

Agency:	Scottsdale		Title of Project:	Camelback and Saddlebag Pedestrian Signal	
Date:	10/1/2020				
Contact Name and Title:		Phone:	E-Mail:		
Sam Taylor, Traffic Engineering Analyst		480-312-2526	staylor@scottsdaleaz.gov		
Roadway Safety Program (RSP) Project Scope					
1.	Describe your safety improvement project in detail: (50 words or less)				
1a.	The purpose of this project is to provide a safe and controlled location for pedestrians to cross Camelback Road near Saddlebag Trail. Pedestrian crash history along corridor warrants a safe pedestrian crossing. A Pedestrian Hybrid Beacon was first considered at this location. However, because of the unique character of the area and the proximity of this location to the existing signal at Buckboard and Camelback, it was determined that a pedestrian signal should be installed as opposed to a pedestrian hybrid beacon.				
2.	Describe the project location, include pertinent demographic and land development information:				
2a.	The location is on Camelback Road at Saddlebag Trail, approximately 600 feet east of the signalized intersection at Camelback Rd. and Buckboard Road and a quarter mile west of the signalized intersection at Miller Road. There is existing food and beverage establishments on south side of the interseciton and existing and future hotel and residential units on the north side of intersection.				
3	For projects on State System (ADOT):	BMP: (Begin Milepost)		EMP: (End Milepost)	
4.	What network screening method was used to identify this project?			<input type="checkbox"/> MAG <input type="checkbox"/> ADOT <input checked="" type="checkbox"/> Other (Below)	
4a	This location was identified as one of the top priorities by Scottsdale's pedestrian crossing prioritization scoresheet.				
5.	Was this project identified as a recommendation in a study? If so, what kind? (check all that apply)				
5a	<input type="checkbox"/> RSA <input type="checkbox"/> PA <input type="checkbox"/> SRTS Study <input type="checkbox"/> LASS Study <input checked="" type="checkbox"/> Other				
6.	Was the project identified using an agency adopted predictive safety analysis?			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
7.	What is the safety justification for the proposed project?				
7a	There were six pedestrian collisions at the intersection between 2014 and 2018 which resulted in one fatal, two incapacitating and three non-incapacitating injury crashes. A safe pedestrian signal is essential at this intersection to help facilitate the high amount of pedestrian crossings during peak hours.				
8.	Is Public outreach required for your project? If "yes" Provide what was done, the date(s) and outcomes. (Attach documentation if applicable)				
8a	No				
9.	What safety related public education will your agency be providing before placing the safety improvement in service, if applicable?				
9a					
10.	Equity: Input the largest percent for each element for the one-mile radius or offset (Click on the hyperlinks in the text to open maps. See directions on side on maps):				
	65 yrs and Older	Minority Groups	No Vehicle Households	Disabled	Living in Poverty
10a	15.00%	25%	11.00%	13.60%	20%
11.	Avg Daily Traffic (ADT) Volume:		27,000	Year Collected:	
				2019	
12.	Total Crash Frequency:		56	Crash Rate (MVM or MEV) (Insert from "Crash Rate" Work Sheet):	
				1.1	
13.	What is the posted speed limit?		35	Benefit/Cost:	
				16.5	

PROJECT COST ESTIMATE WORKSHEET
(Cost Estimates Are Required Regardless of Programming)

PROCUREMENT	REQUESTED PROGRAMMING	Location Description	Camelback Road and Saddlebag Trail			
		Work Description	Install Pedestrian Signal			
Funding Source		RSP				
Preferred Year to Program Work		2020				
COST ESTIMATE FOR PROCUREMENT		UNITS	QUANTITY	UNIT COST	TOTAL	
PROCUREMENT/INSTALL	Place for entering item #1	EA			\$ -	
	Place for entering item #2	EA			\$ -	
TOTAL – PROCUREMENT					\$ -	
DESIGN	REQUESTED PROGRAMMING (Complete if Item will be programmed in the MAG TIP)	Location Description	Camelback Road and Saddlebag Trail			
		Work Description	Install Pedestrian Signal			
		Funding Source	Local			
		Preferred Year to Program Work	2019			
	COST ESTIMATE FOR DESIGN		UNITS	QUANTITY	UNIT COST	TOTAL
	PRELIMINARY ENGINEERING (15% plans) (Required for Budget)	Topographic Survey	LS	1		\$ -
		Design Concept Report (DCR)	LS	1		\$ -
		Federal Project Environmental Determination	LS	1		\$ -
		HAZMAT Assessment	LS	1		\$ -
		SUBTOTAL – PRELIMINARY ENGINEERING COSTS				
	FINAL DESIGN (30, 60, 95, 100% plans) (Required for Budget)	Plans, Specifications, Cost Estimates, Bidding	LS	1	20,000.00	\$ 20,000.00
		Staff Time	LS	1	9,000.00	\$ 9,000.00
Drainage Report		LS	1		\$ -	
SWPPP		LS	1		\$ -	
SUBTOTAL – FINAL DESIGN COSTS					\$ 29,000.00	
TOTAL PRELIMINARY ENGINEERING AND DESIGN COST AVAILABLE FOR PROGRAMMING					\$ 29,000.00	

PROJECT COST ESTIMATE WORKSHEET

(Cost Estimates Are Required Regardless of Programming)

CONSTRUCTION	REQUESTED PROGRAMMING (Complete only If Construction will be programmed in the MAG TIP)	Location Description	Camelback Road and Saddlebag Trail			
		Work Description	Install Pedestrian Signal			
		Funding Source	RSP			
		Preferred Year to Program Work	2020			
COST ESTIMATE FOR CONSTRUCTION		UNITS	QUANTITY	UNIT COST	TOTAL	
UTILITY RELOCATIONS (Required for Budget, May be 0 if no Utilities) <small>The cost of minor utility relocation for the safety improvement project are eligible if the costs/activities involved are directly related to the safety project. Generally, burying overhead utilities is cost prohibitive</small>		Relocate 69 kv (+) Poles	EA	1	\$ -	
		Relocate/Underground 12 kv lines	LF		\$ -	
		Relocate/Underground Irrigation Canal	LF		\$ -	
		SWG Relocations	LS	1	\$ -	
		Telephone/Cable TV Relocations	LS	1	\$ -	
		Upgrade Railroad Crossings	LS	1	\$ -	
	SUBTOTAL – UTILITY RELOCATION COSTS					\$ -
CONSTRUCTION (Required for Budget)		Construction Surveying	LS	1	2,500.00 \$ 2,500.00	
		Relocate Sign W/ New Post & Post Base	EA	1	500.00 \$ 500.00	
		Relocate Water Meter, Cos 2330 & 2345	EA	2	1,500.00 \$ 3,000.00	
		Remove Ac Pavement	SY	89	25.00 \$ 2,222.22	
		Remove Concrete ADA Ramp	EA	1	1,500.00 \$ 1,500.00	
		Remove Concrete Sidewalk, Driveways & Slabs	SF	400	5.00 \$ 2,000.00	
		Remove Curb & Gutter	LF	75	10.00 \$ 750.00	
		Remove Dg	SF	180	1.25 \$ 225.00	
		Remove Light Pole	EA	1	1,500.00 \$ 1,500.00	
		Remove Pull Box	EA	1	523.35 \$ 523.35	
		Remove Traffic Markings 4" Equiv, Cos Suppl, Spec 350	LF	59	4.25 \$ 248.63	
		Sawcut & Match Existing	LF	250	2.00 \$ 500.00	
		Dust Control	LS	1	2,500.00 \$ 2,500.00	
		Haul Off	CY	10	50.00 \$ 500.00	
		Subgrade Preparation	SY	133	7.50 \$ 1,000.00	
		Swppp	LS	1	1,500.00 \$ 1,500.00	
		Traffic Control	WK	4	1,500.00 \$ 6,000.00	
		Pavement Replacement, Cos 2200	SY	89	75.00 \$ 6,666.67	
		Concrete Sidewalk (Mag Det. 230)	SF	400	7.00 \$ 2,800.00	
		Concrete Sidewalk Ramp, Cos 2232 (Modified-6' Wide)	EA	1	1,500.00 \$ 1,500.00	
		Concrete Sidewalk Ramp, Cos 2233 Type "A"	EA	1	3,000.00 \$ 3,000.00	
		Vertical Curb & Gutter, Cos 2220 Type "A"	LF	75	55.00 \$ 4,125.00	
		White Stripe 90Mil Thermo Plastic 4" Equiv	LF	415	3.50 \$ 1,452.50	
		Led Luminaire (1300K) (Horizontal Mount)	EA	2	1,000.00 \$ 2,000.00	
		Mast Arm (20 Ft.) (Tapered)	EA	2	1,750.00 \$ 3,500.00	
		Control Cabinet	EA	1	35,000.00 \$ 35,000.00	
		Controller (Type 170)	EA	1	5,000.00 \$ 5,000.00	
		Electrical Conduit (Its)	LF	10	50.00 \$ 500.00	
		Electrical Conduits - 2-3" (Traffic Signal)	LF	275	55.00 \$ 15,125.00	
		Foundation - (A - Pole)	EA	1	1,000.00 \$ 1,000.00	
		Foundation - (R - Pole)	EA	2	2,500.00 \$ 5,000.00	
		Hawk Signals	EA	6	2,500.00 \$ 15,000.00	
		Mast Arm 40' For Signal Pole (Sr Pole)	EA	1	6,000.00 \$ 6,000.00	
		Mast Arm 50' For Signal Pole (Sr Pole)	EA	1	7,000.00 \$ 7,000.00	
	Meter Service Pedestal	EA	1	4,500.00 \$ 4,500.00		
	No. 7 Pull Box - Traffic Signal	EA	6	960.00 \$ 5,760.00		
	Ped Crossing Signals	EA	1	2,500.00 \$ 2,500.00		
	Pedestrian Push Button	EA	2	750.00 \$ 1,500.00		
	Pole (Type A)	EA	1	1,000.00 \$ 1,000.00		
	Pole (Type Q)	EA	2	7,710.00 \$ 15,420.00		

PROJECT COST ESTIMATE WORKSHEET
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		Pole (Type R)	EA	1	8,000.00	\$	8,000.00	
		Traffic Signal Conductors Per The Approved Plans And Specifications	LF	285	40.00	\$	11,400.00	
		Traffic Signal Mounting Assembly (Type II)	EA	6	1,000.00	\$	6,000.00	
		Traffic Signal Mounting Assembly (Type V)	EA	2	1,200.00	\$	2,400.00	
		Utility Locate - Pothole	LS	1	5,000.00	\$	5,000.00	
		SUBTOTAL - CONSTRUCTION COST					\$	205,118.36
	MOBILIZATION AND ADMINISTRATION COSTS	CONTRACTOR MOBILIZATION (Typically 8% of construction cost)			8%	\$	16,409.47	
		TRAFFIC CONTROL (0-8% of construction cost)			5%	\$	10,255.92	
		CONSTRUCTION CONTINGENCIES (Typically 5% of construction cost)			5%	\$	10,255.92	
		CONSTRUCTION ADMINISTRATION (Averaging 18% of construction cost)			15%	\$	30,767.75	
		SUBTOTAL - MOBILIZATION & ADMINISTRATION COSTS					\$	67,689.06
	TOTAL UTILITIES, CONSTRUCTION AND MOBILIZATION FOR PROGRAMMING						\$	272,807.42
TOTAL COST ESTIMATE							\$	301,807

Budget and Signature Page

Please describe the agency programming of this project in the agency's CIP

To install a pedestrian signal at Camelback Road and Saddlebag Trail.

Phase	Location Description	Work Description	Year to be Programmed	Funding Source	Amount
Design	Camelback Road and Saddlebag Trail	Install Pedestrian Signal	2020	Local	\$ 29,000
Construction	Camelback Road and Saddlebag Trail	Install Pedestrian Signal	2021	RSP	\$ 272,807
Total Cost					\$ 301,807

Signature: To be signed with printed hard copy that is sent to MAG

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 Lead Agency's local current CIP/TIP or budget document if the project is selected for MAG Roadway Safety Program funding. I also certify the Lead Agency's commitment to maintain or operate the facility.

Signature:



Name:

Mark Melnychenko

Title:

Transportation and Streets Director

Date:

9/29/2020

RSP Application Benefit-Cost Tabulation Sheet

Agency:	Scottsdale	Title of Project:	Camelback and Saddlebag Pedestrian Signal
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Annual Benefit Tabulation

Severity	Annual Average	Estimated CRF* Reduction	Total Reduction	Unit Cost	Annual Benefit
Fatal	0.20	24%	0.05	\$9,515,371	\$456,738
Incapacitating Injury	0.20	24%	0.05	\$550,499	\$26,424
Non-Incapacitating	0.60	24%	0.14	\$149,132	\$21,475
Possible Injury	0.20	24%	0.05	\$103,145	\$4,951
Total Annual Benefits					\$509,588

Costs

Total Project Cost	\$301,807
Project Life (years)	20
Interest Rate (%)	8%
Capital Recovery Factor	0.1019
Annual Construction Cost	\$30,740
Annual Maintenance Cost	\$0.00
Total Annual Costs	\$30,740

Benefit / Cost

Annual Benefit	Annual cost	Benefit / Cost Ratio
\$509,588	\$30,740	16.5

List CMF(s) Used in the field below and its associated countermeasure(s)

CMF 5531 - Install Traffic Signal - Applies to all crash types and severities at intersections with major roads AADT 25,000 - 35,000

Scottsdale			Camelback and Saddlebag Pedestrian Signal				RSP App V1, 2019								
Incident ID (Local ID)	Incident Date (YYMMDD)	Time	Incident On Road	Incident Crossing Feature	Incident Offset	Incident Injury Severity Description	Incident First Harmful Description	Incident Collision Manner Desc	Incident Light Condition Desc	Incident Weather Desc	Incident Intersection Type Desc	Incident Junction Relation Desc	Incident Traffic Way Type Desc	Unit Travel Direction Desc	Unit Action Desc
1	2	210	3	4	8	16	17	18	19	20	21	22	23	24	25
14-02657	140201		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
14-03727	140215		CAMELBACK	SADDLEBAG	AT	1	DUI	REAR END							
14-04320	140222		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
14-04605	140226		CAMELBACK	SADDLEBAG	AT	1	MULTI VEH 3	REAR END							
14-05451	140308		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN_CAR/PEDESTRIAN	ANGLE							
14-06654	140323		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN	ANGLE							
14-08253	140411		CAMELBACK	SADDLEBAG	E	5	FATALITY PEDESTRIAN	OTHER							
14-17590	140815		CAMELBACK	SADDLEBAG	AT	1		REAR TO REAR							
14-18137	140822		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
14-20370	140921		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN	SIDESWIPE SD							
14-21880	141010		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN	REAR END							
14-22980	141025		CAMELBACK	SADDLEBAG	AT	3	CAR/PEDESTRIAN	HEAD ON							
14-24744	141115		CAMELBACK	SADDLEBAG	AT	4	MULTI VEH 3	OTHER							
14-25556	141126		CAMELBACK	SADDLEBAG	AT	1		HEAD ON							
14-25703	141129		CAMELBACK	SADDLEBAG	S	1	DUI	REAR TO SIDE							
15-01112	150115		CAMELBACK	SADDLEBAG	AT	1	CAR/BICYCLE	SIDESWIPE SD							
15-06615	150321		CAMELBACK	SADDLEBAG	AT	1	DUI, HIT AND RUN	SIDESWIPE SD							
15-08341	150411		CAMELBACK	SADDLEBAG	AT	1	DUI	HEAD ON							
15-09031	150419		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
15-17355	150808		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
15-17413	150808		CAMELBACK	SADDLEBAG	AT	1		HEAD ON							
15-18876	150828		CAMELBACK	SADDLEBAG	AT	1		SIDESWIPE SD							
15-18961	150830		CAMELBACK	SADDLEBAG	AT	1		REAR END							
15-21610	151004		CAMELBACK	SADDLEBAG	AT	3		SIDESWIPE SD							
15-23112	151024		CAMELBACK	SADDLEBAG	AT	3	DUI, CAR/PEDESTRIAN	ANGLE							
16-02845	160205		CAMELBACK	SADDLEBAG	AT	1	DUI	REAR TO SIDE							
16-04238	160221		CAMELBACK	SADDLEBAG	S	1	DUI	REAR TO SIDE							
16-07255	160327		CAMELBACK	SADDLEBAG	AT	1		SIDESWIPE SD							
16-07871	160403		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN	REAR TO SIDE							
16-12376	160529		CAMELBACK	SADDLEBAG	AT	4	CAR/PEDESTRIAN	OTHER							
16-13531	160612		CAMELBACK	SADDLEBAG	E	1		SIDESWIPE OD							
16-14544	160624		CAMELBACK	SADDLEBAG	AT	1		REAR END							
16-14566	160625		CAMELBACK	SADDLEBAG	AT	1	MULTI VEH 3, HIT AND RUN	REAR TO REAR							
16-19239	160827		CAMELBACK	SADDLEBAG	AT	1		SIDESWIPE SD							
16-21554	160925		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
16-23047	161015		CAMELBACK	SADDLEBAG	W	1	DUI	REAR END							
16-23065	161016		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
16-24171	161029		CAMELBACK	SADDLEBAG	W	1	HIT AND RUN	REAR END							
16-29134	161231		CAMELBACK	SADDLEBAG	AT	1		SIDESWIPE SD							
16-29193	161231		CAMELBACK	SADDLEBAG	AT	1		SIDESWIPE SD							
17-01021	170114		CAMELBACK	SADDLEBAG	E	1	DUI	ANGLE							
17-03148	170207		CAMELBACK	SADDLEBAG	W	1		REAR END							
17-08250	170410		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
17-14658	170702		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN	SIDESWIPE SD							
17-15210	170708		CAMELBACK	SADDLEBAG	W	1	HIT AND RUN	ANGLE							
17-20039	170910		CAMELBACK	SADDLEBAG	AT	1	DUI	SIDESWIPE SD							
17-21626	170930		CAMELBACK	SADDLEBAG	W	2	DUI, MULTI VEH 4	REAR END							
17-22799	171014		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
17-27399	171211		CAMELBACK	SADDLEBAG	AT	1	HIT AND RUN	OTHER							
18-02725	180204		CAMELBACK	SADDLEBAG	AT	1		REAR END							
18-05506	180311		CAMELBACK	SADDLEBAG	AT	1		ANGLE							
18-09057	180423		CAMELBACK	SADDLEBAG	E	1	DUI	REAR TO SIDE							
18-13340	180616		CAMELBACK	SADDLEBAG	S	1	HIT AND RUN	ANGLE							
18-15088	180708		CAMELBACK	SADDLEBAG	E	1	DUI	ANGLE							
18-16443	180726		CAMELBACK	SADDLEBAG	AT	1		REAR END							
18-22917	181020		CAMELBACK	SADDLEBAG	AT	3		ANGLE							



