

SAFE STREETS FOR ALL (SS4A) FY22 GRANT PROGRAM

U.S. Department of Transportation

ACTION PLAN

City Glendale

September 15, 2022



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A. KEY INFORMATION

Lead Applicant	City of Glendale, Arizona
If Multijurisdictional, additional eligible entities jointly applying	n/a
Total jurisdiction population	252,381 (U.S. Census 2019 ACS estimates)
Count of motor-vehicle-involved roadway fatalities from 2016-2020	153 (FARS data for 2016-2020)
Fatality rate per 100,000 persons	12.12 (5-year annual average, normalized to per 100,000 persons)
Action Plan Type	New Action Plan <input checked="" type="checkbox"/> Complete Action Plan <input type="checkbox"/> Supplemental Planning activities <input type="checkbox"/>
Population in Underserved Communities	93% (Census tracts with at least one Transportation Disadvantage indicator) / 56% (Census tracts with four or more Transportation Disadvantage indicators)
State(s) in which project and strategies are located	Arizona
Costs by State (if project spans more than one state)	n/a

B. SELECTION CRITERIA

The City of Glendale will develop a comprehensive, dynamic, and forward-thinking Safe Streets for All (SS4A) Action Plan. The development of this plan will be a holistic effort, which will include reference to the City's 2017 Transportation Plan, 2019 Active Transportation Plan, and the 2022 Crash Report (eight years of crash data). Additionally, that plan will be developed with a central theme that is inclusive of the principles of the United State Department of Transportation (USDOT) Federal Highway Administration (FHWA) Safe System Approach (SSA).

This section focuses on how the City proposes to address the NOFO selection criteria. For details on the proposed project scope of work, see **Appendix A**.

1. Safety Impact

- **Total number of fatalities 2016-2020: 153**

Source: Greenlight Traffic Engineering. Glendale SS4A Grant Safety Analysis. August 17, 2020. Peoria, Arizona. (See **Appendix B** for the full report)

Note: Greenlight Traffic Engineering's total fatality rate from 2016-2020 matches the FARs data, which may indicate that the crash data was obtained from the same source.

- **Fatality Rate: 12.2%**

5-year annual average: $(153/5) = 30.6$

Glendale 2019 population: 252,381

Fatality Rate = $(5\text{-year avg}/2019 \text{ pop.}) \times 100,000 = (30.6/252,381) \times 100,000 = 12.2\%$

2. Equity

- The total population of census tracts that have **at least one** DOT transportation disadvantage indicator, in the east section of the City of Glendale where a majority of the residential population resides, is 233,600.

Percentage of population in underserved communities: 93%

$(233,600/252,381) \times 100 = 93\%$

- The total disadvantaged population in census tracts with **four or more** DOT transportation disadvantage indicators, in the east section of the City of Glendale where a majority of the residential population resides, is 140,772.

Percentage of population in underserved communities: 56%

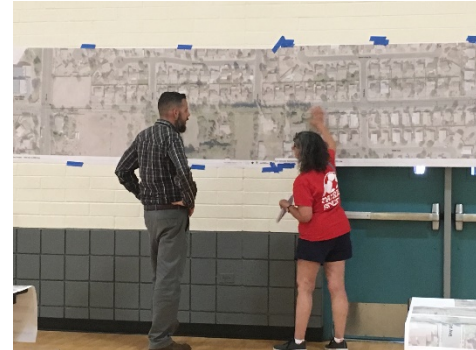
$(140,772/252,381) \times 100 = 56\%$

Please see **Appendix C, Exhibits 1 to 3** for additional information.

3. Additional Safety Considerations Narrative (< 300 words)

The City has current engineering standards and approaches that embrace many known safety features including access control, turn lanes, HAWKS, and additional traffic signals in densely populated areas. However, the City lacks a comprehensive plan to implement these safety features on the existing roadway network. Additionally, the City needs a plan to efficiently implement low-cost safety items like road user education, speed management, and upgraded street lighting. A Safety Action Plan will provide the City with the resources to achieve an SSA with a focus on Zero Deaths.

The Plan will create a city-wide culture where everyone’s safety will be promoted through actions, attitudes, and behaviors. The City will conduct a citizen survey and rely on existing Glendale Citizens Transportation Oversight Commission to provide input into plan development and implementation. An Executive committee will assure that City Departments are actively involved in the development.



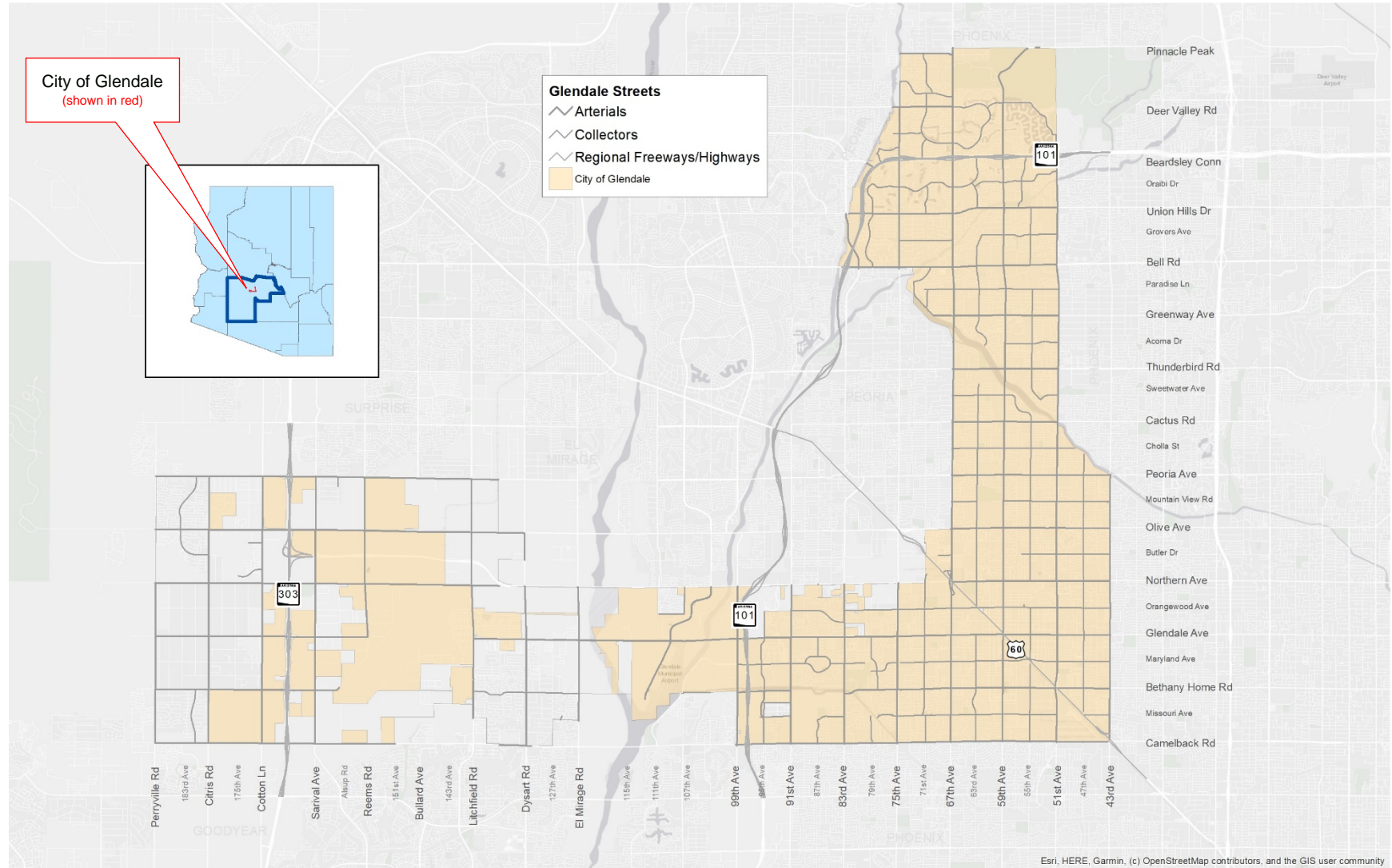
City of Glendale staff participating in a community outreach informational session.

Crash data revealed consistent patterns in the City’s Underserved Community census tracts related to Vulnerable Road Users (VRUs), especially for nighttime crashes. A preliminary assessment of the evidence indicates a need to provide better street lighting and traffic signal controls. In addition, HAWK pedestrian crossings placed in strategic locations would improve safety for VRUs crossing busy arterials at any time of the day (refer to **Appendix C, Exhibits 4 to 6** for crash data in Underserved Community Census Tracts).

Crash modification factors (CMFs) are proven countermeasures compiled by the FHWA to qualify safety and monetize the benefit to the assumed cost of a crash type and severity. The City will use CMFs to help justify the cost and provide communication on how the countermeasure will benefit road users by reducing crash potential and/or severity and to scope and prioritize projects and strategies.

C. MAP

The City of Glendale's main focus in developing the action plan will be on the arterial and collector street network.



D. BUDGET

The SSA is a data-driven, holistic, and equitable method to address roadway safety that fully integrates the needs of all road users, anticipates the possibility of errors by those road users, and manages crash impact forces to reduce serious injury. The SSA includes five elements: Safe Road Users, Safe Vehicles, Safe Speeds, Safe Road, and Post-Crash Care. The approach also incorporates the five Es of traffic safety: equity, engineering, education, enforcement, and emergency medical services (EMS). The Safety Action Plan will create a culture of safety by establishing goals, objectives, strategies, countermeasures, and performance measures for transportation safety within the City of Glendale.

The main tasks to develop this plan include the following:

1. Establishment of action plan goals and structure
2. Data collection and analysis
3. Strategy and project selections
4. Engagement and collaboration
5. Development of SS4A Action Plan
6. Project Management and coordination

The budget breakdown on the following pages highlights the anticipated total hours and the fee by task.

The total cost to develop a SS4A Action Plan is estimated at \$999,792. The proposed funding scenario will use the SS4A Grant for 80 percent of the total project costs, with the City of Glendale funding the remaining 20 percent as the project's local match requirement. The next three tables provide breakouts of the preliminary cost estimate to prepare the Safe Streets for All Action Plan.

Table 1 – Proposed Funding Scenario

Funding Source	Cost	Percent of Total
Federal Funds, FY2022 SS4A Grant	\$799,834	80%
Local Funds, City of Glendale	\$199,958	20%
Project Total	\$999,792	100%

Table 2 – Cost Estimates for Prime Consultant, Subconsultants and Direct Costs

PRIME LABOR BREAKDOWN:

Classification	Hours	Billing Rate	Cost
Project Manager	676	\$ 200.00	\$ 135,200.00
Senior Planner	604	\$ 205.00	\$ 123,820.00
Senior Engineer	616	\$ 195.00	\$ 120,120.00
Project Engineer	872	\$ 170.00	\$ 148,240.00
Project Planner	872	\$ 169.00	\$ 147,368.00
Senior Technician	592	\$ 142.00	\$ 84,064.00
Technical Writer	516	\$ 110.00	\$ 56,760.00
GIS Analyst	248	\$ 140.00	\$ 34,720.00
Administrative Assistant	100	\$ 85.00	\$ 8,500.00
Total Hours	5,096		\$ 858,792.00

PRIME DIRECT EXPENSES:

Mileage	\$ 1,000.00
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PRIME SUBTOTAL, DIRECT EXPENSES:

\$ 1,000.00

SUBCONSULTANTS:

Traffic Data Collection Firm	\$ 40,000.00
Public Involvement Firm	\$ 50,000.00
Social Services Speciality Firm	\$ 30,000.00
Transportation Safety Speciality Firm	\$ 20,000.00

SUBTOTAL, SUBCONSULTANTS:

\$ 140,000.00

TOTAL PROPOSED FEE, NOT TO EXCEED:

\$ 999,792.00

Table 3 – Cost Estimates Breakdown by Task

(does not include the estimates for subconsultants or direct costs- see Table 2 for those costs)

Task	Sub-Task	Description	\$200.00	\$205.00	\$195.00	\$170.00	\$169.00	\$142.00	\$110.00	\$140.00	\$85.00	Task Total	
			Project Manager	Senior Planner	Senior Engineer	Project Engineer	Project Planner	Senior Technician	Technical Writer	GIS Analyst	Administrative Assistant	Hours	Fee
1	Establishment of Action Plan Goals and Structure												
	1.1	Development of Action Plan Goals	12	24	24	32	32				8	132	\$23,528.00
	1.2	Establishment of Action Plan Structure	12	24	24	32	32				8	132	\$23,528.00
	1.3	Developing Commitment from Leadership	4	8	8	12	12		20		16	80	\$11,628.00
	1.4	Establishment of Oversight Program	12	24	24	24	24				8	116	\$20,816.00
2	Data Collection and Analysis												
	2.1	Data Collection and Field Reviews	8	32	32	108	108	80		80	16	464	\$74,932.00
	2.2	Safety Analysis	8	32	32	120	120	36		60		408	\$68,592.00
	2.3	Equity Analysis	8	24	24	80	80	24		60		300	\$50,128.00
	2.4	Policy and Process Analysis	8	16	16	48	48	16		24		176	\$29,904.00
3	Strategy and Project Selections												
	3.1	Identification of Strategies to Achieve Action Plan Goals	4	12	16	32	32	16	24			136	\$22,140.00
	3.2	Identification of Projects to Achieve Action Plan Goals	8	24	32	48	48	16	24	24		224	\$37,304.00
4	Engagement and Collaboration												
	4.1	Public Involvement	72	48	48	60	60	60	72			420	\$70,380.00
	4.2	Interjurisdictional Coordination	16	24	24				24			88	\$15,440.00
5	Development of SS4A Action Plan												
	5.1	Draft SS4A Action Plan	32	60	60	80	80	160	160		16	648	\$99,200.00
	5.2	Final SS4A Action Plan	12	32	32	60	60	120	120		8	444	\$66,460.00
	5.3	Executive Summary	8	12	12	16	16	24	40		8	136	\$20,312.00
	5.4	Presentations	24	20	20	12	12	40	32		12	172	\$27,088.00
6	Project Management and Coordination												
	6.1	Project Management, Coordination, and Meetings	342	108	108	108	108					774	\$148,212.00
	6.2	Schedule	32									32	\$6,400.00
	6.3	Quality Control	54	80	80							214	\$42,800.00
TOTAL STAFF HOURS			676	604	616	872	872	592	516	248	100	5,096	
TOTAL FEE			\$135,200.00	\$123,820.00	\$120,120.00	\$148,240.00	\$147,368.00	\$84,064.00	\$56,760.00	\$34,720.00	\$8,500.00		\$858,792.00

Appendix A – Proposed Safety Action Plan Scope of Work

Note: The City of Glendale would hire a consultant to develop the Safety Action Plan via a competitive selection process. The following is a preliminary scope of work outlining tasks that could be anticipated for this contract. It is important to note that this scope does include expansive descriptions, in some cases, regarding the background that is related to that task or subtask. The expansive descriptions have been added to provide information on what needs to be done to achieve the deliverable the City is looking for. The description is also intended to outline where the City has already accomplished related and supportive tasks. The goal is to develop a holistic, well-defined strategy to prevent roadway fatalities and serious injuries within the City and around its borders.

CITY OF GLENDALE

DRAFT SCOPE OF SERVICES

CITY OF GLENDALE SAFE STREETS FOR ALL (SS4A) ACTION PLAN

INTRODUCTION, BACKGROUND, & STRATEGY

The City of Glendale needs a comprehensive, dynamic, and forward-thinking Safety Action Plan to prevent roadway fatalities and serious injuries. The development of this plan will be a comprehensive effort, which will include reference to the City's 2017 Transportation Plan, 2019 Active Transportation Plan, and the 2022 Crash Report. Additionally, the plan will be developed with a central theme that is inclusive of the principles of the United States Department of Transportation (USDOT) Federal Highway Administration (FHWA) Safe System Approach (SSA).

The SSA is a data-driven, holistic, and equitable method for roadway safety that fully integrates the needs of all road users, anticipates the possibility of errors by those road users, and manages crash impact forces to levels that do not result in serious injury. The SSA includes five elements: Safe Road Users, Safe Vehicles, Safe Speeds, Safe Road, and Post-Crash Care. The approach also incorporates the five Es of traffic safety: equity, engineering, education, enforcement, and emergency medical services (EMS). The incorporation of the five Es into the SSA will broaden the scope and activity of the City's approach to traffic safety. This approach will challenge Glendale's Safety Action Plan to not accept fatalities and serious injuries as a consequence of mobility. Instead, it will be founded on the conviction that no one should be killed or seriously injured while using a street in the City. It recognizes that people make mistakes, and those who oversee, design, and regulate the components of the transportation system have a responsibility to develop a system that accommodates mistakes. In cases when a crash is not preventable, they are instead mitigated to keep the severity as low as possible.

This Safety Action Plan will create a culture of safety by establishing goals, objectives, strategies, countermeasures, and performance measures for transportation safety within the City. Public and stakeholder input will be an essential component in the development of this plan. This will include conducting a citizen survey and using the City's existing Citizens Transportation Oversight Commission to provide direct input into the plan development and implementation. An Executive committee comprised of City staff and Department heads will also be formed to help assure that all Departments of the City are included in the plan development.

A primary objective of this plan will be to identify and incorporate low-cost, high-safety innovative countermeasures that can be deployed for the entire City, such as a speed management program, public education program, pedestrian pushbutton upgrade program, safe crossing deployment strategies, and street light improvement program. The Plan will also include analysis for developing long-term, higher-cost safety countermeasures such as access control medians, turn lanes, and other physical improvements to streets that are proven to increase safety.

All countermeasures and implementation projects will be data-driven and reinforced by valid Crash Modification Factors (CMF), which are used to quantify safety and monetize the benefit to the assumed cost of a crash type and severity. Additionally, all projects and programs will be prioritized based on their

ability to mitigate fatal and serious injury crashes while also addressing direct or indirect causations (transportation inequalities). Corridors within the City that have these transportation inequalities, specific to Vulnerable Road User (VRU) crash occurrences, will be analyzed to determine the best plan for crash mitigation.

Once completed, this Safety Action Plan will demonstrate the benefit of a comprehensive safety program structure and how it will organize and prioritize project implementation to promote safer streets for the City in the near future.

SCOPE OF WORK

Task 1 Establishment of Action Plan Goals, Objectives, and Structure

This task will develop and define the goals, objectives, strategies, and structure of the Safety Action Plan. This will include coordination and collaboration with all involved stakeholders and City of Glendale citizens.

Task 1.1 Development of Safety Action Plan Goals and Objectives

- This subtask will review the City's current Crash Report, Transportation Plan, and Active Transportation Plan, along with the Maricopa Association of Governments (MAG) Strategic Highway Safety Plan (SHSP) and Arizona Department of Transportation (ADOT) and determine which parts of these plans need to be incorporated into this plan. The MAG and ADOT SHSP are included to make sure that this plan will be consistent and inclusive of what these plans have already set forth, especially in the areas of strategies and access to potential funding.
- This subtask will develop recommended updates to the City of Glendale Transportation and Active Transportation Plans to align with this Safety Action Plan and the adoption of the SSA.
- This subtask will establish a timeframe for the City to achieve a percentage reduction in roadway fatalities and serious injuries.
- As applicable, goals and objectives will also be divided into short-, mid-, and long-term time frames.

Deliverables: A PowerPoint presentation will be prepared that presents the proposed Transportation Plan updates, the Safety Action Plan goals, and objectives. This presentation will be reviewed and approved by the project team.

Task 1.2 Establishment of Safety Action Plan Structure

- With the completion of Task 1.1 and the acceptance of the goals and objectives, this subtask will develop and set the structure of the Safety Action Plan. The main theme of this structure will be the five elements of SSA: Safe Road Users, Safe Vehicles, Safe Speeds, Safe Road, and Post-Crash Care. The safety issues under each of these elements (based on crash data) will be defined and analyzed and the association to the goals and objectives will be clearly established.
- This subtask will introduce the basic strategies and countermeasures for safety intervention. The overlap will occur if there is a strong indication that the countermeasure intervention has a high potential for safety impact (e.g., speed management).

- This subtask will determine preliminary estimates of the magnitude of the issues under each element. These estimates will help determine what resources will be needed, the potential cost, and the level of effort needed to address the issues.
- The project team will work to develop a priority ranking system and prepare a benefit costs analysis strategy, which will focus on the FHWA's Highway Safety Benefit-Cost Analysis recommendations ([Spotlight on Benefit-Cost Analysis | FHWA \(dot.gov\)](#)).
- Once the structure has been determined, input will be gained through Glendale Departments (e.g., police, fire, engineering, management, community development, etc.), MAG, FHWA, ADOT, and other interested parties to validate the structure and confirm it matches the goals and objectives.

Deliverables: PowerPoint presentations on the Safety Action Plan structure will be prepared as well as a preliminary draft project and program development guide. This structure and guidebook will be further defined and refined under Task 3. The structure presentation will also include a preliminary order of magnitude resource estimate to accomplish the goals and objectives per project and program.

Task 1.3 Development of Commitment from Leadership

- This subtask will develop a draft commitment resolution, which supports the development of the Safety Action Plan. The Transportation Director, aided by the Safety Action Plan project team, will present the resolution to the City Council to initiate a formal vote in support of the development of this Safety Action Plan using the SSA. This resolution will also include the forming of the Executive Action Plan Leadership Committee (EAPLC) and recognizing the City's existing Citizens Transportation Oversight Commission to be key stakeholders in the development and eventual implementation and monitoring of the proposed plan.
- This subtask will also develop a presentation to provide additional information on this project scope, schedule, and expected deliverables.
- Once the resolution passes, a Safety Action Plan information brochure will be developed and published that will feature the resolution passed by Council.

Deliverables: Draft Action Plan Resolution, PowerPoint Presentation, and Safety Action Plan Information Brochure.

Task 1.4 Establishment of Oversight Program

- Once the commitment resolution is passed, this subtask will initiate the formation of the EAPLC. The Executive Committee's role will be to provide oversight for the development of the Safety Action Plan and make decisions on projects, programs, and other recommendations from the project team. The Executive Committee will also continue its involvement once the plan goes into implementation to help monitor projects and track the effectiveness of the safety improvement mitigations. The EAPLC will include City of Glendale Department Directors or their designated alternative.
- This subtask will schedule a meeting with the Executive Committee and the City's existing Citizens Transportation Oversight Commission to

discuss the Safety Action Plan and gain initial input on the plan's development.

Note: The City of Glendale has an established Citizens Transportation Oversight Commission, which includes a citizen representative from each of its six council districts: Yucca, Ocotillo, Cactus, Barrel, Sahuaro, and Cholla plus an additional seat appointed by the Mayor. Council person appoints citizen representatives from their Council District for a two-year term. The Commission meets every month and is supported by staff from Glendale's Transportation Department.

The role of the Citizens Transportation Oversight Commission for this project will be to provide input on the development of the Safety Action Plan and act as a connection to citizens and institutions in each part of the City per their Council District. They will also assist in monitoring the implementation of the plan and provide feedback on its performance.

Deliverables: Agendas and presentations on progress and meeting minutes.

Task 2 Data Collection and Analysis

This task will include data collection and analysis to support the development of the Safety Action Plan and the resources needed to mitigate crashes to help meet the goals and objectives of the SSA. The data collected and analyzed will help define all five SSA elements (Safe Road Users, Safe Vehicles, Safe Speeds, Safe Road, and Post-Crash Care) as they relate to the City.

Task 2.1 Data Collection

- This subtask will collect speed data, classifications, average daily traffic (that is not available via the City's master traffic database), and crash data on representative collector and arterial streets. The data collection strategy will involve the following approach:
 - Collect a higher sample of data in areas of high transportation inequality. Based on VRU crash hotspot screening, VRU street crossing data will be collected at those sites.
 - Obtain crash data from the ADOT data base as it becomes available.
 - Collect sample data sets at a high crash frequency arterial to collector street intersections that are uncontrolled to prepare an Intersection Control Evaluations (ICE).

Note: It is anticipated that two new sets of crash data will become available during the time the Action Plan is being developed.

- This task will collect information on traffic enforcement and emergency medical services. The goal will be to assess the current assets and resources and determine what is needed in the City to implement the Safety Action Plan.
- This task will define the status of post-crash care within the City. USDOT considers post-crash care a critical safety element, with a focus to "enhance the survivability of crashes through expedient access to

emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices”

(<https://www.transportation.gov/NRSS/PostCrashCare>). The project team will coordinate with police and fire jurisdictions throughout the plan development to define the status of post-crash care within the City.

Coordination will include the following:

- Contact the City of Glendale Police Department (COGPD) to determine the availability of traffic enforcement data and current enforcement capabilities.
- Contact the City of Glendale Fire Department (COGFD) to determine the availability of Emergency Medical Technician (EMT) response data, define their current capacities, and identify the availability of Emergency Rooms are within and adjacent to the City of Glendale.

Task 2.2 Safety and Speed Assessment

- This subtask will improve the City Crash Report to develop a more efficient tool to support the Safety Action Plan goals and objectives and will include the following:
 - Update the City’s Crash Report with the latest crash data and evaluate additional crash analytics to determine systemic problems (e.g., causations, patterns, hotspots, and system issues).
 - Expand the Global Information System (GIS) mapping capabilities.
 - Develop a chapter that will include facilities that are located within the Glendale Municipal Planning area but are the responsibilities of other agencies. These facilities include ADOT road segments and intersections, Luke Airforce Base road segments and intersections, Maricopa County segments and intersections, and City boundary street segments and intersections that are owned/maintained by adjacent municipalities (these include streets in the cities of Phoenix, Peoria, Surprise, Goodyear, Litchfield Park, Buckeye, and El Mirage). The goal is to make the City’s Crash Report all-encompassing regardless of jurisdiction.
- This subtask will update the Crash Report to include a Safety Action Plan Implementation Progress section. In this section, progress will be reported on project and program implementation, and where the Plan is on is short-, mid-, and long-term goals. Additional crash analysis analytics and reporting will be added that will be geared toward the SSA structure that targets the mitigation of serious injury and fatal crashes.
- This subtask will perform a speed assessment using FHWA USLIMITS2 will be done ([USLIMITS2 - Safety | Federal Highway Administration \(dot.gov\)](https://www.fhwa.gov/programs/safety/analysis/uslimits2)) using crash data and speed data. This assessment will determine how the City’s posted speed limits compare to the USLIMITS2 recommendations and will include the following:
 - Review of traffic enforcement and related crash data to define how speed is impacting the safety of the streets within the City.

- Use the information gained to provide the foundation for the Speed Management Program that will be developed per this Safety Action Plan.
 - Identify the streets and locations that offer the highest rate of safety return once speed enforcement stations are established.
- This subtask will perform additional safety assessments to determine the crash causations that are producing the greatest number of serious injury and fatal crashes in the City. The safety assessments will include the following:
 - Analysis of the types of crashes to clearly define if they are a system problem, a location problem, or both.
 - Categorizing the crashes to further determine what countermeasures they will respond to and where they need to be placed in terms of safety projects and programs. For example, the current City Crash Report identifies that the southeast corner of the City has a nighttime VRU fatal and serious injury crash problem that could be related to poor visibility, lack of controlled street crossing, and reliance on walking at night as the mode for mobility. This is both a system and location problem that will require a variety of countermeasures to address, such as improved street lighting, updated speed management, additional control crossings, implemented access control, and expanded transit service at night to name a few.
 - Analysis of the data gathered from COGPD and COGFD to determine their capacities and capabilities and whether they need additional resources to help meet the goals and objectives of this Safety Action Plan.

Deliverables: Updated Crash Reports, Speed Assessment Report, GOGPD Report, COGFD Report. These reports will be incorporated as Chapters in the final Safety Action Plan.

Task 2.3 Equity Analysis

- This subtask will update the City's equity data for the City, Maricopa County and Arizona.
- This subtask will research demographic and equity information previously compiled by the City, update that with the latest data, and relate that to the current processes and standards that MAG (Equity, Inclusion, and Health (azmag.gov)), USDOT (Centering Equity at the U.S. Department of Transportation | US Department of Transportation) and FHWA (Equity in Transportation | FHWA (dot.gov)) are using to identify and mitigate inequity in the transportation decision making process.

Note: The City's basic circa 2017 demographics rank it above the average in Maricopa County in minority persons, persons below poverty, households with no vehicle, and persons with disabilities. The City's Transportation Plan has identified many criteria and mapped them with regards that may be a direct or indirect factor in transportation inequities or underserved areas of the City. The 2017 Plan includes maps showing the following demographic profiles: population density, age (under 18),

age (over 65), minority population density, low income population, households with no vehicle, and municipal planning areas communities of concern. The municipal planning area communities of concern include three major areas of those concerns:(1) Areas with high densities of overall population, of persons under 18 years of age, of minority and Hispanic populations, of low income populations, and of households with no vehicle; (2) Areas with high density of persons with disabilities; (3) Areas with high concentration of unemployment.

- This subtask's goal will be to develop policies and processes on how to incorporate equity factors for this Safety Action Plan and for other City of Glendale Transportation Capital Improvement Projects (CIP).
- This subtask will also evaluate the status of the private vehicle fleet within the City and whether the vehicle types are an influencing factor on the number of fatal and series injury crashes in the City. The analysis will involve reviewing the model and age of privately owned vehicles registered in the City of Glendale to determine safety related features and assess the overall composition of Safe Vehicles within that private vehicle fleet.

Deliverables: Equity Report. This report will be incorporated as Chapters in the final Safety Action Plan.

Task 2.4 Policy and Process Analysis

- This subtask will update the related City policies and processes guidebook on how the City's crash report is prepared within the Safety Action Plan SSA goals, objectives, and structure.
 - The update will include the addition of equity metrics and rankings to help to ensure that the Crash Report will continue to be the main tool in supporting the Safety Action Plan project once it is finished.
 - The updated guidebook will include performance measures with regard to their effectiveness in meeting the Safety Action Plan's goals and objectives.
- This subtask will evaluate and identify updates for the City's Engineering standards to ensure they are consistent with the SSA Action plan.
 - Topics to be reviewed include access control, intersection control evaluation (ICE), VRU Crossing locations studies and treatments (e.g., FHWA Safe Transportation for Every Pedestrian (STEP)), street lighting design criteria for arterials and collector streets, Traffic Signal Operations (as they relate to safety), and the development of a safety study standard with Traffic Impact Studies and Statements for new development. Other items will be added to this list if they as identified per the crash and equity analysis findings.
- This subtask will also include an assessment of the City's other current policies and practices with regards to standards, operations, and maintenance and how they align with what is needed to meet the goals and objectives of the Action Plan. This will include not only those related to vehicles but pedestrians and bicyclists (Vulnerable Road Users) and transit.

Deliverables: Updated guide on how crash reports are prepared and policy and process reports. These reports will be incorporated as Chapters in the final Safety Action Plan.

Task 3 Strategy, Project, and Program Selections

This task will organize all information and data and continue to research as needed to determine the projects and programs needed to achieve the goals and objectives of the Safety Action Plan. This also includes developing strategies or countermeasures to apply to help reduce fatalities and serious injury crashes. These strategies will then be developed and organized into projects and programs that will then define the implementation phase of the Safety Action Plan. These programs and projects will fully embrace the SSA and its five elements and will define which elements correspond to the defined projects and programs.

Task 3.1 Identification of Strategies to Achieve Action Plan Goals & Objectives

The draft guidebook developed in Subtask 2.4 will be fully developed during this subtask to set the process on how strategies are to be developed and then applied to meet the Safety Action Plan goals and objectives, which include the following:

- Organize strategies and countermeasures into projects and programs and provide a prioritization ranking based on potential safety benefits and equity considerations. The main source for strategies will be FHWA Proven Safety Countermeasures ([Proven Safety Countermeasures | Federal Highway Administration - Safety | Federal Highway Administration \(dot.gov\)](https://www.fhwa.gov/safety/cmf/clearinghouse/)) along with their Crash Modification Factors (CMF) ([Crash Modification Factors Clearinghouse \(cmfclearinghouse.org\)](https://www.cmfclearinghouse.org/)).
- Identify processes in the ASSHTO Highway Safety Manual (HSM) to ensure substantive safety is achieved, including in some instances using predictive analysis to help fine tune potential arterial segment and intersection projects (e.g., Highway Safety Manual 1st Edition, Volume 2, Chapter 12-- Predictive Method for Urban and Suburban Arterials -- Analysis Spreadsheet).
- Evaluate new vehicle safety technologies (Advanced Driver Assist Systems (ADAS), Autonomous Vehicles (AV), or restraints) and how and when they play a role in achieving the goals and objectives of the Safety Action Plan.

Note: **Available and deployed technologies** is an open question that applies to SSA elements of Safe Road Users and Safe Vehicles. This means whether or not ADAS and AV and other vehicle safety technologies can make up for what cannot be achieved with underfunded conventional infrastructure, operational, and behavioral (human driver error /willful misconduct (4D drivers)) fatal and serious injury crash reducing countermeasures. How will these technologies make up for willful or involuntary driver error (e.g., failure to yield, vehicle to pedestrian crashes, etc.) that often leads to fatal or serious injury crashes especially if drivers cannot afford them or will not use them? This is the area where the Safety Action Plan will need to include measures to promote and advocate for these technologies to be developed and then for road users to buy vehicles that have them and use them so they can make a difference. This may include advocating for governmental programs and policies that provide incentives or subsidies

for those who cannot afford vehicles that are equipped with needed safety features. It may also require changes in laws that require these technologies to be provided (the airbag story) and then for drivers to use them.

Task 3.2 Implementation Strategy to Achieve Action Plan Goals & Objectives

- This subtask will take data and information developed in previous tasks and apply it to develop projects and programs that will apply to all streets and intersections within the City of Glendale, which include the following:
 - Develop a list of projects and programs that involve infrastructural, operational, and behavioral safety and then what their role will be in achieving the plans short-, mid-, and long-term goal of reducing fatal and serious injury crashes.
 - Develop a list of recommendations with regards to policies, standards, and other items that will require changes or additions in support of the Action Plan.
- This subtask will also include an estimated cost analysis of the projects and program and a preliminary schedule based on anticipated available funding and steps to achieving short-, mid-, and long-term goals, and will include the following:
 - Estimates regarding the short falls for programs and projects, including the following:
 - Funding and potential barriers associated with deployed technologies that could prohibit the City from achieving its safety goals and objectives, especially its long-term goal in eliminating fatal and serious injury crashes.
 - Funding or alternative strategies to achieve.

Deliverables: A finalized “*Guidebook to the City of Glendale’s Safety Action Plan*” listing of projects and programs, and a preliminary programing schedule.

Task 4 - Engagement and Collaboration

Achieving public input from all interested and involved stakeholders is a crucial step in achieving acceptance of a safety plan. Coordinating and collaborating with the public and stakeholders early will often yield higher rates of success when implementing countermeasures (e.g., roundabouts, speed enforcement, etc.). Acceptance is greatly enhanced when the public has the opportunity to provide their input and appropriate adjustments are made in response. The work accomplished under this task will be to conduct a public involvement program and collaborate with other jurisdictions, citizens, community groups, and other relevant and involved stakeholders in support of developing the Action Plan.

Task 4.1 Public/ Stake Holder Involvement

The goal of this subtask is to achieve public and stakeholder acceptance of the Safety Action Plan. This will be achieved through the following subtasks:

- Develop a citizen survey to ensure this Plan is developed with balanced and comprehensive input and consideration. The survey will also help identify citizen needs regarding transportation services and safety. The survey will include questions related to the use of vehicle restraints, model years, and whether citizens own a vehicle with ADAS. The goal of survey will be to assess where Glendale

citizens are in terms of being Safe Road Users and the Safety of the Vehicle they drive. Of particular interest is an estimate of whether they have vehicles with airbags and how this might relate to data gathered in an early task.

Note: the newly revised MAG SHSP included an extensive stakeholder engagement and collaboration effort. Thus, the work done for this task will add to that and take advantage of what has already been defined as needs and priorities.

- A public survey will be carefully developed to gauge the public's priorities. Stakeholder input and comments from public meetings (see next bullet) will be organized as a part of this subtask. Some additional smaller group meetings with institutions or community groups maybe organized and held thru this task as well.
- Conduct at least two sets of three public meetings that will be held at different locations within the City. The first set will be held at the beginning of the Plan development and then the second set once the draft Plan has been developed. Each of these will be designed so all stakeholders can offer direct input and comment.

Task 4.2 Interjurisdictional and Emergency Medical Services Coordination

This subtask will include coordination with the ADOT, Maricopa County Department of Transportation (MCDOT), City of Phoenix Street and Transportation Department (Phoenix), City of Peoria Transportation Department (Peoria), Luke Airforce Base (Luke), City of Buckeye (Buckeye), City of Surprise (Surprise), City of Goodyear (Goodyear), City of El Mirage (El Mirage), and City of Litchfield Park (Litchfield). The goal will be to identify common issues and approaches on addressing the Safety Action Plan programs and projects that will require multi-jurisdiction participation and cooperation.

The key jurisdictions will be ADOT, MCDOT, Phoenix, and Peoria as the City shares many joint jurisdiction streets and intersections with them. The City has a long working relationship with these jurisdictions through a variety of past and current street projects. The MAG and ADOT SHSP provides a lot of common ground (except for Luke) between these jurisdictions and the City.

This subtask will also include coordination with five different hospitals in the City that offer emergency room (ER) and post-crash care to determine the level of care that is provided. Based on these findings, and additional outreach effort will be made to hospitals that are near the City that also have ERs to determine the level of care provided.

Deliverables: Survey, Survey Report, Stakeholder Meetings, Stakeholder Meeting Report, Jurisdiction Coordination Report, ER and Post-Crash Care Report.

Task 5 – Development of SS4A Action Plan

The main documentation of the Action Plan will be developed, assembled, and refined per this task. It will aggregate and summarize all data and information documented in previous tasks to develop a comprehensive Safety Action Plan and companion presentations.

Task 5.1 Draft SS4A Action Plan

- This subtask will prepare and submit a draft Safety Action Plan for review and comment.
- A comment resolution meeting will be held.
- After all comments have been resolved the final draft of the Safety Action Plan will be prepared.

Task 5.2 Final SS4A Action Plan

Based on the resolution of the comments to the draft, this subtask will prepare the final Safety Action Plan report.

Task 5.3 Executive Summary

An executive summary of the final Action Plan will be prepared. The first draft of the executive summary will be drafted once all comments on the draft Safety Action Plan have been resolved and incorporated.

Task 5.4 Presentations

Several presentations will be prepared, and will include the following:

- The first presentation will be prepared to present the Draft Safety Action Plan to both the Citizens Transportation Oversight Commission and the Executive Leadership Committee. This presentation's goal will be to spur input and review of the draft plan.
- The second presentation will be a detailed presentation about the content of the Final Safety Action Plan.
- The third presentation will present the Executive Summary.

Deliverables: Draft Safety Action Plan Report, Summary of Comments and Resolutions, Final Safety Action Plan Report, Executive Summary, and PowerPoint Presentations of the Safety Action Plan

Task 6 - Project Management, Coordination and Action Plan Implementation Progress Report

This task includes all management and coordination activities to develop the Safety Action Plan for the City. This includes preparing progress reports and monitoring the schedule and the budget and schedule and holding meetings as needed.

Task 6.1 Project Management and Coordination

- The project kick-off meeting will be organized and delivered per this task. Monthly or bi-weekly project progress meetings will be conducted throughout the duration of the project. The interval between meetings will vary to optimize meeting effectiveness.
- Prior to these meetings a progress report will be prepared that presents accomplishments over the prior period between meetings and the status of the budget and schedule. These meetings will include team members and other stakeholders as necessary.

- This task will schedule and hold review and comment resolution meetings, as deliverables are developed and submitted for review and comment.

Deliverables: Agendas, progress reports, and PowerPoint presentations as necessary.

Task 6.2 Schedule

A project schedule that will delineate the anticipated duration of each task and sub-task is to be prepared. Milestone submittals will be called out as applicable to these tasks and subtasks. The schedule will be updated as need be as the project progresses. The duration of this project should not exceed 1.5 years once notice to proceed is given.

Deliverables: Project schedule and updates to that schedule.

Task 6.3 Quality Control

All submittals and deliverables will be subject to review and quality control checks that confirms and ensures their accuracy and completeness.

Deliverables: Checked and edited documents and presentations.

Task 6.4 Progress and Transparency

This subtask will develop and setup a standard reporting form that will be used to report progress on the implementation to the Safety Action Plan. Reporting will be done at least yearly once the crash data is available to update the City's fatal and serious injury crashes. This form will become a part of the Glendale's Annual Crash Report.