Compliance Review	Non CA	175	40	\$ -	No	-	-		
	Project Management Group \ Project Management	Non CA	120	100	\$ -	No	-	-		
	Project Management Group \ Project Management	CA Only	120	60	\$ 7,200	No	-	7,200		
	Utilities and Railroad Sections \ Issue Clearance	Non CA	50	24	\$ -	No	-	-		
TOTAL COST ESTIMATE					\$ 4,958,553		4,497,500	461,053		

**Budget and Signature Page**

Phase	Location Description	Work Description	Year to be Programmed	Funding Source	Federal Amount	Local Amount	Total	Local Share
Design, excludes ADOT review fees	This project is primarily located on the Indian School Road Corridor. The project begins at 99th Avenue and Cardinals Way and runs south for two-miles until Indian School Road. It continues east on Indian School Road for 9-miles and continues north on 27th Avenue for one-mile until Camelback Road. The project continues east on Camelback Road for a 1/2-mile, terminating at the City of Phoenix Fire Station #18 on 22nd Avenue.	Install conduit, pull boxes, fiber, splice closures, ethernet switches, termination panels, and layer 3 network switch along the 12.5-mile corridor. The project will connect fiber infrastructure to existing traffic signal cabinets and provide a Layer 3 switch to serve as a fiber node facility at one City of Phoenix Fire Station in the and connect the fiber to another Fire Station in the western part of the City. The project will also connect neighboring agency fiber infrastructure for direct interagency communication.	2020	Local	\$ -	\$ 180,000	\$ 180,000	100.0%
Construction	This project is primarily located on the Indian School Road Corridor. The project begins at 99th Avenue and Cardinals Way and runs south for two-miles until Indian School Road. It continues east on Indian School Road for 9-miles and continues north on 27th Avenue for one-mile until Camelback Road. The project continues east on Camelback Road for a 1/2-mile, terminating at the City of Phoenix Fire Station #18 on 22nd Avenue.	Install conduit, pull boxes, fiber, splice closures, ethernet switches, termination panels, and layer 3 network switch along the 12.5-mile corridor. The project will connect fiber infrastructure to existing traffic signal cabinets and provide a Layer 3 switch to serve as a fiber node facility at one City of Phoenix Fire Station in the and connect the fiber to another Fire Station in the western part of the City. The project will also connect neighboring agency fiber infrastructure for direct interagency communication.	2020	CMAQ	\$ 4,497,500	\$ 271,853	\$ 4,769,353	5.7%
<b>Total Programmed</b>					\$ 4,497,500	\$ 451,853	\$ 4,949,353	9.1%
<b>ADOT Design Review Fee</b>					\$ -	\$ 9,200	\$ 9,200	100.0%
<b>Total Cost</b>					\$ 4,497,500	\$ 461,053	\$ 4,958,553	9.3%

**Signature: To be signed and scanned with PDF copy that is sent to MAG via email**

As the jurisdiction's manager/administrator or designated representative, I certify that the information contained in this application is accurate and complete and that the local funds for this project will be included in the sponsoring MAG member agency's local current CIP/TIP or budget document if the project is selected for federal funding.

Signature: 

Name: Briana Velez, P.E.

Title: Assistant Street Transportation Director

Date: September 12, 2019

<b>CHECKLIST - OPTIONAL</b>	
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>Contact Information</b>	<b>Complete?</b>
Contact Information, fields 1 – 5	Yes
<b>CMAQ Data</b>	<b>Complete?</b>
1. Traffic Estimate and Roadway Characteristics: Fields a - i	Yes
2. Improvements in Traffic Management & Operations: Fields a - b	Yes
3. Other Improvements: As applicable	Yes
4. Traffic Flow Improvement Due to Project: Fields a - b	Yes
<b>ITS Project Information</b>	<b>Complete?</b>
Section 1 is complete	Yes
Section 2 is complete	Yes
Section 3 is complete	Yes
Section 4 is complete & a PDF file of map will be attached to the submittal to MAG	Yes
Section 5 is complete & all relevant Architecture Flow Diagrams have been inserted in the worksheet	Yes
Section 6 is complete	Yes
Section 7 is complete	Yes
Section 8 is complete	Yes
Section 9 is complete	Yes
Section 10 is complete	Yes
<b>ITS Architecture Flow Diagram</b>	<b>Complete?</b>
ITS Architecture Flow Diagram have been inserted	Yes
<b>Prproject Cost Estimate Worksheet</b>	<b>Complete?</b>
ITS Architecture Flow Diagram have been inserted	Yes
<b>Budget &amp; Signature Page</b>	<b>Complete?</b>
Form is signed	Yes
Name, title and date fields are completed	Yes

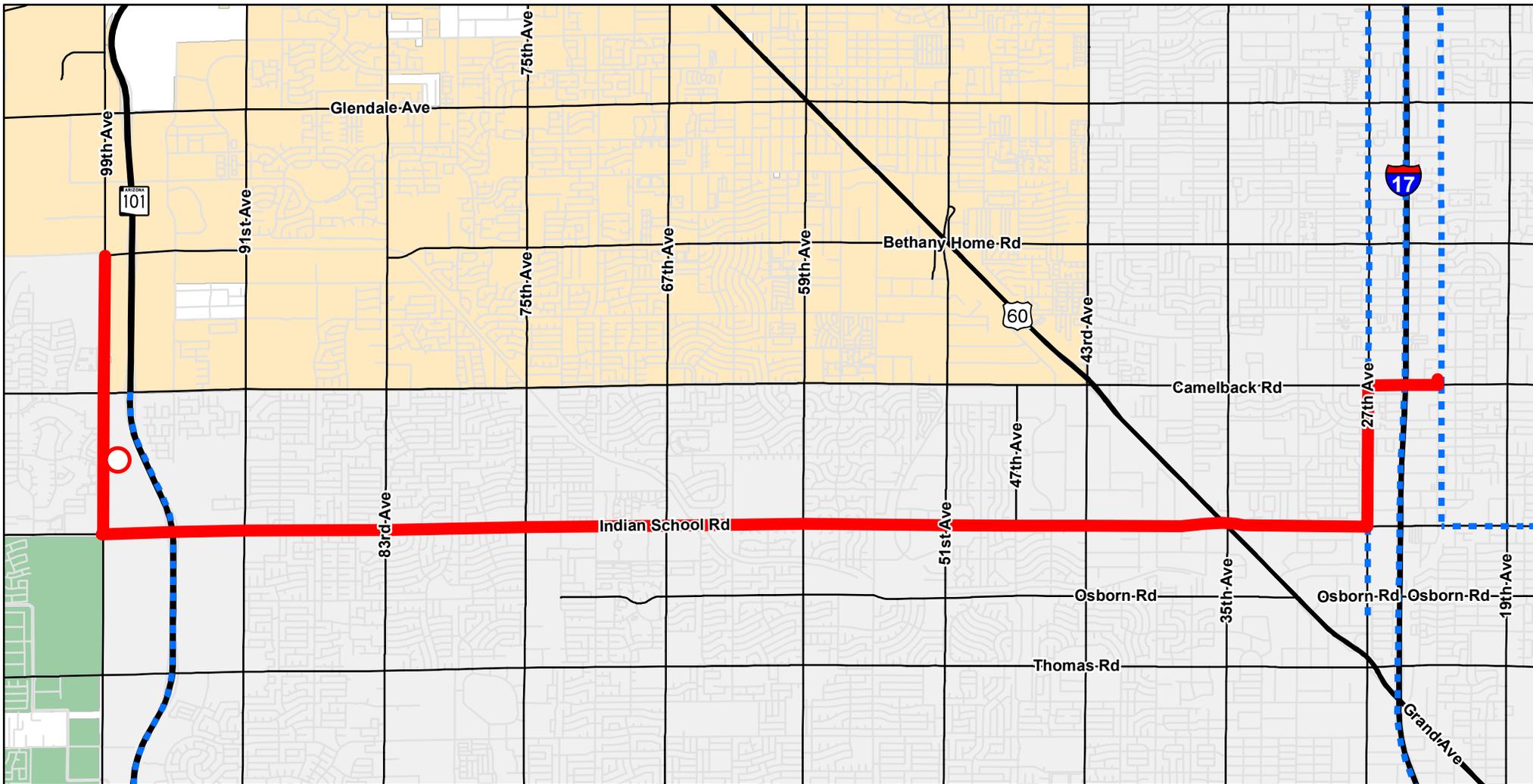
STREET NAME	FROM	TO	RANK	Share of Work
Camelback Rd	Central	35th Ave	1	4%
Camelback Rd	32nd St	Central	2	
Baseline Rd	Rural	40th St	3	
Indian School Rd	Central	35th Ave	4	8%
Bell Rd	67th Ave	Del Webb	5	
Indian School Rd	32nd St	Central	6	
Bethany Home Rd	Central	35th Ave	7	
Northern Ave	Central	35th Ave	8	
Grand Ave	91st Ave	Thompson Ranch	9	
Bell Rd	Del Webb	Litchfield	10	
Glendale Ave	Central	35th Ave	11	
Thomas Rd	Central	35th Ave	12	
Indian School Rd	35th Ave	83rd Ave	13	48%
Thomas Rd	32nd St	Central	14	
Scottsdale-Rural	Elliot	McKellips	15	
Bethany Home Rd	SR 51	Central	16	
Bell Rd	Thompson Peak	Scottsdale	17	
Scottsdale Rd	McKellips	Lincoln	18	
Cactus Rd	Tatum	Cave Creek	19	
Bell Rd	7th Ave	43rd Ave	20	
35th Ave	Durango	Indian School	21	
Dunlap Ave	7th St	43rd Ave	22	
Shea Blvd	Via Linda	Scottsdale	23	
Thunderbird Rd	19th Ave	43rd Ave	24	
75th Ave	Buckeye	Indian School	25	
Country Club-Arizona Ave	Elliot	University	26	
51st Ave	Lower Buckeye	Indian School	27	
Chandler Blvd	Alma School	Rural	28	
Gilbert Rd	Elliot	University	29	
67th Ave	Buckeye	Indian School	30	
University Dr	Rural	40th St	31	
Washington St	Central	27th Ave	32	
Bell Rd	Tatum	Cave Creek	33	
Thomas Rd	64th St	32nd St	34	
Dysart Rd	MC 85	Indian School	35	
48th St	Baseline	I-10	36	
Mill Ave	Baseline	Curry	37	
Broadway Rd	Alma School	Rural	38	
Baseline Rd	40th St	Central	39	
Bell Rd	43rd Ave	67th Ave	40	
Olive Ave	43rd Ave	83rd Ave	41	
Glendale-Lincoln	32nd St	Central	42	

Indian School Rd	Loop 101E	64th St	43	
Alma School Rd	Queen Creek	Chandler	44	
Broadway Rd	Rural	40th St	45	
Northern Ave	SR 51	Central	46	
Scottsdale Rd	Shea	Frank Lloyd Wright	47	
7th St	Indian School	Dunlap	48	
Thunderbird Rd	43rd Ave	67th Ave	49	
7th St	Broadway	Indian School	50	
Arizona Ave	Queen Creek	Chandler	51	
McDowell Rd	64th St	32nd St	52	
Cooper-Stapley	Elliot	University	53	
Camelback Rd	35th Ave	83rd Ave	54	
Scottsdale Rd	Frank Lloyd Wright	Pinnacle Peak	55	
Peoria Ave	7th Ave	43rd Ave	56	
Glendale Ave	35th Ave	83rd Ave	57	
Gilbert Rd	Queen Creek	Chandler	58	
Thomas Rd	35th Ave	83rd Ave	59	
Thomas Rd	Loop 101E	64th St	60	
Bell Rd	Cave Creek	7th Ave	61	
Shea Blvd	Scottsdale	Tatum	62	
35th Ave	Indian School	Dunlap	63	
Ray Rd	Alma School	Rural	64	
Thunderbird Rd	67th Ave	103rd Ave	65	
McDowell Rd	32nd St	Central	66	
19th Ave	Indian School	Dunlap	67	
43rd Ave	Buckeye	Indian School	68	
Grand Ave	35th Ave	67th Ave	69	
43rd Ave	Indian School	Olive-Dunlap	70	
7th Ave	Broadway	Indian School	71	
16th St	Thomas	Northern	72	
Southern Ave	Rural	40th St	73	
McClintock Dr	Elliot	McKellips	74	
Scottsdale Rd	Lincoln	Shea	75	
Alma School Rd	Elliot	University	76	
Val Vista Dr	Elliot	University	77	
59th Ave	Buckeye	Indian School	78	
Central Ave	Broadway	Indian School	79	
59th Ave	Indian School	Olive	80	
Arizona Ave	Chandler	Elliot	81	
Cave Creek Rd	Bell Rd	Pinnacle Peak	82	
McQueen-Mesa	Elliot	University	83	
Apache-Main	Alma School	Rural	84	
19th Ave	Dunlap	Bell	85	
51st Ave	Indian School	Olive	86	
Bethany Home Rd	35th Ave	83rd Ave	87	
Greenway Rd	Tatum	7th Ave	88	
Northern Ave	35th Ave	83rd Ave	89	

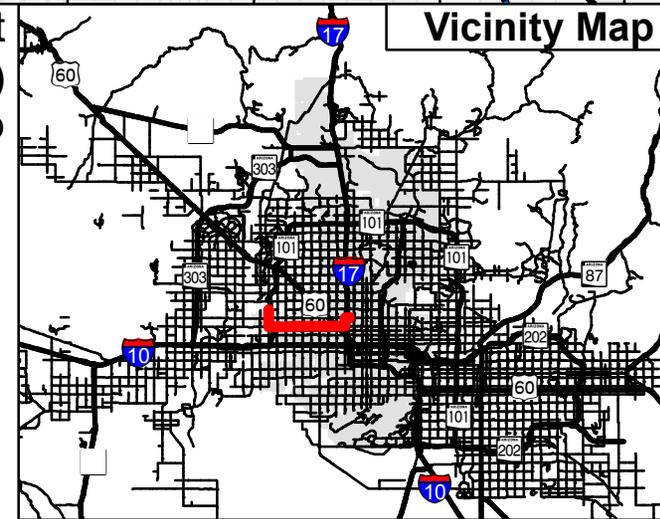
Val Vista Dr	Queen Creek	Williams Field	90	
Peoria Ave	43rd	75th Ave	91	
Power Rd	Germann	Warner	92	
67th Ave	Indian School	Olive	93	
Cactus Rd	19th Ave	43rd Ave	94	
Olive Ave	83rd Ave	111th Ave	95	
Southern Ave	Alma School	Rural	96	
McDowell Rd	Central	35th Ave	97	
59th Ave	Olive	Bell	98	
Power Rd	University	Warner	99	
27th Ave	Indian School	Northern	100	8%
All other roads			101	32%

Add title to top.

"Top 100 Priority Arterials in the MAG Region"



Indian School Road Fiber Transportation Enhancement Project  
(Phoenix-2)  
Project Location Map



- Proposed Node
  - FY2020 Proposed Fiber
  - - - Existing Fiber
  - Freeways
  - Arterials
  - Other Streets
- Municipalities**
- Avondale
  - Glendale
  - Phoenix



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Miles