Agency:	Scottsdale	Title of Project:	Scottsdale Rd. and 1st Ave.
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 install a new traffic signal at the urban intersection of Scottsdale Road and 1st Avenue. The new signal will provide a safe and controlled location for pedestrians to cross Scottsdale Road at this intersection and help to control vehicular traffic while also providing for safe turning and crossing movements for vehicles on 1st Avenue.				
2.	**Describe the project location, include pertinent demographic and land development information:**				
2a.	This interesection is located near the center of Scottsdale's busy old town district and recives heavy traffic northbound and southbound on Scottsdale Road. It also experiences high volumes of pedestrians looking to cross Scottsdale Road at this location due to a high surrounding density of pedestrian attractions. East-West crosswalks are currently striped at this intersection however, there is no existing traffic control for these crosswalks.				
3	**For projects on State System (ADOT):**	**BMP: (Begin Milepost)**		**EMP: (End Milepost)**	
4.	**What network screening method was used to identify this project?**	☐ MAG	☐ ADOT	☑ Other (Below)	
4a	This project has been identified as a location for potential safety improvement through review of local crash data and citizen corespondence.				
5.	**Was this project identified as a recommendation in a study? If so, what kind? (check all that apply)**				
5a	☐ RSA	☐ PA	☐ SRTS Study	☐ LASS Study	☑ Other
6.	**Was the project identified using an agency adopted predictive safety analysis?**	☐ YES	☑ NO		
7.	**What is the safety justification for the proposed project?**				
7a	This project will help to prevent pedestrian and bicycle related collisions as well as angle and left turn collisions by providing controled movements for both pedestrians and bicylist on each approach at this intersection. At this intersection between 2014 and 2018, there were two crashes where pedestrians were hit while crossing in the crosswalk, luckily they only resulted in minor injuries. There have also been three rear end crashes due to vehicles stopping abruptly to allow a pedestrian to cross. A pedestrian crossing study conducted in 2019 observed between 112 and 197 pedestrian crossing events in an hour. This project is being proposed as a proactive measure to prevent any future serious or fatal crashes at this intersection.				
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	*22%*	*20%*	*11%*	*8.25%*	*20%*

11.	**Avg Daily Traffic (ADT) Volume:**	26,000	**Year Collected:**	2020
12.	**Total Crash Frequency:**	25	**Crash Rate (MVM or MEV)**	0.5
13.	**What is the posted speed limit?**	**25**	**Benefit/Cost:**	1.1

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

PROCUREMENT	REQUESTED PROGRAMMING	Location Description	Scottsdale Road and 1st Avenue			
		Work Description	Install Traffic Signal			
		Funding Source	RSP			
		Preferred Year to Program Work	2022			
	COST ESTIMATE FOR PROCUREMENT		UNITS	QUANITY	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	Scottsdale Road and 1st Avenue			
		Work Description	Install Traffic Signal			
		Funding Source	Local			
		Preferred Year to Program Work	2021			
	COST ESTIMATE FOR DESIGN		UNITS	QUANITY	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	39,015.00	$ 39,015.00
		Staff Time	LS	1		$ -
		Drainage Report	LS	1		$ -
		SWPPP	LS	1		$ -
		SUBTOTAL – FINAL DESIGN COSTS				$ 39,015.00
	TOTAL PRELIMNARY ENGINEERING AND DESIGN COST AVAILABLE FOR PROGRAMMING					$ 39,015.00

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	**Scottsdale Road and 1st Avenue**				
	Work Description	**Install Traffic Signal**				
	Funding Source	**RSP**				
	Preferred Year to Program Work	**2022**				
COST ESTIMATE FOR CONSTRUCTION		**UNITS**	**QUANITY**	**UNIT COST**		**TOTAL**
UTILITY RELOCATIONS (Required for Budget, May be 0 if no Utilities) The cost of minor utility relocation for the safety improvement project are eligible if the costs/activities invloved are directly related to the safety project. Generally, burying overhead utilities is cost prohibitive	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		$	-
	Other Utilities	LS	1		$	-
	Other Utilities	LS	1		$	-
	SUBTOTAL – UTILITY RELOCATION COSTS				$	-
CONSTRUCTION (Required for Budget)	Led Luminaire	EA	4	1,000.00	$	4,000.00
	Mast Arm (15 Ft.)	EA	4	1,500.00	$	6,000.00
	Control Cabinet (Model 332 Hybrid)	EA	1	31,600.00	$	31,600.00
	Electric Service Cabinet (Meyers)	EA	1	4,973.71	$	4,973.71
	Electrical Conduit & Conductors	LS	1	25,000.00	$	25,000.00
	Foundation - Control Cabinet	EA	1	1,500.00	$	1,500.00
	Foundation - Electric Service Cabinet	EA	1	750.00	$	750.00
	Foundation - Pole	EA	4	2,773.30	$	11,093.20
	Mast Arm 25' For Signal Pole	EA	2	1,500.00	$	3,000.00
	Mast Arm 40' For Signal Pole (Sr Pole)	EA	1	4,000.00	$	4,000.00
	Mast Arm 45' For Signal Pole (Sr Pole)	EA	1	4,500.00	$	4,500.00
	No. 7 Pull Box - Traffic Signal	EA	3	750.00	$	2,250.00
	No. 7 Pull Box w/ EXT - Traffic Signal	EA	1	1,000.00	$	1,000.00
	Opticom Pre-Emption Unit	EA	4	1,500.00	$	6,000.00
	Pedestrian Push Button	EA	8	1,000.00	$	8,000.00
	Pole (Type QS)	EA	3	7,000.00	$	21,000.00
	Pole (Type RS)	EA	1	8,000.00	$	8,000.00
	Sign Mont Bracket For Light Or Signal Pole	EA	8	330.62	$	2,644.96
	System Integration	LS	1	15,000.00	$	15,000.00
	Traffic Signal Face (Pedestrian) (Man/Hand)	EA	8	500.00	$	4,000.00
	Traffic Signal Face (Type F)	EA	16	550.00	$	8,800.00
	Traffic Signal Mounting Assembly (Type Ii)	EA	8	125.00	$	1,000.00
	Traffic Signal Mounting Assembly (Type Vii)	EA	8	575.00	$	4,600.00
	Video Detection At Intersections	LS	1	35,000.00	$	35,000.00
	SUBTOTAL - CONSTRUCTION COST				$	213,711.87
MOBILIZATION AND ADMINISTRATION COSTS	**CONTRACTOR MOBILIZATION (Typically 8% of construction cost)**			**8%**	$	17,096.95
	TRAFFIC CONTROL (0-8% of construction cost)			**5%**	$	10,685.59
	CONSTRUCTION CONTINGENCIES (Typically 5% of construction cost)			**10%**	$	21,371.19
	CONSTRUCTION ADMINISTRATION (Averaging 18% of construction cost)			**15%**	$	32,056.78
	SUBTOTAL – MOBILIZATION & ADMINISTRATION COSTS				$	81,210.51
TOTAL UTILITIES, CONSTRUCTION AND MOBILIZATION FOR PROGRAMMING					$	294,922.38
TOTAL COST ESTIMATE					$	333,937

Budget and Signature Page

Please describe the agency programming of this project in the agency's CIP	To install a Traffic Signal at Scottsdale Road and 1st Avenue

Phase	Location Description	Work Description	Year to be Programmed	Funding Source	Amount
Design	Scottsdale Road and 1st Avenue	Install Traffic Signal	2020	Local	$ 39,015
Construction	Scottsdale Road and 1st Avenue	Install Traffic Signal	2021	RSP	$ 294,922
Total Cost					$ 333,937

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: M Melynchenko

Name: Mark Melnychenko

Title: Transportation and Streets Director

Date: 9/29/2020

RSP Application Benefit-Cost Tabulation Sheet

Agency:	Scottsdale	**Title of Project:**	Scottsdale Rd. and 1st Ave.

Annual Benefit Tabulation

Severity	Annual Average	Estimated **CRF*** Reduction	Total Reduction	Unit Cost	Annual Benefit
Fatal	**0.00**	**67%**	0.00	$9,515,371	$0
Incapacitating Injury	**0.00**	**67%**	0.00	$550,499	$0
Non-Incapacitating	**0.40**	**67%**	0.27	$149,132	$39,967
Possible Injury	**0.40**	**0%**	0.00	$103,145	$0
				Total Annual Benefits	$39,967

Costs

Total Project Cost	$333,937
Project Life (years)	20
Interest Rate (%)	8%
Capital Recovery Factor	0.1019
Annual Construction Cost	$34,012
Annual Maintenance Cost	$0.00
Total Annual Costs	$34,012

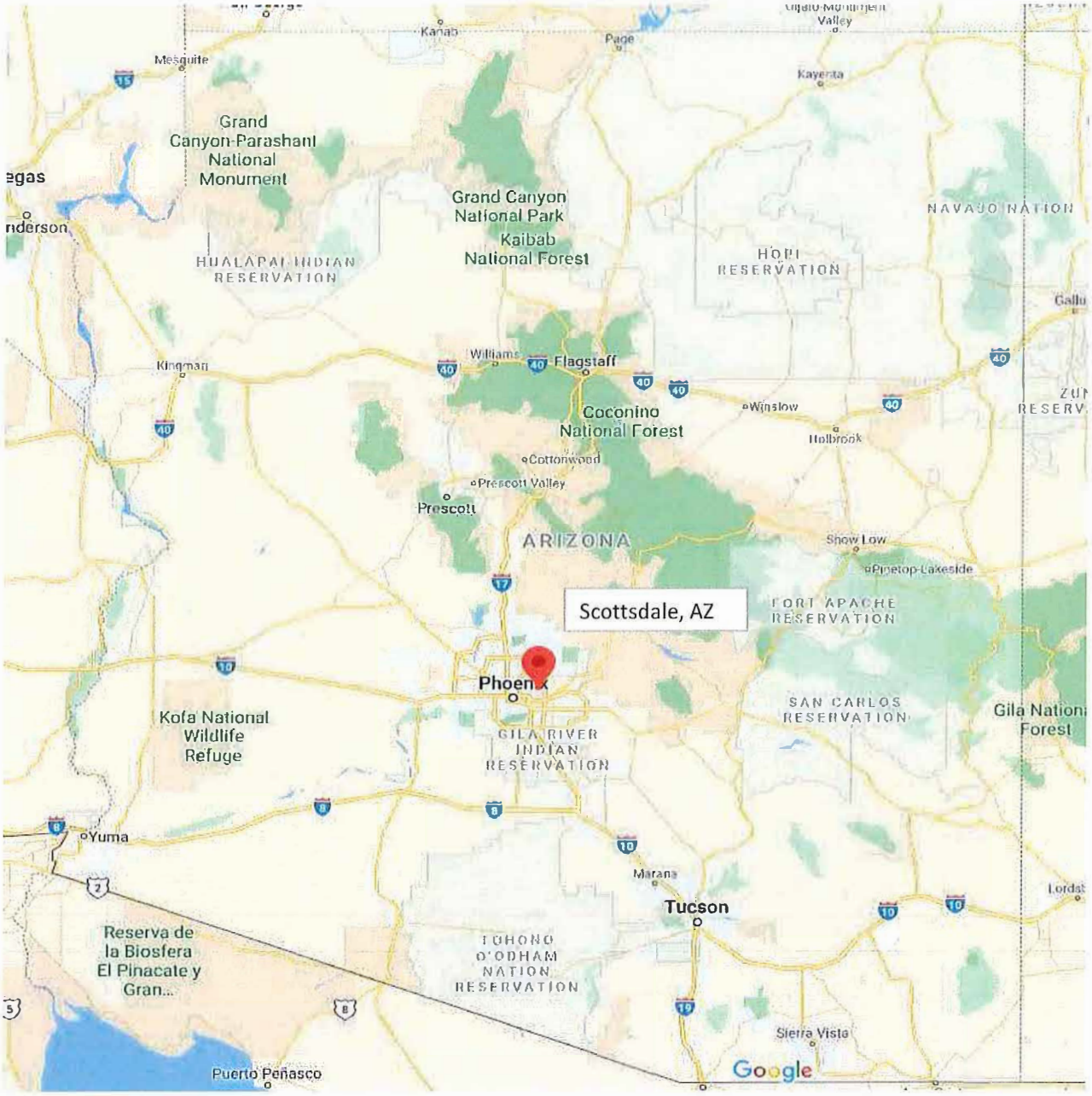
Benefit / Cost

Annual Benefit	Annual cost	Benefit / Cost Ratio
$39,967	$34,012	1.1

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

CMF ID: 320 Install a Traffic Signal

Scottsdale				Scottsdale Rd. and 1st Ave.					RSP App V1_2019					
Incident ID (Local)	Incident Date & Time (YYMMDD)	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	Comments	Incident Traffic Way Type Desc	Unit Travel Direction Desc	Unit Action Desc
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
14-02295	140129	SCOTTSDALE	1 AVE	AT	2	HIT AND RUN	REAR END							1
14-03224	140208	SCOTTSDALE	2 AVE	AT	1	HIT AND RUN	REAR END							2
14-05745	140312	SCOTTSDALE	3 AVE	AT	1		ANGLE							1
14-08038	140409	SCOTTSDALE	4 AVE	AT	1	REAR END RELATED TO PED	REAR END							1
14-10029	140503	SCOTTSDALE	5 AVE	AT	1		ANGLE							5
14-15043	140711	SCOTTSDALE	6 AVE	AT	1		LEFT TURN							6
14-22395	141017	SCOTTSDALE	7 AVE	AT	1		SIDESWIPE SD							5
14-23119	141026	SCOTTSDALE	8 AVE	AT	1	DUI	REAR TO REAR							1
15-14480	150630	SCOTTSDALE	9 AVE	AT	1		REAR END							1
15-20179	150914	SCOTTSDALE	10 AVE	AT	1	DUI	REAR END							1
15-24809	151113	SCOTTSDALE	11 AVE	AT	1		ANGLE							6
16-13817	160615	SCOTTSDALE	12 AVE	AT	1	DUI	SIDESWIPE SD							1
16-16082	160716	SCOTTSDALE	13 AVE	AT	1	REAR END RELATED TO PED	REAR END							1
16-17243	160802	SCOTTSDALE	14 AVE	S	1	DUI	OTHER							1
16-20897	160917	SCOTTSDALE	15 AVE	N	1		SINGLE VEHICLE							1
16-21380	160923	SCOTTSDALE	16 AVE	AT	1		ANGLE							1
16-22936	161014	SCOTTSDALE	17 AVE	AT	2	HIT AND RUN	ANGLE							13
16-26160	161123	SCOTTSDALE	18 AVE	AT	1	REAR END RELATED TO PED	REAR END							1
16-28609	161222	SCOTTSDALE	19 AVE	S	1		OTHER							1
17-01219	170116	SCOTTSDALE	20 AVE	AT	3	CAR/PEDESTRIAN	ANGLE	Incorrectly coded as SINGLE VEHICLE, changed to ANGLE						4
17-04161	170219	SCOTTSDALE	21 AVE	N	1		REAR END							8
18-11145	180519	SCOTTSDALE	22 AVE	AT	1		REAR END							1
18-20831	180921	SCOTTSDALE	23 AVE	AT	1	HIT AND RUN	REAR END							1
18-22951	181021	SCOTTSDALE	24 AVE	AT	1		ANGLE							1
18-25631	181127	SCOTTSDALE	25 AVE	AT	3	CAR/PEDESTRIAN	LEFT TURN							4


Kanab
Page
Mesquite
Kayenta
Grand Canyon-Parashant National Monument
Grand Canyon National Park
Kaibab National Forest
HUALAPAI INDIAN RESERVATION
HOPI RESERVATION
NAVAJO NATION
Kingman
Williams
Flagstaff
Coconino National Forest
Winslow
Holbrook
Cottonwood
Prescott Valley
Prescott
ARIZONA
Show Low
Pinetop-Lakeside
Scottsdale, AZ
FORT APACHE RESERVATION
Phoenix
SAN CARLOS RESERVATION
Gila National Forest
Kofa National Wildlife Refuge
GILA RIVER INDIAN RESERVATION
Yuma
Marana
Tucson
Reserva de la Biosfera El Pinacate y Gran...
TOHONO O'ODHAM NATION RESERVATION
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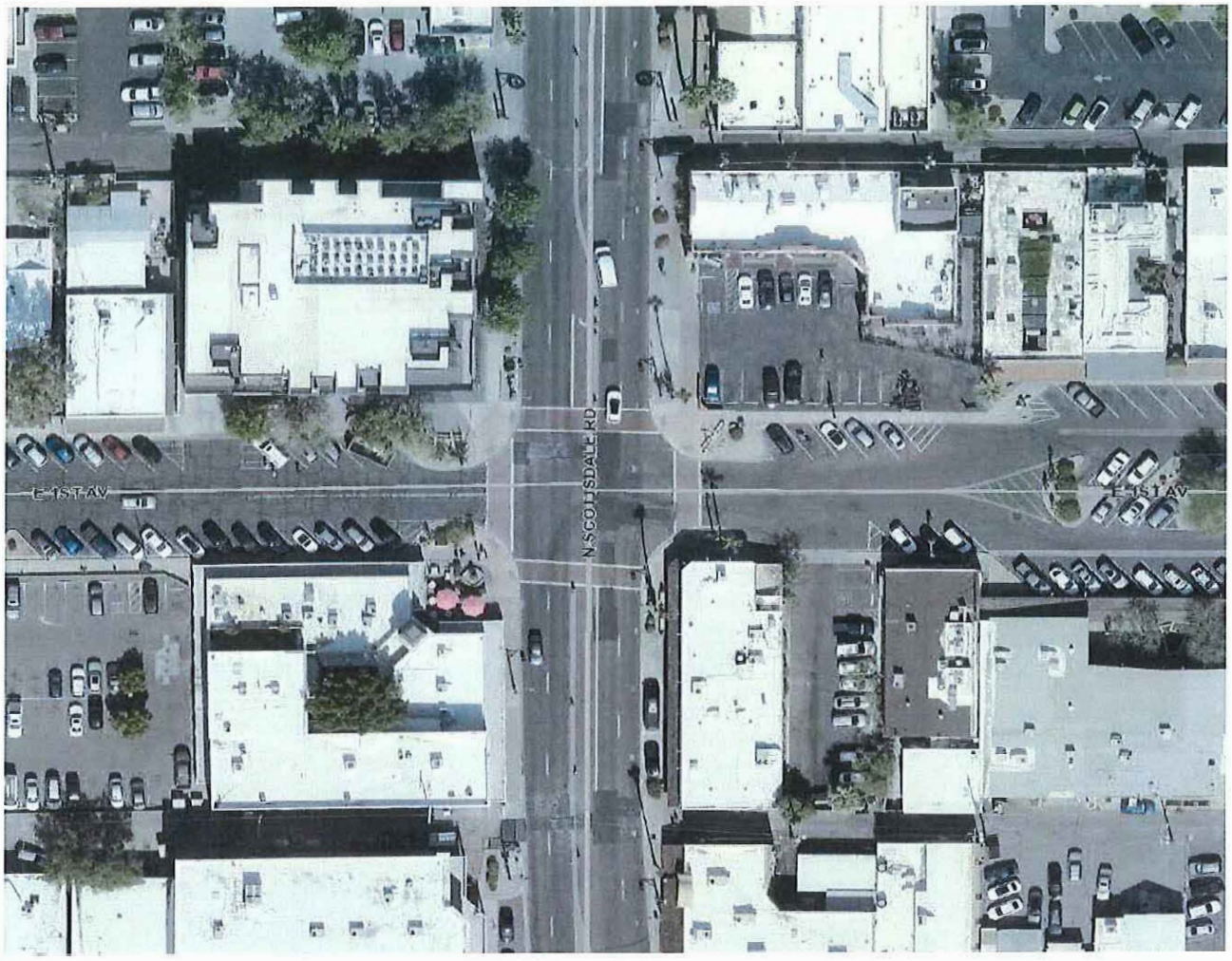
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