

NMDOT VRU Safety Assessment Meeting

Albuquerque

August 9th, 2023



New Mexico DEPARTMENT OF
TRANSPORTATION
MOBILITY FOR EVERYONE



WELCOME



Mentimeter:
What agency do you represent?

Agenda

- **Brief Introduction** *(5 minutes)*
- **Presentation** *(30 minutes)*
- **JamBoard Session** *(40 minutes)*
- **Q&A** *(10 minutes)*
- **Wrap-up/next steps** *(5 minutes)*

Introduction

What Brings Us here?

Infrastructure Investment and Jobs Act (IIJA)

- New requirement: All states are required to develop a VRU Assessment
- Data-driven analysis
- Incorporate Safe Systems Approach (SSA)
- Requires public and stakeholder input
- Special rule: if annual VRU fatality rate exceeds 15%, state must spend at least 15% of HSIP funds

The FHWA is prioritizing safety for Vulnerable Road Users (VRUs)



Vulnerable Road Users



Vulnerable Road User

Those unprotected by an outside shield, as they sustain a greater risk of injury in any collision with a vehicle and are therefore highly in need of protection against such collisions. Examples include pedestrians, roadway workers, a person operating a wheelchair, a person riding a bicycle or scooter.

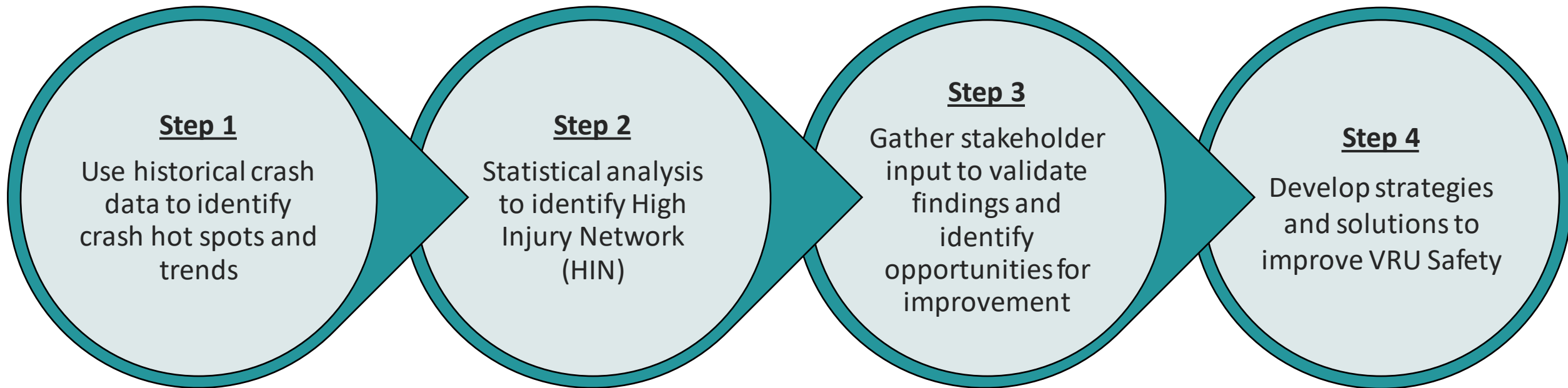
Mentimeter:
Fatalities occur in roughly 85%
pedestrian/vehicle crashes when the
vehicle is traveling at what speed?

If a Person Is Hit by a Car Travelling...

● If hit by a car travelling:
 ● Results in fatality
 ● Person survives



Vulnerable Road User Assessment Process



The final report will be included in the next New Mexico SHSP (2024)

VRU Safety in New Mexico

Mentimeter:

For the years 2012 through 2021, how many times did New Mexico have the highest pedestrian fatality rate per capita in the USA?

New Mexico's Ranking in State Pedestrian Fatality Rates

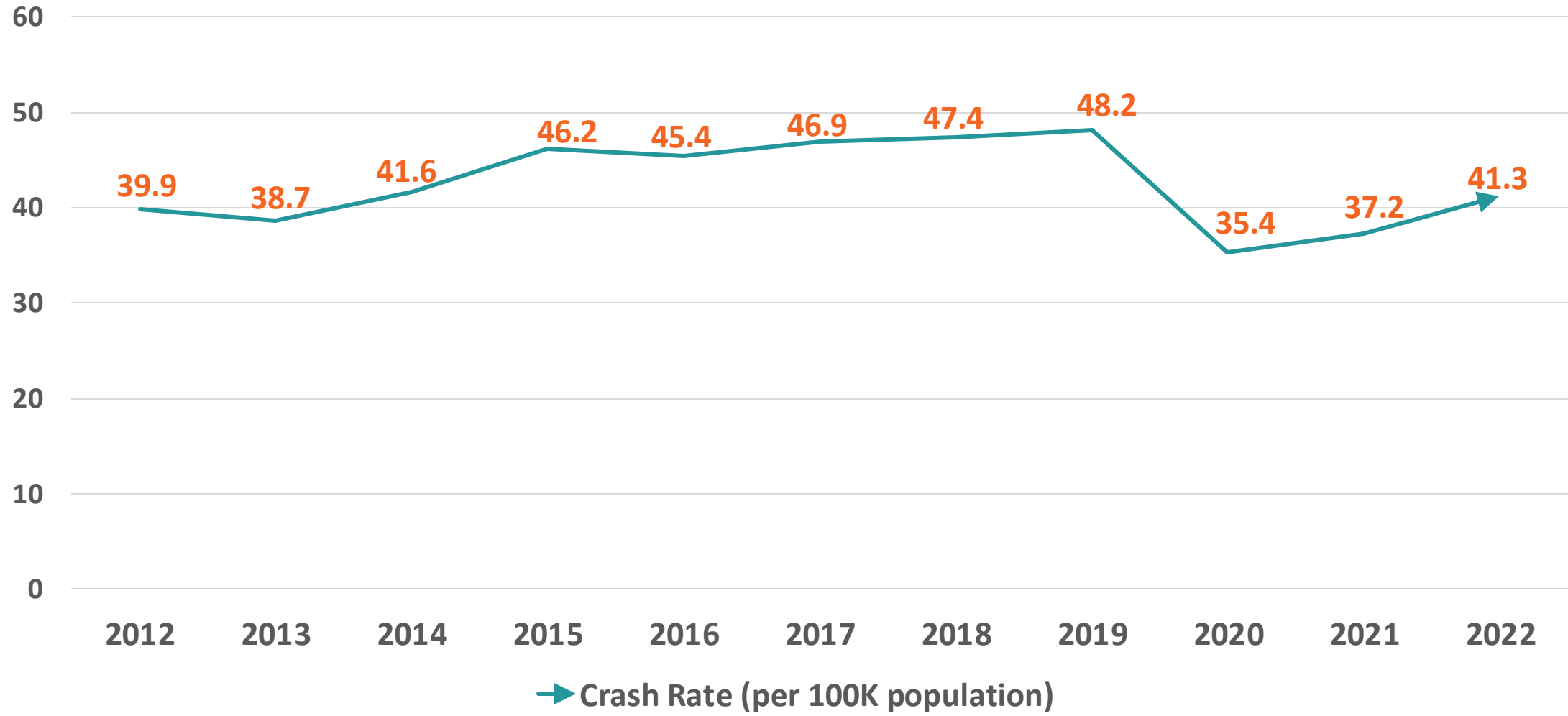
Year	Nationwide Ranking
2012	2 nd – 2.92 pedestrian fatality rate per 100,000 population
2013	4 th – 2.34 pedestrian fatality rate per 100,000 population
2014	1 st – 3.59 pedestrian fatality rate per 100,000 population
2015	3 rd – 2.58 pedestrian fatality rate per 100,000 population
2016	1 st – 3.54 pedestrian fatality rate per 100,000 population
2017	1 st – 3.58 pedestrian fatality rate per 100,000 population
2018	1 st – 3.96 pedestrian fatality rate per 100,000 population
2019	1 st – 3.96 pedestrian fatality rate per 100,000 population
2020	1 st – 3.83 pedestrian fatality rate per 100,000 population
2021	1 st – 4.77 pedestrian fatality rate per 100,000 population



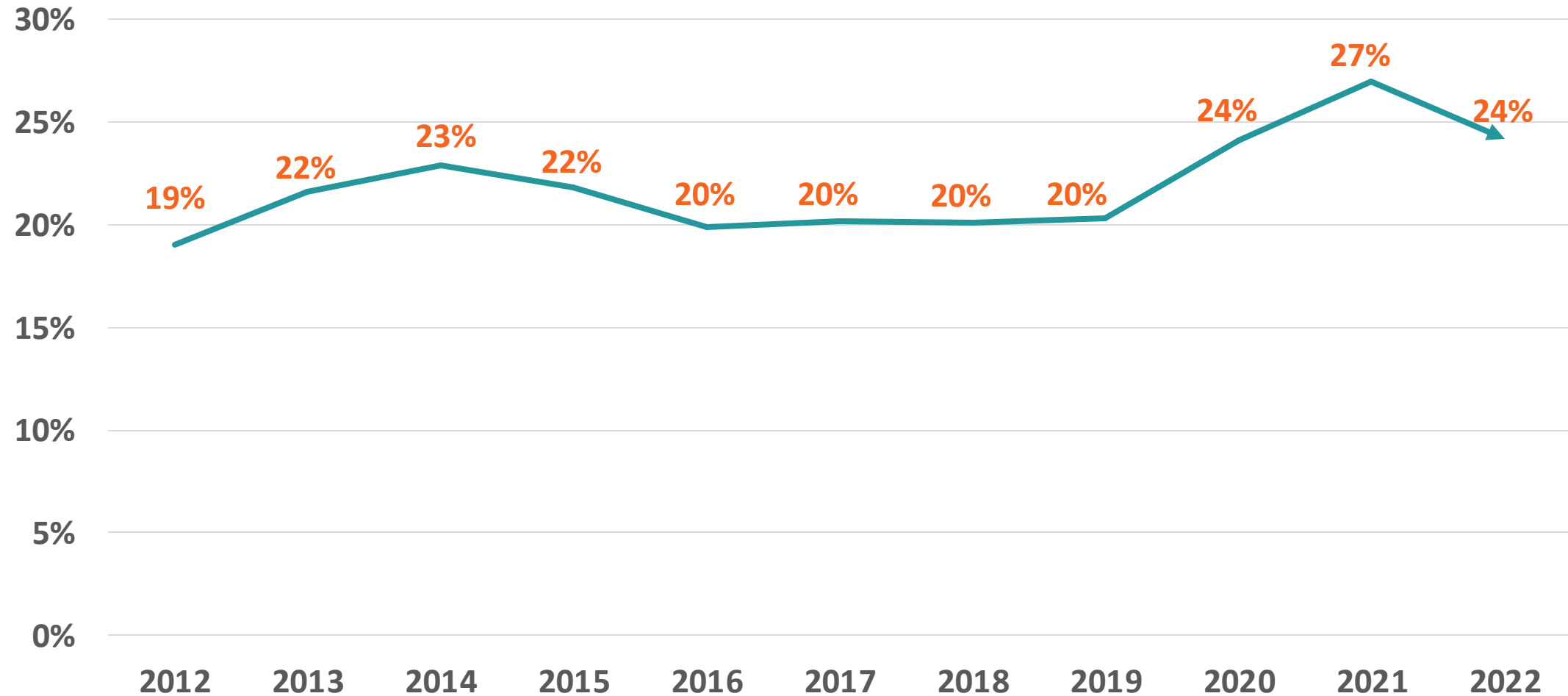
KABCO Rating System

- **K** – Killed
- **A** – Serious Injury
- **B** – Suspected Minor Injury
- **C** – Complaint of Injury
- **O** – No Apparent Injury

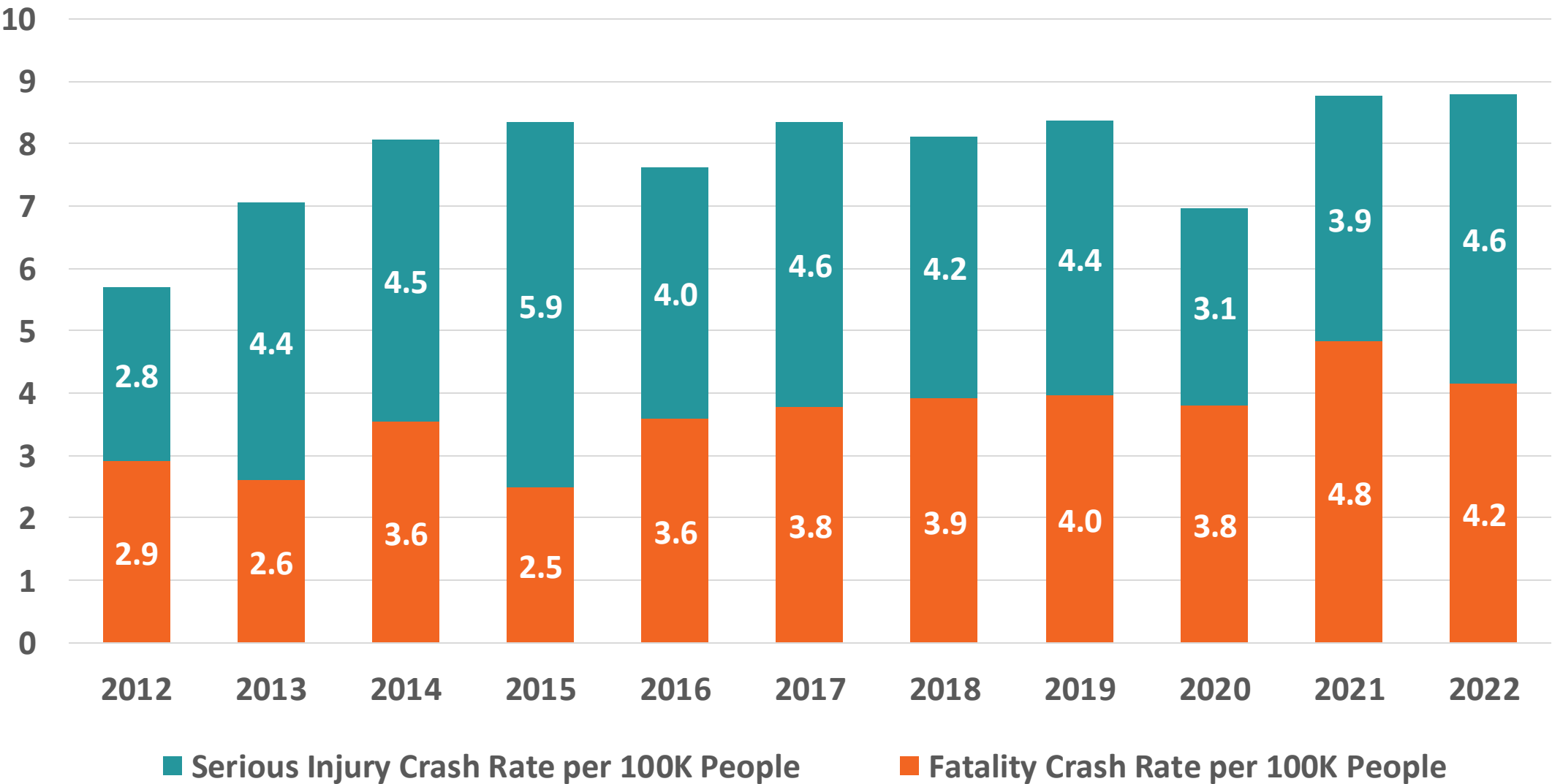
VRU-Involved Crash Rate (All severities)



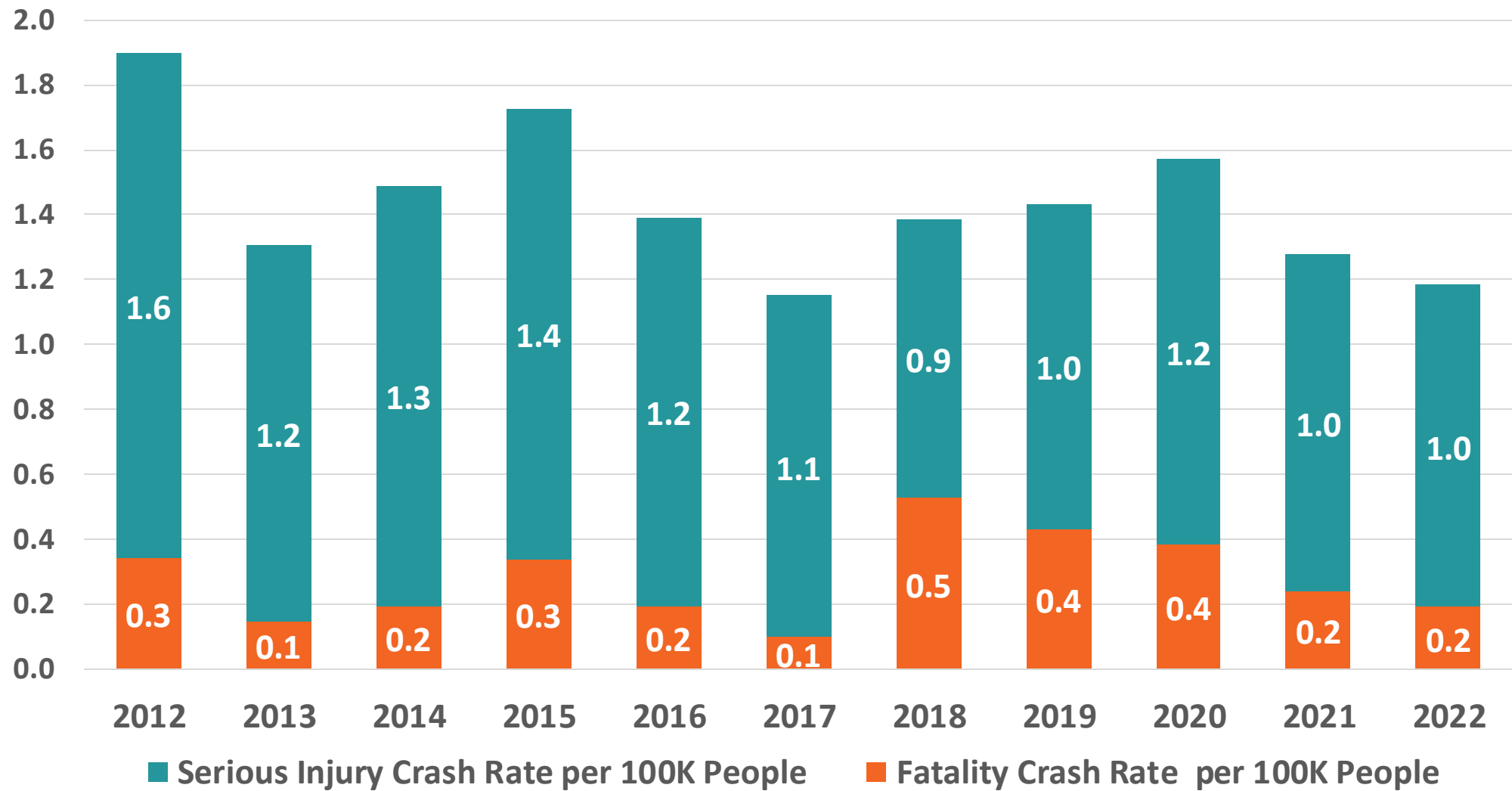
Percentage of VRU Crashes That Result in a Fatality or Serious Injury



Pedestrian-Involved Crash Rate (%)



Bicyclist-Involved Crash Rate (%)



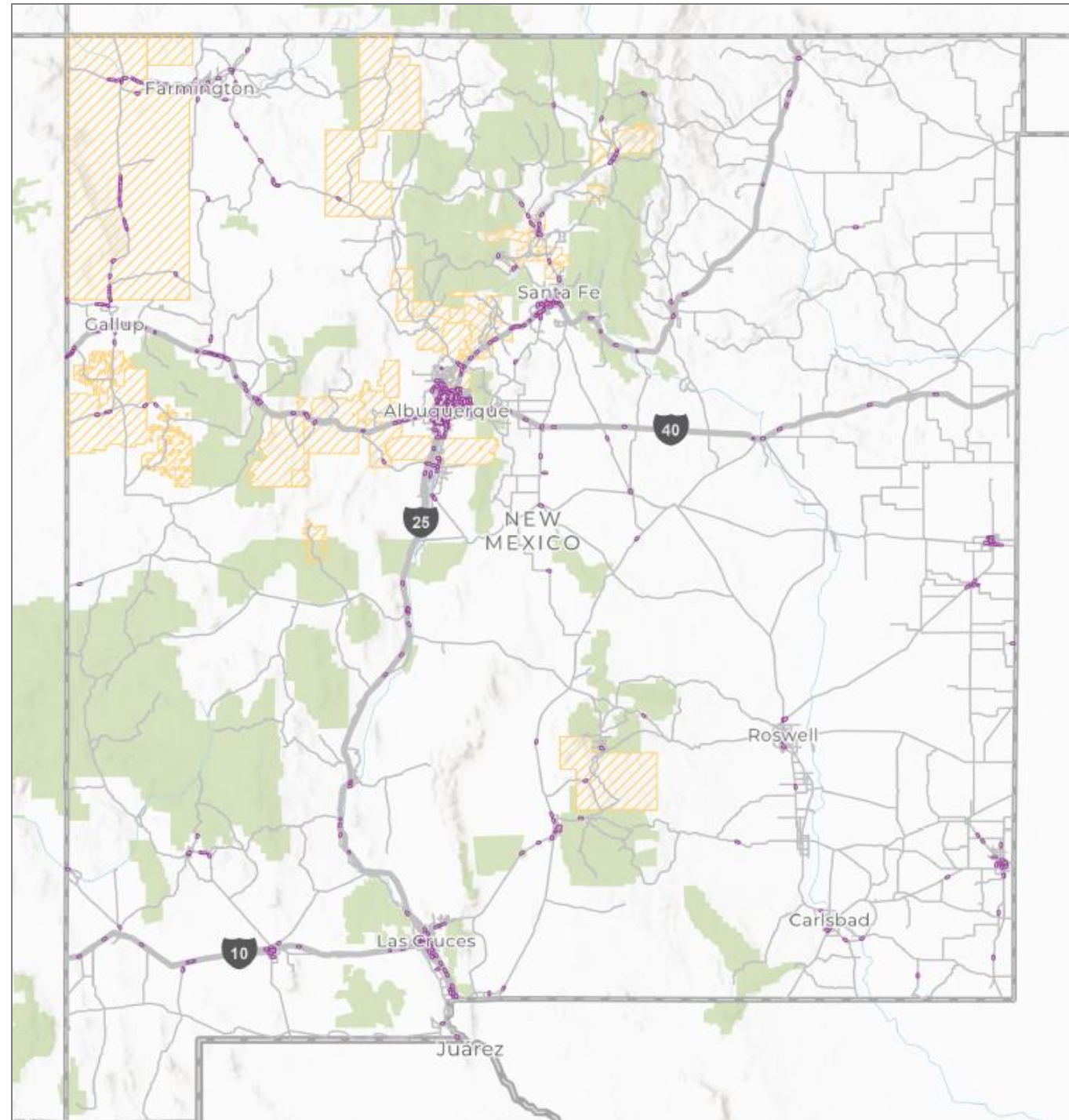
Mentimeter:

Since 2012, at least 15% of New Mexico's annual roadway fatalities involved a VRU.

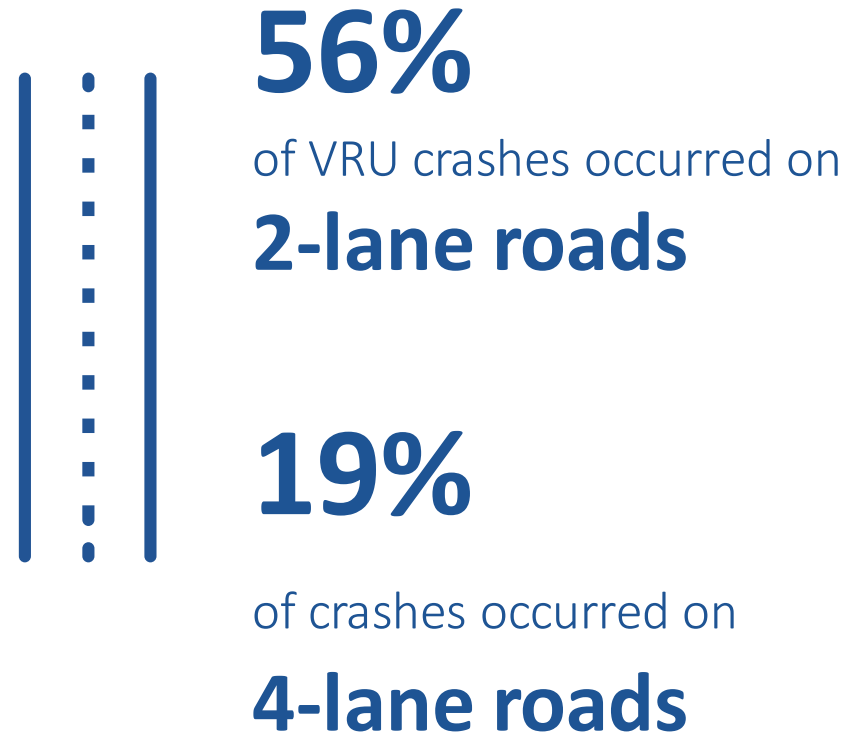
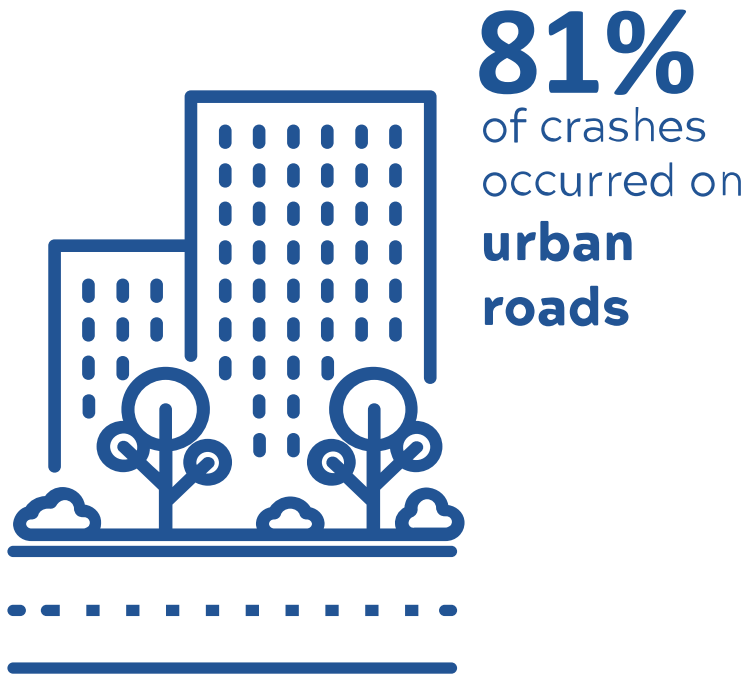
Where Are Crashes Happening?

Statewide High Injury Network (Bike/Ped)

- Interstate
- Freeway
- High Injury Network
- Tribal Lands



Within New Mexico...



Mentimeter:

What percentage of VRU fatalities or serious injuries included impairment of the vehicle driver, the VRU victim, or both?

New Mexico VRU Crash Characteristics

- Between 2012 and 2022...
 - 65% of VRU-Involved KA Crashes Occurred at an intersection
 - 36% occurred on a roadway with a speed limit of 40 to 45 mph
 - 30.7% of KA crashes involved alcohol use by the VRU victim, the vehicle driver, or both.
 - 21.5% of KA crashes were a Hit-and-Run

The Effect of Lighting and Time of Day

Hour of Crash	January	February	March	April	May	June	July	August	September	October	November	December	Total	% of KA Crashes
12 a.m.	6	3	4	4	1	8	8	3	6	7	4	3	57	2.7%
1 a.m.	6	4	1	1	1	10	5	6	3	4	2	4	47	2.2%
2 a.m.	5	5	1	4	4	2	4	3	3	5	1	1	38	1.8%
3 a.m.		4	1	3	1	2	5	5	4	2	1	1	29	1.4%
4 a.m.	5	3	1	1	3	5	2	3	4		1	1	29	1.4%
5 a.m.	2	3		1	5	4	2	10	2	4	2	5	40	1.9%
6 a.m.	3	3	4		2	5	1	5	6	6	5	8	48	2.3%
7 a.m.	6	2	8	6	8	4	8	9	5	10	3	4	73	3.4%
8 a.m.	7	2	1	4	7	4	4	2	8	4	1	2	46	2.2%
9 a.m.	7	2	2	2	5	4	4	5	4	3	6	6	50	2.3%
10 a.m.	2	5	2	3	5	4	6	5	2	3	4	3	44	2.1%
11 a.m.	6	6	1	3	3	5	10	3	4	8	4	1	54	2.5%
12 p.m.	3		8	5	5	8	8	8	7	6	3	4	65	3.1%
1 p.m.	2	3	8	15	2	3	4	7	12	5	4	7	72	3.4%
2 p.m.	1	5	8	4	3	3	2	6	1	12	3	5	53	2.5%
3 p.m.	6	11	6	4	5	6	3	8	9	6	3	12	79	3.7%
4 p.m.	8	12	5	5	6	5	6	5	8	8	4	10	82	3.9%
5 p.m.	19	16	6	4	4	6	10	10	6	8	21	32	142	6.7%
6 p.m.	31	29	10	4	6	7	8	8	10	12	34	29	188	8.8%
7 p.m.	21	15	25	10	6	9	10	14	28	46	15	21	220	10.3%
8 p.m.	16	14	20	29	21	14	15	21	18	22	18	14	222	10.4%
9 p.m.	11	3	21	16	25	36	24	18	9	13	19	12	207	9.7%
10 p.m.	11	7	14	13	16	13	12	7	18	9	11	7	138	6.5%
11 p.m.	4	10	6	5	17	13	11	7	3	6	12	5	99	4.7%
Total	189	167	164	147	161	180	172	178	182	210	181	197	2128	100.0%
% of KA Crashes	8.9%	7.8%	7.7%	6.9%	7.6%	8.5%	8.1%	8.4%	8.6%	9.9%	8.5%	9.3%	100.0%	

46% of VRU-Involved crashes occurred between 5 and 9 p.m.

(In)Equity in Traffic Safety

Equity's Role in Improving VRU Safety

- Identify groups disproportionately harmed by transportation system
- Historic inequalities have led to unequal outcomes
- Outcome: fair resource distribution based on need

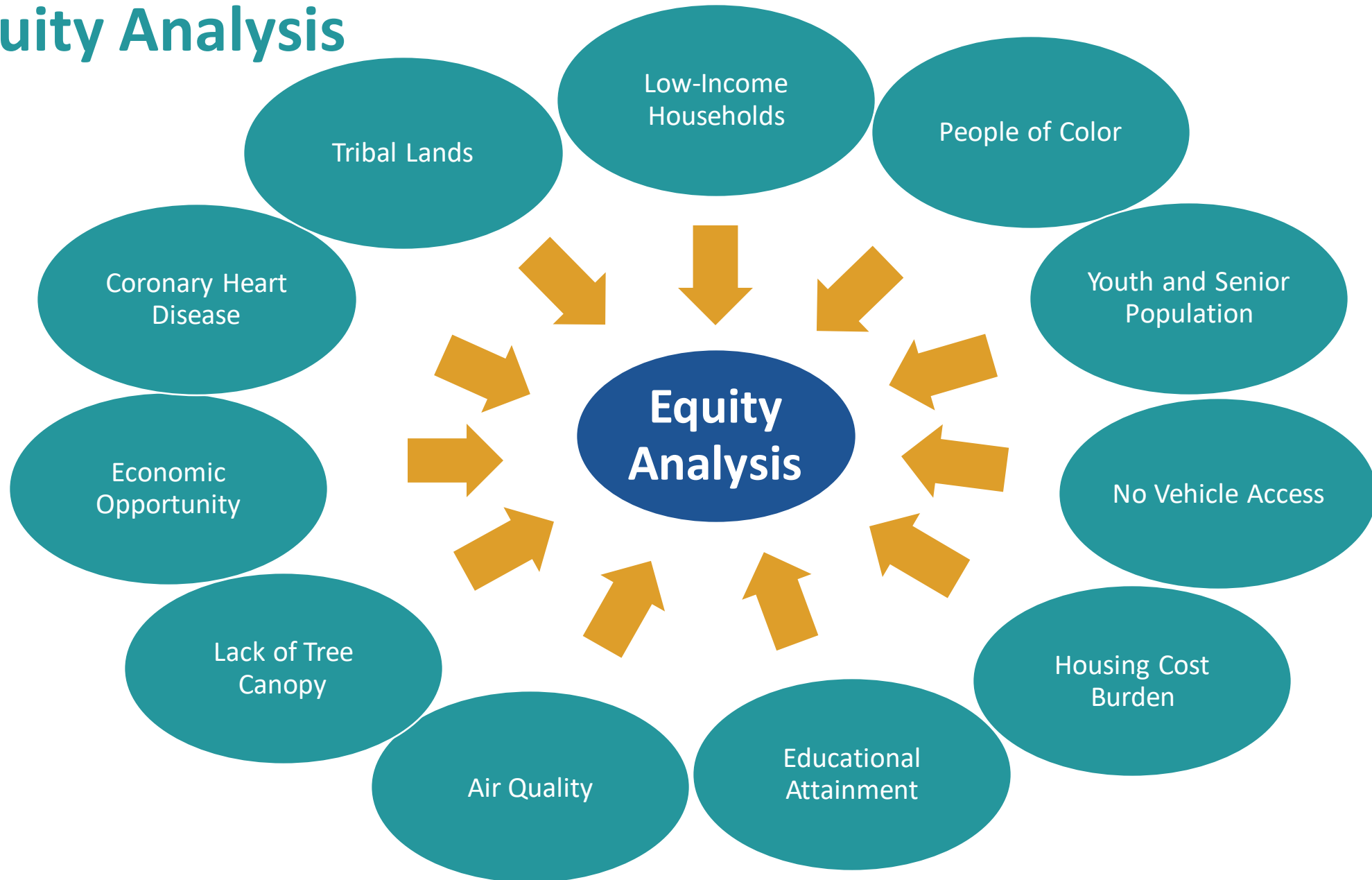


Mentimeter:

**As a stakeholder, how much does equity get
consideration in your day-to-day
responsibilities or activities?**

Mentimeter:
**What equity indicators are being
considered or do you think should be
considered?**

Equity Analysis



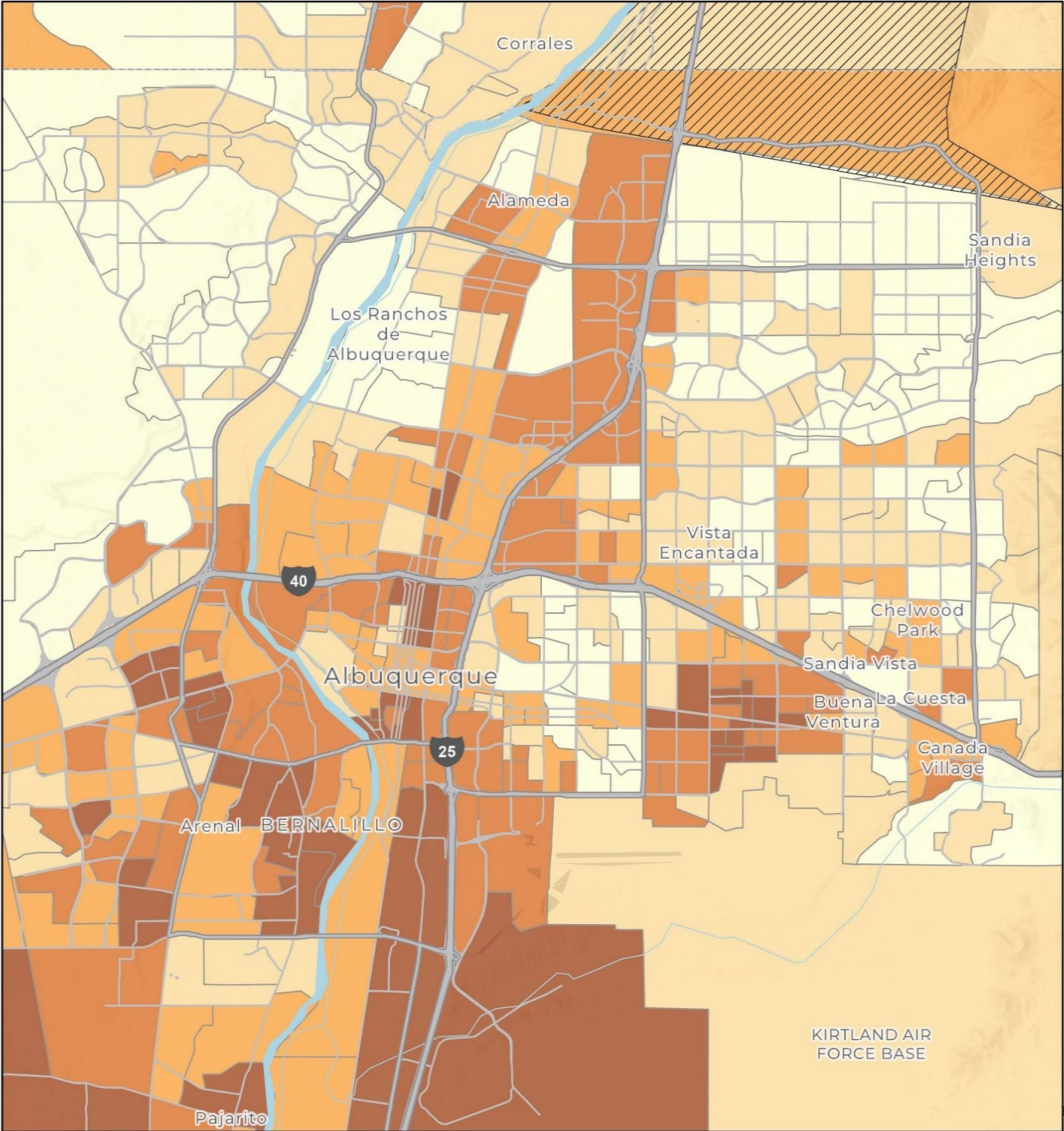
Equity Analysis

LEGEND

Final Equity Score

- 0 - 0.30 (Lower equity need)
- 0.30 - 0.42
- 0.42 - 0.54
- 0.54 - 0.67
- 0.67 - 1.00 (Higher equity need)

- Interstate
- Freeway
- Arterial
- Collector
- Tribal Lands

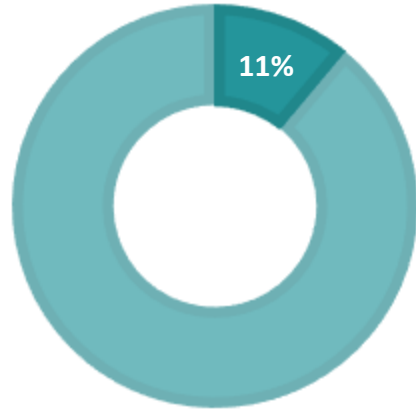


Who's Involved in Crashes?

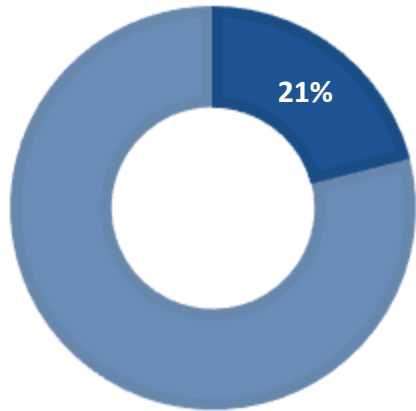
Mentimeter:

Native Americans make up 11% of New Mexico's population. What percentage of VRU-involved KA crashes involve Native Americans?

Native Americans Are Disproportionally Affected

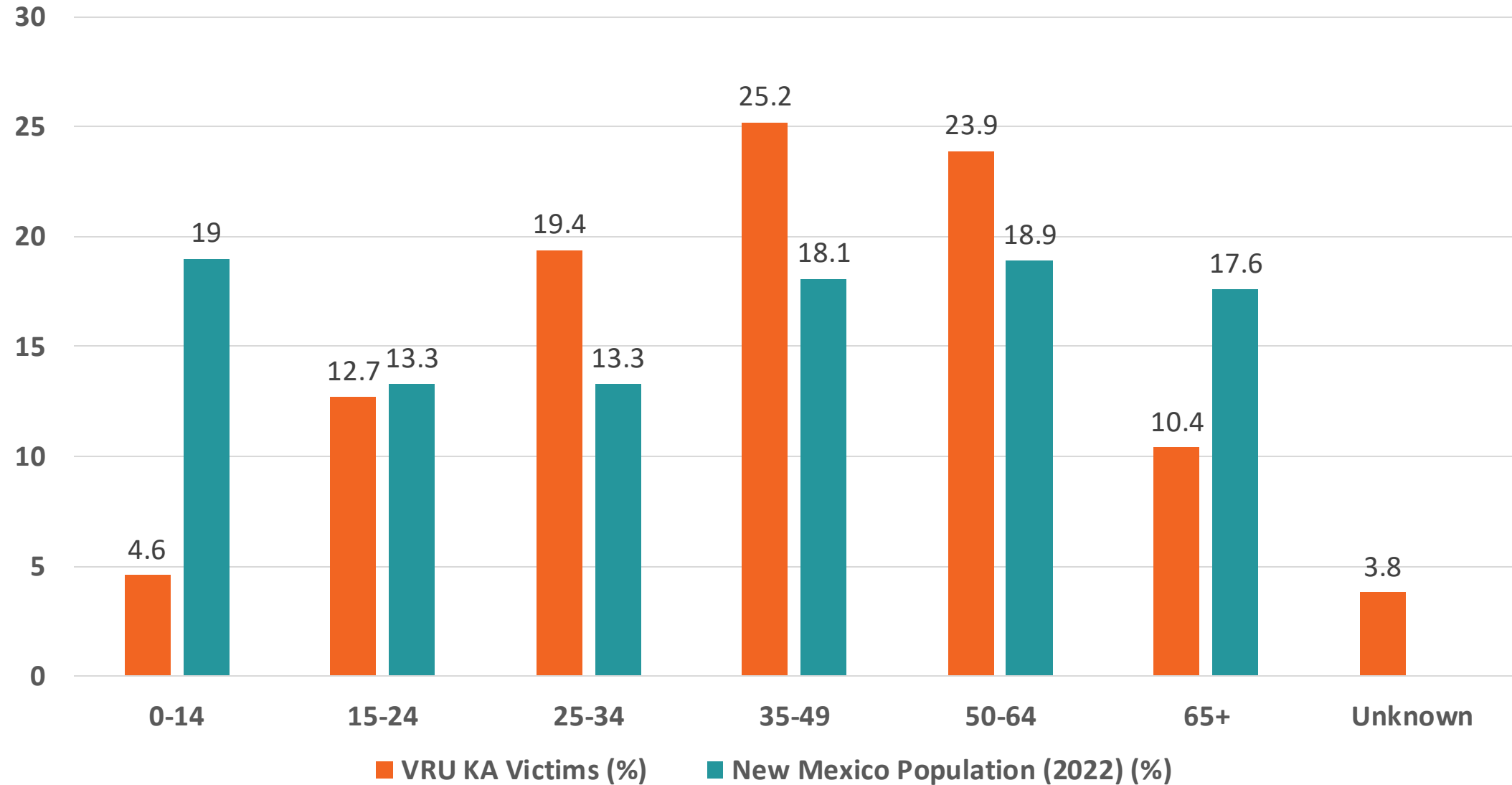


While only **11%** of the New Mexico population is Native American



21% of VRUs involved in crashes are Native American

VRU Victim Ages



Mentimeter:

Men make up what % of pedestrian KA victims and what % of bicyclist KA victims?

VRU Victim Gender

Men make up **72%** of Pedestrian
KA Victims

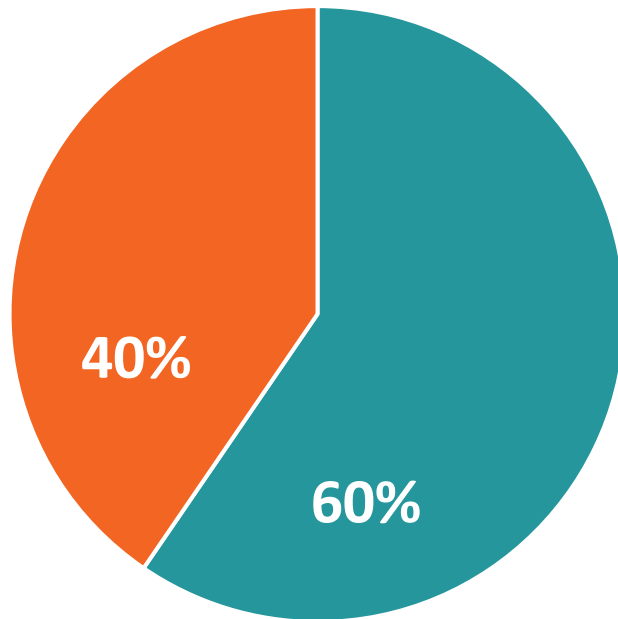
And **83%** of Bicyclist KA Victims



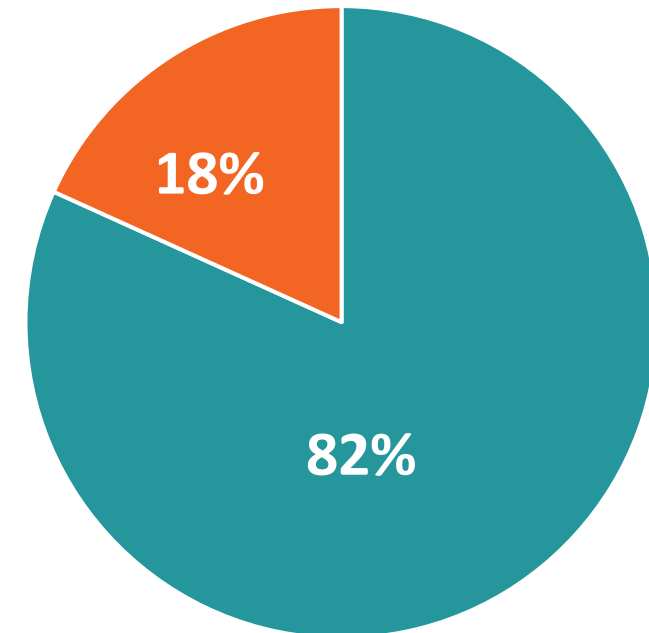
VRU Safety in the Albuquerque Metro Area

VRU Crashes in the Albuquerque Metro Area

Pedestrians
894 KA crashes



Bicyclists
181 KA crashes



■ Serious Injuries
■ Fatalities

Bernalillo County accounts for 50% of all VRU-Involved KA crashes from 2012-2022

Common Crash Characteristics in the Albuquerque Metro Area

■ Lighting

- 61% of Pedestrian-Involved KA crashes occur at night
- 69% of Bicyclist-Involved KA crashes occur during the day

■ Proximity to an Intersection

- 82% of Pedestrian-Involved KA crashes occur at intersections
- 87% of Bicyclist-Involved KA crashes occur at intersections

■ Proximity to Transit

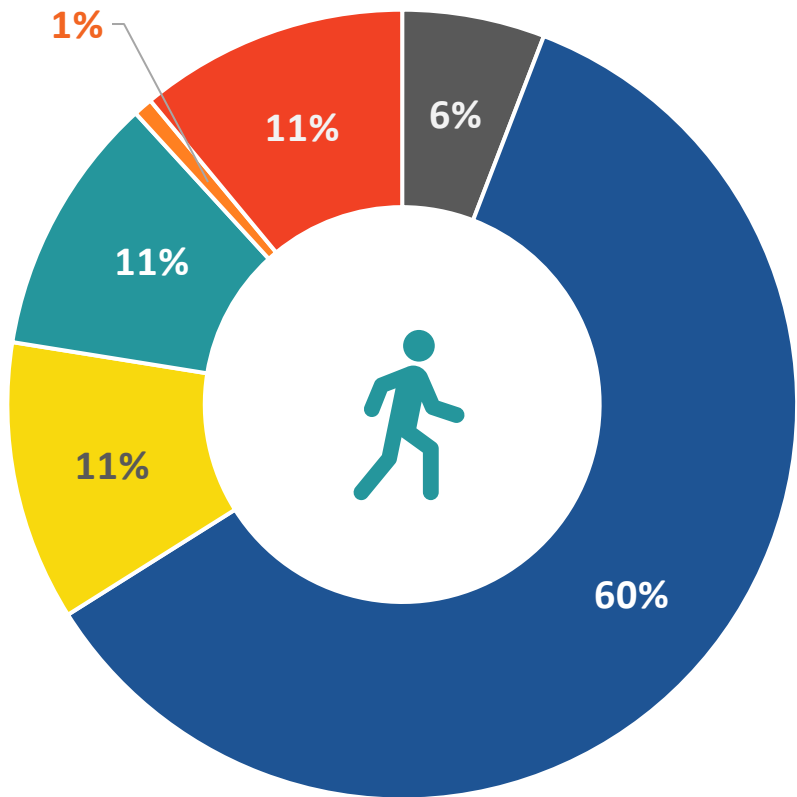
- 14.9% of all VRU-involved KA crashes occur near a transit stop.

Mentimeter:
**What roadway classification accounts for
51% of bicyclist KA crashes and 60% of
pedestrian KA crashes in the Albuquerque
Metro?**

Road Classification of Pedestrian KA Crash Locations

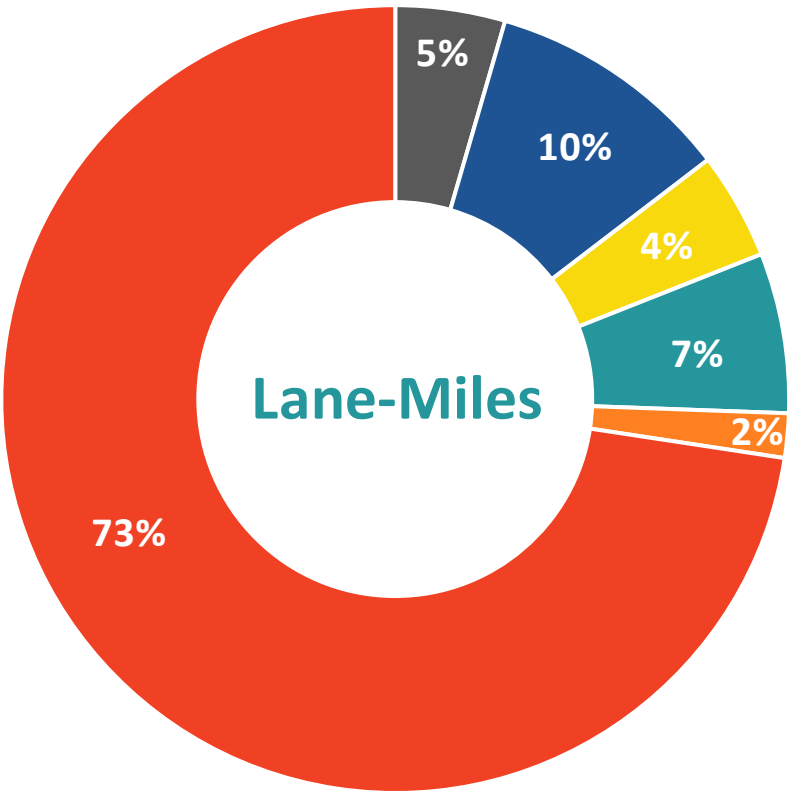


Pedestrian-Involved KA
Crash Locations



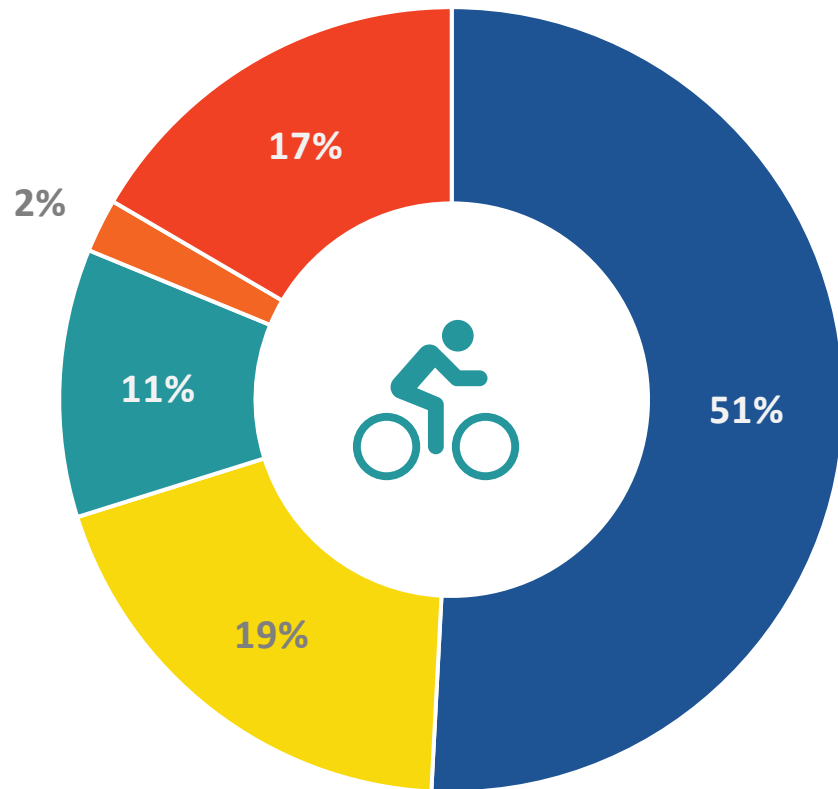
- Interstate
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local
-

Albuquerque Metro Area
Roadway Classifications



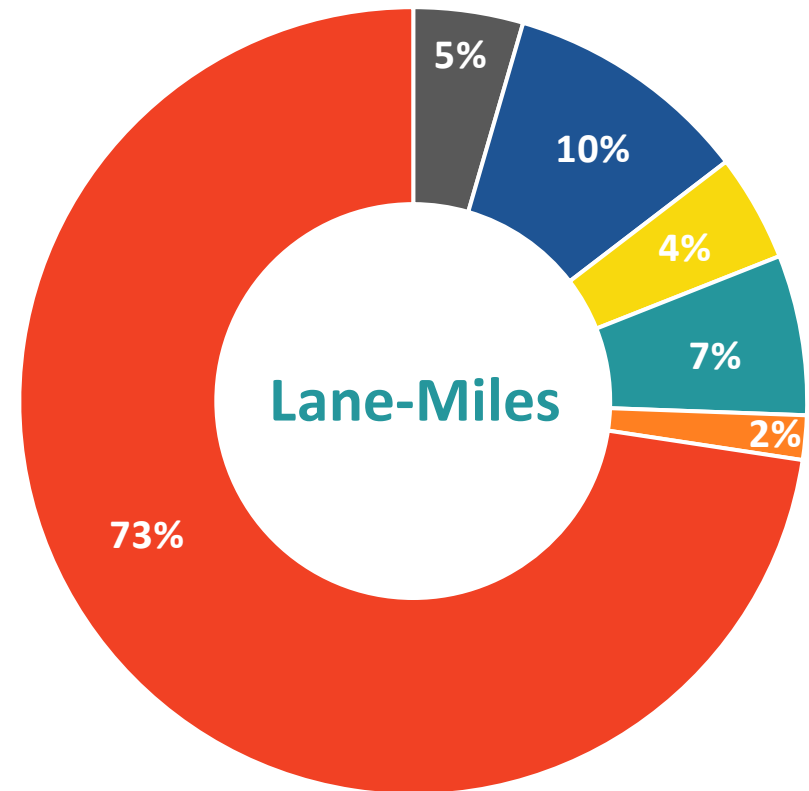
Road Classification of Bicyclist KA Crash Locations

Bicycle-Involved KA Crash Locations



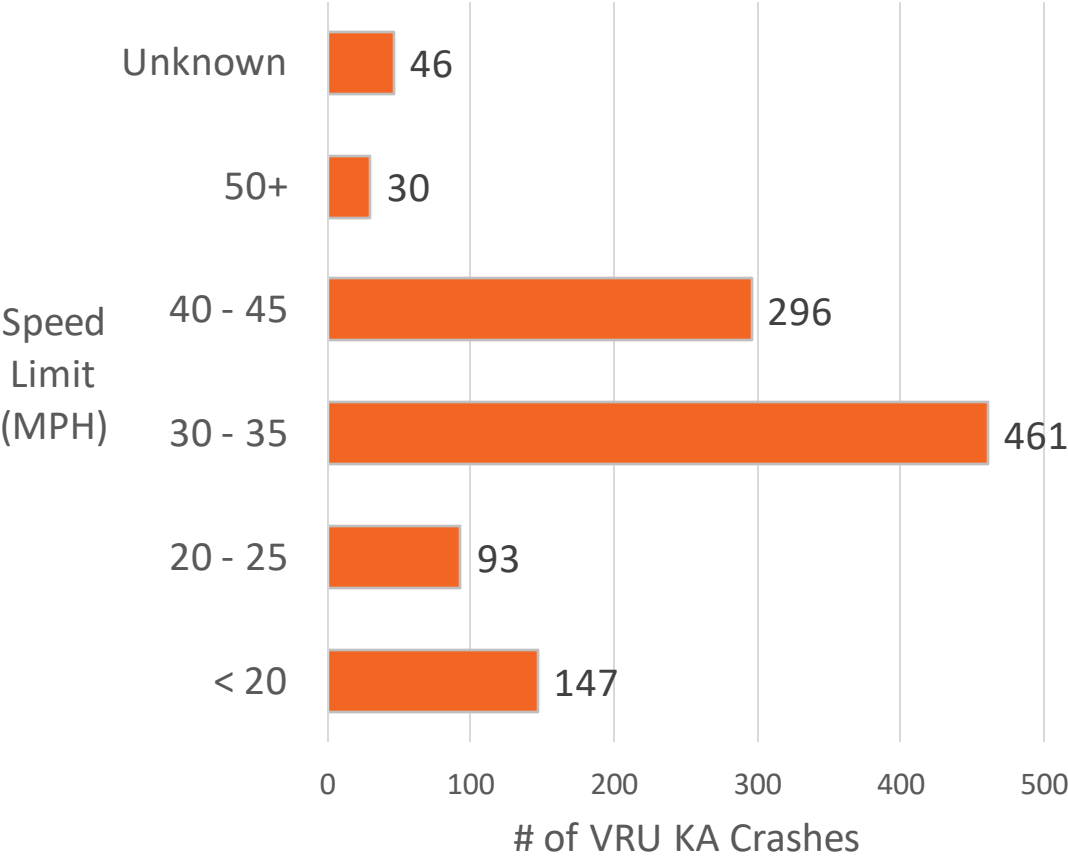
- Interstate
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Albuquerque Metro Area Roadway Classifications

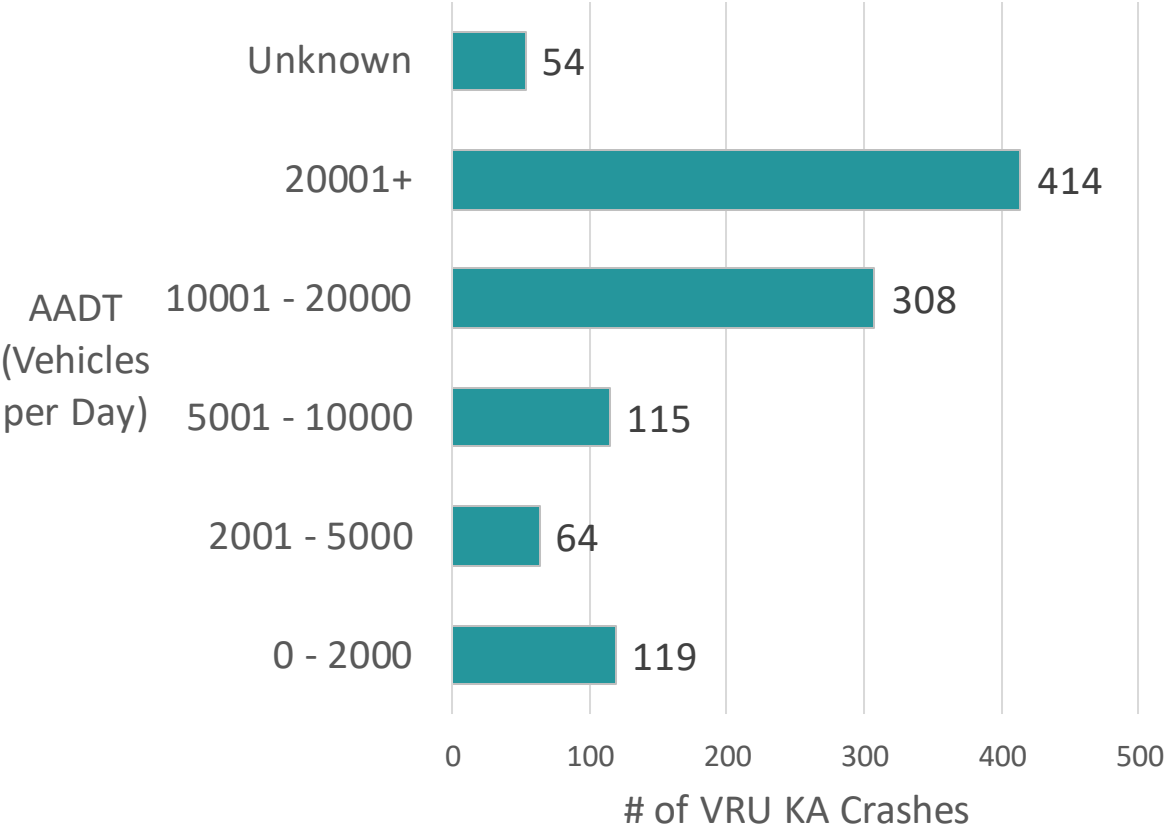


Roadway Characteristics of Crash Locations

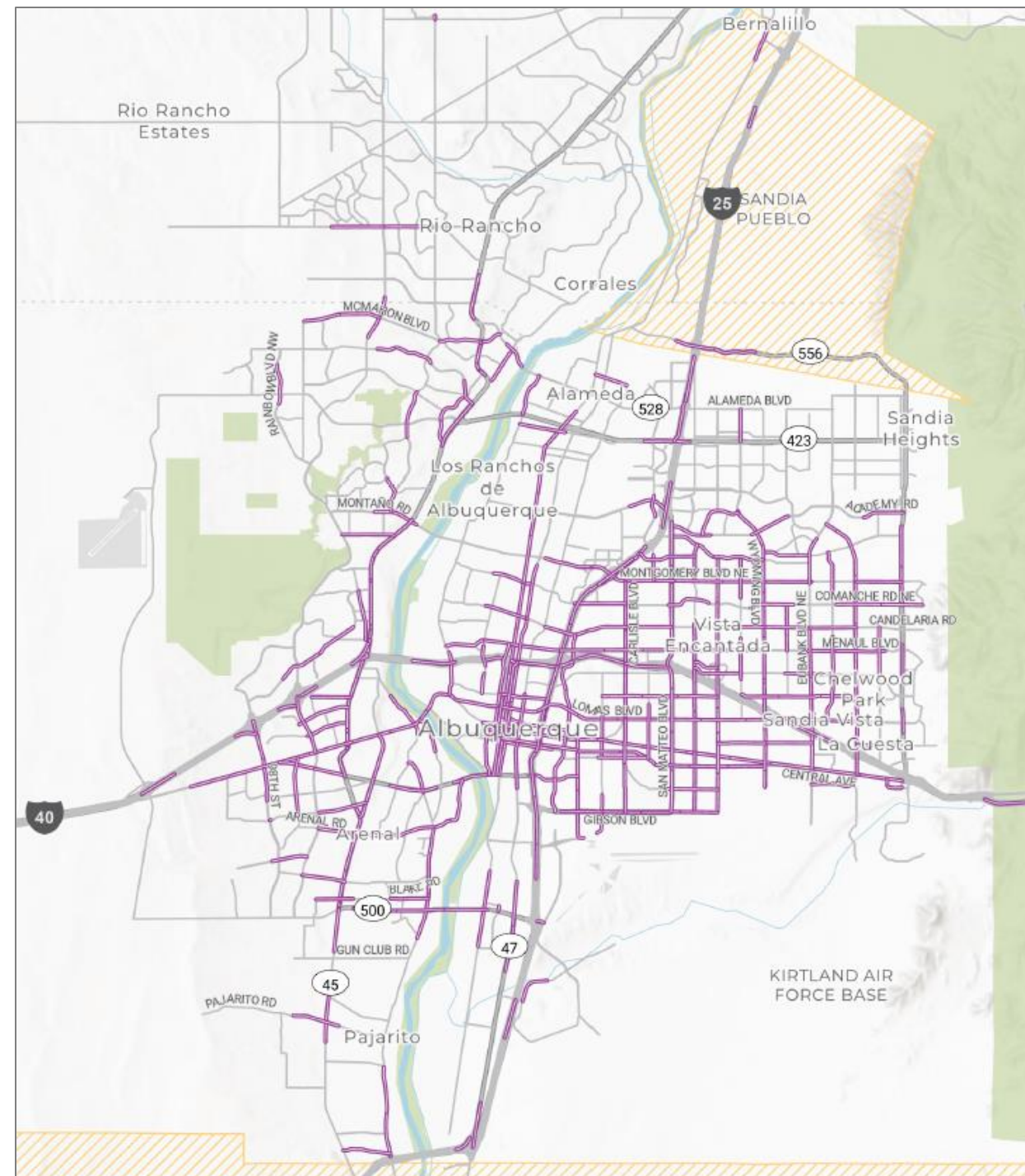
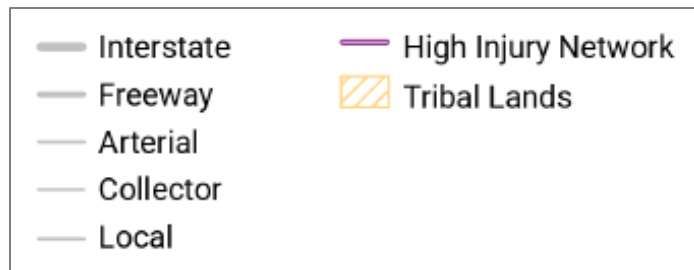
Speed Limit



Annual Average Daily Traffic (AADT)



Albuquerque Metro HIN



Mentimeter:
Which street/corridor in the Albuquerque Metro has the most need for VRU-targeted safety improvements? (In your opinion)

Albuquerque Metro Area Corridors Most In Need of VRU Safety Improvements

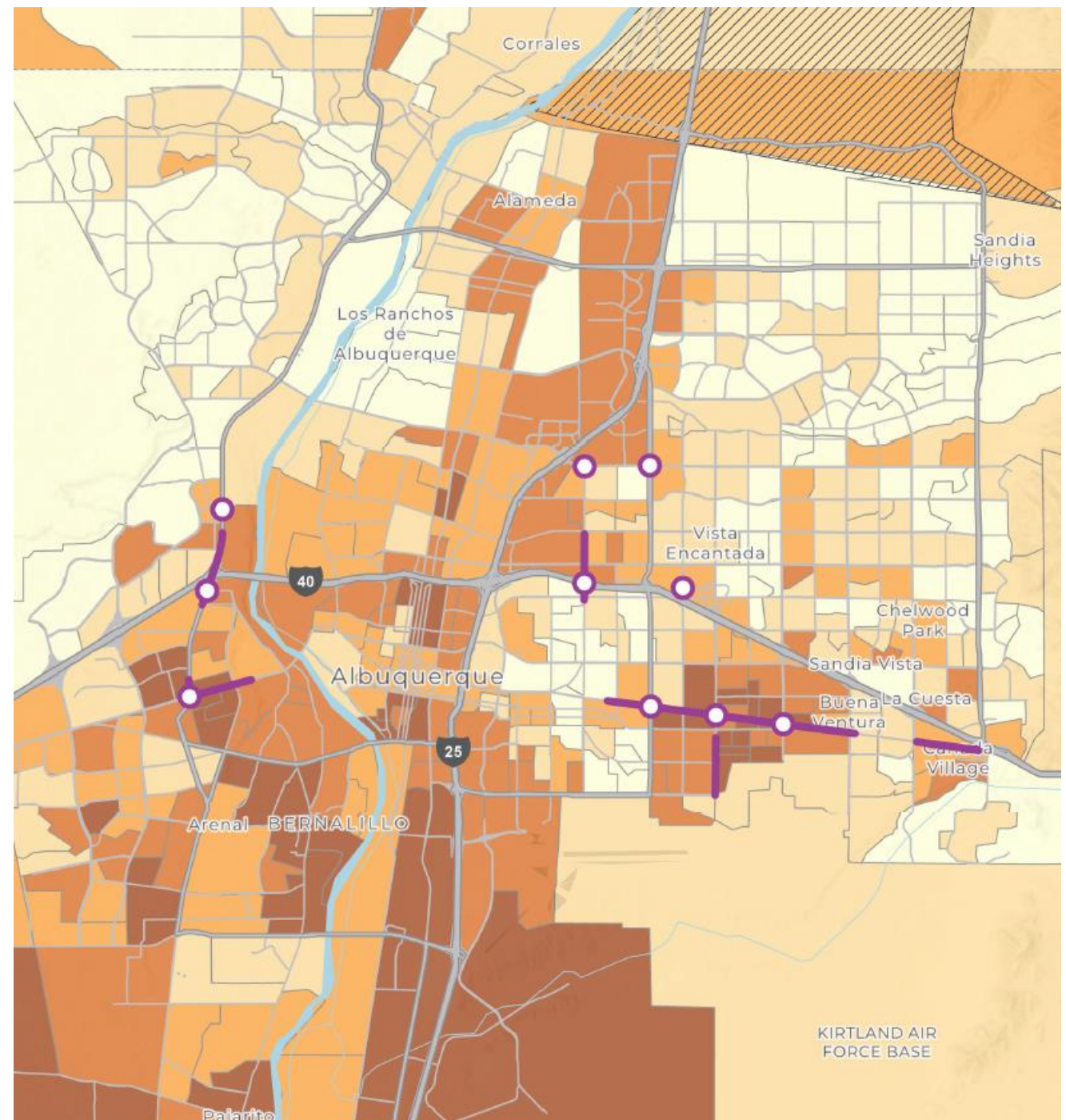
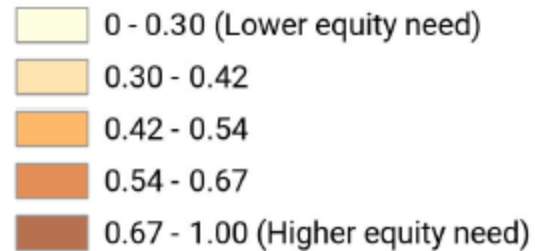
Street Segment	Between	City/Town	Crash Severity Index
Central Avenue	Eubank Blvd & Sierra Dr	Albuquerque	285.2
Coors Blvd NW	Hanover Rd & Quall Rd	Albuquerque	218.5
Central Avenue	Tramway Blvd & Juan Tabo Blvd	Albuquerque	157.0
Central Avenue	50th St NW & 65th St NW	Albuquerque	151.0
Louisiana Blvd SE	Gibson Blvd SE & Bell Ave SE	Albuquerque	149.5

Albuquerque Metro Area Intersections Most In Need of VRU Safety Improvements

Street 1	Street 2	City/Town	Crash Severity Index
Central Ave	San Mateo Blvd	Albuquerque	114
Central Ave	Coors Blvd	Albuquerque	106
Central Ave	Louisiana Blvd	Albuquerque	89
Central Ave	Wyoming Blvd	Albuquerque	85
Iliff Rd	Coors Blvd	Albuquerque	74

Equity Analysis & Corridors and Intersections Most in Need of Improvement

Final Equity Score



Questions?

JAMBOARD: Guided Discussion

Web Map Available For Public Comment

<https://nmdotvru.altaplanning.cloud>

Tell us about where you struggle to walk and bike in New Mexico

The map to the right shows New Mexico's High Injury Network (HIN). The HIN shows the roads where the most crashes involving pedestrians and bicycles have occurred from 2012 to 2022. Do your own safety issues and experiences fall along the HIN? Or are they somewhere else? Let us know by using this interactive map.

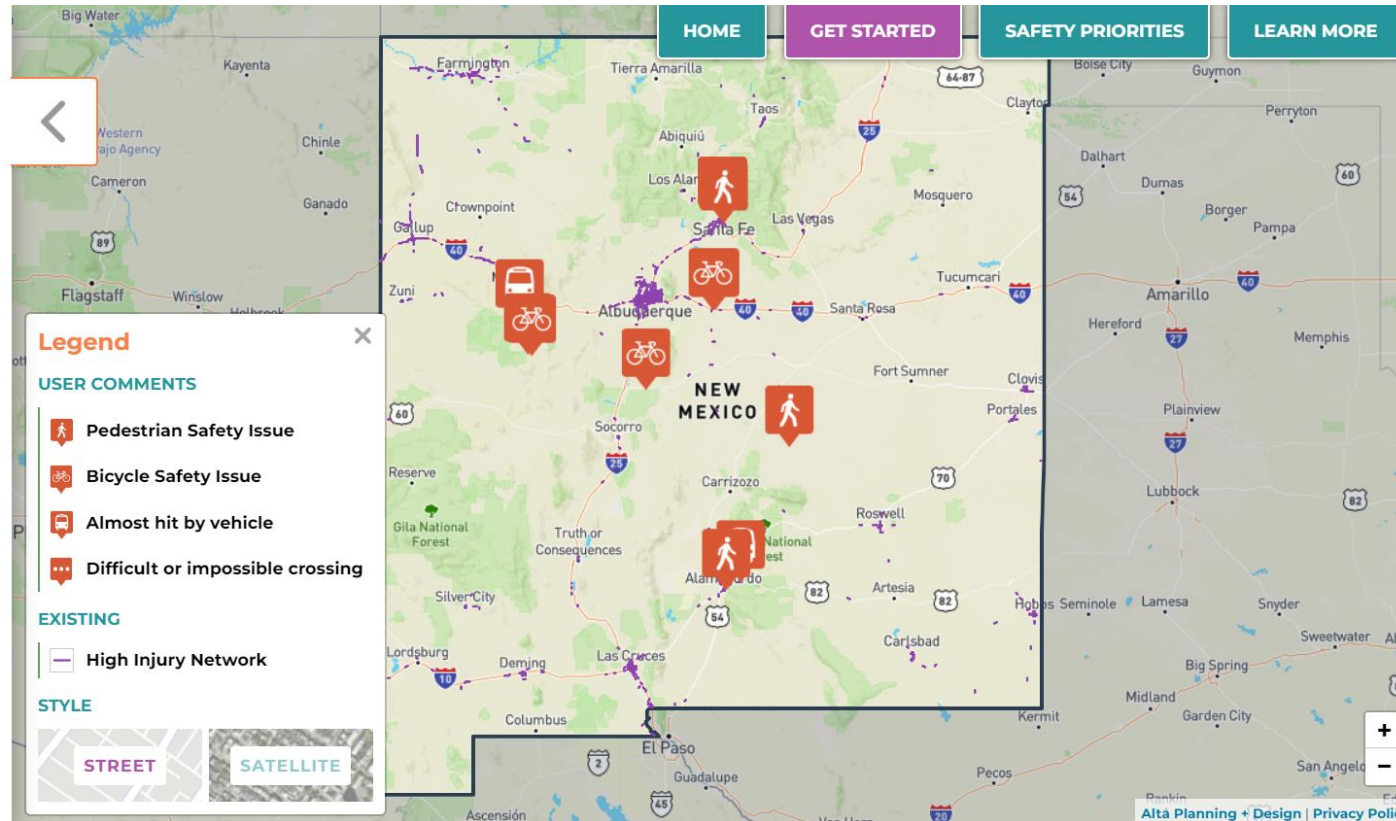
How to use the map

Zoom into the area you want to drop a pin on. Then, click on a button below to pick up a pin. Drop the pin at the location where you have experienced a safety issue. A pop up box will appear on the left of the screen. Use the drop down menu to provide more information about your pin. You can also view and "like" comments left by others if you have had the same experience and agree.

When you are done adding pins to the map, CLICK "Save and continue."

I feel unsafe as a pedestrian here

I feel unsafe as a bicyclist here



Project Website: <https://newmexicodotshsp.com/>

Next Steps

**Emphasis Areas for
Bicyclists and
Pedestrians will need
champions to lead
strategies
identification**



**Virtual
Stakeholder
Meetings (x3)**

**Statewide Virtual
Public Meeting to
summarize the
actions completed
for the VRU effort**

**Final VRU Safety
Assessment
Report – submit to
FHWA by
November 15th**

**Develop a new
SHSP for New
Mexico – targeted
start date is early
2024**



THANK YOU!