

Contact Information	
1. Lead Agency	City of Avondale
2. Contact Name	Ward Stanford
3. Phone	623.333.4219
4. E-Mail Address	wstanford@avondalez.gov
5. Mailing Address	11465 W. Civic Center Dr, #120, Avondale, AZ. 85323

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: 90%;" type="text" value="26,700"/>
b. Please describe how the ADT was estimated:	<input style="width: 100%; height: 100%;" type="text" value="Field Data Services counts; 2017 plus 3% growth factor for two years."/>
c. When was the ADT estimate developed:	<input style="width: 90%;" type="text" value="9/1/2019"/>
d. Name of the roadway section used for the ADT estimate:	<input style="width: 100%;" type="text" value="Dysart Road"/>
e. Starting limit of the roadway section:	<input style="width: 100%;" type="text" value="Indian School Rd"/>
f. Ending limit of the roadway section:	<input style="width: 100%;" type="text" value="Main St (MC85)"/>
g. Length (miles):	<input style="width: 90%;" type="text" value="4.1"/>
h. Total number of through lanes on the roadway section:	<input style="width: 90%;" type="text" value="6"/>
i. Federal Functional Classification of the roadway section:	<input style="width: 90%;" 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: 29

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 of	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) 29

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	ARID Technologies, Dysart Rd - Indian School to Main St (MC85)
b. Lead Agency	City of Avondale
c. Other Partnering Agencies	

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	Improve traffic flow and safety through real time traffic progression monitoring along the corridor. Reduce emissions and fuel consumption, improve travel times, reduce stops and congestion, and improve emergency reponse qualities. Evaluate improvements and problem solving efforts through the use of Intelligent Transportation System (ITS) technology and infrastructure.
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b. Project Objectives	Procure and implement ARID devices on Dysart Rd between Indian School Road and Main Street (MC85). Conduct signal timing work to re-establish traffic signal coordination on the corridor. Use the ARID platform to better address competing transportation needs and impacts plus assisting in testing, modifying and determining if problem solving strategies are effective. Improve safety and provide more consistent travel times for all modes of travel.
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4. Project Information

a. Project location description	Dysart Road from Indian School Road to Main Street (MC85)
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Note: a PDF file of a map must be submitted to MAG as an attachment.

b. Scope of the project	Acquire/install ARID devices at each signalized intersection on the corridor. Replace video detection at 2 intersections. Replace a controller at one intersection. Add CCTV abilities at 7 locations. Acquire/install radio comm at two intersections. Assume signal operations at I-10 and Dysart Rd, changing out all signal control & monitoring hardware. Create new signal timings and use the ARID platform to assist in the timing work.
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ITS Project Information

5. Identify Project Components in MAG Regional ITS Architecture

Service Area	Addressed in this Project? (Dropdown: Y/N)	Applicable ITS Service Packages
Traffic Management	Yes	ATMS 01, 03.
Maintenance and Construction	No	
Public Transportation	No	
Traveler Information	No	
Emergency Management	No	
Archived Data Management	No	

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.	26,700
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")	35
Latest year of your agency's Operations/Management Center upgrade.	2019

7. Program Year Preference

Preferred Program Year

2020

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	\$ 23,104.00			6%
9-Additional detection at signalized intersections for real-time collection of data, including turning movement counts stored by individual agencies and archived in RADS	\$ 237,636.00			62%
10-Reliable communications between TMCs and major-major intersections to facilitate remote management of traffic operations - Adds both fiber and wireless infrastructure	\$ 9,025.00			2%
11-Regional Asset Upgrade/Replace Program - ICM Corridors & Priority Arterials	\$ 113,315.00			30%
Total	\$ 383,080.00	\$ 23,155.42	\$ 406,235.42	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	\$ 383,080.00			100%
Total	\$ 383,080.00	\$ 23,155.42	\$ 406,235.42	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)	5
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	\$250,000
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	
f. Other comments	<div style="border: 1px solid black; padding: 5px;"> Project will add ARID devices at each intersection on the corridor, plus upgrade 4 intersections controllers, 3 intersections video detection and add radio communications to one intersection. City will take over signal operations at the I-10 and Dysart interchange requiring a change of the controller, cabinet and cabinet electronics, and video detection will be added. Some rewiring will also be necessary at 2 intersections. </div>

10. Systems Engineering Analysis Requirement

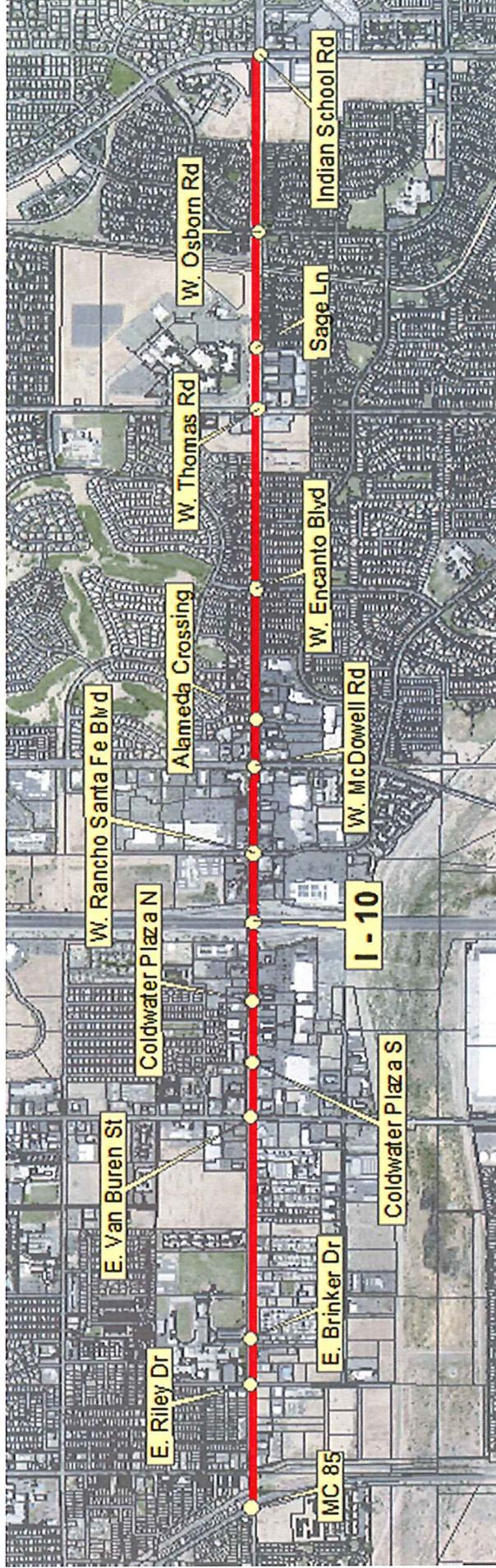
Commitment to address the federal requirement for Systems Engineering Analysis:
 Agency's intent to follow the process described in the 'V' diagram during the project development process.
[ADOT Systems Engineering Checklist](#)

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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DYSART RD - Indian School To MC 85

4.1 miles

15 Intersections



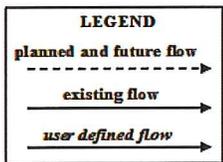
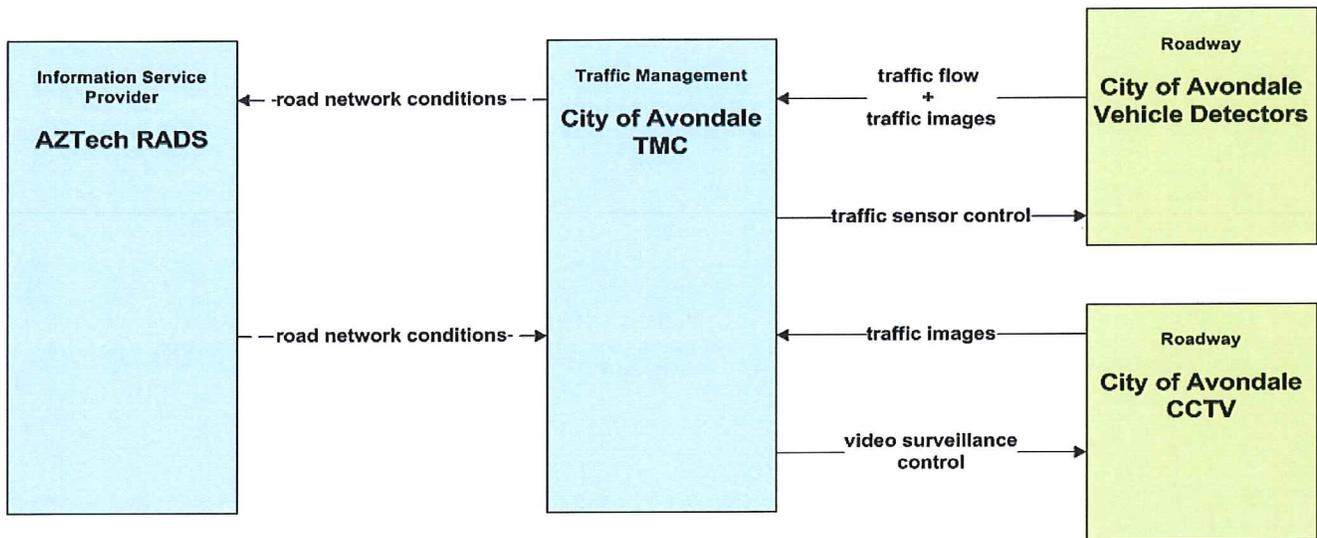
ITS Architecture Flow Diagram

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](#)

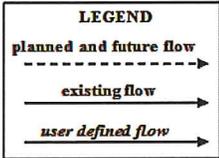
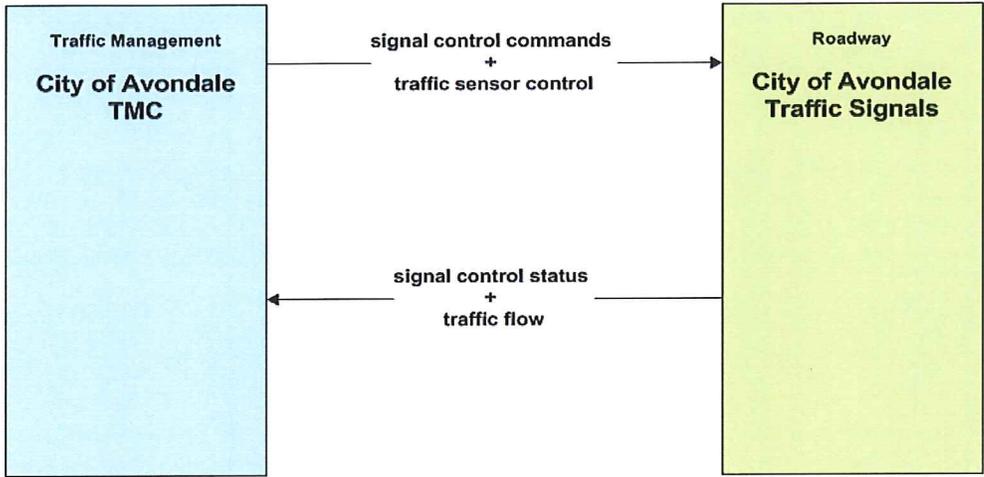
ATMS01 - Network Surveillance City of Avondale



The planned and future flows are not necessarily being funded. They may reflect the desire to have the data link from either or both sides of the stakeholders.

ITS Architecture Flow Diagram

ATMS03 - Traffic Signal Control
City of Avondale



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	Dysart Rd, Indian School to Main St (MCBS)							
		Work Description	Procure and deploy ARID technology; conduct signal coordination work.							
		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)	Topographic Survey	LS	1		\$ -	No	-	-	
		Project Assessment Report or Detailed Workplan	LS	1	1,000	\$ 1,000.00	No	-	1,000	
		Systems Engineering Analysis (must address FHWA requirements)	LS	1	1,000	\$ 1,000.00	No	-	1,000	
		Federal Project Environmental Determination	LS	1	1,000	\$ 1,000.00	No	-	1,000	
		HAZMAT Assessment	LS	1		\$ -	No	-	-	
SUBTOTAL - PRELIMINARY ENGINEERING COSTS					\$ 3,000.00		-	3,000		
FINAL DESIGN (30, 60, 95, 100% plans) (Required for Budget)	Right-of-Way Acquisition	LS	1		\$ -	No	-	-		
	Plans, Specifications, Cost Estimates, Bidding	LS	1	2,000	\$ 2,000.00	No	-	2,000		
	Geotechnical Report	LS	1		\$ -	No	-	-		
	Drainage Report	LS	1		\$ -	No	-	-		
	SWPPP	LS	1		\$ -	No	-	-		
SUBTOTAL - FINAL DESIGN COSTS					\$ 2,000.00		-	2,000		
TOTAL PRELIMINARY ENGINEERING AND DESIGN COST AVAILABLE FOR PROGRAMMING						\$ 5,000.00		-	5,000	
PROCUREMENT	REQUESTED PROGRAMMING (Complete only if Construction will be programmed in the MAG TIP)	Location Description	Dysart Rd, Indian School to Main St (MCBS)							
		Work Description	Procure and deploy ARID technology; conduct signal coordination work.							
		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	ARID Device	EA	15	5,145	\$ 77,175.00	Yes	72,776	4,399	
		ARID Antenna	EA	15	216	\$ 3,240.00	Yes	3,055	185	
		Controller upgrades	EA	5	2,350	\$ 11,750.00	Yes	11,080	670	
		Video Detection Upgrades	EA	12	21,000	\$ 252,000.00	Yes	237,636	14,364	
		Network Switch	EA	2	1,785	\$ 3,570.00	Yes	3,367	203	
CCTV		EA	7	3,500	\$ 24,500.00	Yes	23,104	1,396		
Radio Communications (transmitter, receiver, cabling, antennas)		EA	2	3,000	\$ 6,000.00	Yes	5,658	342		
Replace Intersection wiring		EA	2	5,000	\$ 10,000.00	Yes	9,430	570		
Traffic Signal Cabinet (332), Internal electronics, UPS		EA	1	18,000	\$ 18,000.00	Yes	16,974	1,026		
TOTAL - PROCUREMENT						\$ 406,235.00		383,080	23,155	
CONSTRUCTION	REQUESTED PROGRAMMING (Complete only if Construction will be programmed in the MAG TIP)	Location Description								
		Work Description								
		Funding Source	CMAQ							
		Preferred Year to Program Work	2021							
	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 (4) 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)		Example: Pull Boxes removal/replace	EA			\$ -	Yes	-	-	
	Example: Fiber	LF			\$ -	Yes	-	-		
	Example: New Conduit	LF			\$ -	Yes	-	-		
	Example: Intersection conduit work	EA			\$ -	Yes	-	-		
	Example: Wireless Communication Link	EA			\$ -	Yes	-	-		
	Place for entering an additional item #1				\$ -	Yes	-	-		
	Place for entering an additional item #2				\$ -	Yes	-	-		
	Place for entering an additional item #3				\$ -	Yes	-	-		
	Place for entering an additional item #4				\$ -	Yes	-	-		
	Place for entering an additional item #5				\$ -	Yes	-	-		
Place for entering an additional item #6				\$ -	Yes	-	-			
Place for entering an additional item #7				\$ -	Yes	-	-			
Place for entering an additional item #8				\$ -	Yes	-	-			
Place for entering an additional item #9				\$ -	Yes	-	-			
Place for entering an additional item #10				\$ -	Yes	-	-			
SUBTOTAL - CONSTRUCTION COST					\$ -		-	-		
MOBILIZATION AND ADMINISTRATION COSTS	CONTRACTOR MOBILIZATION (Typically 8% of construction cost)				\$ -	Yes	-	-		
	TRAFFIC CONTROL (0-8% of construction cost)				\$ -	Yes	-	-		
	CONSTRUCTION SURVEY & LAYOUT (Typically 1% of construction cost)				\$ -	Yes	-	-		
	CONSTRUCTION CONTINGENCIES (Typically 5% of construction cost)				\$ -	Yes	-	-		
	CONSTRUCTION ADMINISTRATION (Averaging 18% of construction cost)				\$ -	Yes	-	-		
SUBTOTAL - MOBILIZATION & ADMINISTRATION COSTS						\$ -		-		
TOTAL UTILITIES, CONSTRUCTION AND MOBILIZATION FOR PROGRAMMING										
Please enter "Yes" if your agency is certified accepted by ADOT for construction		No								
ADOT REVIEW FEE	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	\$ -	No	-	-	
		Utilities and Railroad Section \ Issue Clearance	Non CA	50	24	\$ 1,200	No	-	1,200	
		TOTAL COST ESTIMATE						\$ 442,255		383,080

Budget and Signature Page

Phase	Location Description	Work Description	Year to be Programmed	Funding Source	Federal Amount	Local Amount	Total	Local Share
Procurement	Dysart Rd, Indian School to Main St (MCBS)	Procure and deploy ARID technology; conduct signal coordination work.	2020	CMAQ	\$ 383,080	23,155 \$	406,235	5.7%
Design, excludes ADOT review fees	Dysart Rd, Indian School to Main St (MCBS)	Procure and deploy ARID technology; conduct signal coordination work.	2020	Local	\$ -	5,000 \$	5,000	100.0%
Total Programmed					\$ 383,080	28,155 \$	411,235	6.8%
ADOT Design Review Fee					\$ -	31,020 \$	31,020	100.0%
Total Cost					\$ 383,080	59,175 \$	442,255	13.4%

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: *Chinn Montoya*
 Name: Charles Montoya
 Title: City Manager
 Date: 10/29/19