

Contact Information	
1. Lead Agency	City of Buckeye
2. Contact Name	John Willett
3. Phone	623.349.6282
4. E-Mail Address	jwillett@buckeyeaz.gov
5. Mailing Address	530 East Monroe Avenue Buckeye, AZ 85326

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:	<input style="width: 100%;" type="text" value="43,400"/>
b. Please describe how the ADT was estimated:	<div style="border: 1px solid black; height: 100px; background-color: #e0f0e0; display: flex; align-items: center; justify-content: center; text-align: center;"> <p>Recorded in February 2018 as part of a MAG TSOP Project.</p> </div>
c. When was the ADT estimate developed:	<input style="width: 100%;" type="text" value="Feb-18"/>
d. Name of the roadway section used for the ADT estimate:	<input style="width: 100%;" type="text" value="Watson Rd"/>
e. Starting limit of the roadway section:	<input style="width: 100%;" type="text" value="Lower Buckeye Rd"/>
f. Ending limit of the roadway section:	<input style="width: 100%;" type="text" value="I-10"/>
g. Length (miles):	<input style="width: 100%;" type="text" value="1.6"/>
h. Total number of through lanes on the roadway section:	<input style="width: 100%;" type="text" value="3"/>
i. Federal Functional Classification of the roadway section:	<input style="width: 100%;" type="text" value="Minor Arterial"/> Link to ADOT Functional Classification Maps

CMAQ Data

2. Improvements in Traffic Management & Operations

a. Enter the pre-improvement (current) average corridor traffic speed: 21

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 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	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) 21

b. Enter the post-improvement average traffic speed of the corridor: 25

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	Watson Rd ITS Conduit and Fiber
b. Lead Agency	City of Buckeye
c. Other Partnering Agencies	None

2. Project Type

Prioritize SMO Buckets for the funding application

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

3. Project Goals & Objectives

a. Project Goals	Begin installing an ITS network in the City of Buckeye by addressing the first priority of the City's recently completed ITS Strategic Plan - installing conduit and single mode fiber optic cable along Watson Road between Lower Buckeye Road and I-10.
b. Project Objectives	Provide the City with the ability to communicate with the traffic signals along Watson Road to retrieve data (turning movement counts, traffic signal operations, trouble shoot issues, etc) and allow modifications to signal timing/operations to occur remotely (from a desk top or laptop).

4. Project Information

a. Project location description	Watson Rd, Lower Buckeye Rd to I-10.
Note: a PDF file of a map must be submitted to MAG as an attachment.	
b. Scope of the project	Install conduit, fiber (144-SMFO), pull boxes, vaults and splices along Watson Road to connect the 5 traffic signals along the corridor (1 as part of the DDI currently in design).

ITS Project Information

5. Identify Project Components in MAG Regional ITS Architecture

Service Area	Addressed in this Project? <small>(Dropdown: Y/N)</small>	Applicable ITS Service Packages
Traffic Management	Yes	ATMS03
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.	43,400
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.	0%
Regional Priority Corridor Ranking (Enter shares of work in "Regional Priority - Top 100")	
Latest year of your agency's Operations/Management Center upgrade.	N/A

7. Program Year Preference

Preferred Program Year

2022

ITS Project Information				
8. Project Budget by SMO Strategy				
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				
9-Additional detection at signalized intersections for real-time collection of data, including turning movement counts stored by individual agencies and archived in RADS				
10-Reliable communications between TMCs and major-major intersections to facilitate remote management of traffic operations - Adds both fiber and wireless infrastructure				
11-Regional Asset Upgrade/Replace Program - ICM Corridors & Priority Arterials				
Total				
Cost Percentage				
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	\$ 539,295.00			100%
Total	\$ 539,295.00	\$ 32,597.90	\$ 571,892.90	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)	2
b. Additional staff resources required for fully utilizing features added by project (in FTEs)	0
c. Agency's estimated current annual ITS operations & maintenance (O & M) budget	\$0
d. Estimated additional annual O & M funds required for features added by this project	\$8,000
e. Estimated DATE from when required additional local O & M funds will be available	N/A
f. Other comments	

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.
[ADOT Systems Engineering Checklist](#)

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.
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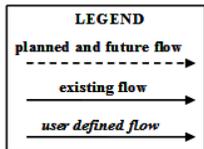
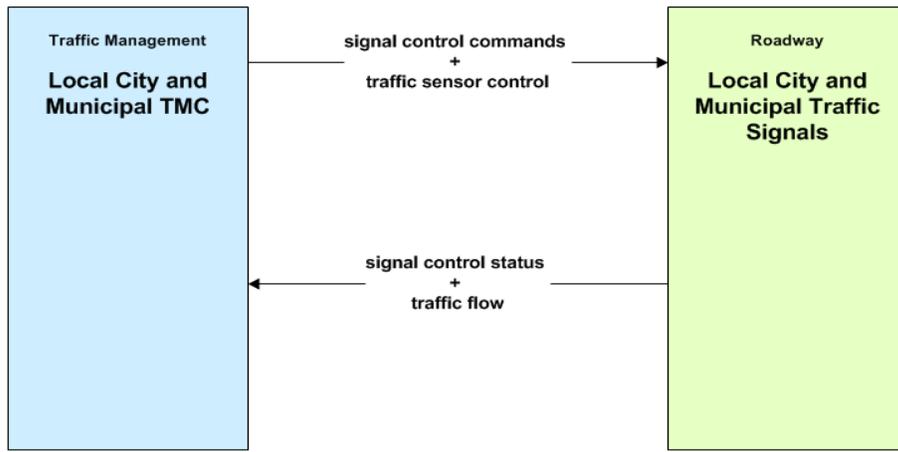
ITS Architecture Flow Diagram

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.

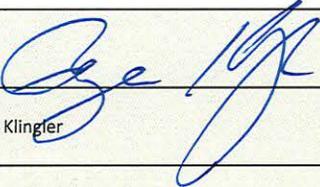
Find the relevant Service Packages addressed by the project in the MAG ITS Architecture (found in the link below). Copy and paste the graphic in the space provided.

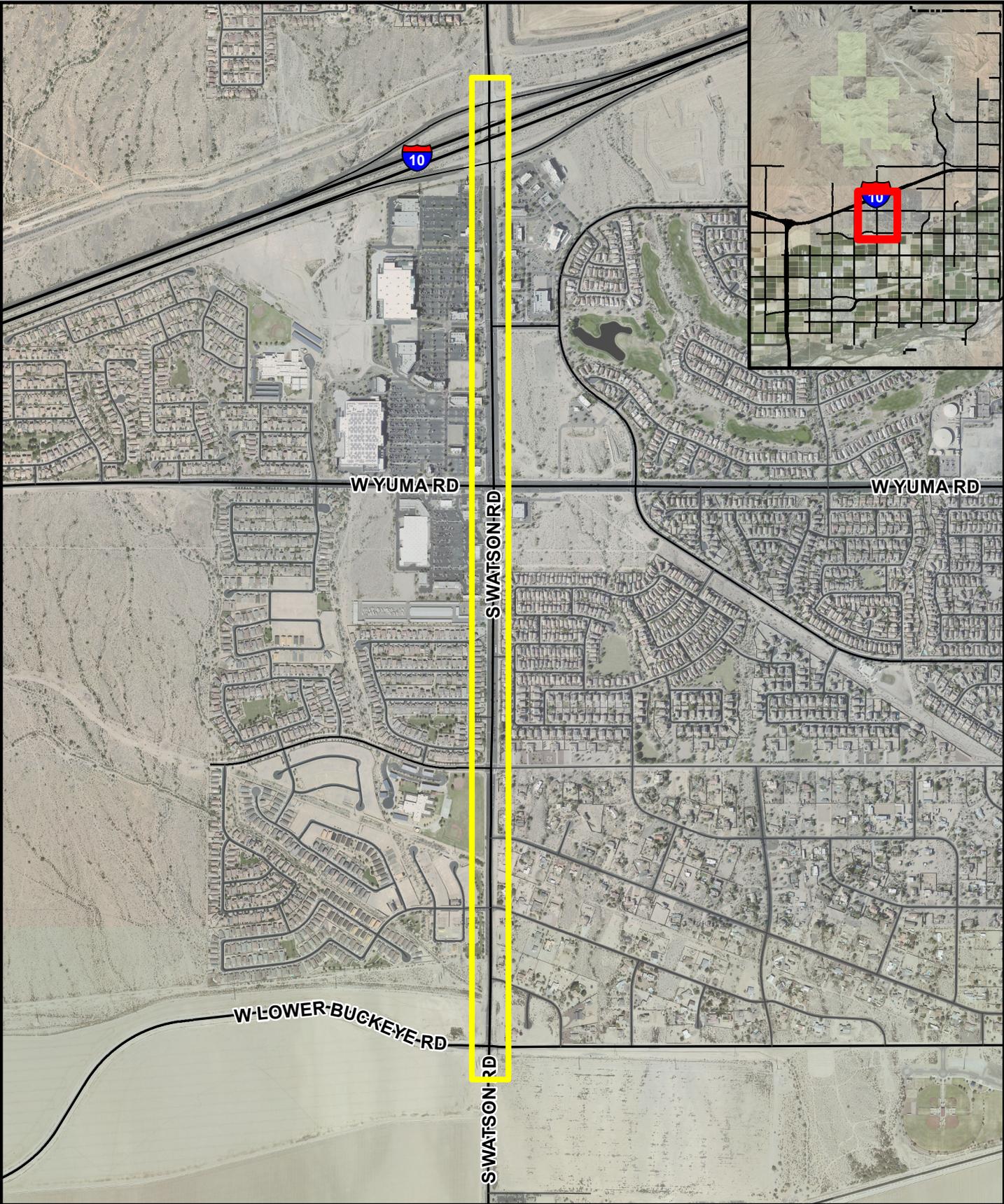
[MAG Regional ITS Architecture](#)

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



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	Watson Road, Lower Buckeye Road to I-10						
		Work Description	Install conduit and SMFO						
		Funding Source	Local						
		Preferred Year to Program Work	2022						
	COST ESTIMATE FOR DESIGN		UNITS	QUANTITY	UNIT COST	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL
	PRELIMINARY ENGINEERING (15% plans) (Required for Budget)	Topographic Survey	LS	1	5,000	\$ 5,000.00	No	-	5,000
		Project Assessment Report or Detailed Workplan	LS	1		\$ -	No	-	-
		Systems Engineering Analysis (must address FHWA requirements)	LS	1	2,500	\$ 2,500.00	No	-	2,500
		Federal Project Environmental Determination	LS	1		\$ -	No	-	-
		HAZMAT Assessment	LS	1		\$ -	No	-	-
SUBTOTAL - PRELIMINARY ENGINEERING COSTS					\$ 7,500.00	-	-	7,500	
FINAL DESIGN (30, 60, 95, 100% plans) (Required for Budget)	Right-of-Way Acquisition	LS	1		\$ -	No	-	-	
	Plans, Specifications, Cost Estimates, Bidding	LS	1	63,000	\$ 63,000.00	No	-	63,000	
	Geotechnical Report	LS	1		\$ -	No	-	-	
	Drainage Report	LS	1		\$ -	No	-	-	
	SWPPP	LS	1		\$ -	No	-	-	
SUBTOTAL - FINAL DESIGN COSTS					\$ 63,000.00	-	-	63,000	
TOTAL PRELIMINARY ENGINEERING AND DESIGN COST AVAILABLE FOR PROGRAMMING					\$ 70,500.00	-	-	70,500	
PROCUREMENT	REQUESTED PROGRAMMING (Complete only if Construction will be programmed in the MAG TIP)	Location Description	Watson Road, Lower Buckeye Road to I-10						
		Work Description	Install conduit and SMFO						
		Funding Source	CMAQ						
		Preferred Year to Program Work	2020						
	COST ESTIMATE FOR PROCUREMENT		UNITS	QUANTITY	UNIT COST	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL
	PROCUREMENT COSTS	Place for entering item #1	EA			\$ -	Yes	-	-
		Place for entering item #2	EA			\$ -	Yes	-	-
		Place for entering item #3	EA			\$ -	Yes	-	-
		Place for entering item #4	EA			\$ -	Yes	-	-
		Place for entering item #5	EA			\$ -	Yes	-	-
Place for entering item #6		EA			\$ -	Yes	-	-	
Place for entering item #7		EA			\$ -	Yes	-	-	
Place for entering item #8		EA			\$ -	Yes	-	-	
Place for entering item #9		EA			\$ -	Yes	-	-	
Place for entering item #10		EA			\$ -	Yes	-	-	
TOTAL - PROCUREMENT					\$ -	-	-	-	
CONSTRUCTION	REQUESTED PROGRAMMING (Complete only if Construction will be programmed in the MAG TIP)	Location Description	Watson Road, Lower Buckeye Road to I-10						
		Work Description	Install conduit and SMFO						
		Funding Source	CMAQ						
		Preferred Year to Program Work	2022						
	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) 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.	Relocate 69 kv (+) Poles	EA			\$ -	Yes	-	-
		Relocate/Underground 12 kv lines	LF			\$ -	Yes	-	-
		Relocate/Underground Irrigation Canal	LF			\$ -	Yes	-	-
		SWG Relocations	LS			\$ -	Yes	-	-
		Telephone/Cable TV Relocations	LS			\$ -	Yes	-	-
Upgrade Railroad Crossings		LS			\$ -	Yes	-	-	
Other Utilities		LS			\$ -	Yes	-	-	
Other Utilities		LS			\$ -	Yes	-	-	
SUBTOTAL - UTILITY RELOCATION COSTS					\$ -	-	-	-	
CONSTRUCTION (Required for Budget)		Conduit (single-trench)	LF	150	15	\$ 2,250.00	Yes	2,122	128
	Conduit (single-horizontal drill)	LF	0	40	\$ -	Yes	-	-	
	Conduit Duct Bank	LF	4,050	35	\$ 141,750.00	Yes	133,670	8,080	
	Conduit Duct Bank (horizontal drill)	LF	4,010	50	\$ 200,500.00	Yes	189,073	11,428	
	No. 7 Pull Box w/extension	EA	12	750	\$ 9,000.00	Yes	8,487	513	
	Splice Vaults	EA	3	2,500	\$ 7,500.00	Yes	7,073	428	
	SMFO (144)	LF	8,060	4	\$ 32,240.00	Yes	30,402	1,838	
	SMFO (12)	LF	350	5	\$ 1,750.00	Yes	1,650	100	
	Fiber Optic Splice Enclosure	EA	5	1,500	\$ 7,500.00	Yes	7,073	428	
	Fiber Terminal Panel	EA	1	1,200	\$ 1,200.00	Yes	1,132	68	
Ethernet Switch	EA	5	2,750	\$ 13,750.00	Yes	12,966	784		
SUBTOTAL - CONSTRUCTION COST					\$ 417,440.00	-	393,646	23,794	
MOBILIZATION AND ADMINISTRATION COSTS	CONTRACTOR MOBILIZATION (Typically 8% of construction cost)				33,395	\$ 33,395.20	Yes	31,492	1,904
	TRAFFIC CONTROL (0-8% of construction cost)				33,395	\$ 33,395.20	Yes	31,492	1,904
	CONSTRUCTION SURVEY & LAYOUT (Typically 1% of construction cost)				4,174	\$ 4,174.40	Yes	3,936	238
	CONSTRUCTION CONTINGENCIES (Typically 5% of construction cost)				20,872	\$ 20,872.00	Yes	19,682	1,190
	CONSTRUCTION ADMINISTRATION (Averaging 18% of construction cost)				62,616	\$ 62,616.00	Yes	59,047	3,569
SUBTOTAL - MOBILIZATION & ADMINISTRATION COSTS					\$ 154,452.80	-	145,649	8,804	
TOTAL UTILITIES, CONSTRUCTION AND MOBILIZATION FOR PROGRAMMING					\$ 571,892.80	-	539,295	32,598	
ADOT REVIEW FEE	Please enter 'Yes' if your agency is certified accepted by ADOT for construction		No						
	ADOT REVIEW FEE	AGENCY TYPE	RATE	HOURS	TOTAL	USES FEDERAL AID	FEDERAL	LOCAL	
	Contracts and Specs \ Advertise Project	Non CA	55	100	\$ 5,500	No	-	5,500	
	District \ Review Stage Submittals	Non CA	50	40	\$ 2,000	No	-	2,000	
	Environmental Planning \ Issue Clearance	All	50	40	\$ 2,000	No	-	2,000	
	Right of Way \ Issue Clearance	Non CA	55	24	\$ 1,320	No	-	1,320	
	Compliance Review\ Compliance Review	Non CA	175	40	\$ 7,000	No	-	7,000	
	Project Management Group\ Project Management	Non CA	120	100	\$ 12,000	No	-	12,000	
	Project Management Group\ Project Management	CA Only	120	60	\$ 7,200	No	-	7,200	
	Utilities and Railroad Sections\ Issue Clearance	Non CA	50	24	\$ 1,200	No	-	1,200	
SUBTOTAL - ADOT REVIEW FEE					\$ 31,020	-	-	31,020	
TOTAL COST ESTIMATE					\$ 673,413	-	539,295	134,118	

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	Watson Road, Lower Buckeye Road to I-10	Install conduit and SMFO	2022	Local	\$ -	\$ 70,500	\$ 70,500	100.0%
Construction	Watson Road, Lower Buckeye Road to I-10	Install conduit and SMFO	2022	CMAQ	\$ 539,295	\$ 32,598	\$ 571,893	5.7%
Total Programmed					\$ 539,295	\$ 103,098	\$ 642,393	16.0%
ADOT Design Review Fee					\$ -	\$ 31,020	\$ 31,020	100.0%
Total Cost					\$ 539,295	\$ 134,118	\$ 673,413	19.9%
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: Roger Klingler								
Title: City Manager								
Date: September 12, 2019								



While every effort has been made to ensure the accuracy of this information, the City of Buckeye makes no warranty, expressed or implied, as to its absolute accuracy and expressly disclaims liability for the accuracy thereof.

Watson Road ITS Conduit and Fiber



 Conduit Project Area

