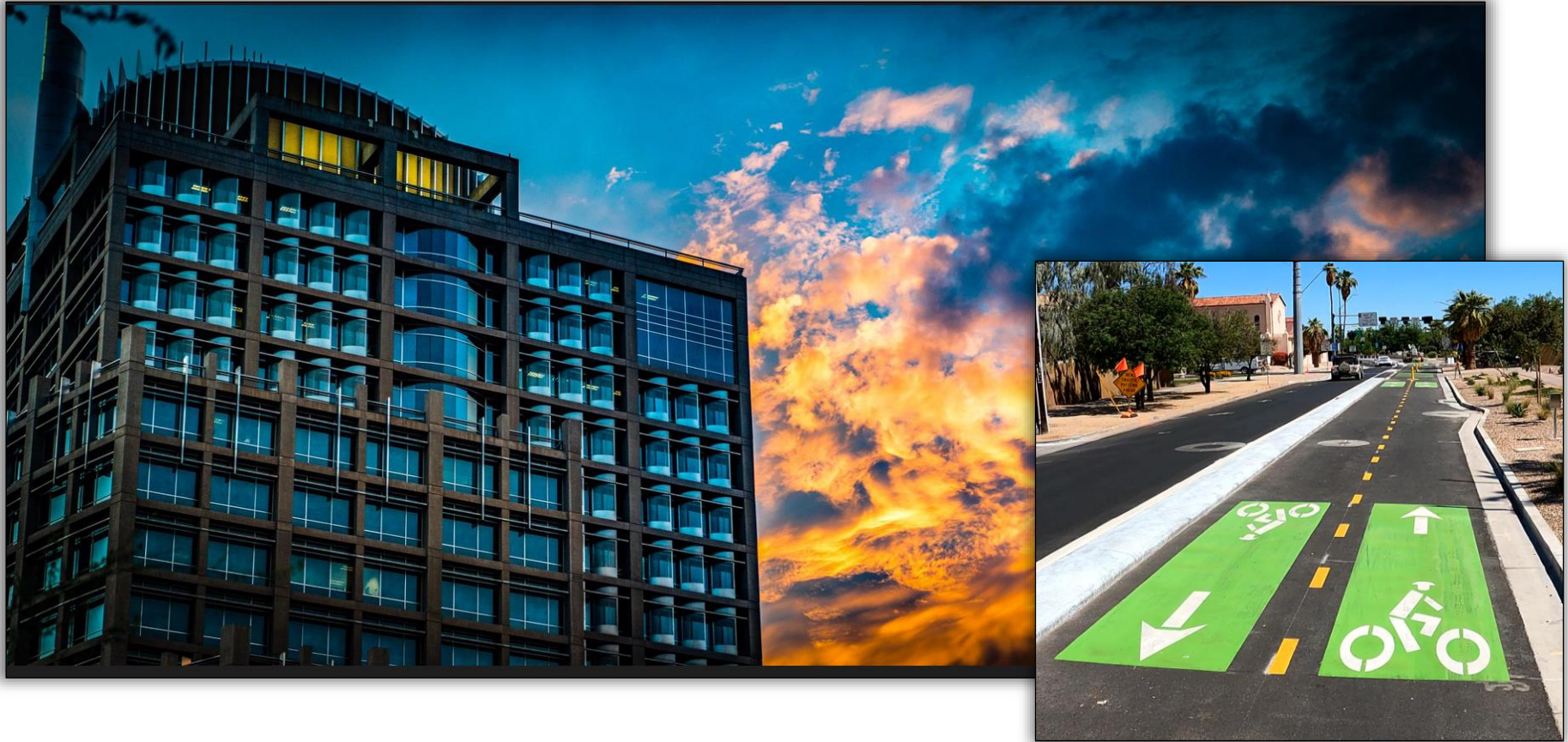


City of Phoenix 2021 Bicycle Related Collision Summary



TRAFFIC SERVICES DIVISION
FEBRUARY 2024

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Introduction

This 2021 summary provides a brief analysis of bicycle related collision statistics related to demographics, crash types, and locations. The report includes collision data from 2017 through 2021 to identify and track bicyclist collision trends that have emerged during the past five years. These statistics provide a correlation between negative roadway behaviors and bicyclist safety and helps identify which violations can be prioritized for increased education and enforcement.

The 2021 Bicycle Related Collision Summary includes a reported 284 bicycle related collisions involving, which resulted in 275 bicyclist injuries and 9 bicyclist fatalities. These bicycle related collisions account for 1 percent of all collisions, 2.5 percent of all injuries, and 3.5 percent of all fatalities occurring on city streets. Consistent with previous years, male bicyclists were involved in more collisions at a ratio of 5:1. Also, the bicyclist age group with the highest number of collisions were males between the ages of 26 and 35. Just like prior years, the majority (51 percent) of collisions occurred at uncontrolled locations. It must be noted that data from 2020 and 2021 may not show an accurate account of trends due to the unusual societal factors affecting bicyclist and driver behavior during this time.

The findings in this report are used to inform and influence the design of new bicycle facilities, the redesign of existing roadways and the development of education and enforcement campaigns for bicyclists and motorists. In an effort to identify locations and collision trends that may require special attention, this report also identifies intersections and roadway locations with the highest annual bicycle related collisions.

NOTE: Some figures in the 2021 Bicycle Related Collision Summary may differ from 2021 Traffic Collision Summary due to the detailed analysis of crash reports.

2021 Phoenix Bicycle Related Collision Facts-at-a-Glance

More than 48% of bicyclist related collisions involve risky behavior by bicyclist.

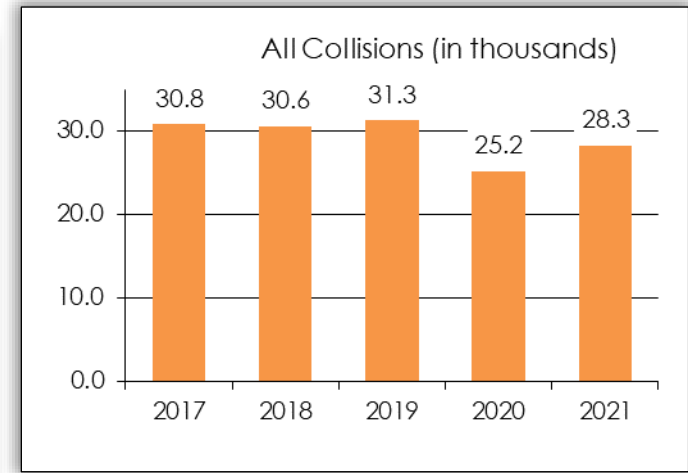
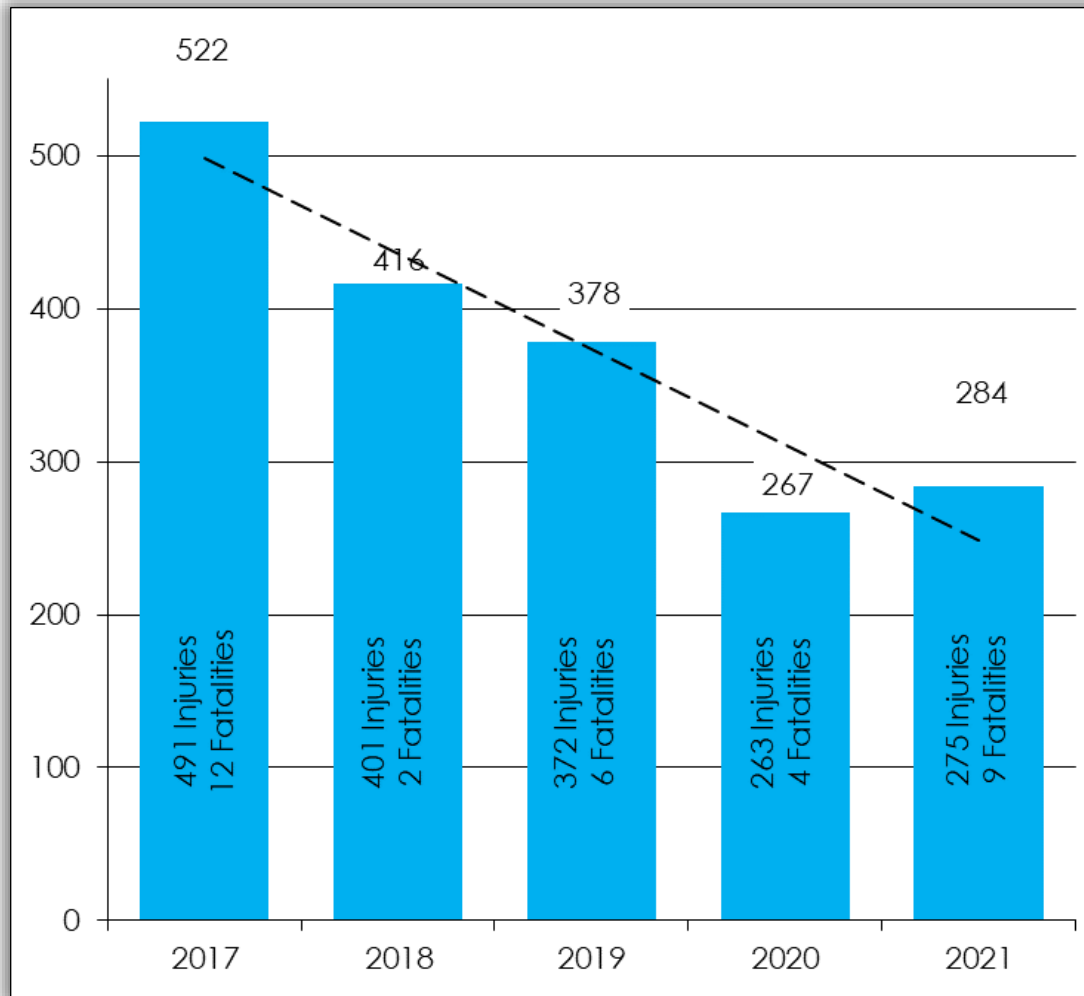
Bicyclist are more likely to be struck crossing mid-block than other locations.

Vehicle speed greatly affects the injury severity of a struck bicyclist, the chance of a bicyclist coming out of a collision un-injured is less than one percent.

In 2021,

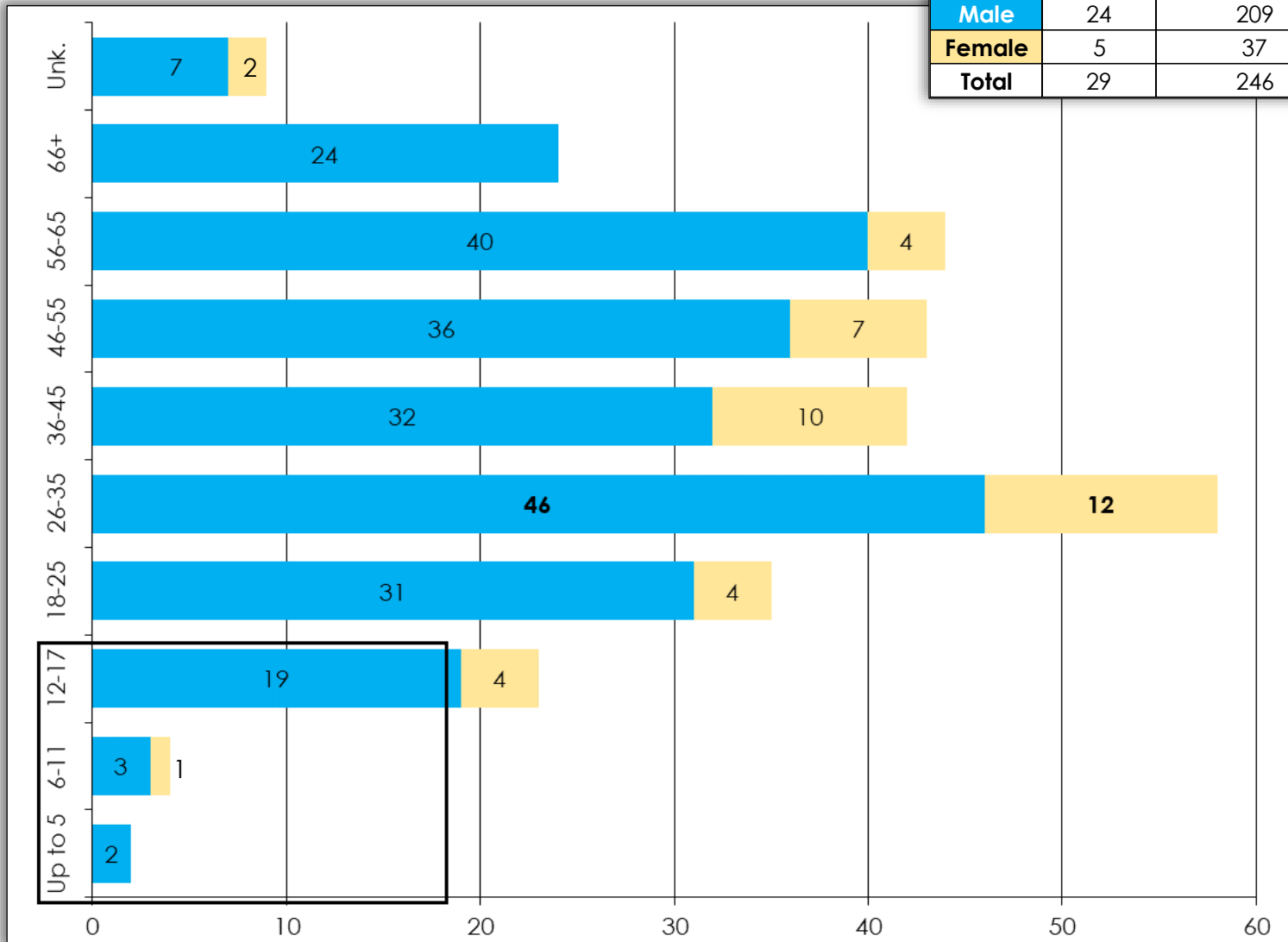
- Bicyclist related collisions accounted for 1% of all collisions and 3.5% of all fatalities on city streets.
- There was a 4.5% increase in bicyclist injuries and bicyclist fatalities increased from 4 in 2020 to 9 in 2021.
- 12 school-age bicyclists (5 to 17 years old) were hit during school hours (Monday – Friday, 7 AM – 4 PM).
- The light condition was reported as dawn, dusk or dark in 31% of all bicycle related collisions and in 56% of fatal bicycle related collisions.
- Bicycle related collisions occurred most frequently between 3 PM and 6 PM.
- Monday had the highest percentage of all bicyclist related collisions at 17%.
- There were 8 bicyclist related collisions involving alcohol or drugs. Of those, 7 involved a bicyclist under the influence and 1 involved a motorist under the influence.
- 31% of all bicycle related collisions occurred at traffic signal-controlled intersections.
- 43% of bicycle related collisions were due to improper behavior by only the bicyclists.
- 21% of bicycle related collisions involved a reported hit and run driver.

Five-Year Trend of Bicycle Related Collisions, Injuries, and Fatalities



Note:
The 10-year average is 431 collisions.

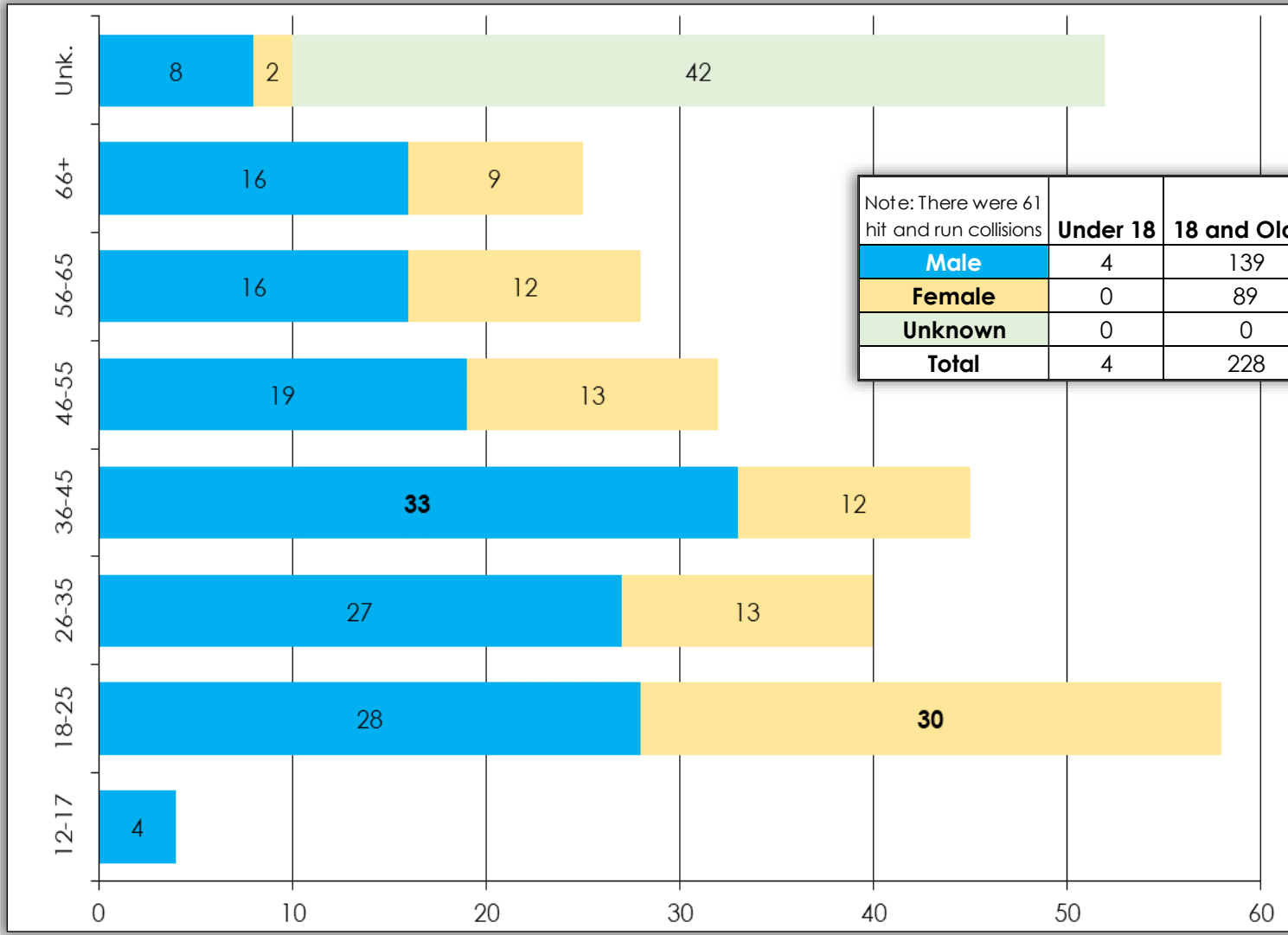
Age and Gender of Bicyclists



	Under 18	18 and Older	Unknown	Total
Male	24	209	7	240
Female	5	37	2	44
Total	29	246	9	284

Bicyclist Ratio
 Male : 5
 Female : 1

Age and Gender of Drivers



Note: There were 61 hit and run collisions

	Under 18	18 and Older	Unknown	Total
Male	4	139	8	151
Female	0	89	2	91
Unknown	0	0	42	42
Total	4	228	52	284

NOTE: Unknown driver gender typically involves an unknown driver that fled the scene without stopping to render aid.

Bicycle Safety Education

City of Phoenix

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City of Phoenix > Street Transportation > Safety Topics > Bicycle Program

ACTIVE TRANSPORTATION PROGRAM

STREET TRANSPORTATION DEPARTMENT

Active Transportation Plan

- Read the Active Transportation Plan
- Learn more about the Active Transportation Plan

Active Transportation Program

Active transportation is walking, bicycling, using a small wheeled vehicle, or a mobility device. It includes e-scooters and other new types of lightweight, electric vehicles. In 2019, the City of Phoenix decided to start using the term "active transportation" to include all of these wonderful ways of getting

Useful Links

- Bike Lane Projects
- Regional Bike Map
- Shared Micromobility Program (e-scooters, e-bikes)
- Phoenix Connected Active Neighborhoods (PhxCAN)
- Safety Topics

Active Transportation Resource Website

<https://www.phoenix.gov/streets/safety-topics/bicycle-program>



DRIVE SMART ▲ WALK SMART ▲ BIKE SMART

About the Heads Up! Campaign

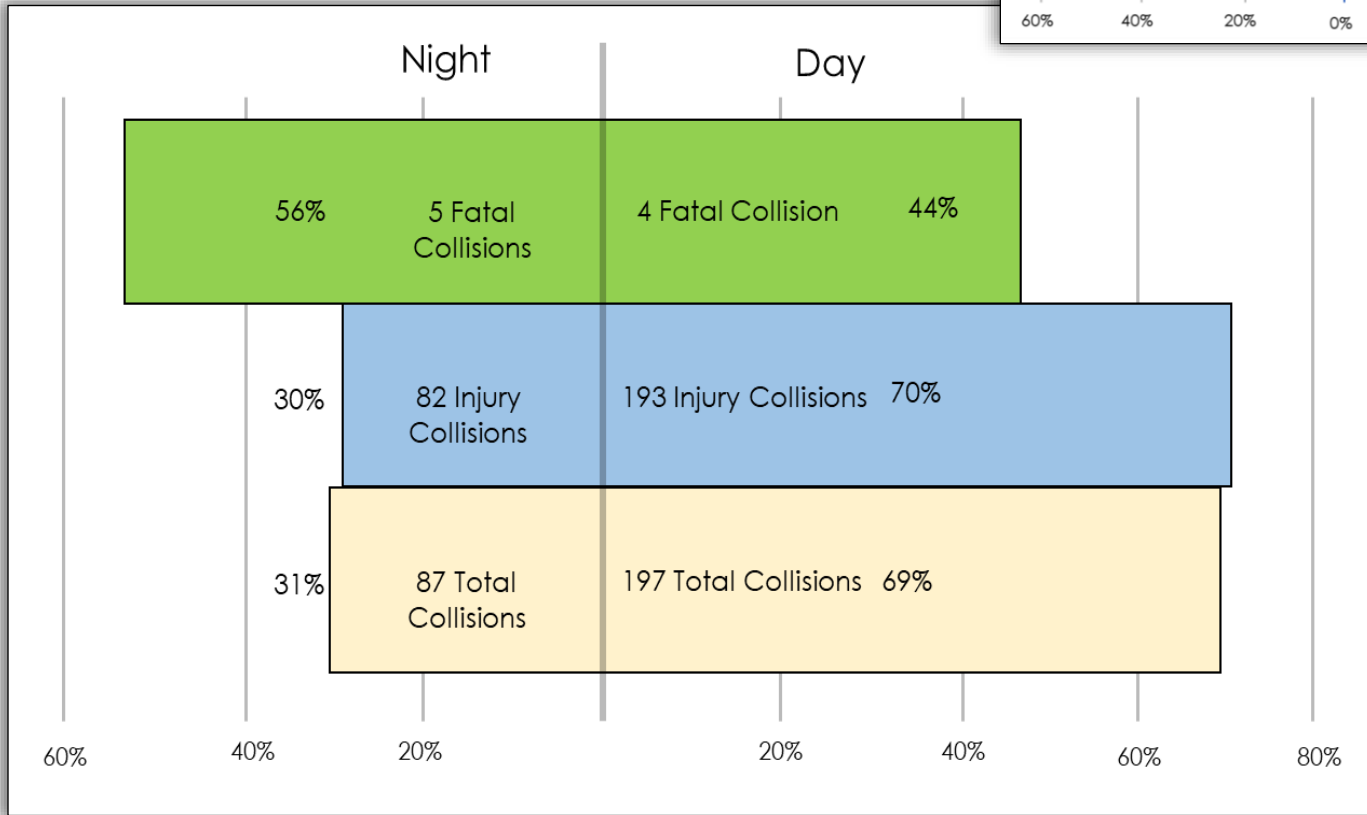
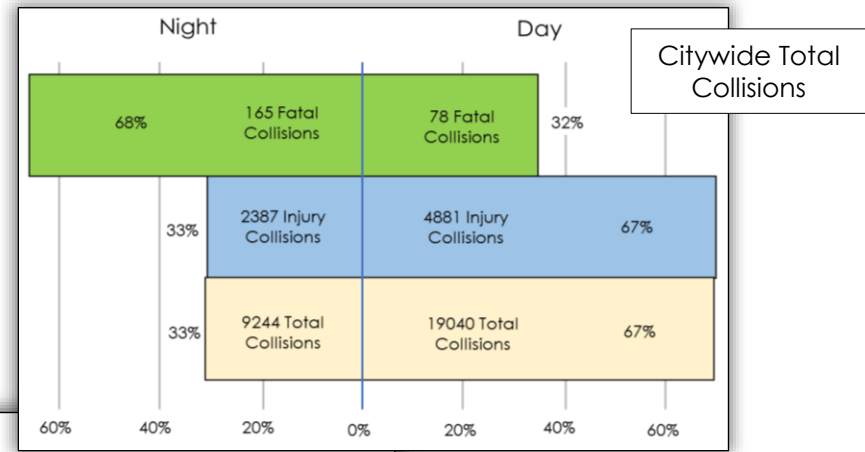
The Heads Up! campaign encourages and reminds motorists, pedestrians and bicyclists to stay safe on Phoenix streets.

Phoenix HEADS UP! Campaign

<https://www.phoenix.gov/streets/headsup>

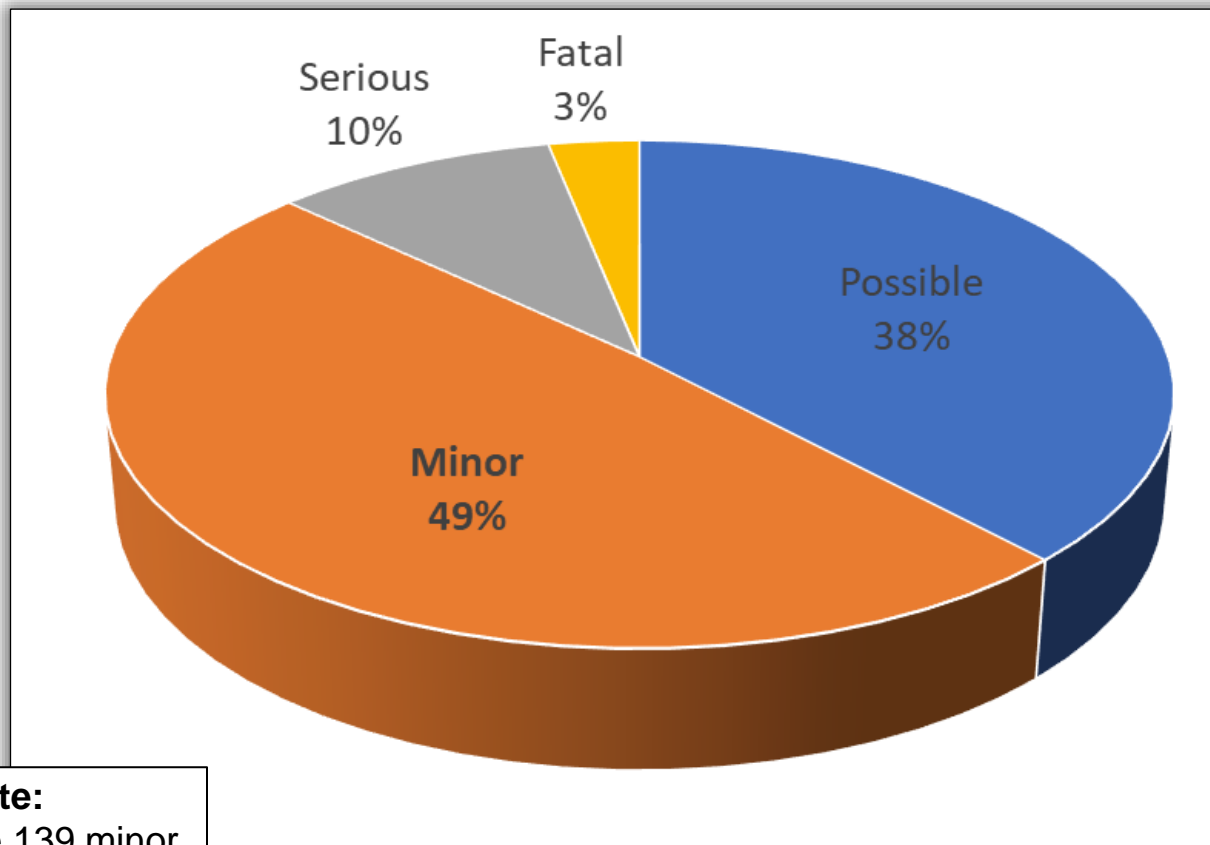
Active transportation is walking, bicycling, using a small wheeled vehicle, or a mobility device. It includes e-scooters and other new types of lightweight, electric vehicles. In 2019, the City of Phoenix decided to start using the term "active transportation" to include all of these wonderful ways of getting around our streets. Using a general term also helps us talk about how multi-use paths and HAWKs (pedestrian hybrid beacons) serve people walking, bicycling, or using mobility devices and small wheeled vehicles.

Bicycle Related Collisions by Light Conditions



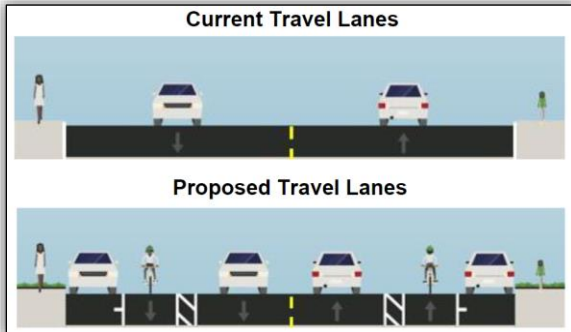
NOTE: There is a small percentage of collisions occurring at dawn or dusk and was included with the night calculations.

Bicyclist Related Collisions by Injury Severity



Note:
There were 139 minor injuries, 28 serious injuries, and 9 fatalities.

2021 Bicycle Facility Improvements



About the Project

Where: Olympic Drive from Central Avenue to Jesse Owens Parkway.

What: Where there is enough space on the roadway, buffered bicycle lanes will be added. The number of travel lanes will remain the same. This project does add parking.

When: Pavement maintenance (new asphalt) is scheduled for Winter 2021/Spring 2022 and traffic lane improvements will happen shortly after.

Why: Buffered bike lanes add space between people driving and people walking or biking for increased protection from vehicles, improved safety and added comfort. Additionally, the slight narrowing of the lane widths to accommodate the buffers will help to guide cars and deter speeding.



[Jesse Owens Parkway from 7th Street to Baseline Road](#)

[Mohave Street from 51st Av to 43rd Av](#)

[Copperhead Trail from North Valley Parkway to 14th Lane](#)

[Cave Creek Road from Bell Road to Union Hills Drive](#)

[24th Street from Pecos Road to Chandler Boulevard](#)

[32nd Street from Baseline Road to Highline Canal](#)

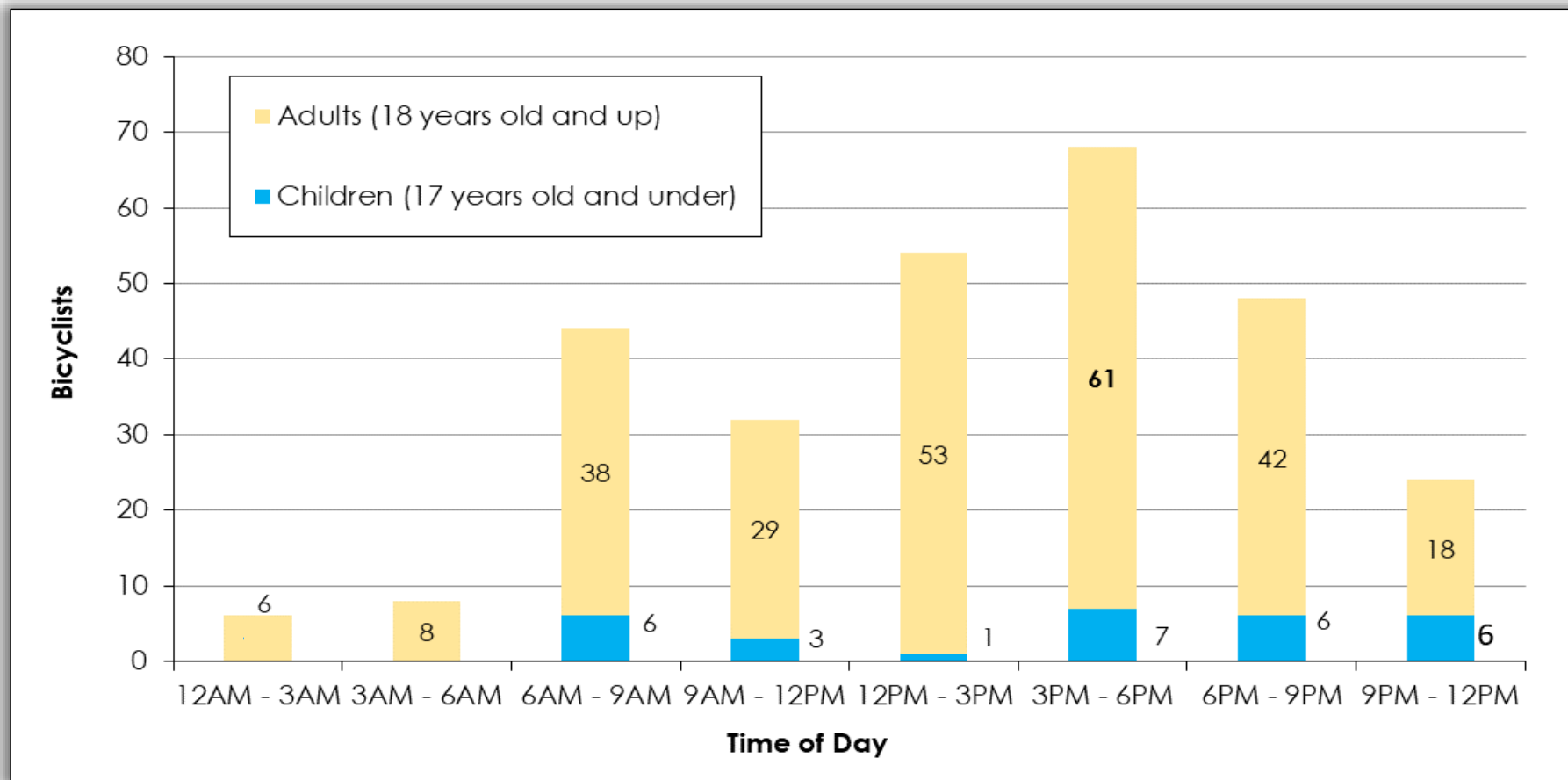
[Pinnacle Peak Road from 19th Av to 11th Av](#)

[Union Hills Drive from 19th Av to 7th Av](#)

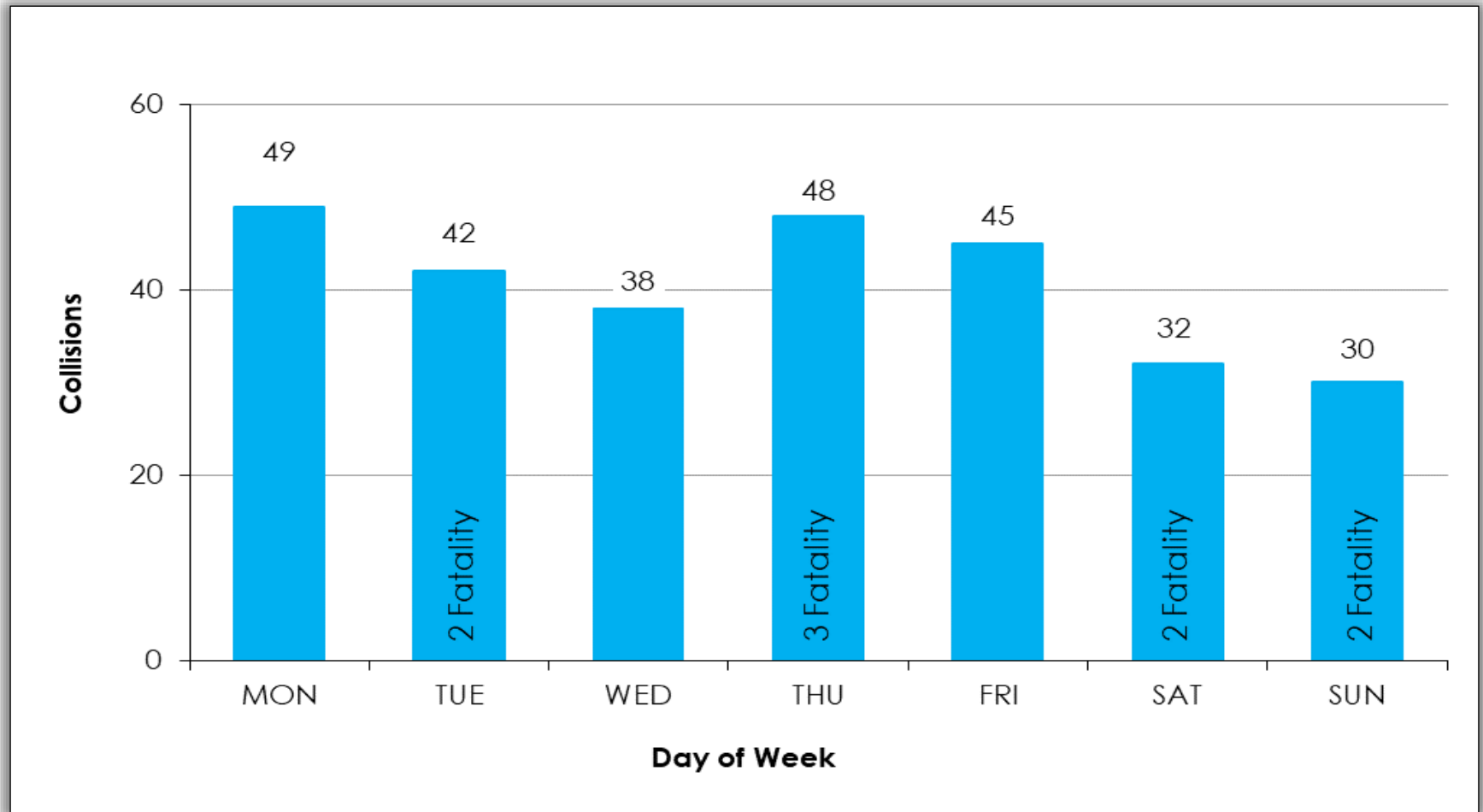
[Riverwalk Drive from Southern Av to 51st Av](#)

Note; Click links for project information.

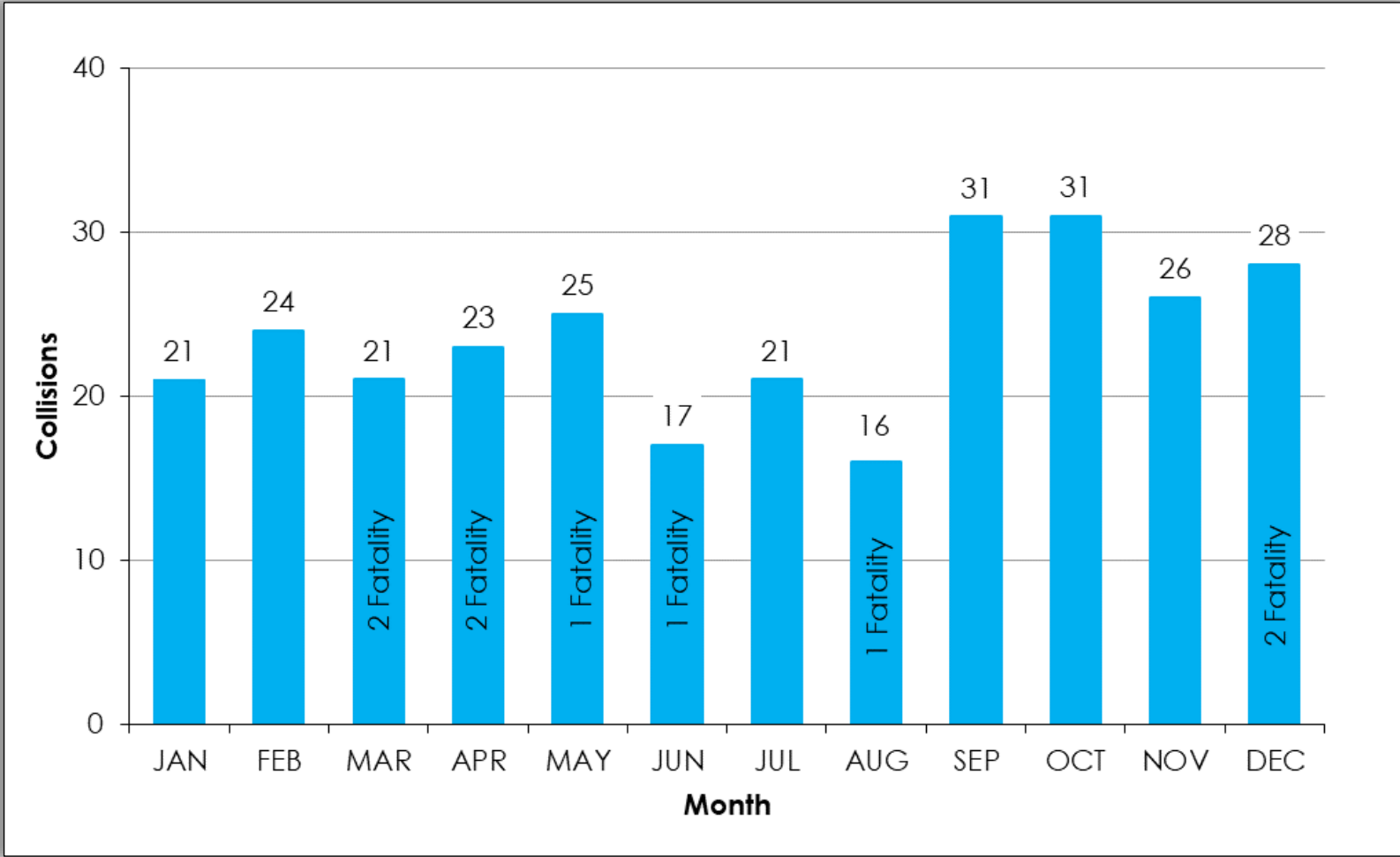
Bicycle Related Collisions by Time of Day and Age Group



Bicycle Related Collisions by Day of Week

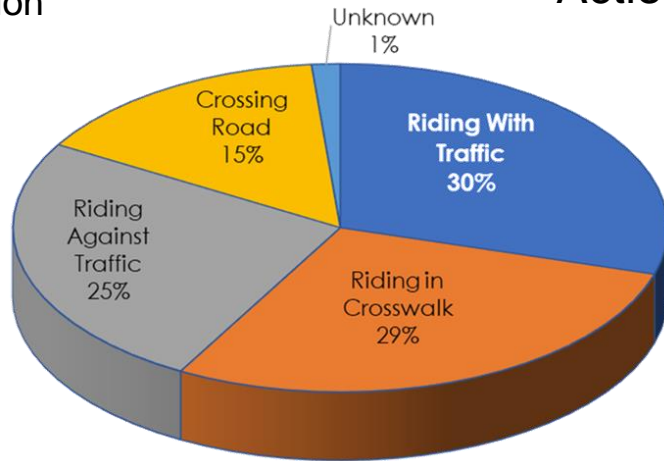


Bicycle Related Collisions by Month

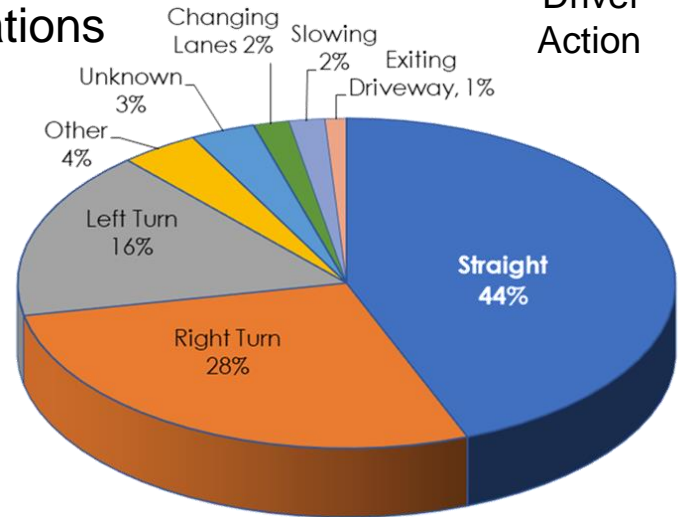


Bicycle Related Collisions

Bicyclist Action

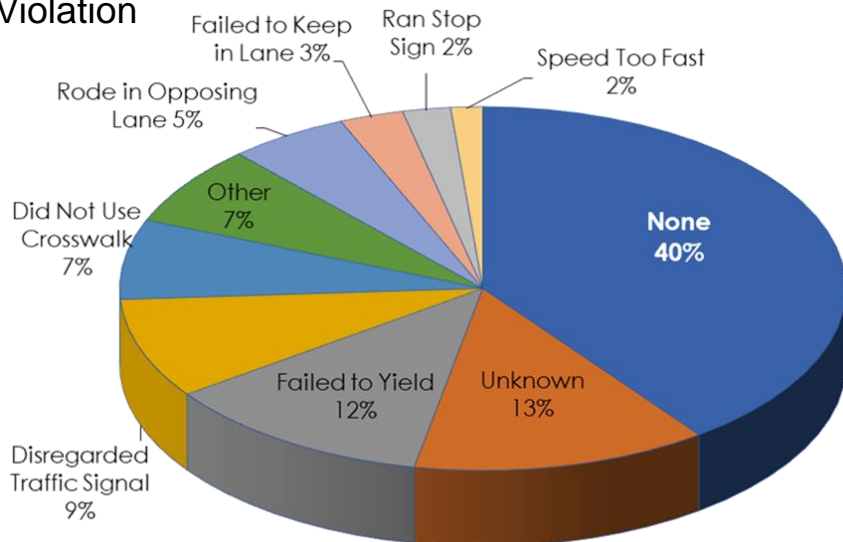


Actions and Violations

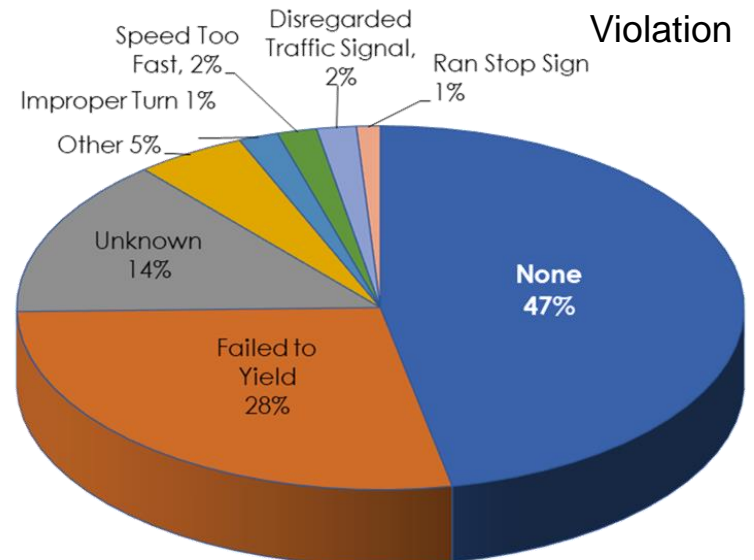


Driver Action

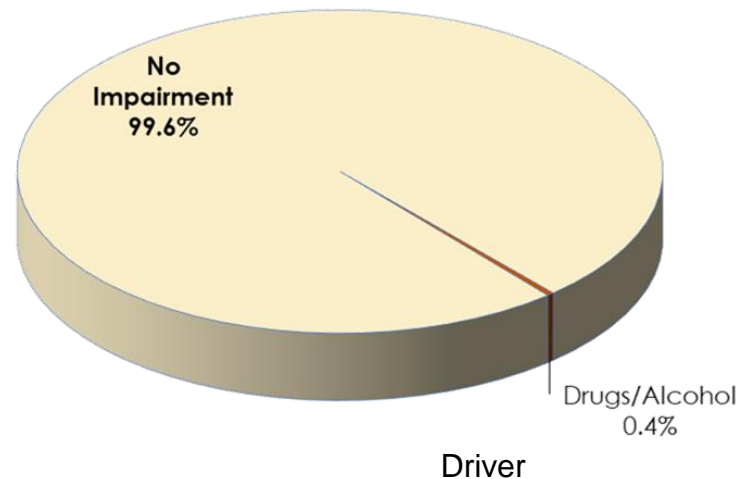
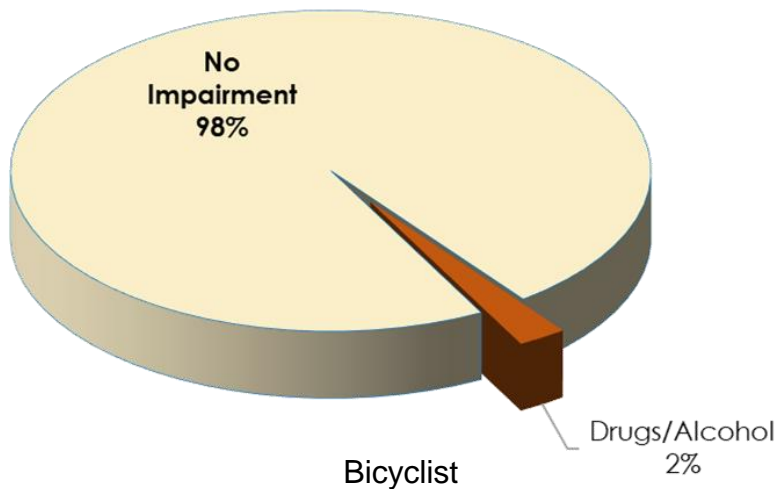
Bicyclist Violation



Driver Violation

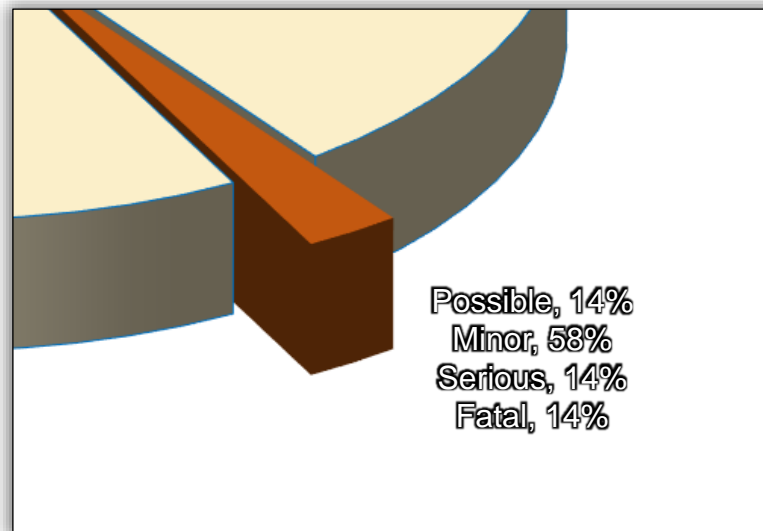


Impairment of Bicyclists and Drivers



Bicyclist Ratio

Male : 2.5
Female : 1

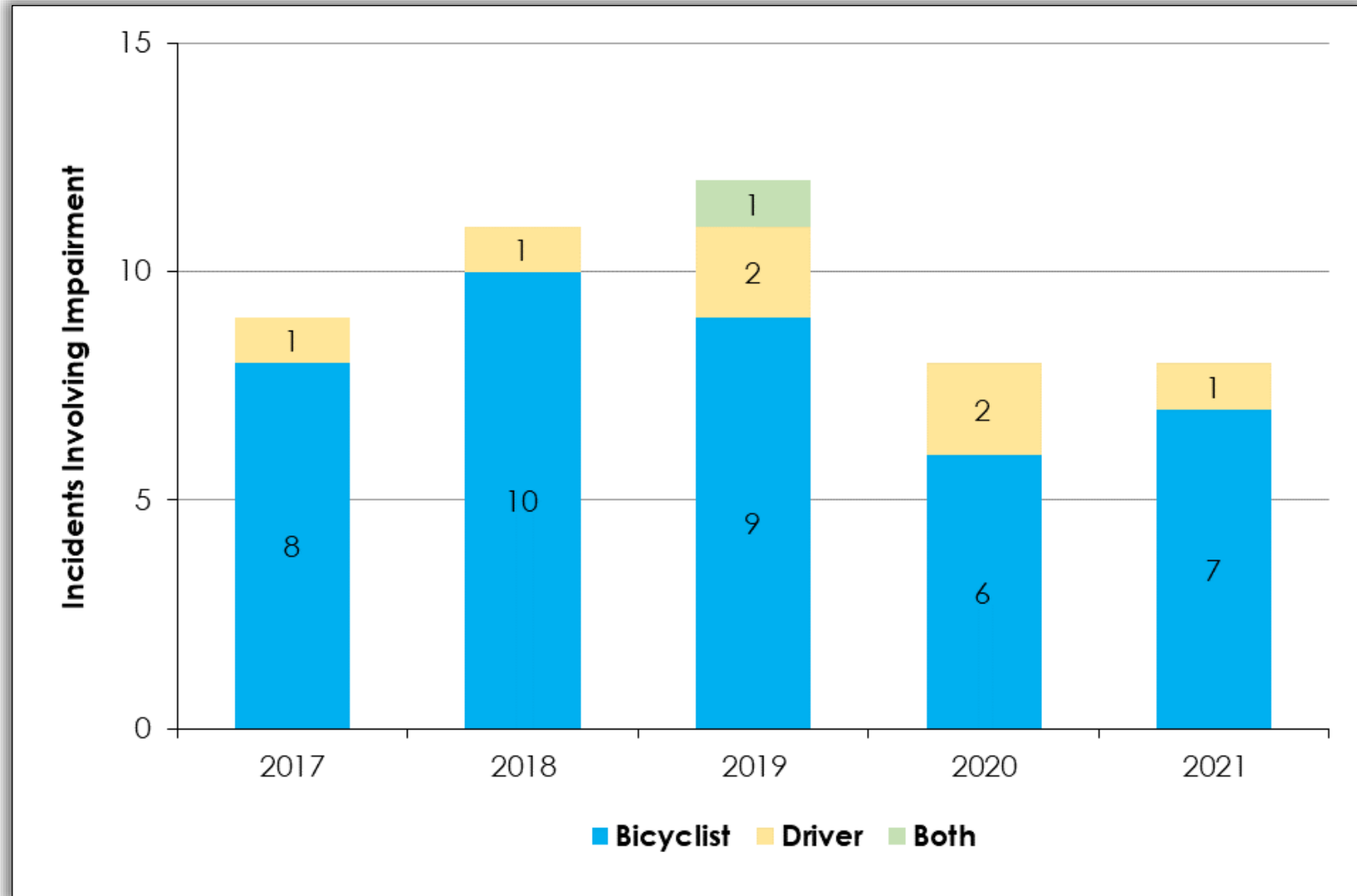


Injury Severity of Impaired Bicyclists

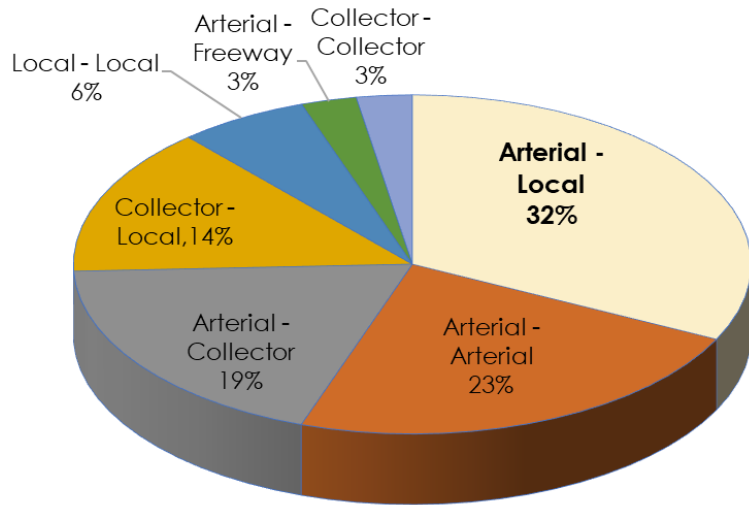
Note:

There were 5 possible/minor injuries, 1 serious injury, and 1 fatalities involving drugs and/or alcohol.

Drug or Alcohol Use in Bicycle Related Collisions



Collisions by Street Classification



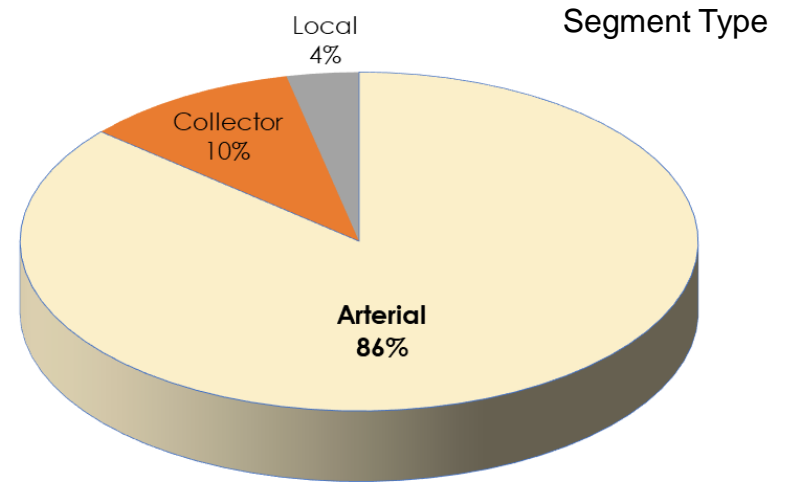
Intersection Type

Intersection Related
80%
of all bicycle related collisions

At or Near Intersection
 (within 150 feet from intersection)

Non-Intersection Related
20%
of all bicycle related collisions

Away from Intersection
 (more than 150 feet from intersection)



Street Classification Examples

Freeways are I-17 (Black Canyon Freeway), I-10, Loop 202, on-ramps, access roads, etc.

Arterial streets are typically the mile-line streets such as 7th Ave, 16th St, Camelback Rd, and Union Hills Dr as defined on the Phoenix Street Classification Map.

Collector streets are typically the half-mile-line streets such as 39th Ave, 28th St, Roeser Rd, and Maryland Ave as defined on the Phoenix Street Classification Map.

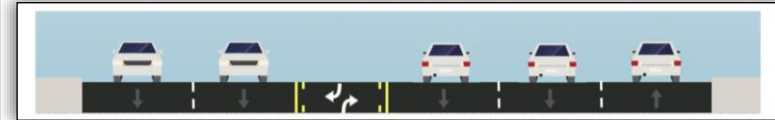
Local streets are typically the neighborhood streets such as 88th Ln, Dromedary Rd, Holly St, 21st St, and Glenn Dr and are not defined as arterial or collector streets.

2021 Bicycle Facility Improvements

- [19th Av from Bell Road to Union Hills Drive](#)
- [19th Av from Pima Freeway to Deer Valley Road](#)
- [Lower Buckeye Road from Loop 202 to 51st Av](#)
- [Deer Valley Road from 19th Av to 7th Av](#)
- [Grant Street from Black Canyon Freeway to 19th Av](#)
- [Mayo Boulevard from 56th Street to 64th Street](#)
- [Beardsley Road from 32nd Street to Cave Creek Road](#)
- [23rd Av from Cactus Road to Dahlia Drive](#)
- [Beardsley Road from 20th Street to Cave Creek Road](#)
- [83rd Av from Lower Buckeye Road to Buckeye Road](#)
- [Encanto Boulevard from 31st Av to 27th Av](#)
- [Liberty Lane/Central Av from 18th Av to Chandler Blvd](#)

Note; Click links for project information

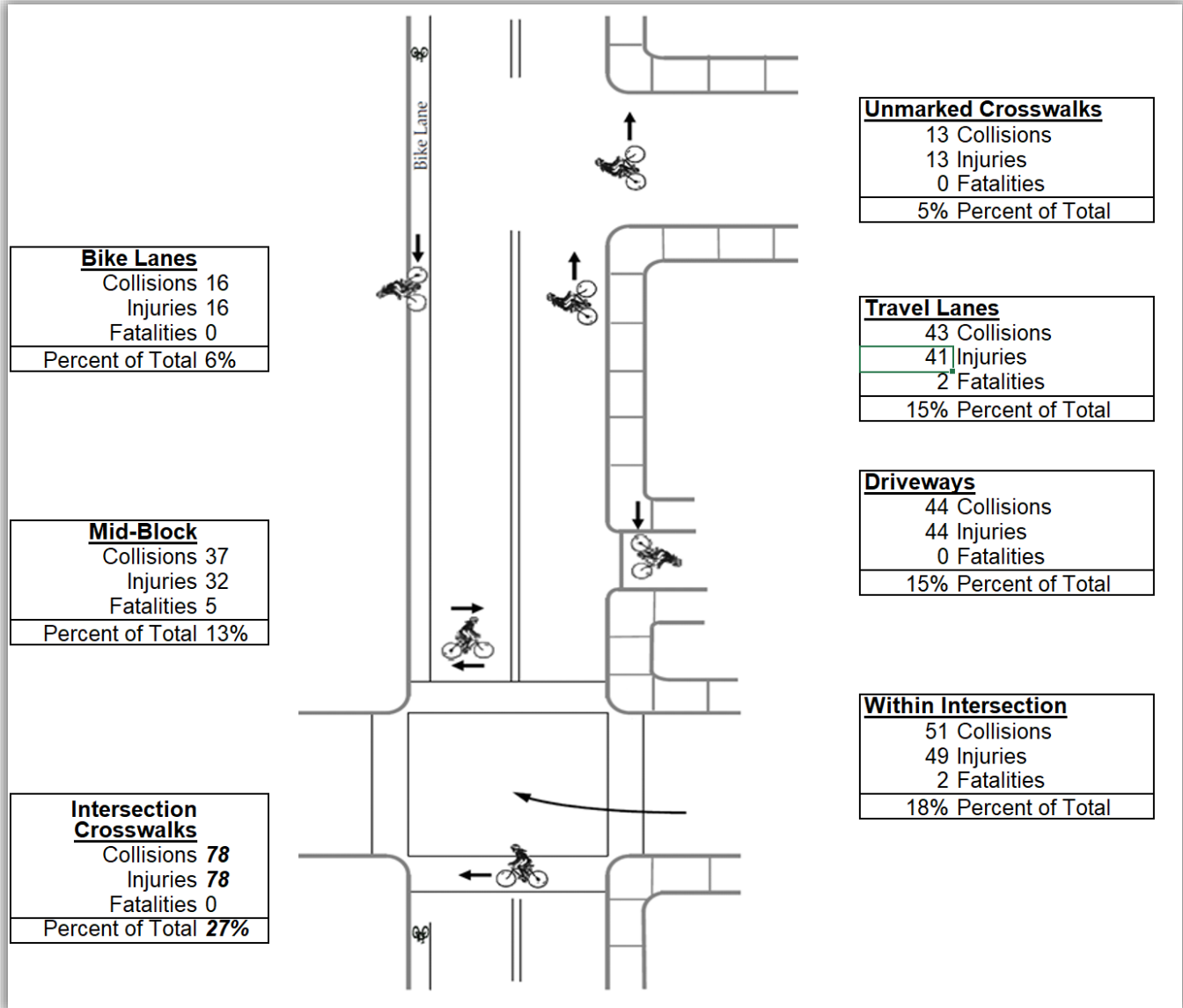
Before Bike Lane Installation



Bike Lane Installed in the Summer of 2021

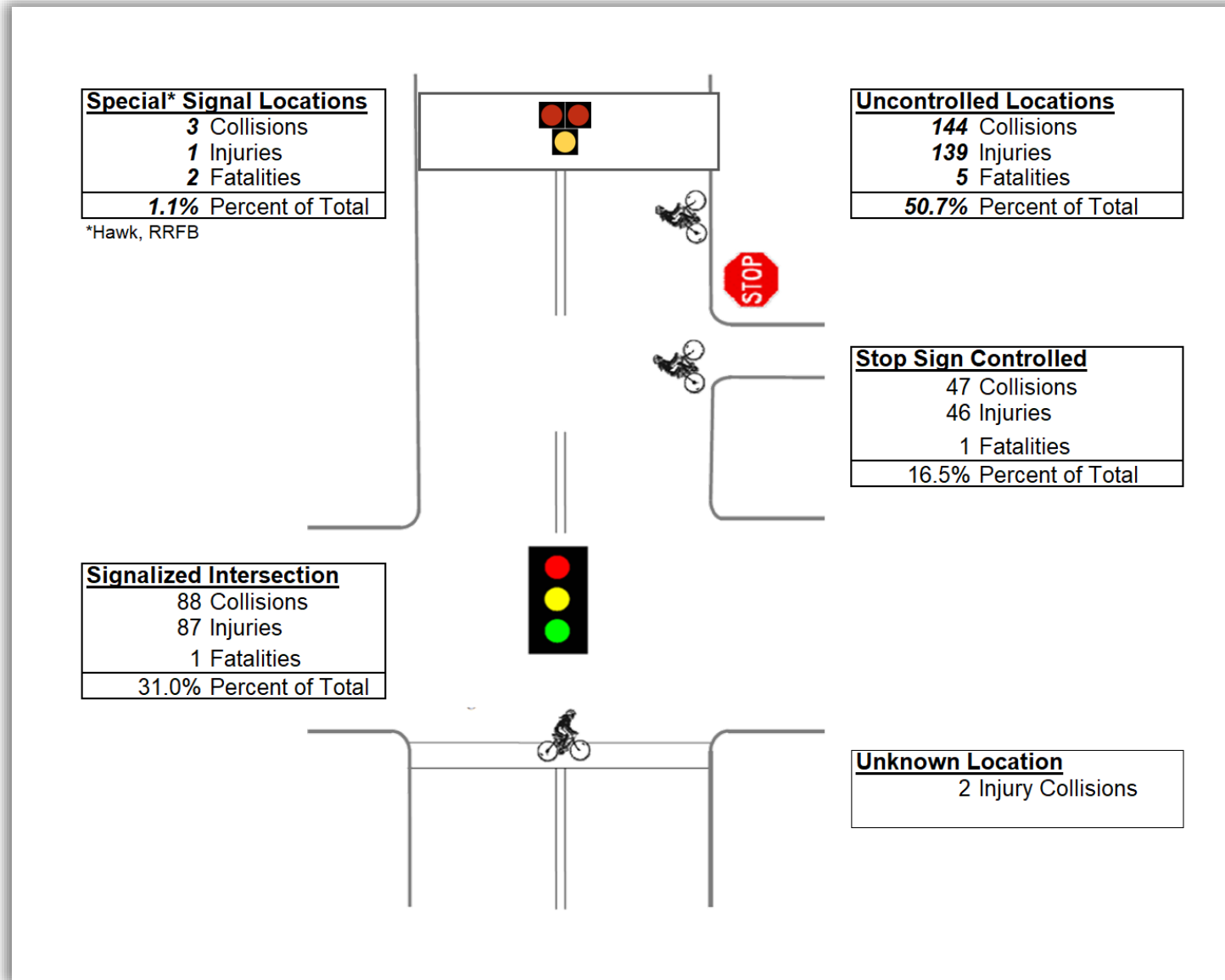


Bicycle Related Collisions by Location Type



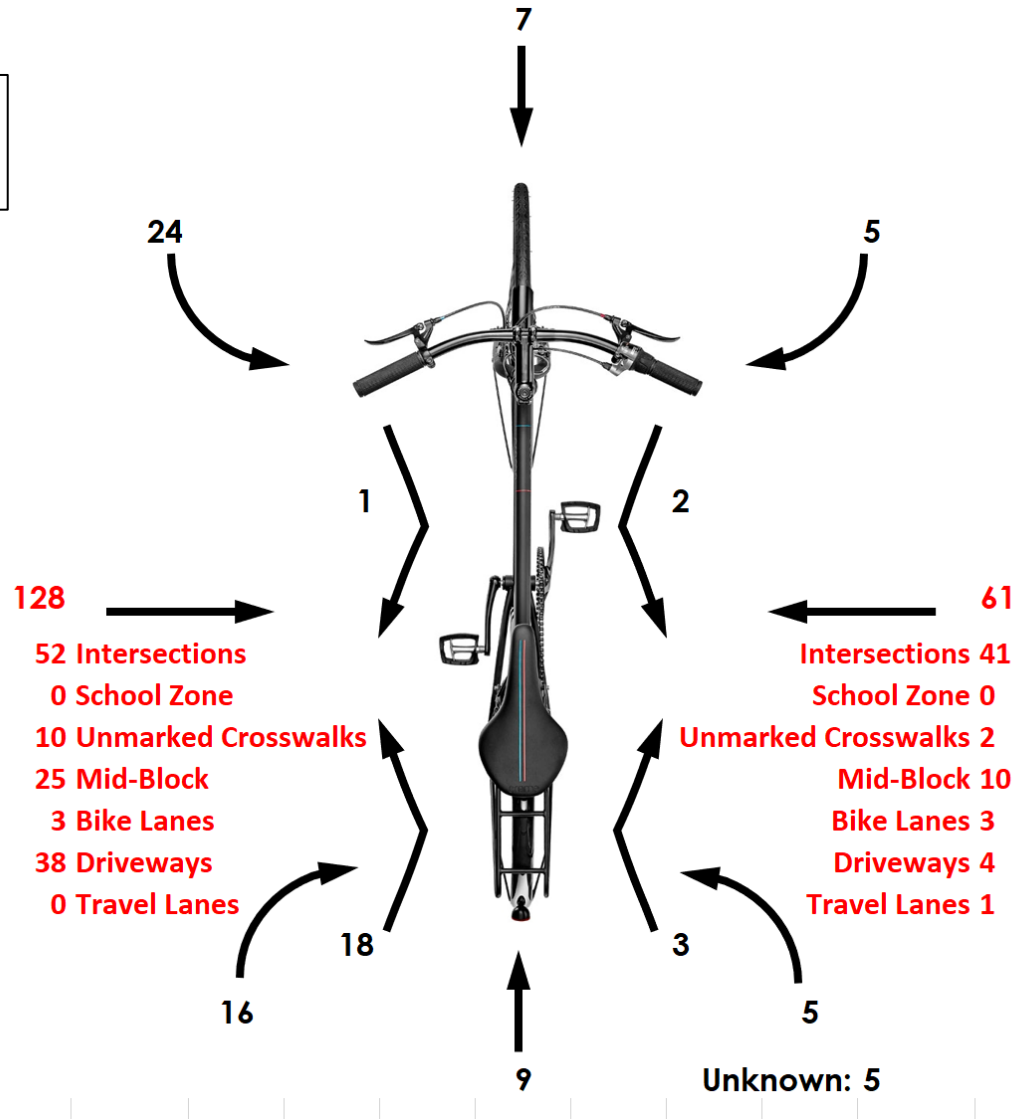
Note: There were two collisions occurring at unknown locations.

Bicycle Related Collisions by Traffic Control Type



Vehicle Action Prior to Impact

Note:
Turning movements
totaled 136 collisions.



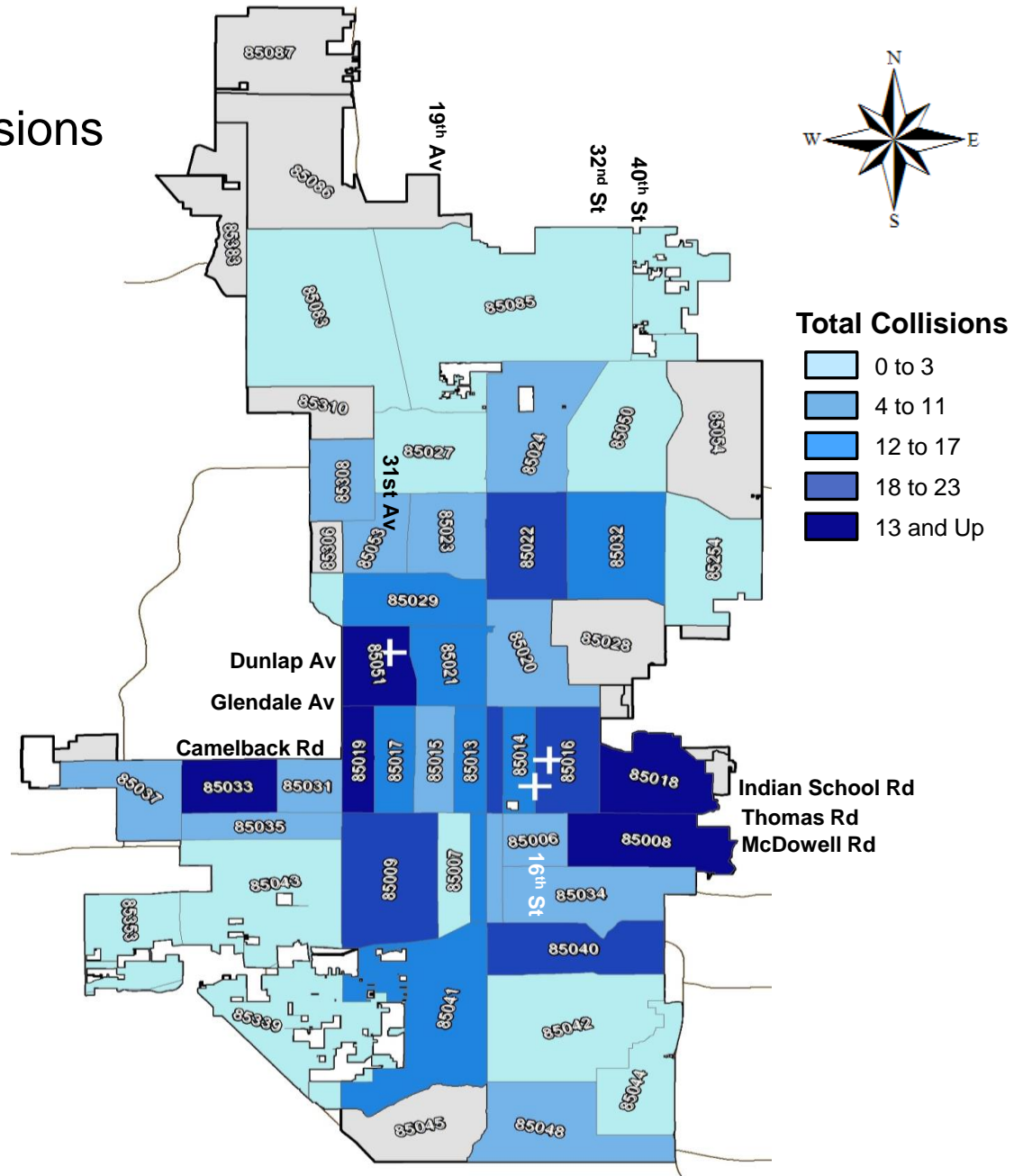
Man Vectors by Vecteezy [vecteezy.com]

Total Bicycle Related Collisions by Location Zip Code

Top Intersections*

Intersection	Count
31st Av & Dunlap Av	4
20th St & Camelback Rd	3
16th St & Indian School Rd	3

*Only collisions within 150 feet of the intersection are included.



Acknowledgements

The 2021 Bicycle Related Collision Summary documents the collisions involving bicyclists in the City of Phoenix throughout the 2021 calendar year. Collision data utilized for this report was acquired through Phoenix Police records and the database maintained by the Arizona Department of Transportation (ADOT) known as Safety Data Mart (SDM). The 2021 Phoenix Bicycle Related Collision Summary was prepared by Traffic Safety Section staff Jacob Martinez (Chief Engineering Technician).

The SDM database includes motor vehicle collisions involving bicyclists that occurred on public right of way where someone was injured or killed or where property damage exceeded \$2,000.

Cover photo of Phoenix City Hall and upgraded bike lanes were taken by various employees or consultants of the City of Phoenix Street Transportation Department.

Some pictures of the roadway facilities are screen captures from Google Street-View, all other photographs used were taken by various employees or consultants of the City of Phoenix Street Transportation Department.

This publication can be made available in an alternative format upon request. Contact the Street Transportation Department at 602-262-6284 if you would like any of these services. Our TTY phone number is 711.

Questions?

**Please contact Street Transportation Department at
602-262-6284 or TTY 711**

Active Transportation Program:

602-534-0258

bike@phoenix.gov

Pavement Maintenance Program:

623-825-3444

pavement@phoenix.gov