2005 Phoenix Bicycle Collision Summary

City of Phoenix
Street Transportation Department
Traffic Safety Section

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Introduction

Mario was on his way home from school that Wednesday in October 2005 but never made it. He was riding his bicycle on the sidewalk against traffic in Phoenix when a car pulled out of a driveway in front of him. Mario saw the car just before impact. As he hit the passenger door he slid up and forward into the handlebars and then into the side of the car. The driver probably never saw Mario prior to the crash, he may have been looking in the direction of traffic, distracted by a child in the back seat or talking on a cell phone but we will never know because he fled the scene and has not been located. Mario's bicycle was ruined and he was badly bruised and shaken up but he was lucky and received no serious injuries from the crash.

Although probably a singular event in Mario's life, his crash was fairly typical of bicycle collisions in Phoenix during 2005. Mario's gender and age (between 12 to 17 years old) place him among those most at risk for bicycle collisions. His crash occurred in the month and on the day of the week and during the time of day with the highest number of bicycle crashes. Unfortunately, like the majority of bicyclists involved in crashes during 2005, Mario also chose not to wear a helmet.

Each year the Street Transportation Department examines individual reports from all bicycle crashes in Phoenix. This is time consuming to complete; however, the information gathered helps us better understand where, how and why bicycle crashes occur. Answers to these questions ultimately help us prevent collisions in the future.

Mario's crash was one of 480 bicycle collisions involving 487 bicyclists reported on Phoenix streets in 2005 which resulted in 436 injuries and 11 deaths. Although the 2005 crash totals are still much too high, they represent a 9% decline from the crash totals in 2004 and a 13% decline in injuries. It was also the lowest number of bicycle crashes since 1992.

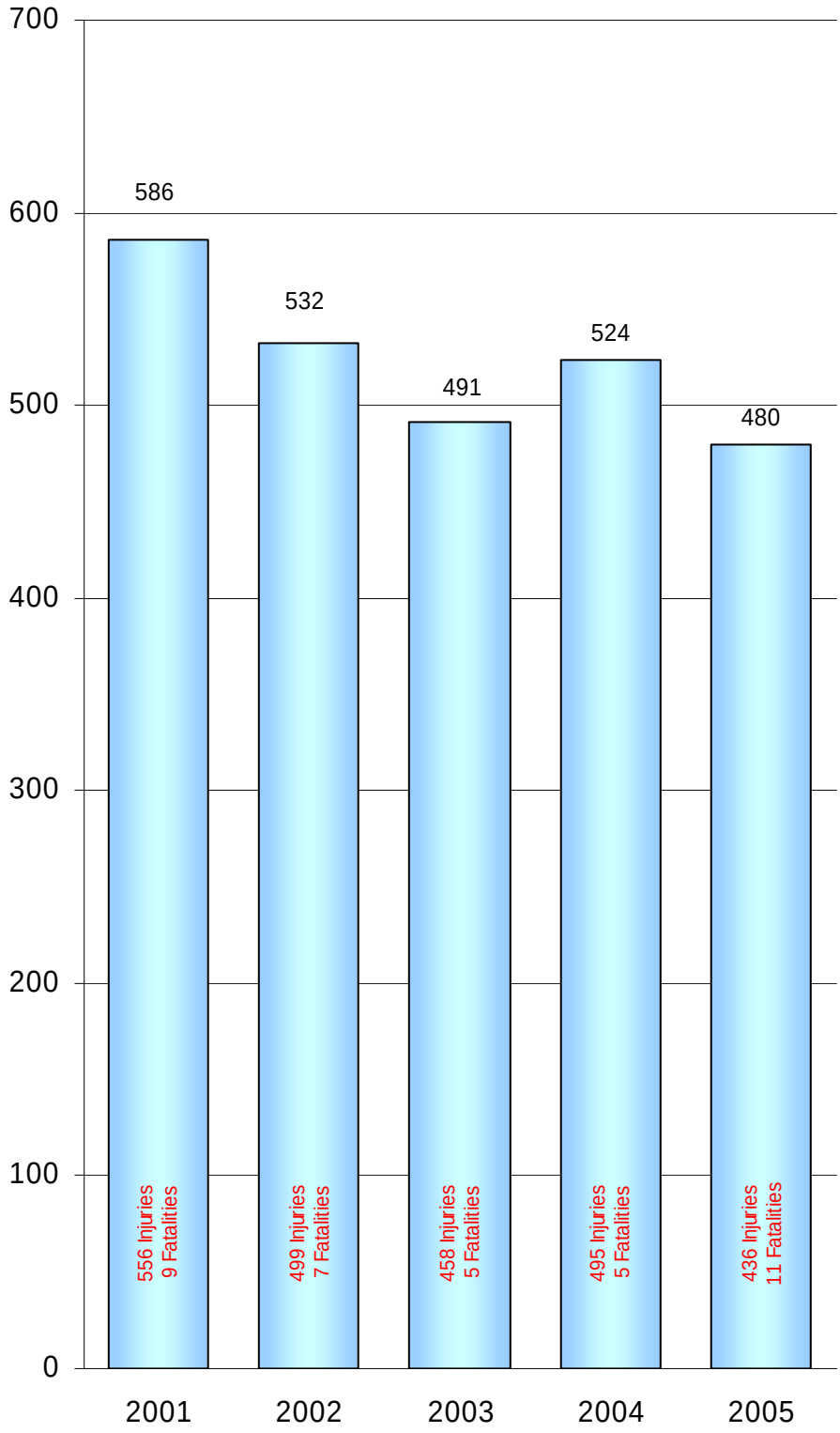
Like most other types of vehicular crashes, bicycle collisions were most common on arterial streets in the afternoon between 3-6 PM. Most bicyclists were hit while riding against traffic either on the road or as in Mario's case on the sidewalk, where drivers often fail to see them. Helmet use or non-use was recorded in 60% of collisions. When usage was reported, just over 11% of all bicyclists and less than 5% of all child bicyclists (less than 18 years of age) involved in collisions were wearing helmets.

As with all traffic crash data, the bicycle numbers reflect only part of the story on bicycle safety. We can tell from the number of reports and injuries how often and why bicycle/motor vehicle crashes occurred. However, unlike automobile crash data we have no direct measure of how many bicycles were on the road on a typical day during 2005. We have no understanding, therefore, of the bicycle crash rate or how bicycle usage has changed from year to year.

2005 FACTS AT A GLANCE – BICYCLE CRASHES

In 2005…
…just over 28% of all bicyclists involved in crashes were children below the age of 18.
…the bicyclist was listed as the primary AT FAULT party twice as often as the motorist.
…there were 4 times more male bicyclists involved in crashes than female bicyclists.
…there were 107 bicyclists (22%) hit while riding on sidewalks.
…there were 17 crashes involving alcohol, 14 in which the bicyclists had been drinking and 3 in which the driver had been drinking.
…there were 85 hit and run collisions (which also may have been alcohol-related) in which the vehicle left the scene.
…there were 367 bicyclists (75%) hit during the daytime and 120 bicyclists (25%) hit at night.

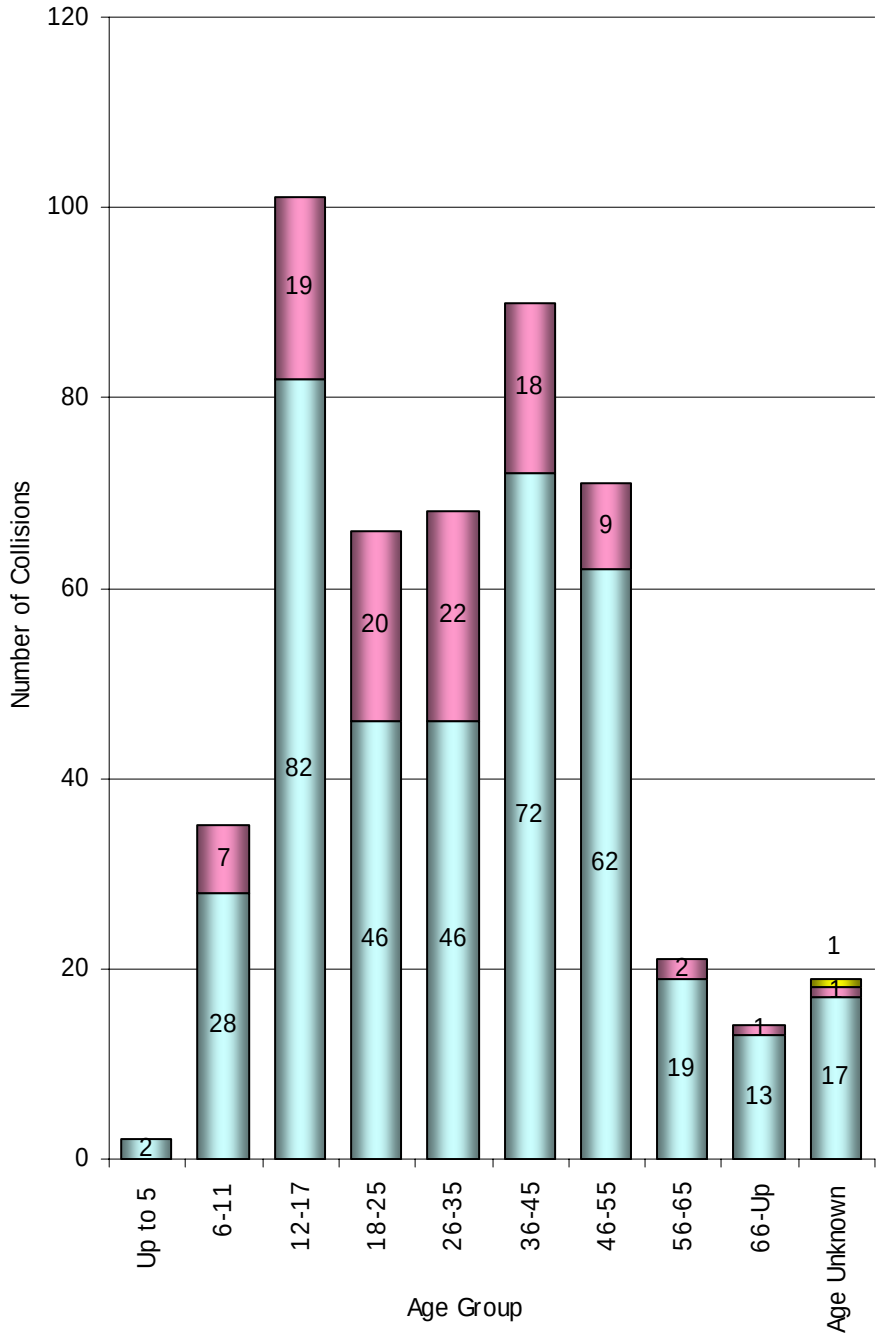
Bicycle Collisions, Injuries and Fatalities 2001 – 2005



Bicycle Collisions by Age Group and Gender of the Bicyclist

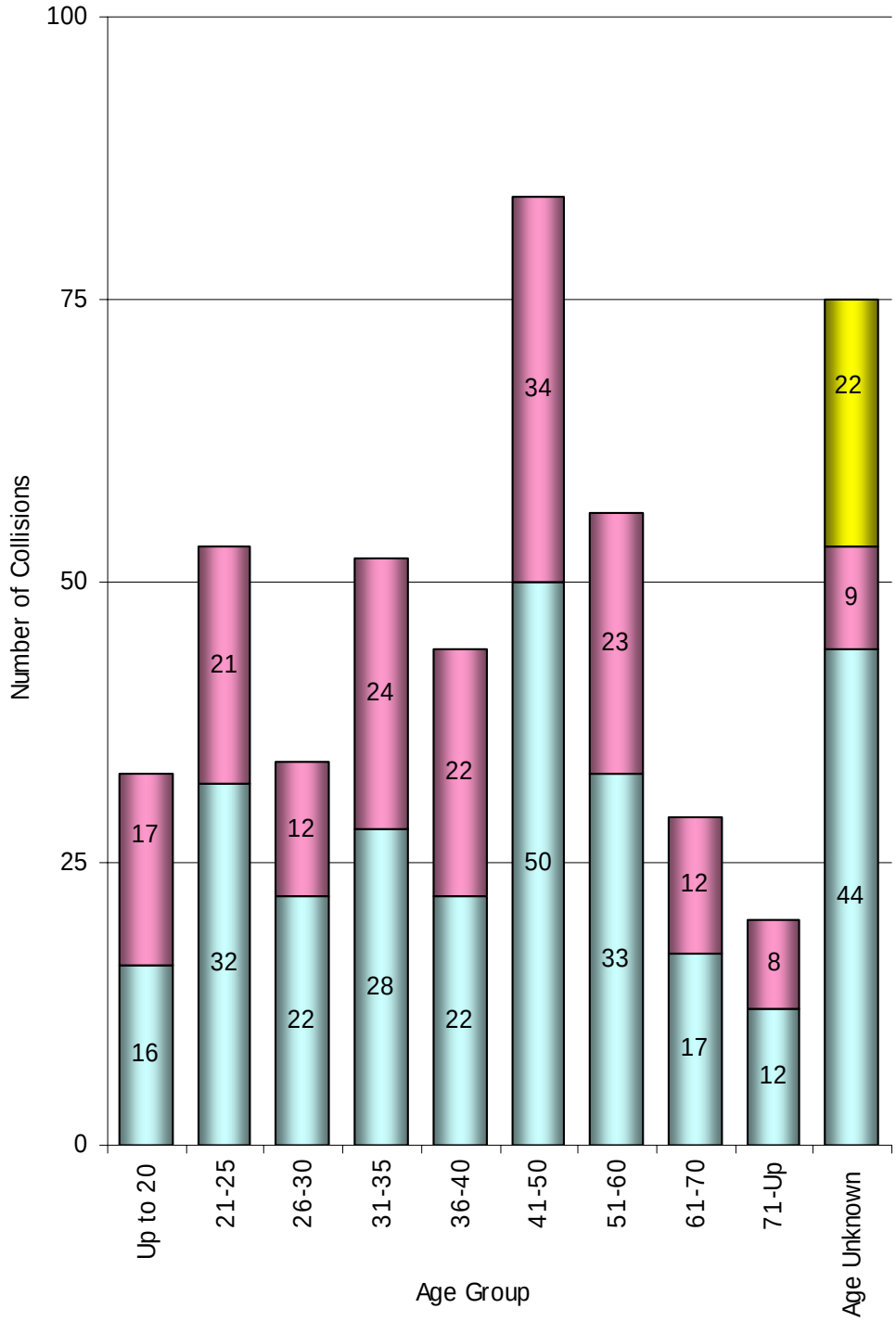
	Under 18	18 and Older	Unknown	Total
Male	112	258	17	387
Female	26	72	1	99
Total	138	340	18	486*

*There was one bicyclist whose age and gender were both unknown.

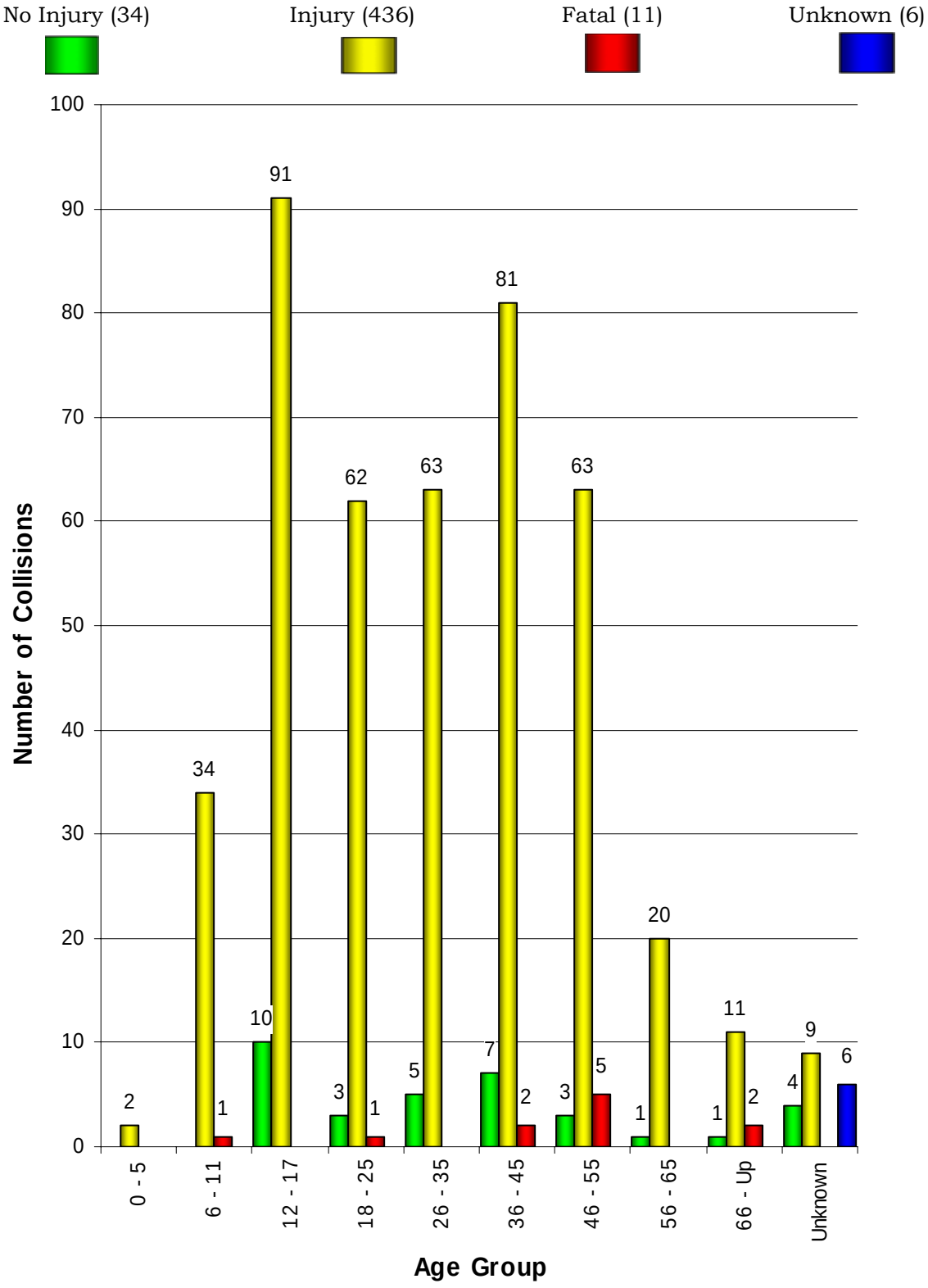


Bicycle Collisions by Age Group and Gender of the Motorist

Male	276
Female	182
Unknown	22
Total	480

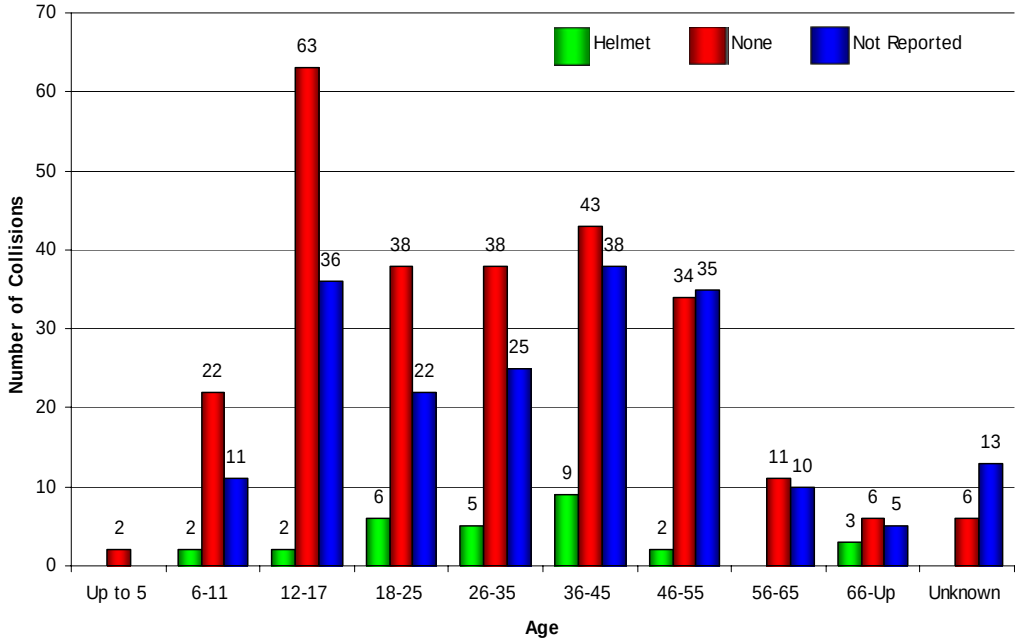


Bicyclists in Collisions by Age Group and Injury Severity

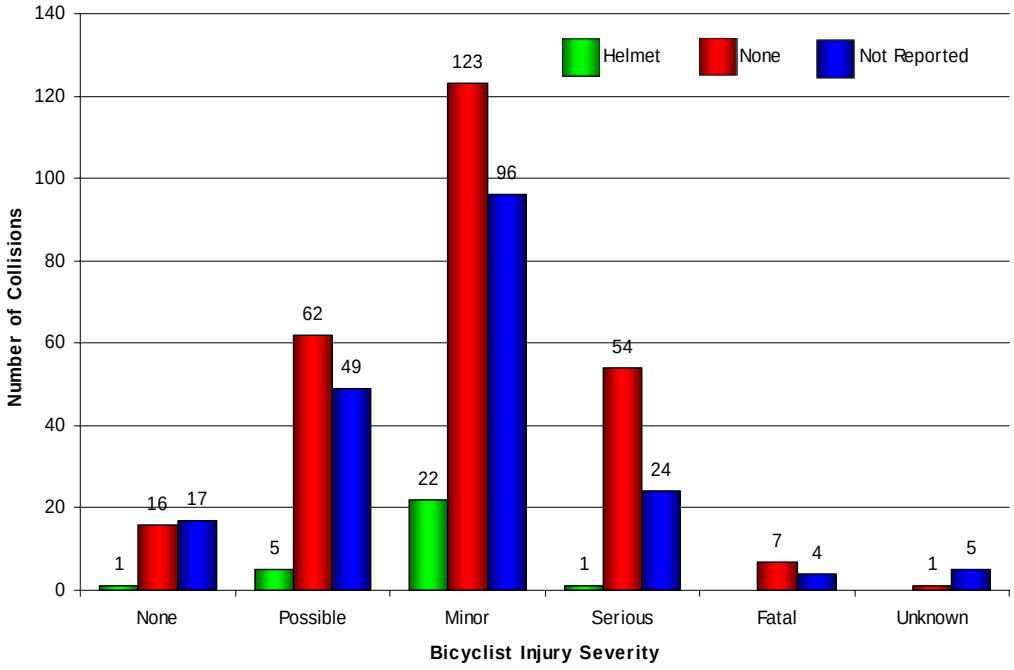


Helmet Usage and Age of Bicyclist

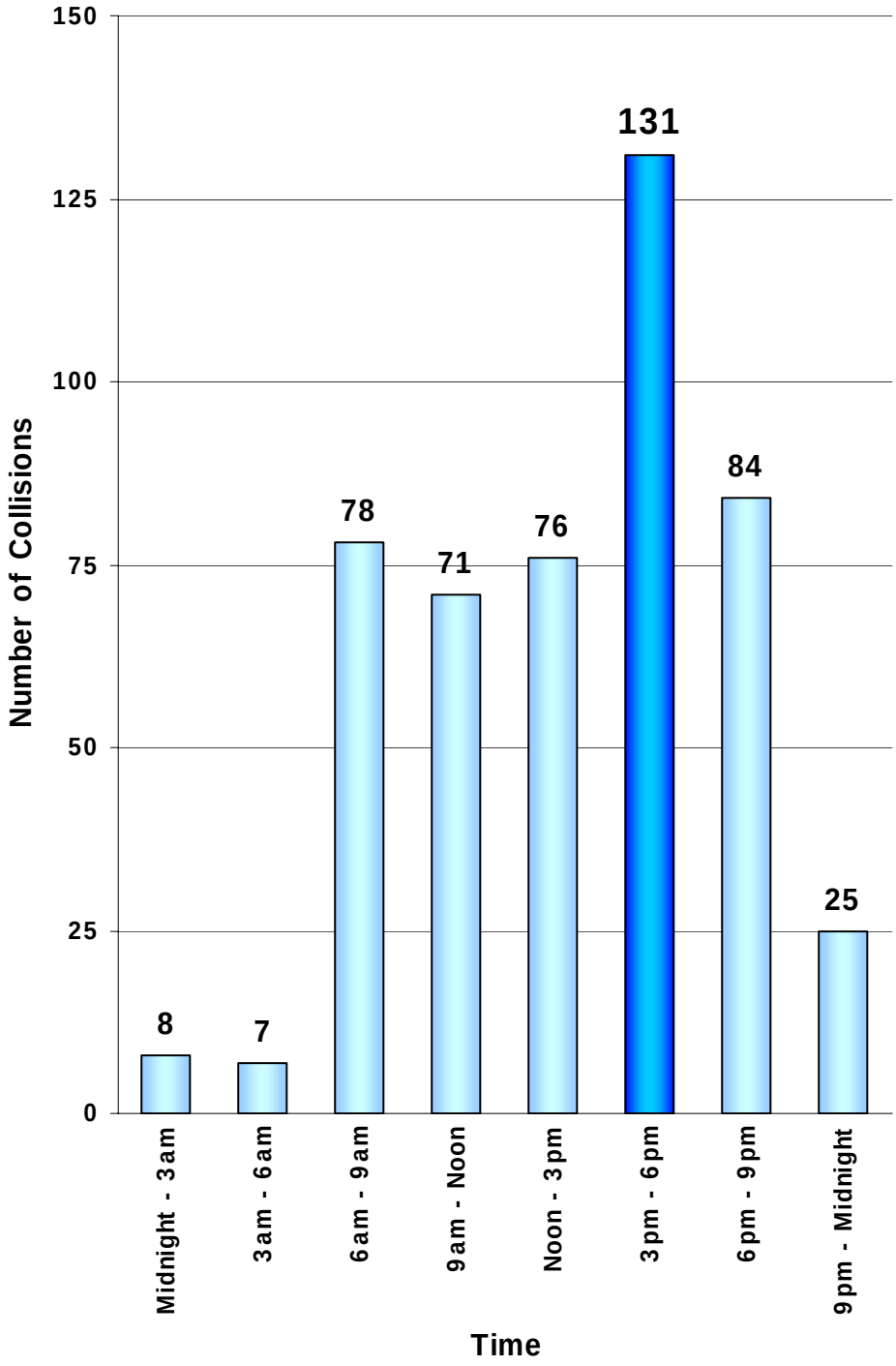
	Under 18	18 and Older	Age Unknown	Total
Helmet Used	4	25	0	29
No Helmet	87	170	6	263
Not Reported	47	135	13	195



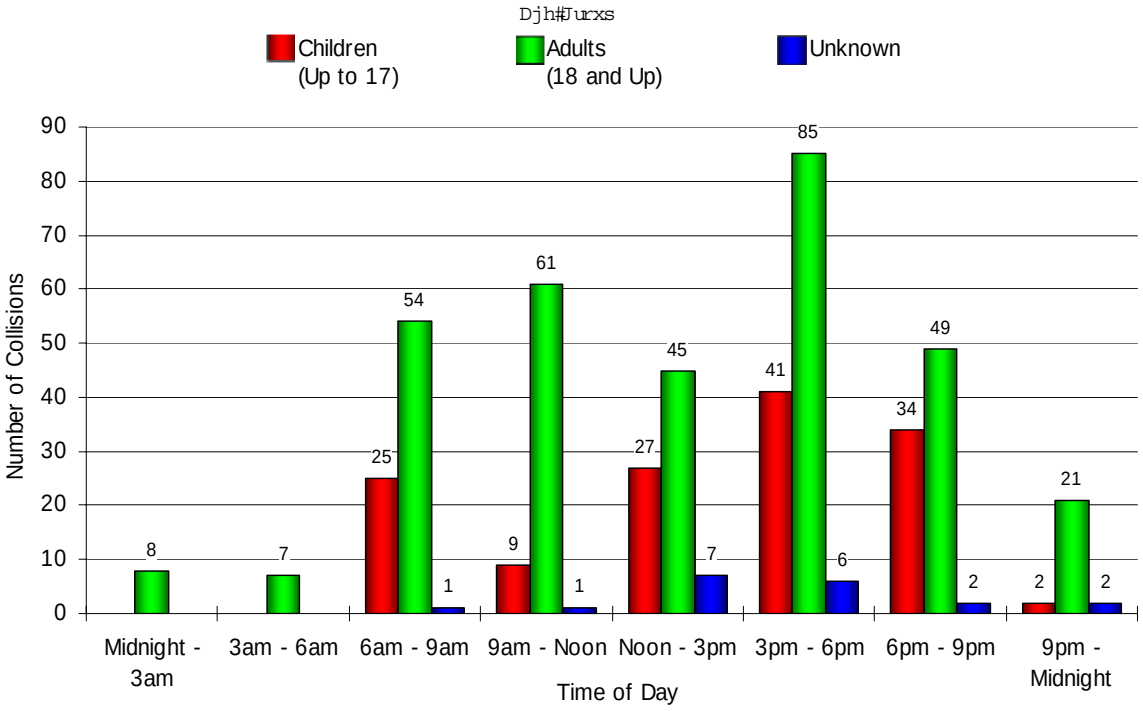
Helmet Usage and Injury Severity of Bicyclist



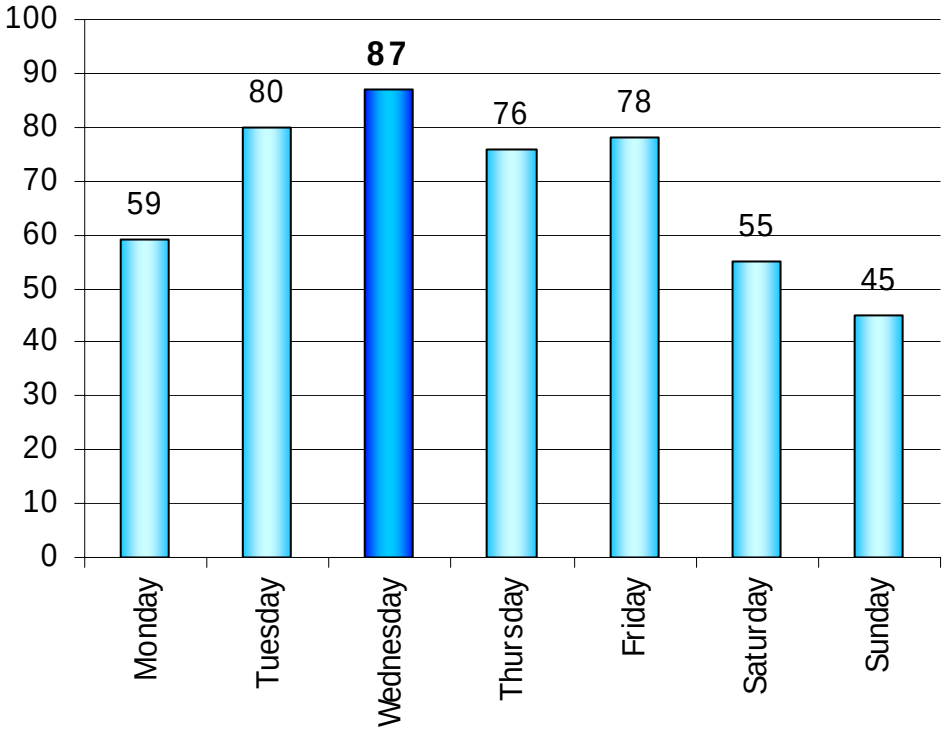
Bicycle Collisions by Time of Day



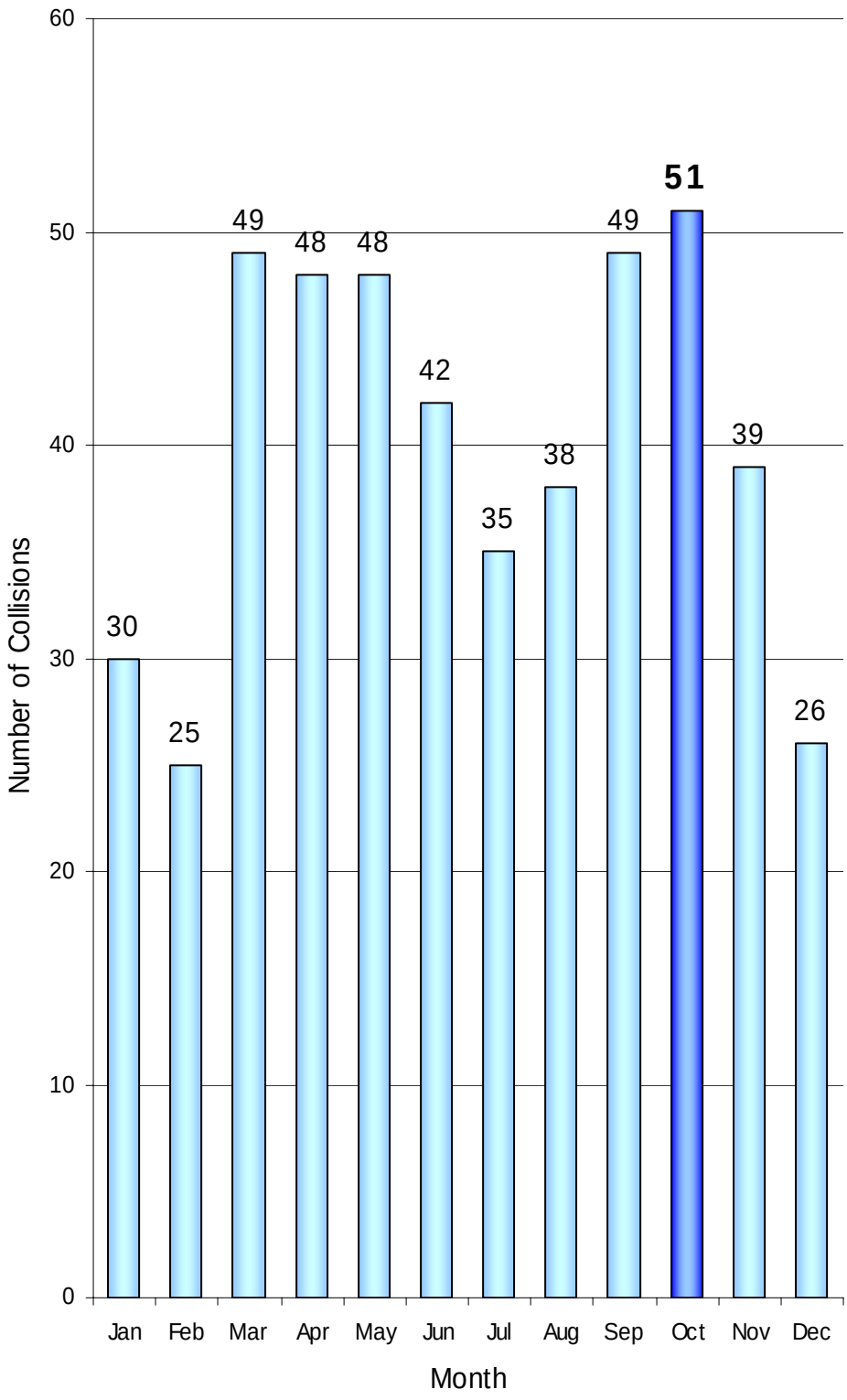
Bicyclists in Collisions by Time of Day and Age Group



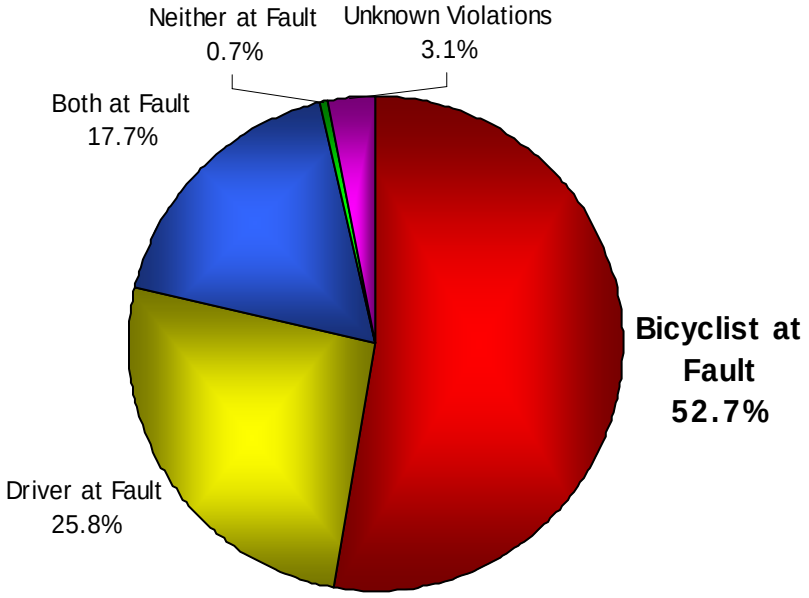
Bicycle Collisions by Day of Week



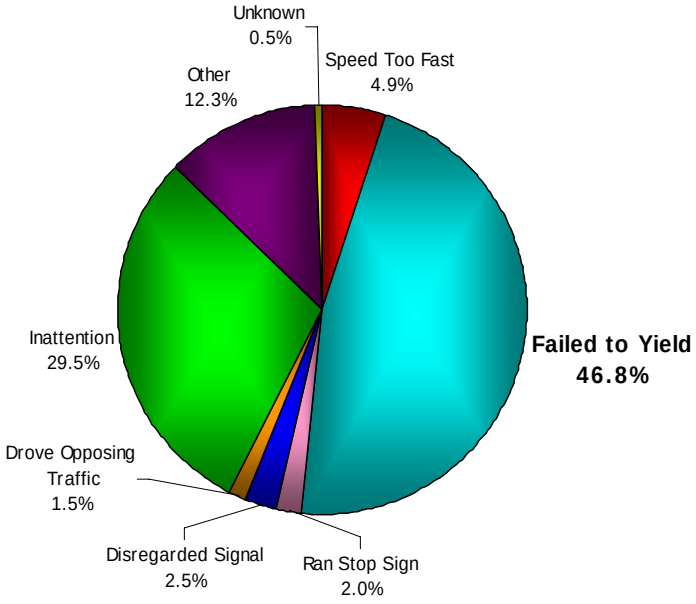
Bicycle Collisions by Month



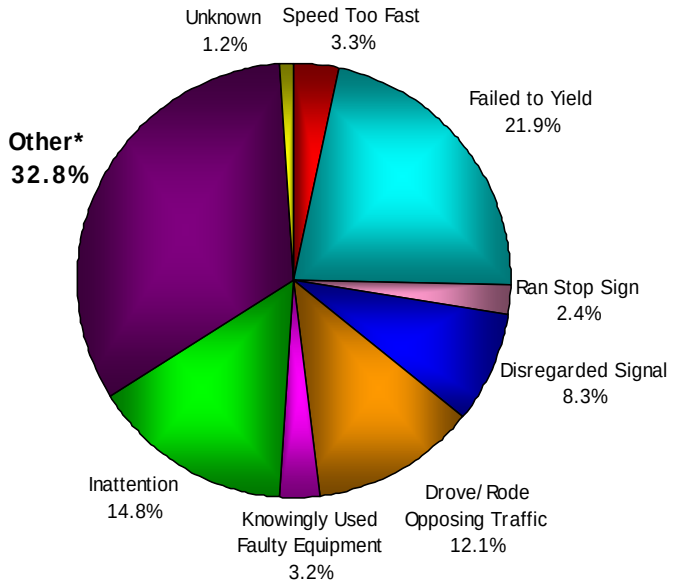
Bicyclist and Driver Violations



Driver Violations When Motorist is at Fault



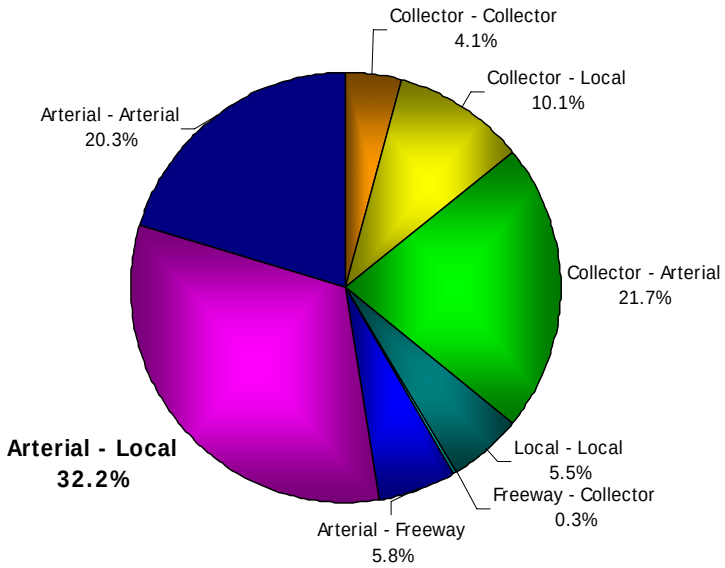
Bicyclist Violations When Bicyclist is at Fault



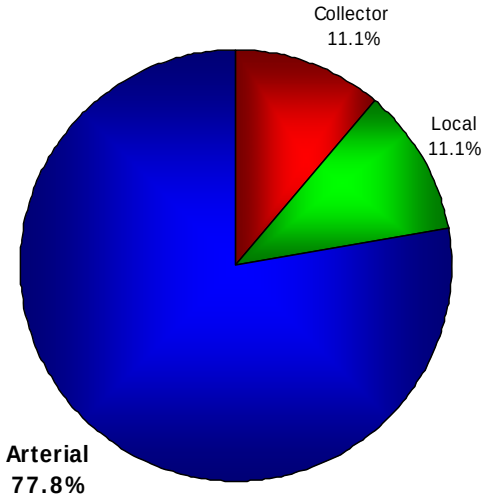
Other also includes some bicyclists who rode against the traffic flow

Bicycle Collisions by Street Classification

345 (71.9%) Near Intersection (Within 150 feet)



135 (28.1%) Midblock / Non-Intersection (Over 150 feet)



Street Classification Examples

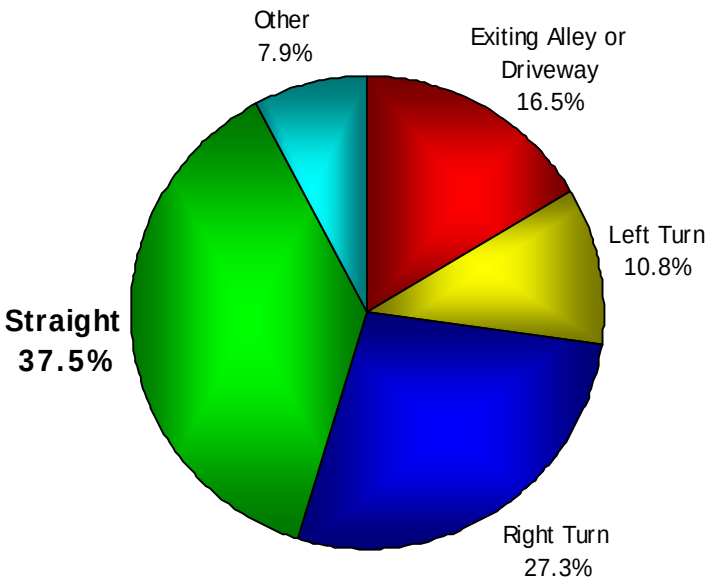
Freeways are I-17 (Black Canyon Freeway), I-10, Loop 202, on-ramps, access roads, etc.

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

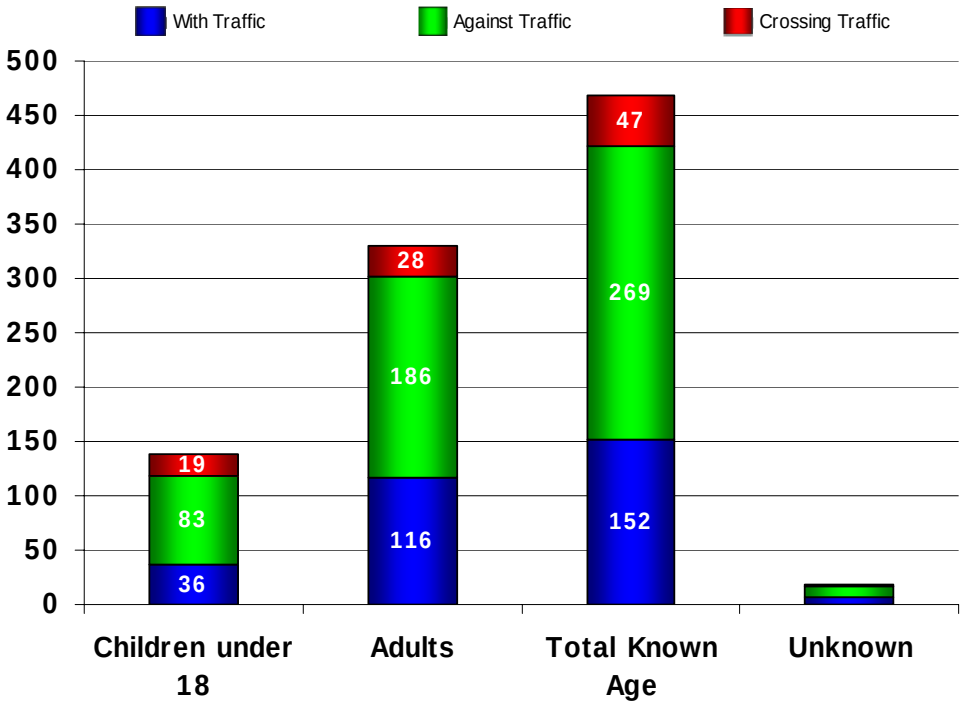
Collector streets such as 39th Ave, 28th St, Roeser Rd, and Maryland Ave are streets approximately halfway between arterial streets, and are designated on the Phoenix Street Classification Map.

Local streets are generally 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 Collision

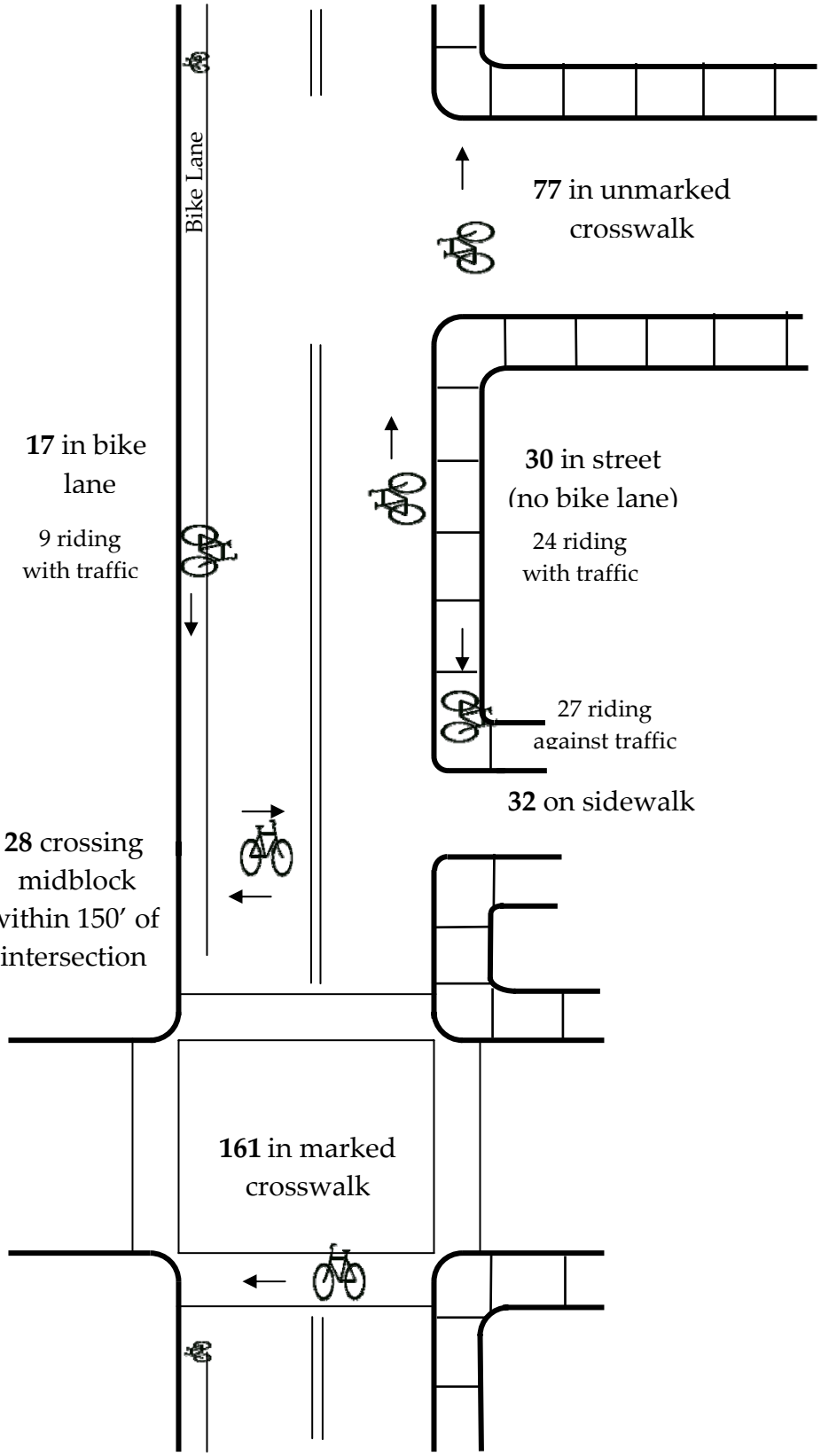


Bicyclist Movement Compared to Traffic Flow



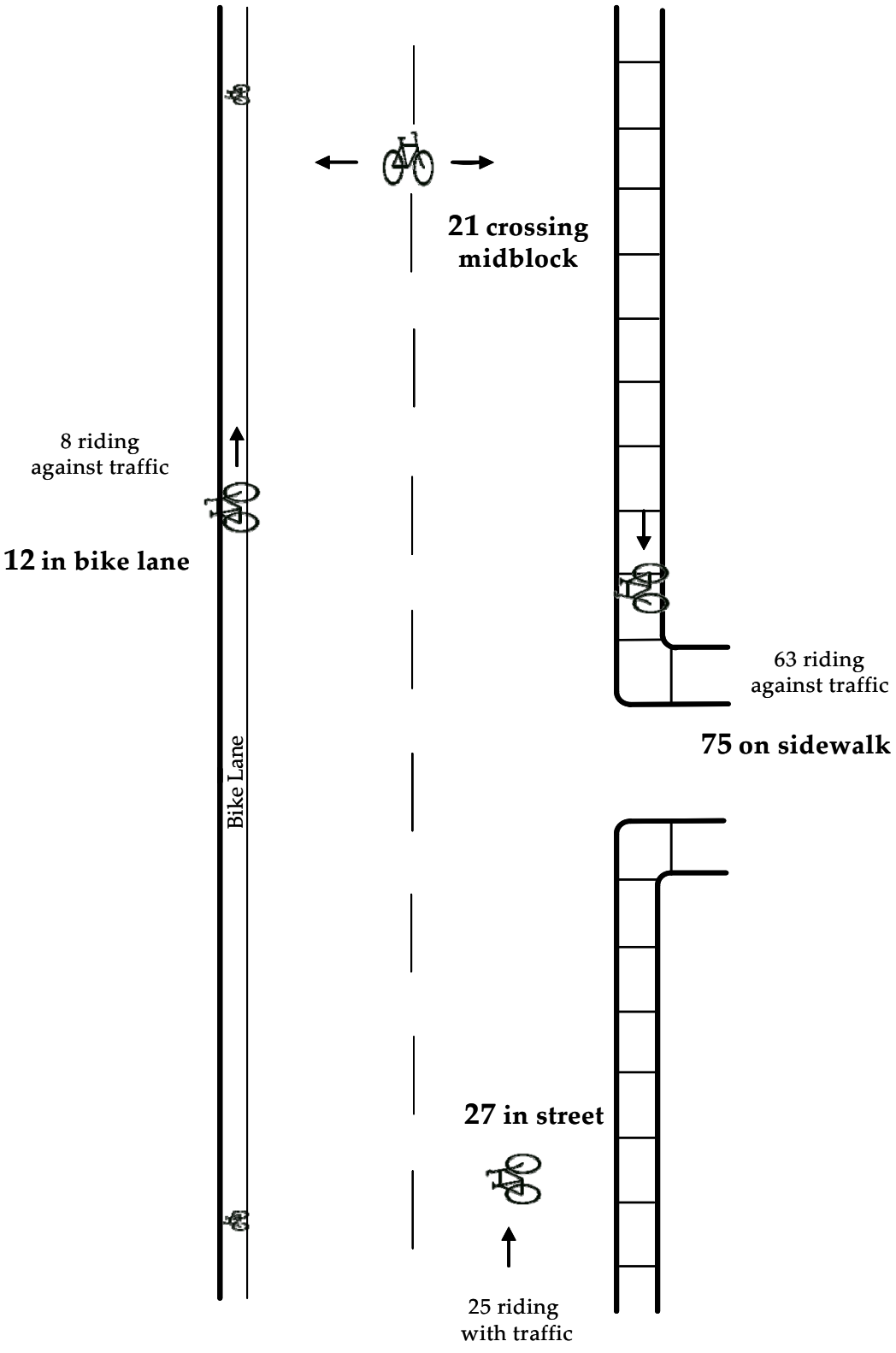
Bicycle Collisions At or Near Intersections

345 (71.9%) of the 480 bicycle collisions occurred within 150 feet of an intersection.



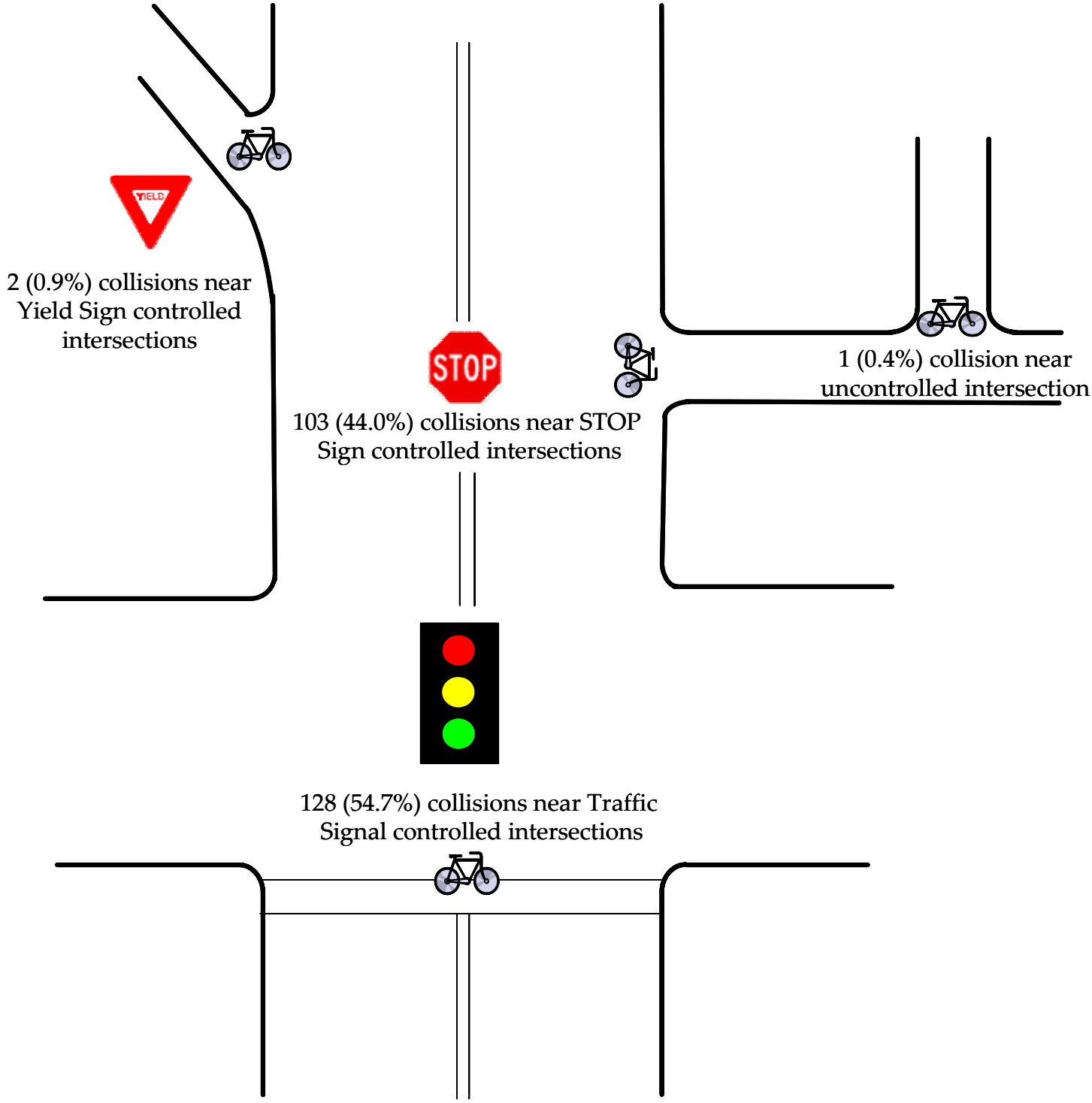
Bicycle Collisions Not At Intersections

135 (28.1%) of the 480 bicycle collisions occurred over 150 feet from an intersection.



Intersection-Related Bicycle Collisions and Traffic Control

For the purposes of this chart, only collisions in which the officer noted the crash was related to the intersection are included



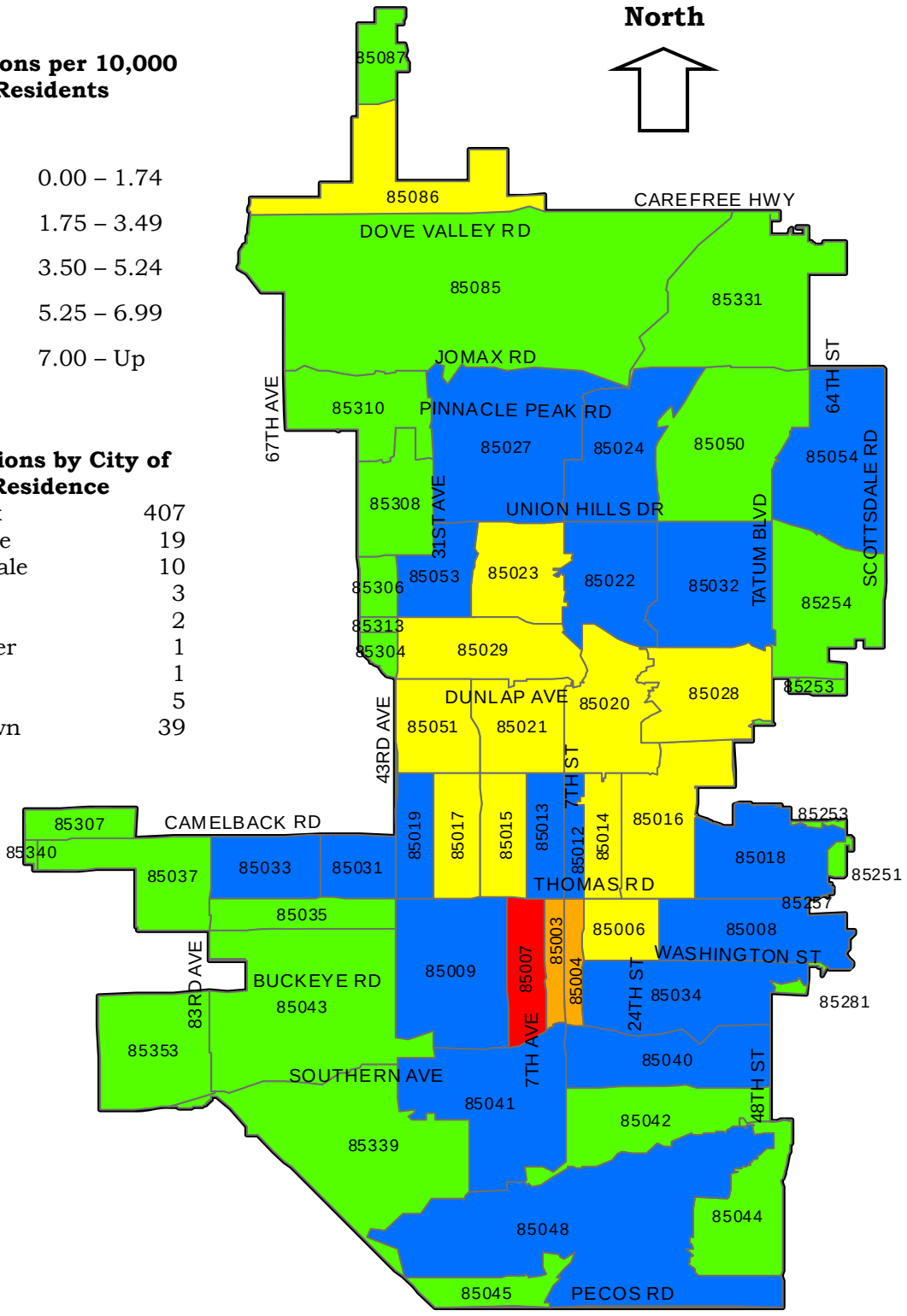
Bicycle Collisions by Zip Code of Bicyclist

Collisions per 10,000 Residents

	0.00 – 1.74
	1.75 – 3.49
	3.50 – 5.24
	5.25 – 6.99
	7.00 – Up

Collisions by City of Residence

Phoenix	407
Glendale	19
Scottsdale	10
Tempe	3
Mesa	2
Chandler	1
Peoria	1
Other	5
Unknown	39



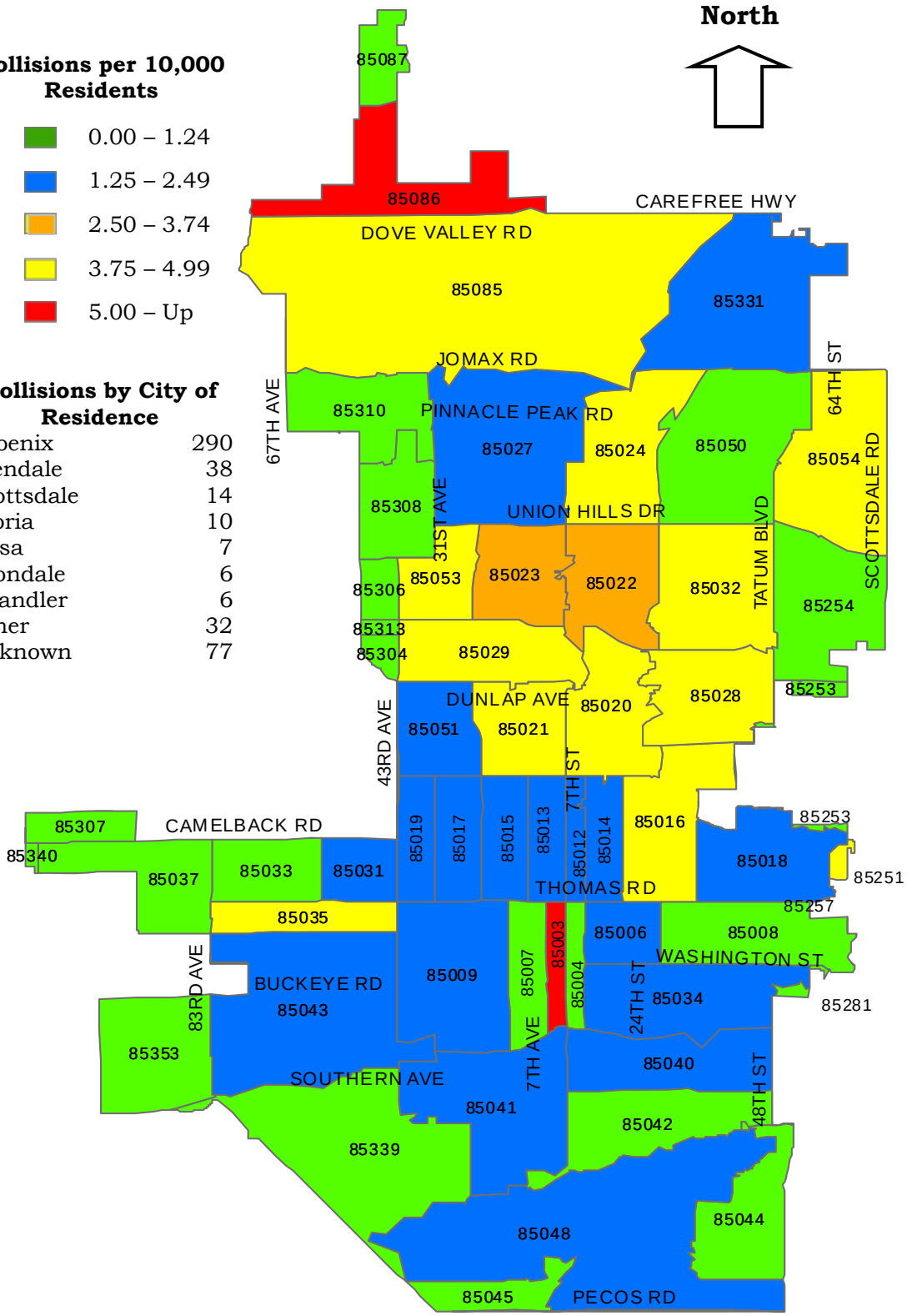
Bicycle Collisions by Zip Code of Driver

Collisions per 10,000 Residents

- 0.00 – 1.24
- 1.25 – 2.49
- 2.50 – 3.74
- 3.75 – 4.99
- 5.00 – Up

Collisions by City of Residence

Phoenix	290
Glendale	38
Scottsdale	14
Peoria	10
Mesa	7
Avondale	6
Chandler	6
Other	32
Unknown	77



Additional Information

This report documents the bicycle-motor vehicle collision history for the City of Phoenix during the 2005 calendar year. Collision data used for this report was 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 $1000. 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.

The cover photo the bicyclist was taken by Kerry Wilcoxon and the photo of City Hall was taken by Alain Lucier whose profile can be viewed at http://www.pbase.com/alon/profile