

Agency:	Gilbert		Title of Project:	Powerline Trail at Greenfield Road		
Date:	10/7/2020					
Contact Name and Title:		Phone:		E-Mail:		
Aaron Pinkerton		(480) 229-1249		aaron.pinkerton@gilbertaz.gov		
Roadway Safety Program (RSP) Project Scope						
1.	Describe your safety improvement project in detail: (50 words or less)					
1a.	The proposed project includes installing a traffic signal on Greenfield Road at the Powerline Trail crossing to provide a safe crossing for pedestrians and bicyclists using the trail. Number 8 on Town's list of Top Unsignalized Trail Crossings for Safety Improvements.					
2.	Describe the project location, include pertinent demographic and land development information:					
2a.	The traffic signal will be located on Greenfield Road, approximately 0.5 miles north of Elliot Road.					
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	The Town's Safety Evaluation of Trail Crossings study.					
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	The CMF Clearinghouse gives a 67% percent reduction in angle crashes after installation of a traffic signal. This location has experienced a fatal bicyclist/motor vehicle crash and a possible injury angle crash. Trail users must cross 5 lanes of high speed traffic (45 mph speed limit) on Greenfield Road with no traffic control.					
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	Not applicable.					
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%	27%	4%	9.42%	6.60%	
11.	Avg Daily Traffic (ADT) Volume:		22,300	Year Collected:		
12.	Total Crash Frequency:		3	Crash Rate (MVM or MEV) (Insert from "Crash Rate" Work Sheet):		
13.	What is the posted speed limit?		45	Benefit/Cost:		
				22.7		

PROJECT COST ESTIMATE WORKSHEET

(Cost Estimates Are Required Regardless of Programming)

PROCUREMENT	REQUESTED PROGRAMMING	Location Description	Greenfield Road 0.5 miles north of Elliot Road			
		Work Description	Traffic 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	Greenfield Road 0.5 miles north of Elliot Road			
		Work Description	Traffic Signal			
		Funding Source	Local			
		Preferred Year to Program Work	2020			
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	35,000.00	\$ 35,000.00
	Geotechnical Report		LS	1		\$ -
	Drainage Report		LS	1		\$ -
	SWPPP		LS	1		\$ -
SUBTOTAL – FINAL DESIGN COSTS						\$ 35,000.00
TOTAL PRELIMINARY ENGINEERING AND DESIGN COST AVAILABLE FOR PROGRAMMING						\$ 35,000.00

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	Greenfield Road 0.5 miles north of Elliot Road			
		Work Description	Traffic Signal			
		Funding Source	RSP			
		Preferred Year to Program Work	2021			
COST ESTIMATE FOR CONSTRUCTION		UNITS	QUANTITY	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 involved 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	\$ -	
	SUBTOTAL – UTILITY RELOCATION COSTS					\$ -
CONSTRUCTION (Required for Budget)		CONSTRUCTION SURVEY AND LAYOUT	LS	1	5,000.00 \$ 5,000.00	
		WHITE THERMOPLASTIC TRAFFIC MARKINGS (4" EQUIVALENT)	LF	2,050	\$2.00 \$ 4,100.00	
		YELLOW THERMOPLASTIC TRAFFIC MARKINGS (4" EQUIVALENT)	LF	500	\$2.00 \$ 1,000.00	
		BIKE SYMBOL WITH ARROW (MIPPT OR THERMOPLASTIC)	EA	2	\$500.00 \$ 1,000.00	
		PAVEMENT MARKING SYMBOL (MIPPT OR THERMOPLASTIC)	EA	4	\$500.00 \$ 2,000.00	
		TEMPORARY PAINTED STRIPING (4" WIDE & 10 MIL THICK)	LF	2,550	\$0.50 \$ 1,275.00	
		PERFORATED SIGN POST, 1-3/4"	LF	21.5	\$20.00 \$ 430.00	
		PERFORATED SIGN POST FOUNDATION	EA	2	\$300.00 \$ 600.00	
		FLAT SHEET ALUMINUM SIGN PANEL	SF	15	\$30.00 \$ 450.00	
		OBLITERATE EXISTING STRIPING	LF	1,725	\$3.00 \$ 5,175.00	
		RELOCATE SIGN PANELS	LS	1	\$600.00 \$ 600.00	
		METER PEDASTAL CABINET (TESCO T-26-000), FOUNDATION, INSTALL AND CONNECT	EA	1	\$5,500.00 \$ 5,500.00	
		CONTROL CABINET (ECONOLITE TS 2), FOUNDATION, INSTALL AND CONNECT	EA	1	\$34,000.00 \$ 34,000.00	
		SIGNAL POLE (TYPE A)	EA	1	\$4,000.00 \$ 4,000.00	
		SIGNAL POLE (TYPE G)	EA	1	\$5,000.00 \$ 5,000.00	
		SIGNAL POLE (TYPE Q)	EA	2	\$6,000.00 \$ 12,000.00	
		SIGNAL POLE (TYPE R)	EA	1	\$8,000.00 \$ 8,000.00	
		POLE FOUNDATION (TYPE A)	EA	1	\$1,500.00 \$ 1,500.00	
		POLE FOUNDATION (TYPE G)	EA	1	\$2,000.00 \$ 2,000.00	
		POLE FOUNDATION (TYPE Q)	EA	2	\$2,500.00 \$ 5,000.00	
		POLE FOUNDATION (TYPE R)	EA	1	\$3,500.00 \$ 3,500.00	
		SIGNAL MAST ARM (25 FT.)	EA	1	\$2,500.00 \$ 2,500.00	
		SIGNAL MAST ARM (30 FT.)	EA	1	\$3,000.00 \$ 3,000.00	
		SIGNAL MAST ARM (45 FT.)	EA	1	\$4,500.00 \$ 4,500.00	
		LUMINAIRE MAST ARM (10 FT.)	EA	1	\$1,200.00 \$ 1,200.00	
		LUMINAIRE MAST ARM (15 FT.)	EA	3	\$1,500.00 \$ 4,500.00	
		TYPE F SIGNAL HEAD WITH BACKPLATES	EA	12	\$600.00 \$ 7,200.00	
		PEDESTRIAN SIGNAL HEAD (MAN/HAND WITH COUNTDOWN STYLE)	EA	4	\$800.00 \$ 3,200.00	
		TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE II)	EA	7	\$150.00 \$ 1,050.00	
		TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE V)	EA	5	\$450.00 \$ 2,250.00	
		TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE VII)	EA	2	\$450.00 \$ 900.00	
		ELECTRICAL CONDUIT (2") (SCH 40 PVC)	LF	30	\$20.00 \$ 600.00	
		ELECTRICAL CONDUIT (2.5") (SCH 40 PVC)	LF	100	\$20.00 \$ 2,000.00	
		ELECTRICAL CONDUIT (3") (SCH 40 PVC)	LF	30	\$30.00 \$ 900.00	
	ELECTRICAL CONDUIT (4") (SCH 40 PVC)	LF	800	\$30.00 \$ 24,000.00		
	CONDUCTORS (TRAFFIC SIGNAL)	LS	1	\$8,500.00 \$ 8,500.00		
	NO. 7 PULL BOX W/ EXTENSION (GILBERT DTL NO. GIL-842)	EA	4	\$1,000.00 \$ 4,000.00		
	LED LUMINAIRE	EA	4	\$1,200.00 \$ 4,800.00		

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

		INTERNALLY ILLUMINATED SIGN STREET NAME	EA	3	\$4,000.00	\$ 12,000.00
		PEDESTRIAN PUSH BUTTON ASSEMBLY (ADA)	EA	4	\$600.00	\$ 2,400.00
		PRE-EMPTION DETECTOR EQUIPMENT	EA	1	\$8,000.00	\$ 8,000.00
		VIDEO DETECTION SYSTEM (3-CAMERA)	EA	1	\$25,000.00	\$ 25,000.00
		CCTV (CAMERA AND EQUIPMENT)	EA	1	\$8,000.00	\$ 8,000.00
		SINGLE MODE FIBER OPTIC CABLE (12 FIBERS)	LF	240	\$30.00	\$ 7,200.00
		SPLICE ENCLOSURE	EA	1	\$2,000.00	\$ 2,000.00
		GATOR PATCH	EA	1	\$1,000.00	\$ 1,000.00
		PROVIDE ELECTRICAL SERVICE	LS	1	5,000.00	\$ 5,000.00
		SUBTOTAL - CONSTRUCTION COST				\$ 247,830.00
	MOBILIZATION AND ADMINISTRATION COSTS	CONTRACTOR MOBILIZATION (Typically 8% of construction cost)			8%	\$ 19,826.40
		TRAFFIC CONTROL (0-8% of construction cost)			8%	\$ 19,826.40
		CONSTRUCTION CONTINGENCIES (Typically 5% of construction cost)			5%	\$ 12,391.50
		CONSTRUCTION ADMINISTRATION (Averaging 18% of construction cost)			18%	\$ 44,609.40
		SUBTOTAL - MOBILIZATION & ADMINISTRATION COSTS				\$ 96,653.70
	TOTAL UTILITIES, CONSTRUCTION AND MOBILIZATION FOR PROGRAMMING					\$ 344,483.70
TOTAL COST ESTIMATE						\$ 379,484

Budget and Signature Page

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

Phase	Location Description	Work Description	Year to be Programmed	Funding Source	Amount
Design	Greenfield Road 0.5 miles north of Elliot Road	Traffic Signal	2020	Local	\$ 35,000
Construction	Greenfield Road 0.5 miles north of Elliot Road	Traffic Signal	2021	RSP	\$ 344,484
Total Cost					\$ 379,484

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: Rob Bohr

Title: Director of Intergovernmental Affairs

Date: **9/30/2020**

RSP Application Benefit-Cost Tabulation Sheet

Agency:	Gilbert	Title of Project:	Powerline Trail at Greenfield Road
----------------	---------	--------------------------	------------------------------------

Annual Benefit Tabulation

Severity	Annual Average	Estimated CRF* Reduction	Total Reduction	Unit Cost	Annual Benefit
Fatal	0.20	67%	0.13	\$9,515,371	\$1,275,060
Incapacitating Injury	0.00		0.00	\$550,499	\$0
Non-Incapacitating	0.00		0.00	\$149,132	\$0
Possible Injury	0.20	67%	0.13	\$103,145	\$13,821
Total Annual Benefits					\$1,288,881

Costs

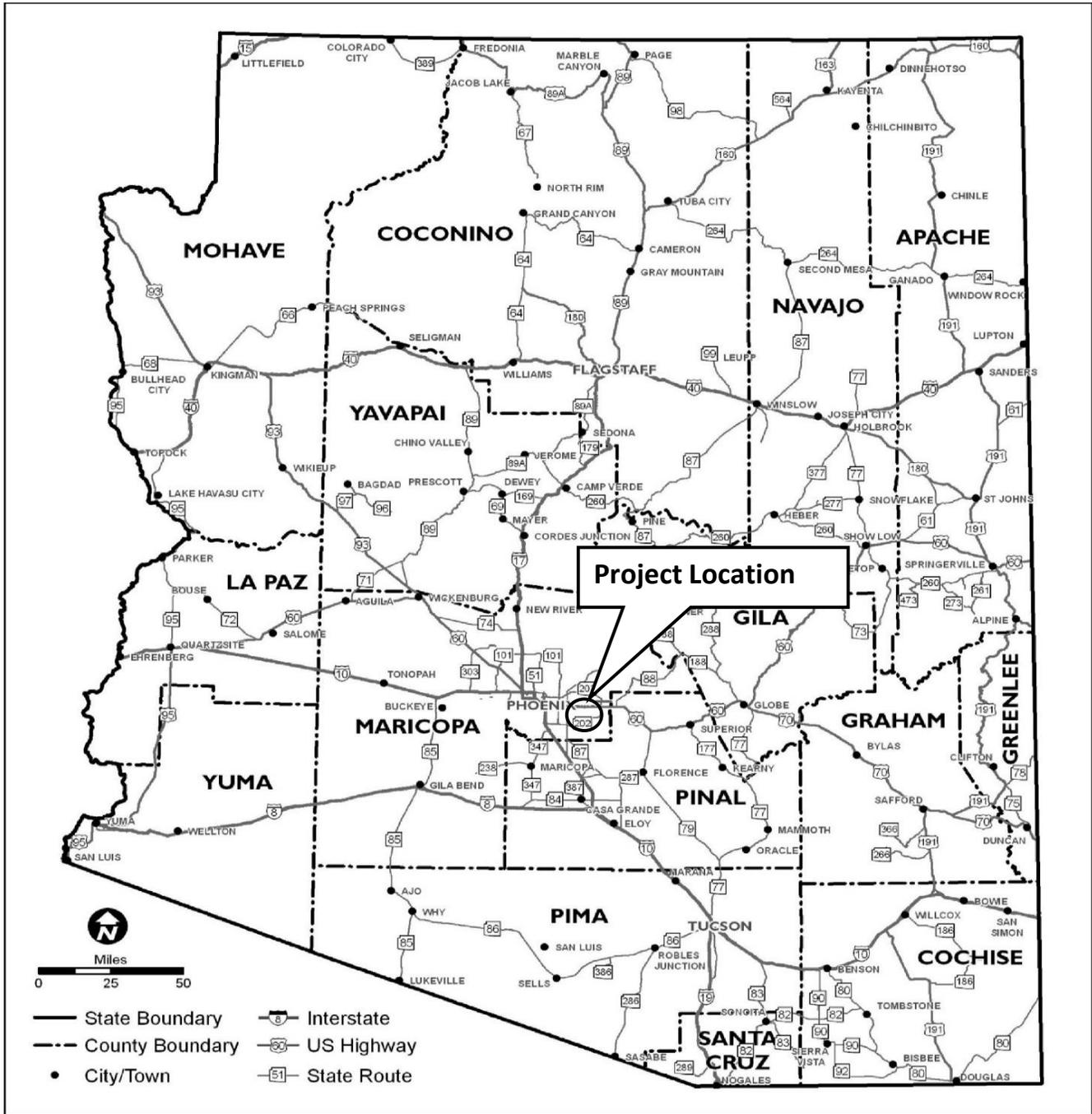
Total Project Cost	\$379,484
Project Life (years)	10
Interest Rate (%)	8%
Capital Recovery Factor	0.1490
Annual Construction Cost	\$56,554
Annual Maintenance Cost	\$0.00
Total Annual Costs	\$56,554

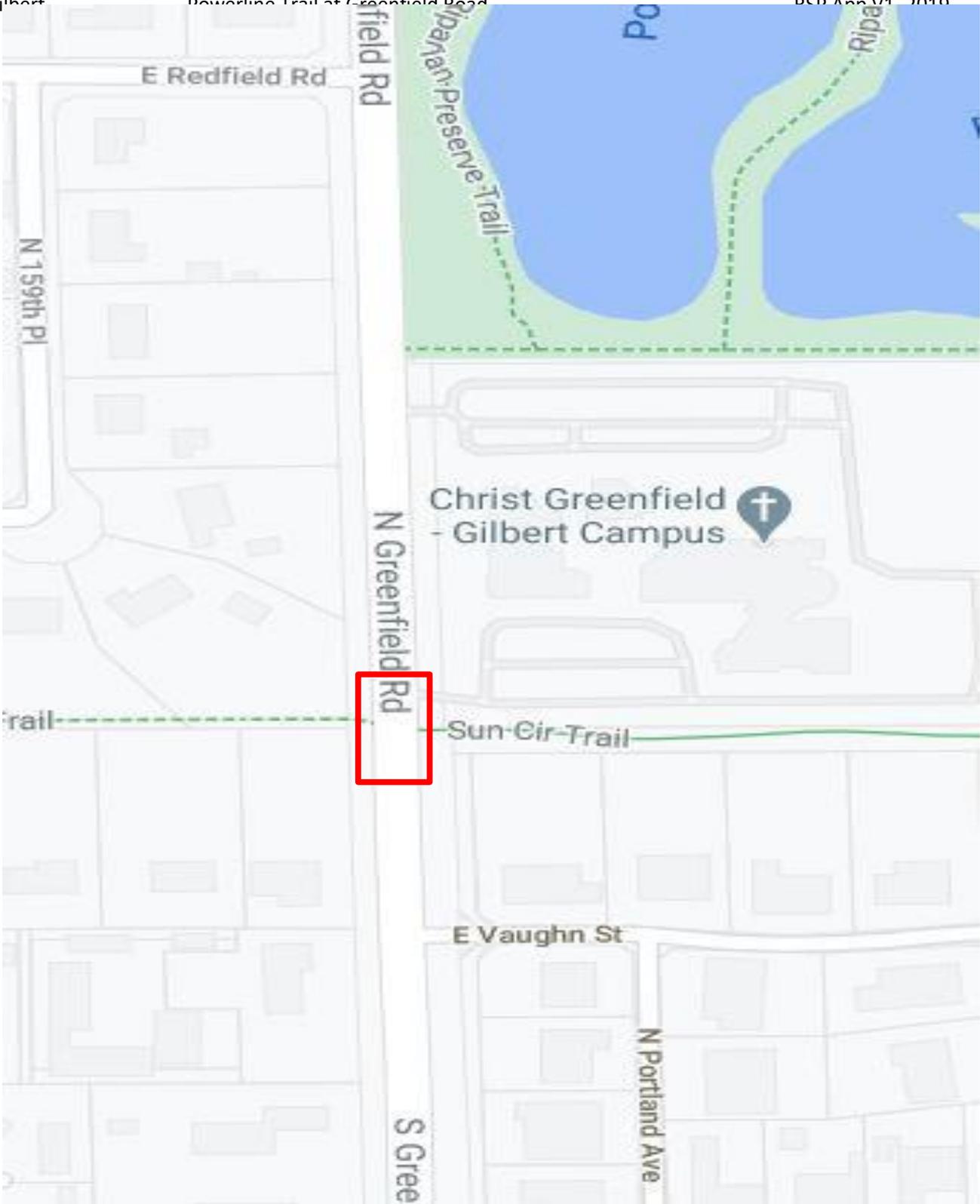
Benefit / Cost

Annual Benefit	Annual cost	Benefit / Cost Ratio
\$1,288,881	\$56,554	22.7

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

CMF 320 Install a traffic signal; CRF = 67% for angle crashes





 - Project Area