

# 2007 Bicycle Collision Summary



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## Introduction

With miles of wide open areas, flat streets and ideal weather for most of the year, the City of Phoenix has always been a desirable location for bicycling for recreation or commuting. The uniform and reasonably contiguous street grid system also allows bicyclists to use city streets to ride from one point in town to the next with little trouble. However, ease of travel and ideal environmental conditions come with challenges. Where ever bicyclists interact with trucks, automobiles, and pedestrians, the potential exists for conflicts in the form of bicycle crashes. Unfortunately, in most cases, bicycles and bicyclists end up on the losing end of these conflicts, regardless of who is at fault. In 2007 for instance, roughly one third of all vehicle collisions on Phoenix streets resulted in an injury or death to one of the occupants, yet over 90 percent of all bicycle crashes resulted in either an injury or death of a bicyclists. To help understand bicycle crashes and hopefully to reduce their frequency and severity, Phoenix evaluates bicycle crash reports each year and reports the results to the public. This report analyzes bike crashes that occurred on city right-of way during the 2007 calendar year.

In 2007, there were 440 bicyclist collisions on Phoenix streets involving 444 bicyclists. These collisions resulted in 414 injuries and 6 deaths. While the 2007 crash totals are still too high, they represent a 5 percent decline from the crash totals in 2006 and an 16 percent decline from the crash totals in 2004. It was also the lowest number of annual bicycle crashes since 1992.

Children below the age of 18 accounted for about a quarter of all bicyclists involved in crashes and adults between the ages of 36 and 45 accounted for 20 percent. Similar to most other types of vehicular crashes, bicycle collisions occur more frequently on arterial streets during weekday afternoons between 3 and 6 PM. Most bicyclists were hit from the left side while riding against traffic on the sidewalk, roadway or while crossing streets. Helmet use or non-use was reported in 42.6 percent of collisions. When usage was reported, only 11 percent of bicyclists were wearing helmets and fewer than 4 percent of all child bicyclists involved in collisions were reported as wearing helmets.

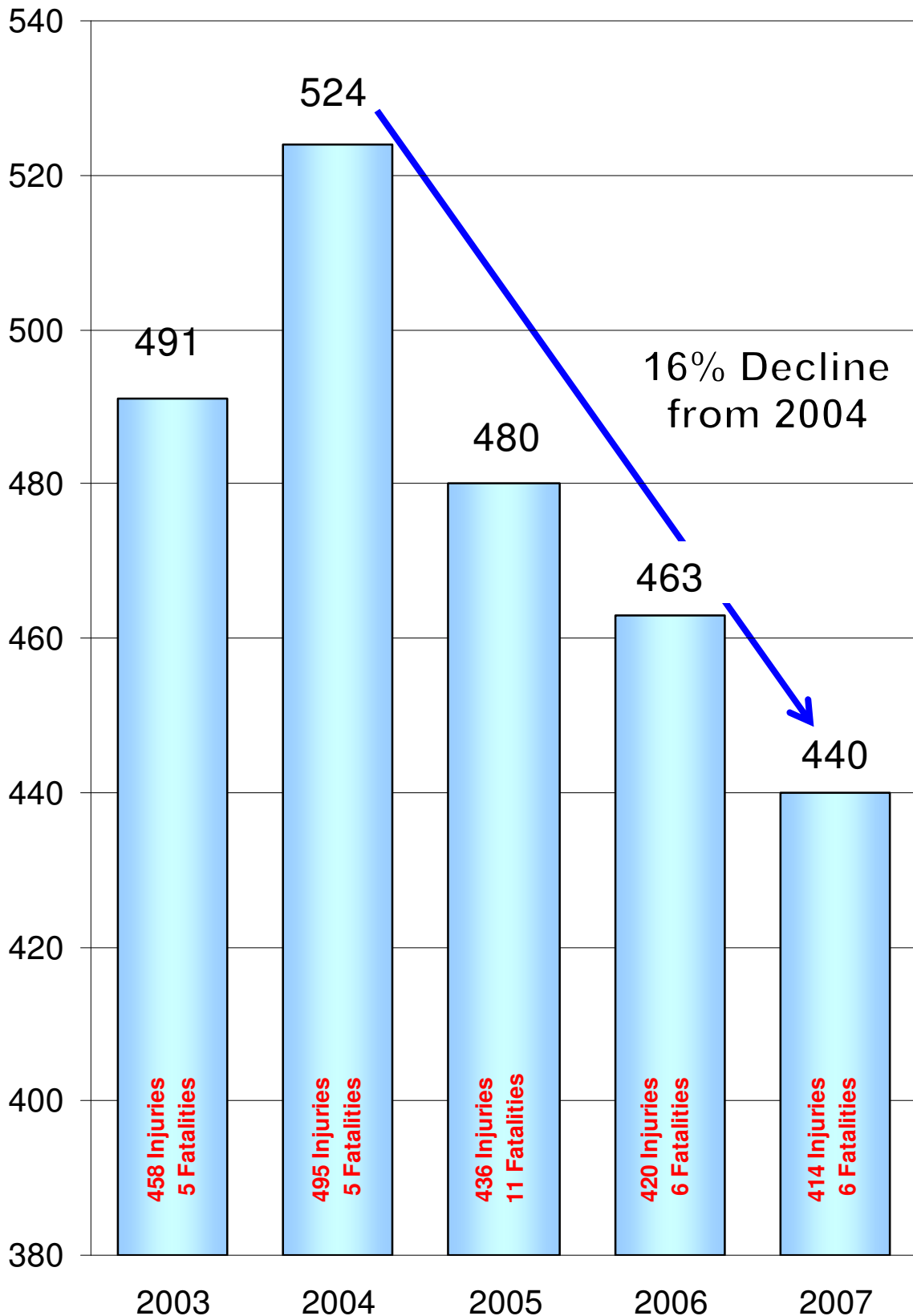
Recognizing the tragic consequences that any particular crash can have on an individual and their family, it is important to note that the information presented in this report is simply data. Phoenix uses this data to identify trends so that we can formulate or improve transportation policy or improve the design of public streets. However, despite our best efforts, there are limits to what can be done to improve safety through engineering alone. Improved conditions involve education and enforcement, however, the ultimate responsibility for safety rests upon the actions of the individual drivers and bicyclists. It is our hope that the information presented in this report will provide bicyclists and motorists with the information needed to make better decisions and avoid crashes.

## 2007 FACTS AT A GLANCE – BICYCLE CRASHES

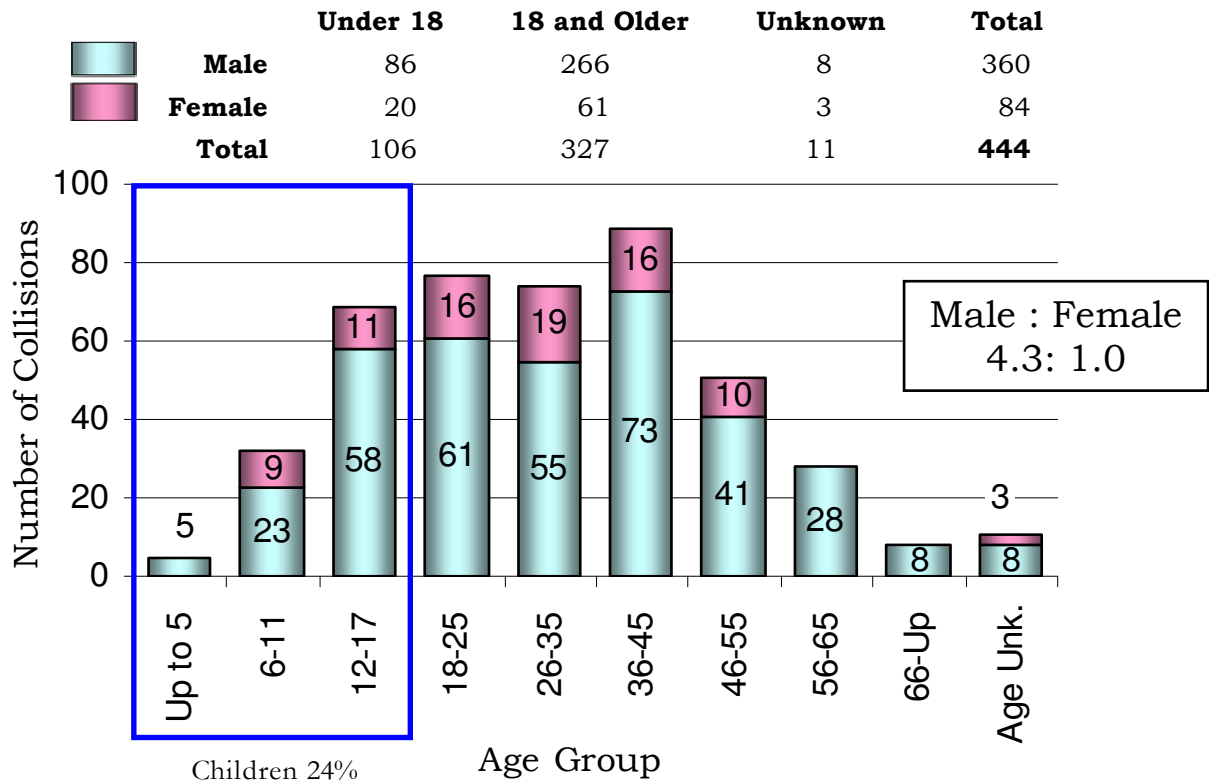
In 2007...

- ...nearly 93 percent of all bicycle crashes resulted in an injury (possible, minor or severe) or death of a bicyclist.
- ...the bicyclist was listed as the primary AT FAULT party more than twice as often as the motorist.
- ...there were 4.3 times more male bicyclists involved in crashes than female bicyclists.
- ...there were 124 bicyclists (28 percent) hit while riding on sidewalks or driveways.
- ...there were 15 crashes involving alcohol; 11 in which the bicyclists had been drinking, 3 in which the driver had been drinking and 1 where both driver and bicyclist were drinking.
- ...there were 74 hit and run collisions (which also may have been alcohol-related) in which the vehicle left the scene.
- ...there were 348 bicyclists (78 percent) hit during the daytime and 96 bicyclists (22 percent) hit at night.

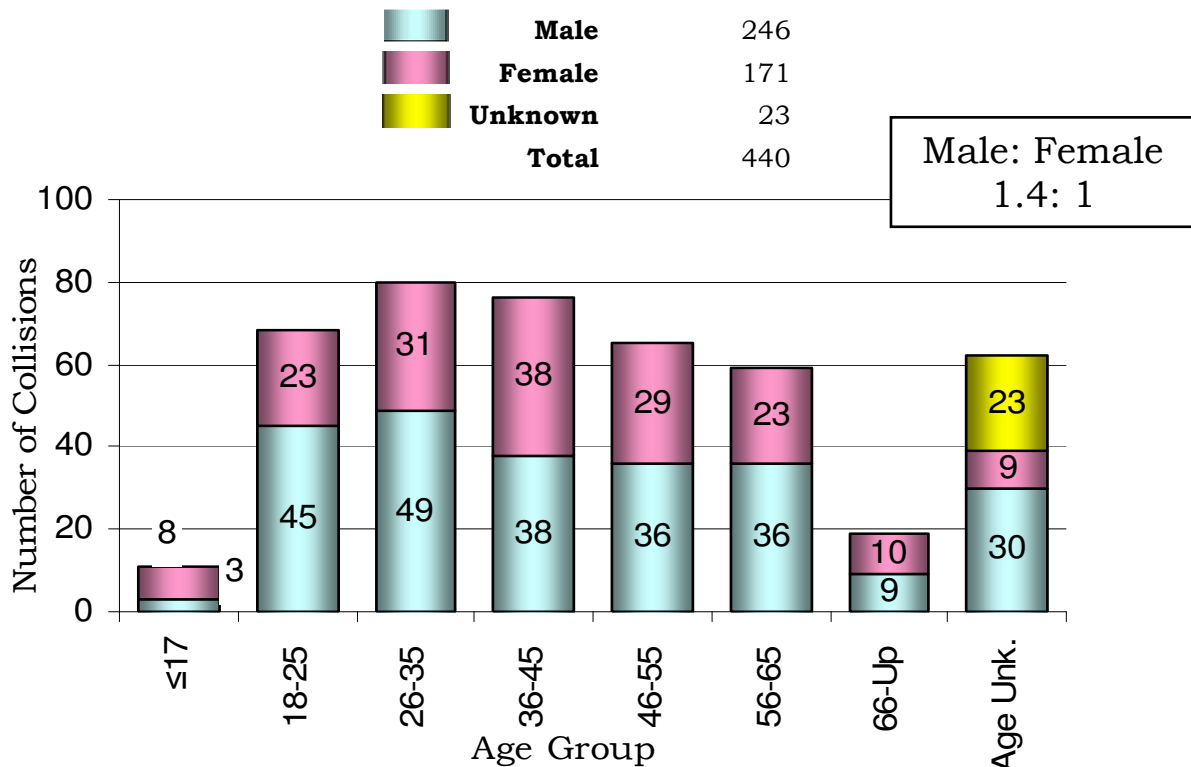
## Bicycle Collisions, Injuries and Fatalities 2003 – 2007



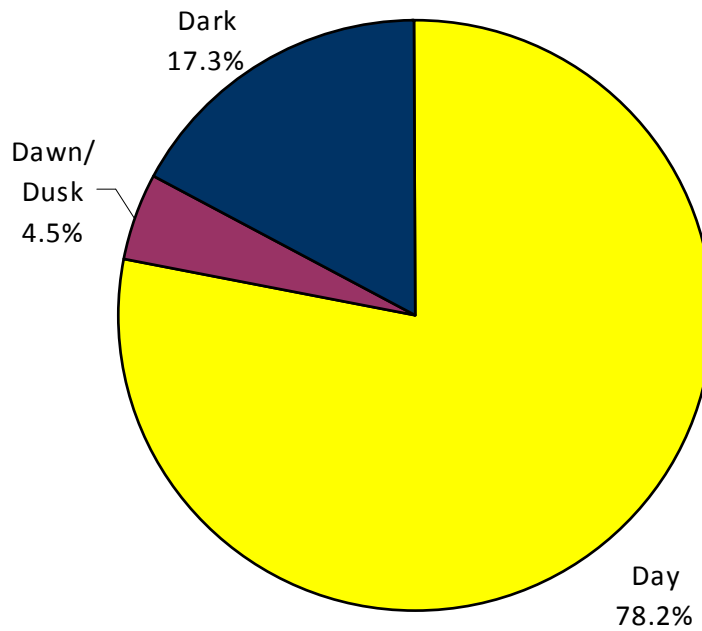
### Bicyclists in Collisions by Age Group and Gender



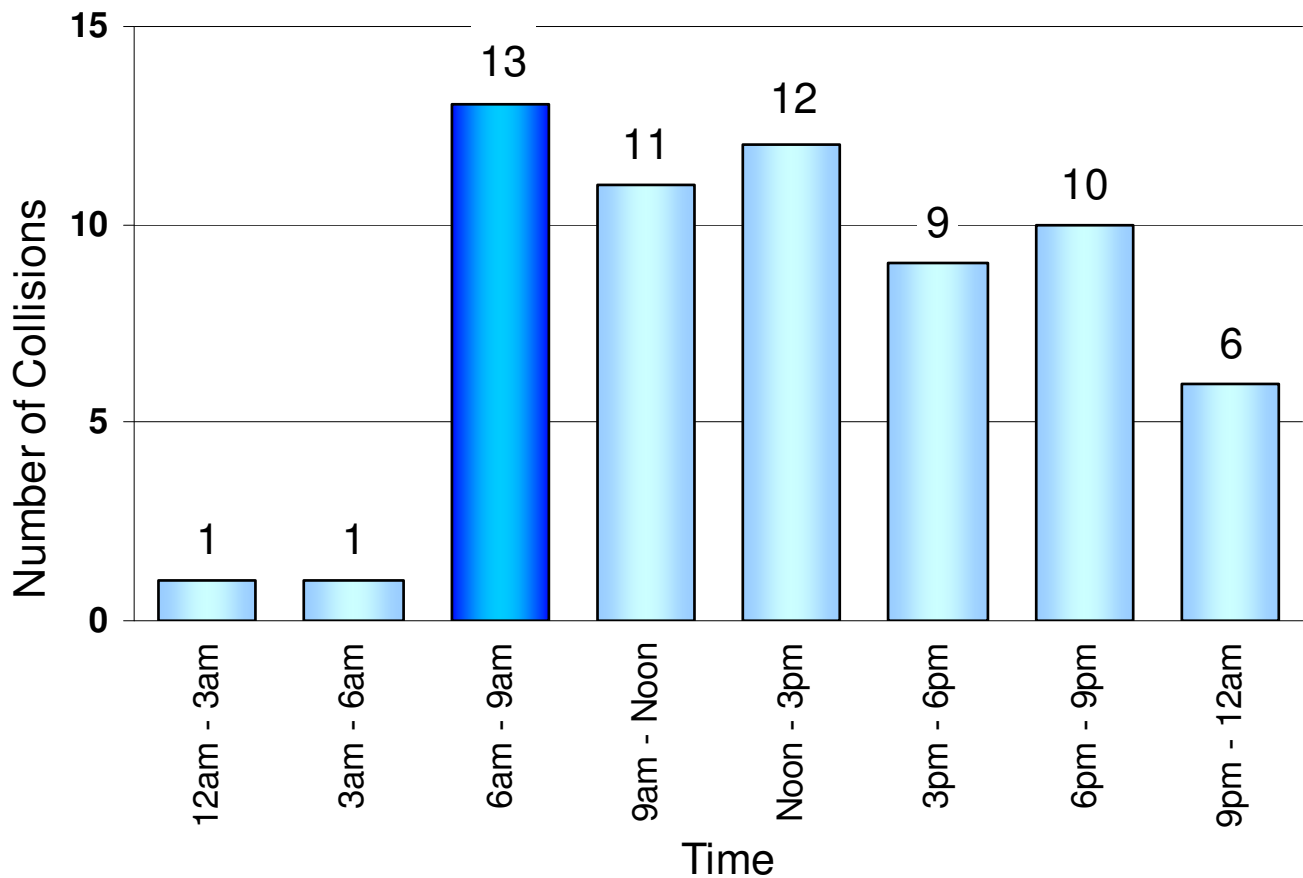
### Motorists in Bicycle Collisions by Age Group and Gender



### Bicycle Collision Light Conditions

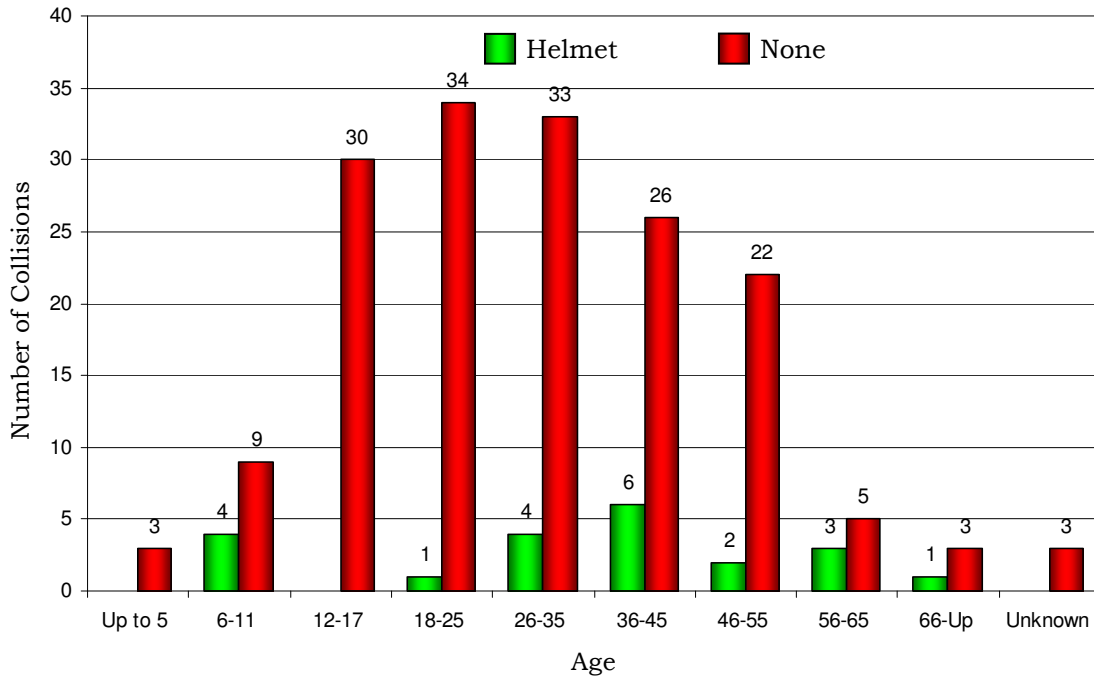


### Serious Injury and Fatal Bicycle Collisions by Time of Day

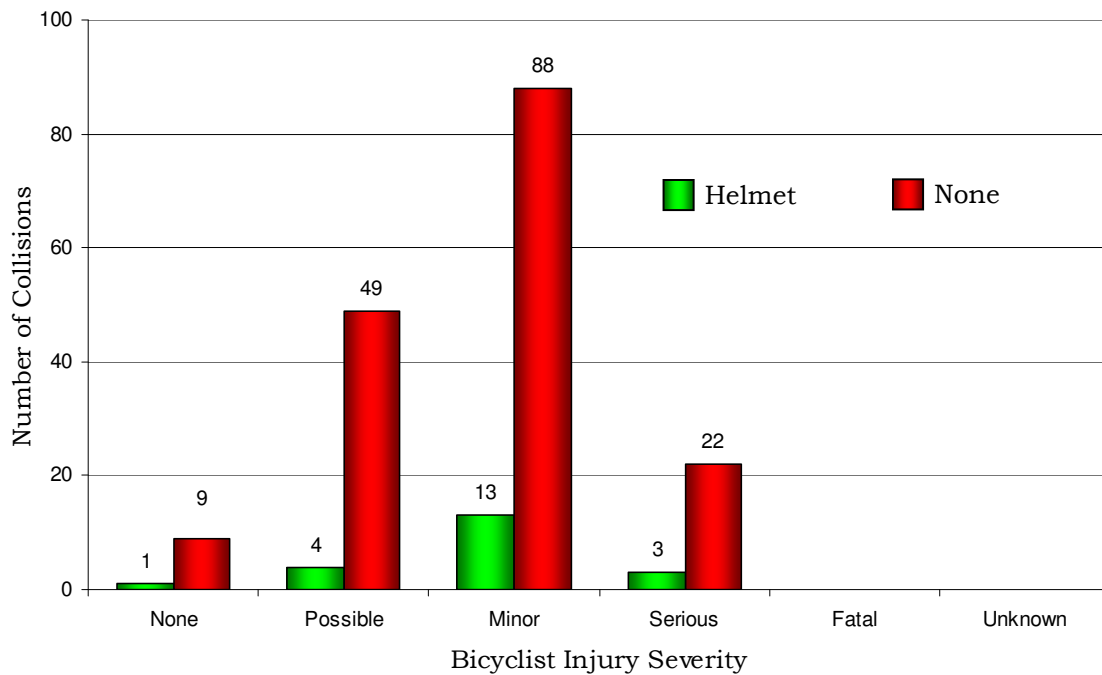


## Helmet Usage and Age of Bicyclist

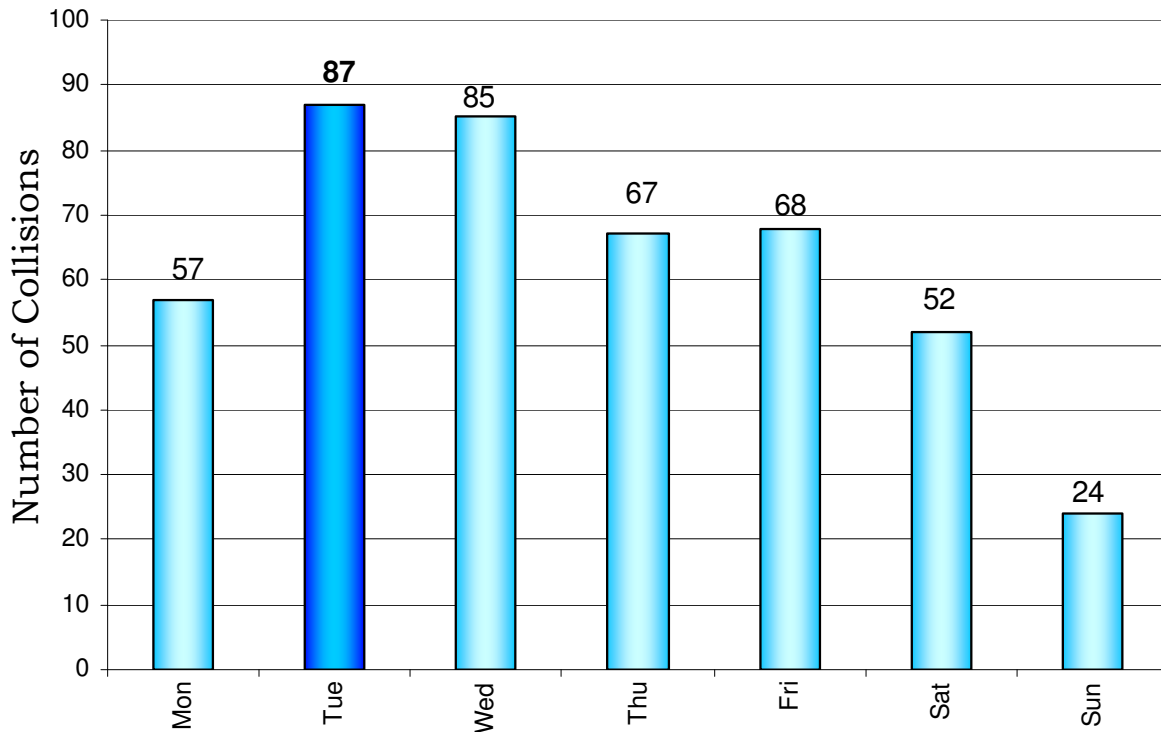
	Under 18	18 and Older	Age Unknown	Total
<b>Helmet Used</b>	4	17	0	21
<b>No Helmet</b>	42	123	3	168
<b>Not Reported</b>	60	187	8	255



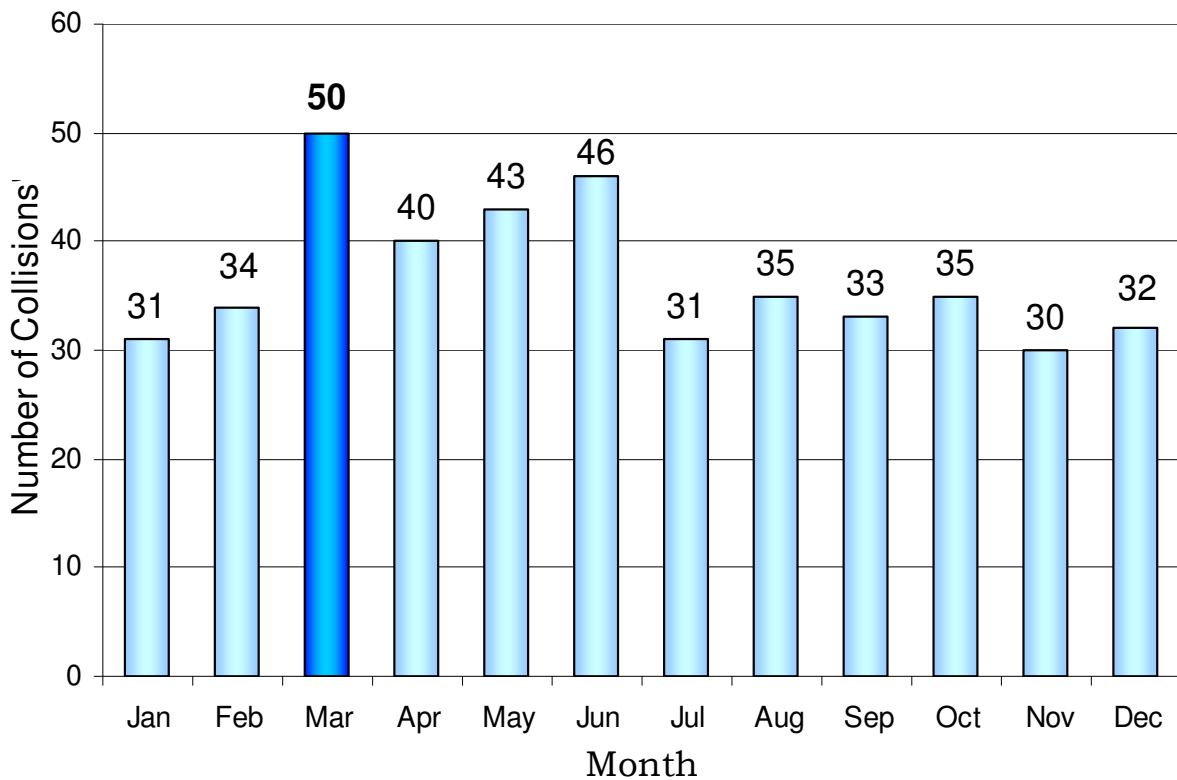
## Helmet Usage and Injury Severity of Bicyclist



### Bicycle Collisions by Day of Week

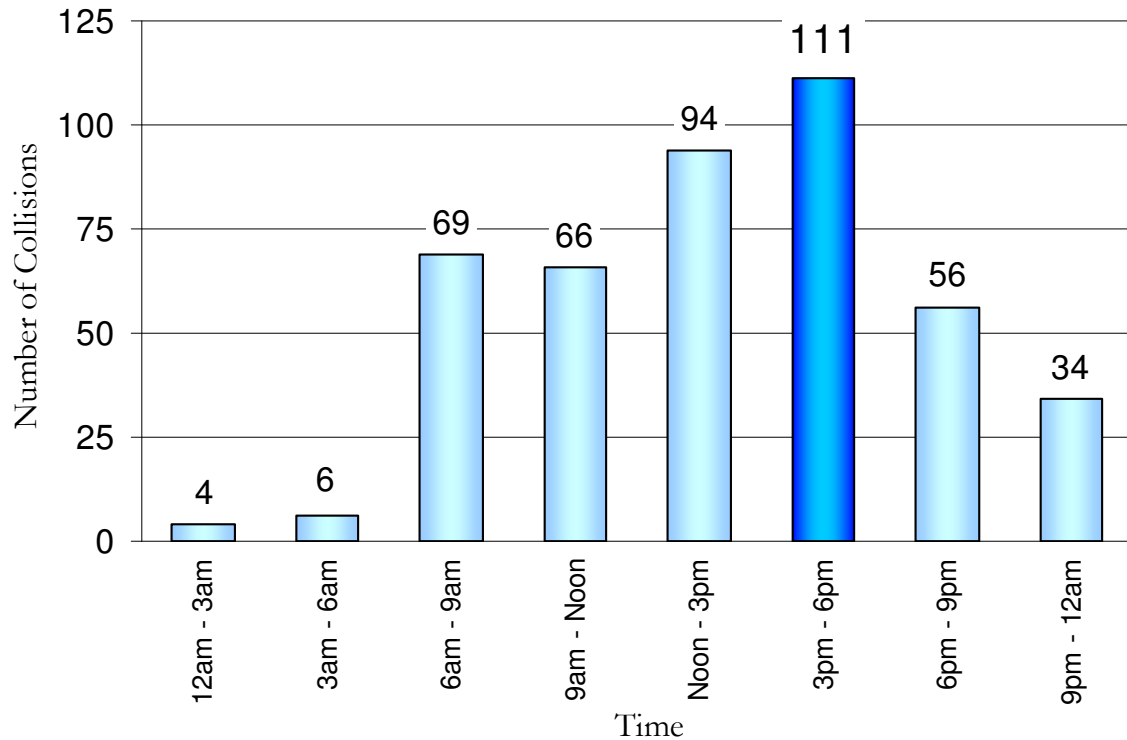


### Bicycle Collisions by Month

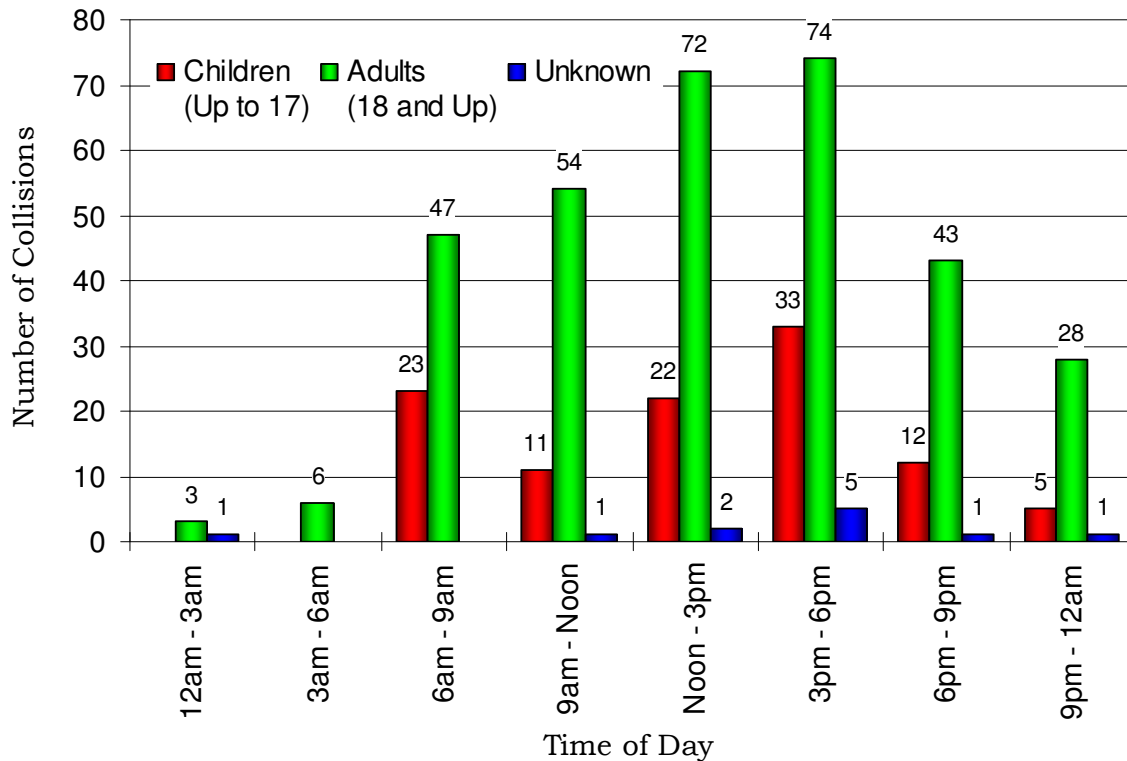




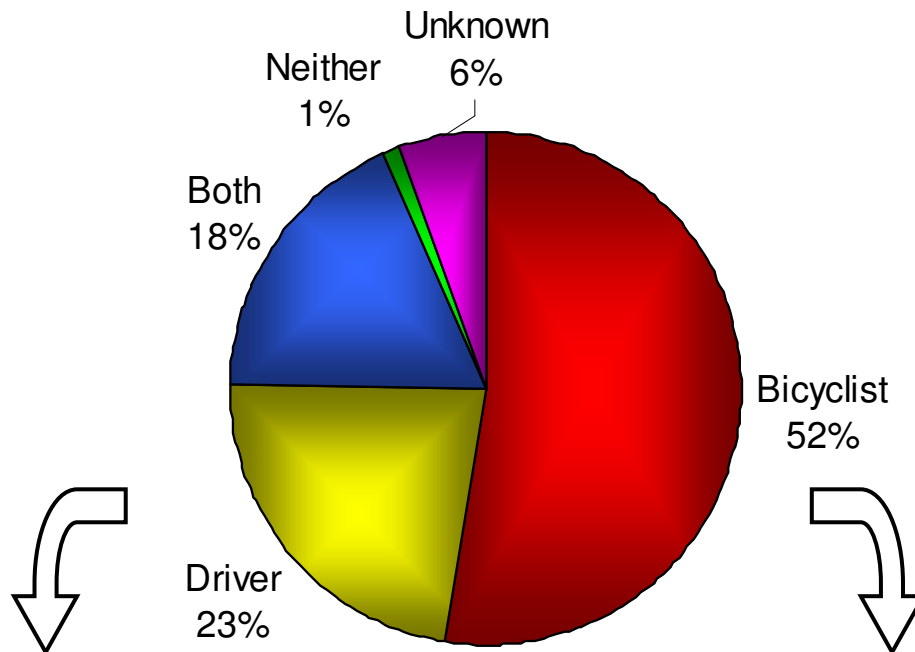
### Bicycle Collisions by Time of Day (440)



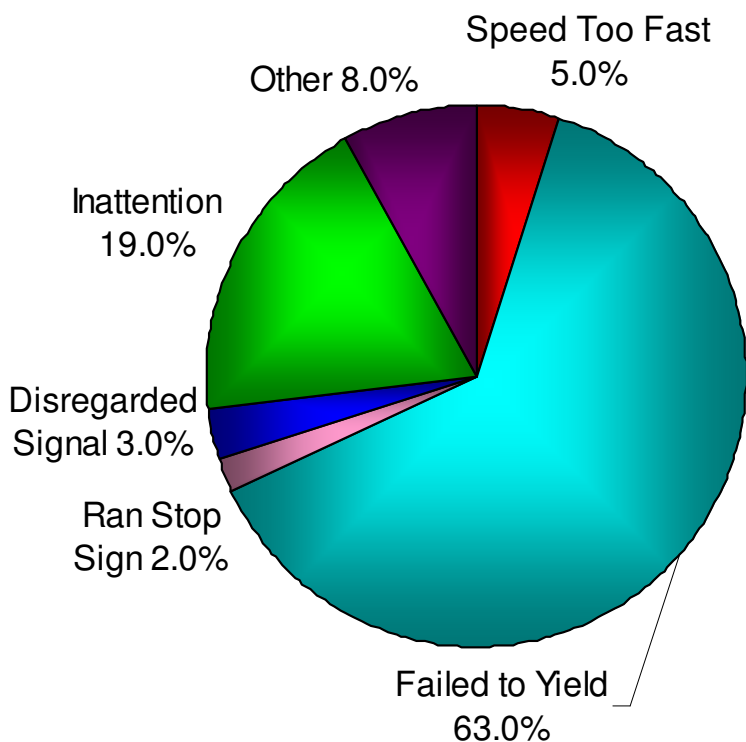
### Bicyclists in Collisions by Time of Day and Age Group (444)



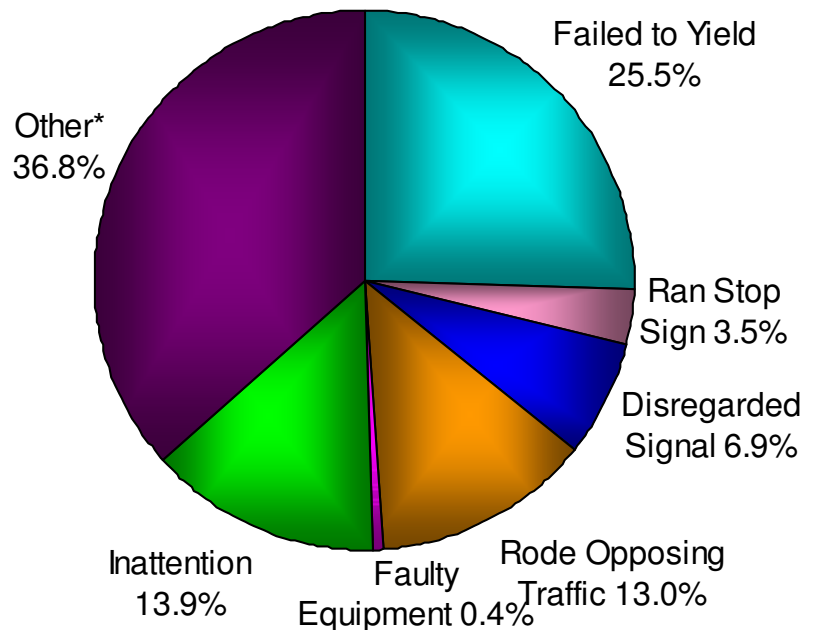
## Unit at Fault in Bicycle Collisions



### Motorists Violations When Only Driver is at Fault



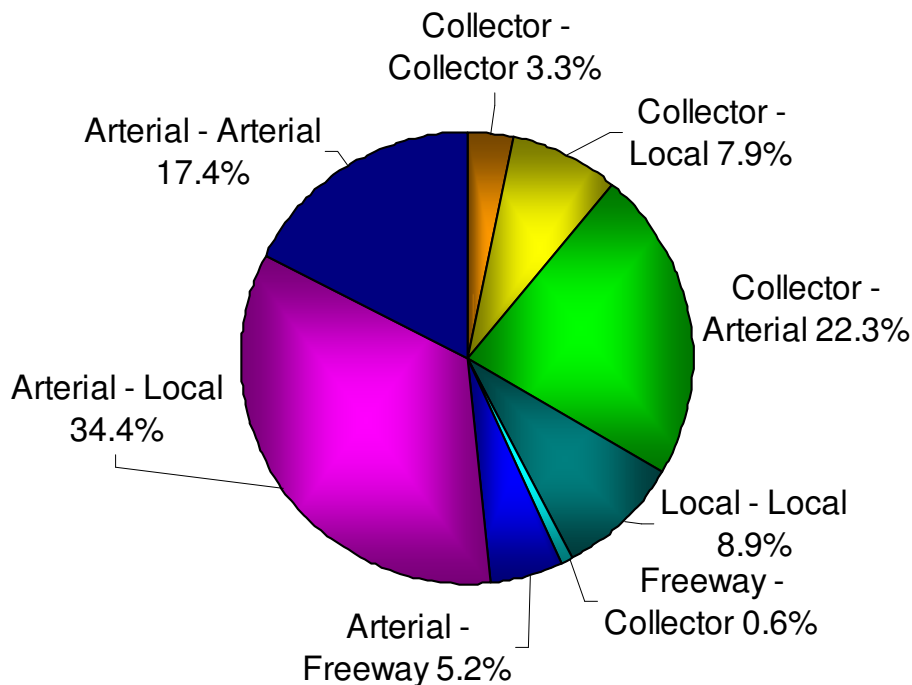
### Bicyclists Violations When Only Bicyclist is at Fault



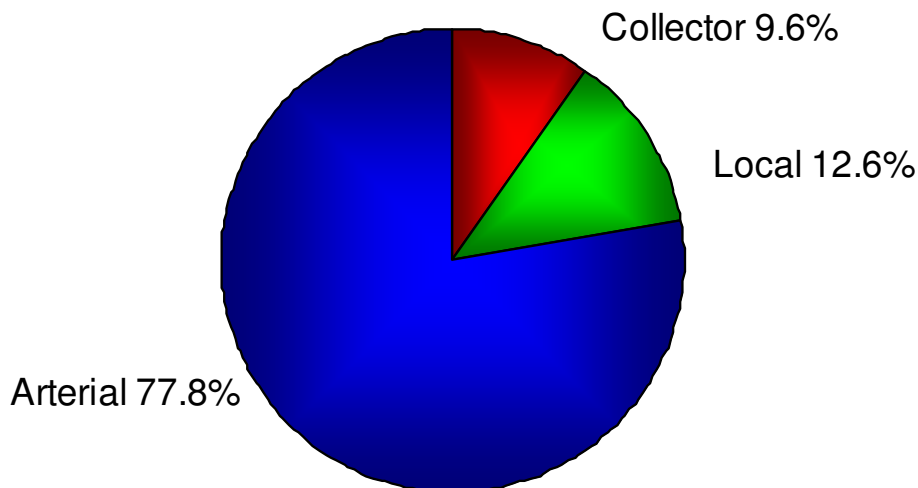
\* Other also includes some bicyclists who rode against the traffic flow

## Bicycle Collisions by Street Classification

306 (69.5%) Near Intersection (Within 150 feet)



134 (30.5%) Mid-block / Non-Intersection (Over 150 feet)



### Street Classification Examples

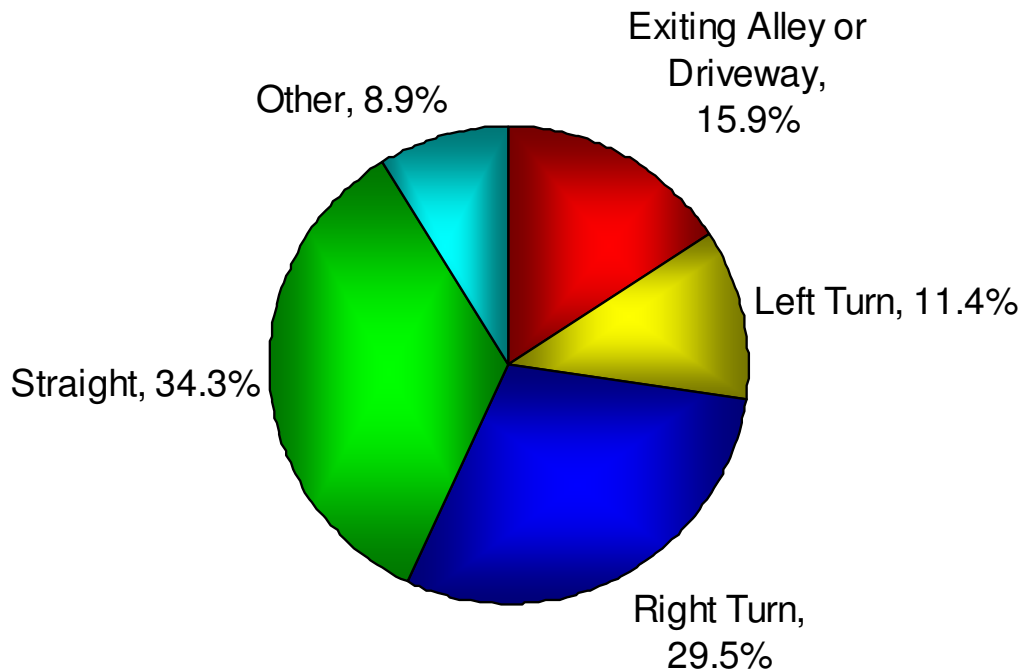
**Freeways** are I-17 (Black Canyon Freeway), I-10, Loop 202, on-ramps, access roads, etc.

**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.

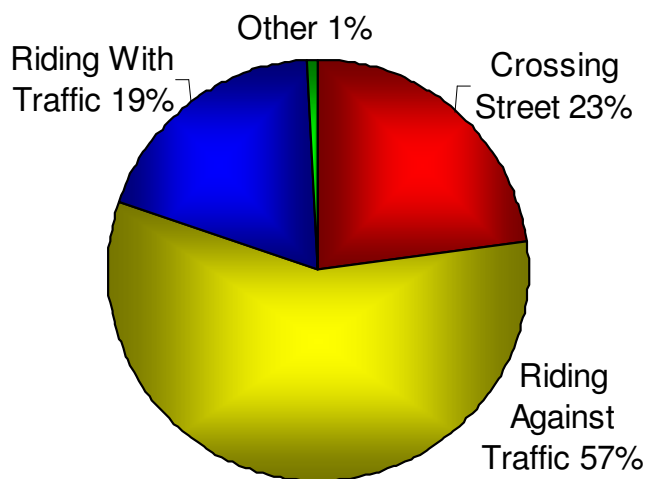
**Collector** streets are typically the half-mile-line streets such as 39th Ave, 28th St, Roeser Rd, and Maryland Ave as defined on the Phoenix Street Classification Map.

**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.

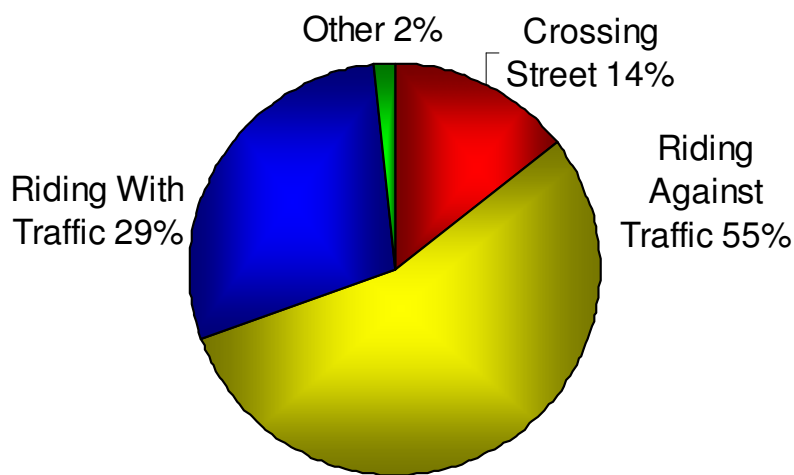
### Motorist Movement Prior to Bicycle Collision



### Bicyclist Movement Compared to Traffic Flow



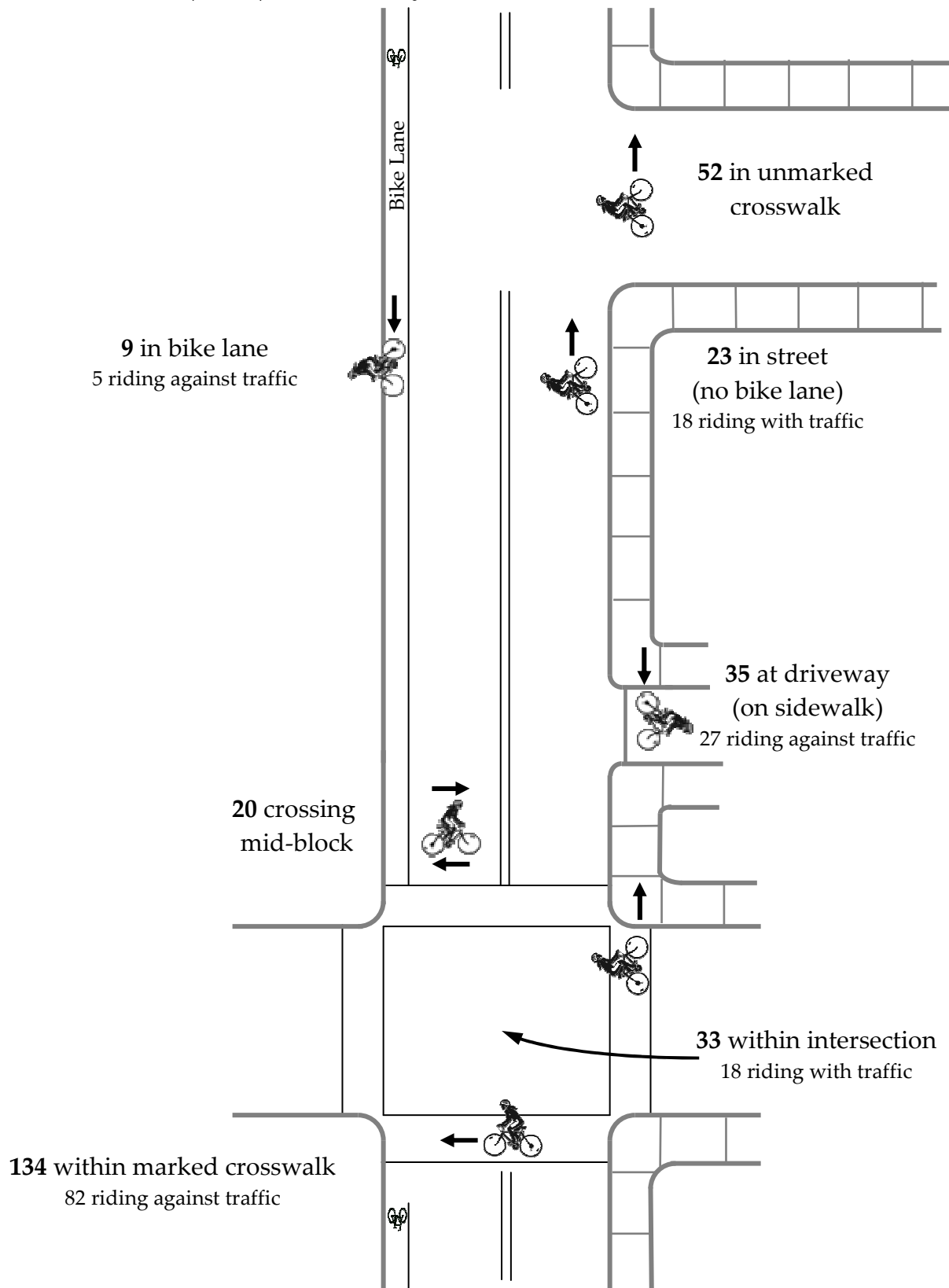
Bicyclist 17 & Under



All Bicyclist

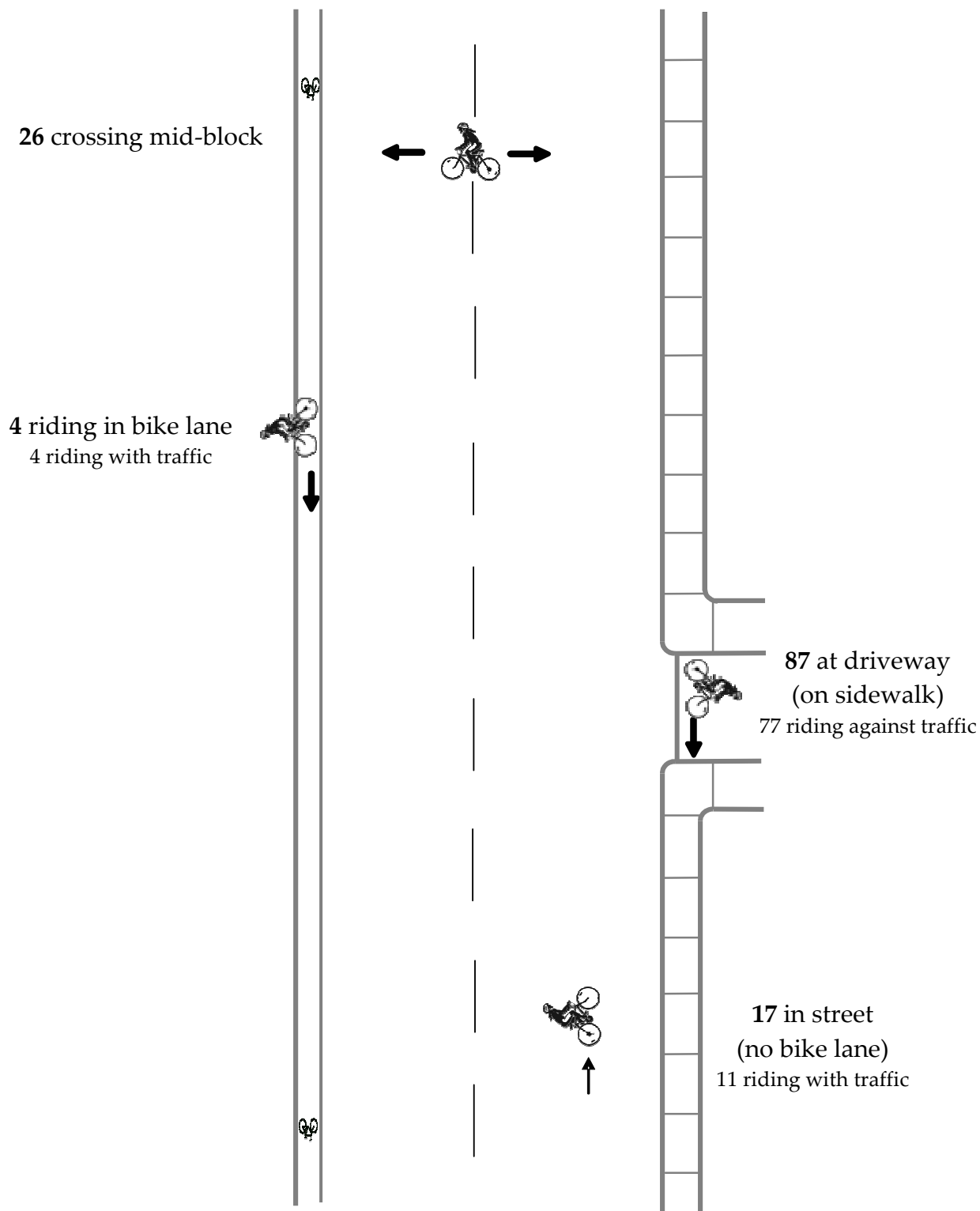
## Bicycle Collisions At or Near Intersections

306 (69.5%) of the 440 bicycle collisions occurred within 150 feet of an intersection.



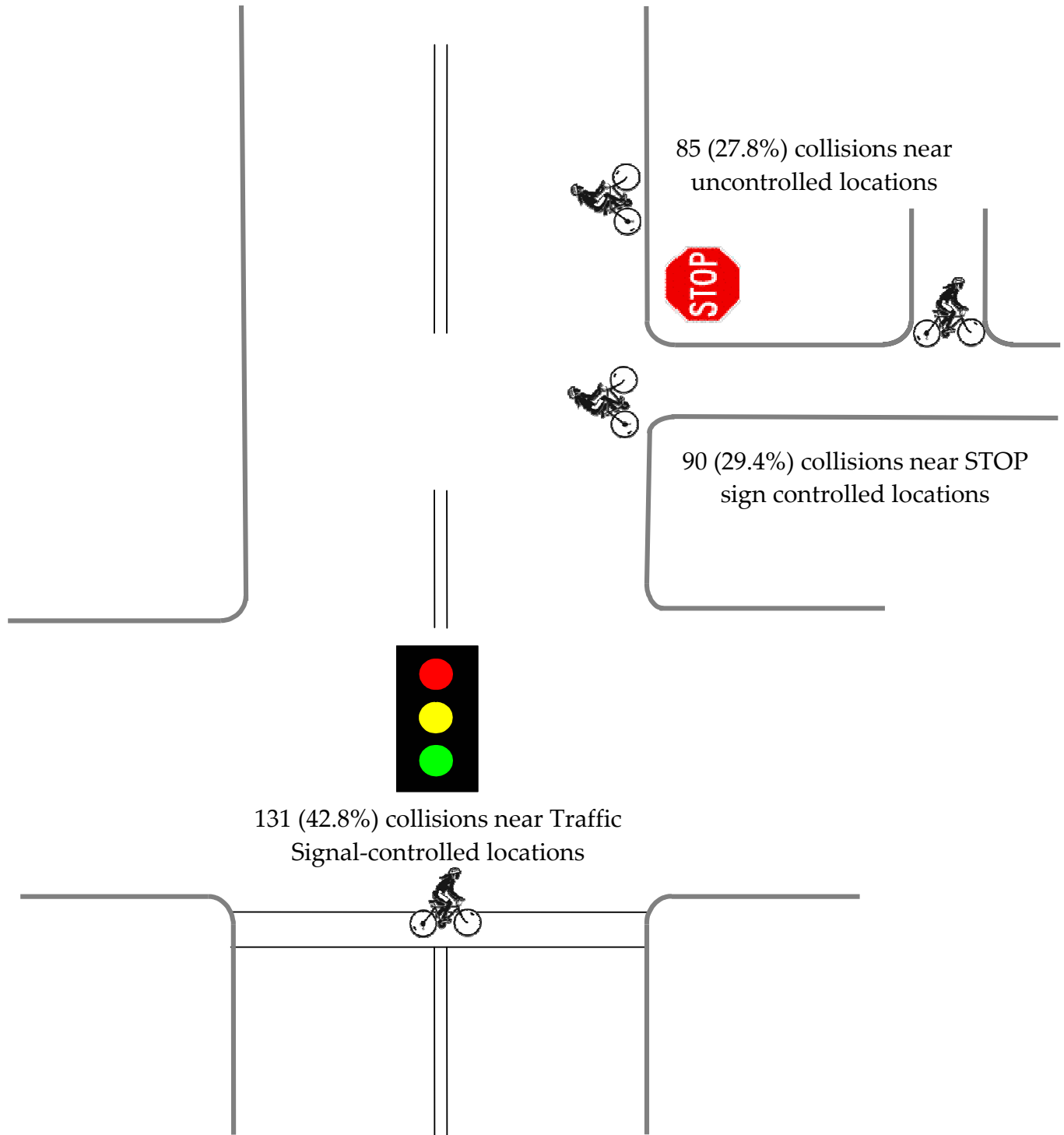
## Bicycle Collisions Not At Intersections

134 (30.5%) of the 440 bicycle collisions occurred over 150 feet from an intersection.

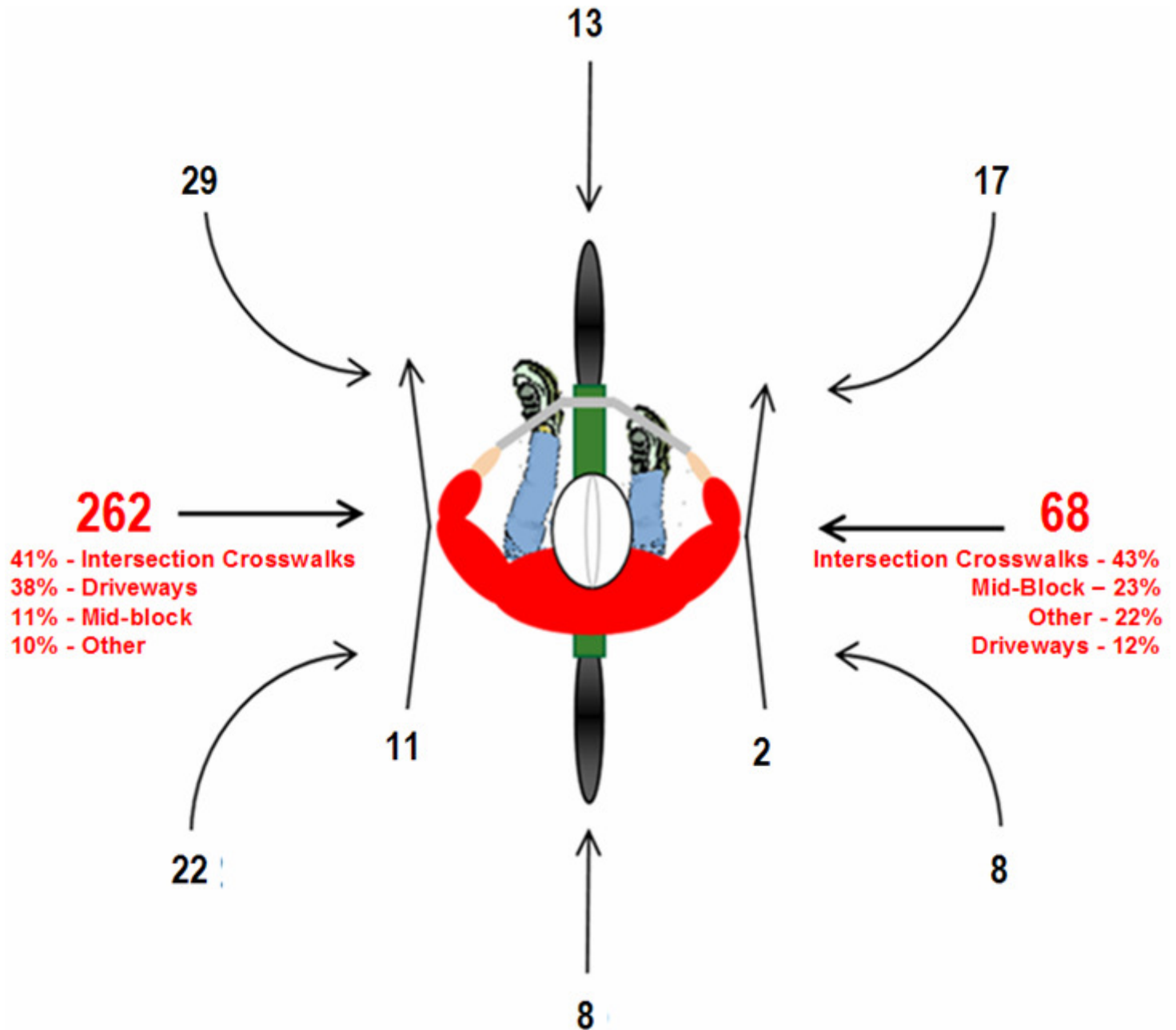


## Intersection-Related Bicycle Collisions and Traffic Control

Only collisions within 150 feet of an intersection (306) were evaluated for traffic control.

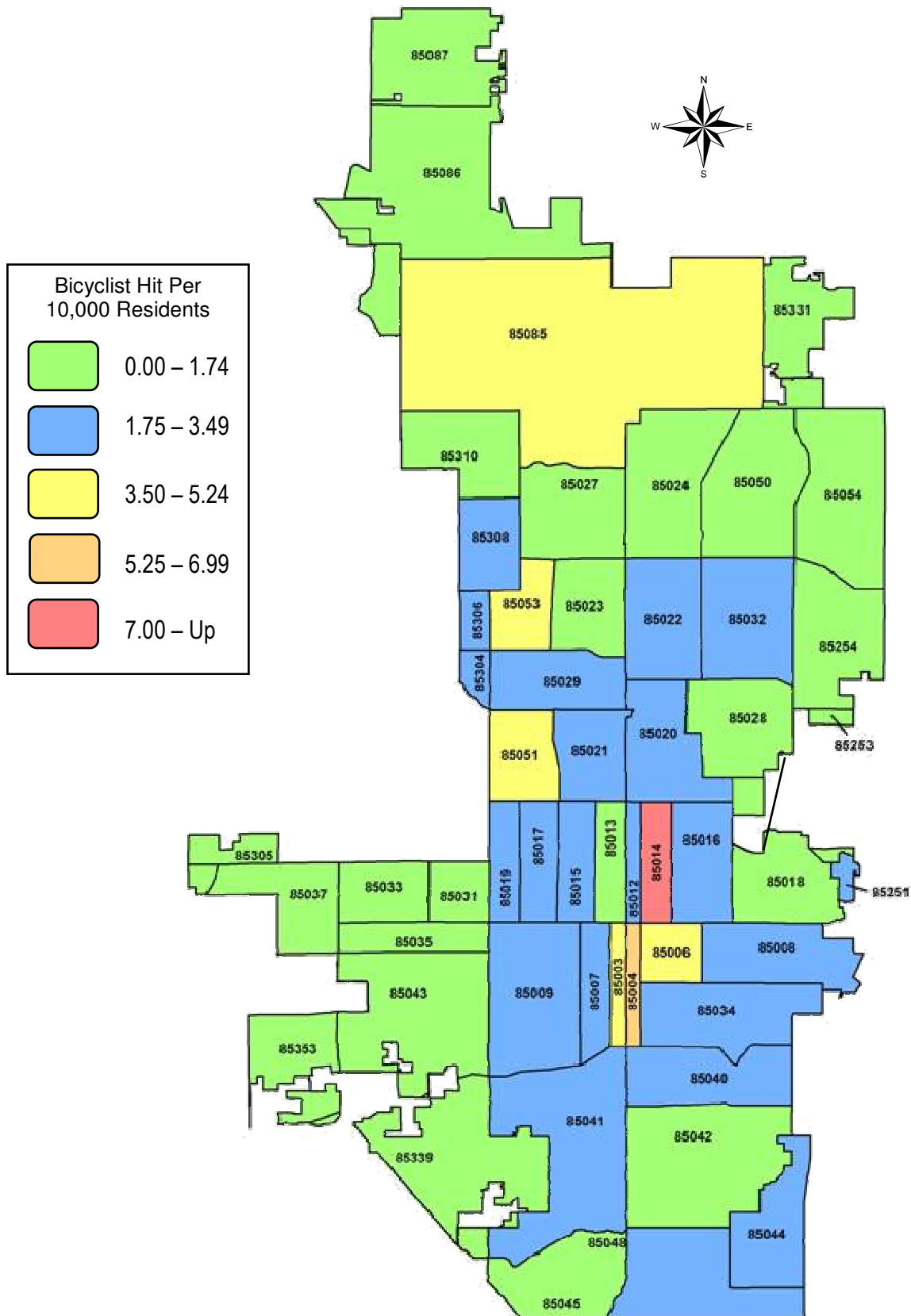


## Vehicle Point of Contact with Bicyclist

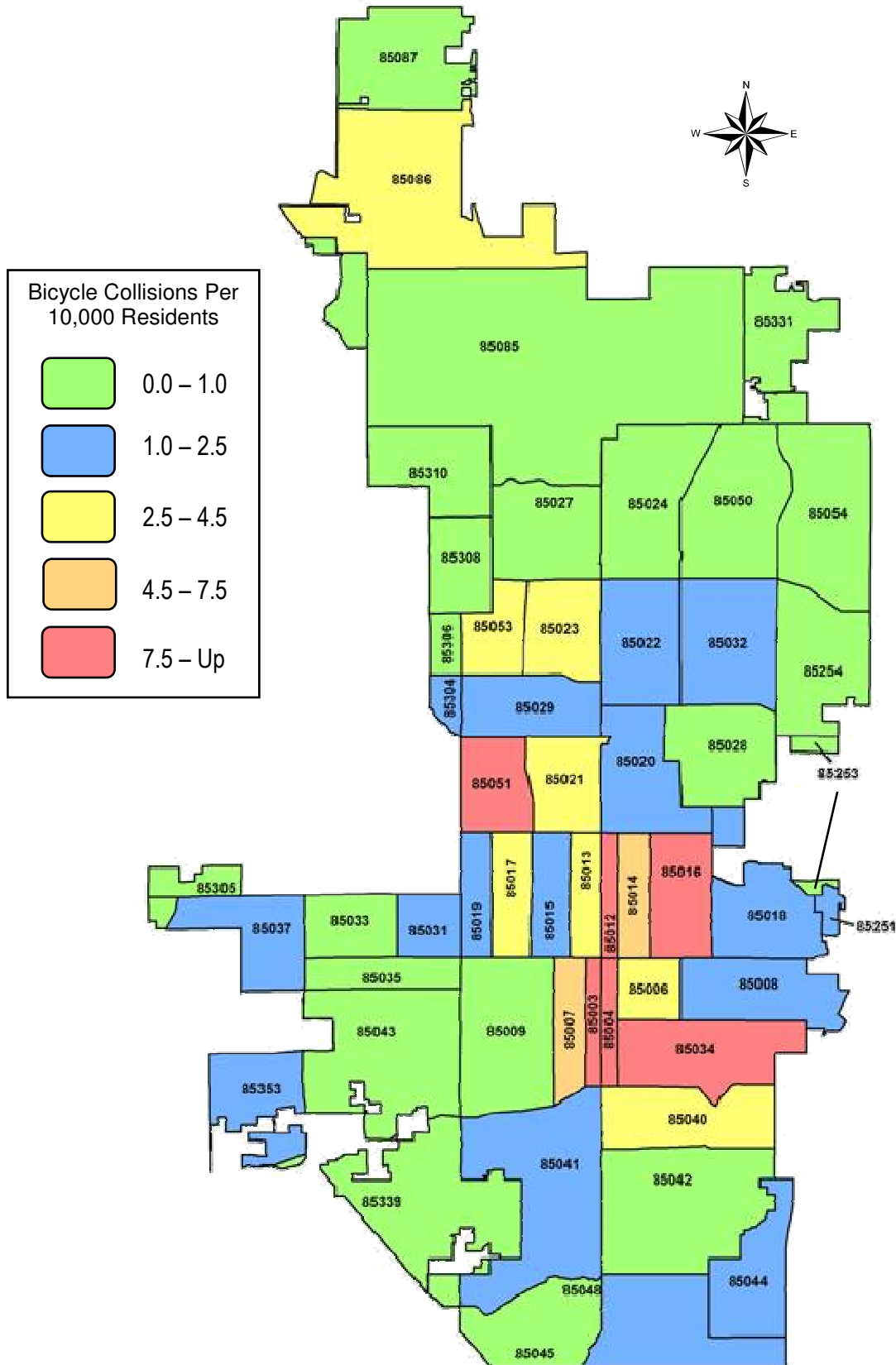




## Bicycle Collisions by Zip Code of Bicyclist



## Bicycle Collisions by Zip Code of Collision Location



## **Additional Information**

This report documents the bicycle-motor vehicle collision history for the City of Phoenix during the 2007 calendar year. Collision data used for this report were obtained through Phoenix Police records and the database maintained by the Arizona Department of Transportation (ADOT) known as ALISS (Accident Location Identification and Surveillance System).

The ALISS database includes crashes between bicycles and motor vehicles that occurred on public right-of-way where someone was injured or killed or where property damage exceeded \$1,000. Crashes that occurred on private property, or that did not involve injuries or significant property damage, were not included. Bicycle falls or crashes on sidewalks or streets that did not involve a motor vehicle are similarly not included in the statewide ALISS crash database.

This publication can be made available in Braille, large print, audio tape, or cassette tape upon request. Contact the Street Transportation Department at 602-262-6284 if you would like any of these services. Our TTY phone number is 602-256-4286.

Special Thanks to everyone who helped review this document and made suggestions on how to make it better.

Cover: the photo was taken by Tony Hernandez and features his two sons Antonio and Xavier.