

2020 Reported Bicycle Related Collision Summary



TRAFFIC SERVICES DIVISION
FEBRUARY 2022

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Introduction

The 2020 Bicycle Collision Summary provides a brief analysis of reported bicycle collision statistics related to demographics, accident types, and locations. It is important to note that these types of collisions tend to be under reported and that “bicycle collision” may be used through out the report to represent those that were. The report also includes collision data from 2016 through 2020 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, engineering and enforcement.

The 2020 collision summary includes a reported 267 bicycle-related collisions resulting in 263 injuries and 4 fatalities. These bicycle-related collisions accounted for 1 percent of all collisions, 3 percent of all injuries, and 2 percent of all fatalities occurring on City Streets. Statistics show a 29% decrease in bike crashes from 2019 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 4:1. Also, the age groups with the highest number of bicycle-related collisions were adults between the ages of 26 and 35. The majority (80 percent) of collisions occurred within 150 feet of an intersection.

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 annual bicycle injury collisions.

NOTE: Some figures in the 2020 Bicycle Related Collision Summary may differ from 2020 Traffic Collision Summary due to the detailed analysis of crash reports.

2020 Phoenix Bicycle Related Collision Facts-at-a-Glance

Bicycle related collisions continued to decrease for the third time in 5 years.

Nearly eight out of ten collisions occurred at or within 150 feet of an intersection.

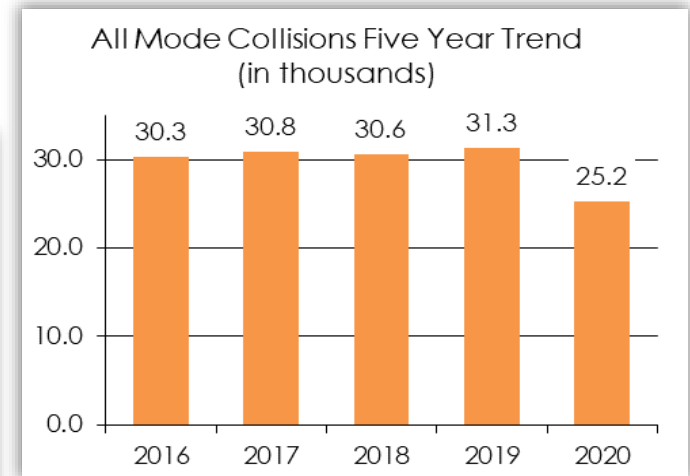
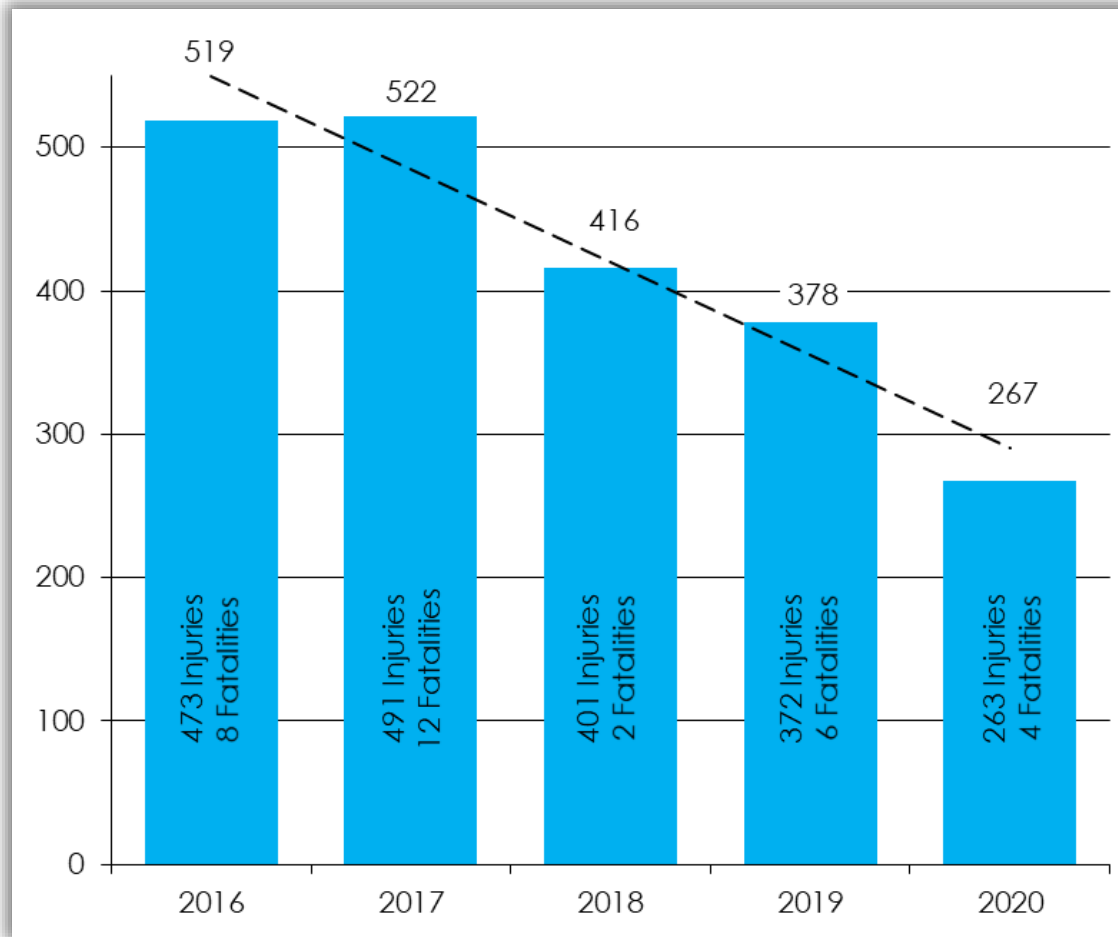
Nearly eight out of ten non-intersection-related collisions occurred on an arterial street.

Almost 33 percent of collisions occurred while the motorist was making a right-hand turn.

In 2020,

- Bicycle related collisions accounted for 1% of all traffic collisions, 3% of all injuries, and 2% of all fatalities.
- 9.4% of bicyclist in collisions were children below the age of 18.
- 30% of all collisions occurred in an intersection crosswalk and 20% at driveways.
- 12 school-age bicyclists (5 to 17 years old) were hit during school hours (Monday – Friday, 7 AM – 4 PM).
- 30% of all bicycle related collisions and three of the four bicyclist fatalities occurred during dark hours.
- Bicycle related collisions occurred most frequently between 3 PM and 6 PM
- Wednesdays had the highest percentage of all bicycle related collisions at 22%.
- January had the highest number of bicycle related collisions with a total of 38.
- Only six bicyclists and two drivers were found to be under the influence of alcohol or drugs.
- 47% of all bicycle related collisions occurred at uncontrolled locations.
- There were 48 hit and run collisions involving a bicyclist.

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

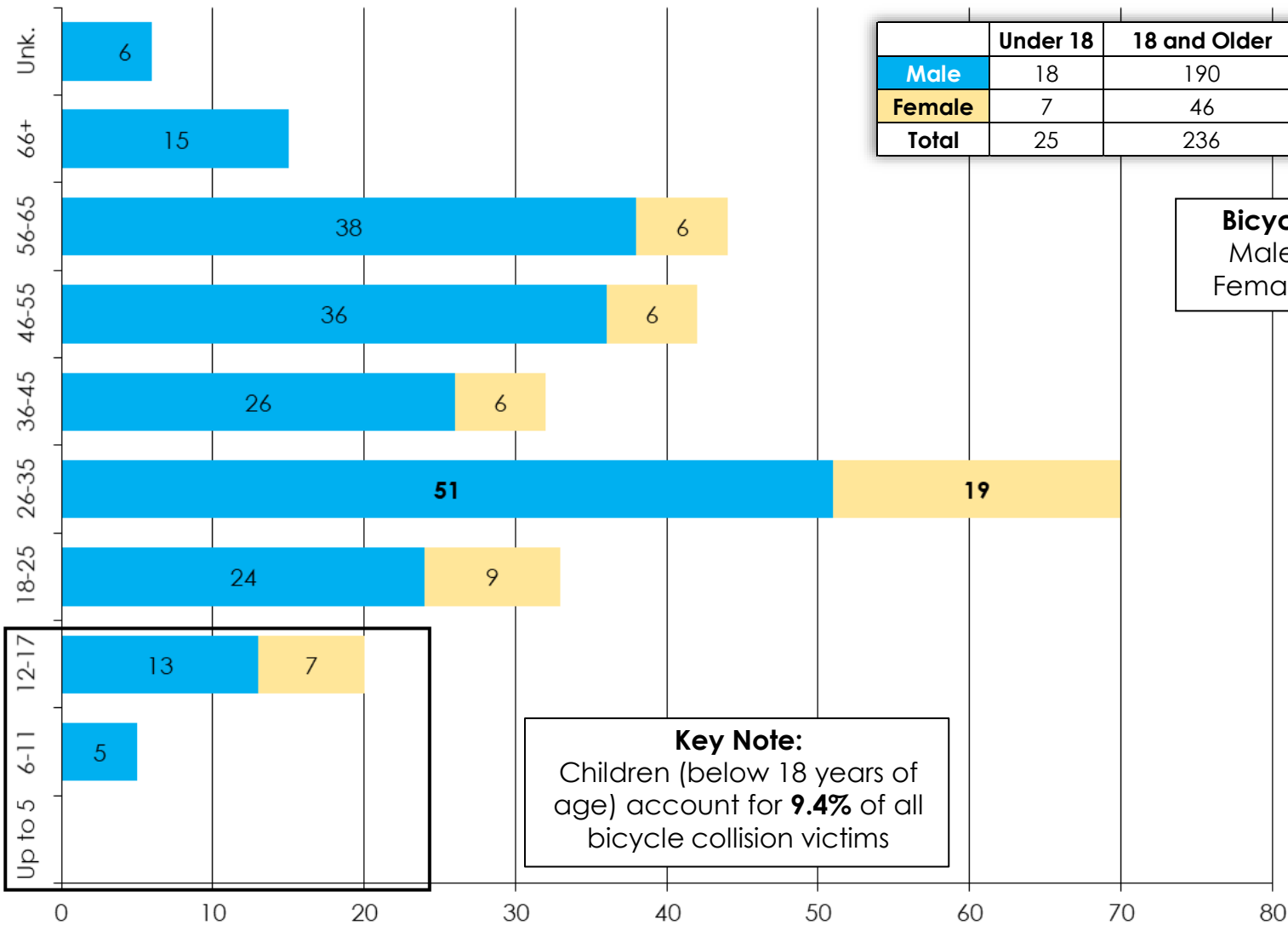


Key Note:
The 10-year average is 452 collisions.

North 15th Avenue and Lynwood Street Updated Buffered Bike Lanes



Age and Gender of Bicyclists

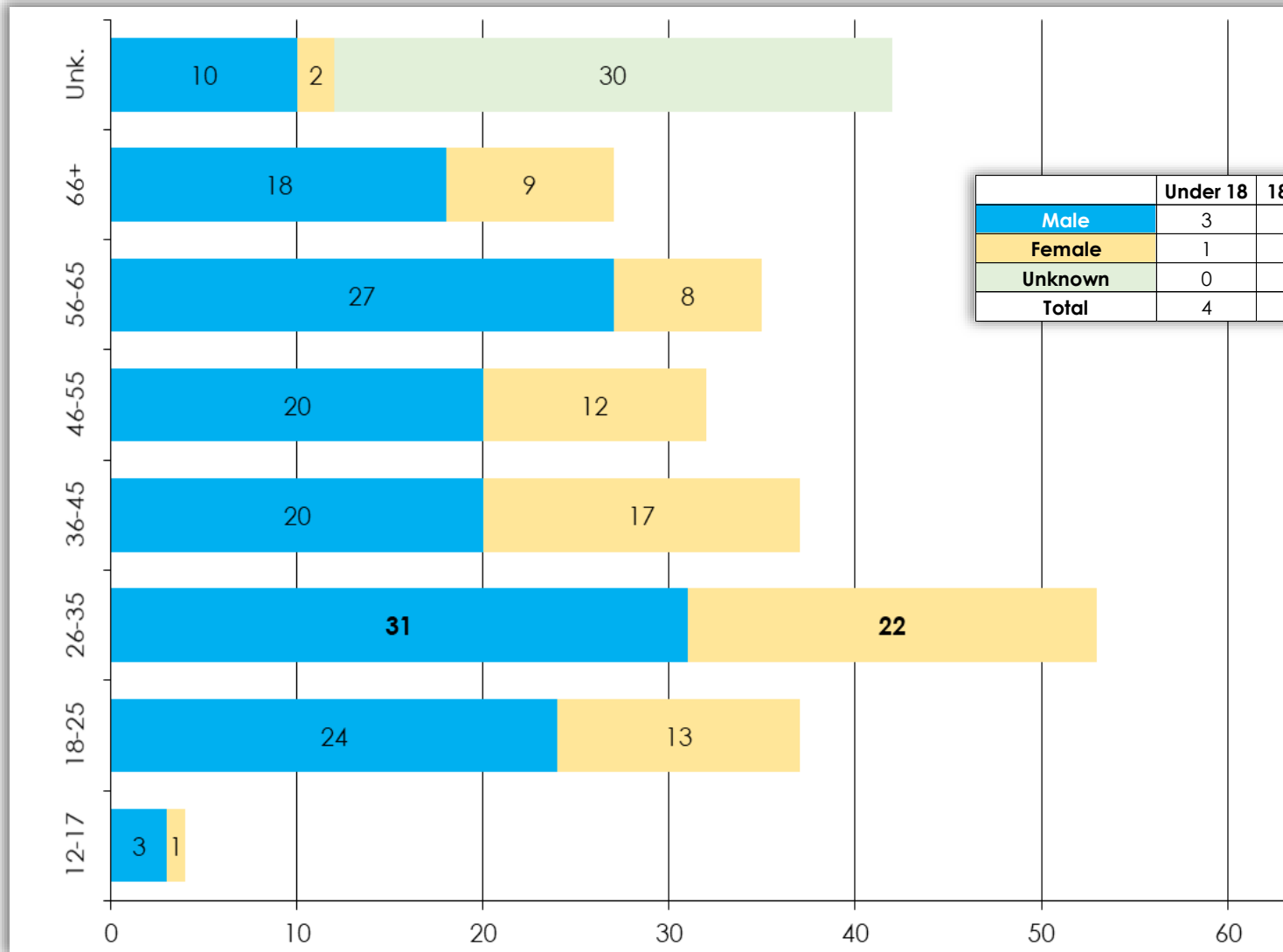


	Under 18	18 and Older	Unknown	Total
Male	18	190	6	214
Female	7	46	0	53
Total	25	236	6	267

Bicyclists
 Male : 4
 Female : 1

Key Note:
 Children (below 18 years of age) account for **9.4%** of all bicycle collision victims

Age and Gender of Drivers

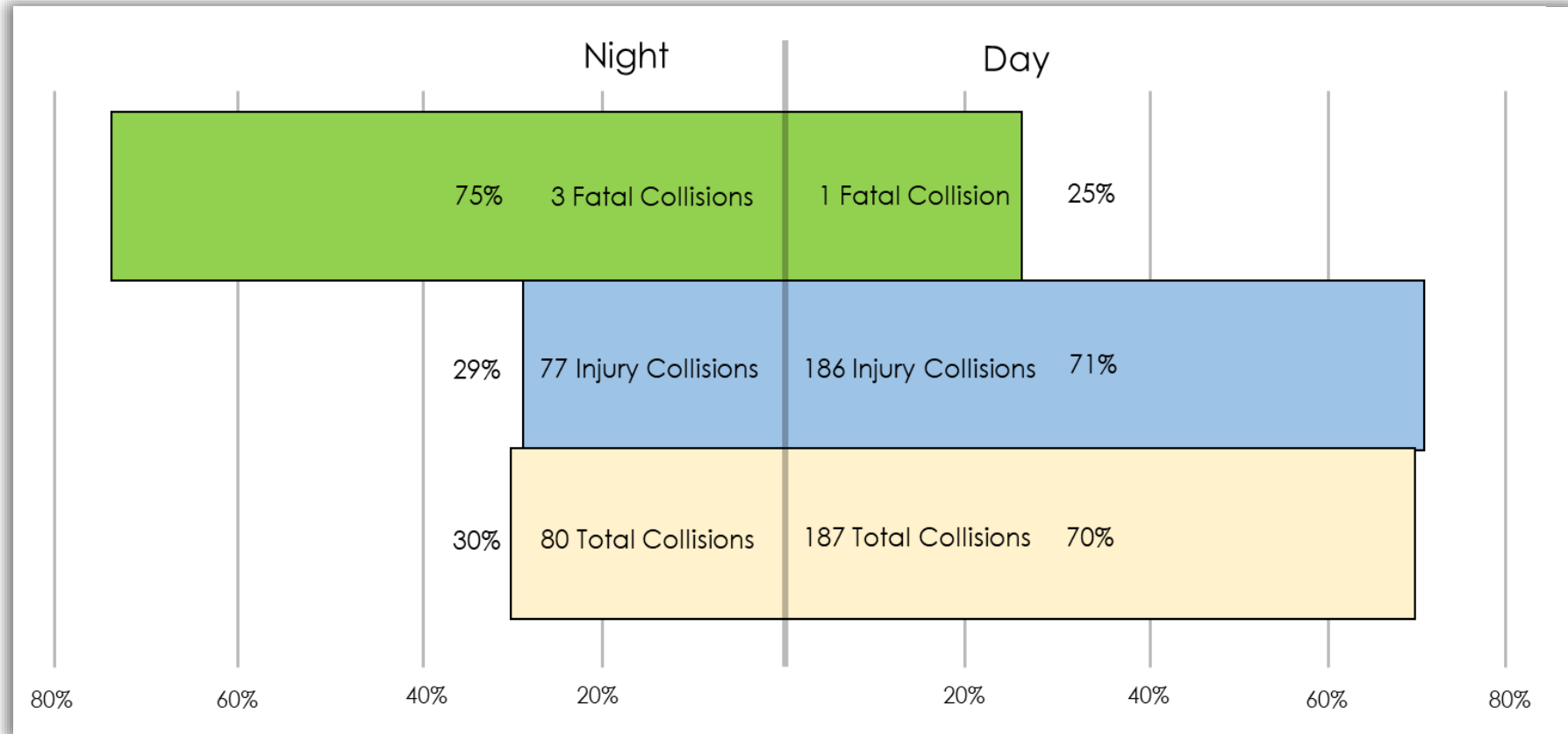
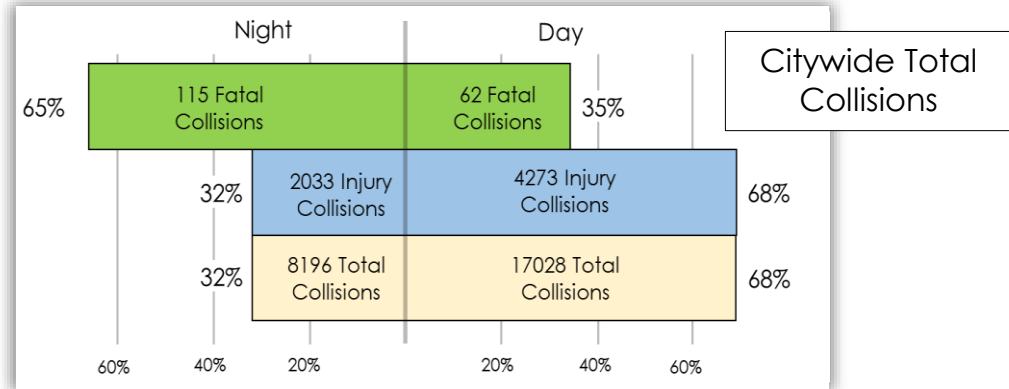


	Under 18	18 and Older	Unknown	Total
Male	3	140	10	153
Female	1	81	2	84
Unknown	0	0	30	30
Total	4	221	42	267

Driver
 Male : 1.8
 Female : 1

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

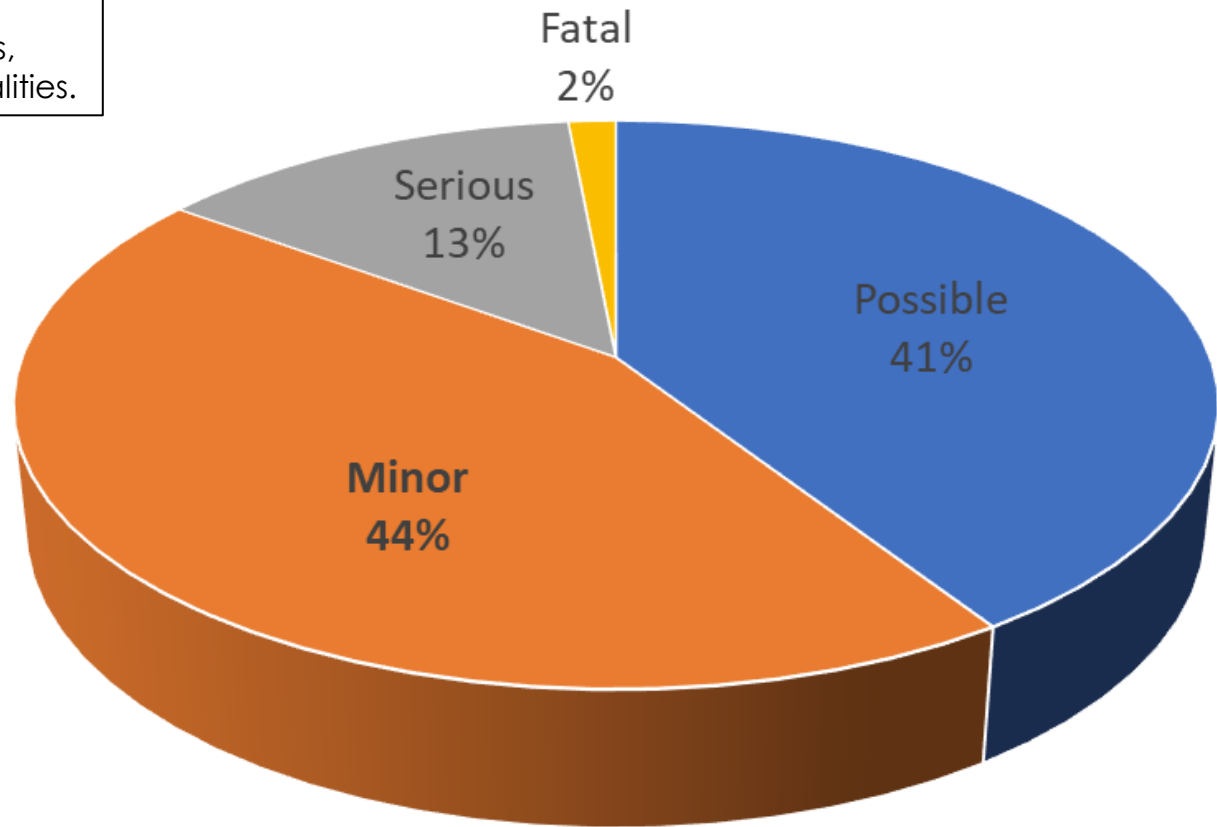
Collisions by Light Conditions



Collisions by Injury Severity

Key Note:

There were 227 minor injuries, 36 serious injuries, and 4 fatalities.



Updated Bike Lanes 5th Avenue Van Buren Street to Washington Street

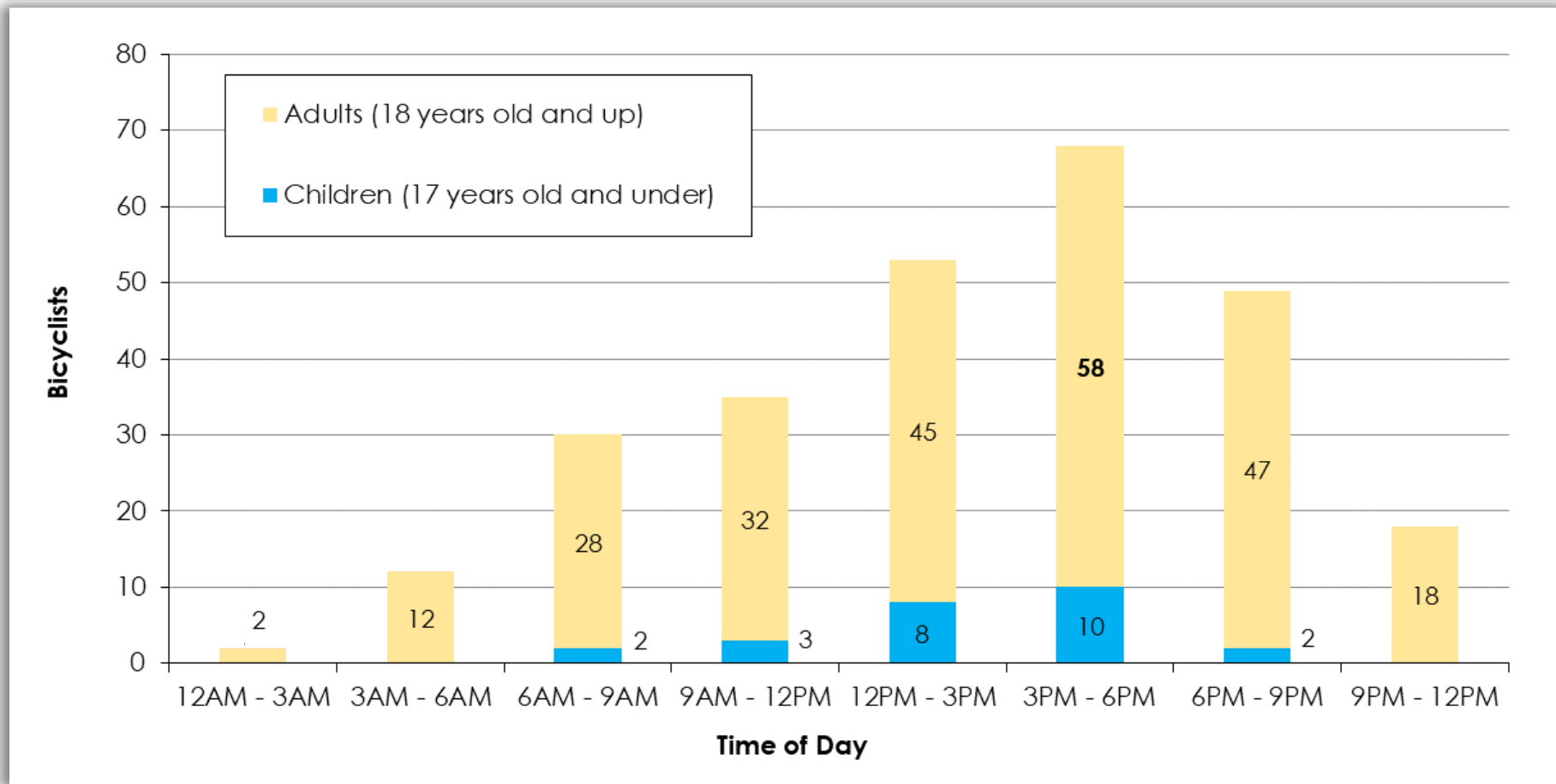


5th Avenue Looking South

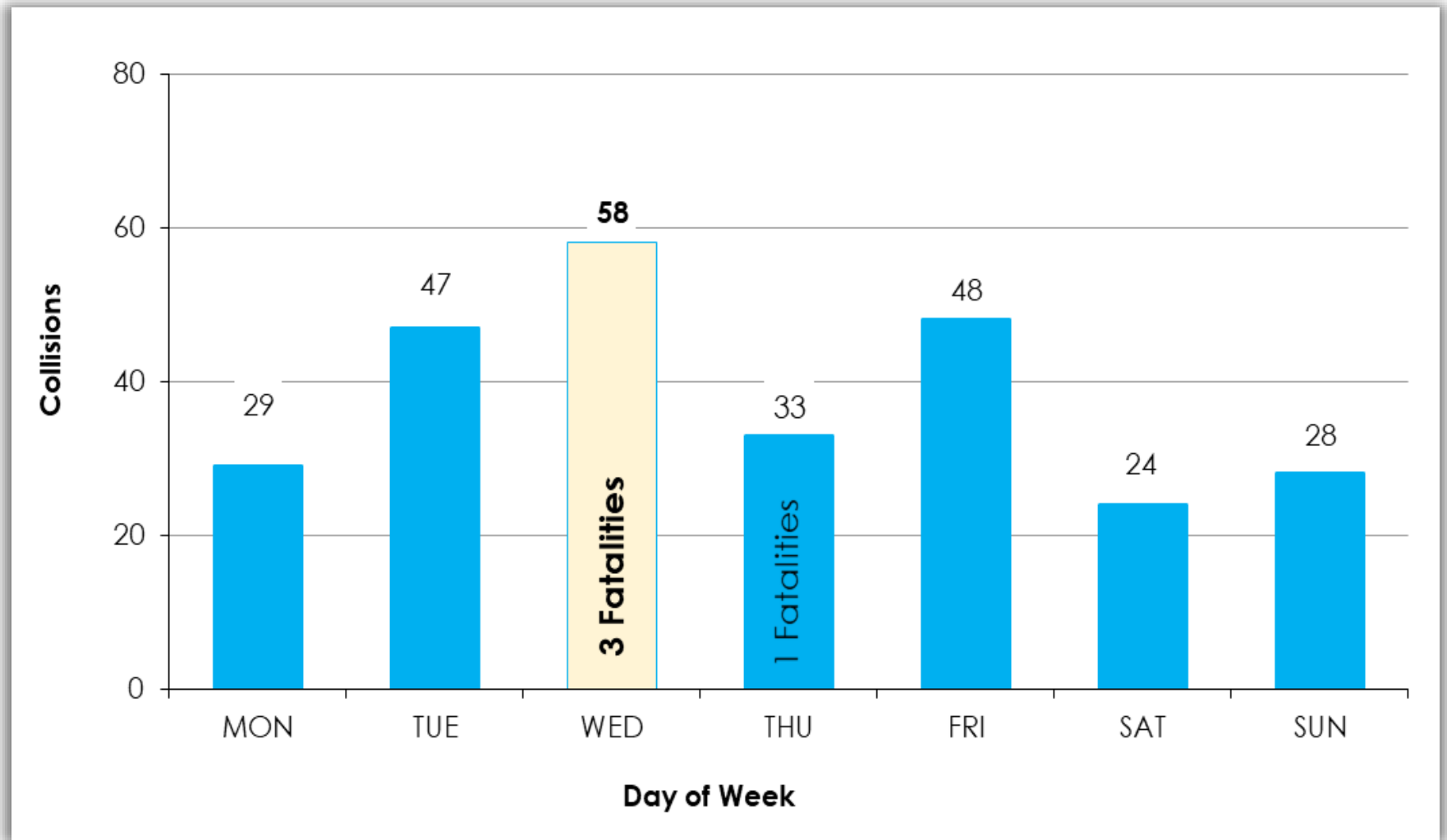


5th Avenue Looking North

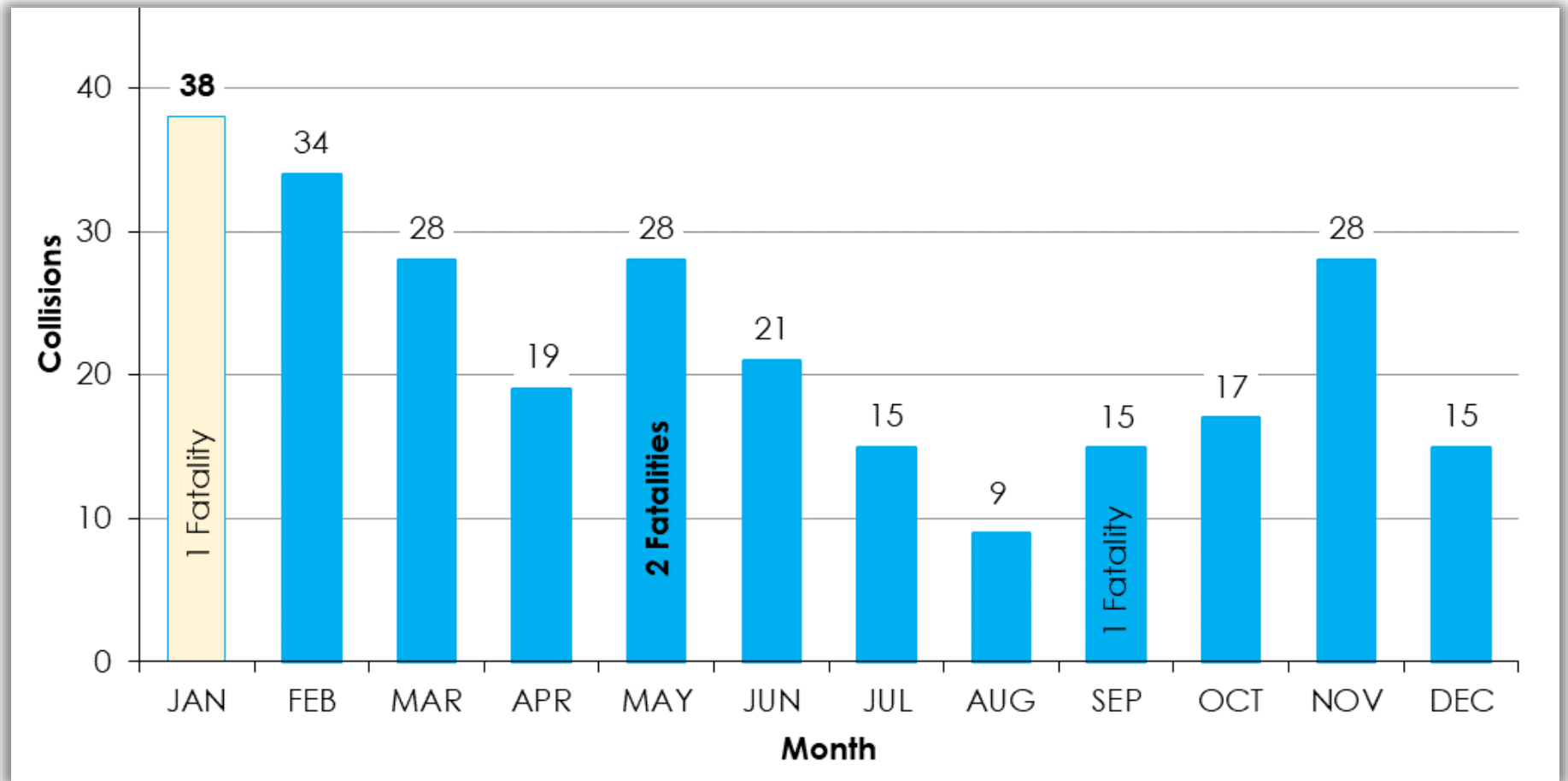
Collisions by Time of Day and Age Group



Collisions by Day of Week

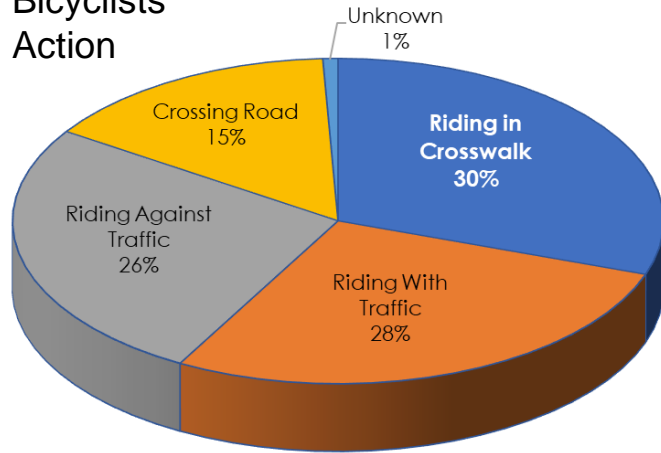


Collisions by Month

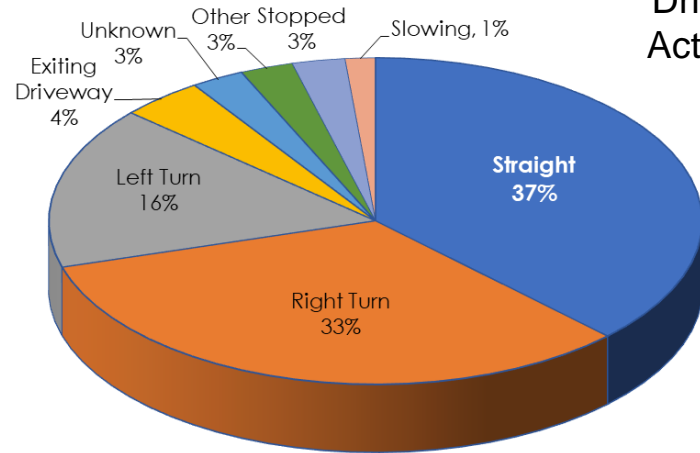


Actions

Bicyclists Action

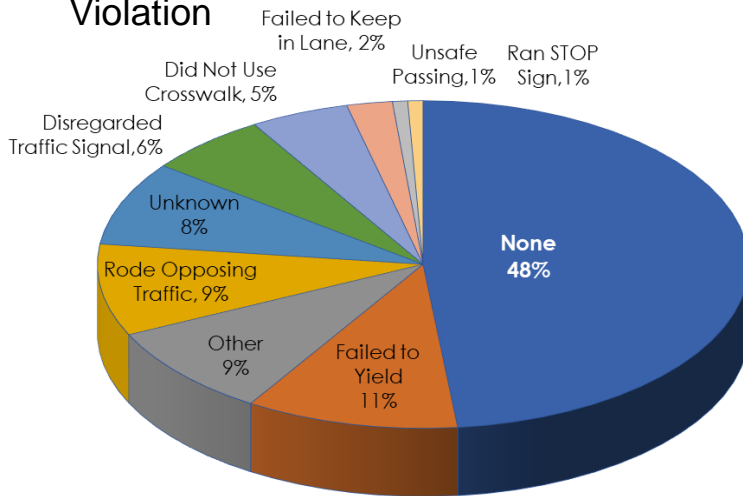


Driver Action

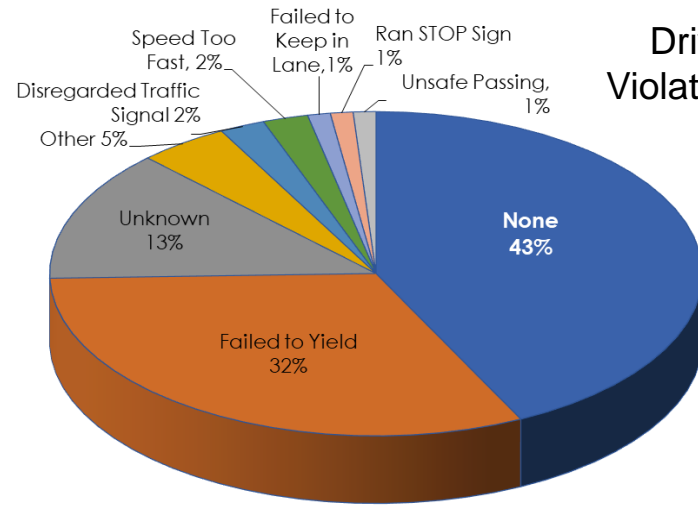


Violations

Bicyclists Violation



Driver Violation



New Dedicated Bike Lane 3rd Avenue from McDowell Rd to Roosevelt Street



Bicycle Safety Education

The screenshot shows the City of Phoenix website page for "Bicycle Symbols & Markings". The page header includes the City of Phoenix logo, navigation links for myPHX311, PHX Pay Online, Map It, Find Public Records, PHX Newsroom, and Translate, and a search bar. The breadcrumb trail reads: City of Phoenix > Street Transportation > Safety Topics > Bicycle Program > Bicycle Safety > Symbols.

The main content area features a large image of a white bicycle symbol on a dark pavement with the text "BICYCLE SYMBOLS & MARKINGS". Below this is a "Bicycle Safety Home" link with a small bicycle icon.

The section title is "UNDERSTANDING BICYCLE SYMBOLS, SIGNS & MARKINGS". Under the heading "BIKE LANE", there are two sub-sections:

- When you bike:** Striped bike lanes designate a dedicated space on the roadway for bicycles to ride. They are marked by a bike stencil with an arrow and a bike lane sign. Always travel in the same direction as traffic.
- When you drive:** A bike lane is restricted to automobile traffic, except in instances when you need to enter or leave the roadway or park adjacent to the bike lane. Always yield to through bicyclists when you cross a bike lane. When parking adjacent to the bike lane look for approaching bicyclists before you open your door.

On the right side of the page, there is a "Contact Us" section with the phone number 602-262-6284 and email bike@phoenix.gov. Below this is a "Report Road Conditions" section with a link to submit a report form. A "Related Webpages" section lists links to Street Transportation Dept, Traffic Safety Topics, School Safety, Bicycle Master Plan, and Bicycle Collision Summary.

The graphic features a circular logo with a bicycle and the text "Bike Safe Phoenix". To the right, a maroon banner reads "TAKE THE BIKE SAFE PHOENIX PLEDGE".

I pledge my commitment to make the City's streets safer for bicyclists and all roadway users by being **courteous** and **cautious**. I furthermore pledge to:

- **Obey** traffic laws and respect the rights of others
- **Yield** to pedestrians
- **Stop** at all stop signs and traffic signals
- **Travel** at a safe and legal speed
- **Be alert** when making turns and crossing streets
- **Maintain** a safe distance from other roadway users

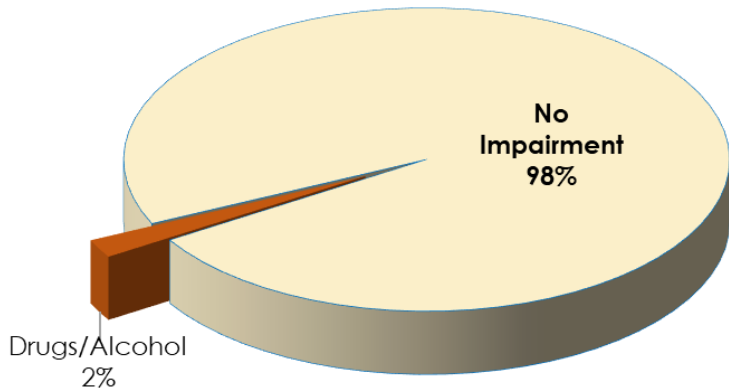
As a **bicyclist**, I also pledge to ride in the same direction as traffic, wear a helmet, use lights at night and be predictable and visible; especially while crossing streets, driveways and intersections.

As a **motorist**, I also pledge to be especially alert for bicyclists and pedestrians, use turn signals, share the road responsibly and be extra cautious when passing bicyclists and while approaching driveways and sidewalks.

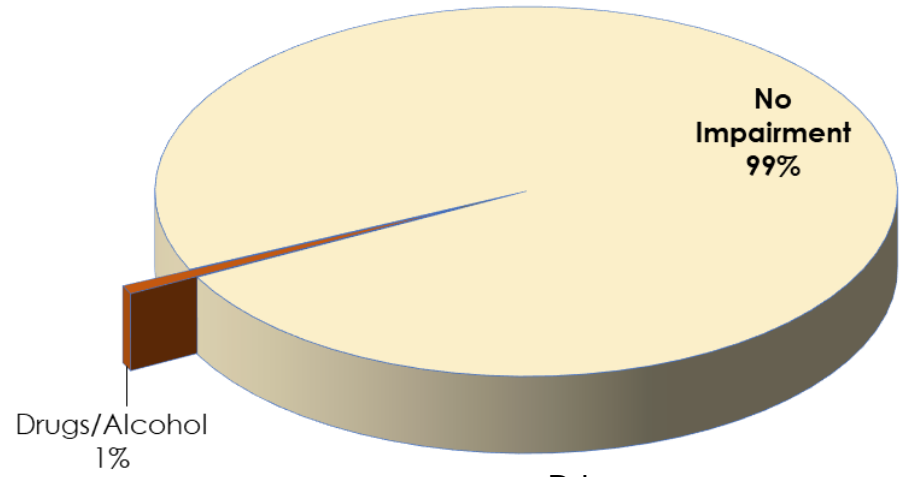
With this pledge, I give my support to a better future for bicycling; one that is **safe and fun for everyone**.

The graphic features the text "HEADS UP!" in large, bold, white letters on a red and yellow background. Below it, the text "DRIVE SMART ▲ WALK SMART ▲ BIKE SMART" is displayed in a smaller font.

Impairment of Bicyclists and Drivers

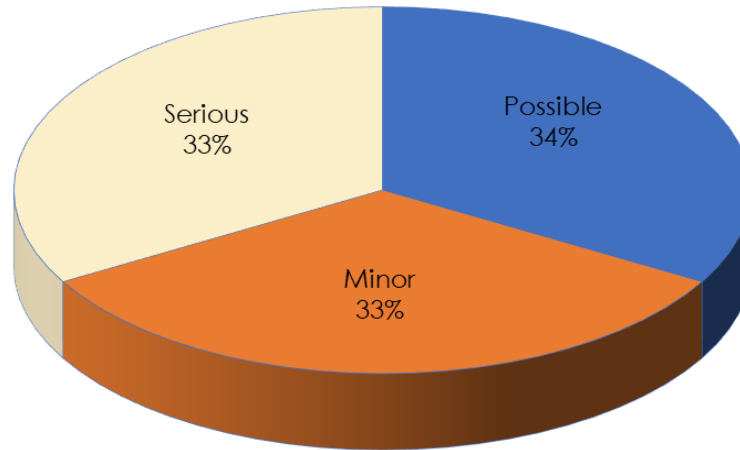


Bicyclist



Driver

Injury Severity of Impaired Bicyclists



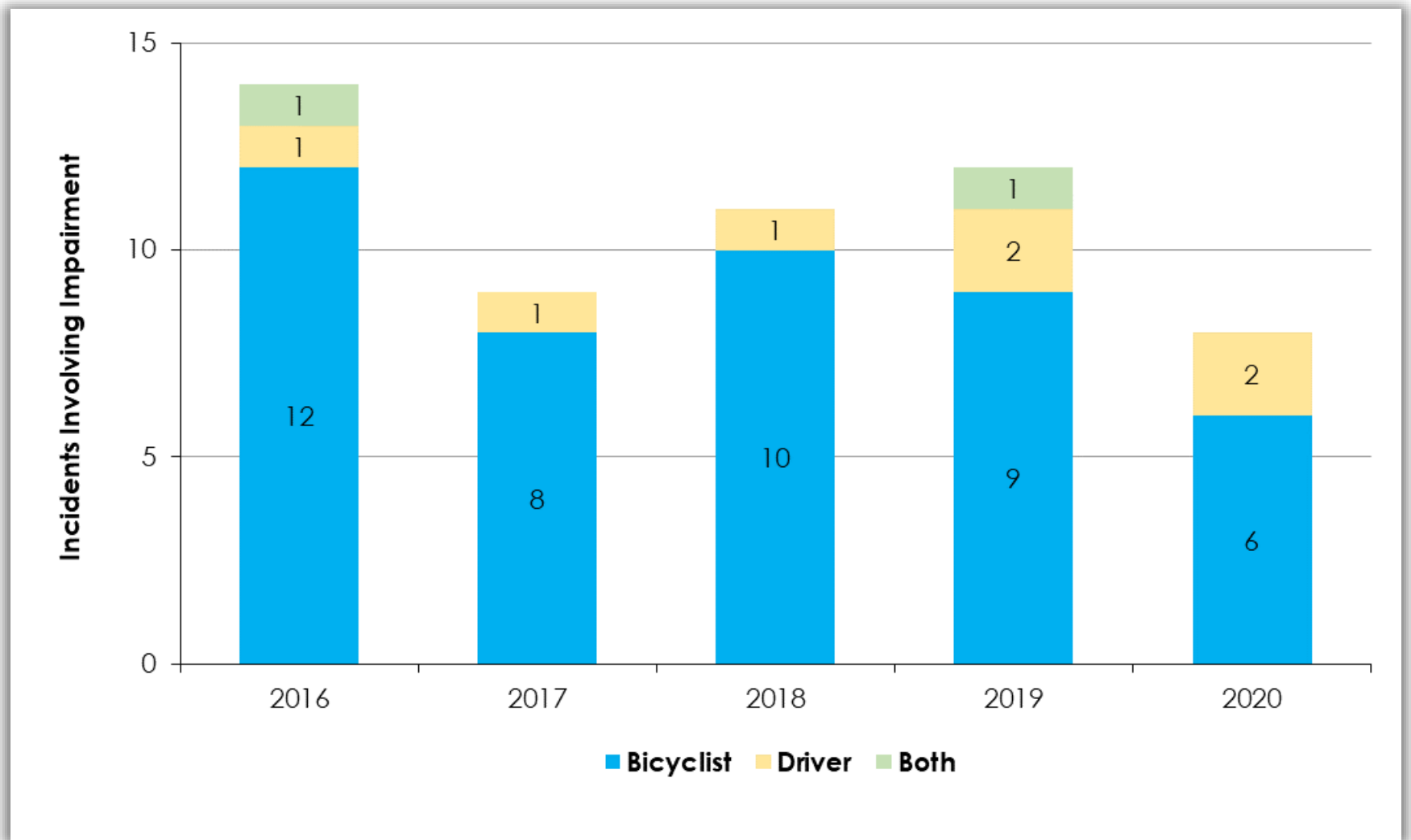
Six Total Intoxicated Bicyclists

Male – 5
Female – 1

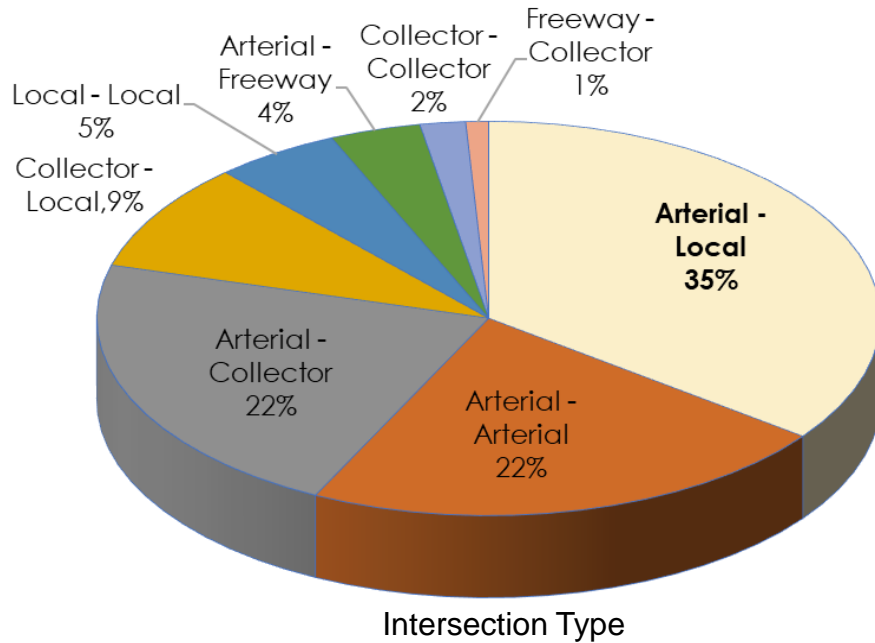
Key Note:

There were 4 possible/minor injuries, 2 serious injury, and 0 fatalities involving drugs and/or alcohol.

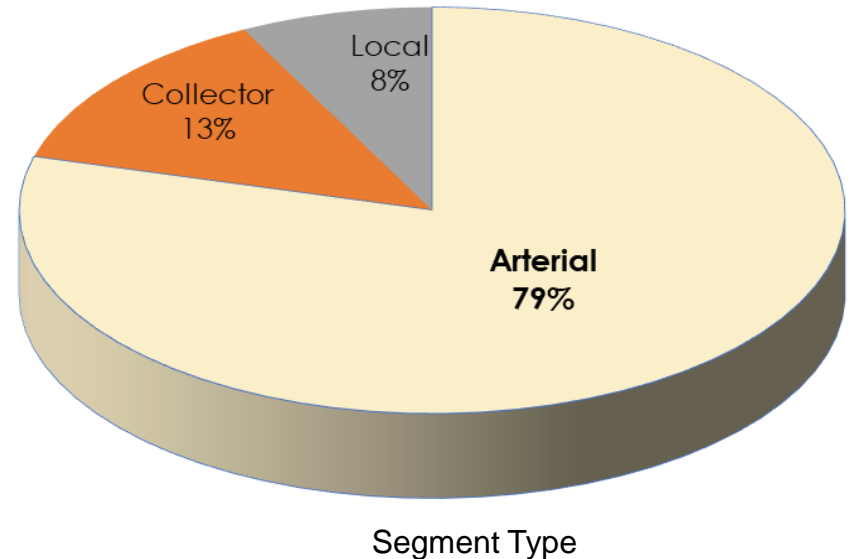
Five-Year Trend of Drug or Alcohol Use (by impaired unit type)



Collisions by Street Classification



Intersection-Related
80%
of all bicycle collisions
 At or Near Intersection
 (within 150 feet from intersection)



Non-Intersection-Related
20%
of all bicycle 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.

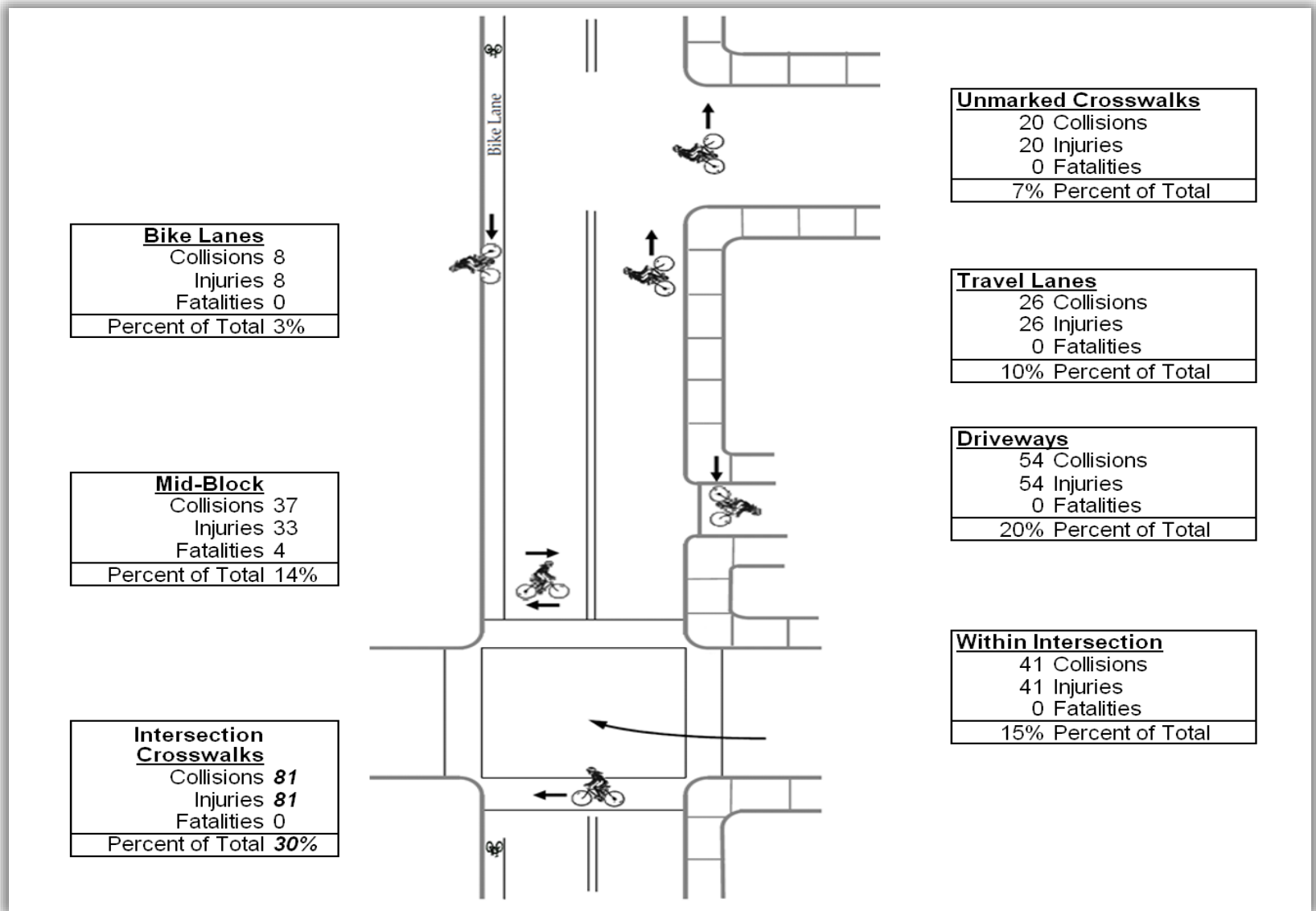
Local streets are typically the neighborhood streets such as 88th Ln, Dromedary Rd, Holly St, 21st St, and Glenn Dr and are not defined as arterial or collector streets.

2020 Bicycle Facility Improvements

- Ranch Circle North
- 36th Street south of Knox Road
- 36th Street north of Knox Road
- 51st Street north of Elliot Road
- 40th Street south of Deer Valley Rd.
- 12th Street south of Camelback Rd
- 5th Avenue south of Van Buren Street
- 27th Avenue North or Southern Avenue
- Tatum Boulevard south of Union Hills Drive
- Lower Buckeye Road east of 107th Avenue



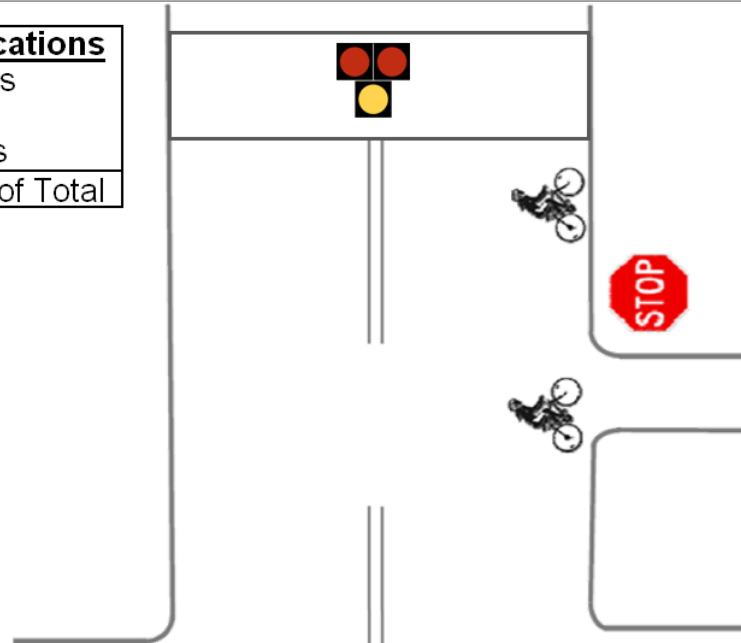
Collisions by Location Type



Collisions by Traffic Control Type

Special* Signal Locations
2 Collisions
2 Injuries
0 Fatalities
0.7% Percent of Total

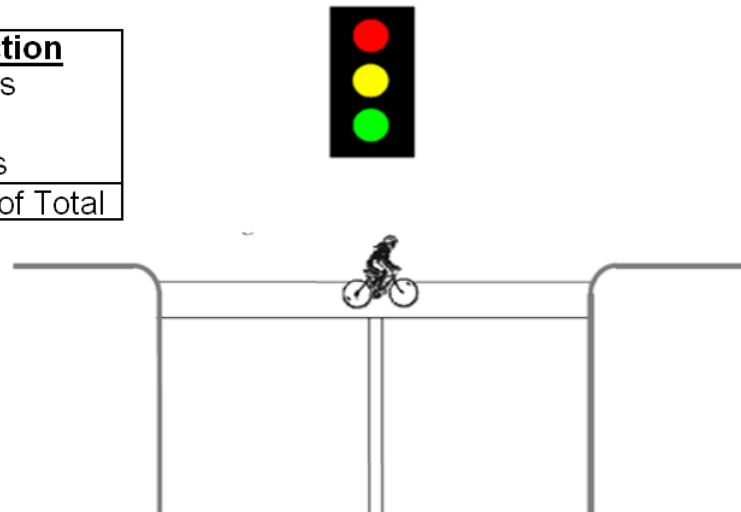
*Hawk, RRFB



Uncontrolled Locations
127 Collisions
123 Injuries
4 Fatalities
47.6% Percent of Total

Stop Sign Controlled
51 Collisions
51 Injuries
0 Fatalities
19.1% Percent of Total

Signalized Intersection
87 Collisions
87 Injuries
0 Fatalities
32.6% Percent of Total

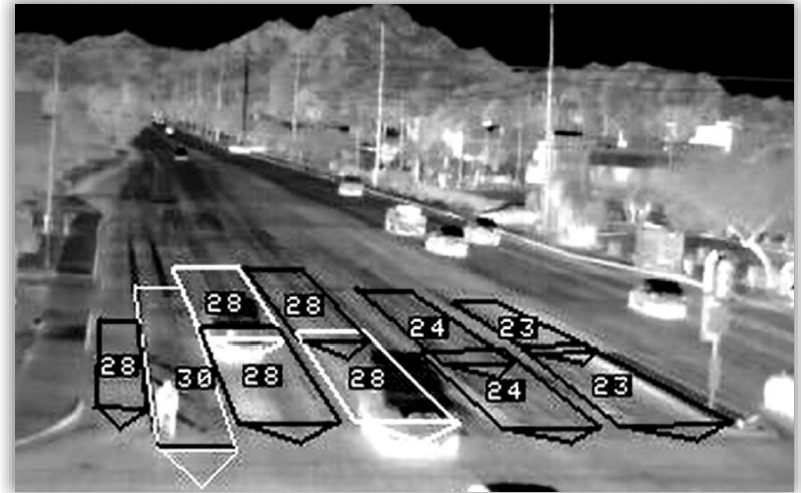


Bicycle Detection Improvements




Bicycle detection improvements are continuously being added as location needs are researched. The intersection detection systems include inductive loops, bicycle signals, video cameras, and FLIR (Forward Looking Infrared).

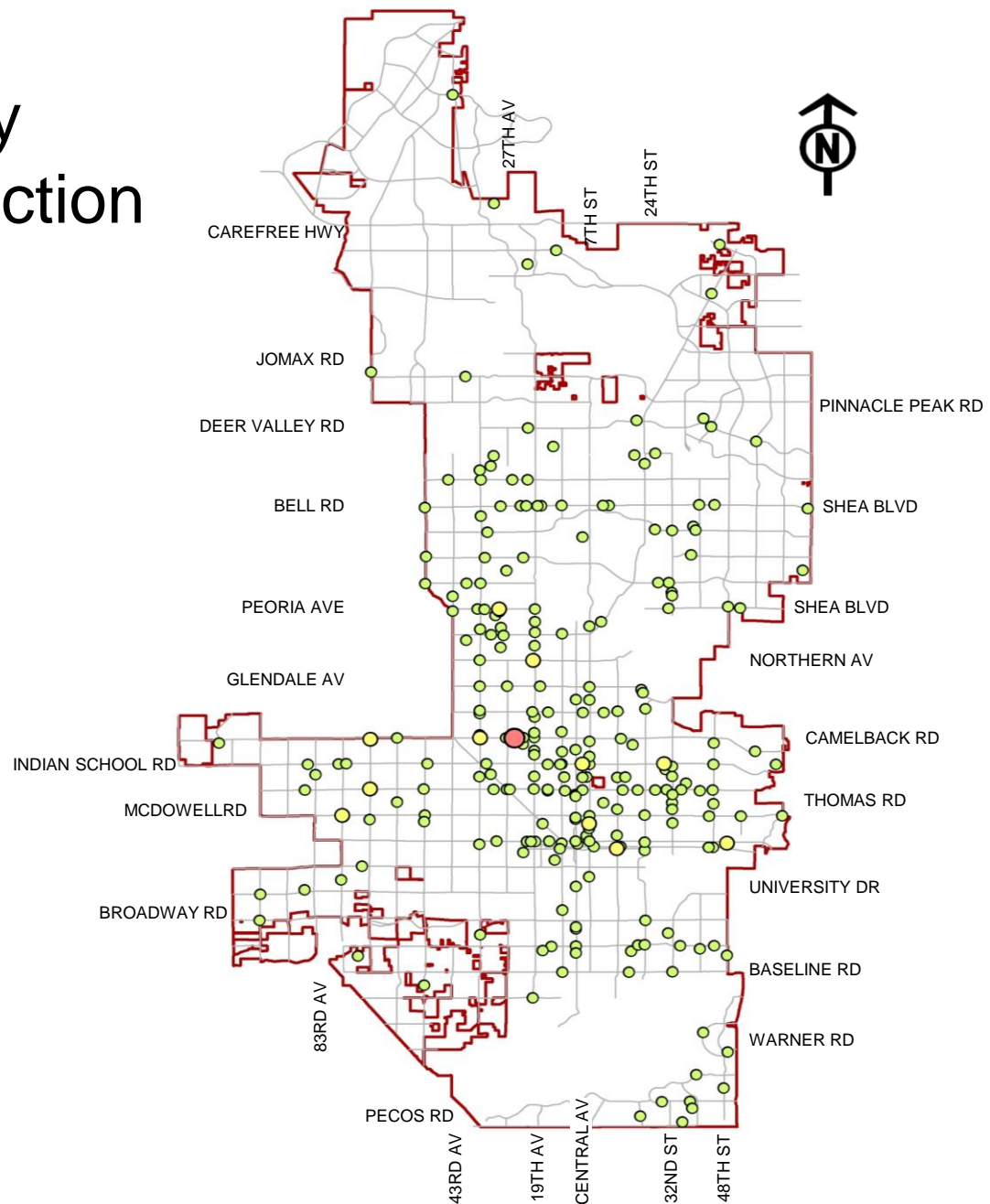
Example locations:

- 5th Avenue and McDowell Road
- 3rd Avenue and McDowell Road



Collisions by Location Intersection

-  4 Collisions
-  3 Collisions
-  1-2 Collisions



Acknowledgements

The 2020 Phoenix Bicycle Related Collision Summary documents the collisions involving bicyclists in the City of Phoenix throughout the 2020 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 2020 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 \$2,000.

Cover photograph: 3rd Avenue Dedicated Bike Lane by Heather Murphy

Presentation photographs courtesy of Heather Murphy (Public Engagement Coordinator,) Don Cross (School Safety,) James Baker (Signal Systems) and Google Street View.

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

Questions?

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

