

SUSTAINABILITY AND TRANSPORTATION COMMITTEE

May 15, 2023

The Sustainability and Transportation Committee of the City of Mesa met in the lower-level meeting room of the Council Chambers, 57 East 1st Street, on May 15, 2023, at 3:30 p.m.

COMMITTEE PRESENT

Alicia Goforth, Chairperson
Francisco Heredia
Jennifer Duff

COMMITTEE ABSENT

None

STAFF PRESENT

Marc Heirshberg
Holly Moseley
Jack Vincent

Chairperson Goforth conducted a roll call.

1. Items from citizens present.

There were no items from citizens present.

2-a. Hear a presentation, discuss, and receive an update on the Salt River Project (SRP) Memorandum of Understanding, including biomass and solar energy contracts.

Energy and Sustainability Director Scott Bouchie introduced Environmental and Sustainability Deputy Director Laura Hyneman and displayed a PowerPoint presentation. **(See Attachment 1)**

Mr. Bouchie discussed the City of Mesa's Climate Action Plan (CAP) and Salt River Project's (SRP) sustainability goals, which include storing one million acre-feet of water underground. (See Page 2 of Attachment 1)

Mr. Bouchie highlighted six categories that are involved in collaborating with SRP to ensure Mesa has a 100-year secure water supply. He commented SRP is a great partner and has assisted the City in transitioning to public charging. He mentioned the City is reviewing two options for decarbonization in order to implement renewable carbon free sources. He discussed infrastructure includes trees, as well as efforts to build shaded routes for pedestrians or shade for homes to reduce consumption and create a more efficient use of energy. (See Page 3 of Attachment 1)

Mr. Bouchie commented that the work plan is a continually changing document on which the City of Mesa (COM) and SRP collaborate to ensure that the projects undertaken are the most cost-effective for both organizations. (See Page 4 of Attachment 1)

Ms. Hyneman stated that electric vehicles lessen the impact on air quality, which protects Mesa's communities. She mentioned SRP shared best practices to switch fleet vehicles to charging. She added the COM was the first organization to use a rebate to cover the majority of the cost for a fleet assessment which provided guidance on transitioning to electric charging vehicles. She discussed the Transportation Electrification Activator and the events to educate communities regarding the benefits of switching to electric vehicles. (See Page 5 of Attachment 1)

Mr. Bouchie reviewed the details of the solar infrastructure projects. He mentioned the project at Falcon Field will not begin until the solar purchase project from SRP is completed. He explained the details of SRP's 10-year term project and that the City will receive SRP renewable energy credits, which are the environmental attributes associated with the renewable energy project. He commented that the City is developing a robust solar portfolio that includes a variety of solar energy delivery methods. (See Page 6 of Attachment 1)

In response to multiple questions from Committeemember Duff, Mr. Bouchie replied that after the solar project is completed, the City will examine whether solar can be installed within the orange groves boundary located west of Falcon Field, while maintaining the aesthetics of the citrus groves area. He commented that the City will determine the highest and best use for the area and the City is close to finalizing a solar energy deal with SRP.

In response to multiple questions from Chairperson Goforth, Mr. Bouchie responded that the curve of solar production does not coincide with the City's peak demands. He mentioned technology is more readily available to larger utility companies. He mentioned the City observes the larger utility companies to make wise investments using City funds. He explained the only solar energy the City has was installed by customers for the electric utility in the Downtown area. He noted the City does not have any solar deals in place.

Ms. Hyneman reviewed the infrastructure for trees and shade, a nature-based solution to reducing urban heat. She commented SRP has been distributing shade trees to Mesa's residential community for many years. She shared the plans to provide additional shade areas and discussed the shade corridors completed. (See Page 7 of Attachment 1)

Mr. Bouchie summarized the Biomass Agreement, which includes maintaining the City's water supply and preserving the health of the forests. He emphasized SRP will retire renewable energy credits that will contribute to the City's renewable energy portfolio. (See Page 8 of Attachment 1)

Ms. Hyneman provided an overview of the City's partnership with SRP and the use of technology to manage water usage. She explained the City utilized a Bureau of Reclamation grant to pilot the use of Waterfluence to compare the water budget to actual water usage in parks. She reported with the grant, the City requested introducing Homeowners Associations (HOA) to the water budgeting software to manage their water usage since HOAs are the largest users of water. (See Page 9 of Attachment 1)

In response to a question from Committeemember Heredia, Ms. Hyneman replied that the smart meter will identify how much water is used by a property, and the water usage software tool will be behind the meter. She mentioned an additional metering device will be used to calculate the water that is utilized for landscaping purposes.

Mr. Bouchie clarified that the water usage software is not for residential use, only for commercial use. He noted the software will be used by the Parks Department and HOAs who have large tracks of land, basins that hold storm water, and recreation areas in neighborhoods.

Ms. Hyneman explained that the data shown on Slide 9 depicts the water budget based on the type of landscaping. She also noted the software will determine the amount of water that should be used depending on the weather. She added the Advanced Metering Infrastructure (AMI) will determine if water is being used optimally.

Chairperson Goforth thanked staff for the presentation.

2-b. Hear a presentation, discuss, and receive an update on Mesa's approach to crash/safety analysis.

Transportation Department Director RJ Zeder introduced City Traffic Engineer Ryan Hudson and Deputy Transportation Director Erik Guderian, and displayed a PowerPoint presentation. **(See Attachment 2)**

Mr. Guderian provided an overview of the topics for Transportation safety. He explained the steps on how crash data is acquired and stated all crash reports are submitted to the Arizona Department of Transportation (ADOT) as a central database location. He mentioned the Transportation Department and Police Department can review data and crash reports. He indicated that the data available to the Transportation Department from the ADOT database is three to six months behind. He noted the Transportation Department reviews fatality crashes and other crash reports to verify that the data is in a usable format. (See Pages 2 and 3 of Attachment 2)

Mr. Guderian reviewed the history of crash data and historical trends. He mentioned before Capital Improvement Projects (CIP) go into design, the locations are studied and reviewed for improvements to corridors. He discussed some of the types of improvements to corridors, as well as the public outreach. (See Page 4 of Attachment 2)

Mr. Guderian discussed the national statistics and trends for fatal crashes in 2022, and the leading causes. He shared the statistics and trends for fatal crashes in Arizona and the Phoenix region, noting Arizona had an increase of 1,311 crash fatalities in 2022. (See Pages 5 and 6 of Attachment 2)

In response to a question from Chairperson Goforth, Mr. Guderian remarked that crashes occur at higher levels in certain locations due to more conflict points and more pedestrian crossings at those locations. He stated the general trends overall carry for all crashes throughout the region.

Mr. Hudson clarified that the general statement of the three predominant causations of fatal crashes is obtained from national committees who analyze statistics and trends.

Mr. Guderian presented a map of the top 100 intersections ranked by crash risks referring to fatalities and injury crashes within the region. He identified one intersection in Mesa where the City recently completed a CIP project to increase safety at the intersection with some geometric improvements. He emphasized the Transportation Department is concerned about safety and trends and continues to make improvements. (See Page 7 of Attachment 2)

Mr. Hudson provided a summary of the 2022 specific trends and statistics for Mesa regarding vehicle crashes. He described the four main categories included in the Annual Crash Report. He stated the Transportation Department is currently working on the 2022 Annual Crash Report with the goal of completion and publication in September of 2023. (See Page 8 of Attachment 2)

Mr. Hudson compared Mesa to the national 10-year fatal crash statistics and trends. He said 2022 had the highest number of fatalities since the early 2000s. He stated the concern is shared on the national and local level and the goal is to reverse the trend. (See Page 9 of Attachment 2)

Mr. Hudson provided a chart demonstrating the breakdown of the unit types involved in fatal crashes over the past five years in Mesa. He reviewed the number of fatal and serious injury crashes and the manner in which crashes occurred. (See Pages 10 and 11 of Attachment 2)

In response to a question from Chairperson Goforth, Mr. Hudson replied that the City tracks where crashes occur while crossing the road. He explained that the most predominant pedestrian crashes occur at mid-block crossings, outside of the crosswalk. He added the locations of crashes at crossings vary from 50 feet away from the crosswalk at a signal to mid-block.

Mr. Hudson explained how the crash data sets are utilized across different platforms. He commented that the platform allows the City to view areas from a geographic perspective and identify areas of highest potential for safety improvements. (See Page 12 of Attachment 2)

In response to a question posed by Chairperson Goforth, Mr. Hudson responded that the map illustrates a snapshot of one specific breakdown to analyze fatal and serious injury crashes citywide from 2017 through 2021. He pointed out the purpose is to analyze the different types of crashes, the users, and contributing factors of those crashes to determine what can be taken away as actionable steps to improve the safety of a corridor.

Mr. Hudson explained the map presented examines specific types of crashes. He mentioned all incidents are aggregated by traffic segment lane, allowing a citywide view where the highest rate of these specific types of collisions occur. He added some are specific collisions that occur on a corridor which are filtered out to determine particular crash types. (See Page 13 of Attachment 2)

Mr. Hudson mentioned in late 2022, the stakeholders began meeting to discuss priorities and to take a data-driven approach to reducing fatal and serious injury crashes in Mesa. He stated the more recent communication campaigns focused on distracted drivers, graduations, upcoming holidays, and impaired drivers. (See Page 14 of Attachment 2)

Mr. Hudson stated the data analysis allows the Transportation Department to identify locations where a high need exists for safety improvements. He highlighted some citywide projects funded by the Photo Safety Enforcement program. (See Page 15 of Attachment 2)

Discussion ensued relative to feasibility studies, data sets, crash data analysis, crash statistic improvements, and turn signals.

Chairperson Goforth thanked staff for the presentation.

2-c. Hear a presentation, discuss, and receive an update on the Safe Streets and Roads for All (SS4A) Grant.

Transportation Department Director RJ Zeder introduced Deputy Transportation Director Erik Guderian, and displayed a PowerPoint presentation. **(See Attachment 3)**

Mr. Guderian provided an overview of the Safe Streets and Roads for All Program and described the available grants. He reviewed the submittal process for Mesa's Action Plan and the schedule. (See Pages 2 through 5 of Attachment 3)

In response to multiple questions from Chairperson Goforth, Mr. Guderian replied that the purpose of the Action Plan grant is to identify different programs and projects in various parts of the City, and then move forward with an implementation plan. He commented that the City is aware of possible improvements, but the challenge is prioritizing projects based on limited funds. He mentioned the Transportation Department requested a healthy budget to make improvements at certain locations and across the city. He shared examples of citywide systemic safety improvement projects completed which provide the necessary backup data to compete for the grant.

In response to multiple questions from Committeemember Duff, Mr. Zeder confirmed that the grant funds, as well as the local match, only cover the cost of the consultant to develop the plan. He stated based on the current structure of regional funding, off-street bicycle improvements are not included.

Chairperson Goforth thanked staff for the presentation.

3. Adjournment.

Without objection, the Sustainability and Transportation Committee meeting adjourned at 4:52 p.m.

I hereby certify that the foregoing minutes are a true and correct copy of the minutes of the Sustainability and Transportation Committee meeting of Mesa, Arizona, held on the 15th day of May 2023. I further certify that the meeting was duly called and held and that a quorum was present.



HOLLY MOSELEY, CITY CLERK



City of Mesa and Salt River Project Memorandum of Understanding

Scott Bouchie, Energy and Sustainability Director

Laura Hyneman, Environmental and Sustainability Deputy Director

April 13, 2023



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MOU – Innovative Solutions

City of Mesa

- Committed to Sustainability

SRP

- Committed to Sustainability

- Climate Action Plan
 - Carbon Emission Reductions
 - Renewable Energy
 - Water and Waste Resiliency
- 2035 Sustainability Goals
 - 2,000 MW of solar
 - Carbon Reductions
 - 65% from 2005 levels
 - Water Resiliency



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BUILDING A SUSTAINABLE
COMMUNITY

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CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY



Scope of Collaboration

- Drought Resilience/Forest Health
- Electric Vehicles
- Decarbonization
- Infrastructure
- Heat Resilience, Energy Efficiency and Sustainability for All
- Regional Collaboration



CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY

Work Plan

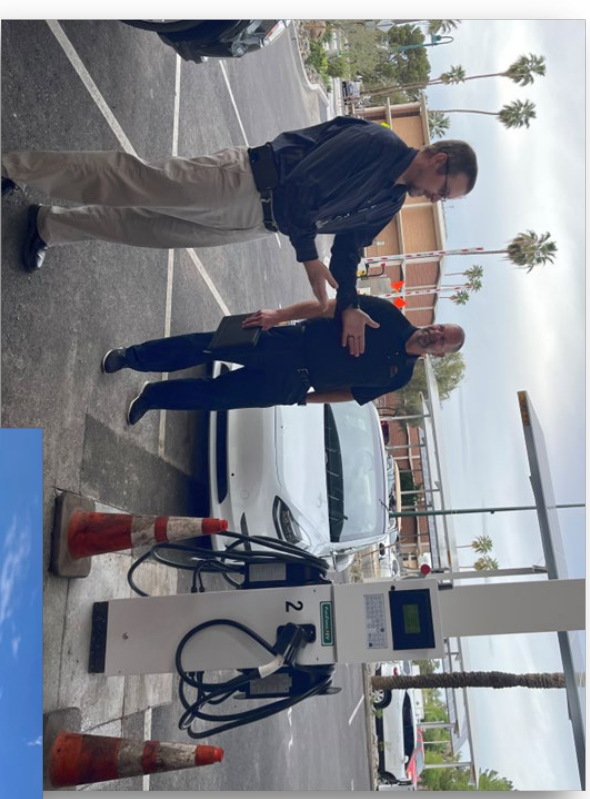
- Developed - Summer 2022
- Details out specific projects
- Goal: Implement at least one priority project by April 2023
- Annual Report



CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY

Electric Vehicles

- Fleet Charging
- Consulting
- Rebates
- Transportation Electrification Activator
- Community Education Events
- Fleet Managers Expo



TE Activator

Action now to electrify Arizona's future mobility

CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY



Infrastructure - Solar

Utility-scale solar at Falcon Field

- Potential for solar installation at Greenfield and McKellips

Mesa Electric Utility Purchase Solar from SRP

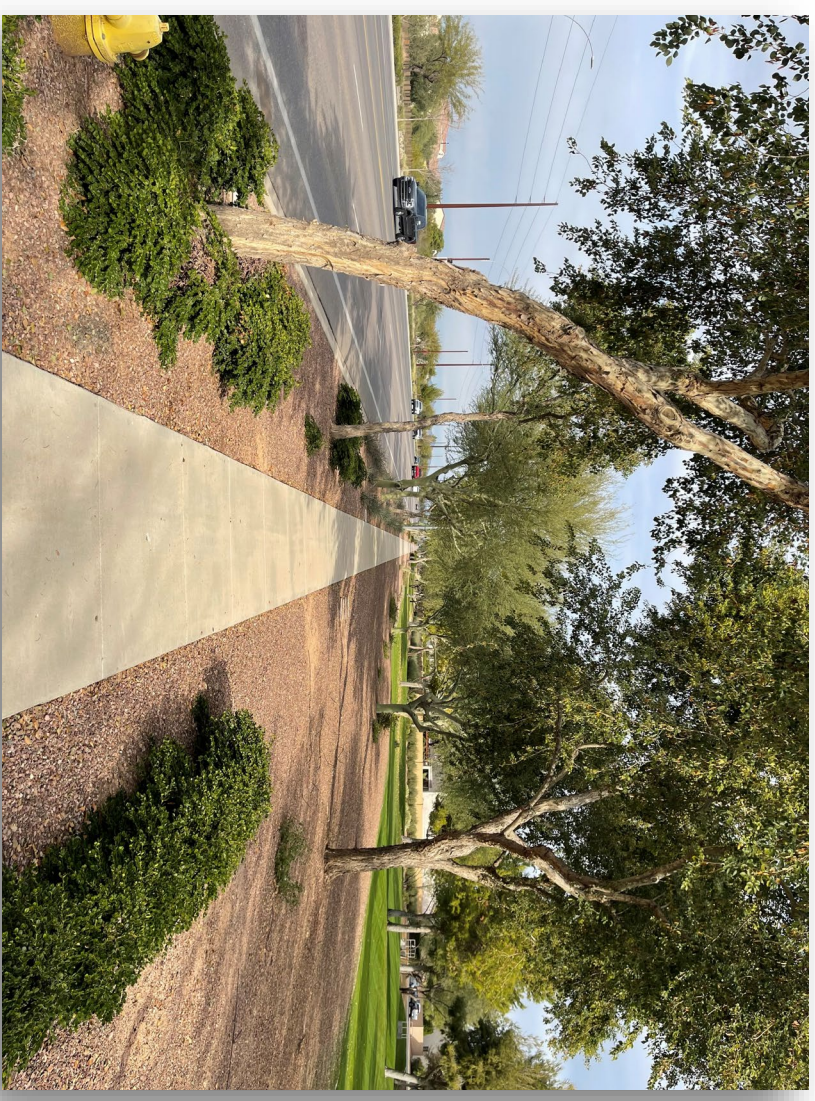
- January 1, 2025 – December 31, 2034
- Firm Energy delivered to Pinnacle Peak w/ Renewable Energy Credits
- \$39.75 per MWh



Infrastructure – Trees & Shade

Shade Corridors

- Tree Planting at Superstition Springs Transit Center and City Park
- More plantings anticipated next year



CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY

Drought Resilience/Forest Health

Biomass Agreement

- July 1, 2023 – December 31, 2023
- Mesa will pay a Biomass Cost Premium ~\$45/MWh
 - Associated with forest thinning and related watershed restoration efforts
- SRP will retire RECs on Mesa's behalf



CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY

Drought Resilience

Using technology to manage outdoor water use

Waterfluence - water budgeting software

- Year 1 - 50 Homeowner Association Accounts



CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY





Questions?



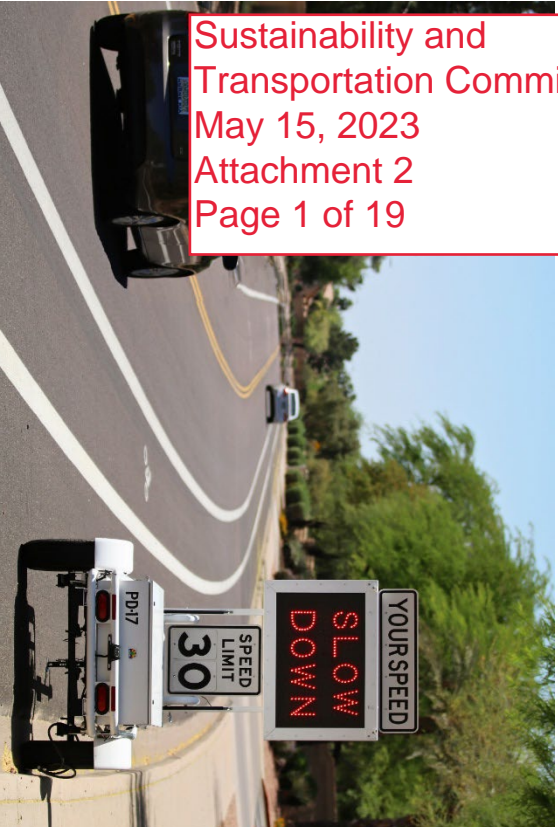
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CITY OF MESA CLIMATE ACTION PLAN: FOR A SUSTAINABLE COMMUNITY

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City of Mesa Transportation Safety

An Overview of Mesa's Approach to Crash Analysis



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TRANSPORTATION

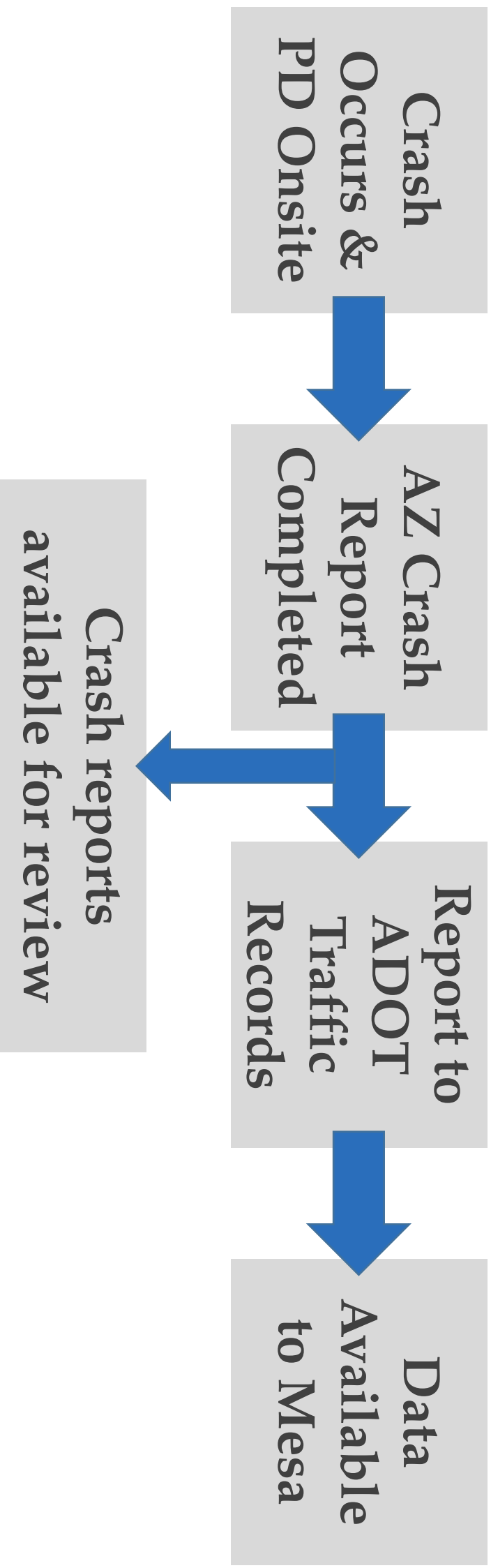
Overview

Background on Crash Data Statistics & Trends

- National, Regional and Local
- How the Crash Analysis is Used
- Coordination Meetings
- Safety Projects

Mesa's Crash Data

Round on Crash Data



Statistics & Trends - National

atal Crash Takeaways (NHTSA, 2022)

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- Early estimates show **42,795 people died** in motor vehicle crashes.
 - 0.3% decrease from 2021
 - 2021 Largest number of fatalities since 2005
- Fatality rate per vehicle miles travelled (VMT) in 2022 **decreased** by 1.1%.
- Main behaviors leading to fatal crashes includes **impaired driving, speeding, and failure to wear a seatbelt.**



NHTSA

Statistics & Trends - State & Regional

a Department of Transportation (ADOT) 2022 Crash Estimates

- **11.1% increase** in motor vehicle fatalities from 2021
- Increased fatalities observed for **pedestrians, bicyclists & lane departures**

Maricopa Association of Governments (MAG)

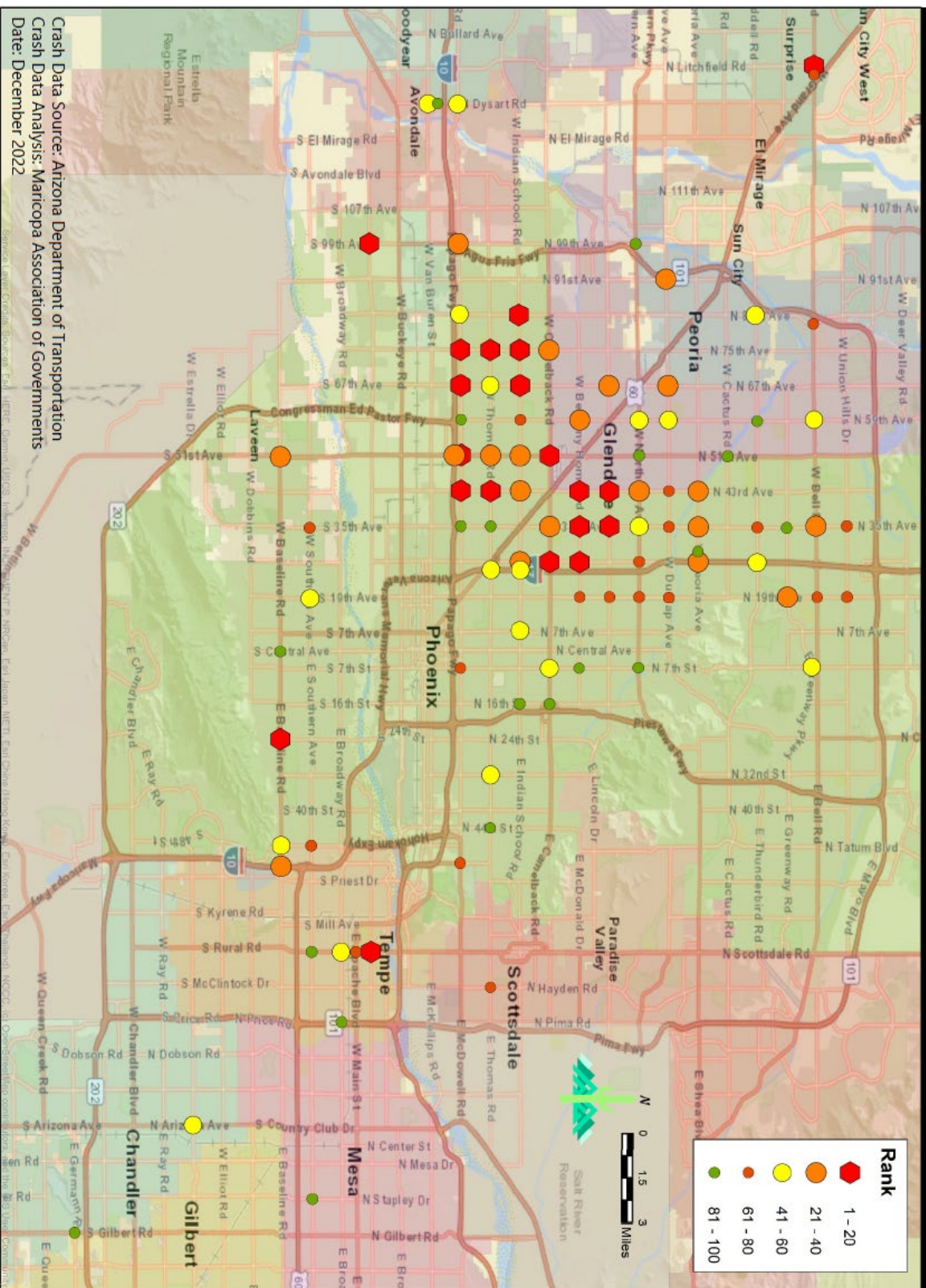
- Increase in **fatal crashes on arterial & local roads**
- Continued increase in **fatal & injury pedestrian crashes**



Using Trends to Identify Needs

Annual WAG Top 100 Intersections Ranked by Crash Risk

Top 100 Intersections Ranked by Crash Risk – Using 2017-2021 Crash Data



Crash Data Source: Arizona Department of Transportation
 Crash Data Analysis: Maricopa Association of Governments
 Date: December 2022



Statistics & Trends - Mesa

Mesa

- Total crashes **increased (+2.4%)**
- 44 fatalities in Mesa in 2022
- Pedestrians **27%** of crash fatalities
- Motorcycles **30%** of crash fatalities
- Predominant cited violations – **failure to yield, failed to keep in lane & disregarded signal**
- Impairment – **40%** drugs or alcohol involved

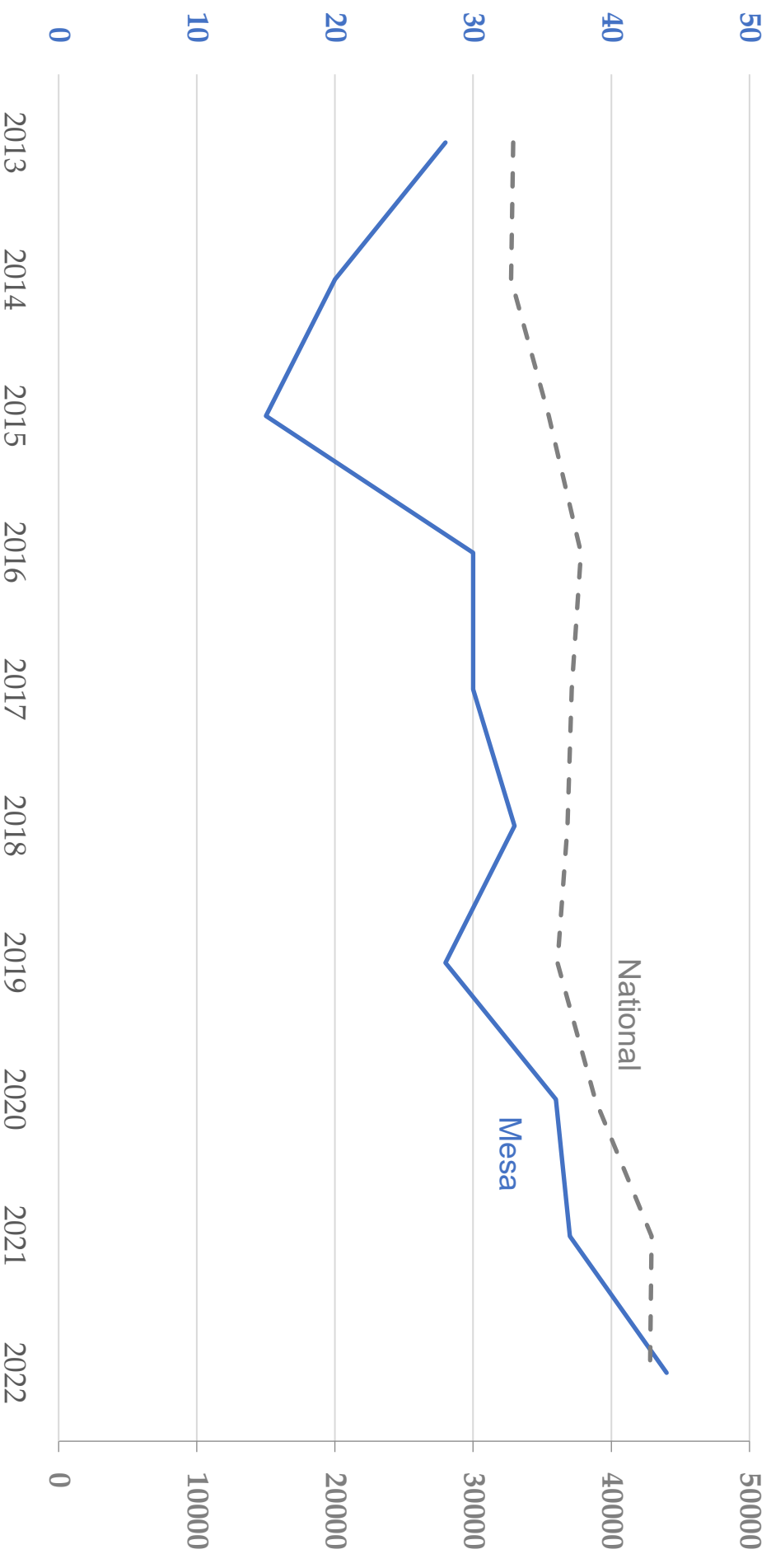


* Annual Report - Detailed statistics for **fatal, serious injury, bike, and pedestrian crashes**

Statistics & Trends

Fatalities Near Mesa & National

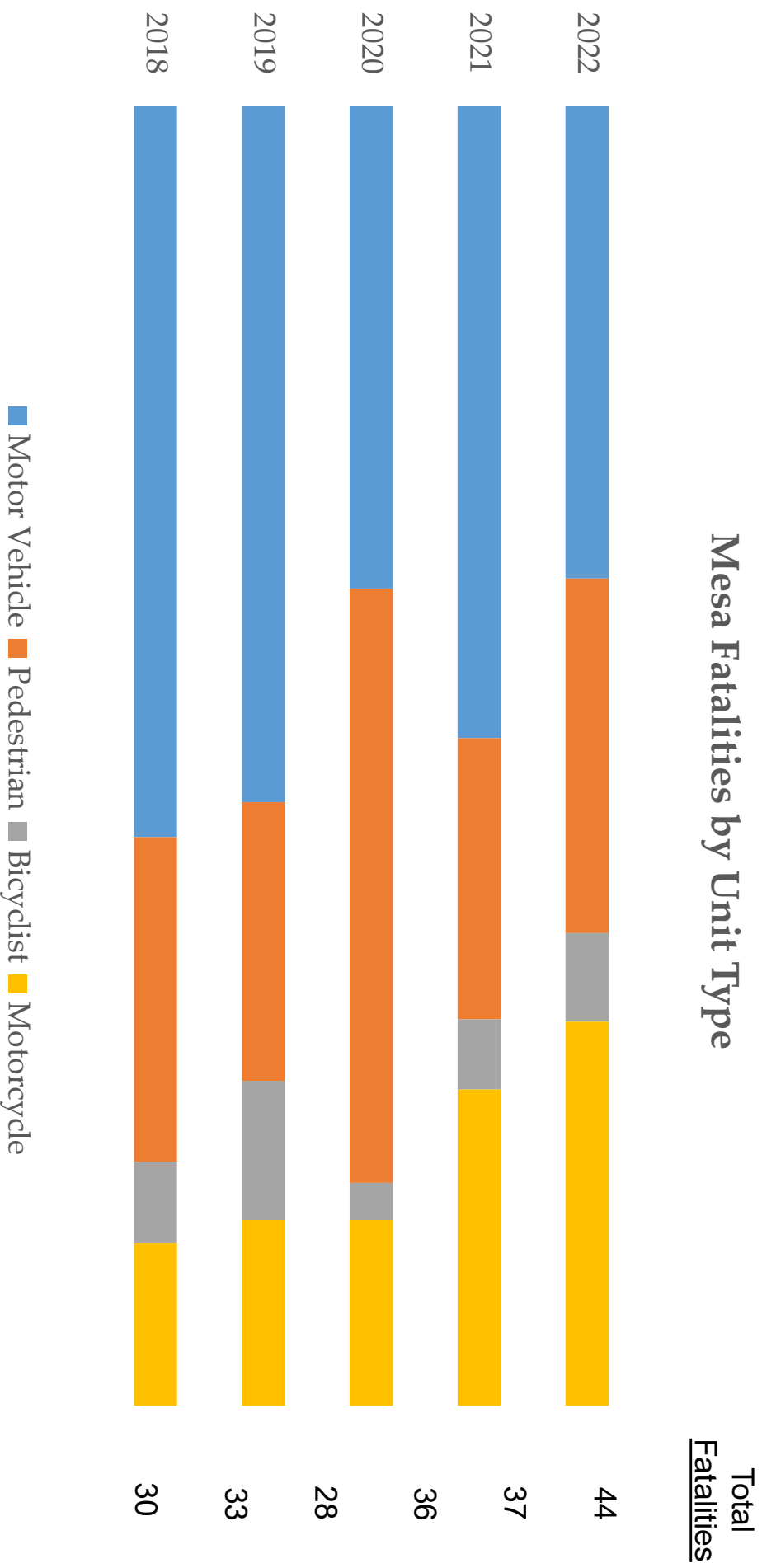
Mesa & National Total Fatalities by Year



Statistics & Trends

Fatalities

Mesa Fatalities by Unit Type

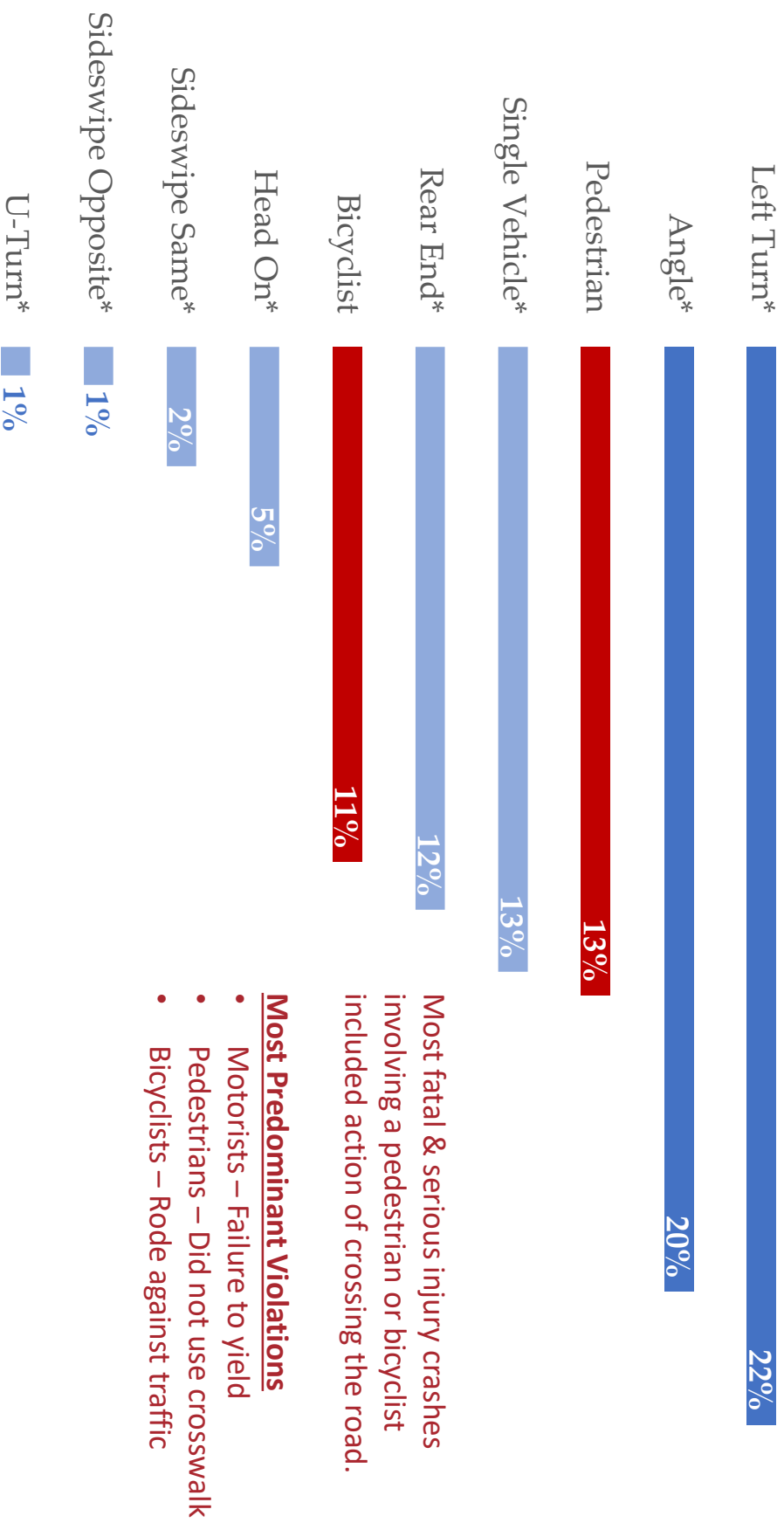


Statistics & Trends

& SI Crashes

Crash Manners

Crash Manners 2017 to 2021 Fatal & SI Crashes in Mesa



Most fatal & serious injury crashes involving a pedestrian or bicyclist included action of crossing the road.

Most Predominant Violations

- Motorists – Failure to yield
- Pedestrians – Did not use crosswalk
- Bicyclists – Rode against traffic

*Motor vehicle crashes not involving bike or pedestrian

How Crash Analysis is Used

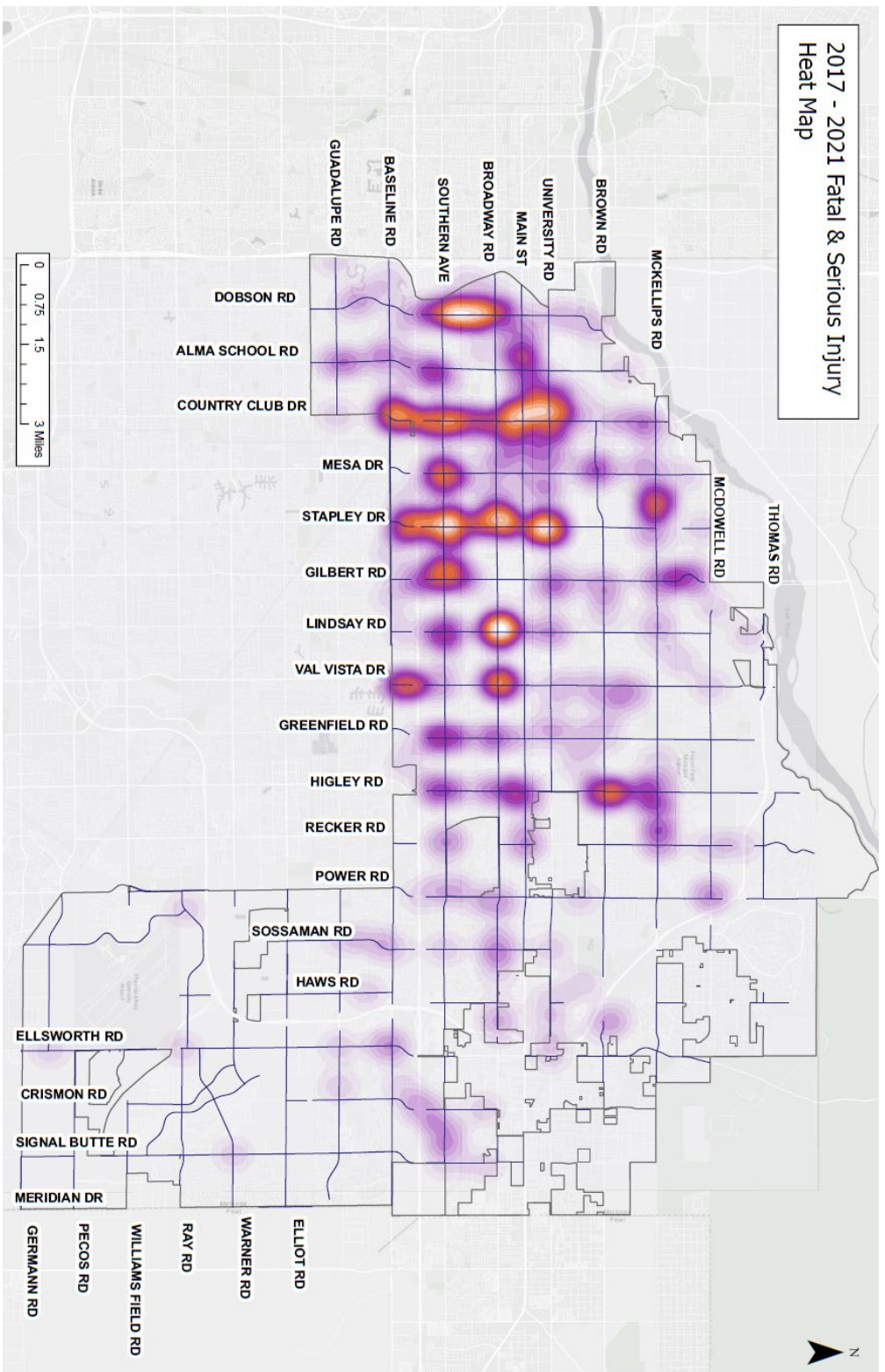
Dashboard/GIS

Cross reference crash data with geographic, land use and enforcement data sets

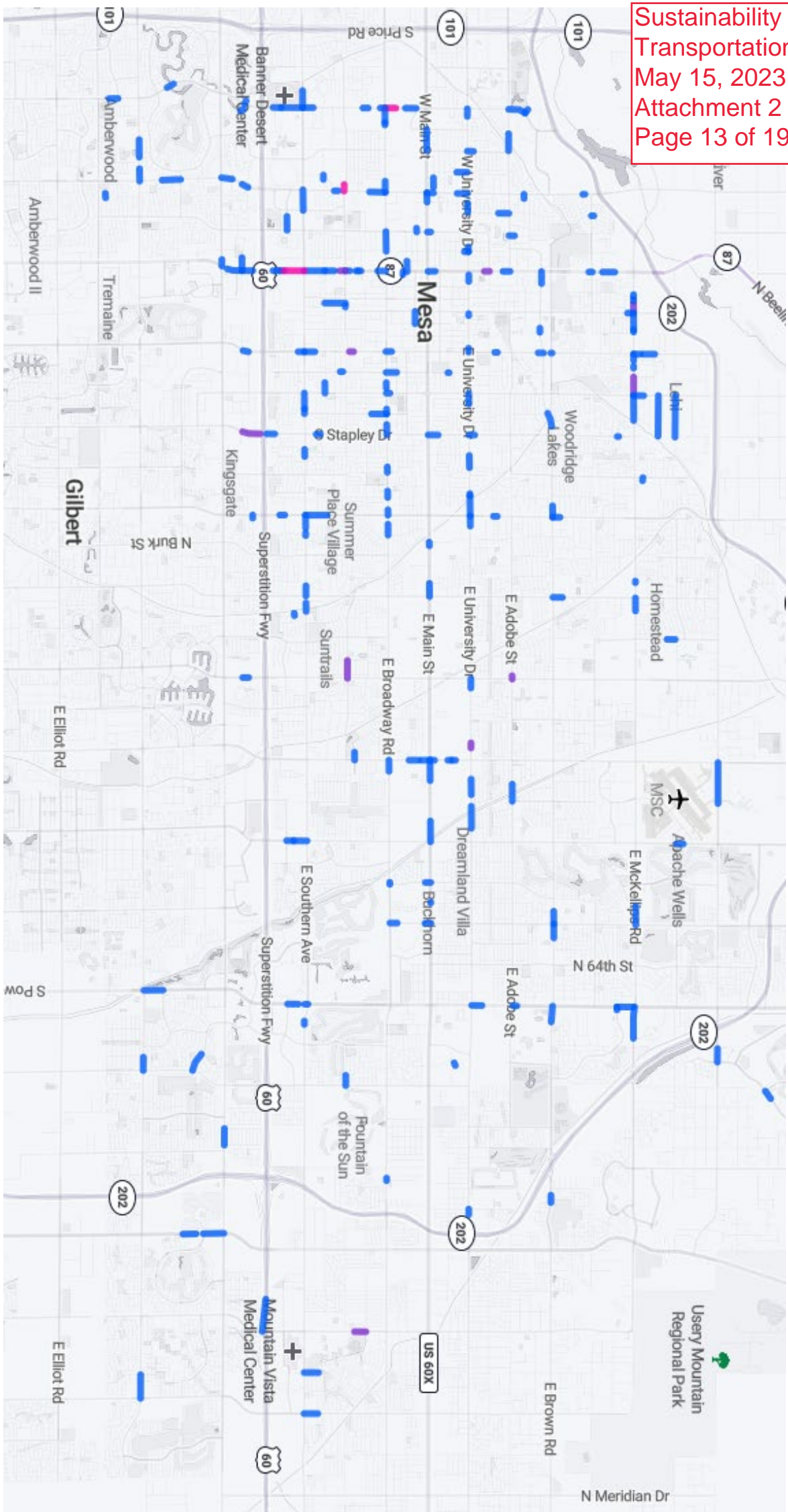
- Study system, corridor or intersection level
- Analyze specific types of crashes

- **Network Screening Database**

- Predictive crash analysis
- Identifies intersections with highest potential for safety improvements
- Helps prioritize projects



How Crash Analysis is Used



Coordination Meetings - Mesa

older meetings between **Mesa Police, Transportation, Fire & Medical, and Communications.**

Bi-Weekly Meeting Priorities:

- Data driven methods for reducing serious injury and fatal crashes
 - Allocate appropriate resources
- Safety campaigns for vulnerable road users
- Targeted enforcement using historical trends
- Increase in communication

2023 Goals:

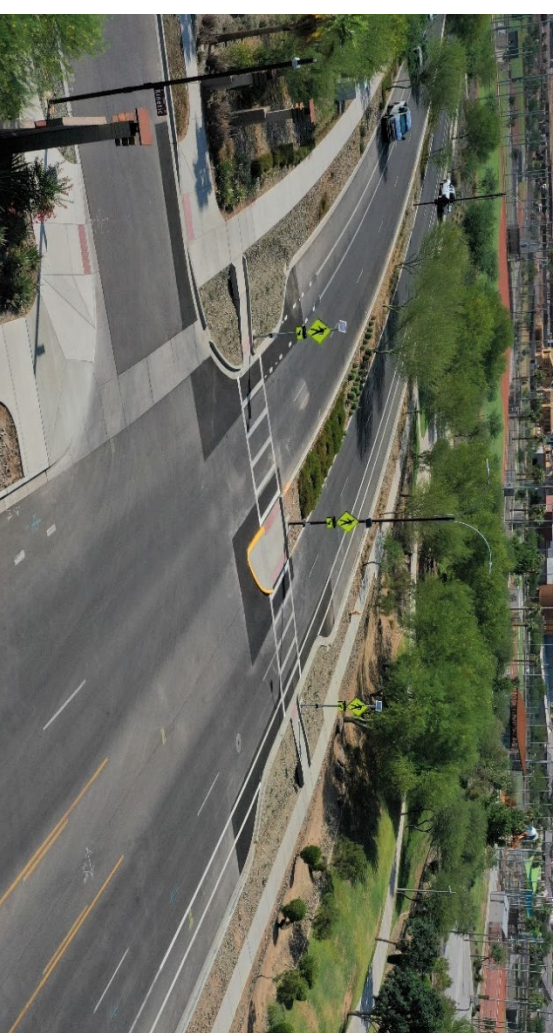
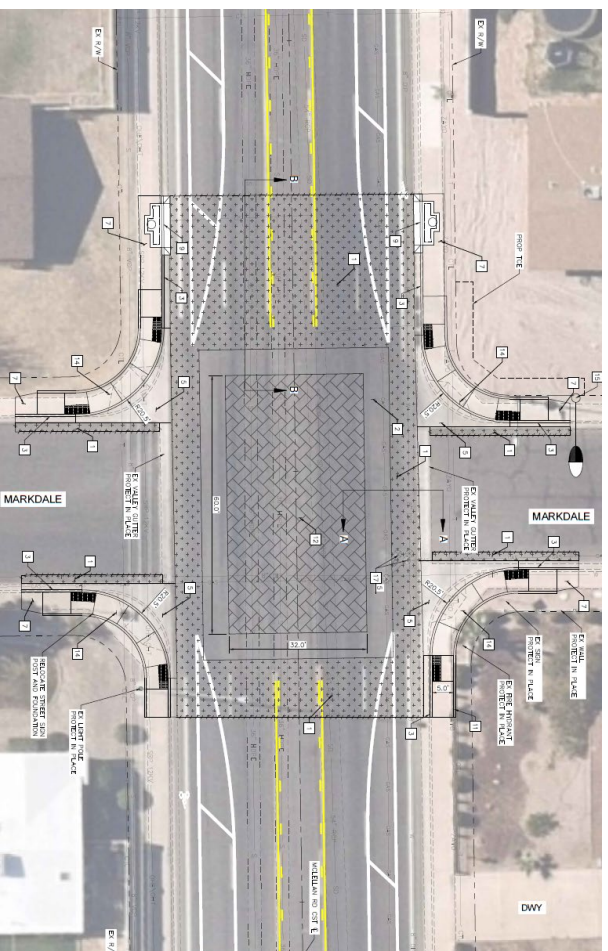
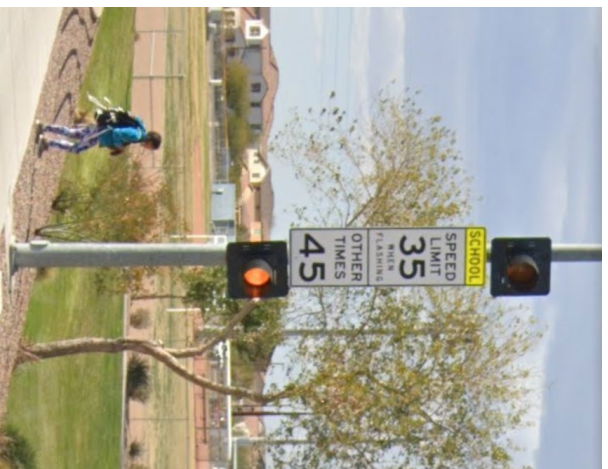
- Reduce fatalities by 30%
- Safety campaign across all platforms



Using Trends to Identify Needs

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Effectively in Safety Enforcement Funds



Questions & Discussion



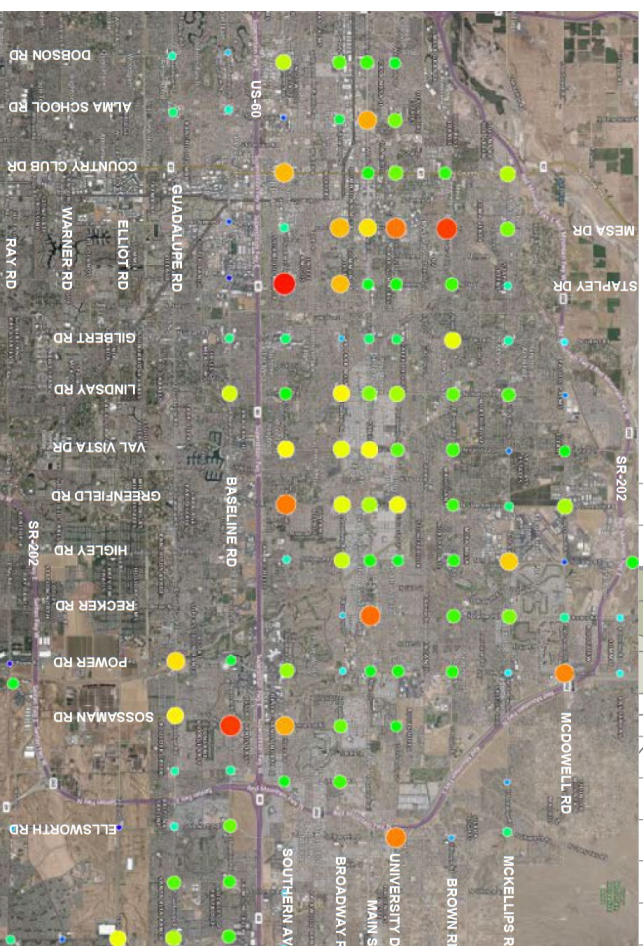
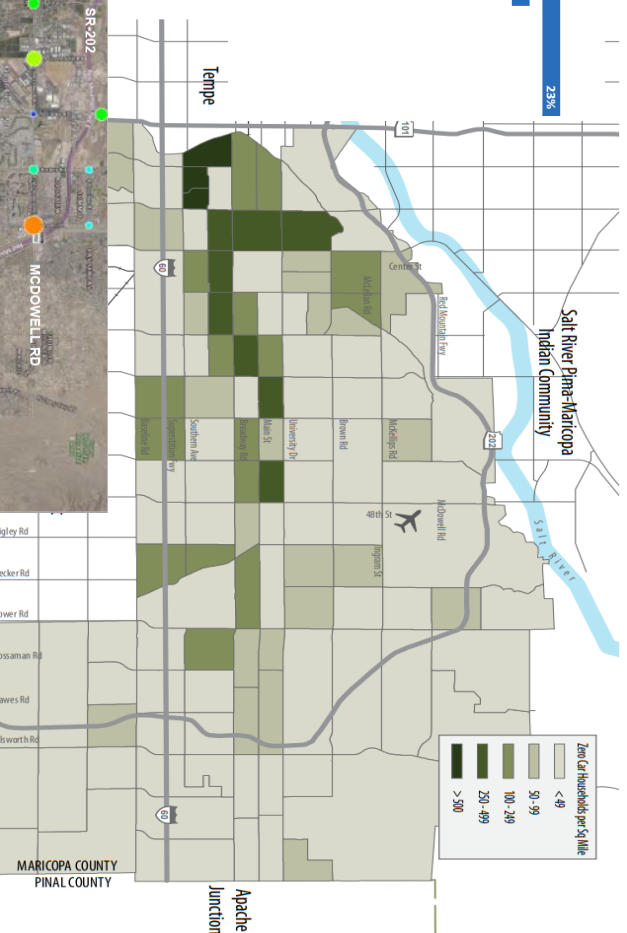
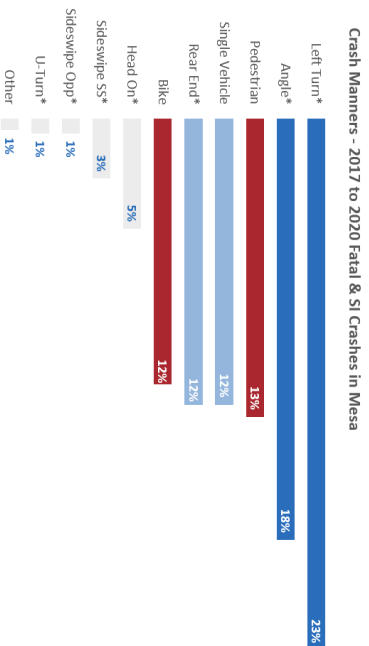
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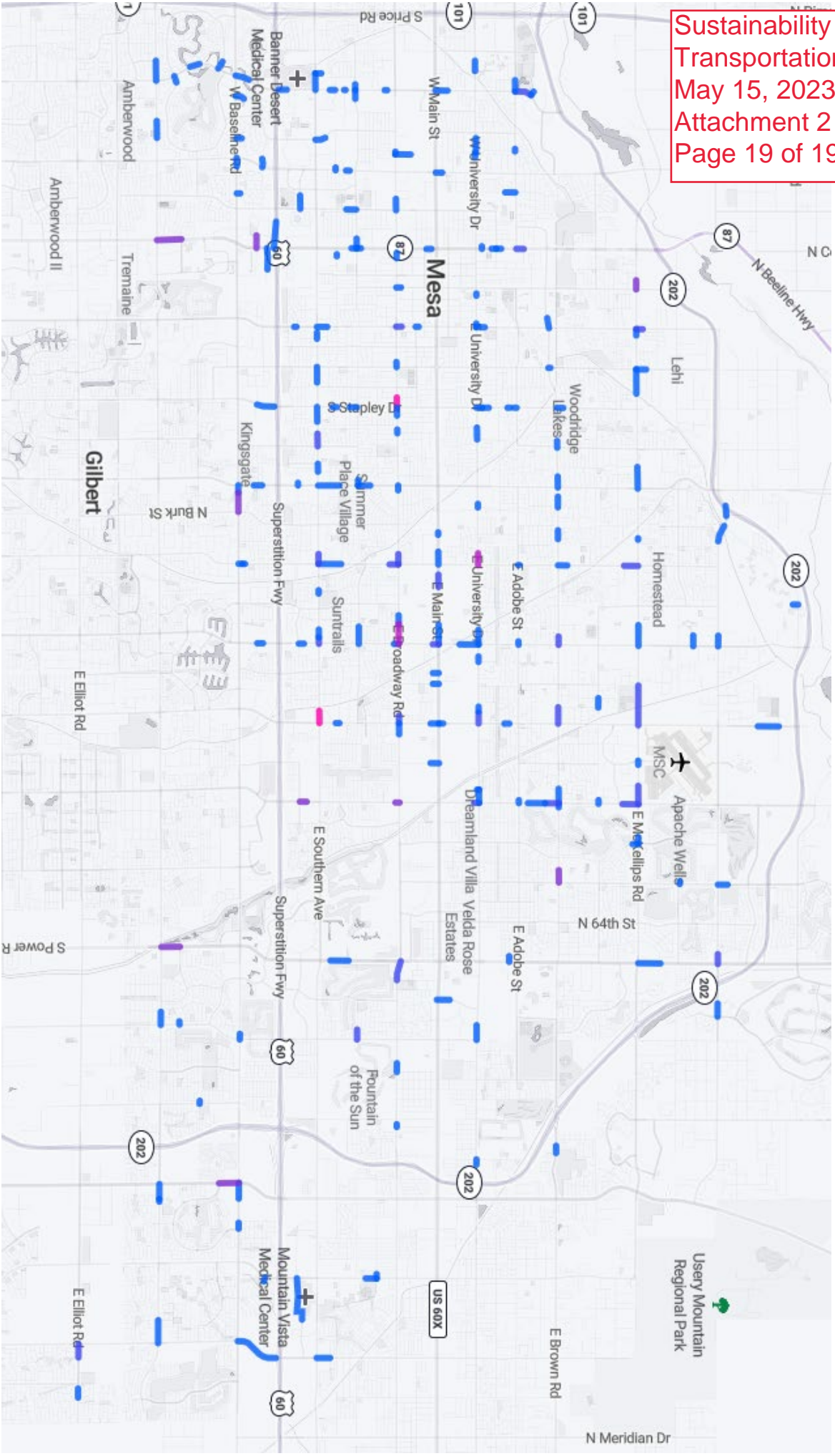
How Crash Analysis is Used

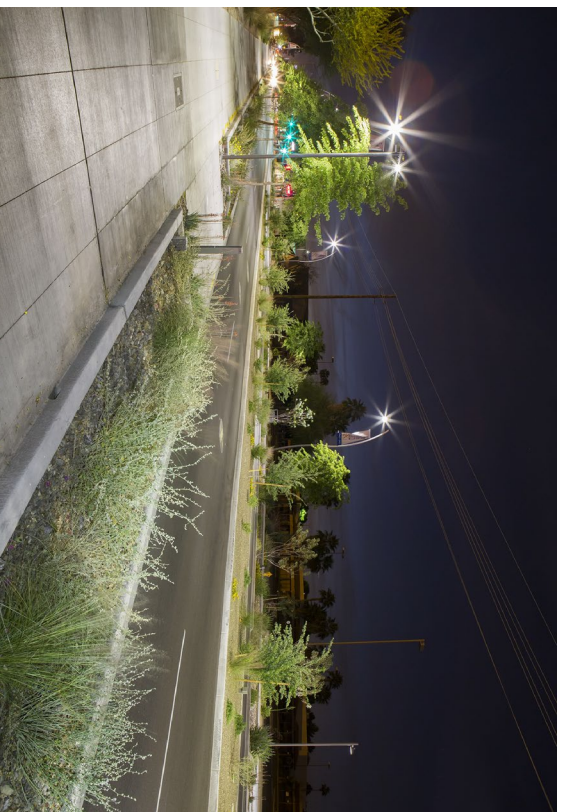
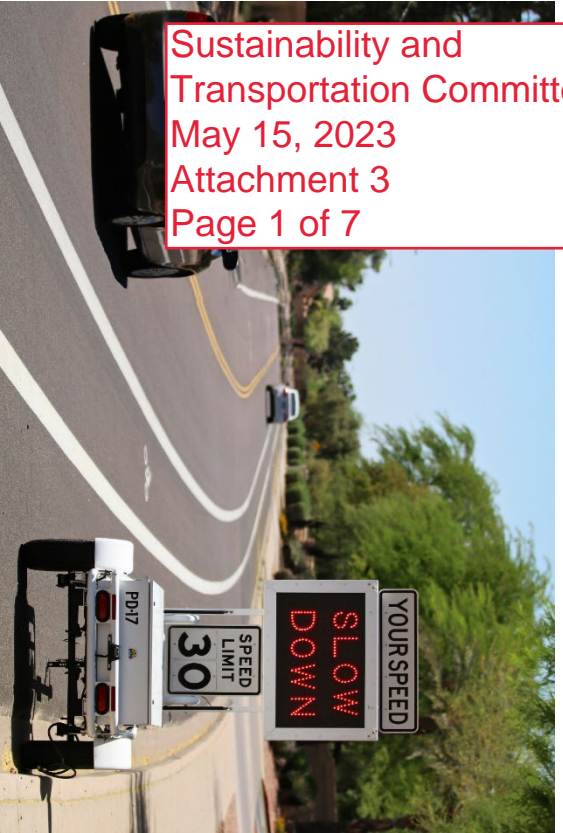
Traffic Trends

- Working to create more useful platforms that can assist in identifying trends and where to focus specific improvements, whether at intersections, roadway segments, or systemically
- The intersection of multiple data sets



How Crash Analysis is Used





City of Mesa Transportation

Safe Streets and Roads for All Funding



Overview

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Safe Streets and Road for All (SS4A) Program
Mesa's Action Plan Submittal/Award

- Schedule

SS4A Program

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of the federal Bipartisan Infrastructure Law

established a wide range of programs aimed at improving the nation's infrastructure

- **Safe Streets and Roads for All Program**
 - Focused on improving roadway safety and reducing serious injuries and fatalities to those who walk, bike, roll and travel in a vehicle.
 - \$5 Billion in funding over the next 5 years
 - Two types of grants
 - Action Plan Grants – Planning document
 - Implementation Grants – Implement strategies from an Action Plan

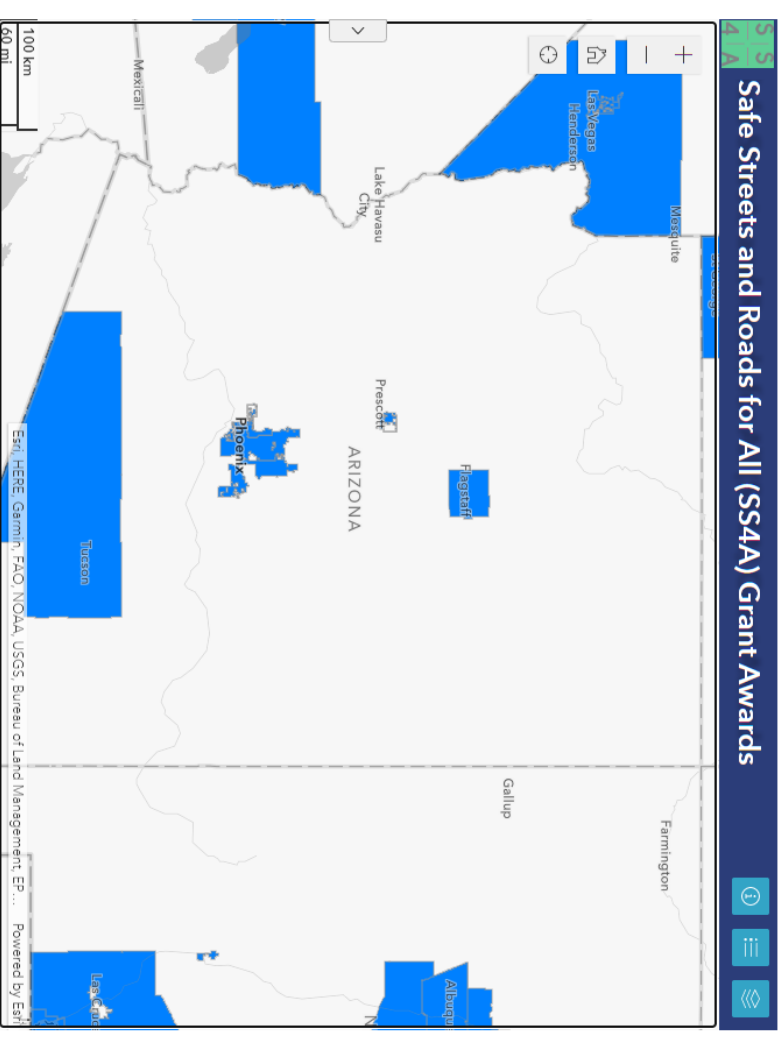


Mesa Action Plan Submittal

Giles August 2022 - Proclamation by Mayor

- **September 2022** - SS4A Submittal
- **February 2023** - Mesa notified that we were awarded an Action Plan Grant
 - Federal Grant Funding - \$750,000
 - City of Mesa Local Match - \$187,500

These awards include 474 Action Plan Grants and 37 Implementation Grants, shown in the map below.



Schedule

- **Summer 2023** – Finalize grant agreement with Federal Highway Administration
- **Fall 2023** – Procure consultant through RFQ process
- **Winter 2023** – Action Plan kick-off
- **Winter 2024** – Completion of Action Plan
- **Spring 2025** – Apply for SS4A Implementation Grant

Questions & Discussion



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