City of Mesa Transportation Safety

An Overview of Mesa's Approach to Crash Analysis

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May 15, 2023
Sustainability &
Transportation Committee

Overview

- Background on Crash Data
- Statistics & Trends
  - National, Regional and Local
- How the Crash Analysis is Used
- Coordination Meetings
- Safety Projects

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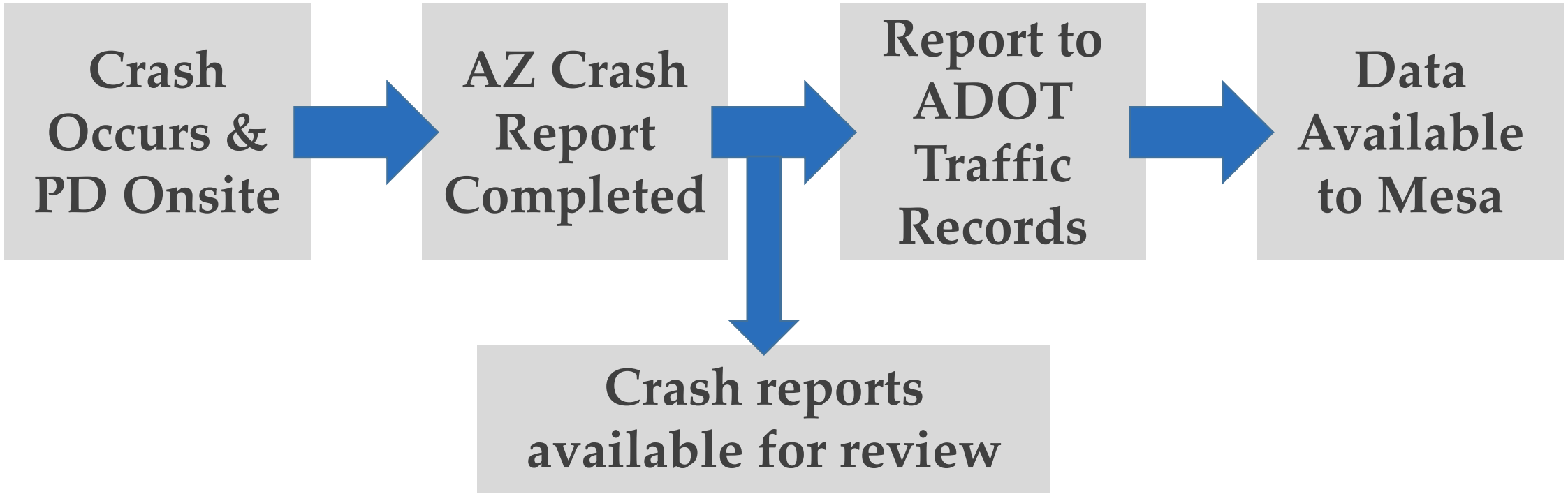
Mesa's Crash Data

Background on Crash Data



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Background on Crash Data

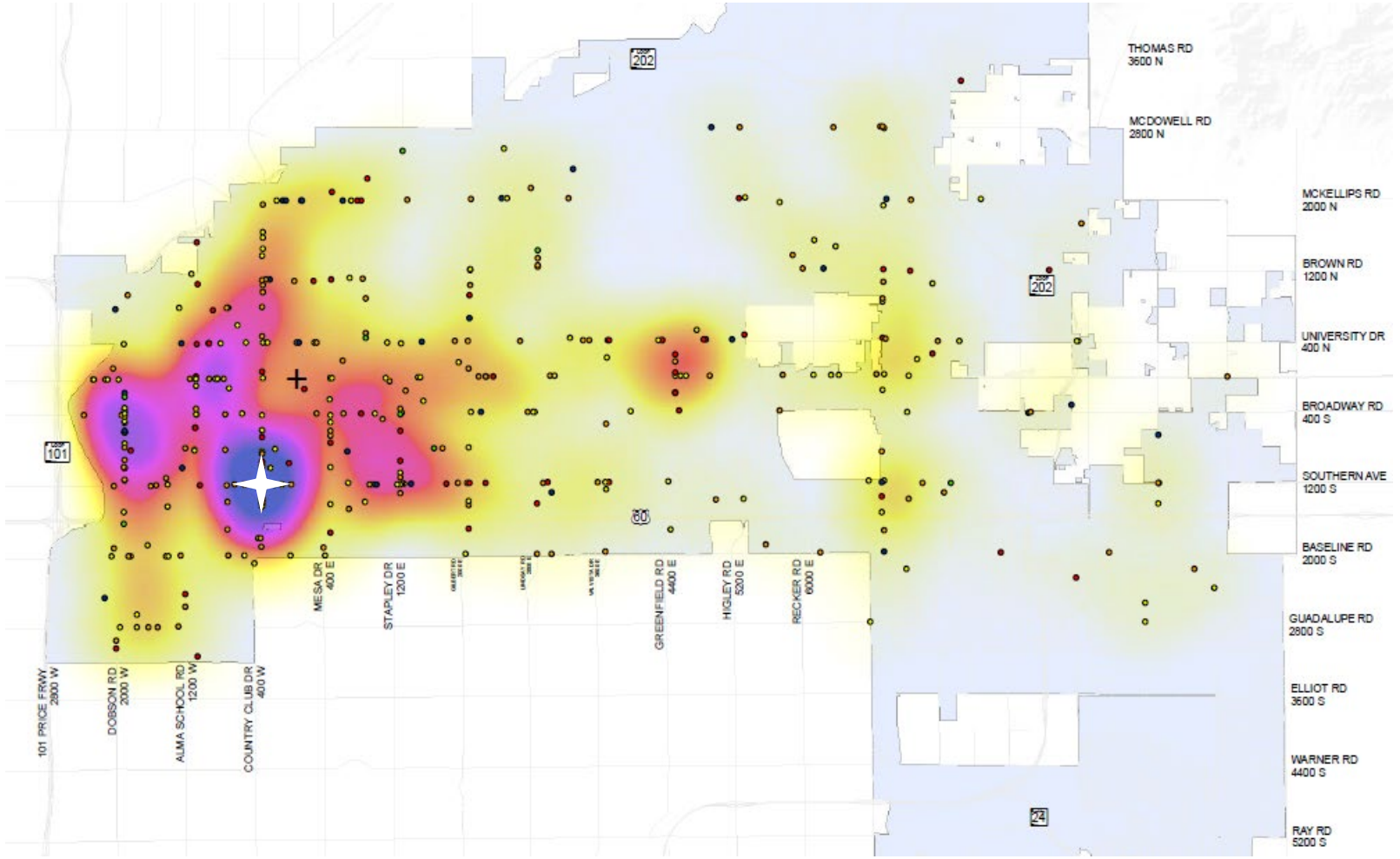
Past Study Types

Historical Trends – 5 Years

- Compiled data from annual reports
- Top Crash Intersections

Locational

- Study requests
- Safety reviews
- Part of design



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Statistics & Trends - National

2022 Fatal Crash Takeaways (NHTSA, 2022)

- 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

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Statistics & Trends - State & Regional

Arizona 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**

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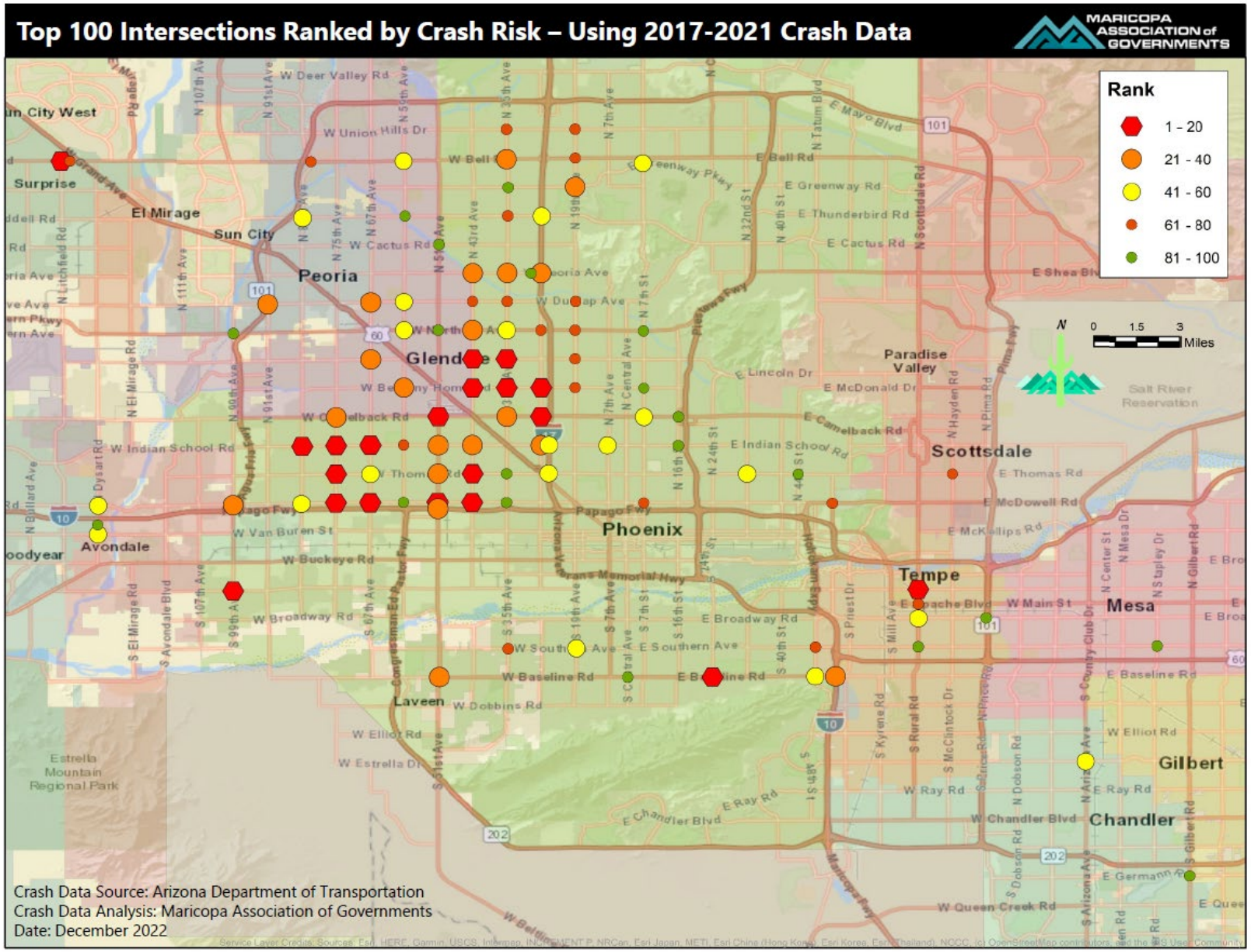
Using Trends to Identify Needs

Regional

- MAG Top 100 Intersections Ranked by **Crash Risk**



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Statistics & Trends - Mesa

City of 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**

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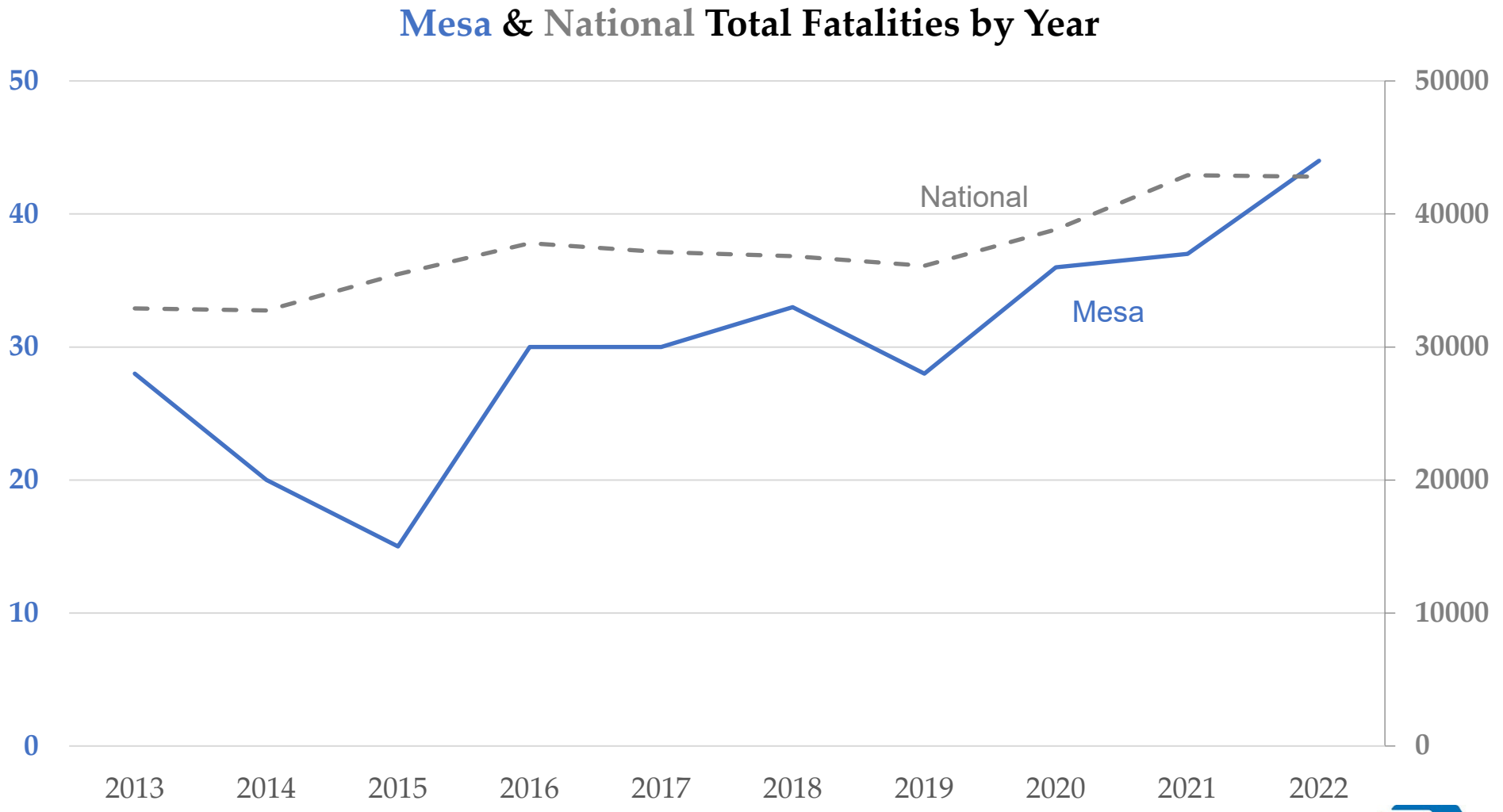
Statistics & Trends

Fatalities

- 10-Year Mesa & National



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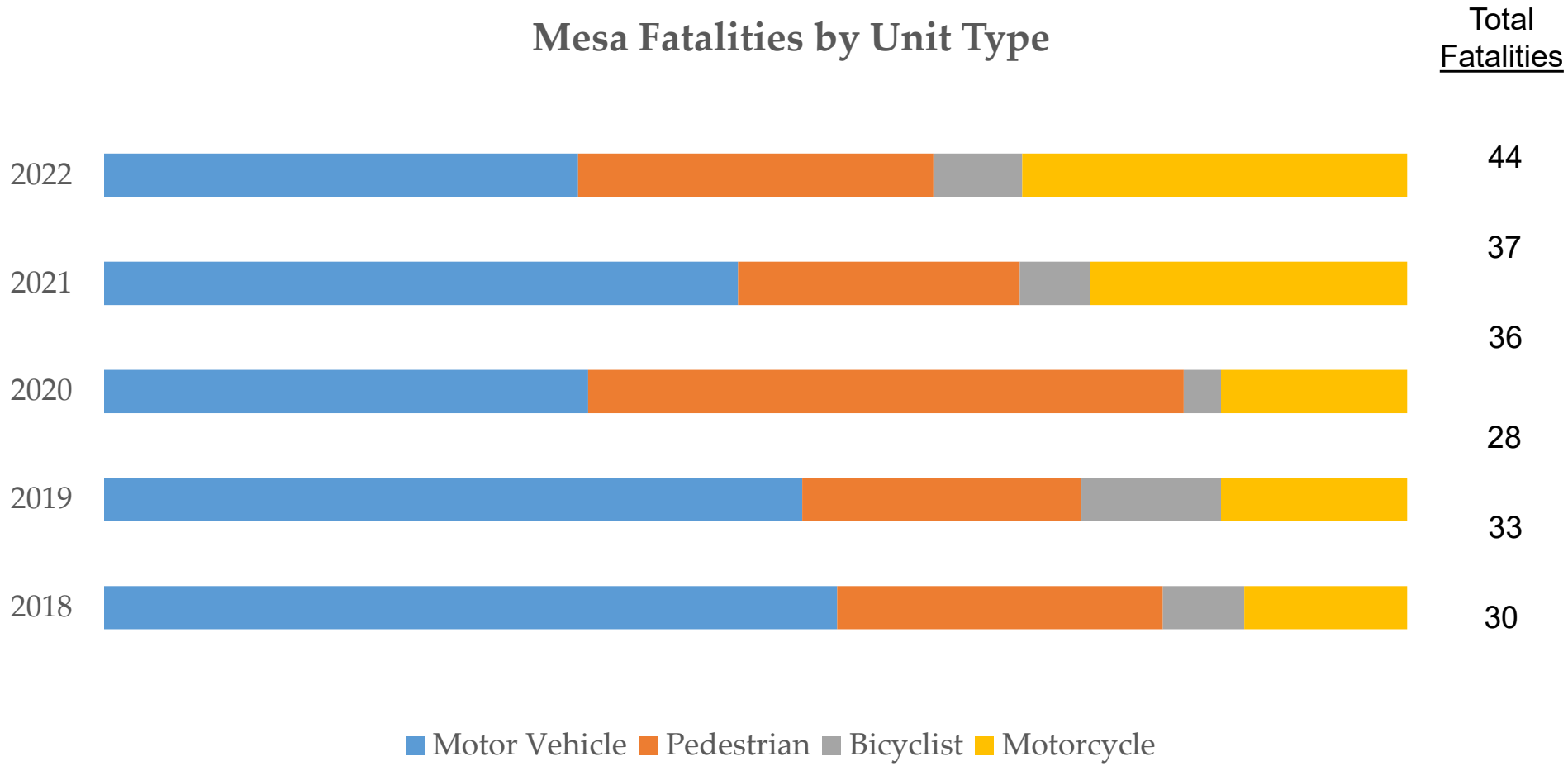
Statistics & Trends

Fatalities



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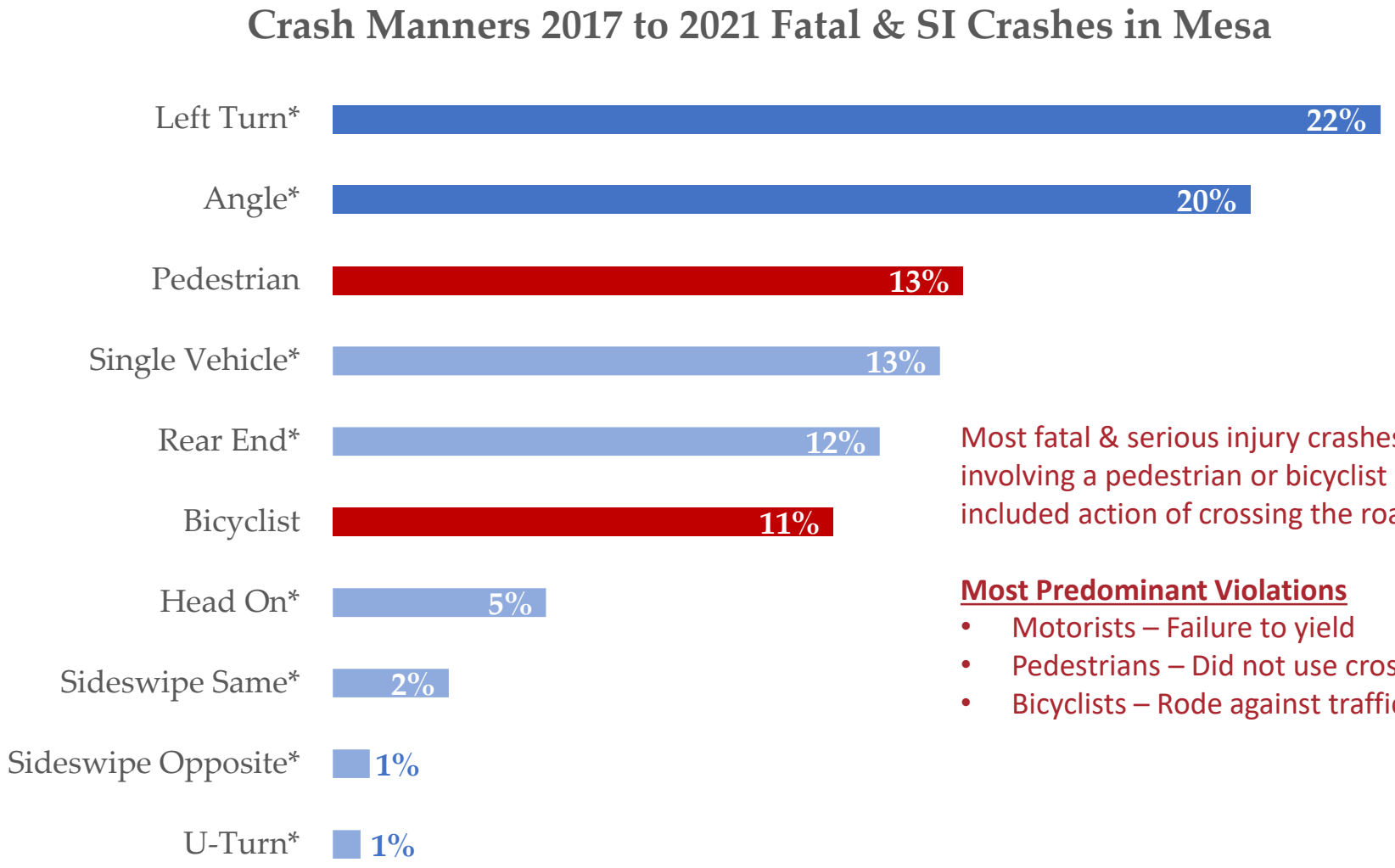
Statistics & Trends

Fatal & SI Crashes

- Manners



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

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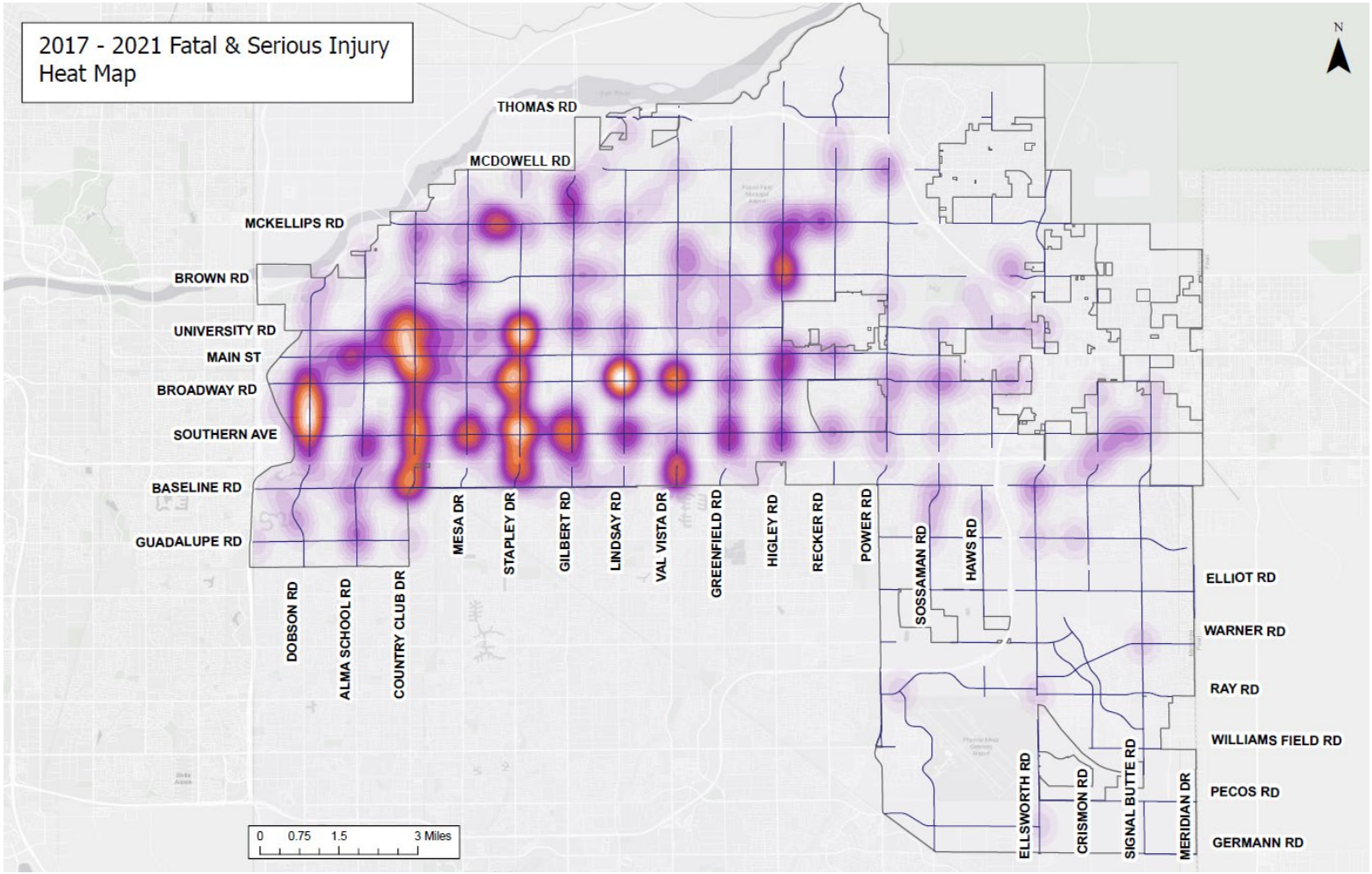
How Crash Analysis is Used

- Dashboard/GIS
  - Cross reference crash data with demographic, 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



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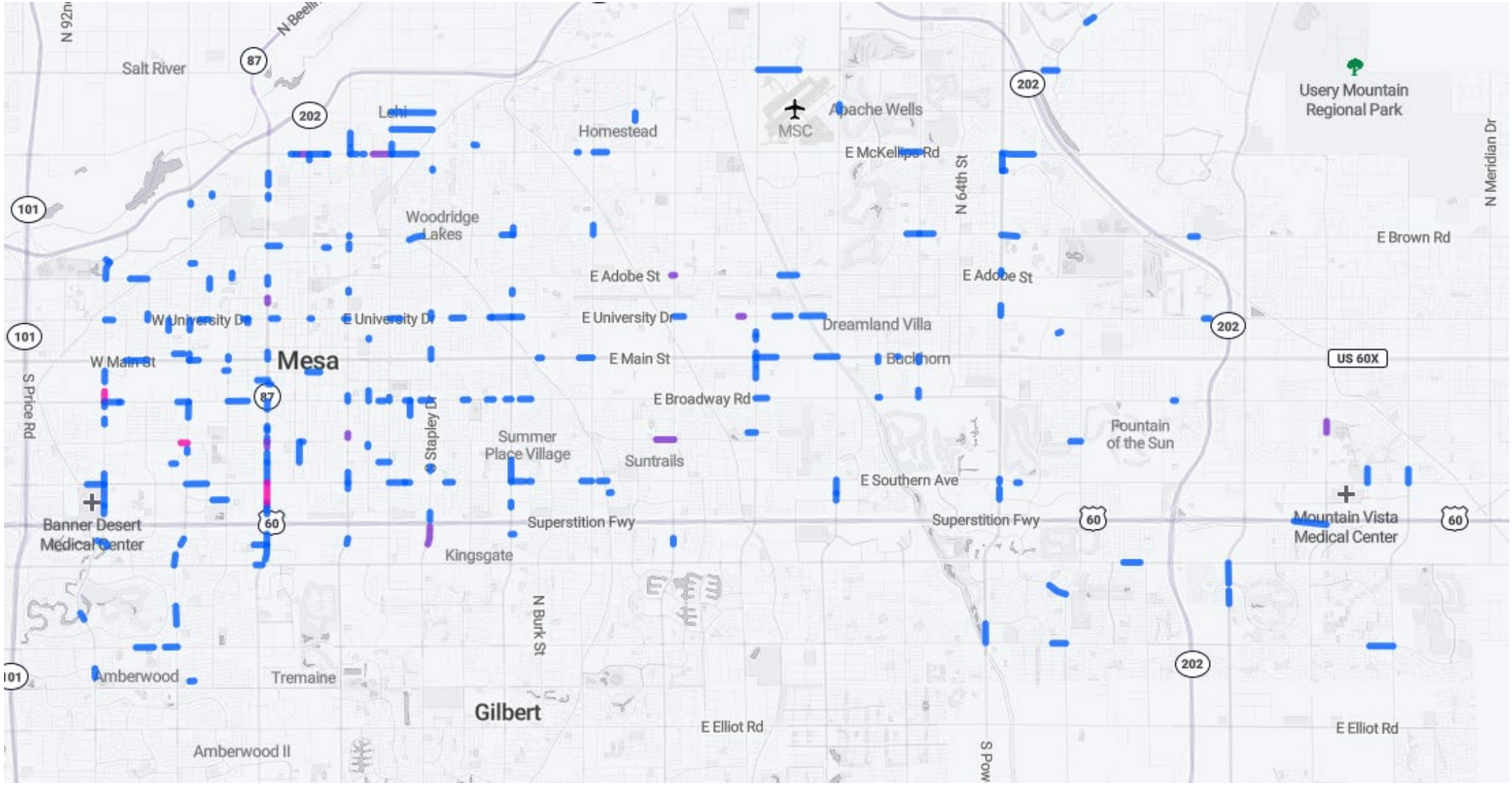
How Crash Analysis is Used



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Coordination Meetings - Mesa

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

Bi-Weekly Meeting Priorities:

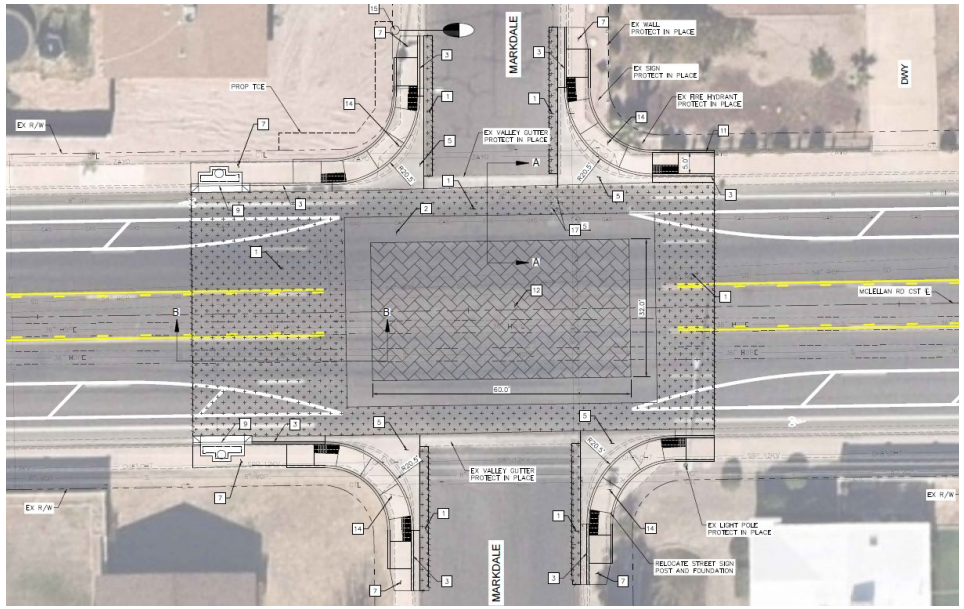
- Data driven methods for reducing serious injury and fatal crashes
  - Allocate appropriate resources
- Safety campaigns for vulnerable road users
- Targeted enforcement using historical trends
- Increase in communication

2023 Goals:

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

Using Trends to Identify Needs

$1.0 M Annually in Photo Safety Enforcement Funds



Questions & Discussion

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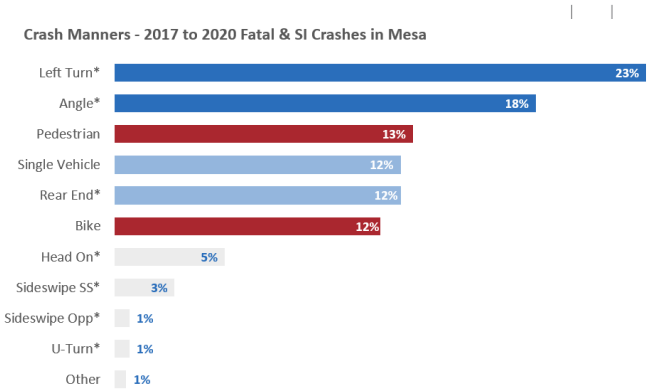
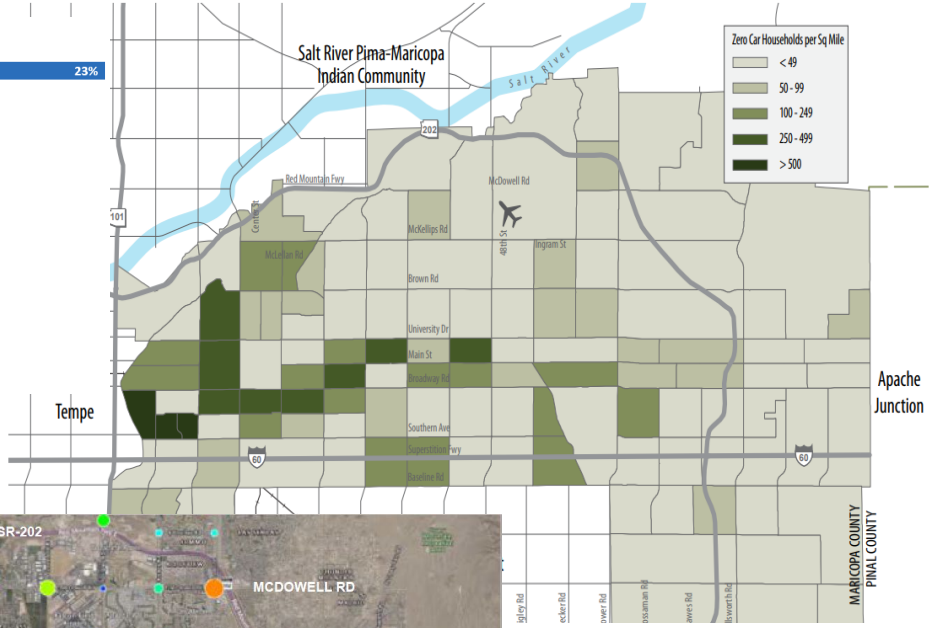
How Crash Analysis is Used

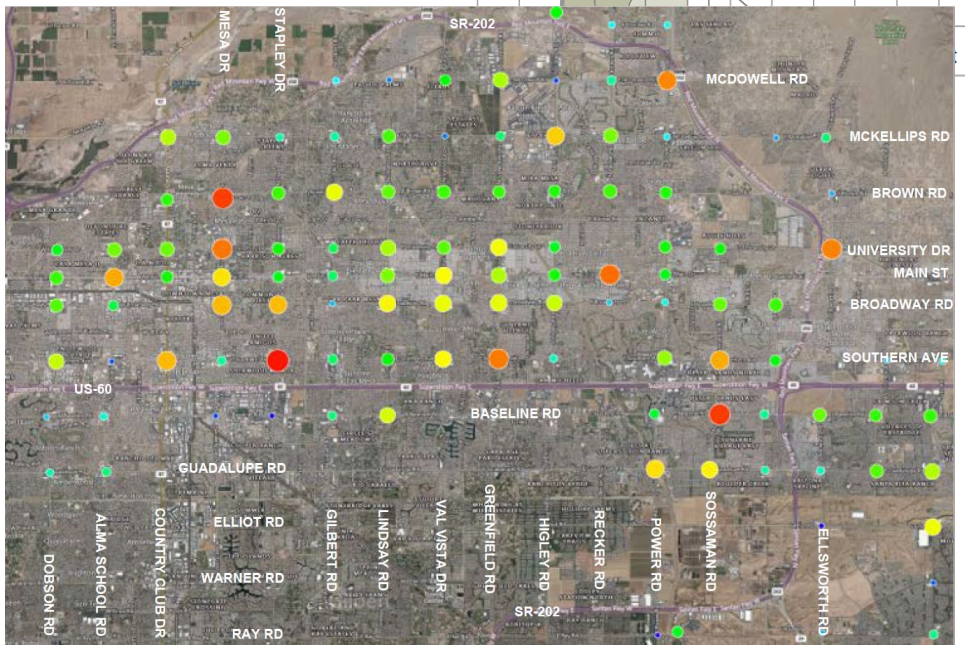
Specific Trends

- 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







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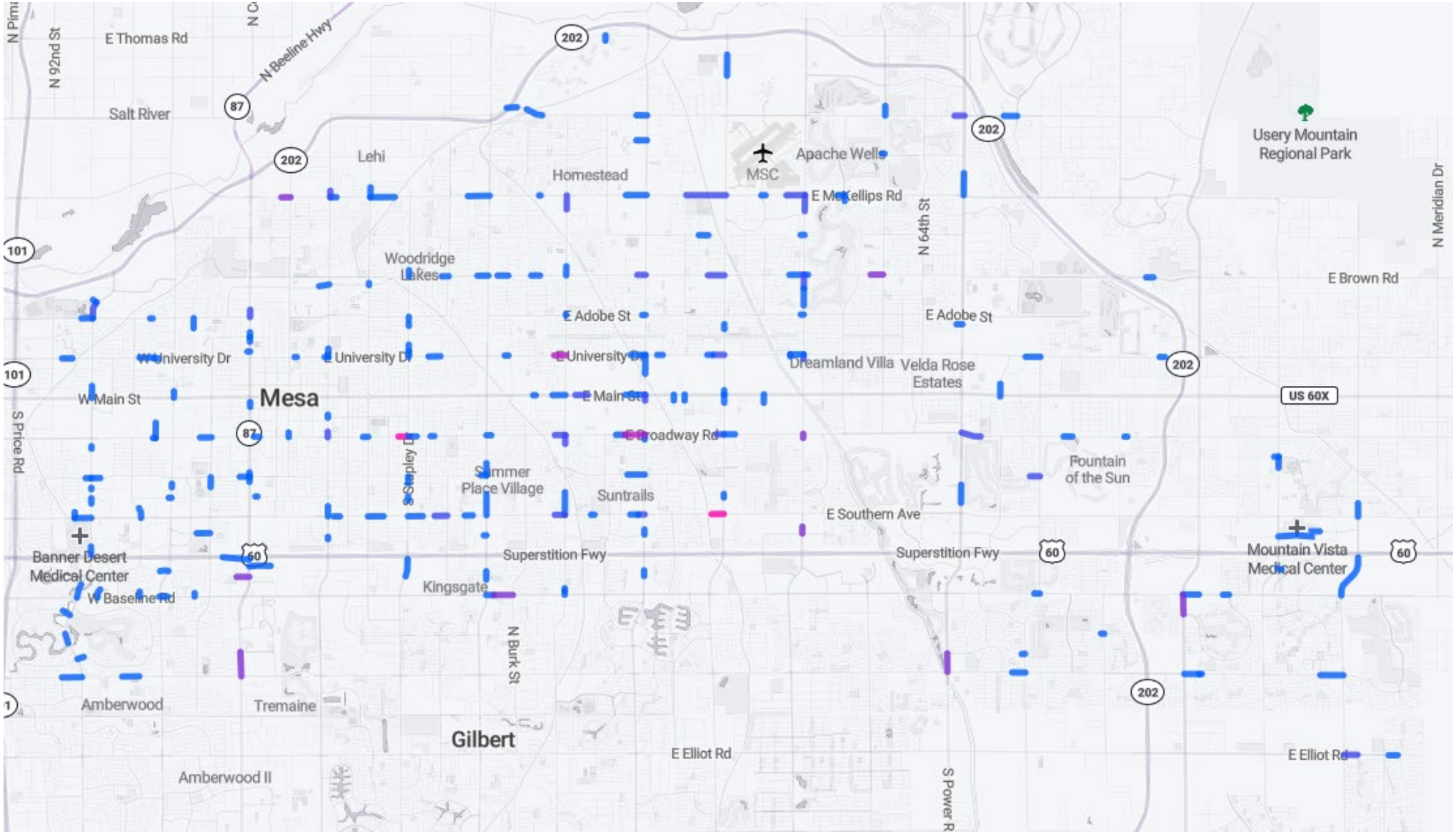
How Crash Analysis is Used



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