

2019 Bicycle Collision Summary



TRAFFIC SERVICES DIVISION

TRAFFIC SAFETY SECTION

JULY 2021

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Introduction

The 2019 Bicycle Collision Summary provides a brief analysis of reported bicycle collision statistics related to demographics, collision types, and locations. The report also includes collision data from 2015 through 2019 to identify and track bicycle collision trends that have emerged during the past five years. These statistics provide a strong indication of roadway behaviors that negatively impact bicyclists' safety and helps identify which violations should be prioritized for increased education and enforcement.

The 2019 collision summary includes 378 reported bicycle-related collisions resulting in 372 injuries and 6 fatalities. These bicycle-related collisions accounted for 1.2 percent of all collisions, 3.1 percent of all injuries, and almost 3.4 percent of all fatalities occurring on City Streets. Statistics show a 9% decrease in bike crashes from 2018 as well as a 5-year trend downward. Consistent with previous years, male bicyclists were involved in more collisions at a male:female ratio of 3.6:1. Also, the age groups with the highest number of bicycle-related collisions were adults between the ages of 26 and 35. The majority (82 percent) of collisions occurred within 150 feet of an intersection.

Bicycle collisions may be underreported and the findings in this report are used to inform and influence the design of new bicycle facilities, the redesign of existing roadways, the development of education programs 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 street segments with the highest reported bicycle injury collisions.

NOTE: Some figures in the 2019 Bicycle Collision Summary differ from the 2019 Traffic Collision Summary due to the detailed analysis of crash reports.

2019 Phoenix Bicycle Collision Facts-at-a-Glance

378
collisions

372
injuries

6
deaths

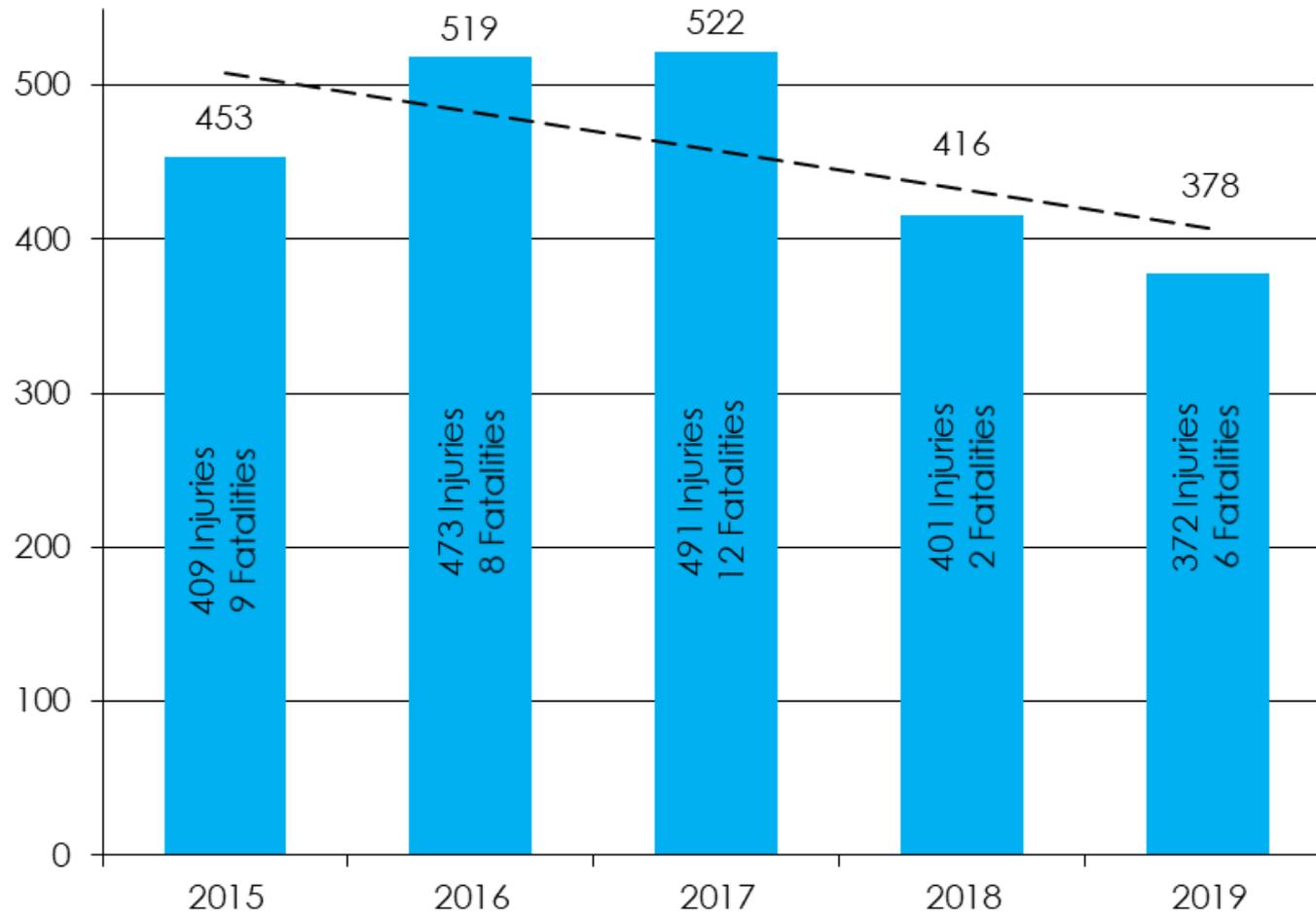
Important Points to Know About the Bicycle Collision Summary in 2019:

- There were 38 less bicycle collisions than in 2018.
- Nearly eight out of ten collisions occurred at or within 150 feet of an intersection.
- More than eight out of ten non-intersection-related collisions occurred on an arterial street.
- Almost 40 percent of collisions occurred while the motorist was making a right-hand turn.
- Only three percent of bicyclists involved in a reported collision were not injured.

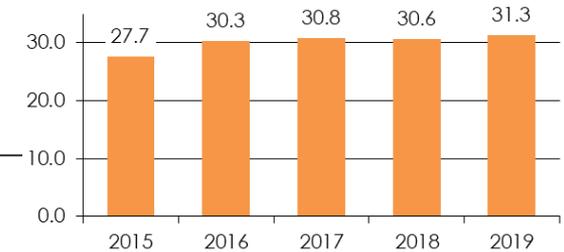
In 2019,

- Bicycle collisions in 2019 accounted for 1.2 % of all traffic collisions, 3.1% of all injuries, and 3.3% of all fatalities.
- Almost 16% of bicyclist in collisions were children below the age of 18.
- 35% of all collisions occurred in an intersection crosswalk and 14% at driveways.
- 35 school-age bicyclists (5 to 17 years old) were in crashes during school hours (Monday – Friday, 7 AM – 4 PM).
- 23% of all bicycle collisions occurred at night, including twilight, and 33% of all bicyclist fatalities occurred at night.
- Bicycle collisions occurred most frequently between the hours of 3 PM and 6 PM and on Wednesdays.
- April had the highest number of bicycle collisions (39).
- Only ten bicyclists and three drivers were found to be under the influence of alcohol or drugs.
- 40% of all bicycle collisions occurred at uncontrolled locations.
- There were 45 hit and run collisions involving bicycles.

Five-Year Trend of Bicyclist-Involved* Collisions, Injuries, and Fatalities



Five Year Trend All Collisions (x1,000)



Key Note:
The 10 year average is 471 collisions.

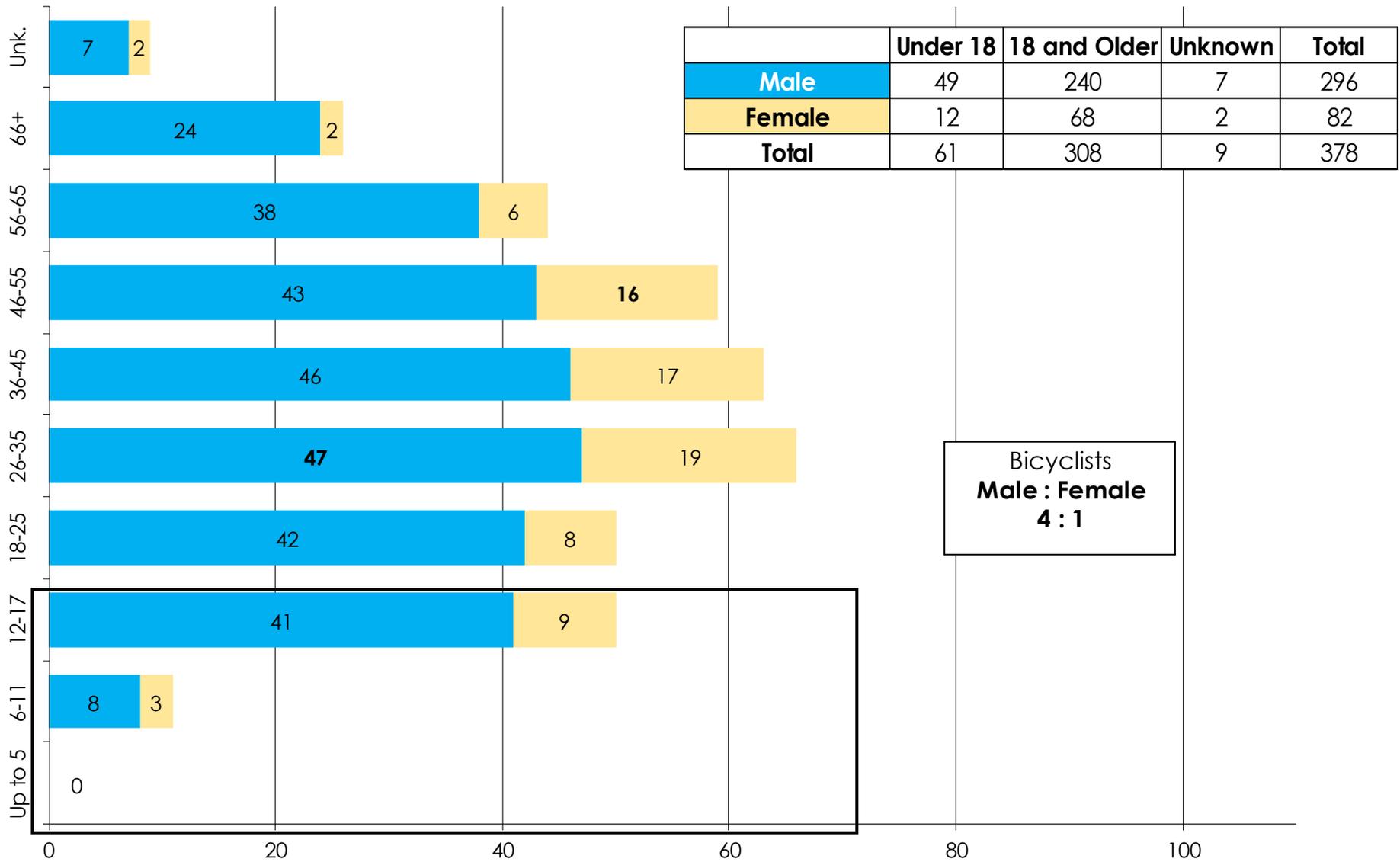
***Note:** This collision summary accounts for **reported** bicycle collisions with vehicles, not single bicycle collisions or two-bicycle collisions.

Supplemental bike
warning sign

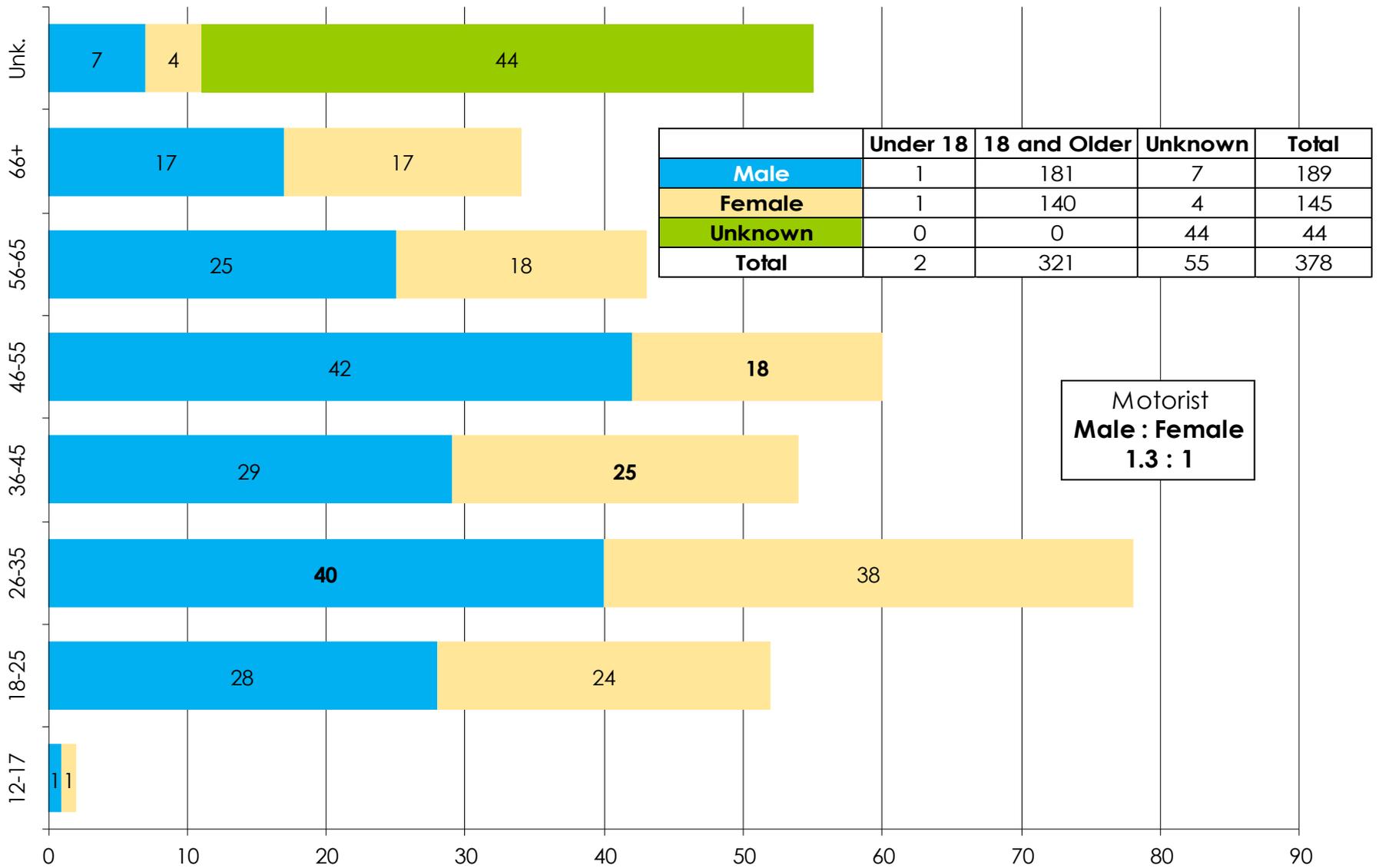


New green bike lane on Mountain Parkway from Ray Road to Chandler Boulevard

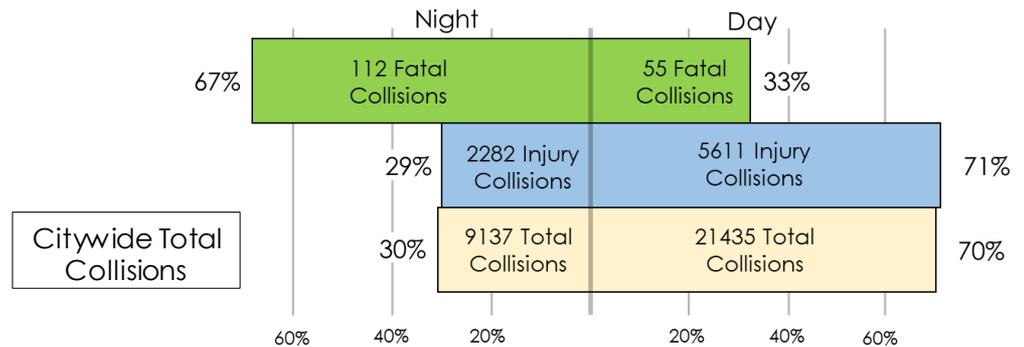
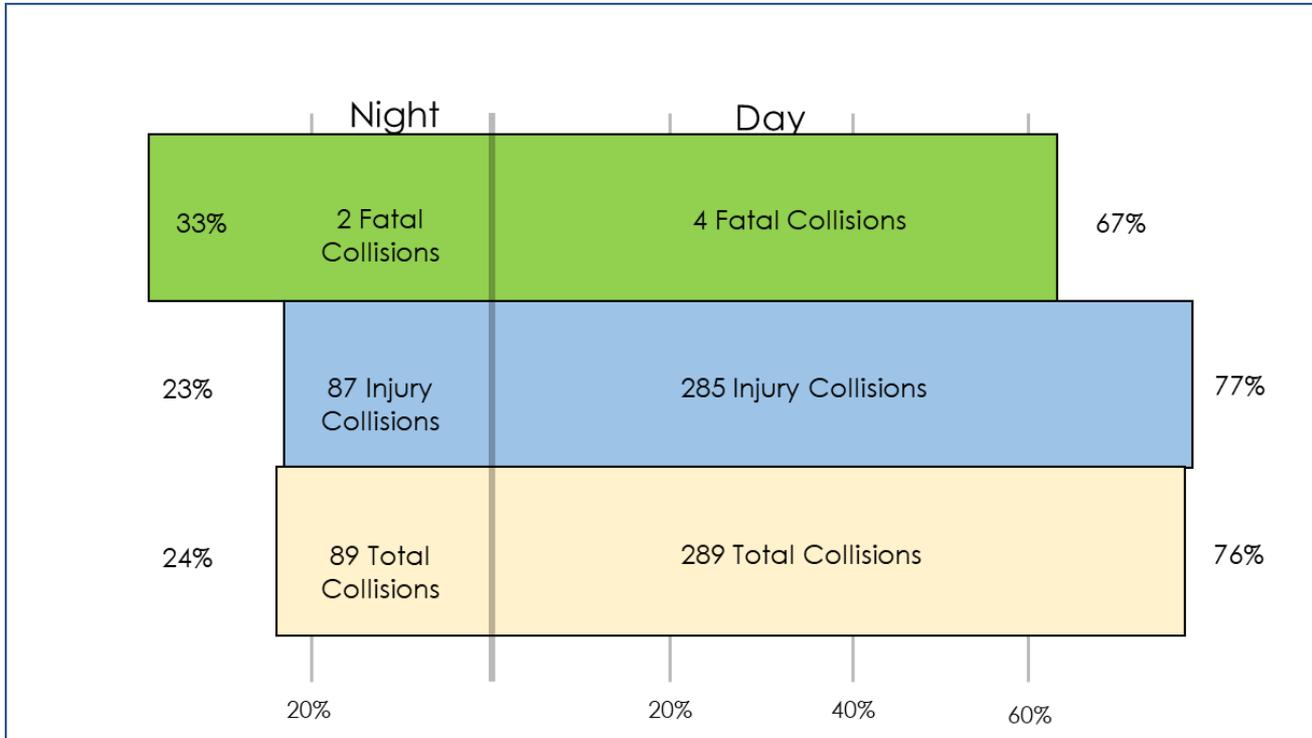
Age and Gender of Bicyclists in Collisions



Age and Gender of Drivers in Bicycle-Related Collisions



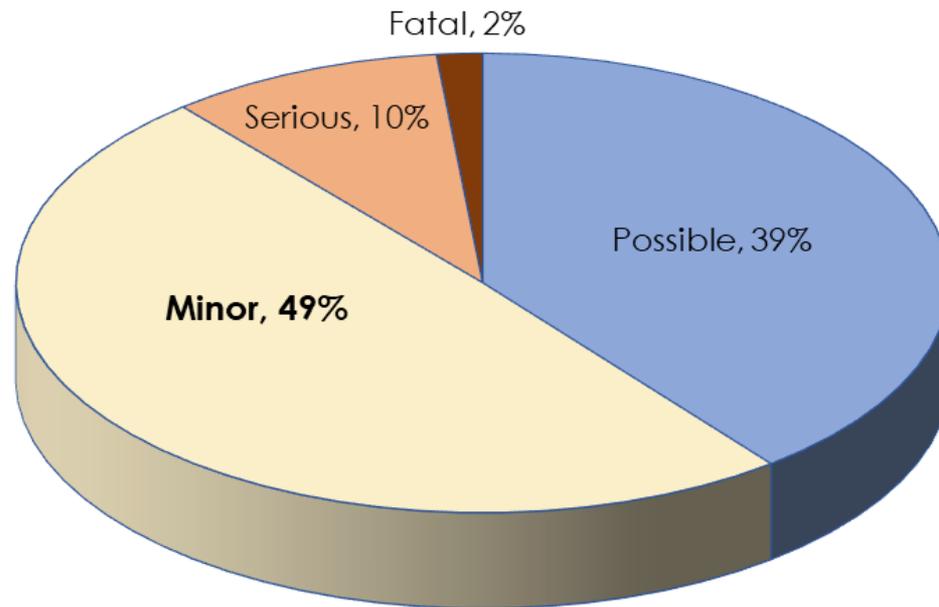
Collisions by Light Conditions



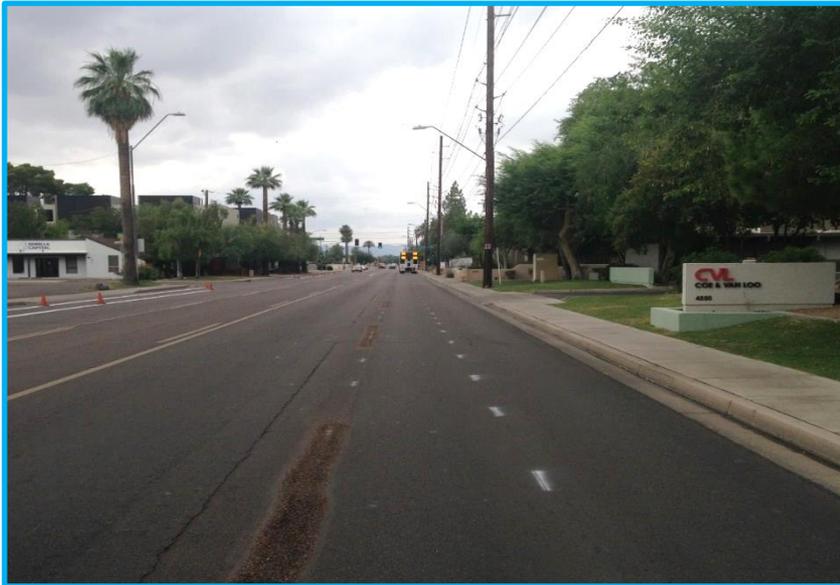
Collisions by Injury Severity

Key Note:

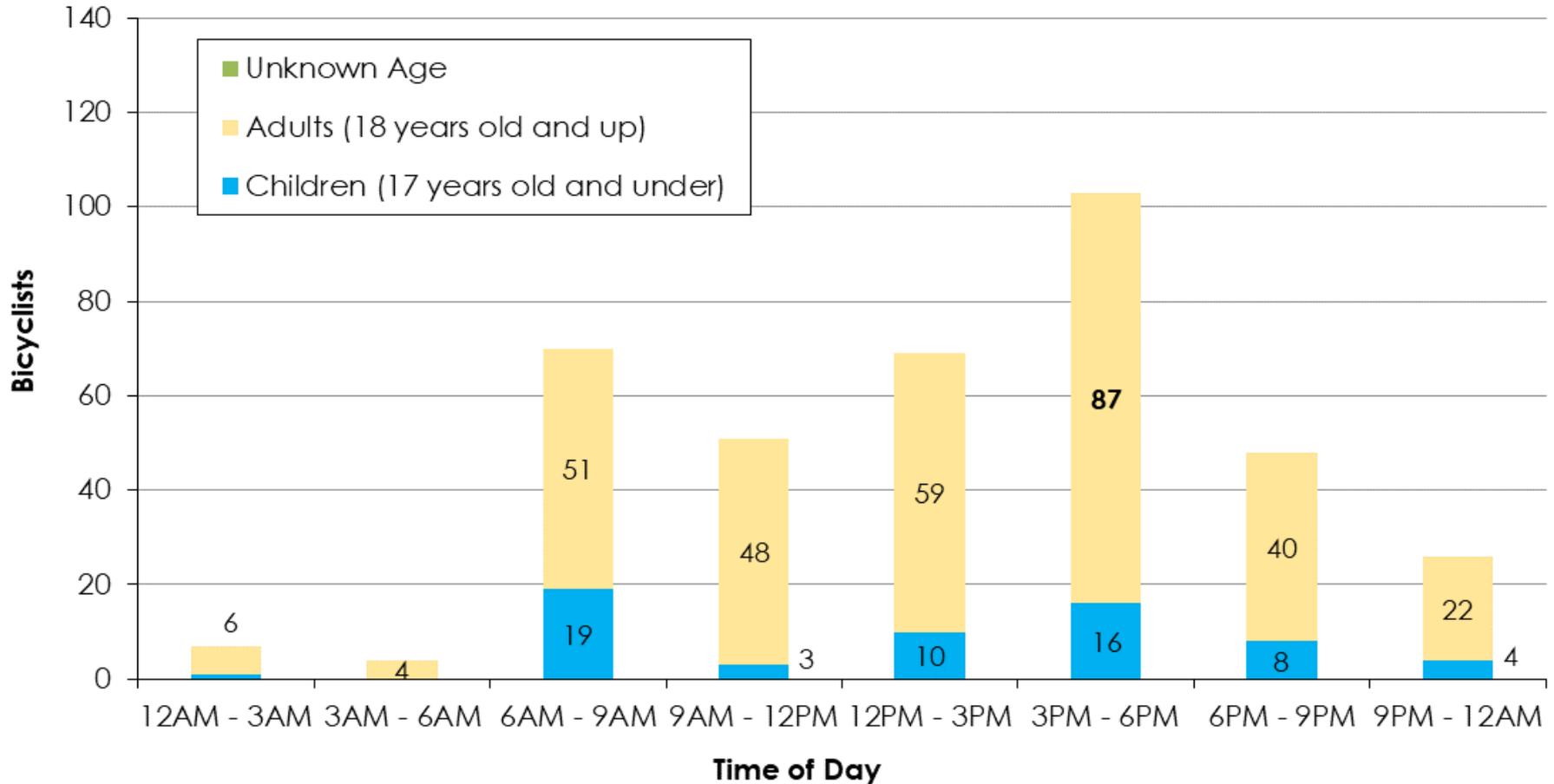
There were 187 minor injuries, 36 serious injuries, and 6 fatalities reported in 2019.



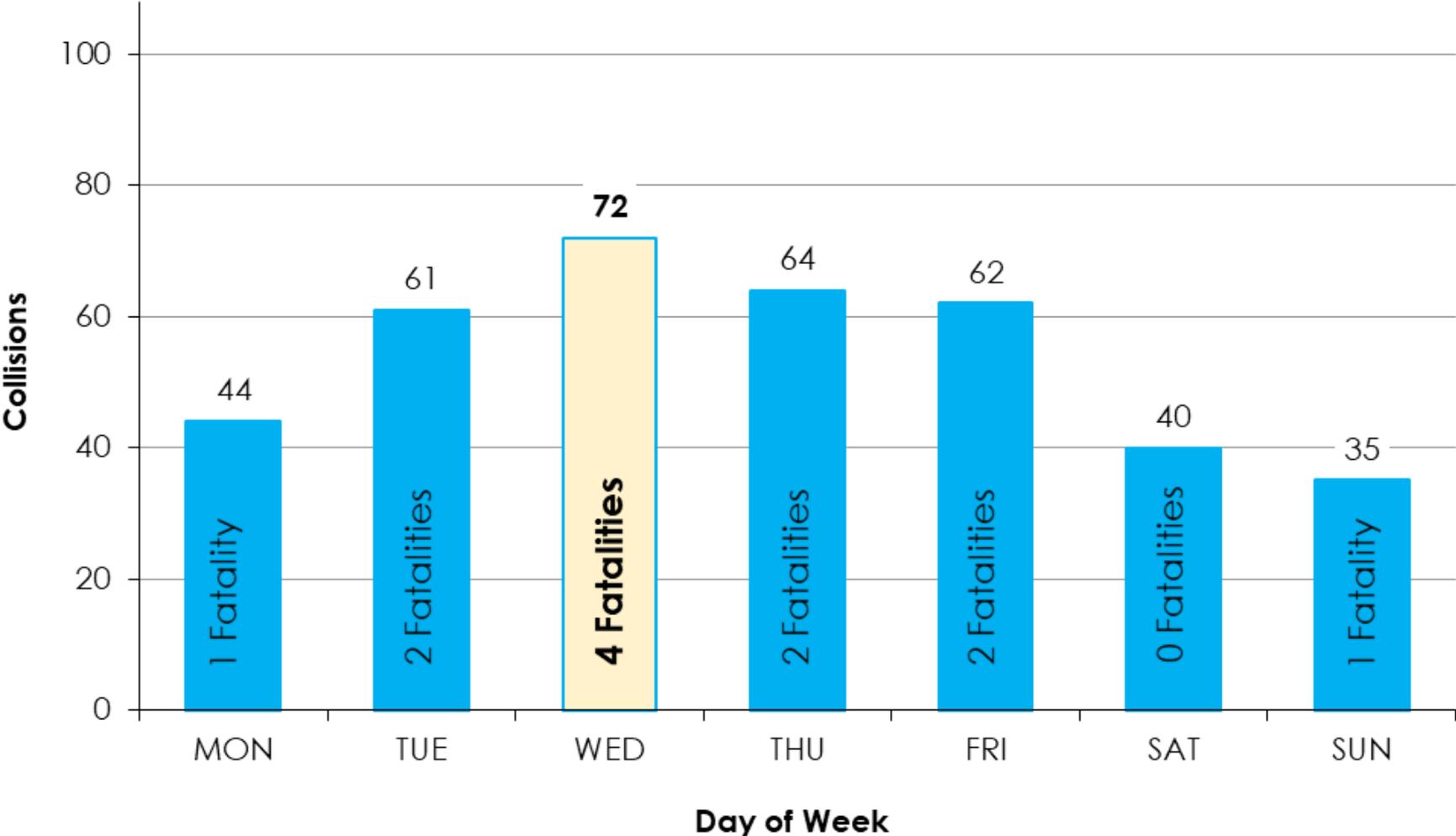
North 12th Street south of East Camelback Road Before / After Buffered Bike Lanes



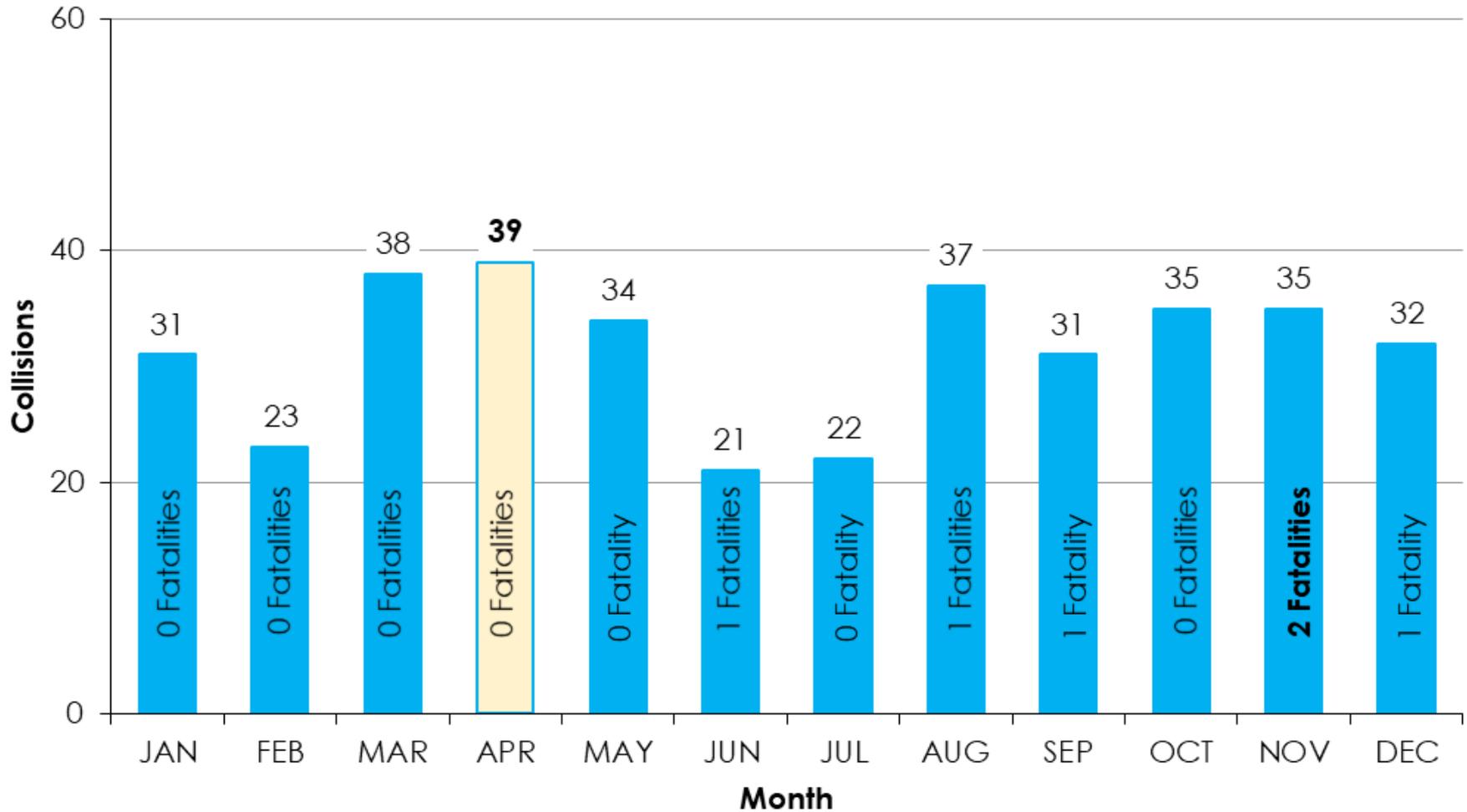
Collisions by Time of Day and Age Group



Collisions by Day of Week

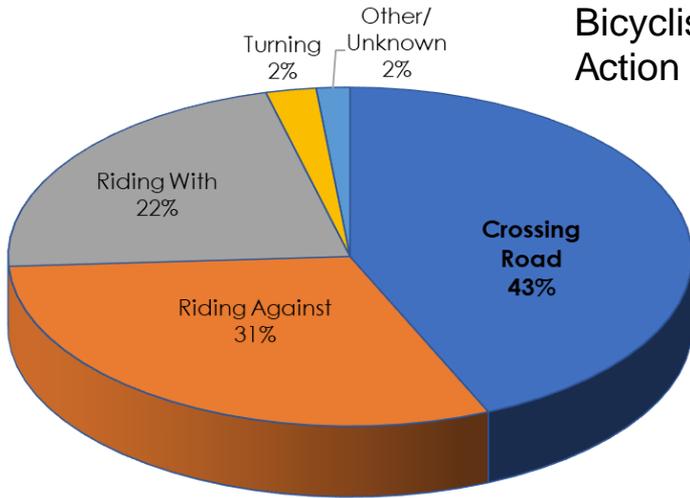


Collisions by Month

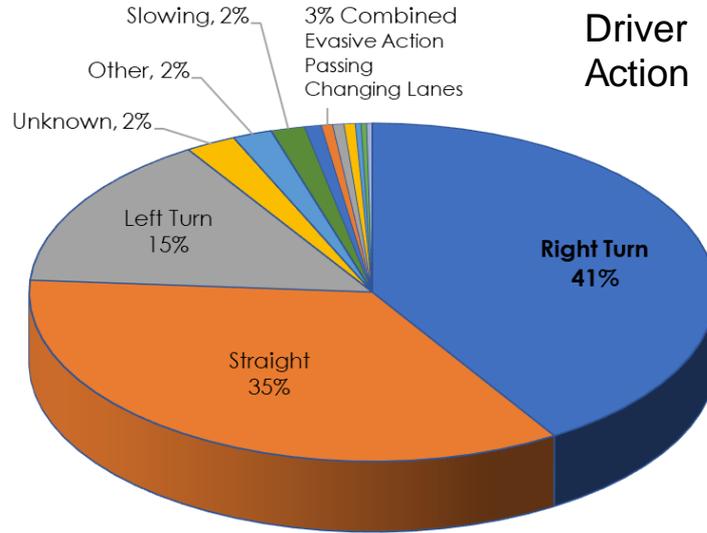


Actions and Violations

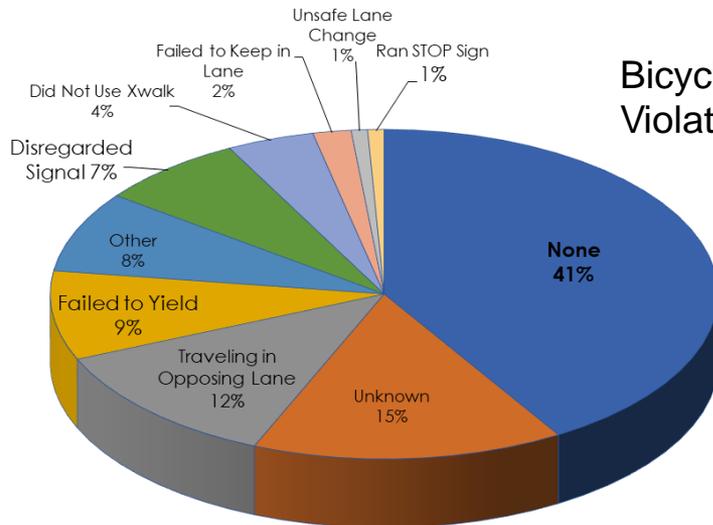
Bicyclists Action



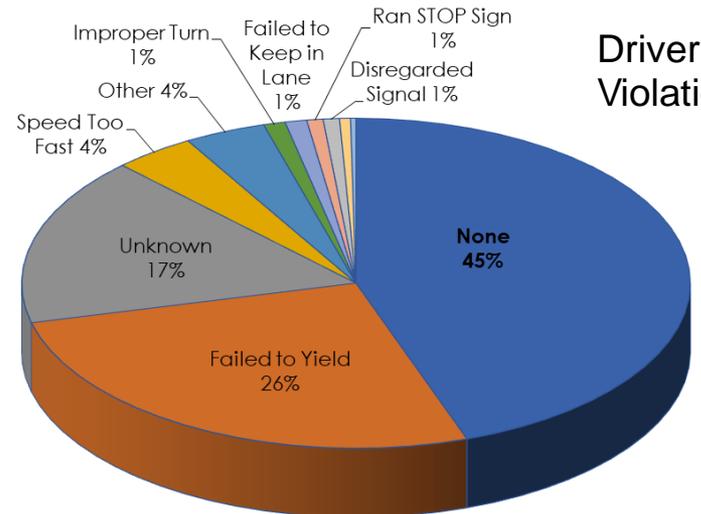
Driver Action



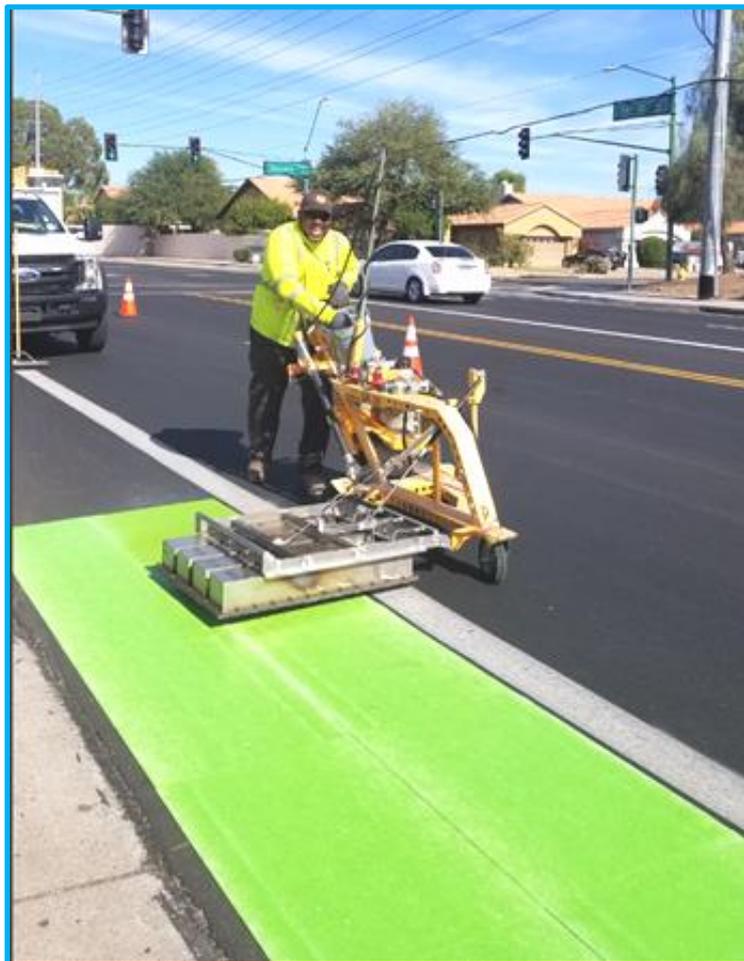
Bicyclists Violation



Driver Violation



Green bike lane installation on Durango Avenue from 35th Avenue to 27th Avenue



Bike Facility Improvements



Upgraded bicycle facilities 39th Avenue from Thomas Road to McDowell Road

Bike to School Events

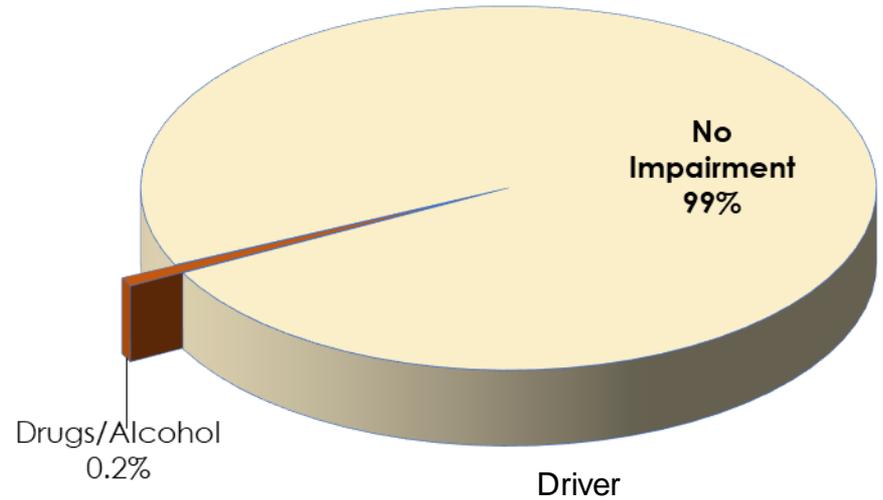
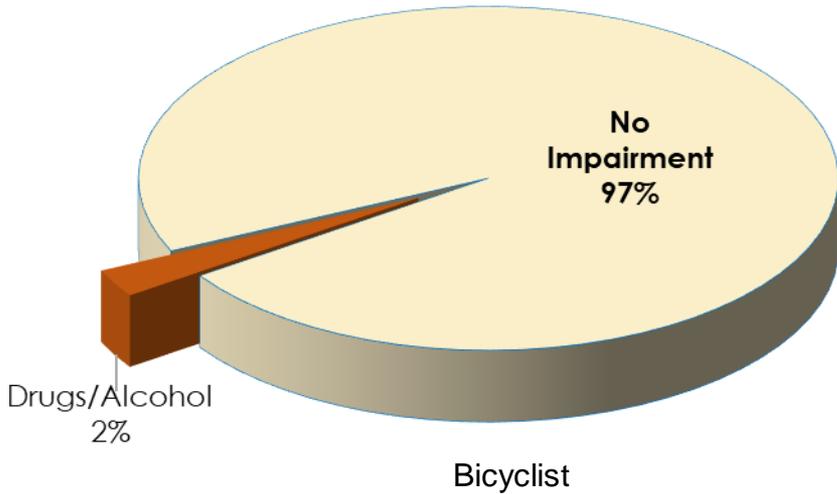


Papago Harvest Elementary
School Bike Rodeo

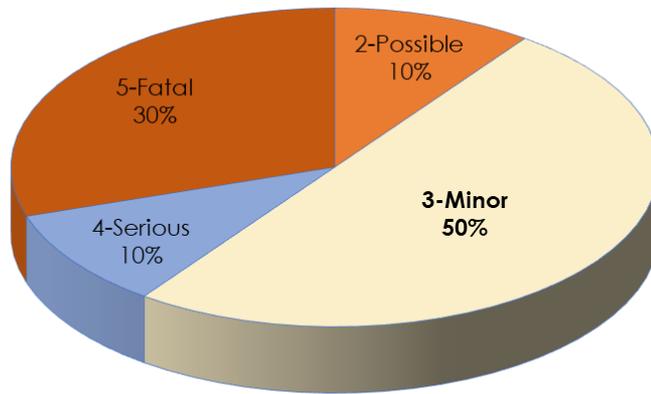
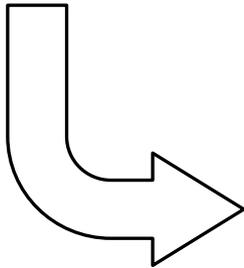
Vista del Sur Elementary
“Bike to School Day” Event



Impairment of Bicyclists and Drivers



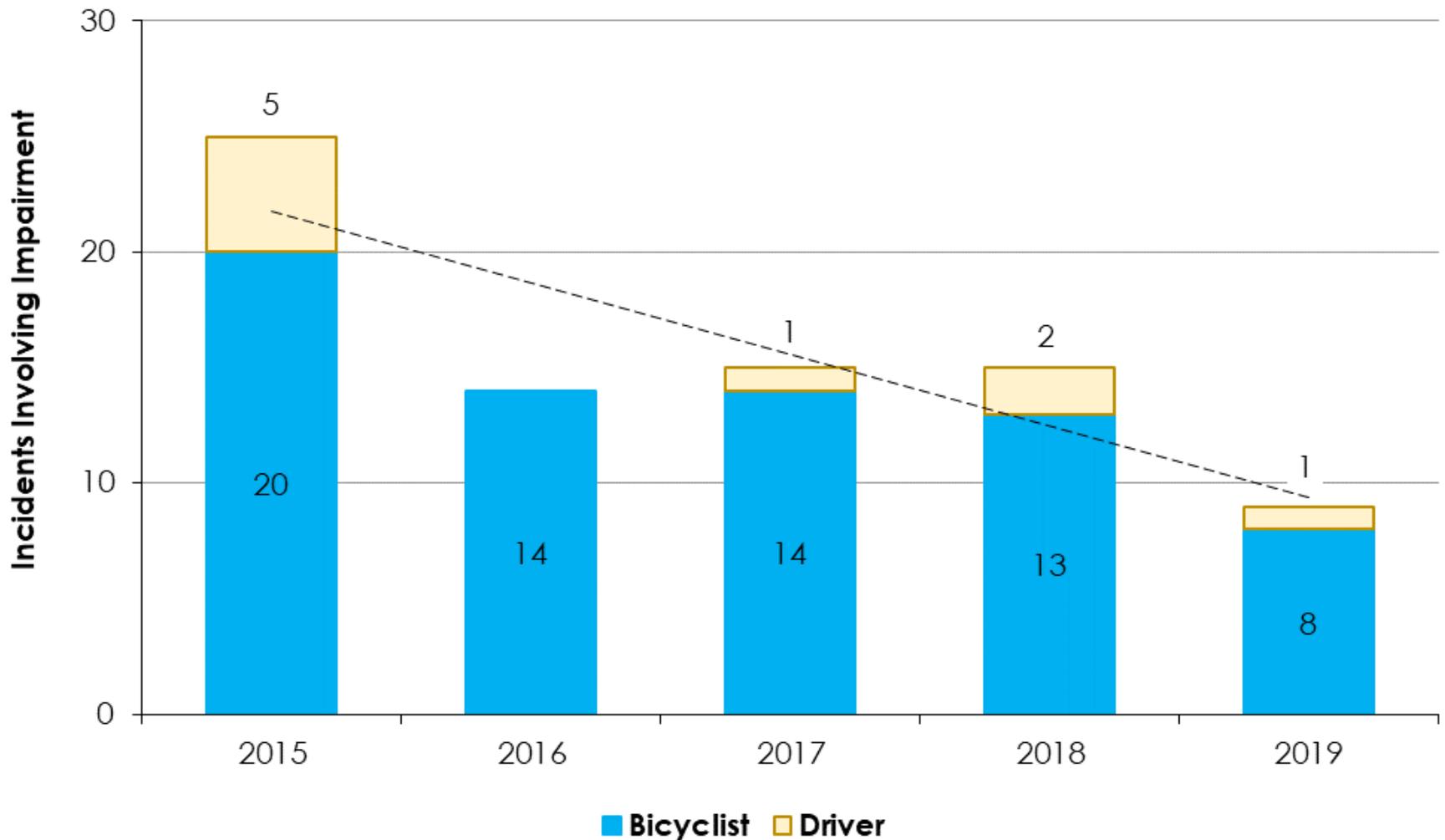
Injury Severity of Bicyclists under the Influence



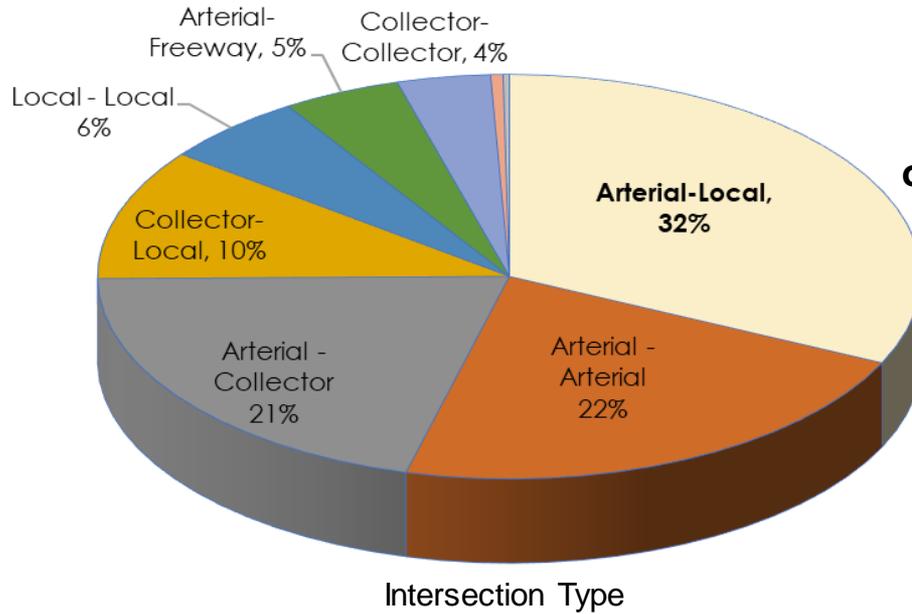
Under the Influence
Male – 6
Female – 4

Key Note:
 There were 5 minor injuries, 1 serious injury, and **3 fatalities** involving drugs and/or alcohol.

Five-Year Trend of Impairment in Reported Collisions

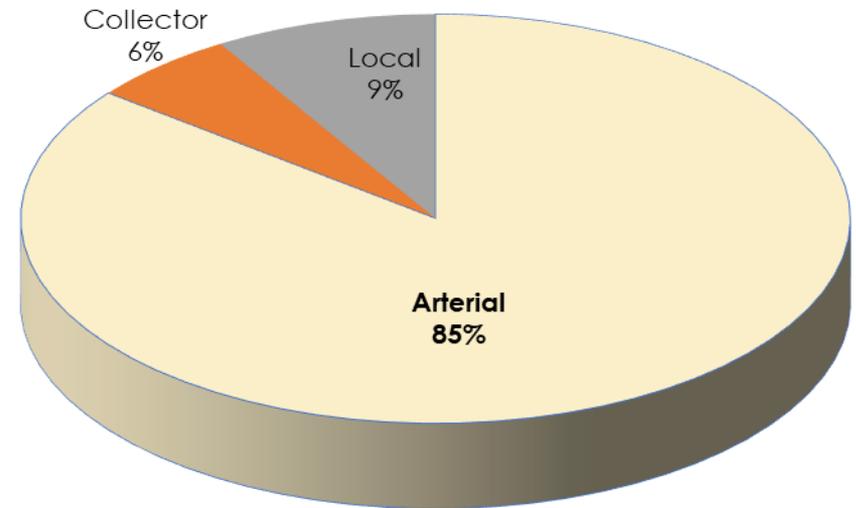


Collisions by Street Classification



Intersection-Related
82%
of all bicycle collisions

Non-Intersection-Related
18%
of all bicycle collisions

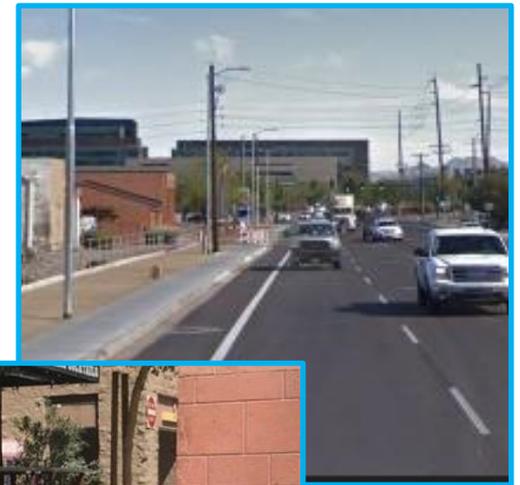


Street Classification Examples

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.

2019 Bicycle Facility Improvements

- 107th Ave; Indian School Rd - Camelback Rd
- 15th Ave; Camelback Rd - Bethany Home Rd
- 31st Ave; Van Buren St - Encanto Blvd
- 39th Ave; McDowell Rd - Osborn Rd
- Buckeye Rd; 19th Av - 7th Av
- Dobbins Rd; 7th St - 16th St
- Durango St; 35th Av - 27th Av
- Happy Valley Rd; 67th Av - Pinnacle Hill Dr
- McDowell Rd; 75th Av - 67th Av
- Mountain Pkwy; Ray Rd - Chandler Blvd
- Palm Ln; 91st - 86th Dr
- Pointe Golf Club Dr; Thunderbird Rd - Hearn Rd
- Mountain Pkwy; Ray Rd - Chandler Blvd

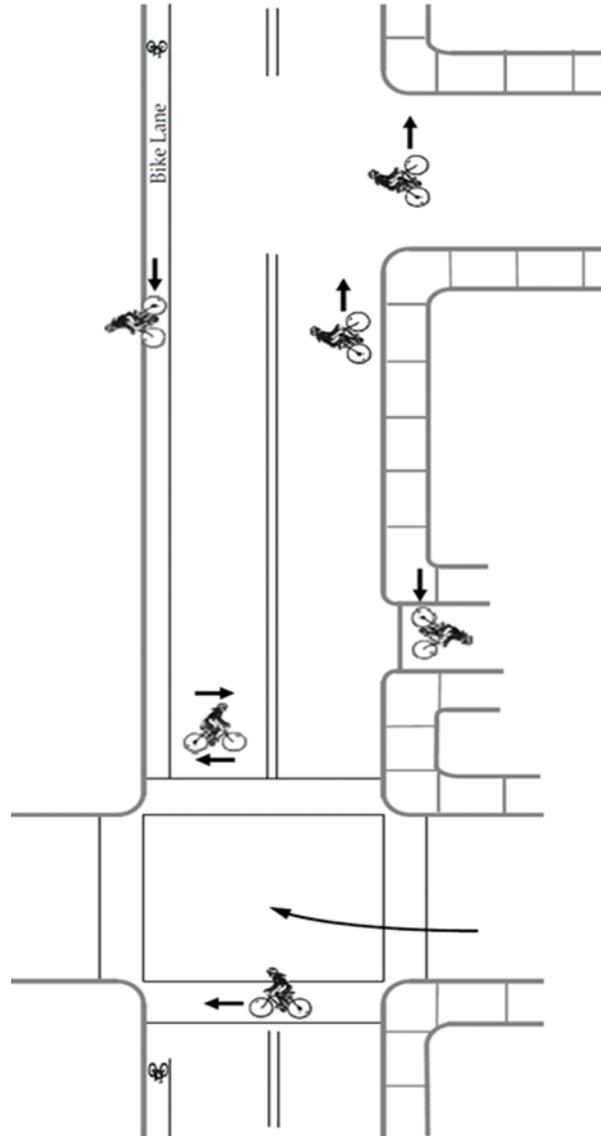


Collisions by Location Type

<u>Bike Lanes</u>	
Collisions	11
Injuries	11
Fatalities	0
Percent of Total 3%	

<u>Mid-Block</u>	
Collisions	27
Injuries	23
Fatalities	4
Percent of Total 7%	

<u>Intersection Crosswalks</u>	
Collisions	133
Injuries	132
Fatalities	1
Percent of Total 35%	



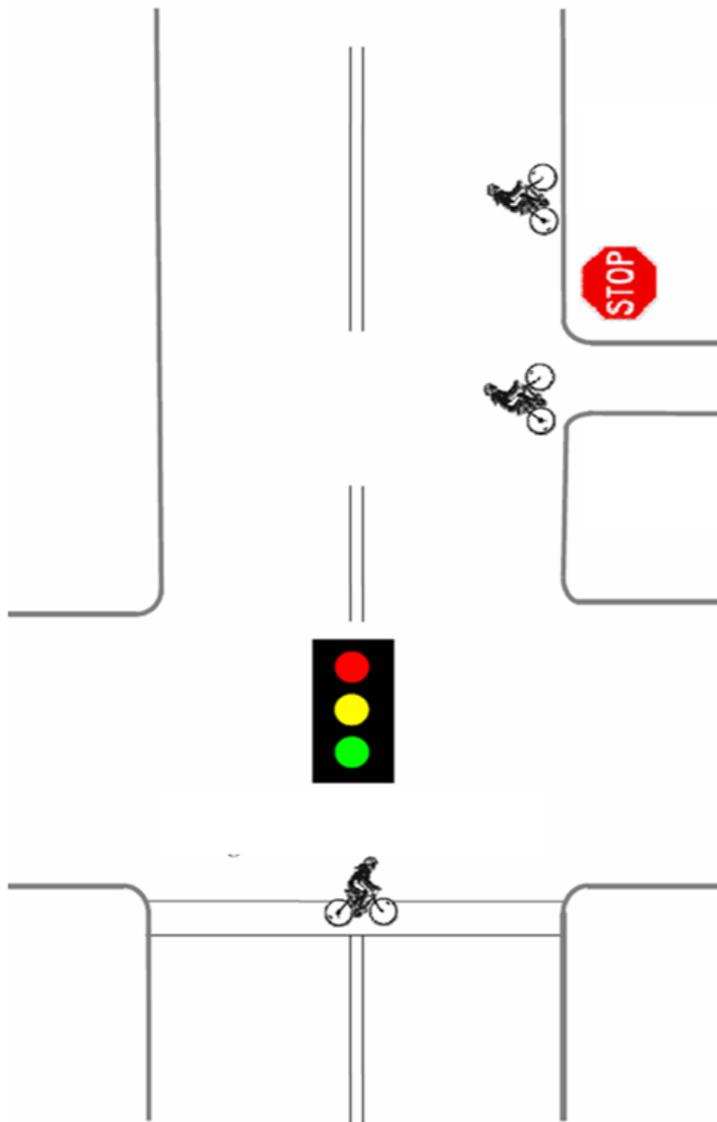
<u>Unmarked Crosswalks</u>	
Collisions	56
Injuries	56
Fatalities	0
15% Percent of Total	

<u>Travel Lanes</u>	
Collisions	39
Injuries	39
Fatalities	0
10% Percent of Total	

<u>Driveways</u>	
Collisions	55
Injuries	55
Fatalities	0
15% Percent of Total	

<u>Within Intersection</u>	
Collisions	44
Injuries	43
Fatalities	1
12% Percent of Total	

Collisions by Traffic Control Type



<u>Uncontrolled Locations</u>	
153	Collisions
149	Injuries
4	Fatalities
40%	Percent of Total

<u>Stop Sign Controlled</u>	
86	Collisions
86	Injuries
0	Fatalities
23%	Percent of Total

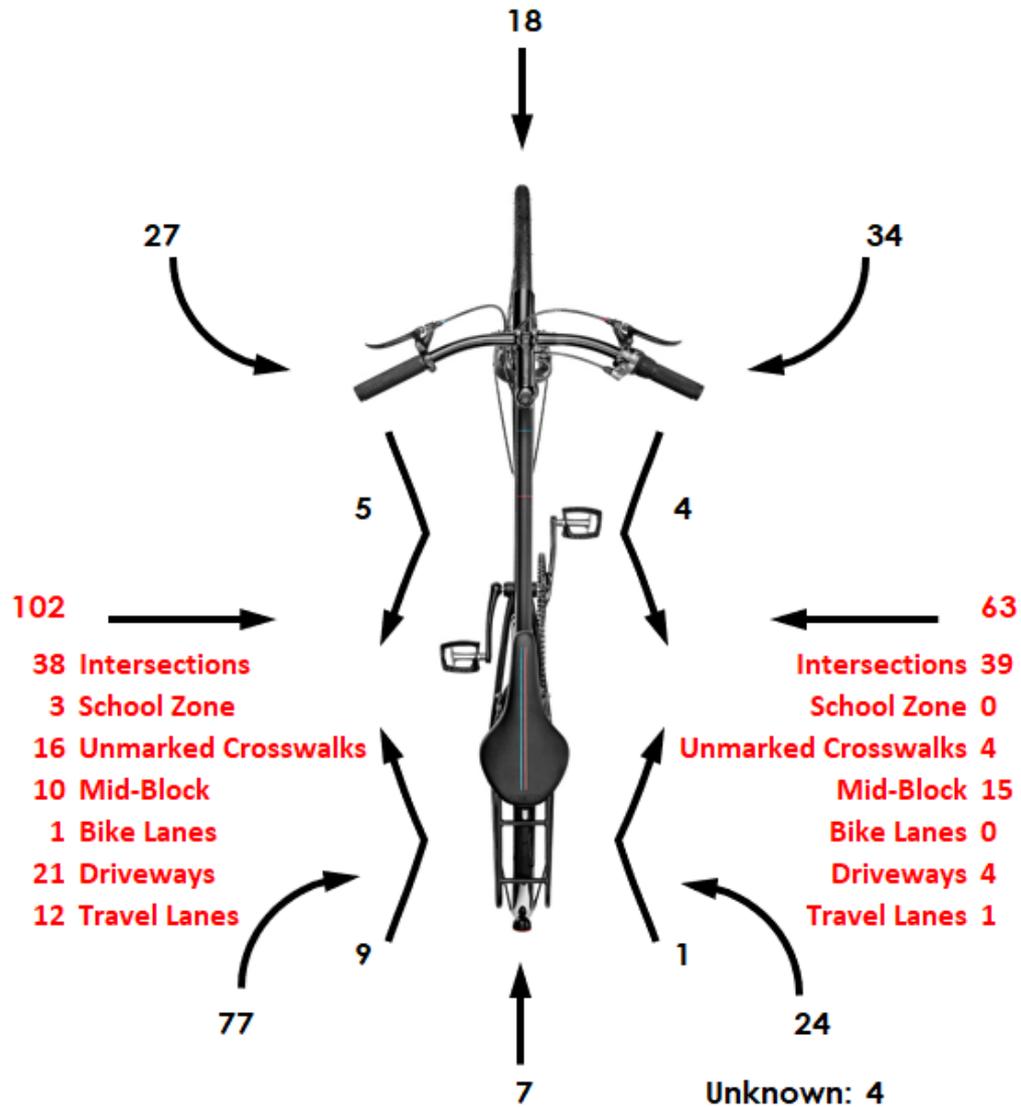
<u>Signalized Intersection</u>	
135	Collisions
133	Injuries
2	Fatalities
36%	Percent of Total

NOTE: There were 8 bicyclists hit (2% of total) in other/unknown locations resulting in 7 injuries

Vehicle Movement Prior to Impact

Key Note:

Bicyclists struck riding against traffic were 30% of all crashes.

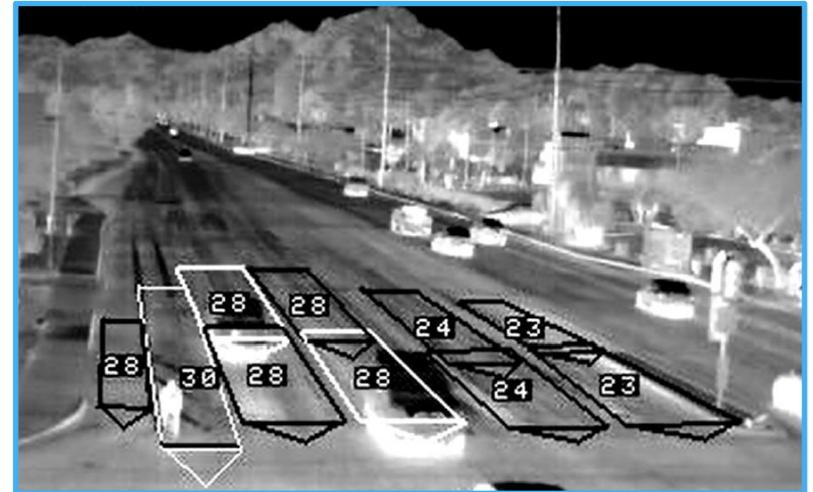


2019 Bicycle Detection Improvements

Bicycle detection improvements continue to be considered at signalized intersections in 2019. The intersection detection systems included inductive loops, bicycle signals, video cameras, and FLIR (Forward Looking Infrared).

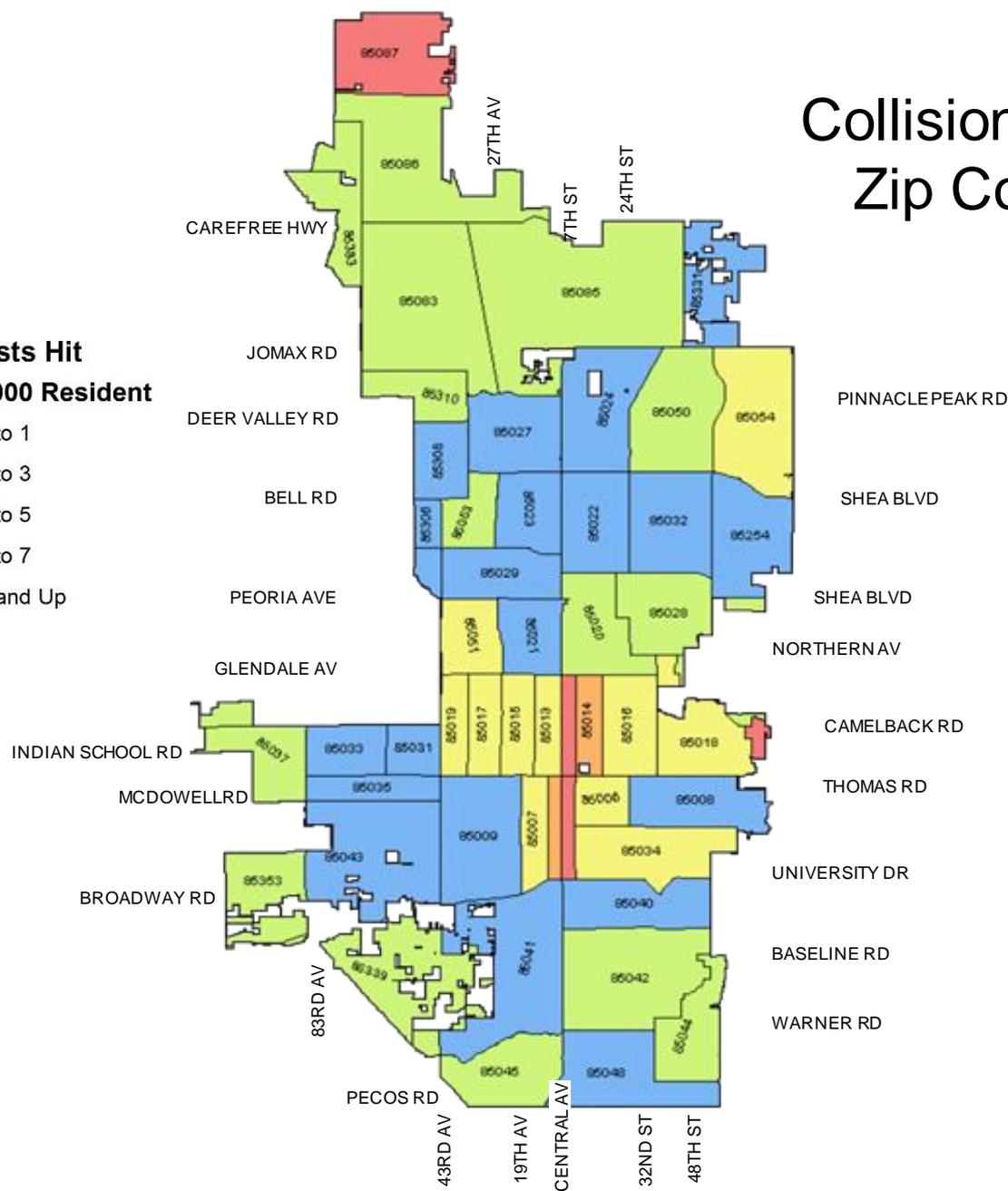
Example locations:

- 15th Avenue and Camelback Road
- 12th Street and Campbell Avenue
- 32nd Street at Cactus, Greenway, Thunderbird Roads, and Shea Boulevard



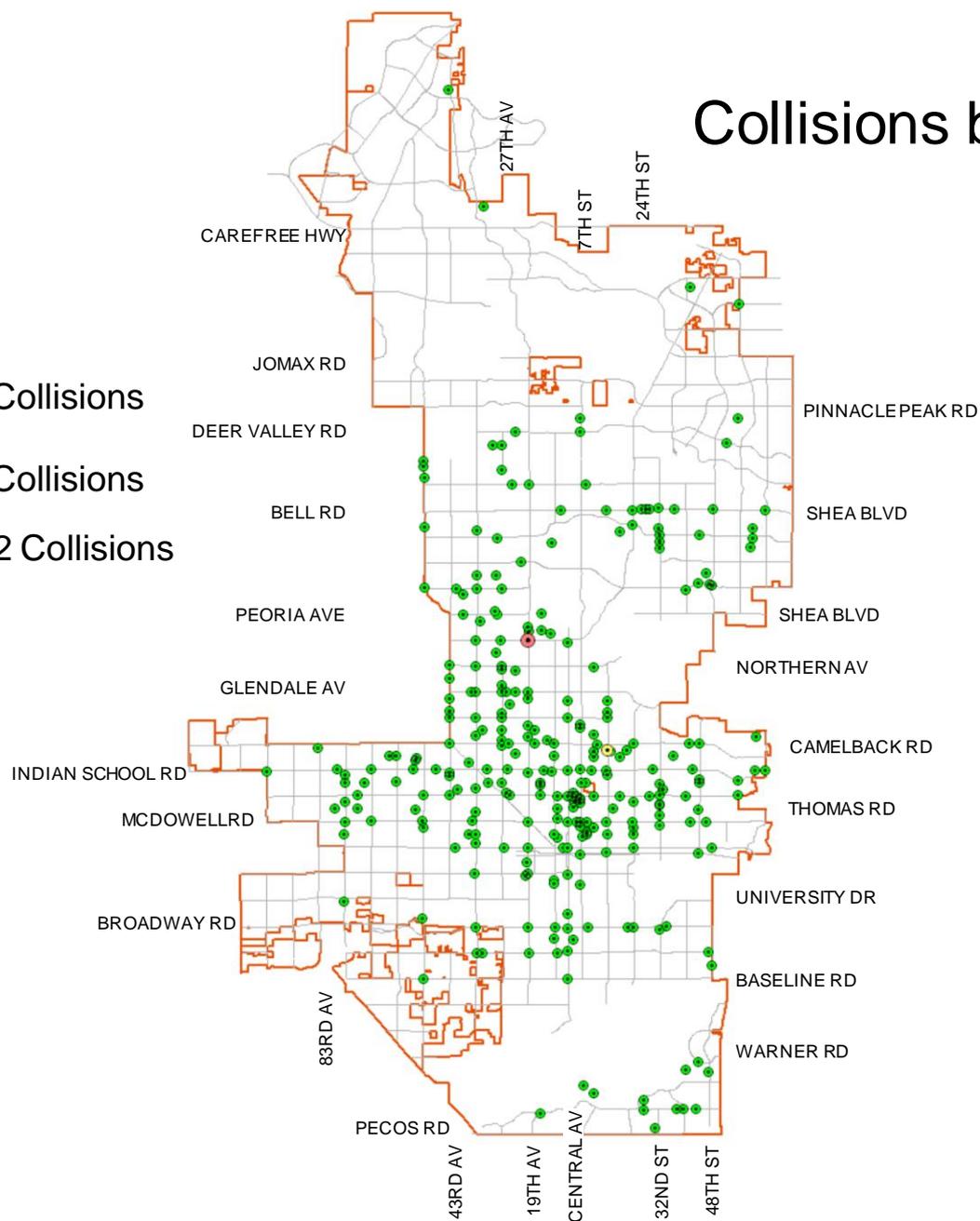
Collisions by Residential Zip Code of Bicyclist

Bicyclists Hit per 10,000 Resident



Collisions by Intersection

-  4 Collisions
-  3 Collisions
-  1-2 Collisions



Acknowledgements

The 2019 Phoenix Bicycle Collision Summary documents the collisions involving bicyclists in the City of Phoenix throughout the 2019 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 2019 Phoenix Bicycle Collision Summary was prepared by Nicolas Santiago (Traffic Engineer II) with assistance from Traffic Safety Section staff Jacob Martinez (Senior Engineering Technician).



Jacob Martinez

The SDM database includes motor vehicle crashes involving bicyclists that occurred on public right of way where someone was injured or killed or where property damage exceeded \$1,000.

Cover photograph: Fillmore Street looking east to 1st Street

Photograph courtesy Joseph Perez (Traffic Engineer II)

Presentation photographs courtesy of Joseph Perez (Traffic Engineer II), Don Cross (School Safety) and James Baker (Signal Systems)

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.



Nicolas Santiago



City of Phoenix

Questions?

**Please contact Street Transportation Department at
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