**City of Mesa**

# ROAD SAFETY

# Comprehensive Safety Action Plan

**March 2025**  **DRAFT FINAL**

Additional material to be included in final report:

1. Acknowledgements (to follow Cover Page)
2. Table of Contents (to follow Acknowledgements)
3. Glossary of Terms (to follow Table of Contents)

# I. Action Plan Overview

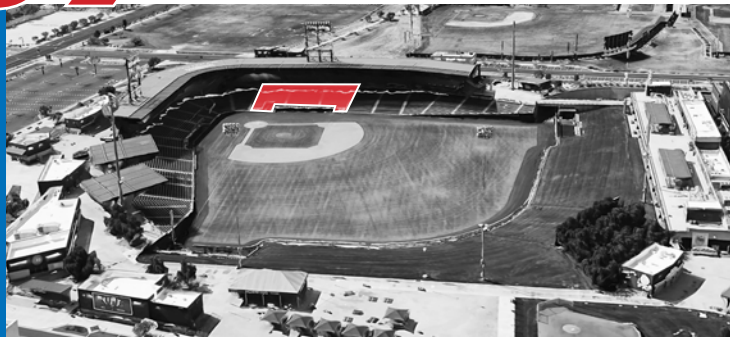Figure 1: City of Mesa within Arizona

MESA, AZ

# Plan Overview
*Moving Mesa Towards Safer Streets*

# 1,359

This number represents the total number of people seriously injured or killed on Mesa Streets between 2017 and 2022.

**That's enough to fill up three whole sections behind the dugout at Sloan Park.**



As the third-most populous city in Arizona and home to more than 510,000 people, Mesa has experienced exponential growth from its humble beginnings as a town of only 300 residents in 1878 to today. At the heart of Mesa's success and growth is a bustling and comprehensive transportation network that supports a wide range of activities from education and recreation to industry and commerce. Tragically, however, the same network that has allowed Mesa to flourish has also seen an alarming rise in roadway fatalities over the past decade–**up 97% since 2014** and 55% in the last five years since 2019 **(Figure 2)**.
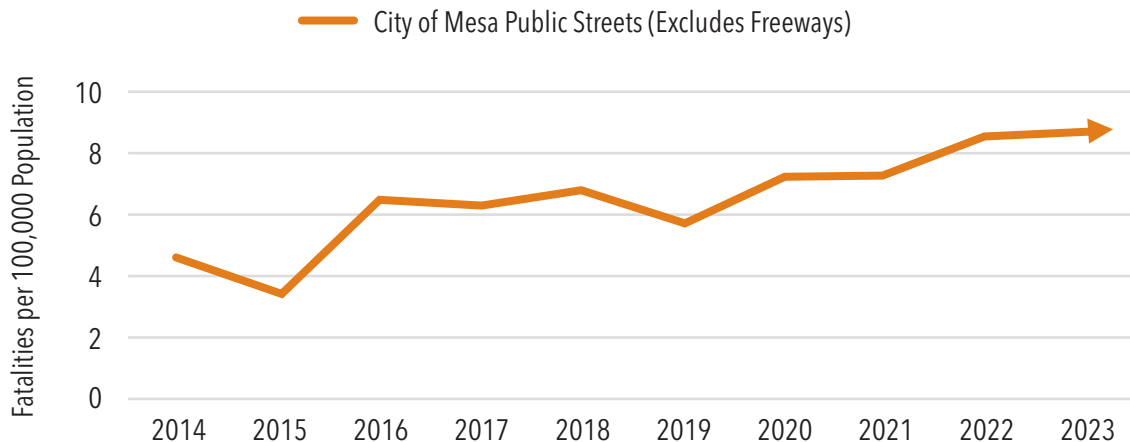


Figure 2: Roadway Fatality Rate in the City of Mesa since 2014

**EVERY ROADWAY FATALITY IS A <u>PERSON</u> WITH FAMILY, FRIENDS, COWORKERS AND COMMUNITY**

*WHY IS THIS HAPPENING?*

While there is no simple answer, several local factors may be influencing this upward trend in fatality rates, including:

- **Rapid Economic Diversification:** Mesa has actively attracted technology companies, shifting beyond traditional industries and generating new employment centers. This economic growth has led to increased commuting and travel demand, particularly in areas that previously had lower levels of traffic.

- **Infrastructure Development:** Significant investments in transportation infrastructure, such as light rail expansion and roadway improvements, have transformed mobility patterns in the City. These projects encourage multimodal travel but also introduce new interactions between different transportation modes, which can impact safety.

- **Urban Revitalization:** The revitalization of Downtown Mesa has brought new businesses, residential developments and public spaces, creating a more active and vibrant environment. While these improvements promote walkability and economic activity, they also contribute to increased pedestrian and bicyclist exposure to vehicular traffic.

Without action and intervention, this dangerous trend is likely to keep increasing. Recognizing the need for action, the City of Mesa applied for, and was awarded, $750,000 from the United States Department of Transportation (USDOT) Safe Streets for All (SS4A) Grant Program, with City leadership further committing nearly $200,000 to perform an in-depth analysis of the contributing factors in fatal and serious crashes and develop this **Comprehensive Safety Action Plan (CSAP).** The plan is designed to address the critical issues facing the City's ever expanding transportation network and provide an actionable framework to reduce crashes, improve safety and keep Mesa successful and economically prosperous.

**To that end, Mesa established the following goal:**



*Figure 3: City of Mesa SS4A Proclamation*

## REDUCE FATALITIES AND SEVERE INJURIES CAUSED BY MOTOR VEHICLE COLLISIONS BY 30% BY 2030.

# What is a Comprehensive Safety Action Plan?

The CSAP evaluates the most important contributing factors in fatal and serious crashes using public input and data-driven analysis and serves as a framework for enhancing safety in Mesa by identifying strategies and projects, and building a community culture of safety to strengthen the City's approach to roadway safety and saving lives. This includes a series of actions that go beyond engineering and include safety planning and education, street design and reconstruction projects and policy and operational changes. These objectives are shown in **Figure 4**.

**THE ACTION PLAN IS FOR <u>ALL</u> ROADWAY USERS WHO LIVE, WORK AND PLAY IN THE CITY.**

# The Planning Process

The planning process began in December 2023 and continued through early 2025, taking 15 months to complete as illustrated in **Figure 5**. This effort involved project management and coordination, public outreach, data analysis, benchmarking and targeted solution development. Plan development tasks and major work efforts for each are summarized in **Figure 6**.

The final plan was published in Spring 2025, marking a milestone in Mesa's commitment to roadway safety. Public engagement and implementation efforts will continue beyond the plan's adoption, ensuring that safety remains a core priority for the City and its residents.
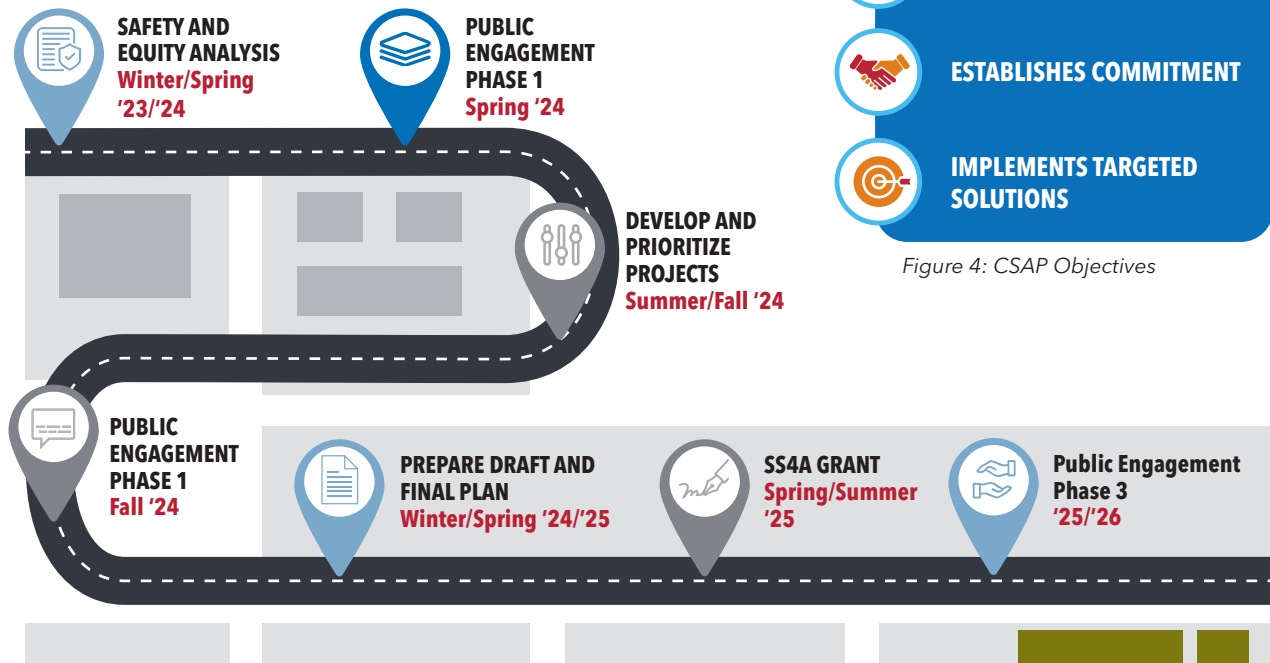
**THIS PLAN:**

- EVALUATES ALL TRANSPORTATION MODES
- INCORPORATES PUBLIC INPUT
- EMPLOYS DATA-DRIVEN SOLUTIONS
- EDUCATES THE COMMUNITY
- INTEGRATES EQUITY
- ESTABLISHES COMMITMENT
- IMPLEMENTS TARGETED SOLUTIONS

*Figure 4: CSAP Objectives*



**SAFETY AND EQUITY ANALYSIS** Winter/Spring '23/'24

**PUBLIC ENGAGEMENT PHASE 1** Spring '24

**DEVELOP AND PRIORITIZE PROJECTS** Summer/Fall '24

**PUBLIC ENGAGEMENT PHASE 1** Fall '24

**PREPARE DRAFT AND FINAL PLAN** Winter/Spring '24/'25

**SS4A GRANT** Spring/Summer '25

**Public Engagement Phase 3** '25/'26

*Figure 5: Schedule*

**Task 1: Project Management**

– Continuous Project Management Team Meetings

**Task 2: Discovery and Data Analysis**

– Review Background Documents
– Systemic Safety Analysis
– High Risk Network
– Top Collision Profiles
– Equity Analysis

**Task 3: Engagement and Collaboration**

– Five Transportation Advisory Board Meetings
– Two Sustainability and Transportation Committee Meetings
– Two Phases of Community Touchpoints

**Task 4: Benchmarking Policies and Processes**

– Highlighting Existing Work Efforts
– Safe Systems Benchmarking
– Alignment with Federal Safety Goals and Guidance
– Alignment with Best Practice Design Standards and Guidance

**Task 5: Strategy And Project Selections**

– Establishing Infrastructure Strategies and Developing Actions
– Establishing Non-Infrastructure Strategies and Developing Actions
– Developing Prioritization Methodologies

**Task 6: Project Identification**

– HRN Project Development
– Systemic Left Turn Phasing Evaluation
– Countermeasure Effectiveness and Benefit/Cost Ratio
– Developing Performance Review Cycle

**Task 7: Prepare Draft and Final Plan**

– Identifying Funding Opportunities
– Drafting Final Report

**Task 8: Post Plan Support and Outreach Services**

– Continuing Community Outreach
– Conducting a Safety Pledge Campaign

*Figure 6: Plan Development Tasks*

# Connecting to Existing Plans & Initiatives

Understanding the ongoing and previous planning work of the City as well as local, regional and national initiatives was a foundational step in the planning process for the CSAP. Forty-five documents were analyzed for relevant information to guide the City's approach to transportation safety in Mesa. Connecting previous planning initiatives that identify safety efforts, engagement strategies, findings and recommendations helped develop a final unified vision and actionable plan.

Overall, local, regional and national safety efforts focus on overarching strategies and safety measures to reduce the severity and lethality of crashes, understanding that people will still make mistakes and collisions will still occur. Local plans focus on actions and projects and describe specific multimodal connections, treatments and countermeasures within the City, its sub-areas and districts.

## Key Themes From Plans

Through reviewing the relevant plans and studies, several key themes emerged that were carried forward in the development of the CSAP. The themes taken from previous efforts come from existing goals, strategies and recommendations, but the themes themselves do not set goals or objectives for the CSAP. Rather, they served as an objective starting point to develop and refine these items. **Figure 7** shows the key themes. Additional details on the planning synthesis methodology, approach and findings can be found in **Appendix A**.
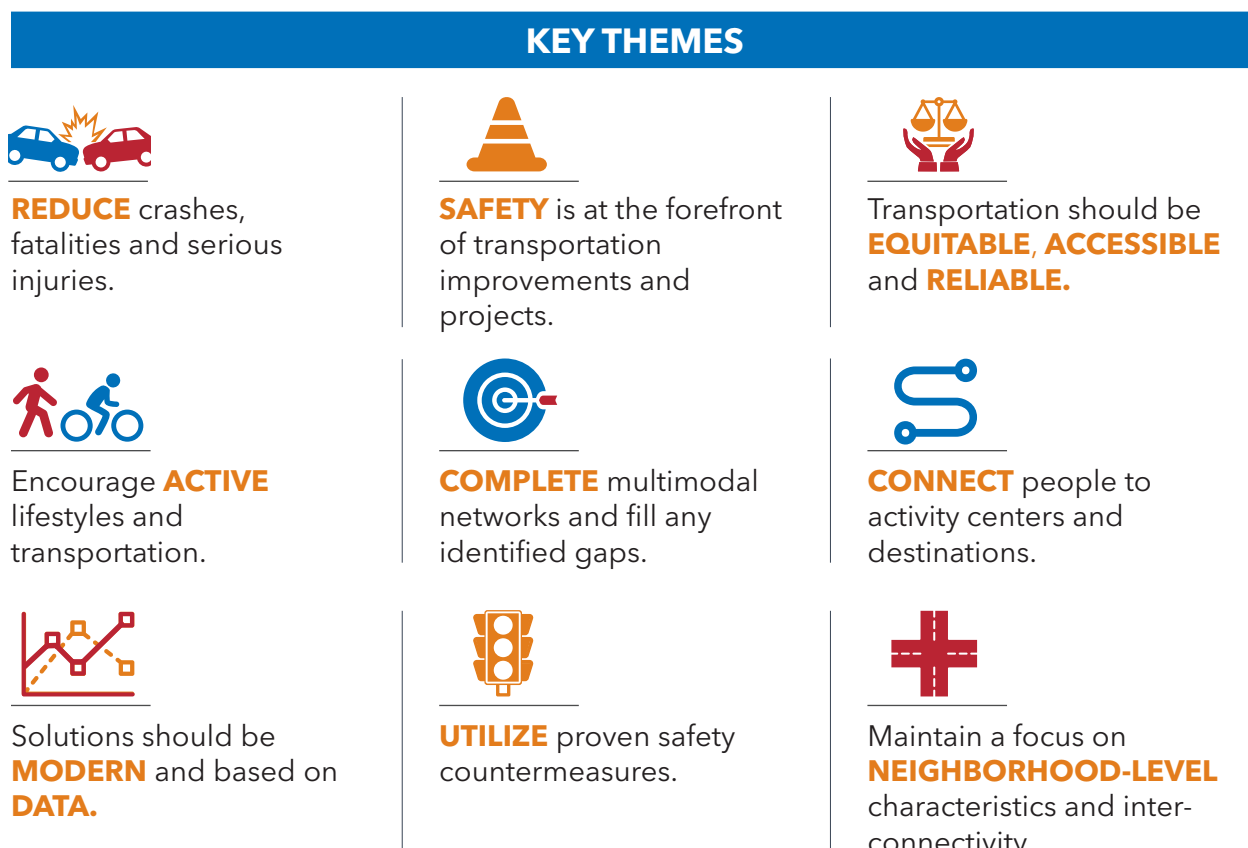
### KEY THEMES



**REDUCE** crashes, fatalities and serious injuries.

**SAFETY** is at the forefront of transportation improvements and projects.

Transportation should be **EQUITABLE**, **ACCESSIBLE** and **RELIABLE.**

Encourage **ACTIVE** lifestyles and transportation.

**COMPLETE** multimodal networks and fill any identified gaps.

**CONNECT** people to activity centers and destinations.

Solutions should be **MODERN** and based on **DATA.**

**UTILIZE** proven safety countermeasures.

Maintain a focus on **NEIGHBORHOOD-LEVEL** characteristics and inter-connectivity.

*Figure 7: Key Themes*

# Integrating Safe System Approach

Throughout the development of this CSAP, the City used the nationally adopted Federal Highway Administration (FHWA) Safe System Approach **(Figure 8)** which focuses on a human-centric approach, proactively identifying and addressing risks and creating redundancies in safety measures. People will still make mistakes, and crashes will still occur, but they shouldn't end in life-altering tragedies.

The Safe System Approach brings safety to the forefront of transportation investment and provides a model for the safety-first approach of this CSAP. It does so through a holistic view of the road system that focuses on reducing crashes by minimizing conflict opportunities and lowering crash energy (higher speeds = higher probability of injury), thereby decreasing severity and the risk of loss of life. Recognizing that human errors are inevitable, this approach increases the likelihood that when crashes occur, they do not result in serious injuries or fatalities. More information on the USDOT Safe System Approach can be found at https://www.transportation.gov/safe-system-approach.



*Figure 8: USDOT Safe System Approach*

# Guiding the Planning Process

The development of this Action Plan was guided by a tiered working group: the Project Management Team (PMT), an existing coordination task force between the City's Transportation Department and Police Department, the City's existing Transportation Advisory Board (TAB),and an equity-focused Think-tank established for the project.

- The PMT consisted of the City staff and consultant project leaders responsible for project management, task progression, draft and final deliverables, review of documents and adherence to schedule.

- The coordination task force between the City's Transportation Department and Police Department was established to ensure alignment between transportation initiatives, safety data trends and findings and enforcement practices.

- The Transportation Advisory Board (TAB) is an eleven-member committee of citizen volunteers who meet bi-monthly to consider various traffic and transportation matters.

- The Equity Think Tank convened a panel of City of Mesa experts to hold in-depth discussions on diversity, equity and inclusion (DEI) and its relevance to the CSAP. Outcomes from the Think Tank meetings helped to guide outreach activities to ensure broad participation from Mesa's communities and align CSAP tasks and recommendations with SS4A grant guidelines for equity.

During the development of the CSAP, the PMT engaged with the task force, TAB and Equity Think Tank at key milestones to ensure project understanding, gain feedback and provide direction. Additional details of this work effort can be found in Chapter 3.

# II. Foundational Data Analysis

A comprehensive understanding of safety challenges is critical to developing effective strategies within the CSAP. This chapter presents the foundational data analysis that informs the plan, consisting of both a safety analysis and an equity analysis. The safety analysis examines the City's crash history to identify key trends and patterns associated with severe and fatal injury crashes. Through this process, 11 collision profiles were identified, highlighting systemic risk factors and recurring crash characteristics that contribute to the City's most serious traffic incidents. Complementing this, the equity analysis utilizes the Equitable Transportation Community Explorer (ETC) tool to identify disadvantaged communities within Mesa, ensuring that safety improvements are prioritized in areas where they are needed most. Together, these analyses provide the data-driven foundation necessary to guide the development of targeted strategies, interventions and policies throughout the remainder of the CSAP.

# Understanding Crash History for a Safer Future

To understand the current state of safety on Mesa's road system, a safety analysis of crash data from 2017 to 2022 was performed. While all crashes are important to understand, this plan specifically focused on those in which someone was killed (fatal crashes) or severe injury occurred. When stated together, they are abbreviated "KSI" - crashes involving one or more individuals who were "**k**illed or **s**everely **i**njured". The reason safety analyses focus on KSI crashes is because it they are the most devastating and impactful type of crash. Results from this analysis revealed a great deal of useful data about who is involved in crashes and how and when those crashes occur. A detailed crash analysis can be found in **Appendix B**.

*Figure 9: Fatalities by Pedestrian, Bicycle, Motorcycle and Vehicle-Only*
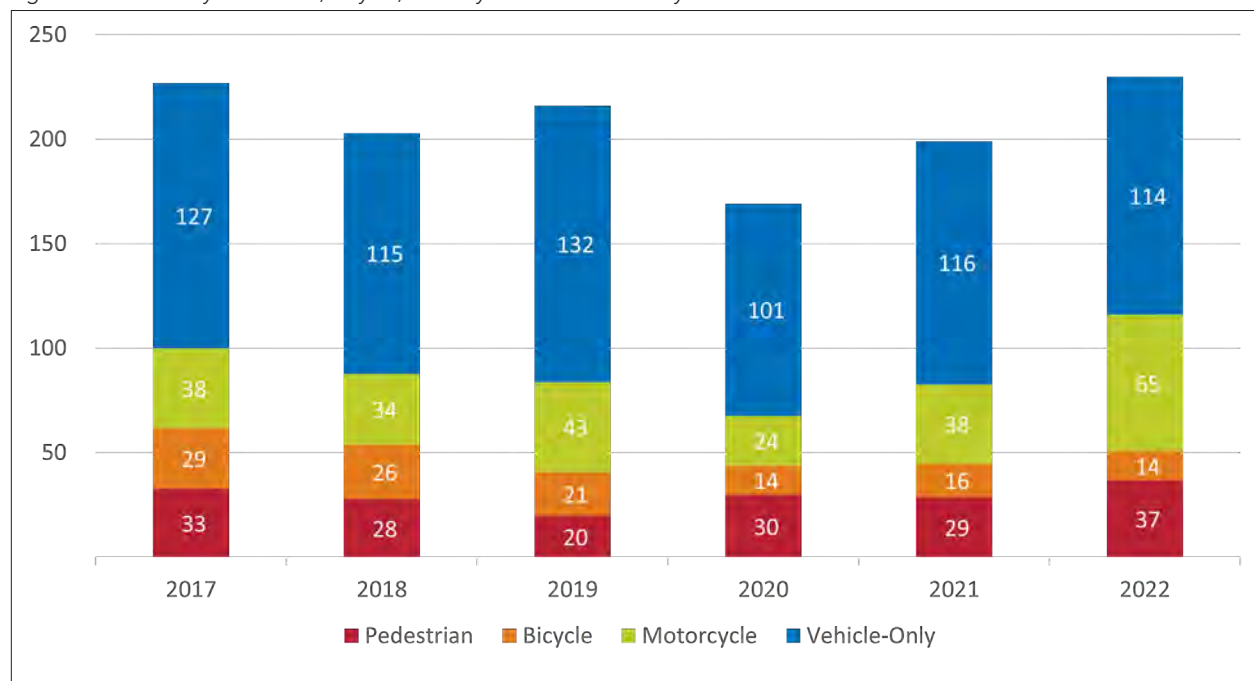
# EVERY WEEK

**4**

PEOPLE ARE KILLED OR SERIOUSLY INJURED ON MESA'S ROADWAYS* EVERY WEEK.

**58**%

OF KSI CRASHES OCCUR AT INTERSECTIONS.

**35**%

35% OF KSI CRASHES INVOLVE SOMEONE UNDER THE AGE OF 25.

**39**%

OF MOTORCYCLE CRASHES RESULT IN FATALITY OR SEVERE INJURY.

**31**%

OF PEDESTRIAN CRASHES RESULT IN FATALITY OR SEVERE INJURY.

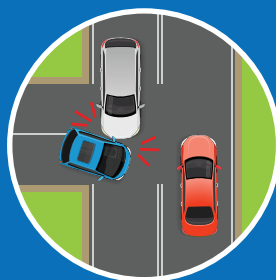### The most common crash manner of KSI crashes are

ANGLE
**32**%

LEFT TURN
**26**%

### The most common traffic violations of KSI crashes are

FAILED TO YIELD
**34**%

SPEEDING / SPEED TOO FAST
**21**%

*NOT INCLUDING ADOT FREEWAYS

Fatalities and fatality rates (number of people killed in motor vehicle crashes divided by 100,000 population) have been increasing in the City over the past decade as shown in **Figures 9** and **10**. This trend is consistent with the trends observed in the state of Arizona and nationwide. The actual fatality rate in Mesa is lower than the statewide total.
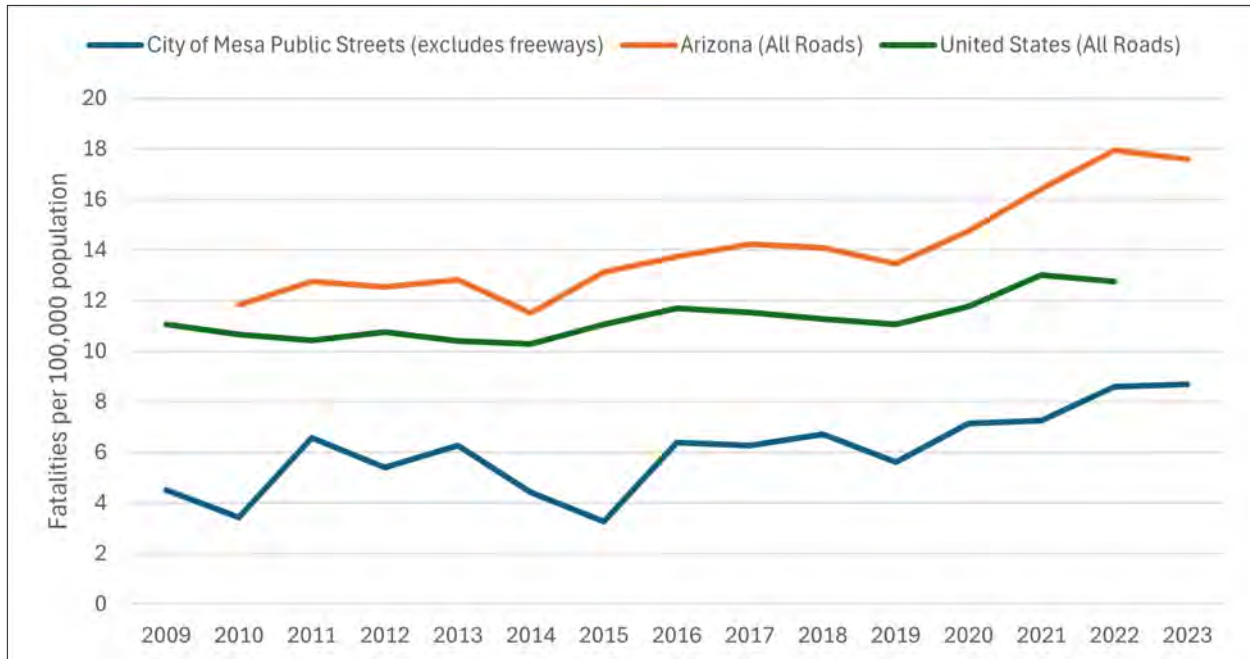


*Figure 10: Fatalities Per 100,000 Population*

*Sources: City of Mesa – 2023 Annual Crash Report, Arizona – 2023 ADOT Crash Facts and ACS 1-year estimates from Census, United States – FARS.*

# Collision Profiles

To understand key trends and patterns from the KSI analysis, the Project Team identified 11 collision profiles that represent systemic risk factors found in the data. Identification of collision profiles allows the Project Team to develop targeted recommendations to address their underlying causes and improve safety. **Table 1** outlines each profile along with the number and share of KSI crashes the profile represents. These profiles help pinpoint overrepresented crash trends, meaning that certain crash types occur at a higher rate than expected based on general population or traffic patterns. For example, while drivers aged 65 and older make up a smaller percentage of Mesa's overall population, they are involved in a disproportionately high percentage of KSI crashes, indicating a higher level of risk for this group.

| Collision Profile | # Of KSI | Share of Citywide KSI |
|---|---|---|
| Failed to Yield Violations on Streets With 40+ MPH Posted Speed | 389 | 31% |
| Crashes Involving Drivers Aged 65+ | 292 | 23% |
| Crashes Involving Alcohol or Drugs | 264 | 21% |
| Vehicle-Vehicle (Including Motorcyclists) Crashes Involving Left Turns at Signals Without Fully Protected Left Turns | 241 | 19% |
| Pedestrian Crashes at Signals on 6+ Lane Streets | 74 | 6% |
| Motorcycle Crashes at Unsignalized Intersections on Arterial Roadways | 79 | 6% |
| Motorcycle Single-Vehicle Crashes | 57 | 5% |
| Bicycle Angle Crashes at Intersections | 57 | 5% |
| Pedestrian Crashes Between 6 PM and Midnight in Commercial Areas | 66 | 5% |
| Head-On Crashes | 64 | 5% |
| Bike and Pedestrian Crashes Involving People 17 and Under | 52 | 4% |

*Table 1: Collision Profiles *Note: A collision can be classified under more than one profile, so the percentage column adds up to more than 100%.*

As shown in **Figure 11**, the four collision profiles that accounted for the highest share of KSI crashes are 1.) Failed to yield violations on streets with 40+ mph posted speed, 2.) Involving drivers aged 65 and older, 3.) Involving alcohol or drugs and 4.) Vehicle-vehicle (including motorcyclists) collisions at signals without protected left turns.

Because a single crash can fall under multiple collision profiles, the percentage values in the table do not add up to 100%. For example, a crash involving an impaired motorcyclist who failed to yield at a high-speed intersection could be classified under both Collision Profile 1 and Collision Profile 3. Due to this overlap, the top four profiles cannot be simply added together, but collectively, they account for 63% of all KSI crashes citywide from 2017 to 2022.

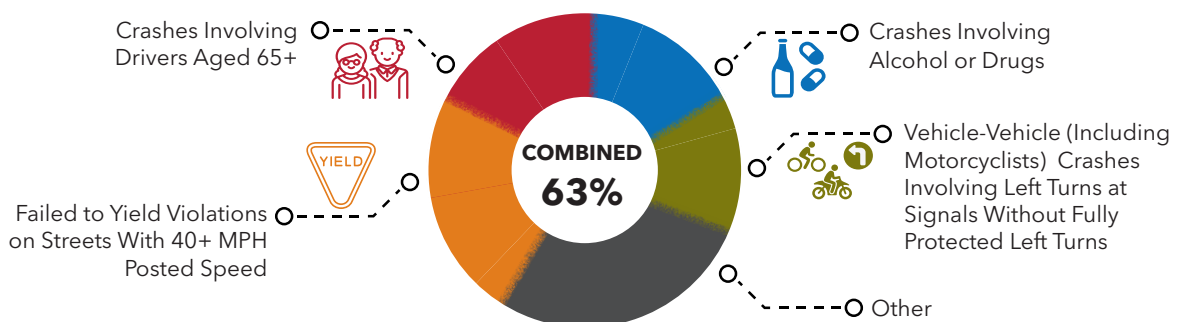**The four collision profiles that accounted for the highest shares of KSI**



*Figure 11: Four Collision Profiles with Highest Shares of KSI*

This critical insight played a central role in shaping the development of the CSAP, guiding the selection of targeted solutions and serving as a key factor in prioritizing interventions to address the most significant safety risks.

# High Risk Network

As part of the safety analysis, the Project Team identified a High Risk Network (HRN). The HRN evaluates past crash history to identify roadway characteristics that are associated with severe injury and fatal crashes and shows the locations where those features are present. The HRN represents the locations those type of crashes are more likely to occur, even though they might not have happened there yet. This is a proactive approach to transportation safety, where crash history alone is not the primary indicator of where investments should be allocated—see **Figure 12** and **Table 2** for additional indicators. The City can use the HRN to prioritize improvements and track how the improvements are changing conditions over time.
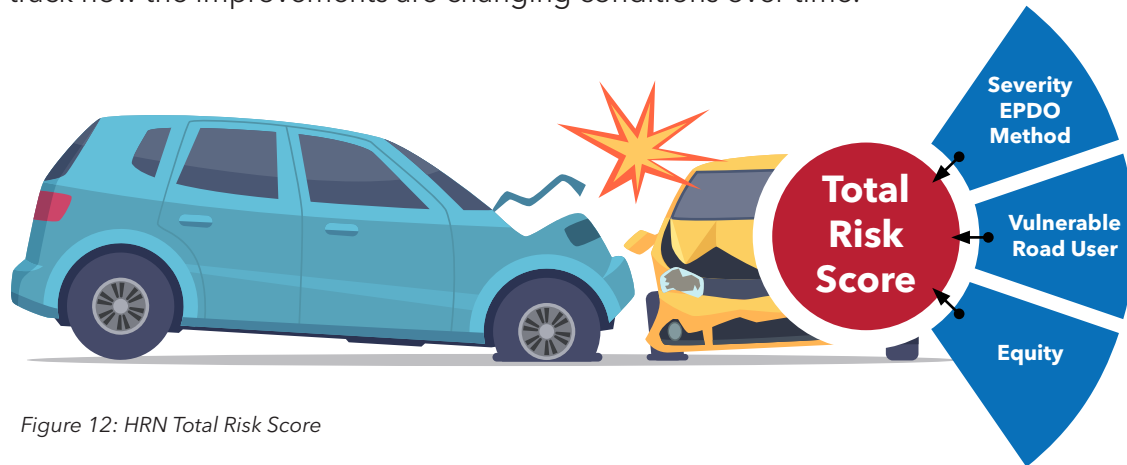


Figure 12: HRN Total Risk Score

## Segments

The HRN for street segments was developed using a six-year crash dataset for 2017-2022. This database does not include crashes on ADOT facilities, such as US 60 (Superstition Freeway) or Loop 101 or 202. For this project, the Team filtered the database to injury crashes (excluding property damage only) occurring within 250' of the Mesa boundary. Crashes within the pockets of land in Maricopa County's jurisdiction, known as "county islands," were also excluded from the crash dataset.

The methodology developed for this project is based on best practices identified from federal CSAP grant requirements, a review of recent Safe System-focused safety plans and Mesa's prior High Injury Network (HIN) methodology included in the 2050 City of Mesa Transportation Master Plan (TMP). The TMP utilized an **Equivalent Property Damage Only (EPDO)** performance measure to assign weight to individual crashes based on the severity of the crash. Based on the cost of a property-damage-only crash, the EPDO Method gives each crash a relative severity score in terms of a EPDO crash—the more injury associated with a crash the higher the comparative financial costs are, and therefore a higher weight/collision score modifier is use3d. These severity weights are shown in **Table 2**.

Street segments were selected based on crash scores which were defined from the severity weight and crash type. Crash severity weighting used in the HRN matches weights used in the TMP. Crashes were also assigned a score based on how severe they could have been. For example, pedestrian and motorcycle crashes are more likely to result in fatalities, so those crashes

received extra points even if no serious injury was reported. If a crash involved any pedestrians, bicyclists or motorcyclists, the crash score was increased by 50. If a crash involved anyone under age 18 or 65 years old or older, the crash score was increased by 50. Additionally, if the crash fell within a census tract identified by the USDOT Equitable Transportation Communities (ETC) as disadvantaged, the crash score was increased by 10. The cumulative score for a single crash can range from 9.6 (possible injury and no additional crash scoring criteria) to 1,000.9 (fatal crash that involved a vulnerable mode and a vulnerable-aged road user, and fell within a disadvantaged census tract).

| Category | Subcategory | Collision Score Modifier |
|---|---|---|
| **Severity** *(EPDO Method)* | Fatal | 890.9 |
| | Severe injury | 51.5 |
| | Minor injury | 13.9 |
| | Possible injury | 9.6 |
| **Vulnerable Road User** | Vulnerable Mode (Ped, Bike, Motorcycle) | +50 |
| | Vulnerable Age (Under 18 or 65+) | +50 |
| **Equity** | Within Federal Justice40 Disadvantaged Community | +10 |

*Table 2: HRN Scoring Methodology*

Crashes were then associated with roadway segments where the top 95th percentile scoring segments (5% of all segments where the highest combined scores were observed) are incorporated into the HRN. Additional information about the HRN, including detailed methodology descriptions and further analysis, are summarized in **Appendix C**.

## Intersections

Since the types of crashes happening at intersections are often different from those that occur mid-block, intersections were evaluated separately. Intersections have more conflict potential as drivers need to make more complex decisions in the presence of traffic signals, stop signs and converging traffic, leaving more room for driver misjudgment and errors. Mesa utilizes a data-driven approach to identify high-risk intersections through Predictive Safety Analysis, using a Safety Performance Function (SPF)-based tool. This method, recognized in the 2010 Highway Safety Manual (HSM), is a proven technique for evaluating crash risk and prioritizing safety improvements. The analysis focuses on arterial/arterial and arterial/collector intersections, where crash patterns are assessed to determine where safety interventions are most needed.

The Safety Performance Function (SPF) is a mathematical model that estimates the expected number of crashes at an intersection based on Annual Average Daily Traffic (AADT) while considering factors like intersection geometry and traffic control type. However, crash data alone can sometimes be misleading due to natural fluctuations over time–this is known as Regression to the Mean bias. Some locations may experience an unusually high number of crashes in one period but return to a lower, more typical rate in subsequent periods, making it difficult to determine whether a location is inherently high-risk or just experiencing temporary spikes.

To correct for this, the analysis applies an Empirical Bayes (EB) adjustment, which combines historical crash data with predictions from the SPF model. This method reduces the influence of short-term variations and provides a more statistically reliable estimate of expected crash frequency. The EB adjustment enhances the accuracy of network screening by ensuring that locations identified for safety improvements are those with consistent and systemic safety risks, rather than sites that may have experienced a temporary increase in crashes.

The primary outputs of the predictive analysis are:

1. **Safety Levels:** A ranking system that categorizes intersections based on crash frequency and severity, ranging from Safety Level 1 (very low risk) to Safety Level 4 (very high risk).

2. **Expected Percentile Average Crash Frequency (with EB Adjustments):** A refined measure of crash likelihood that accounts for statistical biases, ensuring that safety investments are directed to locations with the highest potential for improvement.

The SPF developed and observed crashes per year are based on a six-year crash dataset for 2017-2022, filtered to severe and fatal crashes only, aligning with the timeframe used for the systemic safety analysis and the development of the High-Risk Network of street segments discussed in previous sections. This consistency in data ensures that the identification of high-risk intersections is integrated with the broader network-based approach, supporting the comprehensive approach for improving roadway safety.

For this plan, intersections classified as Safety Level 4—representing the top 20% of expected crash frequencies—were identified as having the poorest safety performance and the greatest potential for safety improvements **(Table 3)**. The predictive safety analysis identified two collector/arterial intersections and 16 arterial/arterial intersections as part of this high-risk category. These locations were integrated into Mesa's High-Risk Network (HRN) which serves as a foundation for prioritizing safety improvements. Of the identified Safety Level 4 intersections, only two locations—Val Vista Road/McDowell Road and Stapley Drive/Main Street—did not overlap with a HRN street segment.

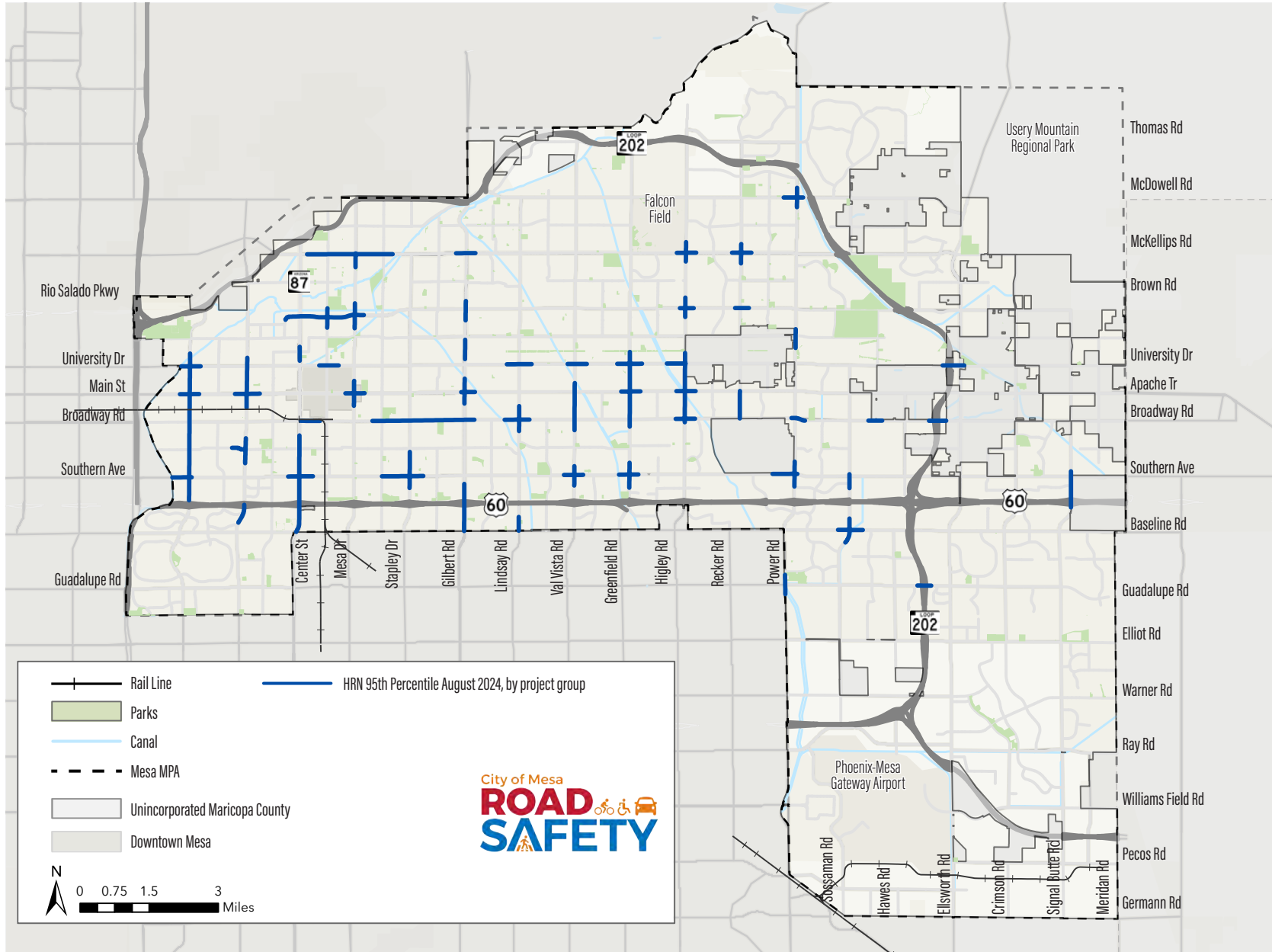| Intersection Type | Intersection Name | Safety Level | Expected Percentile Average Crash Frequency |
|---|---|---|---|
| Arterial-Arterial | Greenfield Rd & Main St | 4 | 95.47 |
| Arterial-Arterial | Higley Rd & McKellips Rd | 4 | 92.74 |
| Arterial-Arterial | Lindsay Rd & Broadway Rd | 4 | 92.56 |
| Arterial-Arterial | Val Vista Dr & Main St | 4 | 89.63 |
| Arterial-Arterial | Greenfield Rd & Southern Ave | 4 | 87.37 |
| Arterial-Arterial | Stapley Dr & Main St | 4 | 87.13 |
| Arterial-Arterial | Val Vista Dr & McDowell Rd | 4 | 86.19 |
| Arterial-Arterial | Gilbert Rd & Main St | 4 | 85.86 |
| Arterial-Arterial | Ellsworth Rd & University Dr | 4 | 84.39 |
| Arterial-Arterial | Higley Rd & Broadway Rd | 4 | 83.59 |
| Arterial-Arterial | Recker Rd & Main St | 4 | 82.25 |
| Arterial-Arterial | Dobson Rd & Main St | 4 | 82.03 |
| Arterial-Arterial | Higley Rd & Main St | 4 | 81.58 |
| Arterial-Arterial | Val Vista Dr & Broadway Rd | 4 | 81.09 |
| Arterial-Arterial | Stapley Dr & Southern Ave | 4 | 81.02 |
| Arterial-Arterial | Lindsay Rd & University Dr | 4 | 80.65 |
| Arterial-Collector | Center St & McKellips Rd | 4 | 82.97 |
| Arterial-Collector | Horne & McKellips Rd | 4 | 80.51 |

Table 3: Intersections classified as Safety Level 4

**39%** Approximately 37 miles of Mesa roadways account for 39% of KSI crashes in the City.

**95%** Of this network falls within federally defined Disadvantaged Communities.
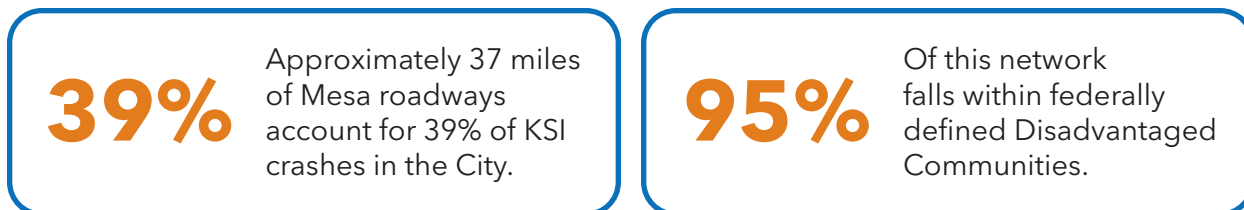
## High-Risk Network (HRN) Results

Based on the study's methodology, the HRN in Mesa is defined by 37 miles of Mesa's roadways and accounts for 39% of KSI crashes in the City. 95% of this network falls within federally defined disadvantaged communities. **Figure 13** presents the HRN results, which serve as a foundation for prioritizing safety improvements.

Figure 13: High Risk Network
Sources: HRN - ADOT data 2017-2022, intersections - predictive safety evaluation

**Legend:**
- Rail Line
- Parks
- Canal
- Mesa MPA
- Unincorporated Maricopa County
- Downtown Mesa
- HRN 95th Percentile August 2024, by project group

N
0  0.75  1.5    3
Miles

# Equity Considerations

Equity is one of the eight required components of an action plan under the SS4A program and is essential to developing a plan that serves all users of the transportation network. To integrate equity into the CSAP, the team committed to an inclusive planning process that identifies underserved communities and incorporates equity considerations into the plan's strategies and proposed projects. This approach ensures that safety improvements address the needs of all residents, particularly those in historically disadvantaged areas.

## Identification of Underserved Communities

Recognizing the SS4A safety action plan requirements, an analysis to identify disadvantaged communities in the City of Mesa was done through the USDOT ETC Explorer. This interactive tool and its analysis results are required to be used for SS4A Implementation Grant Applications, specifically to identify disadvantaged communities for proposed funding, and to calculate the rate of fatalities for disadvantaged communities. This evaluation tool provides the USDOT consistent data analysis across the nation to evaluate and compare grant requests. Historically disadvantaged areas were identified based on a combination of socioeconomic, demographic and infrastructure-related factors that indicate systemic barriers to opportunity and access. This evaluation tool relies on 56 factors that are analyzed through five indices: Climate & Disaster Risk Burden, Environmental Burden, Health Vulnerability, Social Vulnerability and Transportation Insecurity.

To ensure the CSAP would produce outcomes that were inclusive and responsive to the needs of all residents across Mesa, an Equity Think Tank was established to bring together diverse perspectives from across the City. The think tank, consisting of a panel of City of Mesa experts from the City Managers Office, Fire, Transit Services, Engineering, Transportation, Data & Performance, Community Engagement, Police and Community Services, met twice during key points of the project to review factors influencing safety disparities across the city.

At the think tank meetings, the group focused on understanding and analyzing equity-related components of the plan by discussing current and past City initiatives, priority locations for review, how to effectively engage with the community equitably and exploring ways to tailor proposed projects to meet the specific needs of the disadvantaged communities. Outcomes from the think tank meetings include:

- Identifying additional datasets for inclusion in equity analysis.
    - This included Title I schools and vulnerable populations.
    - The results of this analysis can be viewed in Appendix D.
- Identifying opportunities for equity-focused partners including Mesa Public Schools, faith-based groups and homeless service providers.
- Incorporating collisions between light rail vehicles and non-motorized users as well as heavy rail vehicles and non-motorized users into the collision analysis.
- Group consensus on the importance of equity in public engagement, HRN development

and project prioritization.

Using the ETC tool to understand inequities, it was determined that **roughly a quarter of Mesa's neighborhoods are considered disadvantaged communities**. To ensure underserved communities were identified properly, the CSAP Team conducted an analysis of USDOT Justice40 Disadvantaged Communities (DAC). The analysis identified 37 census tracts that meet the DAC definition as illustrated in **Figure 14**. Details on the equity analysis methodology and findings can be found in **Appendix D**.

Figure 14: HRN Disadvantaged Communites
Sources: HRN - ADOT data 2017-2022, intersections - predictive safety evaluation
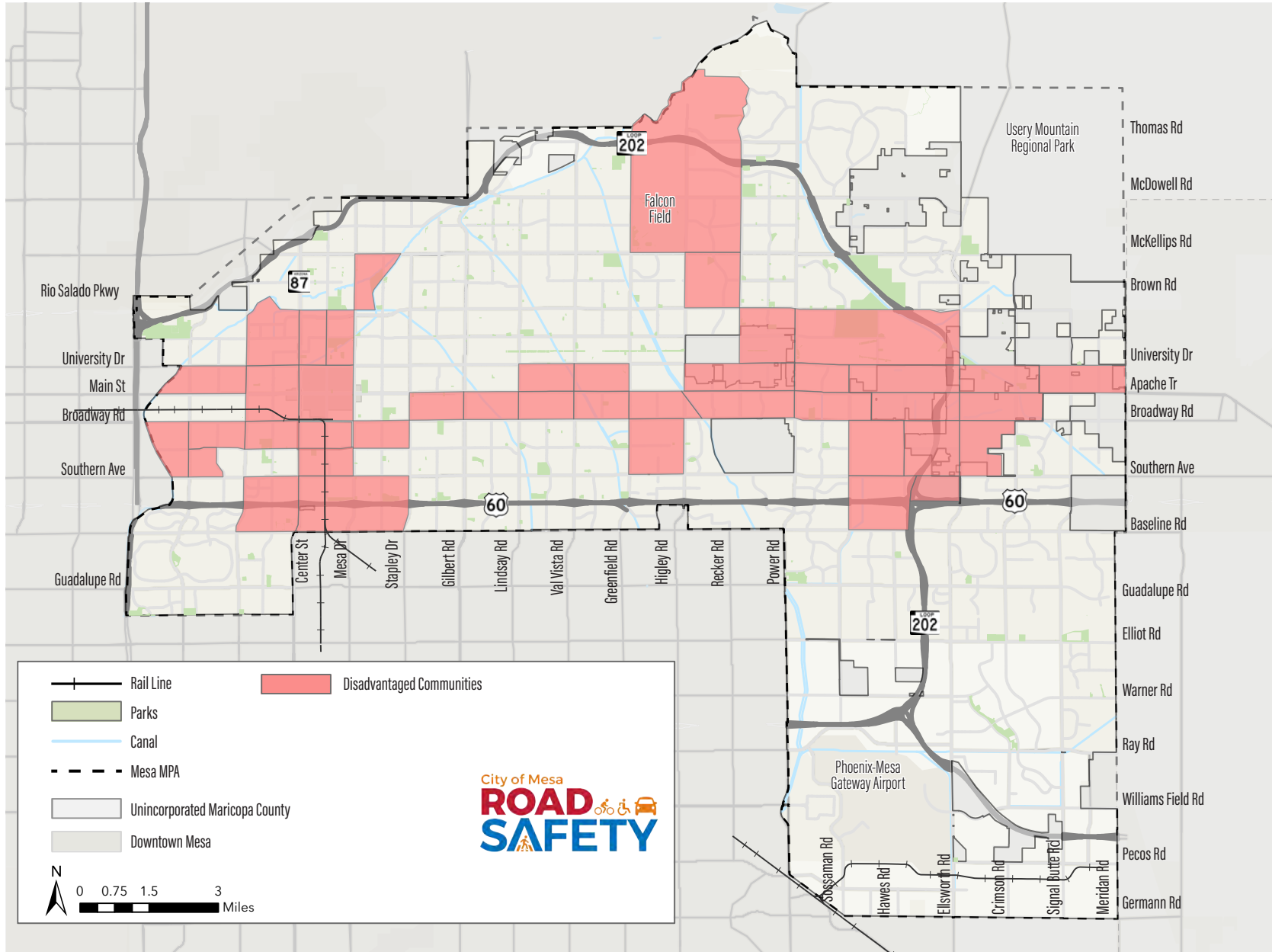
## Connecting Crash History and Equity Analysis

The equity analysis results showed that 50% of injury crashes and 50% of KSI crashes occurred within DAC communities even though they represent only 24% of the land area. Further, the analysis showed that 95% of the high-risk network falls within DAC. See **Figure 15** for an overlay of DAC Block Groups and the HRN. In Chapter 6, the results from the safety and equity analyses will be used to guide the selection and development of specific safety projects focused on addressing the most critical crash locations and reducing severe and fatal collisions.

Figure 15: High Risk Network and ETC - Disadvantaged Block Groups
Sources: HRN - ADOT data 2017-2022, intersections - predictive safety evaluation

**Legend:**

Rail Line

Parks

Canal

Mesa MPA

Unincorporated Maricopa County

Downtown Mesa

HRN 95th Percentile August 2024, by project group

Disadvantaged Communities
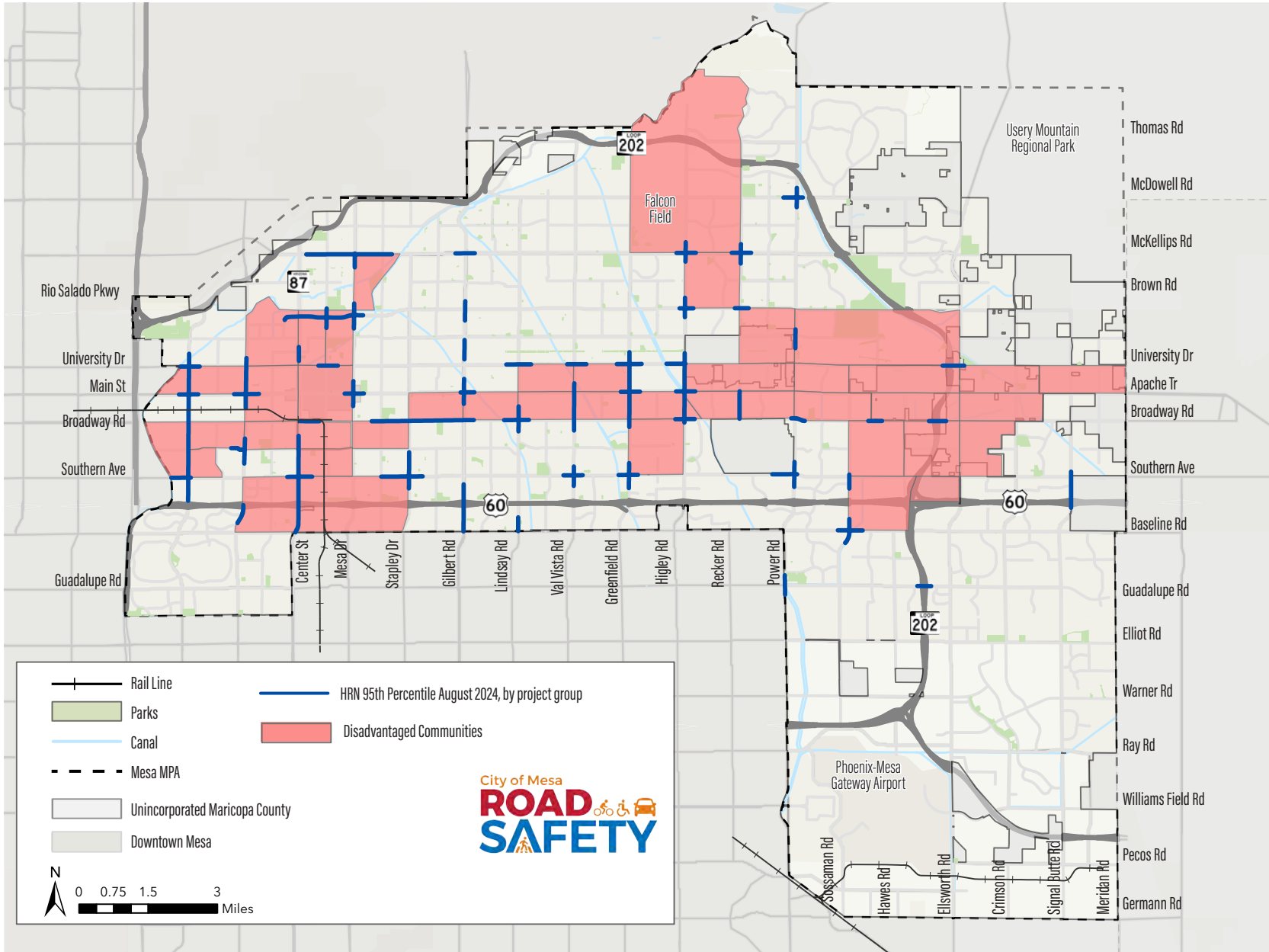
# Inclusive Processes for Engagement and Collaboration

Continuing the goal of integrating equity into the planning process, equity was brought forward into the engagement and collaboration efforts. During public engagement efforts, the Project Team leveraged best practices in attending planned community meetings and in person events to share information and obtain feedback from the public in the most inclusive way possible.

## Outreach

The project team identified four factors to evaluate in each phase of engagement as outlined in **Figure 16**. These are:



- In-person meetings were held in locations with proximity to transit.

- In-person meeting locations provided ADA accessibility.

- In-person and online meetings had the potential to draw participants of varied age, income and racial groups.

- All meetings and events represented a broad geographic area when considered as a group.

Additionally, the ability to communicate in multiple languages was integrated into all communication efforts. To ensure individuals with limited English proficiency could understand the CSAP effort and provide input, key online and print materials were printed in both English and Spanish. The project website and the public surveys disseminated through the website were automatically translatable into 11 languages. In addition, Spanish-speaking staff were present at many of the in-person meetings and events.
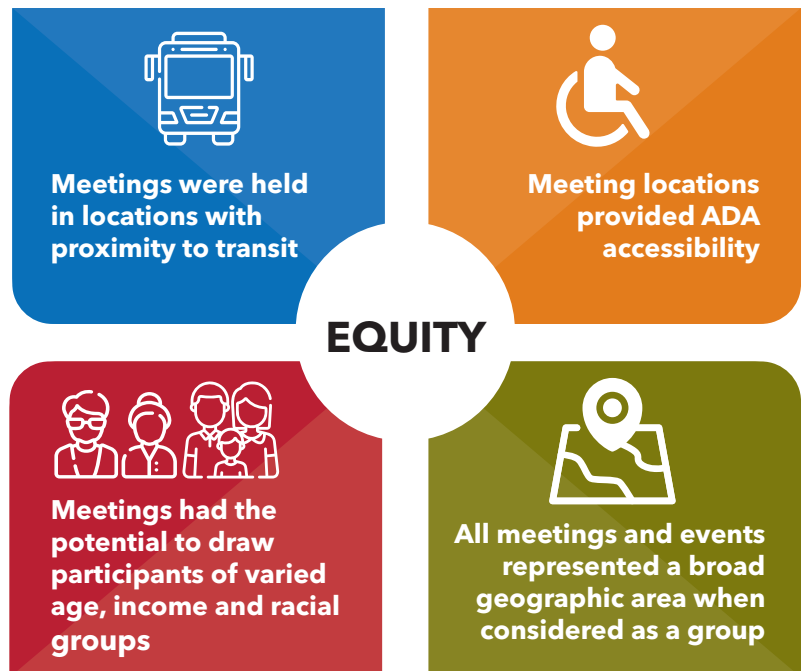


**Meetings were held in locations with proximity to transit**

**Meeting locations provided ADA accessibility**

**EQUITY**

**Meetings had the potential to draw participants of varied age, income and racial groups**

**All meetings and events represented a broad geographic area when considered as a group**

*Figure 16: Public Engagement Equity Evaluation Factors*

# III. Engagement and Collaboration

This plan would not exist without significant engagement from Mesa stakeholders, which include residents, visitors, businesses, partnering agencies, special interest groups and schools. Input from these stakeholders is essential to make streets safer for everyone.

The community engagement effort was guided by the Public Engagement Plan (PEP) that identified three phases – two during plan development and one for post-plan adoption support. Because the first two phases are relevant to the drafting and adoption of the plan, they are the main focus of this chapter. The third phase will include promotion of the plan and opportunities for the community to come together to cultivate a citywide culture of safety.

Online and in-person engagement were used to reach as many Mesa community members as possible to ensure the engagement was equitable by including individuals from historically underrepresented groups.

## Who We Engaged

The Team followed the PEP to engage various stakeholder groups. The Team selected planned community events that drew members of the public from all socioeconomic, racial, faith-based and geographic areas. We also leveraged both in person and online engagement to ensure those with and without internet access could find information easily. The bicycle community was engaged through placement of an article in a bicycle-focused periodical. Finally, the Project Team shared information with various groups, including schools, neighborhood representatives and businesses in Mesa by email, social media and paid and earned media.

**Figure 17** shows the number of comments received and engagement activities. During Phases 1 and 2, the Project Team engaged with 4,431 members of the community online and in-person at 10 events. Of those individuals engaged, 587 indicated they are interested in participating on a safety committee and 910 individuals commented on the online map activity. Of the 910 comments, 411 fell within DACs. **Figures 18** and **19** show engagement activities and engagement promotion methods.

*Figure 17: Number of Comments Received and Engagement Activities*



**4,431** People engaged

**587** Individuals volunteered to serve on safety committees

**411** Map comments within a disadvantaged community

**10** Community events attended

**910** Map activity comments which indicate areas the public is concerned about
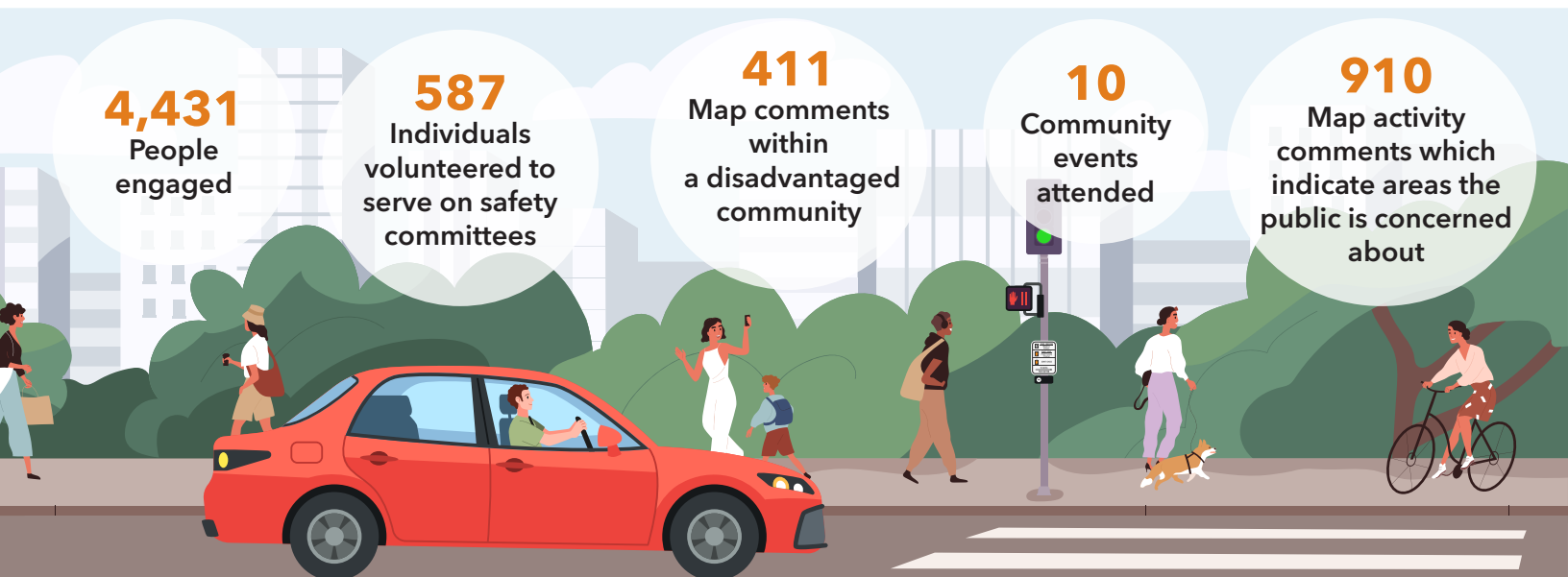
# Phase 1 Engagement

Phase 1 of the engagement effort occurred between February and May 2024 and focused on five key goals:

1. **Educate stakeholders** on the CSAP and the process of developing it.

2. **Obtain input from stakeholders** for **integration** into the **plan process**.

3. **Encourage stakeholders** to commit to supporting safety initiatives.

4. **Maintain** and enhance the **City's reputation among stakeholders**.

5. **Educate stakeholders** on their **role in road safety** and how to **reduce their risk**.

| Created a public and stakeholder engagement plan | Developed a brand identity for the CSAP effort | Launched a project website | Participated in community events | Developed a set of engagement materials | Conducted a survey with mapping activity |
|---|---|---|---|---|---|
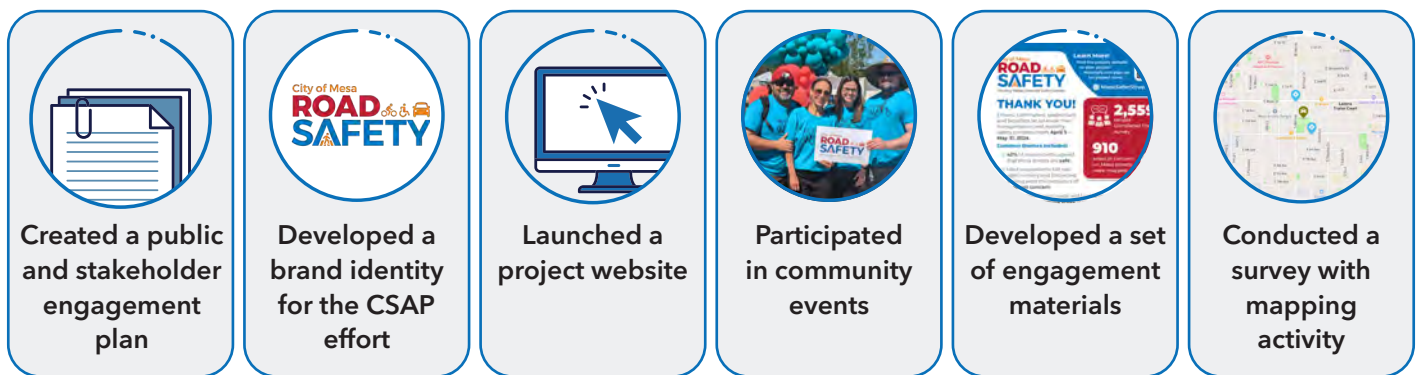
*Figure 18: Phase 1 Engagement Activities*



*Figure 19: Promotion Methods*

To ensure diverse outreach within the City, a series of community touchpoints were completed. This effort helped to drive residents to visit the website and complete the Social PinPoint activity. Community touchpoints during this time included nine in-person feedback opportunities. At events, participants had the option of taking the survey on an iPad, on the website using their phone or by filling out a paper survey. A summary of Phase 1 engagement can be found below and in **Appendix E.**

During Phase 1, events included meetings for the City's General Obligation Bond initiative which were held at multiple locations throughout the City, a bicycle-focused event and a community celebration event.





## What We Heard During Phase 1

Between April 3 and June 3, 2024, the Project Team engaged thousands of community members online and in person with the focus of asking individuals to take the a survey in questionnaire and map comment activity formats.

The questionnaire contained questions about users' experiences using Mesa's transportation network, including questions about the nature of their greatest driving concerns and their zip codes at home and work or school. A total of 3,469 responses were received, including 2,524 online survey responses, 910 map activity comments and 35 paper surveys. Overall results showed several important themes, such as:

- 42% of respondents thought that Mesa streets are safe.

- Most respondents felt red light running and distracted driving were the behaviors of greatest concern.

- Intersections, main roads and turn lanes were identified as the most concerning areas of Mesa's streets.

- Most respondents said they would feel safer if Mesa improved enforcement of current traffic laws and improved the design of roadways, bike facilities and sidewalks.

## The feedback from Phase 1 helped to:

- Create a better picture of safety issues perceived by users of Mesa's transportation network.

- Provide insight into the type of safety strategies that may have existing understanding and support.

- Identify communication methods that are most effective in engaging the community.

- Identify local community members who are interested in assisting the City to work toward safety solutions.

- Give the project team insight into the equity of the survey engagement and response by analyzing the zip code of survey respondents and the location of map comments relative to disadvantaged communities.



- Guide project prioritization methodologies and proposed project solutions by providing specific geographic areas of the City with safety concerns and the details of those concerns.

- Gain insight on which strategies would need greater education and engagement with the community during implementation.

**Figure 20** shows a sampling of community comments obtained during Phase 1.

## Phase 1 Engagement - Community Comments

Bike lane markings do not exist on this block but there is room for 1.5 vehicle lanes. **Is it possible to add a bike lane marking?**

THIS SHOPPING AREA NEEDS A **SAFE WAY TO EXIT** TO MAKE A LEFT TURN ONTO SIGNAL BUTTE.

Too many drivers are not paying attention when turning and pedestrians are in the crosswalk.

Drivers turning right from Thomas Road onto Power Road often do not stop on red. They often do not look for oncoming traffic from Power or travelling south on Power.

EAST AND WEST DRIVERS ARE RUNNING **RED LIGHTS.**

Would be great to have **bicyclist-activated crossing signal** to connect from protected lanes to canal path. The pedestrian button is difficult to get to.

Another sign needs to be put here indicating no left turns from the middle lane.

Speeding is a big problem on this road and the road is crossed by pedestrians using the disc golf course.

*Cameras need to be installed to slow down drivers speeding through the intersection. Tickets need to be issued for violators. This includes red light runners.*

SPEEDERS AND RACERS LOVE THIS STREET. NEEDS EFFECTIVE WAYS TO **SLOW TRAFFIC**

**The green light to cross Brown Road at Sterling does not provide enough time for older people.**

People trying to turn left into or out of the parking lot add to traffic issues and often cause accidents.

Left hand turn lanes do not stay green long. Please extend time on green arrows on the North/South and East/West green arrows.

*Figure 20: Phase 1 Community Member Comments*

# Phase 2 Engagement

Phase 2 engagement was conducted between September and November 2024. Engagement featured the same tactics and tools as Phase 1; however, materials were updated with data points from the safety analysis and new goals were set. Goals for Phase 2 were:

1. **Educate stakeholders** about their role in **creating** a culture of **safety**.

2. **Obtain feedback** on the proposed **safety strategies** and highlight the **public's role** in the **plan's success**.

3. **Provide continuous up to date information** on the plan development process.

4. **Manage** the **expectations** of CSAP outcomes.

5. **Provide continued opportunities** for engagement.

During Phase 2, events included an fair produced by the Hispanic Chamber of Commerce, a college and career fair, a community celebration and the popular Mesa Dia de los Muertos event prior to Halloween. A summary of Phase 2 engagement can be found in **Appendix F.**

## What We Heard During Phase 2

**Figure 21** shows the community's level of support for each of the strategies.

| Strategy | Support |
|---|---|
| Optimize Data Analysis: | 93 % |
| Prevent Driving Under the Influence (DUI): | 93 % |
| Explore Technology: | 90 % |
| Enhance Crossings: | 90 % |
| Separate Pedestrians and Bicycles from Vehicles: | 88 % |
| Reduce Risky Movements: | 88 % |
| Increase Road Safety Awareness: | 86 % |
| Support Safer Vehicles: | 86 % |
| More Severe Penalties: | 83 % |
| Design for Safer Speeds: | 82 % |
| Promote Safer Speeds: | 65 % |
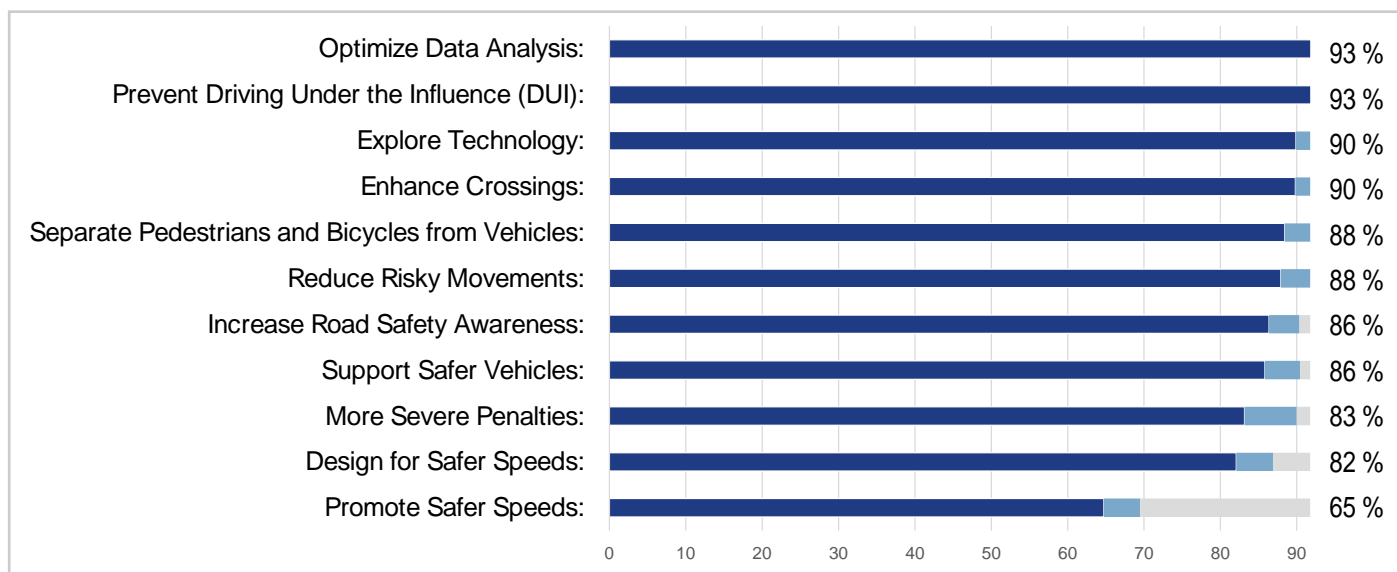
*Figure 21: Community Support of Strategies*

## The feedback from Phase 2 helped to:

- Understand community support of proposed infrastructure and non-infrastructure strategies and actions. Survey responses informed the final development of plan strategies and actions. For example, community support was low for the strategy to implement more severe penalties for dangerous driving, so it was removed from the strategy list.

- Communicate to City leadership the support of the proposed strategies and the communities' desire for safety initiatives. Provide insight into the type of safety strategies that have existing understanding and support. For example, achieving safer speeds is critical to achieving less severe crash outcomes due to the physics of impact forces. It's important that city staff, city leadership and community members understand that road design and engineering measures to obtain appropriate speeds is not feasible within available resources. Everyone will have a part to play.

**Figure 22** shows a sampling of community comments obtained during Phase 2.

## Phase 2 Engagement - Community Comments

> Yes, there are Too many access points for businesses along some streets and vehicles exiting/ entering create too many conflict points.

> So the raised medians make a difference? I don't know so I'm asking out of curiosity if they've been noted to help. The left turn arrows for high risk intersections would be amazing.

> No to raised medians, but **ALL** traffic lights should have left turn arrows, but especially intersections on two or more lane roads.

> RAISED MEDIANS POTENTIALLY CONFUSE OLDER DRIVERS. **WOULD DEFINITELY NEED SIGNAGE**.

> *You should also consider half-way crossing opportunities for pedestrians. There are a few in Phoenix. In the summer, it is difficult to walk an entire mile from one major road to another just so a pedestrian can get to a crosswalk.*

> Since the widening of Mesa Drive, we have seen a **HIGH INCREASE** in illegal u-turns in front of our community.

*Figure 22: Phase 2 Community Comments*

# Phase 3 CSAP Public Engagement Goals

Phase 3 engagement will be conducted from CSAP completion through FY2026, building on the foundation established in earlier phases to advance traffic safety efforts across the community. This phase focuses on deepening public awareness, fostering stakeholder collaboration and driving meaningful action to support the objectives of the CSAP. Through targeted outreach, education and engagement, residents, businesses and community partners will take an active role in enhancing roadway safety. During Phase 3, the City will also begin implementing non-infrastructure actions discussed in Chapter 5, including incorporating policy, education and enforcement strategies alongside infrastructure improvements. Additionally, performance monitoring, as outlined in Chapter 6, will begin to track progress and develop key performance indicators (KPIs) to assess the effectiveness of initiatives. The key goals for Phase 3 include:

- Engage with stakeholders and the public to introduce the new CSAP.

- Utilize a Safety Pledge as a call to action with the public.

- Develop a traffic safety program, with community information, resources and opportunities to get involved.

- Build a community ambassador program, with volunteer opportunities, engagement and partnerships with local organizations and businesses.

- Develop targeted campaigns to address specific issues in alignment with the priorities in the CSAP and target audiences (motorcycles and under 25 and 65+ communities, in addition to enhancing and streamlining transporation- and police department-established bike and pedestrian programs).

- Develop long-term goals with measurable KPIs and incremental milestones towards meeting the goal of reducing serious injury and fatal crashes by 30% by 2030.

# Collaboration Within the City of Mesa

Four internal City groups were instrumental in engaging with the Project Team to provide direction at key decision points throughout the planning effort. These four groups are: the Safety Task Force, TAB, TMP Team and the Mesa Police Department.

## Safety Task Force

The coordination Safety Task Force between the City's Transportation Department and Police Department was established independently of this effort in 2022, to ensure alignment between transportation initiatives, safety data trends and findings and enforcement practices. During the development of the CSAP, the PMT engaged with this task force at key milestones to ensure project understanding and gain feedback. These milestones are shown below in **Table 3.**

| Date | Project Milestone |
|------|-------------------|
| April 3, 2024 | Defining the final methodology of the High-Risk Network |
| May 1, 2024 | Presentation of final High-Risk Network, preliminary safety focus areas and survey findings from public engagement phase one |
| June 26, 2024 | Initial safety strategy identification |
| July 10, 2024 | Safety strategy prioritization |
| September 30, 2024 | Initial project identification and prioritization |
| January 16, 2025 | Finalized safety strategies and actions and discussed current activities and performance monitoring (Meeting 1 of 2) |
| January 23, 2025 | Finalized safety strategies and actions and discussed current activities and performance monitoring (Meeting 2 of 2) |

*Table 3: Safety Task Force Milestones*

## Transportation Advisory Board (TAB)

A key component of this planning effort was the ongoing collaboration of the TAB. The TAB is an eleven-member committee of citizen volunteers who meet bi-monthly to consider various traffic and transportation matters. The TAB hears from citizens and other affected property owners, reviews the reports and recommendations of transportation staff and makes recommendations concerning traffic and transportation matters to the City Council.

Members of this group served as vital partners during the CSAP development, contributing their ideas and experiences to deepen the understanding of crashes in Mesa. Their insights were instrumental in shaping an implementable and supported safety action plan that aligns with current initiatives. The CSAP team met with the TAB at key points during the process to share findings and obtain feedback. TAB meetings are shown in **Table 4**.

| Date | Information |
|---|---|
| March 19, 2024 | Safety analysis update, high-risk network approach methodology, phase one of public engagement approach and activities |
| May 21, 2024 | Safety analysis update, introduction of Collision Profiles, preliminary Road Safety Focus Areas, update on phase one public engagement |
| July 16, 2024 | Phase one community engagement survey results and summary, phase two of public engagement goals |
| September 17, 2024 | Phase two community engagement update, safety strategies overview, community survey review |
| November 19, 2024 | Phase two community engagement update, draft outline of the CSAP, review of proposed projects, performance measures and data trends |

*Table 4: TAB Meetings and Information*

## Transportation Master Plan Team (TMP)

Since the completion of the City's TMP occurred simultaneously with the CSAP, the TMP Team was engaged at key points in the CSAP development process. The Project Team worked with the TMP Team to make sure that general planned development timelines consider the CSAP. Since the TMP developed a HIN, the CSAP expanded the safety analysis through development of the HRN. Projects identified in the CSAP were cross-checked with safety projects in the TMP.

## Mesa Police Department (PD)

Collaboration with the Mesa PD occurred during several successful information sharing sessions. Discussions during the sessions served the following important purposes:

- Understanding the way officers collect information about KSI crashes in Mesa.
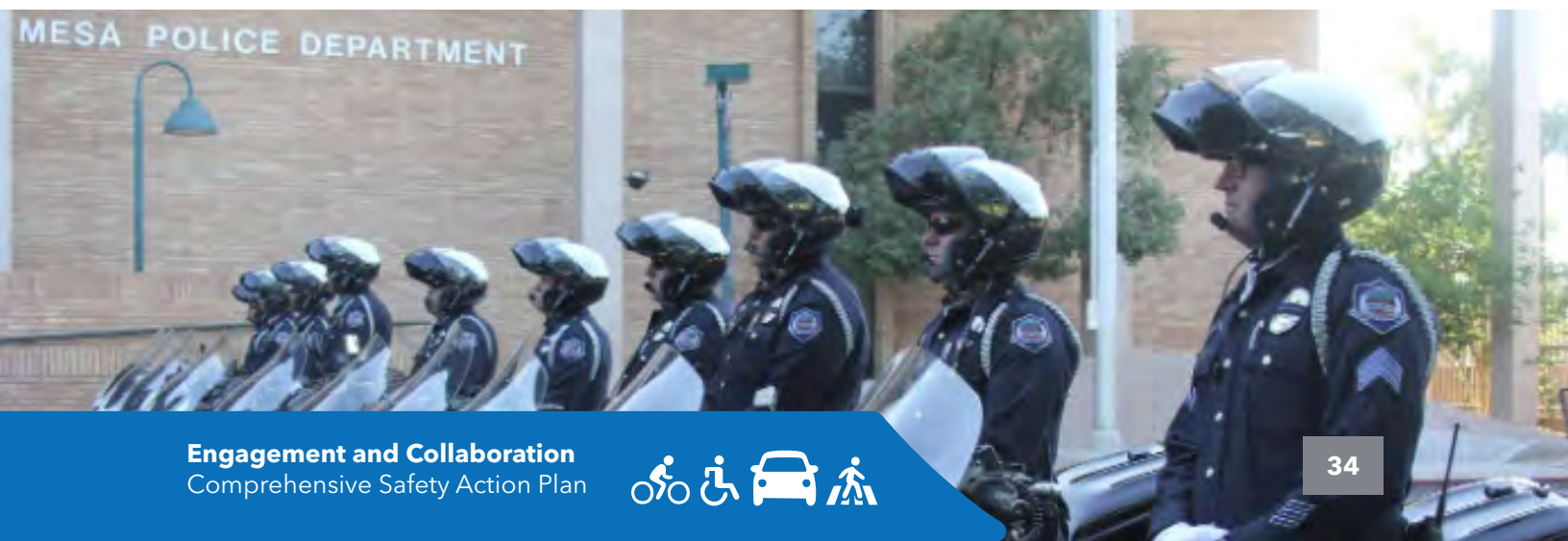
- Determining which PD protocols and initiatives complement plan goals.

- Identifying CSAP strategies and recommendations that will be funded and led through the PD.

## Collaboration with Other Governmental Agencies

An important part of developing a CSAP is collaboration with other governmental agencies. These stakeholders come from agencies that have responsibility for transportation at the regional, state and national level. They each have wide-ranging areas of expertise and unique challenges and concerns. Furthermore, these outside agencies are responsible for the potentially associated plans and programs that need to be coordinated and aligned with Mesa's CSAP as much as possible. Ensuring that the CSAP project team was up to date on the initiatives and best practices of these other agencies throughout the process was a priority during the development of the Plan.

Collaboration activities with other governmental agencies that occurred during the development of the CSAP include:

- Participation in quarterly meetings for the Maricopa Association of Governments (MAG) SeeMeAZ Task Force Strategic Planning Committee. The group's goal is to change the behaviors of drivers, pedestrians and bicyclists to ensure a safer future for all users through education and awareness campaigns.

- Participation in a USDOT Public Engagement Workshop hosted by MAG.

- Participation in the AZTech Media & Transportation Forum.

- Coordination with Maricopa County Department of Transportation and ADOT communications teams on various projects and neighboring cities regarding safety messaging and materials.

- FHWA representative intermittent participation in standing project meetings and receiving meeting minutes of all plan development activities.

- Participation in SS4A Meetings organized by FHWA (https://www.ss4aclearinghouse.org/TechnicalAssistance?Events&calendar=upcoming).

- Participation in the Arizona Strategic Highway Safety Plan Emphasis Area Team meetings.
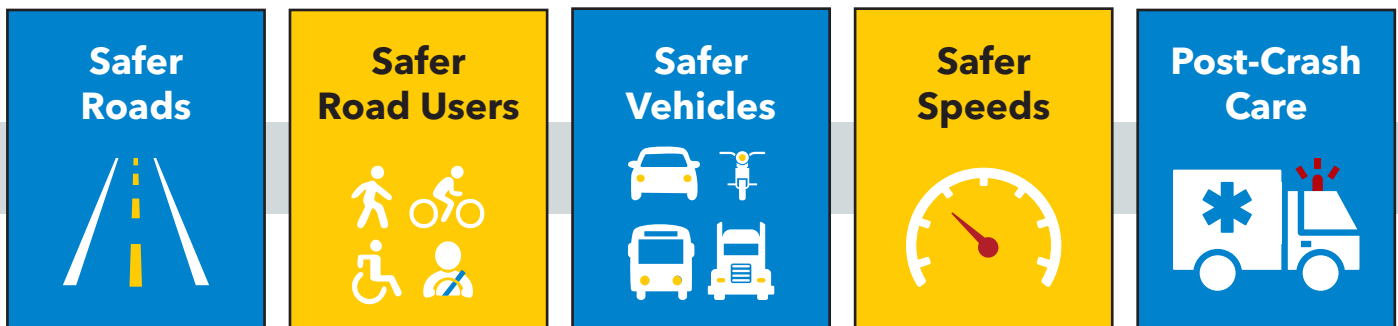
# IV. Benchmarking

# Safe System Benchmarking

To understand where opportunities lie in the City of Mesa's existing safety program, the project team undertook two efforts:

**1.** Safe System Benchmarking - to determine alignment between current City practices and Safe System best practices.

**City of Mesa's Existing Safety Program**

**2.** Evaluating the City's existing work efforts, design standards and guidance documents to determine alignment with the FHWA Safe System Roadway Design Hierarchy and related best practices.

This chapter explores how the City is currently implementing a Safe System-aligned safety program and where there are opportunities to enhance local policies and processes.

The increasing trend in traffic fatalities in Mesa over the past decade reflects a broader safety challenge faced across Arizona and the nation. However, despite this rise, Mesa's 2022 fatality rate of 8.6 per 100,000 residents (excluding freeways) remains lower than the statewide 17.9 and national 12.8 averages, demonstrating the City's commitment to improving roadway safety.

| Safer Roads | Safer Road Users | Safer Vehicles | Safer Speeds | Post-Crash Care |
|---|---|---|---|---|

The Safe System Benchmarking exercise examined each of the five core Safe System elements—Safer Roads, Safer Speeds, Safer Vehicles, Safer Road Users and Post-Crash Care—along with Safety Leadership & Culture. Through this analysis, key benchmarks and opportunities for improvement were identified, guiding the development of strategies and actions for this plan.

Each benchmark statement reflects Safe System principles, with accompanying opportunities for Mesa to enhance alignment through expansion or refinement of its safety initiatives. Additionally, this chapter highlights existing safety initiatives undertaken by the City that align with the Safe System Approach.

# Safety Leadership & Culture

**Benchmark:** Mesa leaders and staff commit to roadway safety as the top transportation priority.

*Opportunities:*

- Engage elected officials in roadway safety updates, field work and education, with a focus on importance of safety priority over other trade-offs (e.g. vehicle throughput and travel times).

- Build on momentum in Traffic Studies team to expand "safety is the top priority" message throughout the Transportation and Engineering Departments.

*Current Initiatives:*

**Interdepartmental Coordination:** Mesa takes a proactive, data-driven approach to traffic safety through interdepartmental coordination between the Transportation Department, Police Department and Fire and Medical Department. These agencies meet monthly to analyze crash data, identify safety concerns and develop coordinated strategies for enforcement and infrastructure improvements. The Transportation and Police Departments share a full time employee for data analysis. This collaboration has resulted in signal timing improvements, small-scale infrastructure upgrades and better deployment of traffic enforcement officers.

Additionally, the team reviews fatal crashes quarterly, ensuring the most current data from the Police Department is used to track trends, such as the rise in motorcycle-related crashes. These insights have informed key decisions, including the identification of a need for a swing shift in traffic enforcement to address evening-hour violations.

While Mesa's Traffic Section is a specialized but small unit within the Police Department, this coordinated approach maximizes the impact of enforcement resources and reinforces the City's ongoing commitment to traffic safety.

# Safer Road Users

**Benchmark:** Implement educational programs on rules of the road and the use of protective equipment, with a focus on behaviors and target audiences most associated with serious crashes in Mesa. Educational programs may be informed by data and tailored to the local safety context, with customization for different groups and alignment with new roadway designs, programs and policies.

*Opportunities:*

- Explore measures of effectiveness to assess the impacts of current road user behavior and education-focused efforts, such as existing bike education.

- Consider targeted outreach to motorcyclists to gain a better understanding of their specific challenges.

**Benchmark:** Safe roadway behavior is intuitive and understood by all road users in Mesa.

*Opportunities:*

- Explore the development of a public education campaign that highlights how individuals can contribute to a safer community through their roadway behavior and engagement with safety initiatives.

**Benchmark:** Use demonstration projects to raise awareness of new designs and foster community understanding of safety initiatives.

*Opportunities:*

- Enhance transparency and public education regarding roadway design solutions, including their purpose, supporting data and potential impacts on travel times and safety outcomes.

**Benchmark:** Safety programs acknowledge broader public health considerations, including access to healthcare, substance abuse treatment and mental health services.

*Opportunities:*

- Identify potential partnerships with public health and homeless services providers to explore coordinated approaches to address factors that may contribute to roadway safety challenges, such as health conditions, mental health and substance use.

*Current Initiatives:*

**Bicycle and Pedestrian Program:** The City of Mesa's Bicycle and Pedestrian Program promotes a safer, more accessible community for people who walk, bike and roll by focusing on education, infrastructure improvements and community engagement. The program offers six safety classes annually, providing hands-on training and distributing an average of 800 helmets to encourage responsible riding. In over 40 events each year, the program reaches well over 40,000 residents, fostering a culture of active transportation. Mesa also continues to expand and maintain bike lanes, shared-use paths and pedestrian-friendly infrastructure to support a well-connected network. These combined efforts contribute to a safer, healthier and more active community. See Case Study 1 on the following page for a comprehensive overview.

# Case Study 1: Mesa's Bicycle and Pedestrian Program

The City of Mesa's Bicycle and Pedestrian Program is committed to creating a safer, more accessible community for people who walk, bike and roll. Through education, infrastructure improvements and community engagement, the program supports sustainable and active transportation options that enhance mobility and public health.

A key component of the program is bicycle and pedestrian safety education, offering six classes annually that teach essential skills for navigating city streets safely. These classes provide participants with hands-on training and safety resources, including an average of 800 helmets distributed each year to encourage responsible riding. In over 40 events held annually, the program reaches well over 40,000 residents, fostering a culture of safety and active transportation.

Mesa's Bicycle and Pedestrian Program supports a variety of road safety education and engagement, including:

- Bicycle Safety classes are offered throughout the year. Participants will learn basics of bicycle safety and will receive free safety gear at the end of the class. Class space can be limited. Pre-registration is required through the library event system.

- The Bike Rodeo Toolkit is your ultimate guide. It contains step-by-step instructions to help you plan, organize,and execute a successful bike rodeo that engages and educates participants on essential cycling safety skills.

- The CycloMesa Festival is an annual event hosted by the City of Mesa's Bicycle and Pedestrian Program to celebrate Valley Bike Month. Typically held in early April, this free festival offers a variety of activities for all ages, including group rides, safety workshops and family-friendly entertainment. The event aims to promote cycling as a sustainable and healthy mode of transportation, fostering community engagement and encouraging active lifestyles among residents.

- The Reindeer Roll and Stroll is an annual, free, self-guided scavenger hunt organized by the City of Mesa's Bicycle and Pedestrian Program. Held in Downtown Mesa, participants are encouraged to walk, bike or roll through designated
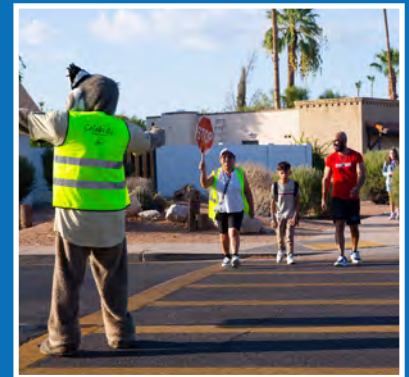


*Walk, Bike & Roll to School Day with D. Baxter the Bobcat serving as a celebrity crossing guard*
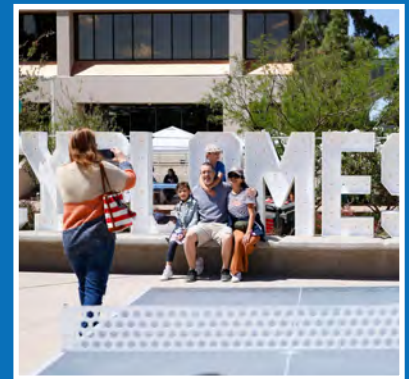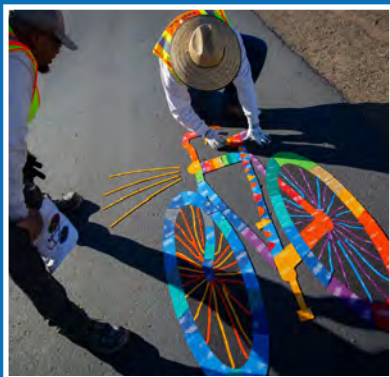


*CycloMesa Festival*



*District 2 Councilmember Julie Spilsbury participates in Bike to Work Day*

*Kids getting free bike helmets*


*Bike rodeo*


*A winning bike symbol art design is applied to a shared-use path*

areas, collecting clues for a chance to win prizes, including a new bicycle. The event fosters community engagement and promotes active transportation during the holiday season. Additionally, the program offers free bicycle helmets during the event, while supplies last, to encourage safety among riders.

- Walk, Bike & Roll to School Day (October) – Encourages students to choose active transportation, promoting health and environmental benefits.

- Bike to Work Day (April) – Engages commuters in sustainable transportation by providing incentives, safety tips and community participation opportunities.

- The Bike to Books Contest is a partnership between Mesa's Transportation Department and Public Library, encouraging kids from pre-K to 12th grade to design bike symbol art for a shared-use path in the city. The contest runs May 1 to July 31, with entry forms available at Mesa libraries or online. Winners are chosen in three age groups, and grand prize designs are painted on a shared-use path by the City's striping crews. This program promotes creativity, cycling and reading among Mesa's youth.

- The MoveSafe Public Service Announcement (PSA) Contest encourages students aged 12 to 18 to create 30-second videos promoting pedestrian and bicycle safety. Organized by Mesa's Transportation Department, the contest welcomes individual and group submissions from classrooms and families. Entries are judged on their creativity and effectiveness in delivering safety messages. The winning PSA is showcased on Mesa's Bicycle and Pedestrian Program's Facebook page and at the CycloMesa Festival. This contest inspires youth creativity while reinforcing the importance of safe walking and biking practices in the community.

To ensure a connected and efficient network, Mesa continues to expand and maintain its bike lanes, shared-use paths and pedestrian-friendly infrastructure. These efforts, combined with strong community partnerships and educational initiatives, contribute to a safer, healthier, and more active Mesa.

For more information on upcoming classes, events and resources, visit: Mesa's Bicycle and Pedestrian Program at https://www.mesaaz.gov/Resident-Resources/Streets-Transportation/Bike-Pedestrian-Program.

# Safer Roads

**Benchmark:** Roadway safety projects are prioritized and developed based on a data-driven proactive approach, utilizing the HRN and related resources.

*Opportunities:*

- Explore data-driven approaches to prioritize safety projects, including those supported by enforcement funding mechanisms, with a focus on risk assessment and proactive safety improvements.

**Benchmark:** New developments incorporate multimodal safety features.

*Opportunities:*

- Consider updates to land use codes and traffic study requirements to encourage context-sensitive multimodal safety enhancements that align with best practices.

*Current Initiatives:*

**Speed Hump Program**: The City of Mesa's Speed Hump Program helps neighborhoods address speeding and enhance street safety. Approved by the City Council, this program enables residents to request speed humps or speed cushions on qualifying residential streets. As a community-driven effort, it ensures local input shapes decisions about speed mitigation.



*Speed Cushions used to slow traffic*

Recognized as one of the most cost-effective traffic calming solutions, this program plays a key role in slowing down traffic. Each year, Mesa installs five to 10 sets of speed cushions as part of its commitment to safer streets. For full details, visit: *Mesa Speed Hump Policy* https://www.mesaaz.gov/files/assets/public/v/1/residentresources/streetstransportation/speed_hump_policy.pdf

**Predictive Safety Analysis**: As described in Chapter 2, Mesa uses Predictive Safety Analysis to identify high-risk intersections and prioritize safety improvements. Utilizing a SPF-based tool, this data-driven approach—recognized in the 2010 HSM—focuses on arterial/arterial and arterial/collector intersections to assess crash risk.

Mesa has developed SPFs for all crashes and severe crashes, updating the analysis annually with new crash data to reflect the latest trends. The Empirical Bayes (EB) adjustment corrects for Regression to the Mean bias, ensuring high-risk locations are identified based on consistent, systemic safety risks rather than short-term fluctuations.

The primary outputs of the predictive analysis are:

1. *Safety Levels (1 through 4):* A ranking system that categorizes intersections based on crash frequency and severity, ranging from Safety Level 1 (very low risk) to Safety Level 4 (very high risk).

2. *Expected Percentile Average Crash Frequency (with EB Adjustments):* A refined measure of crash likelihood that accounts for statistical biases, ensuring that safety investments are directed to locations with the highest potential for improvement.

Beyond the CSAP, Mesa actively uses this analysis to identify locations for engineering improvements, additional enforcement and other safety countermeasures. For example, the city has enhanced left-turn phasing at over 10 intersections in recent years where upgrades were feasible through regular maintenance with minimal to no construction activities. In contrast, all intersections recommended through the CSAP's left-turn evaluation (discussed in Chapter 6) will require more significant reconstruction of older traffic signals, including longer mast arms to meet current standards.

By continuously updating its predictive analysis and integrating findings into both routine upgrades and long-term capital improvements, Mesa proactively enhances roadway safety, implementing improvements as resources allow.

**Safety Based Capital Projects:** Mesa has a long-standing commitment to integrating safety-focused improvements into its Capital Improvement Program (CIP). Historically, intersection improvement projects have been prioritized based on crash trends, ensuring that locations with the highest crash rates receive targeted safety interventions. For example, in the early 2000s, crash hotspots along Southern Avenue led to a capital improvement project that addressed safety concerns along the corridor (see Case Study 2 on the following page).

The city has also demonstrated openness to innovative safety countermeasures. When light rail expanded into Mesa, the city approved and installed a roundabout at Main Street and Horne, despite the limited number of similar intersections with light rail in the U.S. This project has since proven to be operationally efficient and effective in improving safety.

Mesa's CIP framework provides a structured approach to identifying, funding and implementing transportation safety improvements. The Transportation Department collaborates with the Engineering Department to review planned projects, many of which are identified based on safety needs. Moving forward, Tier 1 projects from the CSAP (discussed in Chapter 6) have been prioritized as the most impactful engineering projects for reducing fatalities and serious injuries in Mesa.

Project funding is coordinated through the Office of Management & Budget (OMB), which works with city departments to plan financing strategies, develop funding recommendations for the City Manager and estimate future bond sales to support safety-focused infrastructure investments. This structured process enables Mesa to strategically allocate resources, ensuring that high-impact safety projects move forward as funding becomes available.

# Case Study 2: Fiesta District Redevelopment (Southern Avenue)

The Fiesta District, located along the Southern Avenue Corridor from Dobson Road to Alma School Road, was a car-centric corridor with retail, office, education and healthcare uses. The area included a large regional shopping mall which closed, declining vehicular traffic, high levels of crashes at intersections, limited transit amenities and sparse landscaping. In the early 2000s, crash hotspots along Southern Avenue led to a capital improvement project that addressed safety concerns along the corridor. Mesa envisioned a safer corridor with a sense of place and opportunities for active transportation (such as bicycling and walking), transit amenities, landscaping and lighting and economic development.

The project incorporated several safety enhancements, including highly visible crosswalks, buffered sidewalks, a sidepath, sidewalk lighting, pedestrian nodes and additional shading and landscaping. The repurposing of the two outside travel lanes served multiple purposes, primarily improving safety by reducing travel speeds while creating space for multimodal transportation improvements.

The outcomes of the project demonstrate its high success rate.



*The Fiesta District Redevelopment Project before improvements.*



*The Fiesta District Redevelopment Project incorporated safety improvements, such as landscape buffered sidewalks.*

| TRAFFIC | AMENITIES | COLLISIONS | INVESTMENT |
|---|---|---|---|
| The traffic along Southern Avenue has remained within acceptable levels of delay with 25,000 vehicles per day. | The area provides excellent amenities for pedestrians, bicyclists and transit users. | Crashes at intersections decreased by 30% over three years. | The area has experienced more than $81 million in investment since 2015. |

# Safer Vehicles

**Benchmark:** Safety is a priority in the management of Mesa's public vehicle fleet.

*Opportunities:*

- Consider retrofitting Mesa's fleet vehicles with safety enhancements and technologies, such as Intelligent Speed Assistance (ISA), and provide comprehensive safety training for fleet vehicle drivers.  ISA is a safety technology detects speed limits by using a road sign recognition camera on board the vehicle or via GPS-linked speed-limit databases. If the driver is exceeding the speed limit they will receive an alert.

# Safer Speeds

**Benchmark:** Develop strategies for integrating street design and speed management to enhance safety.

*Opportunities:*

- Consider developing an arterial-focused speed management program to assess and implement context-sensitive speed management strategies.

**Benchmark:** Deploy enhanced speed enforcement.

*Opportunities:*

- Explore ways to build on the success of automated enforcement in school zones and evaluate potential expansion of Mesa's Photo Safety Program in other locations where data indicates a need for improved speed compliance.

*Current Initiatives:*

**Photo Safety Program:** The City of Mesa's Photo Safety Program, managed by the Mesa Police Department, enhances traffic enforcement with automated cameras at 16 intersections and seven school zones to reduce red-light running and speeding. The program has lowered school zone speeds by an average of 5 mph, improving safety. Since 2020, it has generated $1.25 million annually, funding pedestrian crossings, upgraded bicycle facilities, traffic calming and school zone upgrades. Mesa ensures citywide project distribution and accelerates implementation by using in-house crews, completing projects in three to six months. These efforts improve road safety and reduce serious crashes, particularly at high-risk intersections and school zones. See Case Study 3 on the following pages for a comprehensive overview.

*Highland Jr. High Traffic Signal (partially funded with photo safety funds)*



*Communications Equipment & Programming Software for School Zone Flashers*
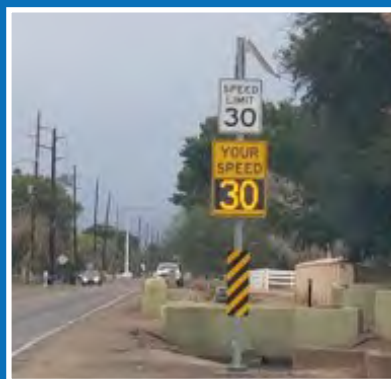


*Driver Speed Feedback Signs*

# Case Study 3: Photo Safety Program

The City of Mesa's Photo Safety Program, managed by the Mesa Police Department, supplements traditional traffic enforcement efforts by deploying automated violation detection systems, digital cameras and streaming video cameras. These systems are strategically installed at 16 intersections and seven mid-block locations in school zones to deter red-light violations, reduce speeding, increase situational awareness and decrease the severity of crashes.

At the time of this report, intersection safety cameras were installed at 16 intersections, with only three experiencing higher than expected crash rates specifically for serious or fatal injury crashes. This highlights the positive impact of photo radar technology in enhancing intersection safety and overall road conditions.

In the seven school zones, the program has proven particularly effective, achieving an average speed reduction of 5 mph, with the highest recorded reduction reaching 11.9 mph. Research highlights the life-saving effects of speed reduction—according to the Highway Safety Manual, a one mph reduction in speed can decrease fatal crashes by 17%, while a study from Sweden's Lund Institute of Technology found that a 10% reduction in average speed led to 34% fewer fatal crashes.

Revenue from speed cameras primarily funds enforcement efforts, with surplus funds exclusively reinvested into traffic safety improvements. **Since 2020, this program has generated approximately $1.2 million annually, supporting safety enhancements such as mid-block pedestrian crossings, traffic calming, upgraded bicycle facilities, school zone upgrades and left-turn arrows at signalized intersections.**

The City of Mesa ensures equitable distribution of safety projects across all council districts, rather than concentrating improvements in a single geographic area. To expedite project delivery, Mesa has developed an efficient in-house implementation process, leveraging city staff and maintenance contracts to complete projects within three to six months, bypassing the traditional Capital Improvement Program (CIP) process. This streamlined approach reduces costs and accelerates safety enhancements, allowing for faster implementation of critical road safety measures.

*Mesa High School Pedestrian Refuge Island*


*Ellsworth Road & University Drive Flashing Yellow Arrows*


*1st Avenue Separated Bike Lanes*


*Farmdale Avenue Traffic Calming*


*Inspirian Parkway & Kinetic Drive Crossing*


*Las Sendas Elementary Raised Crosswalks*

On a national level, the United States Department of Transportation (USDOT) prioritizes making the transportation system safer for all users. In 2022, USDOT released the National Roadway Safety Strategy (NRSS), a comprehensive approach to collaborating with stakeholders nationwide to achieve the long-term goal of eliminating roadway fatalities. Additionally, a report from the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA), titled "Speed Safety Camera Program Planning and Operations Guide" (January 2023), highlights the role of enforcement in preventing unsafe driving behaviors. The report states that enforcement—whether conducted by law enforcement officers or through automated means—is a key element of the Safe System Approach, leading to both general and specific deterrence of dangerous driving behaviors. Speed safety cameras are also recognized as a Proven Safety Countermeasure by the FHWA, further emphasizing their effectiveness in reducing crashes and saving lives.

# Post-Crash Care

**Benchmark:** Create a feedback loop such that key insights from collision investigations are shared with roadway designers and influence outreach and education.

*Opportunities:*

- Build on success of coordination meetings to continue momentum in this space and find opportunities to report back to the public on successes.

*Current Initiatives:*

Post Crash Care: The City of Mesa's post-crash care system includes Level I and Level III Trauma Centers, emergency medical response services, and law enforcement support, all of which play a critical role in reducing the severity of crash-related injuries. Banner Desert Medical Center, located at 1400 South Dobson Road, is the primary Level I Trauma Center serving Mesa, offering advanced trauma care for critically injured patients. According to the Arizona Department of Health Services, Mesa is also served by two Level III Trauma Centers: Banner Baywood Medical Center (6644 East Baywood Avenue) and HonorHealth Mountain Vista Medical Center (1301 South Crismon Road).

Emergency response times are a key factor in post-crash survival rates. Per the City of Mesa Open Data website, the 90th percentile response time for Fire/Medical Code 3 incidents in Mesa is 9.1 minutes, exceeding the city's target of 6.0 minutes. Police Priority 1 incident response times—which include life-threatening emergencies—average 5.6 minutes, with a target of 4.0 minutes.

Mesa follows a dual-response model for emergency medical calls, dispatching both an ambulance crew and a fire crew when hospital transport may be needed. This model provides immediate on-scene medical care while ensuring rapid transport to a hospital where emergency treatment can continue.

In 2018, the Mesa Fire and Medical Department (MFMD) was granted state authorization to provide its own ambulance service. MFMD's Emergency Transport Services Division operates citywide, using data-driven deployment strategies to position ambulances where they are needed most. This combination of trauma care, emergency response coordination and ambulance services enhances Mesa's ability to provide critical post-crash medical care, improving the likelihood of survival and reducing the severity of crash-related injuries.

# Alignment with Local and Federal Safety Goals and Guidance

To achieve the Transportation Master Plan (TMP) "Safety First" priority and the CSAP goal of reducing fatalities and serious injuries by 30% by 2030, a shift in roadway design philosophy is needed. Safety considerations must take precedence over vehicle throughput and delay (i.e., vehicle Level of Service [LOS]). Aligning with the Safe System Approach, Mesa's local roadway safety design standards should reflect the FHWA Safe System Roadway Design Hierarchy, with a strong emphasis on the highest-priority tiers: "Remove Severe Conflicts" and "Reduce Vehicle Speeds."

**Appendix G** includes recommendations for improving local policies, processes and programs that enhance roadway safety. Mesa's decision-makers, planners and engineers may find these recommendations useful in shaping future updates to standards, programs and infrastructure investments.

# Alignment with Design Standards and Guidance

The City may choose to update and/or develop new roadway design and signal policies to help guide the implementation of safety-focused decisions network-wide. It is recommended that the City of Mesa update engineering standards to align with the FHWA MUTCD 11th Edition (December 2023) and Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) (October 2023) standards and guidance. The guidelines, standards and policy that should be considered for updates are *City of Mesa Engineering & Design Standards 2023*, *City of Mesa Standard Details 2023* and *City of Mesa Speed Hump Policy 2018*.

Additionally, it is recommended that the City of Mesa uses supporting federal guidance and best practice documents to guide additional enhancements to local design guidance and policies, including:

- *AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, Second Edition*
- *AASHTO Guide for the Development of Bicycle Facilities, Fifth Edition*
- *AASHTO Guide for Geometric Design of Transit Facilities on Highways and Streets*
- *FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*
- *FHWA Separated Bikeway Design Guide*
- *FHWA Bicycle Selection Guide*

- *FHWA Speed Limit Setting Handbook*
- *NCHRP Report 812 – Signal Timing Manual, Second Edition*
- *NACTO Bikeway Design Guide*
- *NACTO Urban Street Design Guide*
- *NACTO Don't Give Up at the Intersection*
- *NACTO Designing for All Ages & Abilities*
- *NACTO Transit Street Design Guide*

# Continuing, Enhancing and Identifying Actions for a Safer Mesa

Mesa has a strong foundation in data-driven safety analysis, public education programs, enforcement programs and infrastructure improvements that have contributed to a safer transportation network. The City's use of crash data, safety-focused capital projects and targeted countermeasures has helped address high-risk locations and key safety concerns. As the city continues to develop and redevelop with more transportation choices and connections, ongoing evaluation and adaptation will be necessary to respond to changing transportation needs.

Building on existing efforts, Mesa will continue or expand the application of safety improvements and consider implementing new safety countermeasures. This includes identifying projects that address the most common severe crash trends and incorporating proven engineering, enforcement and education strategies. The City will also explore opportunities to align funding and project planning to support safety initiatives as resources allow.

The next chapter, Chapter 5 - Strategies and Actions, outlines specific steps to reduce severe and fatal crashes through a combination of infrastructure and non-infrastructure strategies (enforcement strategies, public education and policy updates). These strategies and associated actions are intended to guide transportation safety decisions and help direct resources to efforts with the highest potential for crash reduction.

# V. Strategies and Actions

# Establishing Strategies & Developing Actions

*One of the key objectives of this Safety Action Plan is to develop specific strategies and actions to support the City of Mesa goal to reduce severe crashes by 30% by 2030.*

The recommended actions in this section are distinct, data-driven measures tailored to Mesa's unique transportation context and address the collision profiles and safety needs identified through the Plan's analysis.

The process of identifying actions was progressive, building upon each stage of analysis to develop a targeted and effective approach to improving safety. Actions were identified that directly and indirectly addressed the collision profiles of severe crashes in Mesa. Another consideration was selecting actions that targeted both locations where crashes are occurring and areas at high risk of future crashes—primarily along the HRN, which is largely composed of arterial streets. As a result, actions were designed to be effective within the context of arterial roadways while also comprehensively addressing both intersections and corridors. The identification process also incorporated FHWA-proven countermeasures to ensure effectiveness. The resulting list of actions represented a well-rounded, data-driven approach that aligns with Mesa's crash trends, proactively mitigates risk and leverages proven safety solutions.

More than 100 potential actions were initially identified. Through a series of workshops with the City of Mesa's Transportation, Communications and Police Departments, the list was refined to 28 targeted actions that staff believe are the most feasible to move forward in Mesa while addressing the City's needs. Each of these actions was specifically selected to address the City's most severe crash trends while being well-suited to Mesa's unique transportation context. The final set of actions represents practical, impactful steps the city can take to improve safety.



*Figure 23: Action Identification and Refinement Process*

The selected actions were then grouped into eight strategies that align with the core elements of the Safe System approach - prioritizing data-driven, context-sensitive and holistic solutions to improve transportation safety. These strategies fall into two categories:
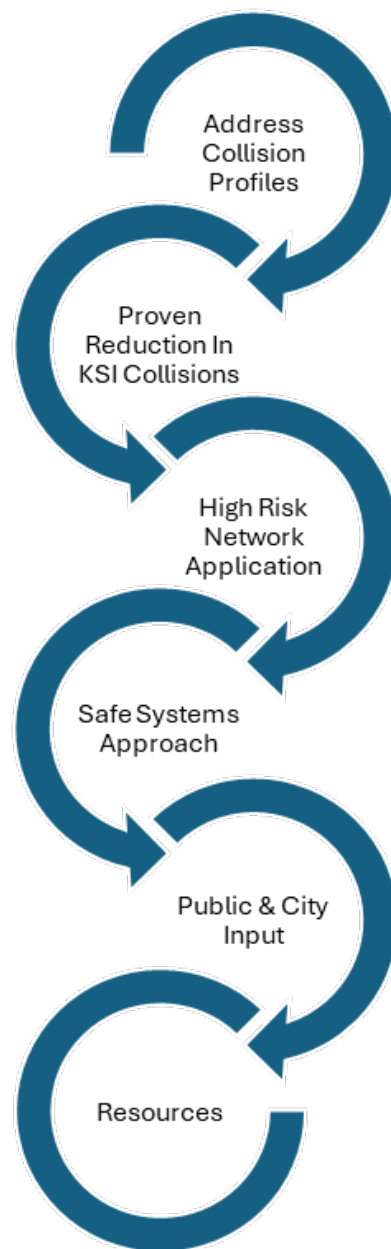
**Infrastructure and Non-Infrastructure.**

**Infrastructure strategies** focus on physical improvements to the transportation system, such as upgraded signals, safer street designs and new technology that help prevent crashes and protect people on the road.

There are five infrastructure strategies, which include 13 actions:

**A.) Reduce Risky Movements** aligns with Safer Roads by removing severe conflicts.

**B.) Support Safer Vehicles** aligns with Safer Vehicles by promoting technology and policies that enhance vehicle safety and reduce crash severity.

**C.) Separate Pedestrians & Bikes from Vehicles** prioritizes the safety of vulnerable road users and supports Safer Roads by removing severe conflicts and creating dedicated spaces that minimize exposure to vehicles.

**D.) Enhance Crossings** prioritizes the safety of vulnerable road users and supports Safer Roads by managing conflicts in time and increasing driver attentiveness and awareness.

**E.) Design for Safer Speeds** supports both Safer Speeds and Safer Roads by reducing vehicle speeds and, in turn, lowering kinetic energy, which helps decrease crash severity.

The City's application of infrastructure strategies is context-sensitive and may require additional engineering study before implementation.

**Non-infrastructure strategies** involve City policies, safety programs and public education efforts that promote safer behaviors and ensure safety is a key part of decision-making.

There are three non-infrastructure strategies, which include 15 actions:

**F.) Increase Road Safety Awareness** supports Safer People by focusing on education, outreach and behavioral change to improve attentiveness and awareness among all road users.

**G.) Prevent Driving Under the Influence (DUI)** aligns with Safer People by promoting enforcement and prevention efforts to reduce impaired driving.

**H.) Optimize Data Analytics** strengthens the City's ability to identify risks, track trends and measure the effectiveness of safety initiatives, reinforcing the Safe System approach through data-driven decision-making.

Safety improvements require both infrastructure and non-infrastructure solutions. Infrastructure changes improve the physical environment, while non-infrastructure efforts focus on behavior changes. Meaningful progress in safety depends on advancing both.

The actions specific to each of these strategies are noted in the following tables.

# How to Read This Section

This section contains the comprehensive list of **Infrastructure Strategies** that Mesa would utilize to achieve a 30% reduction in KSI crashes by 2030. A strategy is an effort that aligns with the core elements of the Safe System approach and is composed of specific actions.

- **Infrastructure Strategy Name**

    A.) Reduce Risky Movements

    B.) Support Safer Vehicles

    C.) Separate Pedestrians and Bikes from Vehicles

    D.) Enhance Crossings

    E.) Design for Safer Speeds

- **Action ID and Description:** Each strategy contains measurable actions that contribute to the overarching strategy. The first letter of the ID (A-E) corresponds to the strategy. The following number identifies the action.

- **Mesa Street Typology Application:** Identifies which types of streets in Mesa are most appropriate for this action.

- **Collision Profiles:** Indicates how each action impacts the most common collision profiles, either directly or indirectly.

- **Status of Action:** Specifies the status of the action. The four categories include: *New* - if the action is a new work effort to initiate; *Continue* - the work effort is already in progress and will continue; *Enhance* - the work effort is in place and needs to be further improved; *Expand* - the work effort is in place and needs to increase.

- **Effectiveness Star Rating:** On a scale of 1 Star (less effective) to 5 Stars (most effective) - how effective is this action based on established and proven safety countermeasures.



Figure 24: Example of Infrastructure Strategy Table

Infrastructure Strategy Name · Mesa Street Typology Application · Collision Profiles · Status of Action · Action ID and Description · Effectiveness Star Rating (Scale of 1 to 5)

# A.) Reduce Risky Movements

**Mesa would implement designs to reduce risky movements, including installing raised medians to reduce left-turn conflicts and implementing green arrows for left-turns at high-risk intersections.**

Reducing risky movements is a key part of the FHWA Safe System Approach, which focuses on eliminating fatalities and serious injuries through design. According to the FHWA Safe System Roadway Design Hierarchy, removing severe conflict points is a Tier 1 strategy—the most effective way to reduce crash risk and severity. Physical design changes are more dependable than relying on driver decisions. By physically separating vehicles and managing movements at high-risk locations, Mesa can reduce conflicts that often result in severe crashes.

Every week, four people are killed or seriously injured on Mesa's roads. Over half (58%) of KSI crashes occur at intersections, and 39% of motorcycle crashes result in death or serious injury. The most common KSI crash types are angle crashes (32%) and left-turn crashes (26%), with failure to yield being the top contributing violation (34%). Implementing this strategy and associated actions would directly address most of Mesa's top collision profiles, as presented in Chapter 2.

Every intersection, from a signalized intersection to an unpaved driveway, has potential conflicts between vehicles, pedestrians and bicyclists. The number and types of conflict points influence intersection safety. Installing raised medians reduces left-turn and head-on crashes by physically separating traffic moving in opposite directions. Thoughtful consideration of access points along corridors minimizes conflict points and improves traffic flow.

Roundabouts enhance safety by eliminating crossing conflicts, reducing vehicle speeds and changing crash angles to reduce impact forces. According to FHWA, single-lane roundabouts can accommodate up to 25,000 vehicles per day and multi-lane roundabouts can accommodate up to 40,000 vehicles per day. Although roundabouts often require additional right-of-way at the intersection, they offer long-term cost savings by reducing overall pavement area, driver delay, and maintenance needs when compared to a traffic signal. Raised medians and roundabouts also provide physical barriers that prevent errant vehicles from crossing into oncoming traffic.

When physical separation is not feasible, FHWA Safe System Roadway Design Hierarchy Tier 3 strategies such as managing conflicts in time through protected signal phases can be applied. At the time of publication, 61 of Mesa's 501 signals are fully protected. Based on an evaluation conducted as part of this CSAP, 13 intersections are recommended for protected left-turn phasing implementation. Protected left-turn phasing eliminates conflicts between cross traffic, left-turning vehicles and pedestrians using the parallel crosswalk.

Reducing risky movements through physical separation and signal timing provides Mesa with effective tools to address its most frequent and severe vehicle-vehicle crashes, improving roadway safety for all users. These actions, supported by FHWA's Proven Safety Countermeasures, align with the Safe Roads and Safe Road Users principles of the Safe System Approach.

# A.) Reduce Risky Movements

**Mesa would implement designs to reduce risky movements, including installing raised medians to reduce left-turn conflicts and implementing green arrows for left-turns at high-risk intersections.**

*Table 5: Reduce Risky Movements - Strategies and Actions*

| ID | Action | Mesa Street Typology Application | | | Mesa's Top Collision Profiles (Direct ● or Indirect ◒ Impact) | | | | | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Local | Collector | Arterial | Failed to Yield violations on streets with 40+ MPH posted speed | Vehicle-only collisions involving drivers age 65+ | Collisions involving alcohol or drugs | Motorcycle and vehicle-only collisions involving left turns at signals without fully protected lefts | Other top collision profiles | | |
| A01 | Mesa would expand the installation of raised medians to reduce conflict points on arterial roads. | | | LMR HR/MU EAC I D | ● | ● | ◒ | | ● | Continue & Expand | ★★★★★ |
| A02 | Mesa would explore the installation of roundabouts at suitable intersections to slow down traffic and reduce the frequency and severity of crashes. | | OPR LMR HR/MU EAC D | OPR LMR HR/MU EAC I D | ● | ● | ◒ | | ◒ | Continue & Expand | ★★★★☆ |
| A06 | Mesa would expand the implementation of protected left-turn signals at high-risk intersections to reduce left-turn collisions, particularly those involving motorcycles, pedestrians and bicyclists. | | OPR LMR HR/MU EAC I D | OPR LMR HR/MU EAC I D | ● | ● | | ● | ● | Continue & Expand | ★★★★★ |
| A11 | Mesa would replace round green signal faces with straight-thru arrows on traffic signals at freeway interchange locations to help prevent wrong way driving. | | | OPR LMR HR/MU EAC I | | ● | ● | | ◒ | New Work Effort | ★★★★☆ |

**Mesa Street Typology Legend**

| OPR | Open Space / Preserve / Rural Residential |
|---|---|
| LMR | Low to Medium Density Residential / Neighborhoods |
| HR/MU | High Density Residential / Mixed Use Activity Centers |
| EAC | Employment / Activity Center |
| I | Industrial |
| D | Downtown |

**Effectiveness Star Rating**

| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
|---|---|
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

# B.) Support Safer Vehicles

**Mesa would upgrade roads to support safer vehicle operations, such as wider lane markings, reflective borders on traffic signals and enhanced technology and communication systems. These improvements would support both conventional and advanced technologies to provide real-time warnings to drivers to increase awareness.**

Safer vehicles are an important part of the FHWA Safe System Approach, helping reduce crashes, injuries and deaths on our roads. Modern vehicles now come with features like automatic emergency braking, lane departure warnings and driver-assist systems that can prevent crashes or make them less severe. While federal agencies set safety standards for vehicles, cities can make their roads safer by maintaining clear pavement markings, signs, traffic signals and communication systems that support these technologies.

Mesa's climate offers a unique advantage. With little rain, no snow and no snow plows to damage pavement markings, the City can maintain high-quality road infrastructure. This is especially important as Maricopa County has become a testing ground for automated vehicles. Good pavement markings and signage help both human drivers and automated systems navigate roads safely.

The following actions outlines how Mesa plans to maintain and improve its road network to support advanced vehicle technologies and make travel safer for everyone.



*Photo courtesy of United States Department of Transportation Volpe Center*

# B.) Support Safer Vehicles

Mesa would upgrade roads to support safer vehicle operations, such as wider lane markings, reflective borders on traffic signals and enhanced technology and communication systems. These improvements would support both conventional and advanced technologies to provide real-time warnings to drivers to increase awareness.

*Table 6: Support Safer Vehicles- Strategies and Actions*

| ID | Action | Mesa Street Typology Application | | | Mesa's Top Collision Profiles (Direct ● or Indirect ◐ Impact) | | | | | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Local | Collector | Arterial | Failed to Yield violations on streets with 40+ MPH posted speed | Vehicle-only collisions involving drivers age 65+ | Collisions involving alcohol or drugs | Motorcycle and vehicle-only collisions involving left turns at signals without fully protected lefts | Other top collision profiles | | |
| B09 | Mesa would implement and expand enhanced traffic control measures to improve road safety. This includes updating signs, signals and road markings to improve visibility, consistency and overall safety, including:<br><br>• Upgrading longitudinal lines to be at least 6 inches in width for improved lane guidance.<br>• Upgrading traffic signal backplates with retroreflective borders to enhance signal face visibility.<br>• Upgrading left turn signals with FLASHING YELLOW ARROW signal indications for safer and more intuitive permissive turns.<br>• Installing chevron markings in the painted areas of wide gores or the triangular "islands" next to left- or right-turn lanes to help distinguish these areas from travel lanes.<br>• Developing a standard for LED refresh rates to ensure compatibility with automated vehicle sensors, preventing signal misinterpretation caused by flickering. | | OPR LMR HR/MU EAC I D | OPR LMR HR/MU EAC I D | ● | ● | ◐ | | ● | Continue & Enhance & New Work Effort | ★★★☆☆ |
| B10 | Mesa would work with technology providers and researchers to implement vehicle-to-infrastructure (V2I) systems, particularly at intersections and high-risk areas, to provide early warnings of traffic signal changes, pedestrian crossings and other road conditions. | | OPR LMR HR/MU EAC I D | OPR LMR HR/MU EAC I D | | ● | ● | ◐ | ● | Continue | Varies |

# C.) Separate Pedestrians & Bikes From Vehicles

**Mesa would increase efforts to separate pedestrians and bicyclists from vehicles by using physical barriers and signal timing.**

This strategy addresses pedestrian and bicyclist safety and comfort by reducing high-risk conflicts with vehicles and vulnerable road users to ensure that all users can travel safely and efficiently while and balancing driver access and mobility.

Pedestrians and bicyclists are overrepresented in severe crashes in Mesa, reinforcing the need for dedicated space and enhanced intersections. Nearly one-third (31%) of pedestrian crashes in Mesa result in fatality or severe injury. Pedestrians and bicyclists face a higher risk of severe injury or death in crashes due to their lack of physical protection. Unlike vehicle occupants, they are directly exposed to impact forces, often colliding with both a vehicle and the ground. The severity of injuries increases significantly with vehicle speed—at 40 mph, a pedestrian has an 80% chance of death. Mass and momentum differences further contribute to injury severity, as even low-speed crashes involve significant force when a vehicle strikes a person.

The following Mesa collision profiles highlight key risk areas:

- 6% of KSI crashes involve pedestrians at signals on roads with six or more lanes.

- 5% of KSI crashes involve bicycle angle crashes at intersections.

- 5% of KSI crashes involve pedestrian crashes between 6 p.m. and midnight in commercial areas.

Improving safety for vulnerable road users requires reducing vehicle speeds, increasing separation and enhancing visibility. Measures such as protected bike lanes, pedestrian refuge islands, Leading Pedestrian Intervals (LPIs) and improved lighting can reduce conflicts and crash severity.

While vehicle mobility remains important, providing safer walking and biking options enhances the overall transportation system by reducing crash risks, increasing accessibility and improving quality of life. By strategically repurposing roadway space where feasible—such as converting excess lane width into protected bike lanes—Mesa can create a safer, more balanced roadway system that enhances safety while still maintaining efficient vehicle operations.

These actions align with the FHWA Safe System Approach, which prioritizes built-in safety measures to prevent human errors from resulting in fatal or severe crashes. It also follows FHWA's Roadway Design Hierarchy, which places separated facilities as a Tier 1 strategy for pedestrian and bicyclist safety.

# C.) Separate Pedestrians & Bikes From Vehicles

**Mesa would increase efforts to separate pedestrians and bicyclists from vehicles by using physical barriers and signal timing.**

*Table 7: Separate Pedestrians & Bikes From Vehicles - Strategies and Actions*

| ID | Action | Mesa Street Typology Application | | | Mesa's Top Collision Profiles (Direct ● or Indirect ◒ Impact) | | | | | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Local | Collector | Arterial | Failed to Yield violations on streets with 40+ MPH posted speed | Vehicle-only collisions involving drivers age 65+ | Collisions involving alcohol or drugs | Motorcycle and vehicle-only collisions involving left turns at signals without fully protected lefts | Other top collision profiles | | |
| C03 | Mesa would continue to install buffered and separated bicycle lanes, including pavement markings, green paint and physical barriers, where there is right of way or pavement space to accommodate a buffer or separation. | HR/MU EAC D | HR/MU EAC D | HR/MU EAC D | ◒ | ◒ | | | ● | Continue & Expand | ★★★★☆ |
| C13 | Mesa would continue to install pedestrian signal enhancements at intersections, including Leading Pedestrian Intervals (LPIs), smart signal systems, Accessible Pedestrian Signals (APS) and new or improved bicycle detection. | | HR/MU EAC D | HR/MU EAC D | | | ◒ | | ● | Continue & Enhance | ★★☆☆☆ |

**Mesa Street Typology Legend**

| | |
|---|---|
| OPR | Open Space / Preserve / Rural Residential |
| LMR | Low to Medium Density Residential / Neighborhoods |
| HR/MU | High Density Residential / Mixed Use Activity Centers |
| EAC | Employment / Activity Center |
| I | Industrial |
| D | Downtown |

**Effectiveness Star Rating**

| | |
|---|---|
| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

# D.) Enhance Crossings

**Mesa would improve pedestrian and bicycle crossings. This includes making crosswalks safer, using additional signs, striping and street lighting and installing smart signals that can adjust for slower walkers.**

When physical separation is not feasible, managing conflicts in time through protected signal phases and increased frequency of signalized crossing opportunities can enhance pedestrian and bicyclist safety. The location, type and spacing of crosswalks play a critical role in ensuring a connected and comfortable pedestrian network. Wide roads, high speeds and long distances between signalized intersections make it challenging for pedestrians to find safe and convenient places to cross. In hot weather conditions, pedestrians may be less willing to take a longer, indirect route to a designated crosswalk, increasing the likelihood of midblock crossings. Similarly, bicyclists seeking the most direct path to their destination may cross at unmarked locations rather than traveling out of their way to reach a signalized intersection. These factors contribute to increased pedestrian and bicyclist exposure to vehicle traffic, particularly in high-activity areas where crossing demand is high.

Pedestrians and bicyclists are overrepresented in severe crashes in Mesa, reinforcing the need for improved crossing treatments. Many severe pedestrian and bicyclist crashes occur at midblock locations with limited visibility, where drivers may not expect to stop. Nighttime conditions, driver distraction and obstructed sightlines further increase crash risks.

**Key crash trends include:**

- 31% of KSI crashes involve Failed to Yield Violations on Streets with 40+ MPH Posted Speed, many of which involve vehicle-pedestrian collisions at crossings where drivers fail to stop in time.

- 5% of KSI crashes involve pedestrians struck between 6 p.m. and midnight in commercial areas.

- 4% of KSI crashes involve bike and pedestrian crashes with people 17 and under.

Mesa's wide roads and high-speed corridors prioritize vehicle flow but create challenges for pedestrian and bicyclist safety. Addressing these issues aligns with the FHWA Safe System Approach, which emphasizes built-in safety measures to reduce the likelihood and severity of crashes. It also follows FHWA's Roadway Design Hierarchy, where managing conflicts in time is identified as a Tier 3 strategy for improving pedestrian and bicyclist safety.

# D.) Enhance Crossings

**Mesa would improve pedestrian and bicycle crossings. This includes making crosswalks safer, using additional signs, striping and street lighting and installing smart signals that can adjust for slower walkers.**

*Table 8: Enhance Crossings - Strategies and Actions*

| ID | Action | Mesa Street Typology Application | | | Mesa's Top Collision Profiles (Direct ● or Indirect ◐ Impact) | | | | | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Local | Collector | Arterial | Failed to Yield violations on streets with 40+ MPH posted speed | Vehicle-only collisions involving drivers age 65+ | Collisions involving alcohol or drugs | Motorcycle and vehicle-only collisions involving left turns at signals without fully protected lefts | Other top collision profiles | | |
| D07 | Mesa would install enhanced mid-block crossings, including Pedestrian Hybrid Beacons (PHBs/HAWKs), pedestrian signals and Rectangular Rapid-Flashing Beacons (RRFBs), along with pedestrian refuge islands where feasible. | | LMR HR/MU EAC I D OPR | LMR HR/MU EAC I D OPR | ● | ◐ | ◐ | | ● | Continue & Enhance | ★★★★☆ |
| D12 | Mesa would enhance crosswalk visibility by installing advanced stop or yield lines, high-visibility crosswalk markings and improved lighting at intersections. | HR/MU EAC D | LMR HR/MU EAC D | LMR HR/MU EAC D | | ● | | | ● | Continue | ★★★★☆ |

## Mesa Street Typology Legend

| | |
|---|---|
| OPR | Open Space / Preserve / Rural Residential |
| LMR | Low to Medium Density Residential / Neighborhoods |
| HR/MU | High Density Residential / Mixed Use Activity Centers |
| EAC | Employment / Activity Center |
| I | Industrial |
| D | Downtown |

## Effectiveness Star Rating

| | |
|---|---|
| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

# E.) Design for Safer Speeds

**Mesa would create roads that naturally encourage safer driving speeds through features like raised pedestrian crossings, curb extensions and lane reconfigurations.**

Design features and speed management strategies that reduce vehicle speeds help lower crash severity by reducing the kinetic energy in a crash. The FHWA Safe System Roadway Design Hierarchy ranks reducing vehicle speeds as Tier 2, the second-highest priority for roadway safety improvements. Physical changes to the roadway are more effective than relying on drivers to make safe decisions. The City of Mesa sets and enforces speed limits under ARS 28-703 through engineering and traffic studies, helping protect all road users, especially motorcyclists, pedestrians and bicyclists.

Driver behavior and compliance with speed limits impact safety, and Mesa's crash data shows why managing speed is important. Many crashes involve excessive speed, failure to yield and vulnerable users like seniors and children. Roadway safety experts agree that controlling speed is a cost-effective method for both reducing the frequency of crashes and minimizing their severity when they occur. Lower speeds reduce impact forces, give drivers more time to react and create safer gaps for pedestrians and bicyclists.

The Safe System Approach emphasizes designing roads that support safer speeds based on context, including the surrounding environment, land use and road function. Physical design changes work best on local and collector roads and, in some cases, arterials where lower speeds are expected, such as in downtown areas, employment centers and high-density residential areas.

To achieve safer speeds, Mesa may use strategies like self-enforcing roadways, traffic calming measures and speed safety cameras. Self-enforcing roadways include Enclosure (trees or buildings that make roads feel narrower), Engagement (pavement markings, signals and speed feedback signs), and Deflection (lane narrowing, chicanes, rumble strips or raised elements) to slow drivers. These design elements help signal to drivers that lower speeds are necessary and improve safety for pedestrians, bicyclists and older drivers and passengers.

On high-speed arterials where physical changes are not feasible, enforcement at high-risk locations helps maintain speed compliance. Where lower speeds can't be achieved, space or time separation (Tier 3) through underpasses or traffic signals can reduce potential conflicts.

By managing speeds through design and enforcement, as outlined in the following actions, Mesa supports the Safe Roads, Safe Speeds and Safe Road Users principles of the Safe System Approach.

# E.) Design for Safer Speeds

**Mesa would create roads that naturally encourage safer driving speeds through features like raised pedestrian crossings, curb extensions and lane reconfigurations.**

*Table 9: Design for Safer Speeds - Strategies and Actions*

| ID | Action | Mesa Street Typology Application | | | Mesa's Top Collision Profiles (Direct ● or Indirect ◖ Impact) | | | | | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Local | Collector | Arterial | Failed to Yield violations on streets with 40+ MPH posted speed | Vehicle-only collisions involving drivers age 65+ | Collisions involving alcohol or drugs | Motorcycle and vehicle-only collisions involving left turns at signals without fully protected lefts | Other top collision profiles | | |
| E04 | Mesa would expand the amount of safety cameras, such as red light and speed cameras, installing them at high-risk locations. This includes funding staffing and operations. | | OPR LMR HR/MU EAC I D" | OPR LMR HR/MU EAC I D | ◖ | ● | ◖ | ◖ | ● | Continue & Expand | ★★★★☆ |
| E05 | Mesa would continue to adjust signal timing to promote consistent, lower speeds along key corridors and may implement zero tolerance safety corridors where crash data, funding or policy support justify stricter speed limit enforcement. | | OPR LMR HR/MU EAC I D | OPR LMR HR/MU EAC I D | ◖ | ● | | ◖ | ● | Continue & New Work Effort | ★★★☆☆ |
| E08 | Mesa would implement traffic calming measures, including raised pedestrian crossings, curb extensions, reduced turning radius and road reconfigurations. | LMR HR/MU EAC I D | OPR LMR HR/MU EAC I D | HR/MU EAC D | | ◖ | ◖ | | ● | Continue & Expand | ★★★☆☆ |

**Mesa Street Typology Legend**

| OPR | Open Space / Preserve / Rural Residential |
|---|---|
| LMR | Low to Medium Density Residential / Neighborhoods |
| HR/MU | High Density Residential / Mixed Use Activity Centers |
| EAC | Employment / Activity Center |
| I | Industrial |
| D | Downtown |

**Effectiveness Star Rating**

| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
|---|---|
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

# Infrastructure Prioritization

To assist the City in making informed decisions about the most impactful safety actions, an analysis was conducted to identify actions that would best reduce severe crashes and save lives in Mesa. The intent of this process was to ensure that the prioritized actions are specifically responding to Mesa's unique collision profiles. While each action is also supported by research-backed crash reduction factors, the prioritization process emphasizes those that directly address the crash types causing the most harm in Mesa.

Two key metrics were used to evaluate the effectiveness of each action:

**1. Where the action falls on the Safe System Roadway Design Hierarchy**

**2. The action's impact on addressing the collision profiles.**

The Safe System Roadway Design Hierarchy is based on the widely recognized hierarchy of controls, a risk management approach that helps prioritize safety actions. The first priority is to eliminate risks entirely when possible. If that's not feasible, the next step is to substitute the risk with something less harmful, like lowering speeds. After that, the focus shifts to reducing people's exposure to the remaining risks, and finally, raising awareness about those risks. This hierarchy ensures that the most effective safety improvements are made to reduce risk.

Through the applied prioritization process, actions that rank higher on the Safe System hierarchy—those that eliminate or reduce risks—and directly address Mesa's top collision profiles are given the highest priority. In contrast, actions that focus on less direct methods, such as reducing exposure to risk or raising awareness, and that either indirectly impact top collision profiles or address less prominent collision profiles, are ranked lower. This approach ensures that the prioritized actions are not only effective at reducing the risk of severe crashes but are also specifically aligned with Mesa's unique safety challenges.
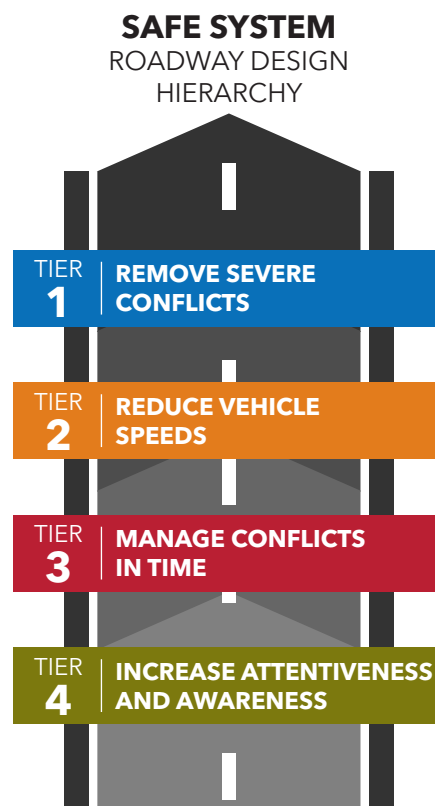


**SAFE SYSTEM**
ROADWAY DESIGN
HIERARCHY

TIER **1** | **REMOVE SEVERE CONFLICTS**

TIER **2** | **REDUCE VEHICLE SPEEDS**

TIER **3** | **MANAGE CONFLICTS IN TIME**

TIER **4** | **INCREASE ATTENTIVENESS AND AWARENESS**

*Figure 25: Safe System Roadway Design Hierarchy*

**Here's how the prioritization score was calculated, combining the Safe System Roadway Design Hierarchy with collision profile data to determine the most impactful safety actions.**

**Safe System Roadway Design Hierarchy Score**

Actions were assigned scores based on their tier in the Safe System Roadway Design Hierarchy:

- Tier 1 (highest priority) received a score of 1
- Tier 2 received 0.5
- Tier 3 received 0.33
- Tier 4 received 0.25

**Adjusted Collision Profile Score:**

Each infrastructure action was evaluated for its impact on collision profiles. Refer to the "Collision Profiles" section in Chapter 2 for additional details. Actions that directly address the causes of crashes for a given collision profile were given a weight of 1, while those that indirectly improve safety but don't target specific causes for a given collision profile received a weight of 0.5. These weights were then multiplied by the percentage of severe crashes for each profile, with the resulting values summed and scaled to a maximum of 1.

Finally, the two metrics were combined to generate an aggregate prioritization score, as shown in **Table 10.**

| Prioritization Rank | ID | Actions | Strategy | Aggregated Prioritization Score (1/Tier + CPS) | FWHA Safe System Roadway Design Hierarchy Tier | Collision Profile Score |
|---|---|---|---|---|---|---|
| 1 | A01 | Mesa would expand the installation of raised medians to reduce conflict points on arterial roads. | RRM | 1.94 | 1 | 94.22 |
| 2 | A02 | Mesa would explore the installation of roundabouts at suitable intersections to slow down traffic and reduce the frequency and severity of crashes. | RRM | 1.83 | 1 | 83.22 |
| 3 | C03 | Mesa would continue to install buffered and separated bicycle lanes, including pavement markings, green paint, and physical barriers, where there is right of way or pavement space to accommodate a buffer or separation. | SPBFV | 1.51 | 1 | 50.66 |
| 4 | E04 | Mesa would expand the amount of safety cameras, such as red light and speed cameras, installing them at high-risk locations. This includes funding staffing and operations. | DSS | 1.38 | 2 | 88.35 |
| 5 | E05 | Mesa would continue to adjust signal timing to promote consistent, lower speeds along key corridors and may implement zero tolerance safety corridors where crash data, funding, or policy support justify stricter speed limit enforcement. | DSS | 1.36 | 2 | 85.69 |
| 6 | A06 | Mesa would expand the implementation of protected left-turn signals at high-risk intersections to reduce left-turn collisions, particularly those involving motorcycles, pedestrians and bicyclists. | RRM | 1.33 | 3 | 100.00 |
| 7 | D07 | Mesa would install enhanced mid-block crossings, including Pedestrian Hybrid Beacons (PHBs/HAWKs), pedestrian signals, and Rectangular Rapid-Flashing Beacons (RRFBs), along with pedestrian refuge islands where feasible. | EC | 1.23 | 3 | 89.43 |
| 8 | E08 | Mesa would implement traffic calming measures, including raised pedestrian crossings, curb extensions, reduced turning radius and road reconfigurations. | DSS | 1.17 | 2 | 67.06 |

*Reduce Risky Movements (RRM), Safer Vehicles (SV), Separate Pedestrians and Bikes from Vehicles (SPBFV), Enhance Crossings (EC), Design for Safer Speeds (DSS)*

*Table 10: Aggregate Prioritization Score - Infrastructure Strategies (Continued on Next Page)*

| Prioritization Rank | ID | Actions | Strategy | Aggregated Prioritization Score (1/Tier + CPS) | FWHA Safe System Roadway Design Hierarchy Tier | Collision Profile Score |
|---|---|---|---|---|---|---|
| 9 | B09 | Mesa would implement and expand enhanced traffic control measures to improve road safety. This includes updating signs, signals and road markings to improve visibility, consistency, and overall safety. | SV | 1.12 | 4 | 87.46 |
| 10 | B10 | Mesa would work with technology providers and researchers to implement vehicle-to-infrastructure (V2I) systems, particularly at intersections and high-risk areas, to provide early warnings of traffic signal changes, pedestrian crossings and other road conditions. | SV | 1.07 | 3 | 73.72 |
| 11 | A11 | Mesa would replace round green signal faces with straight-thru arrows on traffic signals at freeway interchange locations to help prevent wrong way driving. | RRM | 0.84 | 4 | 59.04 |
| 12 | D12 | Mesa would enhance crosswalk visibility by installing advanced stop or yield lines, high-visibility crosswalk markings and improved lighting at intersections. | EC | 0.78 | 4 | 52.66 |
| 13 | C13 | Mesa would continue to install pedestrian signal enhancements at intersections, including Leading Pedestrian Intervals (LPIs), smart signal systems, Accessible Pedestrian Signals (APS) and new or improved bicycle detection. | SPBFV | 0.66 | 3 | 32.90 |

*Reduce Risky Movements (RRM), Safer Vehicles (SV), Separate Pedestrians and Bikes from Vehicles (SPBFV), Enhance Crossings (EC), Design for Safer Speeds (DSS)*

*Table 10: Aggregate Prioritization Score -Infrastructure Strategies (Continued)*

# How to Read This Section

This section contains the comprehensive list of **Non-Infrastructure Strategies** that Mesa would utilize to achieve a 30% reduction in KSI crashes by 2030. A strategy is an effort that aligns with the core elements of the Safe System approach and is composed of specific actions.

- **Non-Infrastructure Strategy Name**

  F.) Increase Road Safety Awareness

  G.) Prevent Driving Under the Influence (DUI)

  H.) Optimize Data Analytics

- **Action ID and Description:** Each strategy contains measurable actions that contribute to the overarching strategy. The first letter of the ID (F-G) corresponds to the Strategy, the following number identifies the action.

- **Department(s) to Implement:** Which department in the City will be responsible?

- **Status of Action:** Specifies the status of the action. The four categories include: *New* - if the action is a new work effort to initiate; *Continue* - the work effort is already in progress and will continue; *Enhance* - the work effort is in place and needs to be further improved; *Expand* - the work effort is in place and needs to increase.

  **Effectiveness Star Rating:** On a scale of 1 Star (less effective) to 5 Stars (most effective) - how effective is this action based on established and proven safety countermeasures.

Non- Infrastructure Strategy Name

Department(s) to Implement          Status of Action



Effectiveness Star Rating

Action ID and Description

*Figure 26: Example of Non-Infrastructure Strategy Table*

# F.) Increase Road Safety Awareness

**Mesa would increase awareness through education campaigns for community members under 25 and over 65, and motorcyclists.**

Educational programs, behavior changes and demonstration projects can be used to incorporate the Safe System Approach into the City of Mesa's future efforts and improve road user safety. These actions encourage a change in behavior to support a reduction in KSI collisions and educate the public on the current issues of collisions and existing laws/rules of the road.

Mesa would focus on raising awareness through education campaigns for community members under 25, over 65 and motorcyclists because these groups are overrepresented in crashes resulting in fatalities or serious injuries (KSI). A targeted education approach is necessary to address the specific risks associated with these populations and encourage safer behaviors.

For older road users (65+) who are involved in 23% of KSI crashes, education campaigns can focus on safe driving strategies, recognizing physical limitations and understanding roadway design changes that impact driving ability. Older adults are more vulnerable in crashes due to age-related declines in reaction time, vision and cognitive processing, which can make it more difficult to respond quickly to sudden traffic changes. Additionally, they are more physically fragile, meaning that even low-speed crashes can result in severe injuries or fatalities. Education efforts can also highlight alternative transportation options and pedestrian safety strategies to help older residents remain mobile while reducing their crash risk.

For motorcyclists, who are involved in 19% of KSI crashes at left turns at signals without full protection, 6% of KSI crashes at unsignalized intersections and 5% of single-vehicle KSI crashes, education is critical in addressing visibility, road-sharing awareness and defensive riding techniques. Mesa's motorcycle safety campaigns and rider training programs would reinforce the importance of protective gear, proper lane positioning and hazard anticipation, while also educating drivers on giving motorcyclists adequate space and yielding appropriately at intersections.

For young road users, early education fosters lifelong safe habits. Mesa's proposed Community Safety Ambassador program would empower peers to promote responsible driving, bicycling, and walking behaviors. For example, safety ambassadors could share critical messages with young drivers, such as how speeding doesn't save much time—on a 10-mile trip with no traffic or signals, driving 40 mph instead of the posted 30 mph limit only saves five minutes. Similarly, driving 55 mph in a 45 mph zone saves just three minutes over the same distance. Are those few minutes worth risking lives? Additionally, exploring youth helmet laws for bicycles and other mobility devices would help instill protective habits from an early age.

By implementing a mix of education, outreach and enforcement, Mesa would strengthen safety messaging to effectively reach vulnerable road users, promoting behavior change that leads to safer streets for all.

# F.) Increase Road Safety Awareness

**Mesa would increase awareness through education campaigns for community members under 25 and over 65, and motorcyclists.**

**Effectiveness Star Rating**

| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
|---|---|
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

Table 11: Increase Road Safety Awareness - Strategies and Actions

| ID | Action | Department to Implement | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|
| F01 | Mesa would establish a Community Safety Ambassador program. Volunteers would assist in educating peers about safe driving practices, as well as being responsible pedestrians, transit users, and bicyclists. | Transportation Dept. - Lead<br>Community Services & Police Depts. – Support | New | ★☆☆☆☆ |
| F02 | Mesa would explore creation of youth bicycle helmet laws for bicycles and other power-driven mobility devices. | Police Dept. – Lead<br>Transportation Dept. - Support | New | ★☆☆☆☆ to ★★☆☆☆ |
| F03 | Mesa would create education campaigns to increase awareness of motorcycle safety, focusing on visibility, road-sharing laws, and the need for caution around motorcycles. | Transportation Dept. - Lead<br>Community Services & Police Depts. – Support | New | ★☆☆☆☆ to ★★★☆☆ |
| F04 | Mesa would develop a comprehensive safety checklist and toolkit for use in City capital improvement projects. | Transportation Dept. - Lead | New | ★☆☆☆☆ to ★★★★★ |
| F05 | Mesa would create and promote an education campaign to encourage personal responsibility in nighttime pedestrian safety, promoting practices such as wearing reflective gear, carrying flashlights, and increasing visibility. | Transportation Dept. - Lead | New | ★☆☆☆☆ |
| F06 | Mesa would continue and enhance the Road Safety Task Force to be responsible for the CSAP annual report; coordination on implementing non-infrastructure actions (education, enforcement, outreach) that are cross-departmental; engage City of Mesa boards, council, and executive teams; and engage with the public. | Transportation Dept. - Lead<br>Community Services & Police Depts. – Support | Continue & Enhance | ★☆☆☆☆ |
| F07 | Mesa would promote helmet use and safe riding practices for bicyclists and motorcyclists through ongoing engagement campaigns while reinforcing safety through the continued enforcement of existing laws, including youth motorcycle helmet requirements. | Transportation Dept. - Lead<br>Police Dept. – Support | Continue | ★☆☆☆☆ to ★★★☆☆ |
| F08 | Mesa would continue to administer motorcycle rider training programs that cover safe riding practices, defensive driving, and the proper use of protective gear. | Police Dept. – Lead | Continue | ★☆☆☆☆ to ★★★☆☆ |
| F09 | Mesa would continue and expand education campaigns targeting motorists, bicyclists and pedestrians to promote safety awareness and encourage behavior change. These campaigns would focus on the leading collision profiles, addressing systemic risk factors contributing to severe and fatal crashes. | Transportation Dept. - Lead<br>Community Services & Police Depts. – Support | Continue & Expand | ★☆☆☆☆ |
| F10 | Mesa would continue and expand education and enforcement campaigns focused on the dangers of speeding and the benefits of adhering to safer speeds. | Transportation Dept. - Lead<br>Community Services & Police Depts. – Support | Continue & Expand | ★☆☆☆☆ to ★★☆☆☆ |

# G.) Prevent Driving Under the Influence

**Mesa would strengthen their enforcement and education programs to prevent driving under the influence of alcohol, drugs and prescription medications.**

21% of crashes resulting in fatalities or serious injuries (KSI) involve alcohol or drugs. Through this strategy, Mesa would continue and enhance its education and enforcement programs to prevent driving under the influence (DUI). While engineering strategies such as road design improvements, traffic calming and protected infrastructure play an important role in improving overall traffic safety, they alone cannot prevent impaired driving. Unlike speeding or intersection crashes, which can be mitigated through design interventions, DUI-related crashes are primarily a behavioral issue that requires direct intervention through education and enforcement.

Providing safe and convenient alternatives to driving under the influence equips individuals with options to make responsible choices, particularly during high-risk periods like weekends and holidays.

Education raises awareness of the consequences of impaired driving, while enforcement ensures accountability by reinforcing laws and increasing the perceived risk of getting caught. Together, these strategies influence driver behavior, deter dangerous decisions before they happen and ultimately save lives.

By prioritizing education and enforcement alongside engineering solutions, Mesa takes a comprehensive approach to road safety that not only improves the built environment but also changes behavior, reduces risk and prevents impaired driving crashes at their source.

# G.) Prevent Driving Under the Influence (DUI)

**Mesa would strengthen their enforcement and education programs to prevent driving under the influence of alcohol, drugs and prescription medications.**

*Table 12: Prevent Driving Under the Influence (DUI) - Strategies and Actions*

| ID | Action | Department to Implement | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|
| **G01** | Mesa would collaborate with partners, including local businesses and Valley Metro, to promote designated driver programs and provide "Ride Home" options, such as discounted rideshare services and transit alternatives. | Police Department | New | ★★★★☆ |
| **G02** | Mesa would develop and promote education and enforcement campaigns targeting DUI prevention, including the dangers of driving under the influence of alcohol, drugs and prescription medications. | Police Department | Continue | ★☆☆☆☆ to ★★☆☆☆ |

## Effectiveness Star Rating

| | |
|---|---|
| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

# H.) Optimize Data Analytics

**Mesa would continue to publish an annual crash report with more data to better understand crash types and how to prevent them.**

Publishing a biennial crash report following the development of the CSAP is essential for Mesa to track progress, refine strategies and ensure accountability in achieving safety goals. A data-driven approach allows for a deeper understanding of crash trends, identifying patterns related to high-risk locations, vulnerable road users and contributing factors such as speed, impairment or roadway design. By continuously analyzing new crash data, Mesa can adapt safety countermeasures, prioritize resources effectively and measure the impact of previously implemented countermeasures.

This approach aligns with the FHWA Safe System framework, which emphasizes a proactive, data-informed strategy to eliminate serious injuries and fatalities. FHWA encourages agencies to use crash data to assess risk systematically, implement evidence-based solutions and shift from reactive measures to preventative strategies. Annual reporting fosters transparency and community engagement by demonstrating the City's commitment to safety improvements and reinforcing the importance of ongoing investment in road safety strategies. Furthermore, it supports future grant applications by showcasing Mesa's dedication to data-driven decision-making, which is a key criterion for SS4A and other federal funding opportunities.

# H.) Optimize Data Analytics

**Mesa would continue to publish an annual crash report with more data to better understand crash types and how to prevent them.**

*Table 13: Optimize Data Analytics - Strategies and Actions*

| ID | Action | Department to Implement | Status of Action | Effectiveness Star Rating |
|---|---|---|---|---|
| **H01** | Mesa would explore comprehensive injury prevention program by integrating diverse datasets, such as traffic crash reports, safety performance functions, hospital records and public health databases. | Transportation Dept. - Lead<br>Police Dept. – Support | Continue & Expand | ★☆☆☆☆ |
| **H02** | Mesa would continue to review the crash history of locations before implementing new work orders. This would help identify potential safety improvements that can be integrated into the project. | Transportation Dept. - Lead | Continue | ★☆☆☆☆ to ★★★★★ |
| **H03** | Mesa would develop a biennial public-facing CSAP report that includes crash analysis, performance metrics, implementation progress, intervention outcomes and public feedback. An updated High Injury and High Risk Network evaluation would be conducted and maps would also be published as part of each report. | Transportation Dept. - Lead | New | ★☆☆☆☆ |

### Effectiveness Star Rating

| | |
|---|---|
| ★☆☆☆☆ | 1 star from NHTSA or CMF Clearinghouse or 10% reduction from FHWA resource |
| ★★☆☆☆ | 2 stars from NHTSA or CMFC or 20 - 30% reduction from FHWA resource |
| ★★★☆☆ | 3 stars from NHTSA or CMFC or 30 - 40% reduction from FHWA resource |
| ★★★★☆ | 4 stars from NHTSA or CMFC or 40 - 50% reduction from FHWA resource |
| ★★★★★ | 5 stars from NHTSA or CMFC or 50% or more reduction from FHWA resource |

# IV. Implementation

City of Mesa
ROAD
SAFETY

# A Path Forward

Mesa's Comprehensive Safety Action Plan distinguishes itself through its broad range of actions, focused beyond engineering solutions, clear vision and robust tracking and monitoring components. Progress should be assessed through regular reviews of implementation outcomes, adjustments to measures and action items as needed, consistent biennial reporting and proactive strategic plan funding. While the analysis considers data through 2022, available data for 2023 is represented by a small yellow dot in Figure 27 and shows that KSI crashes were slightly down from 2022. At the time of this report, data is not yet available for 2024.
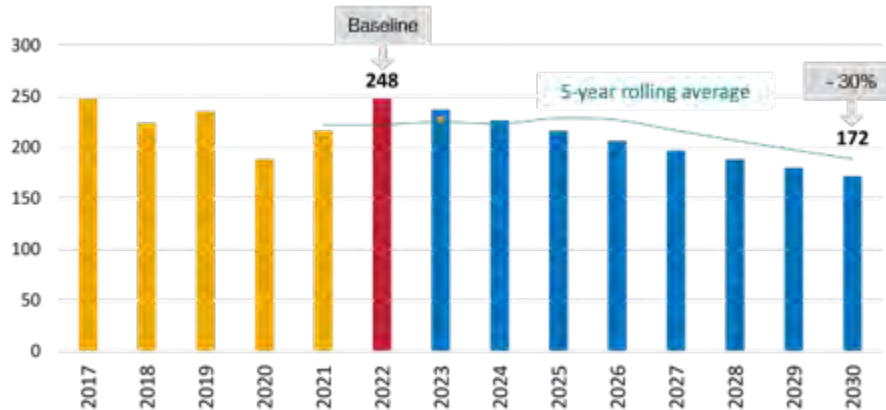


*Figure 27: Desired KSI Crash Reduction by 2030*

As shown in **Figure 27, Mesa's goal is to reduce annual fatalities and serious injuries by 30% by 2030, representing a reduction of approximately 76 incidents. Achieving this ambitious target requires a balanced approach integrating infrastructure improvements, behavior change campaigns and vehicle and user safety enhancements.** Using crash reduction factors (CRFs) from national and local research, Mesa has identified 16 Tier 1 priority corridor and intersection improvement projects that are projected to prevent approximately 17 fatalities and serious injuries at a present day cost of $76.5M. In addition to the 16 priority projects, systemic improvements to left-turn phasing were identified. Beyond the priority locations, an additional eight intersections were recommended for left-turn lane improvements, with these measures anticipated to prevent approximately six KSI crashes.

Assuming resources are allocated to implement these Tier 1 projects, the remaining reduction of 53 fatalities and serious injuries must be achieved through initiatives that influence road safety through safer speeds, safer vehicles, safer people and post-crash care.

Expanding systemic applications of recommended actions, such as raised medians, protected left turns and automated enforcement could significantly enhance progress toward safety goals. For example, automated enforcement for red-light running and speeding was recommended for approximately the top 25% of signalized intersections included in the priority projects. However, applying automated enforcement at all priority locations with a history of relevant KSI crashes has the potential to prevent an additional 19 KSI crashes.

# Performance Review Cycle

The performance review cycle ties the different pieces of the implementation plan together in a systematic, transparent, and adaptable process that has distinct deliverables. This plan was developed specifically to be data and community driven, while responsive to results and trends that will most likely change over time. With this foundation, the performance review cycle, as shown in Figure 28, was developed to have distinct but connected pieces that are carried out in four phases: *Implement, Track, Analyze and Modify*.
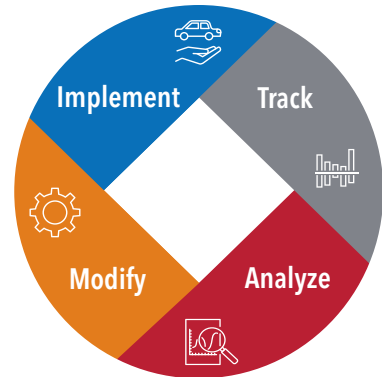


*Figure 28: Performance Review Cycle*

Part of this cycle is the developing and delivering the biennial CSAP status report focused on tracking, analyzing and measuring the affects of actions identified in this plan. A biennial report is proposed due to the nature of crash data collection, project delivery and post-project analysis. Supporting this effort will be updating the HRN every two years, based on the most current data set available.

The Road Safety Task Force will utilize existing and new tools to collect, track and analyze data to understand the status of performance metrics. Information will be shared through the Road Safety Task Force and Transportation Advisory Board to determine if modifications to the Plan and/or performance measures should occur.

# Implementing Infrastructure Actions through Projects

To facilitate the implementation of the infrastructure actions, a select group of locations from the HRN were identified to assess existing conditions and crash history and determine which actions (safety countermeasures) are the best solutions to actionize.

Implementing these strategies and actions is a central focus of the plan, ensuring that safety goals are effectively transformed into actionable projects. This process not only provides the City with a clear roadmap for prioritizing safety improvements but also aids in implementation and programming while supporting the identification of eligibility for various funding sources.

## HRN Projects

The HRN segments (refer back to the High Risk Network section in Chapter 2 for additional details) and predictive safety intersections identified as Safety Level 4 (intersections that have a Level of Service of Safety (LOSS) IV) were consolidated into 'super segments' by grouping overlapping or intersecting segments and intersections into cohesive areas. In total, there were 44 super segments and two additional LOSS IV intersections were identified as projects, noted as A-AT in **Figure 29**. These projects were prioritized based on their HRN score, the frequency of severe crashes per mile, the incidence of bicycle, pedestrian and motorcycle crashes per mile, and their impact on disadvantaged communities.

The prioritization process resulted in a phased plan to address transportation safety needs. This plan identified 16 Tier 1 projects covering a total of 16.83 miles, 11 Tier 2 projects spanning 11.46 miles and 19 Tier 3 projects encompassing 9.4 miles.

The 16 Tier 1 projects were advanced through the development of detailed project sheets - an example of which is shown in **Figure 30**. Each sheet outlines the existing conditions and crash history of the project area, incorporating safety actions and improvements recommended through review by a road safety professional. These recommendations are illustrated in a concept plan for each project and a preliminary cost estimate is provided.

Additionally, the three most impactful safety improvements for each project were evaluated to estimate their potential reduction in severe crashes, based on crash modification factors—statistical values that quantify the effectiveness of safety measures.

If implemented, the 16 identified Tier 1 projects would be expected to contribute to a reduction of 17.2 KSI crashes in Mesa. A full list of the HRN is provided in **Appendix I** and the project sheets can be found in **Appendix J**.
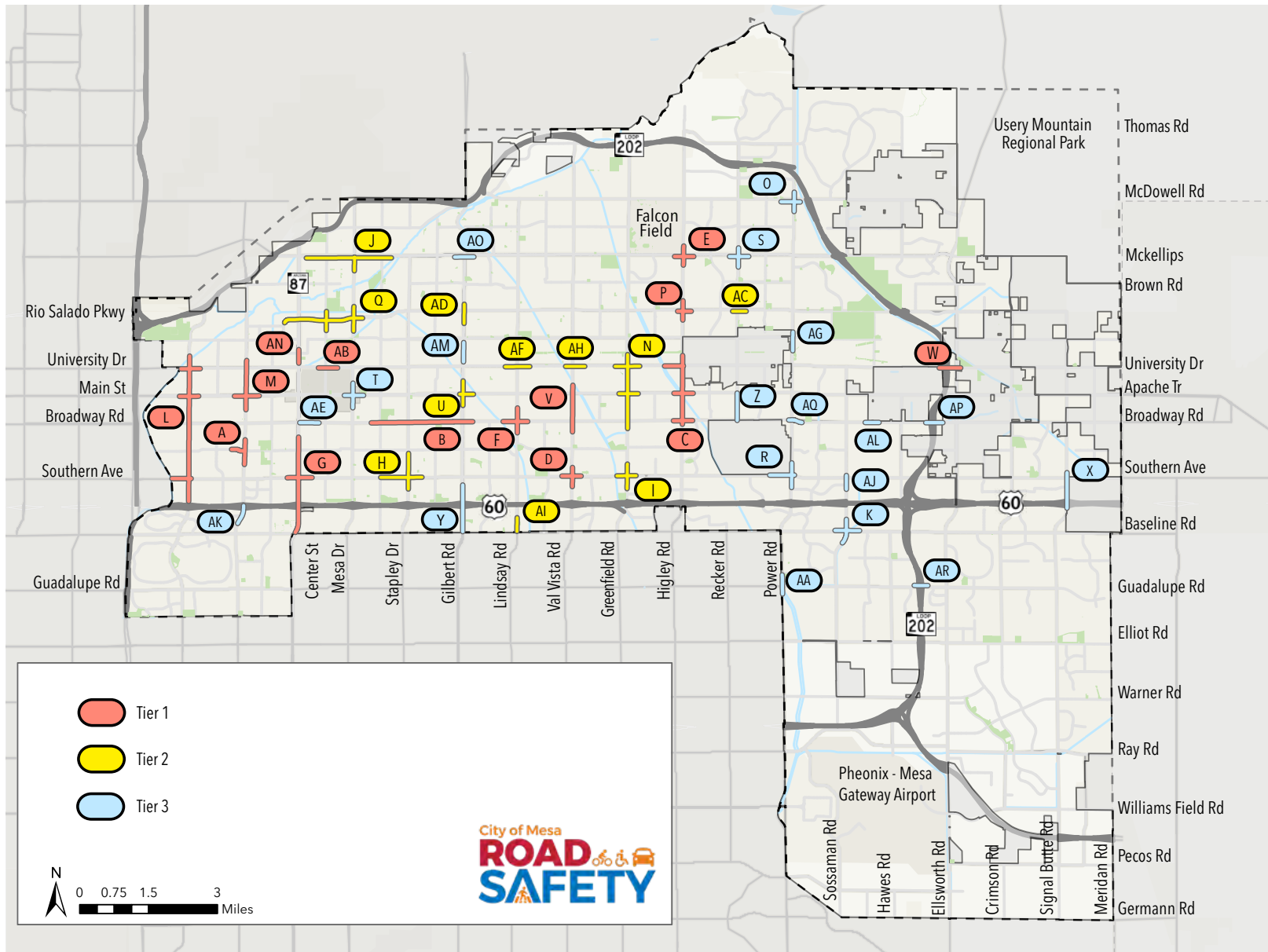
*Figure 29: HRN Projects*

# PROJECT A
## TIER 1

**Alma School Road** (6th Avenue to Emerald Avenue) including **Pueblo Avenue** (Alma School Road to Standage)

Alma School Road (0.47 miles) has three lanes in each direction, a two-way left-turn lane in the center of the roadway, and painted bike lanes. Pueblo Avenue (0.23 miles) is unstriped, with sufficent width for one lane in each direction and additional pavement. Alma School Road has fronting residential and commercial properties and is supported by transit service. Pueblo Avenue has fronting houses. Within the project limits, there are two signalized intersections and two all-way stops.
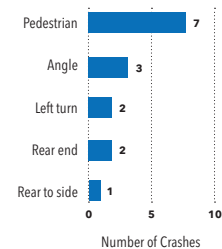
## SEVERE CRASH SUMMARY
Crashes by Year and Injury Severity



- SERIOUS INJURY CRASH
- FATAL CRASH
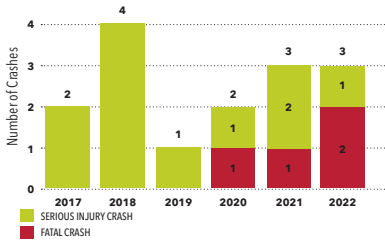
Crashes by Collision Manner



| PERIOD CRASH TOTAL | PED/BIKE CRASHES |
|---|---|
| **15** | **7** |
| FATAL CRASHES | SERIOUS INJURY CRASHES |
| **4** | **11** |

*Travel Shed: 8, 1*
*Council District: 3*

**METRICS**

| SEVERE CRASHES PER MILE: | PED & BIKE CRASHES PER MILE: | MOTORCYCLE CRASHES PER MILE: | HIGH RISK NETWORK COLLISION SCORE: |
|---|---|---|---|
| **21.43** | MEDIUM | MEDIUM | MEDIUM |

DISADVANTAGED POPULATION: **59%**    CORRIDOR LENGTH THAT TOUCHES DISADVANTAGE: **66%**

## JUSTIFICATION

This project was selected for short term improvements because it has a HRN score above 9,000. Within the project limits, over the last 6 years evaluated there have been 4 fatal crashes, 11 serious injury crashes, 10 pedestrian crashes, 7 bicycle crashes and 3 motorcycle crashes.

## RAISED MEDIANS
Existing Medians: 0 LF
TMP Proposed Medians: 0 LF
CSAP Proposed Medians: 2,490 LF

## APPLIED STRATEGIES

**Reduce Risky Movements** ① ② ⑥

Support Safer Vehicles

**Separate Peds and Bikes from Vehicles** ⑬

**Enhance Crossings** ⑦ ⑫

**Design for Safer Speeds** ⑤ ⑧

## ROW WIDTH
Alma School Road: 80' - 120'
Pueblo Avenue: 80'

## SPEED LIMIT
Alma School Road: 40 mph
Pueblo Avenue: 25 mph

## ESTIMATED CRASH REDUCTION
The estimated crash reduction for the top three applied strategies are:

**60.8%, 1.52 KSI Crashes/Yr**

① 55%, 0.55 KSI Crashes/Yr
⑦ 43%, 0.14 KSI Crashes/Yr
⑥ 99%, 0.83 KSI Crashes/Yr
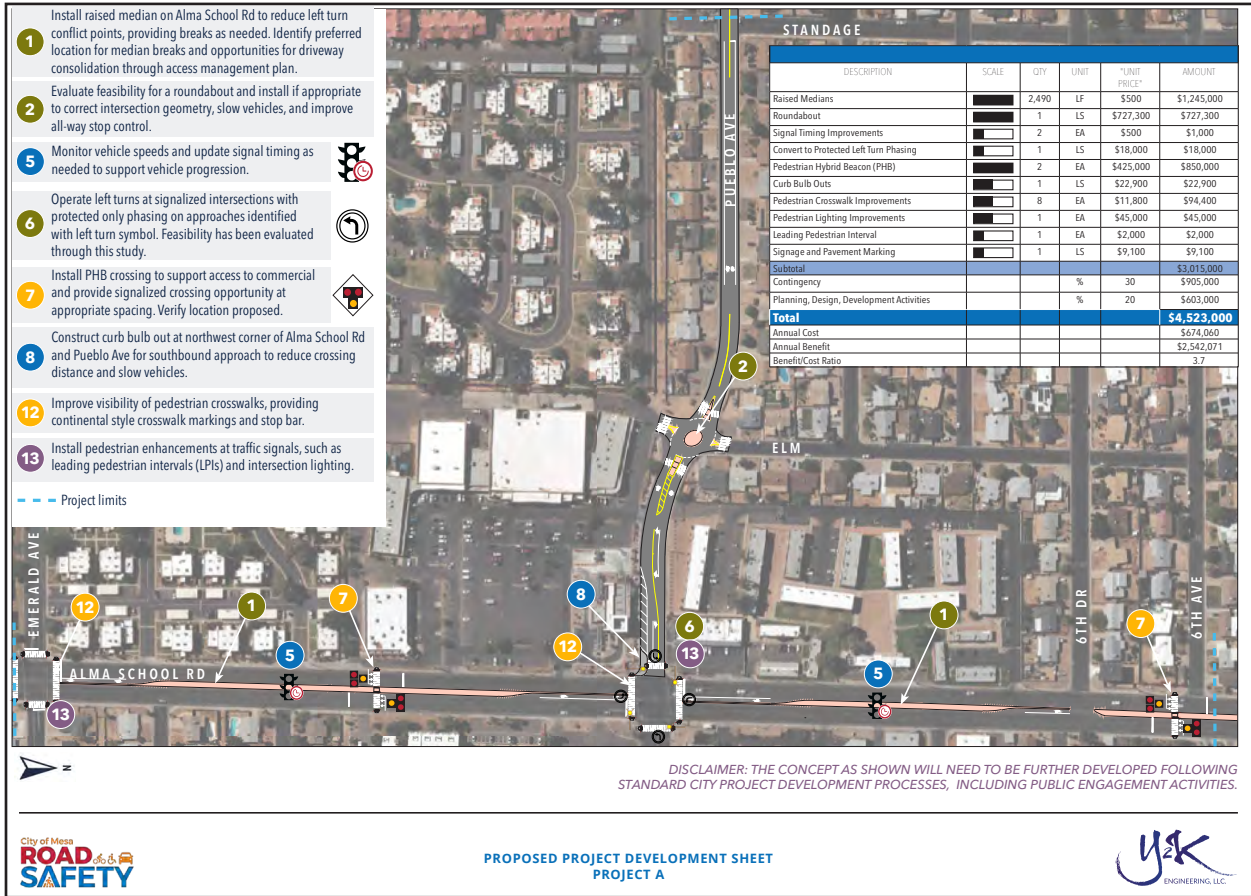
*Figure 30a: Example Project Sheet*

Figure 30b:  Example Project Sheet

# Investing in Safety: Tier 1 Projects

The benefit-cost ratio for each project was evaluated to determine the financial viability of the proposed safety improvements. The total estimated cost for all 16 projects is $76,565,000. Using crash modification factors for the three most impactful safety enhancements per project, The improvements are expected to address 4.83 fatal crashes and 25.83 serious injury crashes annually, achieving an overall average reduction of 56% and reducing a total of 17.2 KSI crashes. These reductions equate to an annual cost savings of $24,156,525.

*The benefit-cost ratio for the proposed improvements, calculated using Highway Safety Improvement Program (HSIP) methodology over a 10-year lifespan, is 3.16.*

The complete crash modification factor analysis for each Tier 1 project is shown in **Appendix K.**

# Left Turn Evaluation

Beyond the HRN projects proposed in this plan, the team evaluated left-turn phasing at select intersections to expand the City's safety improvement options. Using NCHRP 812 Signal Timing Manual guidelines and Safe System Approach principles, the analysis assessed how left-turn phasing changes could reduce crash risks. Crash data from 2020–2022 identified intersections with the highest left-turn crash frequencies. Intersections with existing protected-only phasing were excluded, while those with flashing yellow arrow (FYA), permitted or protected/permitted phasing were reviewed. This analysis led to the selection of 28 intersections.

The evaluation incorporated crash data, traffic volumes, intersection geometry and signal timing plans. Crash characteristics—severity, time of day, lighting conditions and vulnerable road user involvement—were factored into recommendations for protected-only phasing.

Findings showed left-turn crashes disproportionately involved older drivers and vulnerable road users, primarily during daylight and peak hours. 13 intersections were recommended for conversion to protected-only phasing to reduce vehicle-vehicle and vehicle-pedestrian conflicts. Of these, five were already included as Tier 1 priority locations, while eight were recommended for standalone improvements (**Figure 32).**
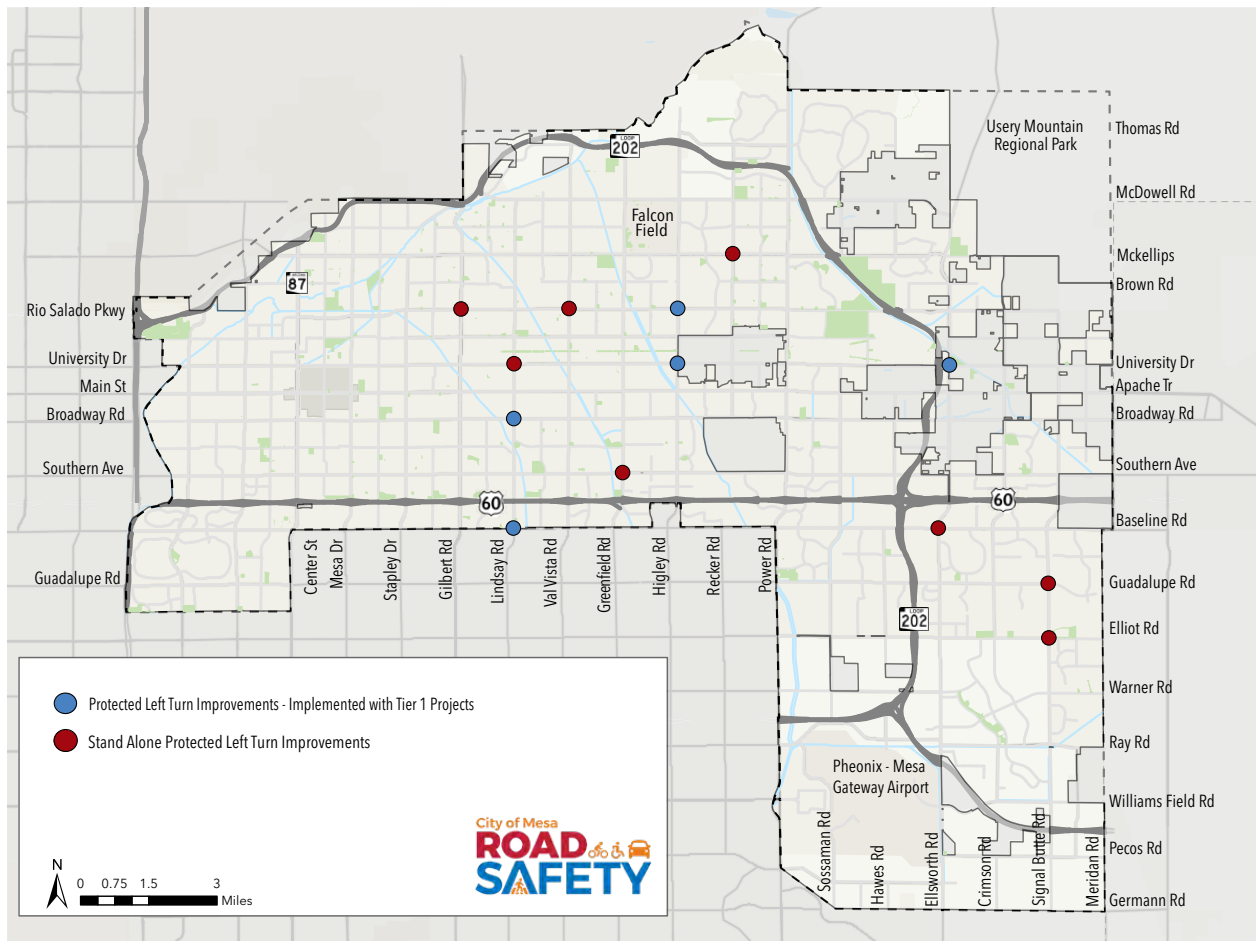


*Figure 32: Left-Turn Evaluation Results*

## Investing in Safety: Protected Left Turns

The eight standalone locations not included in the HRN Tier 1 project sheets are estimated to cost $3,146,000. This estimate assumes the reconstruction of 19 corners at signalized intersections will be neccessary to support this improvement. These corners were identified based on an assessment of the existing conditions and intersection geometry. Utilizing the crash modification factor for protected left turns of 99%, the proposed improvements are projected to reduce one fatal crash and 5.33 serious injury crashes. These reductions correspond to an annual cost benefit of $12,326,852.

*The benefit-cost ratio for the proposed improvements, calculated using HSIP methodology over a 10-year lifespan, is 26.2.*

The evaluation results suggest upgrading 13 of the 28 evaluated intersections to protected-only left-turn phasing, increasing the citywide percentage of protected signals from 12.2% to 14.8%. This modest increase would yield significant safety benefits while minimally affecting traffic delays. The Left Turn Evaluation Memorandum can be found in **Appendix L**.

# Implementing Non- Infrastructure Actions

To support meeting the Safer Road Users element of the Safe Systems approach, fifteen actions related to education, encouragement, policy updates, enforcement, data evaluation and enhancement of internal Mesa process have been identified.

Of these fifteen actions, the Plan recommends to:

| *Continue* **4 Work Efforts** | *Continue & Enhance* **1 Work Effort** | *Continue & Expand* **3 Work Efforts** | *Launch* **7 New Work Efforts** |

Different than the infrastructure actions, the success of the non-infrastructure activities relies on the ongoing collaboration and commitment of the coordination between the City's Transportation, Community Services and Police Departments.

The non-infrastructure actions were analyzed for their effectiveness in addressing KSI crashes and the majority have an effectiveness rating between 1 and 3 stars, with three actions having a possible impact of 4 to 5 stars. **Knowing the majority of recommended non-infrastructure actions have a similar impact on reducing crashes, the actions are not prioritized for implementation, but instead, they are recommended for immediate implementation as the Plan moves forward.** These actions are just as important as the infrastructure ones, as they support one of the five elements—Safer Road Users—of the Safe Systems approach.

Resources may become a factor in implementation, which will be identified through the performance review cycle via the tracking process identified in the next section.

# Funding the Plan

The infrastructure projects identified in this plan are estimated to cost **$75.4M** which is estimated to reduce crashes 6.9% by 2030. However, while these projects represent a critical step forward, additional resources will be essential to fully implement the remaining safety strategies and actions. These additional efforts are necessary to address systemic issues and support a proactive approach to road safety, which includes initiatives to enhance enforcement, improve education and outreach, upgrade infrastructure and advance technological solutions. Investments in these areas will ensure that safety improvements are not limited to specific projects but are integrated across the entire transportation system. Achieving long-term, sustainable safety outcomes will require a collaborative effort to secure the funding needed to expand our reach and make meaningful progress toward eliminating traffic-related fatalities and serious injuries.

The following sections provide details on regional and local funding opportunities identified for road safety infrastructure projects and non-infrastructure activities.

## Current Funding Levels

Mesa is currently investing in the Transportation Department and transportation capital improvements through a mix of local, regional and grant funding. For Fiscal Year 2024/25, the Transportation Department budget includes $9.1 million for Traffic Engineering and $47.8 million for Field Operations. The Fiscal Year 2024/25 Capital Improvement Program (CIP) allocates $86.7 million for streets projects that involve roadway and intersection reconstruction and $11.7 million for Intelligent Transportation System (ITS) projects. These ITS projects include installing public safety opticom technology, upgrading communications infrastructure, improving traffic signals and adding pedestrian hybrid beacons. Within the Street and ITS programs, approximately $1.3 million was allocated from the Special Programs fund (photo safety program) for targeted road safety improvement projects. Other funding sources include the Local Streets Fund (sales tax), General Obligation Bonds (secondary property tax), Highway User Revenue Fund (gas tax), and regional grants and reimbursements.

For Fiscal Year 2024/25, the Police Department received approximately $412,000 from Governor's Office of Highway Safety (GOHS) Grants to provide resources, overtime for DUI and traffic enforcement activities, and safety equipment for the City's Traffic Safety Program.

## Local Funding

**Highway User Revenue Fund (HURF):** The City of Mesa receives funding from the Highway User Revenue Fund (HURF), which is generated from the fuel tax paid at the pump by the consumer. Arizona's three largest cities, which include Mesa, also receive an additional allocation of the revenues referred to as HURF 3%. These funds are allocated to cities and towns in Arizona for the construction, maintenance and improvement of streets and highways. HURF serves as a critical source of funding for Mesa's street maintenance, supporting essential projects such as resurfacing.

*Use: Infrastructure*

**Transaction Privilege Tax (TPT):** The local transaction privilege tax, also known as a sales tax, is one source for financing municipal services. Mesa has a 2.0% local sales tax rate.

Mesa dedicates a portion of its transaction privilege tax (TPT) revenues to transportation-related expenditures. This includes a 0.30% local TPT specifically earmarked for street expenditures, referred to as the Local Street Sales Tax (LSST). HURF and LSST are managed together as both funds are restricted to streets related expenditures.

The Mesa Police Department's funding is primarily sourced from the City's General Fund, which is largely supported by local sales tax revenues.

*Use: Infrastructure*

**Vehicle License Tax (VLT):** A portion of the Vehicle License Tax, collected during vehicle registration, is distributed to local governments in Arizona. These funds are not restricted.

*Use: Infrastructure& Non-Infrastructure*

**General Obligation (GO) Bonds:** Mesa voters periodically approve General Obligation (GO) bonds to fund major capital projects, including transportation infrastructure. GO bonds allow the City to finance large-scale improvements, such as road widening, bridge construction and multimodal facilities. These bonds are repaid through secondary property taxes, offering a sustainable mechanism for addressing Mesa's growing transportation needs while maintaining fiscal responsibility. Mesa does not have a primary property tax.

*Use: Infrastructure*

**Automated Enforcement Programs:** The City of Mesa's Photo Safety Program, which includes both red light and speed enforcement, has resulted in an average speed reduction of 5 mph at school zones, with a maximum reduction of 11.9 mph. This program is managed and supported by the police department. Revenue generated by speed cameras is used principally to cover the costs of the enforcement program, with any surplus being directed only for traffic safety improvements. This program has allowed Mesa to invest $1 million annually on average in various projects aimed at improving road safety. Project examples include new or enhanced mid-block pedestrian crossings, neighborhood traffic calming, school zone flashers and installation of left turn arrows at signalized intersections.

*Use: Infrastructure*

# Regional Funding Opportunities

**Proposition 479:** Prop 479 is the continuation of an existing, dedicated half-cent sales tax in Maricopa County to fund transportation. This dedicated half-cent sales tax was first established by voters in 1985 with the approval of Proposition 300 and subsequently renewed in 2004 with the voters' approval of Proposition 400. Voters approved Prop 479 on November 5, 2024, extending the tax until 2045.

The 20-year continuation of the tax, starting on January 1, 2026, is projected to generate $14.9 billion in revenues (2020 dollars). Proposition 479 revenues are allocated with 40.5 percent of the sales tax to freeways and highways, 22.5 percent to arterial roads and regional transportation infrastructure and 37 percent to transit. The Maricopa Association of Governments (MAG) - Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP) serves as the basis for the transportation investments funded through Proposition 479.

**Federal Funds Administered at the Regional Level:**

- **Federal Transit Administration (FTA) Coordinated Mobility Program Section 5310 Grant:** This program provides funding for the enhanced mobility of seniors and individuals with disabilities by removing barriers to transportation services and expanding transportation options. This program could fund pedestrian improvements that enhance mobility for seniors and individuals with disabilities. This includes improvements to transit access such as building an accessible path to and from transit stops or providing sidewalk and curb ramp improvements, accessible pedestrian signals and other pedestrian crossing enhancements. Federal guidelines allow large urbanized areas (UZAs) to directly administer Section 5310 funds. The Phoenix-Mesa UZA does not use ADOT to administer their Section 5310 funding. Mesa would apply directly through the City of Phoenix in coordination with MAG.

- **Surface Transportation Block Grant Program (STBG):** The STBG provides flexible funding that may be used by states and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway. Eligible projects related to pedestrian safety include pedestrian and bicycle projects, safety projects, recreational trails, safe routes to school projects and projects within the pre-FAST Act Title 23 definition of "transportation alternatives" (see the Transportation Alternatives Set-Aside description below). Projects must be identified in MAG's Transportation Improvement Program (TIP). The City of Mesa is located within the MAG planning area. Mesa would apply through MAG's Regional Transportation Infrastructure and Competitive Programs.

- **Transportation Alternatives Set-Aside (TA):** The Bipartisan Infrastructure Law (BIL) increased funding for the TA Set-Aside program, which provides funding for trails, walking,and biking in the United States. The TA Set-Aside is a program within the STBG program supports pedestrian and bike infrastructure, recreational trails and safe routes to school. The program also allows states to use up to 5% of available funds for technical assistance to help local governments apply for additional grants. Mesa would apply through MAG's Regional Transportation Infrastructure and Competitive Programs. Safe Routes to School (SRTS) funds are available until expended (they are not subject to the usual Federal-aid highway four year rule of availability). SRTS is now funded within the TA Set-Aside.

- **Congestion Mitigation/Air Quality (CMAQ) Program:** The BIL continued the CMAQ program to provide a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (air quality maintenance areas). Safety projects that promote non-motorized transportation options, transit improvements or reduced emissions through intersection improvements

may be eligible. Mesa would apply through MAG's Regional Transportation Infrastructure and Competitive Programs.

The regional sales tax and federal funds will be used to fund the following competitive programs administered by MAG, as indicated in Table 14. Within the 20-year arterial program, Mesa is anticipated to receive up to $220,290,000 in regional funding with a minimum local match of $94,410,000 for roadway projects totaling $314,700,000.

*Use: Infrastructure & Non-Infrastructure*

| Program | Funding Source(s) | 20 Years | |
| | | Total | Annual |
|---|---|---|---|
| Air Quality | Sales Tax/ Federal | $160.0 M | $8.0 M |
| TDM Expansion | Federal | $250.5 M | $12.5 M |
| Arterial Rehabilitation/ Reconstruction | Federal | $500.0 M | $25.0 M |
| Arterial Widening | Federal | $300.0 M | $15.0 M |
| Arterial Intersection | Sales Tax | $400.0 M | $20.0 M |
| Safety | Sales Tax | $200.0 M | $10.0 M |
| Active Transportation | Sales Tax/ Federal | $800.0 M | $40.0 M |
| ITS | Sales Tax | $600.0 M | $30.0 M |
| Emerging Tech | Sales Tax | $250.0 M | $12.5 M |

*Table 14: RSTIIP – Regional Transportation Infrastructure and Competitive Programs Assumptions*

# Federal Discretionary Grant Programs

**Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant:** The competitive RAISE grant program supports innovative projects, including multi-modal and multijurisdictional projects, which are difficult to fund through traditional federal programs. In each round of RAISE, the U.S. Department of Transportation (USDOT) receives hundreds of applications to build and repair critical pieces of our freight and passenger transportation networks. Projects are evaluated on the benefits their project would deliver for five long-term outcomes: safety, economic competitiveness, state of good repair, quality of life and environmental sustainability. USDOT also evaluates projects on innovation, partnerships, project readiness, benefit cost analysis and cost share. Mesa would review the latest NOFO issued by the USDOT to understand eligibility criteria, application requirements and evaluation criteria. The city would submit a grant application to USDOT through Grants.gov.

*Use: Infrastructure*

**Transportation Infrastructure Finance and Innovation Act (TIFIA):** The TIFIA program provides credit assistance for qualified projects of regional and national significance. Many large-scale, surface transportation projects - highway, transit, railroad, intermodal freight and port access - are eligible for assistance. Eligible applicants include state and local governments, transit agencies, railroad companies, special authorities, special districts and private entities. The program's fundamental goal is to leverage Federal funds by attracting substantial private and other non-Federal co-investment in critical improvements to the nation's surface transportation system.

*Use: Infrastructure*

**Active Transportation Infrastructure Investment Program (ATIIP):** "The Active Transportation Infrastructure Investment Program (ATIIP) is a new competitive grant program created by the Bipartisan Infrastructure Law to construct projects to provide safe and connected active transportation facilities in active transportation networks or active transportation spines. ATIIP projects will help improve the safety, efficiency and reliability of active transportation networks and communities; improve connectivity between active transportation modes and public transportation; enhance the resiliency of on- and off-road active transportation infrastructure; help protect the environment and improve quality of life in disadvantaged communities through the delivery of connected active transportation networks and expanded mobility opportunities." FHWA

*Use: Infrastructure*

**Areas of Persistent Poverty Program (AoPP):** Under the Federal Transit Administration, the AoPP grant program provides funding to improve transportation infrastructure and access in economically disadvantaged communities. Eligible activities include planning and capital projects focused on enhancing safety, connectivity and mobility. These include improving transit access, implementing pedestrian and bicycle infrastructure and addressing critical transportation barriers. The program supports initiatives that deliver equitable and accessible transportation solutions, particularly in areas of persistent poverty as identified in the program's published map, with several areas identified in the City of Mesa.

*Use: Infrastructure*

**Safe Streets and Roads for All (SS4A) Grant Program:** The BIL established the SS4A grant program with $5 billion in funds for a 5-year period, from 2022 to 2026. The program funds regional, local and tribal initiatives through grants to prevent roadway deaths and serious injuries. The program includes two key funding categories: Planning and Demonstration grants, which support the development of safety action plans and pilot projects, and Implementation grants, which fund infrastructure and behavioral projects identified in approved safety action plans. Demonstration grants can be used to test and evaluate innovative approaches, while Implementation grants enable permanent infrastructure changes that address identified safety risks.

*Use: Infrastructure & Non-Infrastructure*

# Funding Available Through a State Agency

**Highway Safety Improvement Program (HSIP):** The BIL continued the HSIP. The purpose of this program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned roads and roads on Tribal land. Administered by the Arizona Department of Transportation (ADOT), HSIP provides federal funds to local agencies for projects that align with the state's Strategic Highway Safety Plan (SHSP). Mesa must apply through ADOT's competitive grant process. The methodology used to estimate the Combined Crash Reduction Factor on Mesa's HRN project sheets aligns with this grant application.

**National Highway Performance Program (NHPP):** The BIL continued the NHPP, which was established under MAP-21 . NHPP focuses on preserving, improving and maintaining the performance of National Highway System (NHS) roadways. In Mesa, Arizona, several key roadways are part of the NHS. These include: US 60, SR 87 (Country Club Drive), Power Road and SR202L. Activities could include operational improvements such as intersection improvements, safety improvements such as improved lighting, updated signs and crosswalk enhancements, as well as multimodal enhancements that improve connectivity for pedestrians, cyclists and transit users, as long as these features contribute to the functionality and performance of the NHS. In Arizona, the NHPP is administered by the ADOT. As a local government entity, the City of Mesa cannot apply directly to the NHPP but can collaborate with ADOT to propose projects for funding.

**NHTSA Section 402: State and Community Highway Safety Grant Program:** To receive Section 402 grant funds, a state must have an approved HSP and provide assurances that it will implement activities in support of national goals that also reflect the primary data-related factors within the state, as identified by the state highway safety planning process. States can distribute highway safety grant funds to a wide network of sub-grantees, including local law enforcement agencies, municipalities, universities, health care organizations, and other local institutions. States may spend 402 funds in accordance with an approved HSP that complies with the uniform national guidelines for highway safety programs. One of the eligible programs is to improve pedestrian and bicyclist safety. These funds are administered through the Arizona Governor's Office of Highway Safety (GOHS) and historically distributed to Mesa through its police department.

**NHTSA Section 405: National Priority Safety Programs (Nonmotorized Safety):** Under the FAST Act, Section 405 is the National Priority Safety Program which provides grant funding to address selected national priorities for reducing highway deaths and injuries. The FAST Act added two new grants under this program, one of which is for nonmotorized safety. States are eligible if the annual combined pedestrian and bicyclist fatalities in the state exceed 15 percent of the total annual crash fatalities in the state using the most recently available final data from NHTSA's Fatality Analysis Reporting System (FARS). Eligible states may use Section 405 grant funds only for training law enforcement on state laws applicable to pedestrian and bicyclist safety; enforcement mobilizations and campaigns designed to enforce those state laws or public education and awareness programs designed to inform motorists, pedestrians and bicyclists of those state laws. These funds are administered through the Arizona Governor's Office of Highway Safety (GOHS) and historically distributed to Mesa through its police department.

**Center for Disease Control (CDC) State Physical Activity and Nutrition (SPAN) Grant**

# Tracking Actions & Evaluating Reductions for KSI Collisions

The performance review cycle includes tracking and analyzing the progress and performance of the strategies and actions in this Plan. The performance evaluations are set to track progress: decrease, no change and increase of different crash trends that are connected to the collision profiles. The tracking of actions implemented will help evaluate the impact on performance. There are:

| 10 Performance Evaluations Connected to 8 Strategies | 32 Implementations to Track Related to 28 Actions |
|---|---|

It is recommended that this performance review cycle is completed every two years beginning with the first year of completion in 2028.

This will provide the City of Mesa with three important outcomes:

1. **An understanding if they are on track or need adjustments to meet the 30% reduction of fatal and serious injury crashes by 2030.**

2. **How actions are being implemented: quantities, time, costs, resources and outcomes.**

3. **Review and analyze new crash trends to evaluate effectiveness and then set a target of when the City of Mesa could reach zero deaths on their roadways. This can include adjusting the actions and establishing specific amounts/quantities per time period.**

The performance evaluations and tracking per strategy area are outlined over the following pages.

## A.) Reduce Risky Movements:

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| A | Decrease in left turn crashes resulting in serious injury | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| A01 | Install raised medians | Amount of linear feet of raised median installed | Annually |
| A02 | Install roundabouts or ALL WAY STOP control intersections | Number of roundabouts or ALL WAY STOP control intersections installed | Annually |
| A06 | Install protected left turn conversions | Number of protected left turn conversions | Annually |
| A11 | Install straight-thru arrows on traffic signals at freeway interchanges | Number of freeway traffic signals converted | Annually until complete |

## B.) Support Safer Vehicles:

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| Not Applicable | | | |
| | | | |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| B09 | Update traffic control standards | Action is completed and is implemented | Complete by 2026 |
| B09 | Retrofit / refresh intersections with retroreflective backplates and flashing yellow arrows. | Number of intersections upgraded | Annually |
| B09 | Retrofit / refresh intersections with flashing yellow arrows. | Number of intersections upgraded | Annually |
| B09 | Install chevron markings in wide gores or the triangular "islands" | Number of locations with new markings | Annually |
| B10 | Efforts for working with technology providers and researchers | Implement demonstration project & track success | Annually Until Complete |

## C.) Separate Pedestrians & Bikes From Vehicles:

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| C | Reduction in crashes involving pedestrians | Every 2 Years | 2028 |
| C | Reduction in crashes involving bicyclists | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| C03 | Install buffered, and protected bike lanes | Number of miles of buffered/protected bike lanes installed | Annually |
| C13 | Install pedestrian signal enhancements at intersections | Number of intersections upgraded | Annually |

## D.) Enhance Crossings:

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| D | Reduction in crashes involving pedestrians | Every 2 Years | 2028 |
| D | Reduction in crashes involving bicyclists | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| D07 | Install enhanced mid-block crossings, along with pedestrian refuge islands | Number of pedestrian hybrid beacons, and/or midblock crossing enhancements installed | Annually |
| D12 | Upgrade intersections by installing advanced stop or yield lines, high-visibility crosswalk markings and improved lighting | Number of number of existing intersections improved per type of improvement | Annually |

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| C | Reduction in crashes involving pedestrians | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| E04 | Install safety cameras at high-risk locations. | Number of safey cameras installed at high crash locations | Annually |
| E04 | Funding staff and operational needs for safety camera program | Funding is secured | Annually |
| E05 | Adjust signal timing | Number of intersections | Annually |
| E05 | Conduct safer speed evaluation on HRN | Number of miles that a safer speed evaluation was completed for | Annually |
| E08 | Install raised pedestrian crossings, curb extensions, reduced turning radius and road reconfigurations. | Number of intersections retrofitted and number of miles of roadways that were reconfigured. | Annually |

# F. Increase Road Safety Awareness:

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| F | Reduction in crashes caused by redlight running per year | Every 2 Years | 2028 |
| F | Reduction in crashes involving speeding | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| F01 | Identify and appoint community safety ambassadors | Action is completed and continues | Complete by 2026 |
| F02 | Track progress on youth bicycle helmet laws | Efforts for expanding youth bicycle helmet laws | Annually Until Complete |
| F03 & F05 | Conducted a public awareness survey for education campaign reach every 2 years | Conduct City of Mesa resident survey | Every Two Years |
| F04 | Create and implement safety checklist for CIP projects | Number of times safety checklist was used vs. number of CIP projects initiated | Annually |
| F06 | Implement Road Safety Task Force enhancements | Action is completed and continues | Complete by 2025 |
| F07 | Conduct youth education events/activities per year | Number of events/ activities | Annually |
| F08 | Conduct Motorcycle education events/ activities | Number of events/ activities | Annually |
| F09 | Conduct bicycle education events/ activities | Number of events/ activities | Annually |
| F10 | Conduct enforcement campaigns focused on speeding | Number of enforcement campaigns | Annually |

## G. Prevent Driving Under the Influence (DUI):

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| G | Reduction in DUI related serious injury crashes | Every 2 Years | 2028 |
| G | Reduction in repeat offenses | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| G01 | Mesa would collaborate with partners, including local businesses and Valley Metro, to promote designated driver programs and provide "Ride Home" options, such as discounted rideshare services and transit alternatives. | | Annually |
| G02 | Conduct DUI enforcement activities focused on DUI | Number of enforcement activities focused on DUIs | Annually |

## H. Optimize Data Analytics:

| Strategy ID | Performance Evaluation | When to Evaluate? Reduction, No Change, Increase | When to First Evaluate and Set Target? |
|---|---|---|---|
| C | Reduction in crashes involving pedestrians | Every 2 Years | 2028 |

| Action ID | Implementation of Action | What to Track? | How Often? |
|---|---|---|---|
| H01 | Integrate new data sets into crash analysis | Action is completed and continues to be implemented | Annually |
| H02 | Amount of work orders that included specific safety improvemens | Number of work orders that included specific safety improvemens | Annually |
| H03 | Biennial report created | Action is completed and continues to be implemented | Every Two Years |

# Moving from Plan to Action

The City of Mesa is committed to reducing fatalities and serious injuries caused by motor vehicle crashes by 30% by 2030. Achieving this goal requires collective action from city leadership, transportation professionals, law enforcement, community organizations and all roadway users. This CSAP provides a clear, data-driven framework to address key safety concerns and implement solutions that make Mesa's roadways safer for everyone.

Safety is a shared responsibility. Whether you drive, bike, walk or roll, every decision on the road plays a role in protecting lives. Through infrastructure improvements, targeted education campaigns, policy enhancements and enforcement efforts, Mesa is taking proactive steps to create a safer and more livable city.

## How You Can Help

Your voice and actions matter. Here's how you can contribute to a safer Mesa:

**Give Input.** Share your thoughts and experiences about roadway safety. Visit https://www.mesalistens.com/road-safety or email Transportation.PIO@mesaaz.gov to provide feedback.

**Get Involved.** Subscribe to safety updates, attend community events and join local efforts to promote safe driving, biking and walking.

**Spread the Word.** Share safety messages with family, friends and neighbors. Small actions–like reminding a loved one to buckle up or put their phone away while driving–can save lives.

**Take the Safety Pledge.** Show your commitment to making Mesa's roads safer. Visit https://www.mesalistens.com/road-safety to take the pledge and learn how you can help reduce serious crashes.

## Looking Ahead

This plan is just the beginning. As we move into implementation, the City will:

- Advance safety projects that address the highest-risk crash trends.
- Expand outreach and education efforts to build a strong culture of safety.
- Monitor and evaluate progress using key performance indicators to ensure accountability.

*Every life lost on Mesa's roads is one too many.*

*Let's move from plan to action–because safety starts with all of us.*