City of Flagstaff

Pedestrian Bicycle FUTS Master Plans

DRAFT Working Paper 4

Pedestrian and bicycle crash data

October 2015

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Introduction

This report summarizes information regarding pedestrian and bicycle crashes with motor vehicles in the Flagstaff Metropolitan Planning Organization (FMPO) region for the 10-year period from 2005 to 2014.

If walking and biking are to be viable transportation options in Flagstaff, it is imperative that they be made safe, comfortable, and appealing. The intent of this document is to compile and analyze pedestrian and bicycle crashes, to gain a better understanding of why crashes occur, as the first step in taking action to make walking and biking safer.

Policy background

Walking and bicycling are important components of the transportation system, as well as very popular recreational activities in Flagstaff. As evidence of their value to the community, the Flagstaff Regional Plan 2030 includes 17 goals and 68 policies that promote and support walking, biking, and trails. Goal T.2 and Policies T.2.1 and T.2.3 from the Regional Plan directly address safety for pedestrians and bicyclists:

Goal T.2. **Improve transportation safety and efficiency for all modes.**

Policy T.2.1. Design infrastructure to provide safe and efficient movement of vehicles, bicycles, and pedestrians.

Policy T.2.3. Provide safety programs and infrastructure to protect the most vulnerable travelers, including the young, elderly, mobility impaired, pedestrians, and bicyclists.

What can be learned from this information

- Identify streets, intersections, and other locations that have a high number of pedestrian and bicycle crashes
- Determine roadway, weather, surface, and other environmental conditions that may contribute to higher crash rates for pedestrians and bicycles
- Detect patterns in pedestrian and bicycle crashes based on age, gender, time of day or year, and other factors
- Gain a better overall understanding of the causes and actions that lead to pedestrian and bicycle crashes.

How this information can be used

- Assist in the development of appropriate multimodal transportation policy, and in particular inform the pedestrian and bicycle master planning process and other transportation planning efforts
- Consider countermeasure projects to reduce specific types of crashes at specific locations
- Isolate and address system-wide issues that lead to pedestrian and bicycle crashes
- Influence the design of new pedestrian and bicycle facilities in developing neighborhoods, and the redesign of roadways in existing neighborhoods to be more accommodating of pedestrians and bicyclists
- Work with law enforcement to develop targeted enforcement campaigns for motorists, bicyclists, and pedestrians to reduce the incidence of behaviors and actions that lead to crashes
- Develop targeted education programs for pedestrians, bicyclists, and motorists
- Establish targets and measure performance for reducing bicycle and pedestrian crashes.

Definition of a crash

Crashes included in this report are incidents that meet one or more of the following criteria:

- The incident involved one or more motor vehicles, at least one of which was in transport
- The incident resulted in injury or death of any person involved in the incident, damage to property in excess of one thousand dollars, or issuance of a citation by law enforcement to one or more of the parties involved in the incident

What is not included in this information

- Incidents involving a single bicyclist or pedestrian and no motor vehicles. Examples might include a bicyclist hitting a parked car, a pedestrian slipping on ice, or a bicyclist running into a pothole and going over the handlebars.
- Crashes between bicyclists and pedestrians or crashes between two bicyclists.
- Bicycle and pedestrian crashes with motor vehicles that but were not reported to ADOT because there was no injury, no citation issued, or damage to property was less than $1000, even if the incident was investigated by law enforcement
- Crashes involving bicycles and pedestrians that were not reported to law enforcement

- Crashes that occurred on private property, outside of the public right-of-way. For example, crashes in parking lots are not included

- Near misses, where a pedestrian or cyclist was in peril but not struck by a motor vehicle.

Terminology

In 1997, the National Highway Traffic Safety Administration (NHTSA) began a campaign to use the term "crashes" in place of "accidents." According to NHTSA, the term "accident" promotes the concept that these events are outside of human influence or control. The prevailing view is that motor vehicle crashes are predictable results of specific actions, and if the causes of crashes can be identified then positive steps can be taken to avoid collisions. This report uses the term "crashes" throughout and refrains from use of the term "accident."

Source of information

For incidents meeting the definition of a crash as described above, Arizona Revised Statutes (ARS) require an investigation by law enforcement and completion of a written report. In Arizona, all law enforcement agencies use the standard Arizona Crash Report form, which is attached to this document as an appendix.

After the crash report has been completed by law enforcement, it is submitted to the Arizona Department of Transportation (ADOT) Traffic Records Section. ADOT compiles the information into a database and makes it available back to local agencies through the Safety Data Mart.

The compiled crash information also includes geographic data (latitude-longitude coordinates), which allows the data to be analyzed with geographic information system (GIS) software.

Limitations

Crash data available through ADOT's Safety Data Mart includes an incredible amount of detail. In addition, the data is available for a long period of time – for this analysis 10 years of data was used – so there is a useful sample size and trends can be discerned. However, there are a number of limitations to using this data for in-depth crash analyses:

- There are inconsistencies in how law enforcement completes some parts of the form, and as a result some of the data may not be reliable as a source of information about the nature and causes of crashes.

- The geographic component of the data is not always accurate, and in some cases the location may have been miscoded. For this report the geographic data was reviewed for accuracy and corrected when errors were found.

- It is difficult to use the data to reconstruct the sequence of events that led to crashes. As a result it is not always possible to gain an in-depth understanding of the types and causes of crashes. For example the data may indicate a crash involving a right-turning vehicle and a pedestrian crossing the street, but it is more difficult to reconstruct the crash and determine exactly what happened.

- For much of the data there is not a point of comparison to crash data for other communities, or to state and nation-wide information. For example the data shows that bicycle theft is declining over time, but it does not indicate if theft is lower, higher, or about the same as other places.

- There is not good information in Flagstaff on numbers of walkers and bicyclists, especially at the intersection or street level, so it is not possible to determine crash rates or exposure. For many locations, a high number of crashes may be reflective of a large volume of walkers and bicyclists, but not necessarily indicative of a high crash rate. Where there are a high number of crashes, the number is as significant as the rate in that it is important to reduce the overall number of crashes regardless of the crash rate.

Other sources of crash and injury data

National

- Pedestrian and Bicycle Information Center, Pedestrian and Bicyclist Crash Statistics
- National Highway Traffic Safety Administration (NHTSA) Traffic Safety Facts - Pedestrians
- National Highway Traffic Safety Administration (NHTSA) Traffic Safety Facts – Bicyclists
- Insurance Institute for Highway Safety – Pedestrians and Bicyclists
- 2012 National Survey of Bicyclist and Pedestrian Attitudes and Behavior
- Fatality Analysis Reporting System (FARS)

State

- ADOT Pedestrian Safety Action Plan
- ADOT Bicycle Safety Action Plan
- Arizona Motor Vehicle Crash Facts

Local

- Flagstaff and NAU Police Departments
- Flagstaff Medical Center emergency room data
- Coconino County Public Health Services District
- BNSF railroad

Analysis tools

- Pedestrian and Bicycle Crash Analysis Tool (PBCAT)
- Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE)
- Bicycle Safety Guide and Countermeasure Selection System (BIKESAFE)

Cautionary note

Walking and bicycling are inherently safe. Nothing in this report should be used to construe that these activities are unsafe or to discourage walking and bicycling. All activities involve some level of risk, and in the case of walking and bicycling, the risks are relatively low when done properly. In addition the health benefits of walking and biking far outweigh the risk of injury from crashes.

Summary of findings

This report summarizes pedestrian and bicycle crashes with motor vehicles in the Flagstaff Metropolitan Planning Organization (FMPO) region for the 10-year period from 2005 to 2014. Significant findings from the data are described below.

Trends

- In the 10-year period from 2005 to 2014, there were there were a total of 366 motor vehicle crashes involving pedestrians and 691 motor vehicle crashes involving bicyclists, or an average of 37 pedestrian crashes and 69 bicycle crashes per year.
- Clear trends in pedestrian and bicycle crashes are not obvious, and the number jump around from year to year. However, trend lines seems to indicate that both pedestrian and bicycle crashes are increasing slightly over time as a percentage of all crashes. Bicycle crashes as a percentage of all crashes appear to be increasing more rapidly than pedestrian crashes.
- Pedestrian crashes represent 1.8 percent of all crashes, and bicycle crashes represent 3.4 percent of all crashes.

Age and gender

- Almost 60 percent of all pedestrian involved in crashes were between the ages of 18 and 44. For bicyclists, 45.6 percent of those involved in a crash were between the ages of 18 and 24.
- A significantly higher percentage of males were involved in crashes than females – 71.2 percent of bicyclists and 68.0 percent of pedestrians in crashes were male.

Geography

- Four districts in the region - Central South, East, West, and Central North - accounted for 83 percent of all pedestrian crashes and 87 percent of bicycle crashes.
- Most pedestrian and bicycle crashes were within City limits. Only 16 of 366 pedestrian crashes, and 5 out of 691 bicycle crashes occurred outside of city limits in the rural portion of the FMPO region.
- There were relatively few pedestrian and bicycle crashes on the NAU campus – only 13 pedestrian crashes and 17 bicycle crashes in 10 years.

Locations

- Four of the 8 intersections with the most pedestrian crashes are located along Milton Road. Nine of the 18 intersections with the most bicycle crashes are located along Route 66 or Milton Road.
- Three intersections are on both the pedestrian and bicycle lists of most crashes: Milton Road and Riordan Road, Milton Road and Butler Avenue, and Butler Avenue and San Francisco Street.
- Milton Road between University Drive and Route 66 was at the top of both the pedestrian and bicycle lists of street segments with the most pedestrian crashes.
- Milton Road or Route 66 accounted for 5 of the 11 street segments with the most pedestrian crashes, and 5 of the top 11 street segments with the most bicycle crashes.
- Seven street segments are on both the pedestrian and bicycle list of most crashes

Environmental conditions

- Just under half (49.5 percent) of all pedestrian crashes were in dark conditions or at dawn or dusk.

When crashes occur

- Peak months for pedestrian crashes were August, September, and October; and January and February. Peak months for bicycle crashes were August, September, and October.

Roadway factors

- For both pedestrian and bicycle crashes, about half (49.3 percent of pedestrian crashes, 53.3 percent of bicycle crashes) were located at or in proximity to an intersection.
- For a little more than a third of crashes (34.8 percent of pedestrian, 36.3 percent of bicycle crashes), the driver was not subject to any form of traffic control. In almost half of crashes (47.6 percent of pedestrian, 47.5 percent of bicycle), the pedestrian or bicyclist was not subject to any traffic control.

Injury severity

- Pedestrians and bicyclist were much more likely to incur serious and fatal injuries when involved in a crash. Among all crashes, 0.4 percent were fatal, and 2.6 percent resulted in incapacitating injuries. By comparison, 0.7 percent of bike crashes were fatal, and 8.5 percent resulted in incapacitating injuries. For pedestrians, 1 crash in 10 (9.8 percent) was fatal, and 17.2 percent resulted in incapacitating injuries.

- Pedestrian and bicyclists were much more likely to be injured when a crash occurs. For all crashes, more than three-quarters (76.9 percent) did not result in an injury (property damage only). One-fourth (27.2 percent) of bicyclists, and only 14.5 percent of pedestrians in a crash were uninjured.

- Within the city, bicycle crashes accounted for 1 in 11 fatalities (9.1 percent), and pedestrian crashes accounted for almost half (49.1 percent) of all fatal crashes.

Fault and violations

- For pedestrian crashes, the driver was determined to be most at fault in about two-thirds (64.8 percent) of crashes, and the pedestrian was at fault in the other one-third (35.2 percent). For bicycle crashes, the driver was at fault in just over half (53.5 percent) of crashes, and the bicyclist was at fault in just under half (46.5 percent).

- Alcohol was an influence for pedestrians in a significant number of crashes (23.2 percent).

- Two in 5 drivers in pedestrian and bicycle crashes were faulted with either inattention/distraction (20.2 percent of pedestrian crashes, 23.2 percent of bicycle crashes) or failure to yield the right-of-way (19.9 percent of pedestrian crashes, 22.1 percent of bicycle crashes) as a cause of the crash.

- In one-fifth of pedestrian crashes (19.4 percent), pedestrians did not use a crosswalk.

- In 8.5 percent of bicycle crashes, the bicyclist was riding in the opposing traffic lane.

- In 1 out of every 5 pedestrian crashes (21.9 percent), the driver fled the scene of the crash (hit and run).

Action before crash

- The driver was making a right turn in 2 out of every 5 bicycle crashes.

- The driver was traveling straight ahead in just under half (48.7 percent) of all pedestrian crashes.

- Most pedestrians involved in a crash (64.8 percent) were crossing the road.

- Most bicyclists in a crash (64.8 percent) were going straight ahead.

Bicycle theft

- There were an average of 181 reported thefts per year in the city of Flagstaff, and 94 per year on the NAU campus. Overall, bicycle theft trend lines are declining.

Recommendations for next steps

Continue collection of crash data

- Once per year, crash data for the previous year should be obtained from ADOT's Safety Data Mart and integrated into the City's GIS data structure. The GIS data should be made available to all of the agencies that are part of the FMPO (City of Flagstaff, Coconino County, ADOT, and NAIPTA).
- Each year, crash data for the previous year should be reviewed and summarized in an annual addendum or update to this report.
- The annual analysis should monitor trends in crashes, as well as review crash characteristics and locations for significant variation from 10-year averages, to identify potential issues

Add to information

- Work with other agencies and organizations to collect additional data that complements and enhances this information, including the Flagstaff and NAU police departments, Coconino County Public health Services District, Flagstaff Medical Center, North Country Health Care, and the BNSF railroad.

More in-depth analysis of the data

- Conduct a more detailed analysis of high crash locations to identify common crash types, causes, and conditions by individual location. This will help indicate appropriate counter measures to reduce crashes at that location.
- Perform a locational analysis for common crash types or conditions, for example nighttime pedestrian crashes or right-turn bicycle crashes, to determine if there are places where the issue is more frequent.
- Consider using the Pedestrian and Bicycle Crash Analysis Tool (PBCAT) to identify specific types and causes of pedestrian and bicycle crashes. PBCAT requires more detailed information than what is available in the compiled crash data from Safety Data Mart. As a result it may be necessary to obtain individual crash reports.
- Consider ADOT's Road Safety Assessment procedure for high crash locations. The assessment process is a formal, in-depth analysis conducted by an inter-disciplinary team of experts that generates recommendations to address specific issues for that location.

Collect information to gauge exposure and determine crash rates

- Continue to monitor mode share trends for walking and biking (see Working Paper 3) to compare walking and biking trends to crash trends.

- Explore options for collecting pedestrian and bicycle count data, such as estimating pedestrian and bicycle activity in the regional traffic model, including pedestrians and bicyclists in the City's on-going traffic counts program, and using volunteers to conduct annual pedestrian and bicycle counts at specific locations. This will enable calculation of crash rates and normalize crash totals to levels walking and biking activity.

Share crash information

- Crash information in this report should be made available to a wide group of stakeholders and the public, to promote the development of collective solutions. Potential stakeholders include City, County, and ADOT planning and engineering staff, local and state bicycle advocacy groups, Flagstaff and NAU police departments, the Coconino County Public Health Services, and other public health advocates.

Use this data for on-going evaluation and performance monitoring

- The information in this report provided a sound basis for establishing realistic goals and targets for reducing crashes. Targets can be structured to include an overall goal for reducing pedestrian and bicycle crashes, as well as specific targets for certain crash types. For example there should be a target set for reduction of serious injury and fatal pedestrian and bicycle crashes. Targets should be set for a medium-term time frame.

- Before and after crash studies should be conducted where counter measures or other pedestrian and bicycle enhancements have been installed, to gauge the effectiveness of the enhancements. This can be done for enhancements at specific locations, or city-wide for systematic projects.

- Before and after data can also be reviewed to evaluate program elements; for example comparing crash number before and after a targeted enforcement or education campaign.

Develop detailed recommendations to reduce crashes

- Pedestrian and bicycle crash information in this document should aid in the formation of appropriate multi-modal transportation policy, not only for the pedestrian and bicycle master plan, but also in other on-going transportation planning efforts like the Regional Transportation Plan update, the Milton corridor study, and the bus rapid transit feasibility study.

- The information should also be used to outline a program of more detailed countermeasures, which would include capital projects to address specific problems, changes to planning and engineering standards to create safer environments, and program and practice recommendations to address broader, systematic concerns.

- This information can be used to identify safety projects that are eligible for Highway Safety Improvement Program funding through the FMPO.

Crashes by year and trend data

Crashes over time

Tables 1 and 2 and Figure 1 show the number of pedestrian and bicycle crashes for each year from 2005 to 2014 in the FMPO region. Figure 2 shows the number of all vehicle crashes in the FMPO region by year.

- For this 10 year period, there were a total of 366 crashes involving pedestrians and 691 crashes involving bicyclists, or an average of 37 pedestrian crashes and 69 bicycle crashes per year.
- By comparison, there were a total of 23,035 crashes of all types in the FMPO region, or an average of 2,304 crashes per year.
- Trends in pedestrian and bicycle crashes over time are not obvious from this data, although both pedestrian and bicycle crashes seem to follow the same general pattern of ups and downs from year to year.
- Trends for all crashes in the FMPO are a little easier to discern. There was a significant drop in crashes between 2008 and 2009, and the number of crashes since 2009 has remained relatively flat.

Maps 1 and 2 at the end of this chapter illustrate the geographic distribution of crashes across the city. Red indicates areas with the highest concentration of crashes.

Table 1 **Pedestrian crashes by year**

	Number	*All crashes*
2005	52	2,752
2006	25	2,720
2007	53	2,720
2008	35	2,586
2009	26	2,014
2010	37	2,097
2011	32	1,960
2012	31	2,070
2013	30	2,081
2014	45	2,035
Total	366	23,035
Average	37	2,304

Table 2 **Bicycle crashes by year**

	Number	*All crashes*
2005	72	2,752
2006	51	2,720
2007	81	2,720
2008	87	2,586
2009	43	2,014
2010	65	2,097
2011	73	1,960
2012	82	2,070
2013	65	2,081
2014	72	2,035
Total	691	23,035
Average	69	2,304

Figure 1 **Pedestrian and bicycle crashes by year**

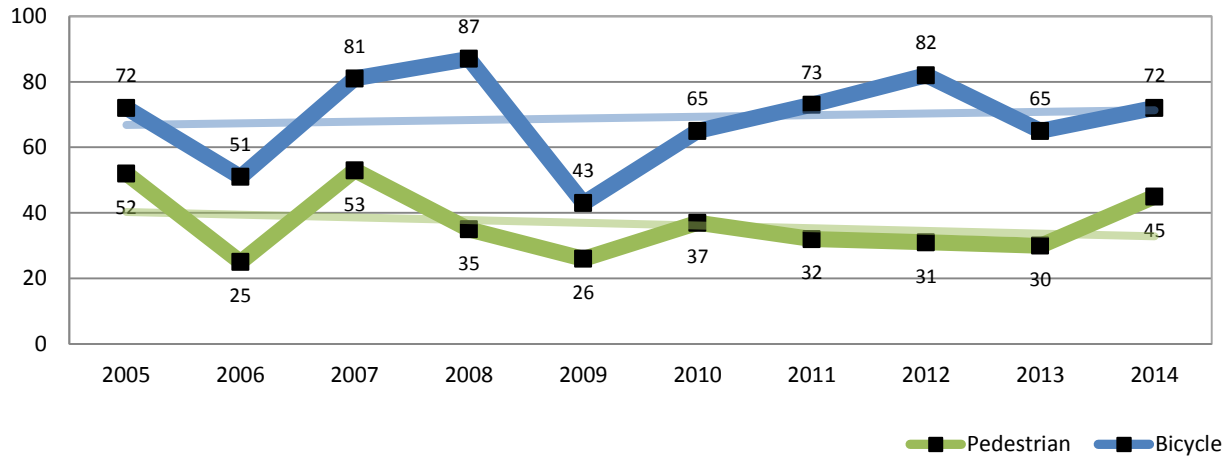
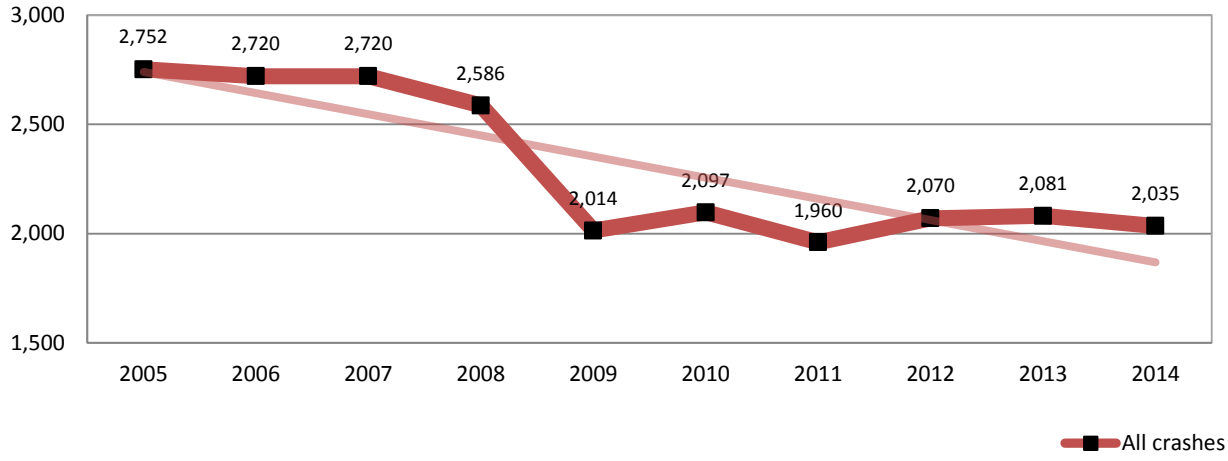


Figure 2 **All crashes by year (FMPO)**



As a percentage of all crashes

Tables 3 and 4 and Figure 3 show pedestrian and bicycle crashes as a percentage of all crashes for each year between 2005 and 2014. Because there were very few pedestrian and bicycle crashes in the FMPO region outside of City limits, this data includes only those crashes which occurred within the City to provide more representative numbers.

- During the 10-year period, pedestrian crashes represent 1.8 percent of all crashes, and ranged from a low of 1.0 percent in 2006 to a high of 2.5 percent of all crashes in 2014.
- Bicycle crashes represent 3.4 percent of all crashes during the 10-year period, and range from a low of 2.1 percent in 2006 to a high of 4.5 percent in 2012.

- Trend lines seem to indicate that both pedestrian and bicycle crashes are increasing slightly over time as a percentage of all crashes. Bicycle crashes as a percentage of all crashes appear to be increasing more rapidly than pedestrian crashes.

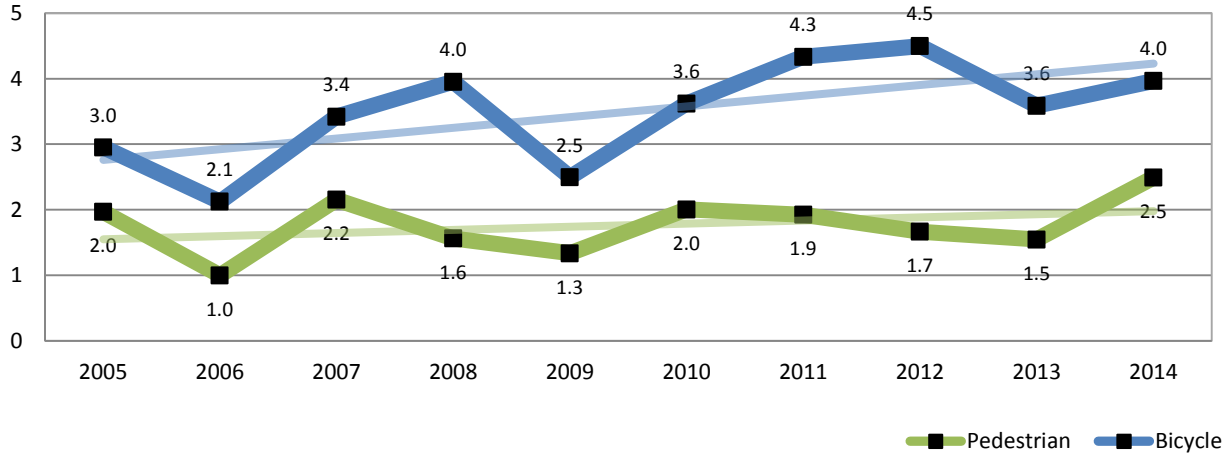
Table 3 **Pedestrian crashes as a percentage of all crashes (Flagstaff)**

	Number	*All crashes*	*Percent*
2005	48	2,438	2.0
2006	24	2,400	1.0
2007	51	2,368	2.2
2008	34	2,176	1.6
2009	23	1,722	1.3
2010	36	1,795	2.0
2011	32	1,662	1.9
2012	30	1,801	1.7
2013	28	1,812	1.5
2014	44	1,766	2.5
Total	350	19,940	1.8
Average	35	1,994	

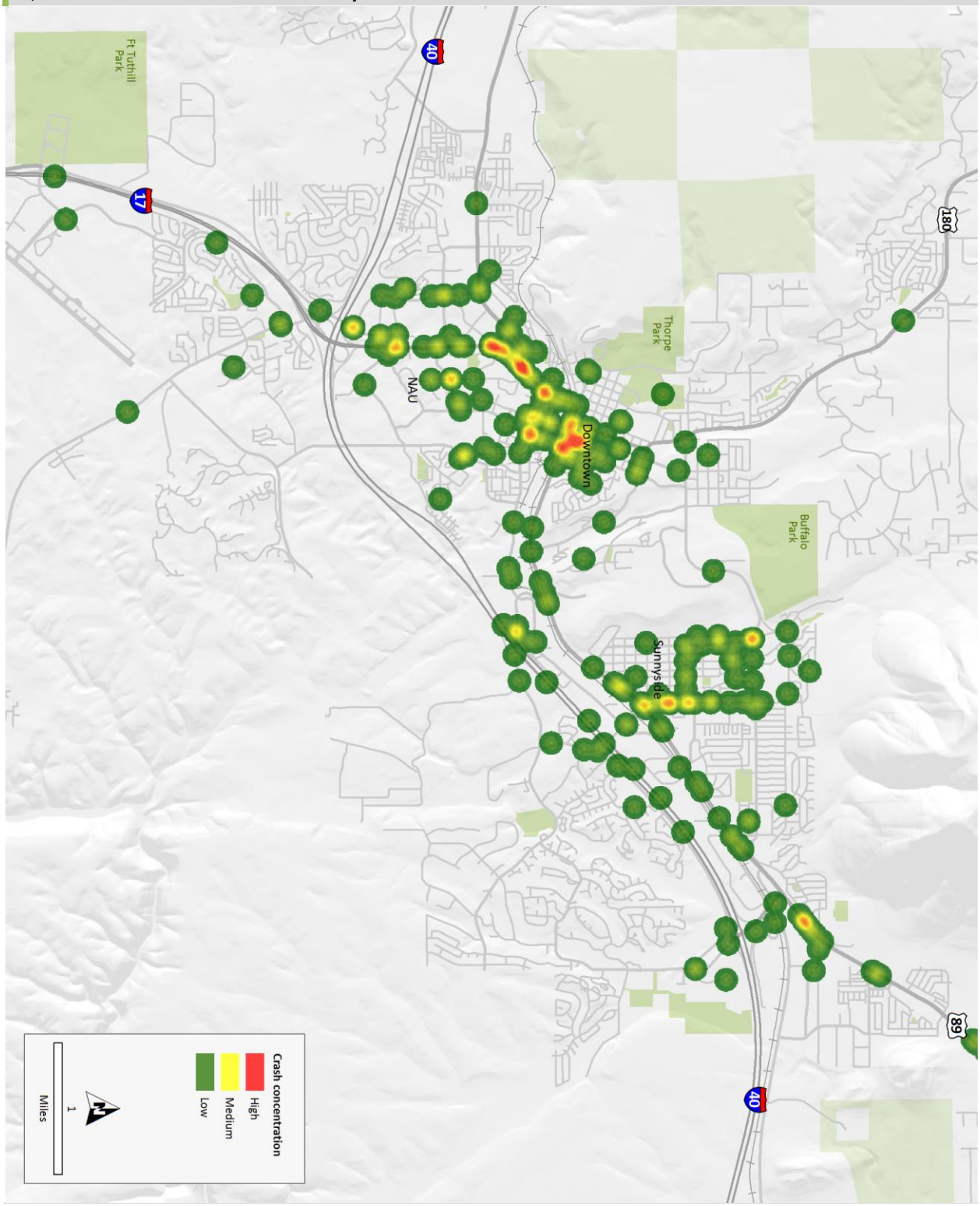
Table 4 **Bicycle crashes as a percentage of all crashes (Flagstaff)**

	Number	*All crashes*	*Percent*
2005	72	2,438	3.0
2006	51	2,400	2.1
2007	81	2,368	3.4
2008	86	2,176	4.0
2009	43	1,722	2.5
2010	65	1,795	3.6
2011	72	1,662	4.3
2012	81	1,801	4.5
2013	65	1,812	3.6
2014	70	1,766	4.0
Total	686	19,940	3.4
Average	69	1,994	

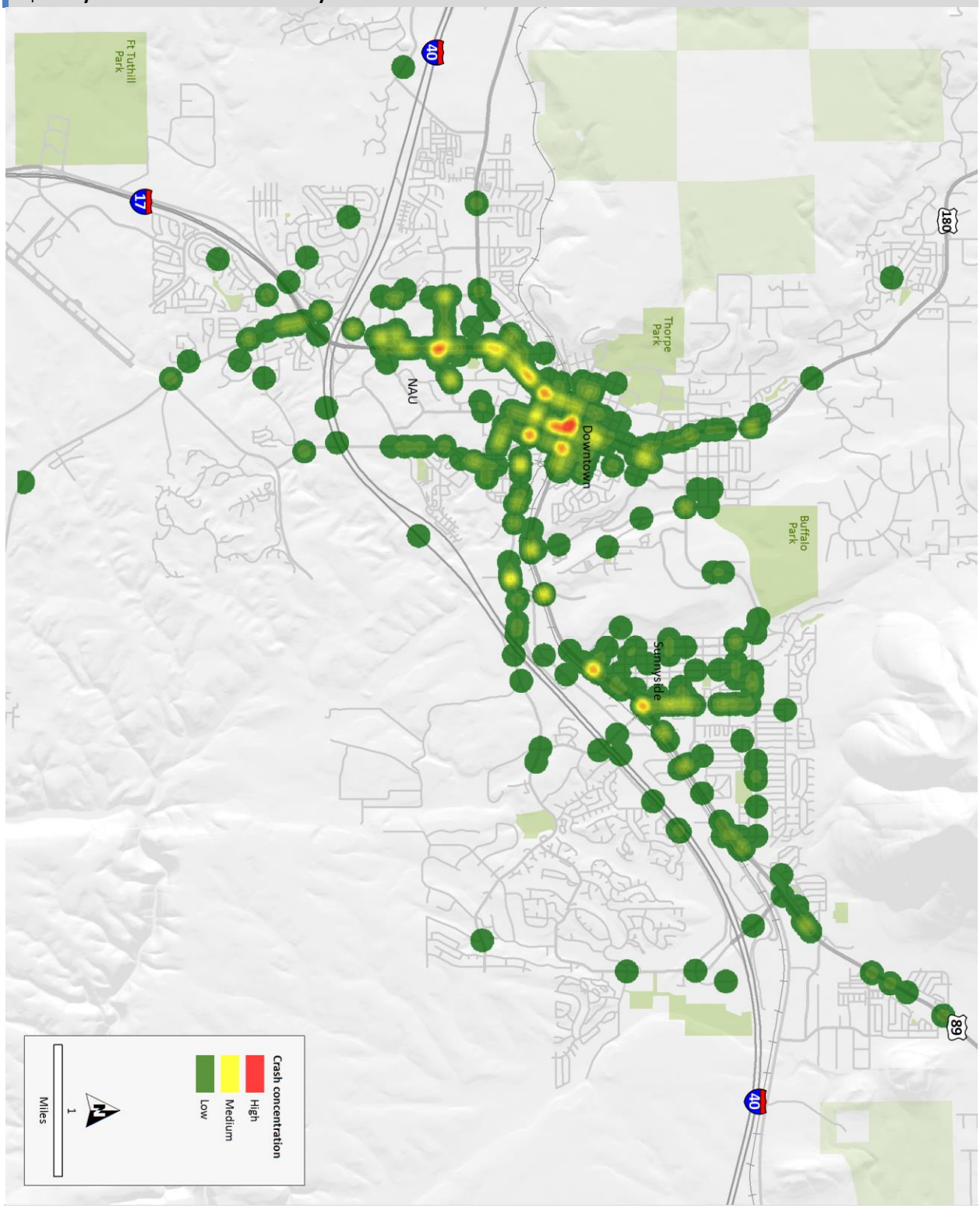
Figure 3 **Pedestrian and bicycle crashes by year as a percentage of all crashes (Flagstaff)**



Map 1 **Pedestrian crashes – kernel density**



Map 2 **Bicycle crashes – kernel density**



Age and gender

Age of pedestrians and bicyclists

Tables 5 and 6 and Figure 4 provide generalized age categories for pedestrians and bicyclists involved in crashes. Figure 4 adds a column representing the same age categories for the entire population of Flagstaff, which shows if certain age groups are over or under represented in pedestrian and bicycle crashes.

- Almost 60 percent (58.2 percent) of all pedestrian involved in crashes were between the ages of 18 and 44.
- For bicyclists, 45.6 percent of those involved in a crash were between the ages of 18 and 24.
- The median age of pedestrians in crashes was 27, and the median age of bicyclists was 23. The median age of the general population of Flagstaff is 26.
- The percentage of pedestrians in crashes in each age group tends to fairly closely match the age distribution of the general population.
- Bicyclists in crashes were significantly overrepresented in the 18 to 24 age group, and somewhat underrepresented in the 17 and under, 45 to 64, and 65 and older categories.

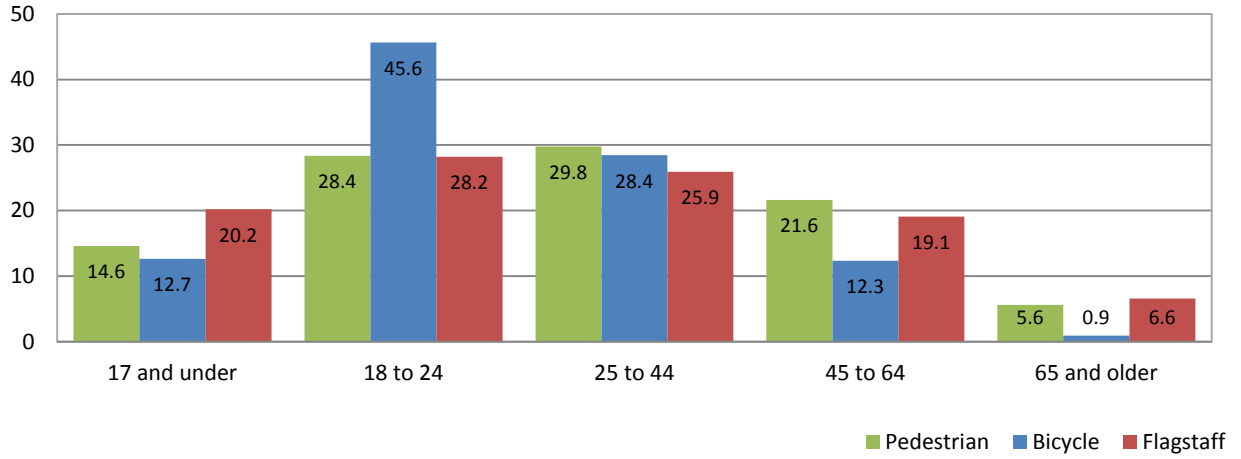
Table 5 **Age of pedestrians in crashes**

	Number	*Percent*
17 and under	52	14.6
18 to 24	101	28.4
25 to 44	106	29.8
45 to 64	77	21.6
65 and older	20	5.6
Total	356	100.0
Age range	2 to 92	
Median age	27	

Table 6 **Age of bicyclists in crashes**

	Number	*Percent*
17 and under	81	12.7
18 to 24	292	45.6
25 to 44	182	28.4
45 to 64	79	12.3
65 and older	6	0.9
Total	640	100.0
Age range	3 to 81	
Median age	23	

Figure 4 **Age of pedestrians and bicyclists in crashes**



Gender of pedestrians and cyclists

Tables 7 and 8, and Figure 5 indicate the gender of pedestrians and bicyclists involved in crashes with motor vehicles.

- A significantly higher percentage of males were involved in crashes than females – 71.2 percent of bicyclists and 68.0 percent of pedestrians in crashes were male. By comparison, Flagstaff's overall population is 50.2 percent female and 49.8 percent male.

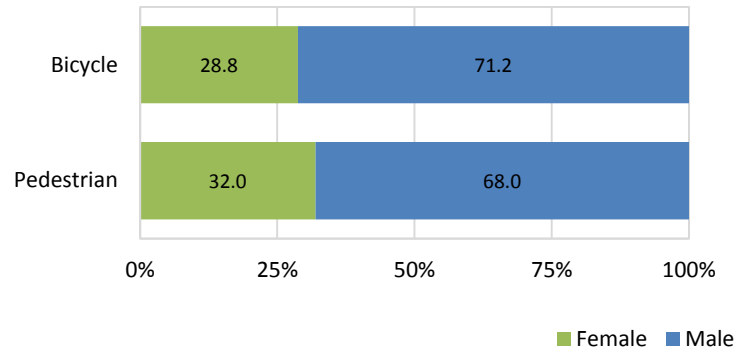
Table 7 **Gender of pedestrians in crashes**

	Number	*Percent*
Female	117	32.0
Male	249	68.0
Total	366	100.0

Table 8 **Gender of bicyclists in crashes**

	Number	*Percent*
Female	194	28.8
Male	480	71.2
Total	674	100.0

Figure 5 **Gender of pedestrians and bicyclists in crashes**



Geography

Crashes by district

Tables 9 and 10 include the number of pedestrian and bicycle crashes for 15 different districts within the FMPO region. This analysis indicates if pedestrian and bicycle crashes are concentrated more heavily in certain parts of the city or region. As a point of comparison, crashes of all types by district are provided in Table 11. Maps 3 and 4 show numbers of bicycle and pedestrian crashes for each district.

- For pedestrian, bicycle, and crashes of all types, the four districts with the highest number of crashes are Central South, East, West, and Central North. The four districts are also in the same order in each of the tables.
- These four districts account for 83 percent of all pedestrian crashes and 87 percent of bicycle crashes.
- More than half of pedestrian and bicycle crashes (52.5 percent of pedestrian, and 57.6 percent of bicycle crashes) occurred in the Central South and East districts.

Table 12 includes pedestrian and bicycle crashes as a percentage of all crashes by district, and reveals whether pedestrian or bicycle crashes are a disproportionate percentage of all crashes in any district.

- For pedestrian crashes, districts with the highest percentage are East and Central North

Table 9 **Pedestrian crashes by district**

	Number	*Percent*
Central South	97	26.5
East	95	26.0
West	57	15.6
Central North	54	14.8
Northeast	20	5.5
Southeast	15	4.1
Doney Park - Timberline	10	2.7
South	7	1.9
Bellemont	3	0.8
Kachina Village - Mountainaire	2	0.5
Northwest	2	0.5
Cosnino - Winona	1	0.3
Fort Valley	1	0.3
Lake Mary	1	0.3
Southwest	1	0.3
Total	366	100.0

Table 10 **Bicycle crashes by district**

	Number	*Percent*
Central South	259	37.5
East	139	20.1
West	104	15.1
Central North	99	14.3
South	28	4.1
Northeast	18	2.6
Northwest	18	2.6
Southeast	12	1.7
Southwest	8	1.2
Doney Park - Timberline	2	0.3
Bellemont	1	0.1
Cosnino - Winona	1	0.1
Fort Valley	1	0.1
Lake Mary	1	0.1
Kachina Village - Mountainaire	0	0.0
Total	691	100.0

Table 11 **All crashes by district**

	Number	*Percent*
Central South	5,532	24.0
East	4,031	17.5
West	3,084	13.4
Central North	2,457	10.7
Northeast	1,575	6.8
Southeast	1,201	5.2
Doney Park - Timberline	890	3.9
Southwest	871	3.8
South	828	3.6
Cosnino - Winona	596	2.6
Bellemont	546	2.4
Kachina Village - Mountainaire	499	2.2
Fort Valley	412	1.8
Northwest	390	1.7
Lake Mary	124	0.5
Total	23,036	100.0

Table 12 **Pedestrian and bicycle crashes as a percentage of all crashes by district**

	Ped	*Bike*
Bellemont	0.5	0.2
Central North	2.2	4.0
Central South	1.8	4.7
Cosnino - Winona	0.2	0.2
Doney Park - Timberline	1.1	0.2
East	2.4	3.4
Fort Valley	0.2	0.2
Kachina Village - Mountainaire	0.4	0.0
Lake Mary	0.8	0.8
Northeast	1.3	1.1
Northwest	0.5	4.6
South	0.8	3.4
Southeast	1.2	1.0
Southwest	0.1	0.9
West	1.8	3.4
Total	1.6	3.0

Crashes by geographic area

Tables 13, 14 and 15 divides crashes in the region into the three geographic areas used in the FMPO's Trip Diary Survey – core, rest of Flagstaff, and rest of the FMPO. In some ways, these geographic areas represent urban, suburban, and rural development patterns, and provide a better understanding of how context may affect crashes.

The core area generally covers neighborhoods in the central part of Flagstaff, including Downtown, Southside, the NAU campus, Woodlands Village, Brannen Homes, Cherry Hill, north of downtown, Noho, Coconino Estates, Townsite, and La Plaza Vieja.

The rest of Flagstaff covers the remainder of Flagstaff within City limits but outside the Core, and the rest of the FMPO comprises the area within the FMPO boundaries but outside of City limits, including the communities of Kachina Village, Mountainaire, Winona, Cosnino, Doney Park, Timberline, Fort Valley, and Bellemont.

- Only 16 pedestrian crashes (less than 5 percent of the total) and 5 bicycle crashes (less than 1 percent of the total) were outside City limits in the rural portion of the FMPO region.

- The Core area includes more than half of all pedestrian crashes, and almost two-thirds of all bicycle crashes. The Core area also has a significantly higher percentage of walk and bike trips, according to the FMPO Trip Diary Survey.

Table 13 **Pedestrian crashes by geographic area**

	Number	*Percent*
Core	191	52.2
Rest of city	159	43.4
Rest of FMPO	16	4.4
	366	100.0

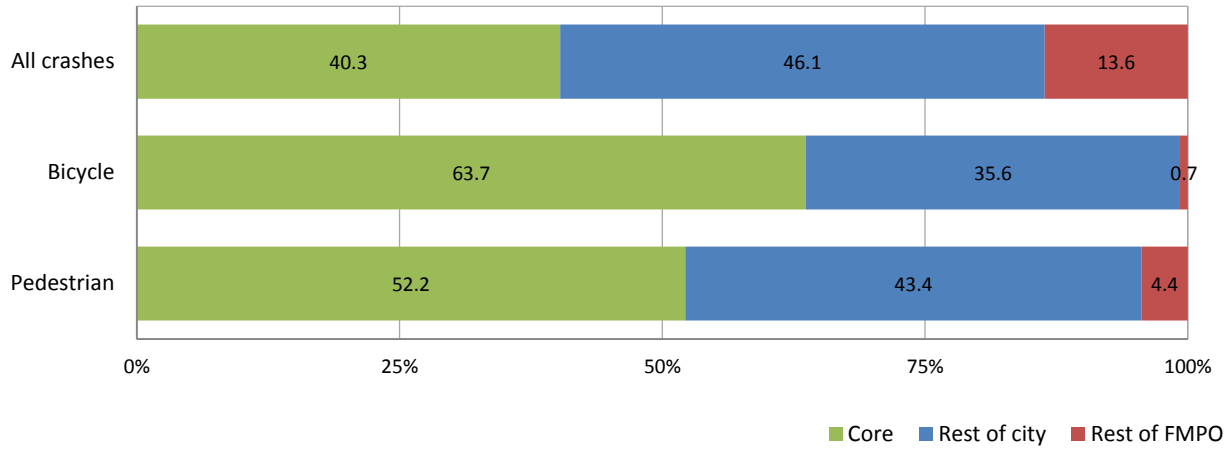
Table 14 **Bicycle crashes by geographic area**

	Number	*Percent*
Core	440	63.7
Rest of city	246	35.6
Rest of FMPO	5	0.7
	691	100.0

Table 15 **All crashes by geographic area**

	Number	*Percent*
Core	9281	40.3
Rest of city	10620	46.1
Rest of FMPO	3134	13.6
	23035	100.0

Figure 6 **Crashes by geographic area**



Crashes on the NAU campus

Table 16 represents crashes that occurred on the NAU campus for the 10-year period from 2005 to 2015. The first column shows the number of crashes on campus during the 10 years, and the second column shows pedestrian and bicycle crashes as a percentage of all motor vehicle crashes on campus. The fourth column indicates pedestrian and bicycle crashes on campus as a percentage of the total number of crashes in the city of Flagstaff.

- Relatively few pedestrian and bicycle crashes occurred on campus – only 13 pedestrian crashes and 17 bicycle crashes over a 10-year period.

- Pedestrian crashes make up 1.5 percent of all the crashes on the NAU campus, and 1.8 percent of all crashes in the city (see Table 3).

- Bicycle crashes represent 2.0 percent of all crashes on campus, and 3.4 percent of all crashes in the city (see Table 4).

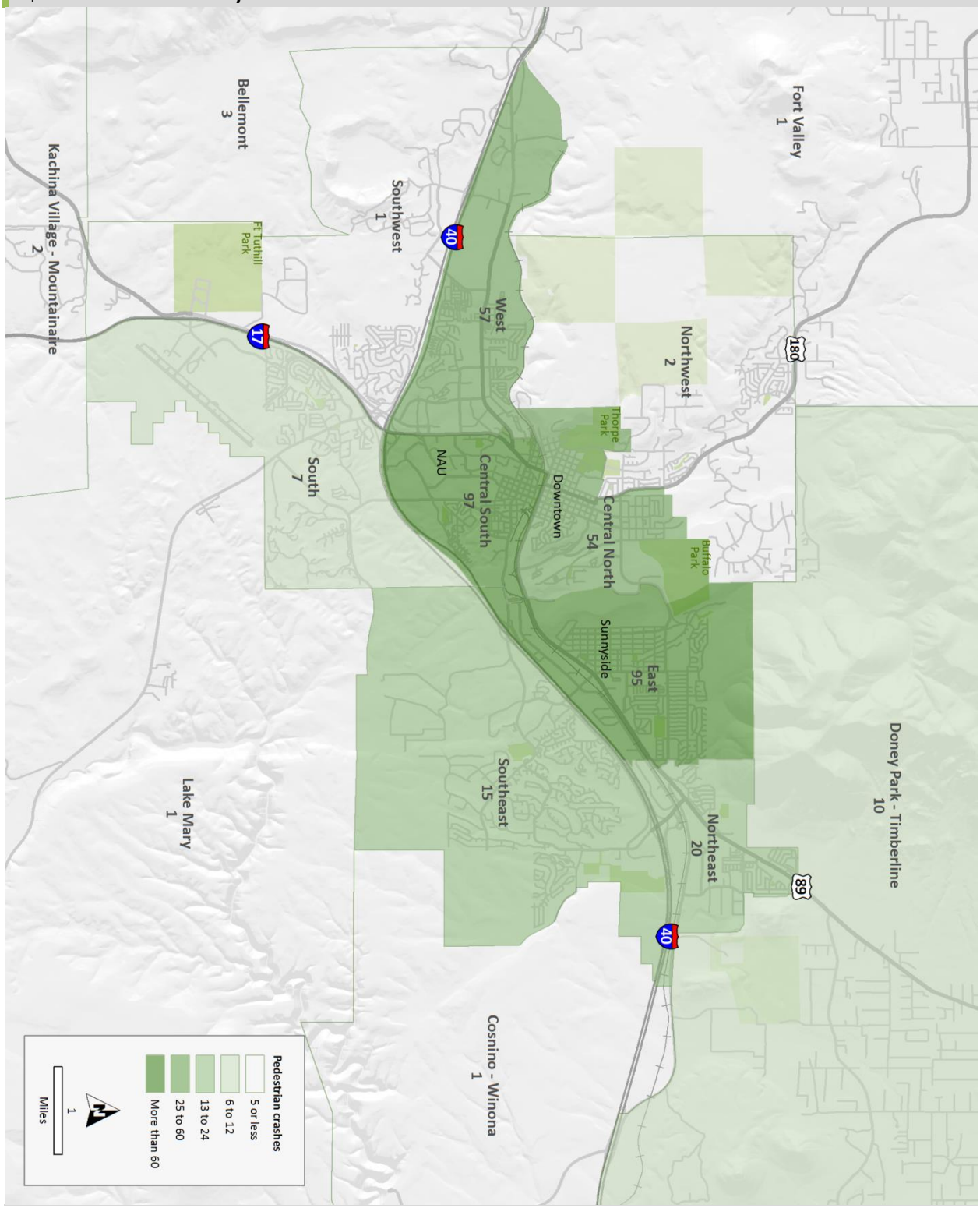
- For all motor vehicle crashes in Flagstaff, a total of 4.4 percent occurred on campus. By comparison, only 3.7 percent of Flagstaff's pedestrian crashes and 2.5 percent of bicycle crashes occurred on campus.

- This information indicates that pedestrian and bicycle crashes with motor vehicles are statistically less likely on campus than in the rest of the city.

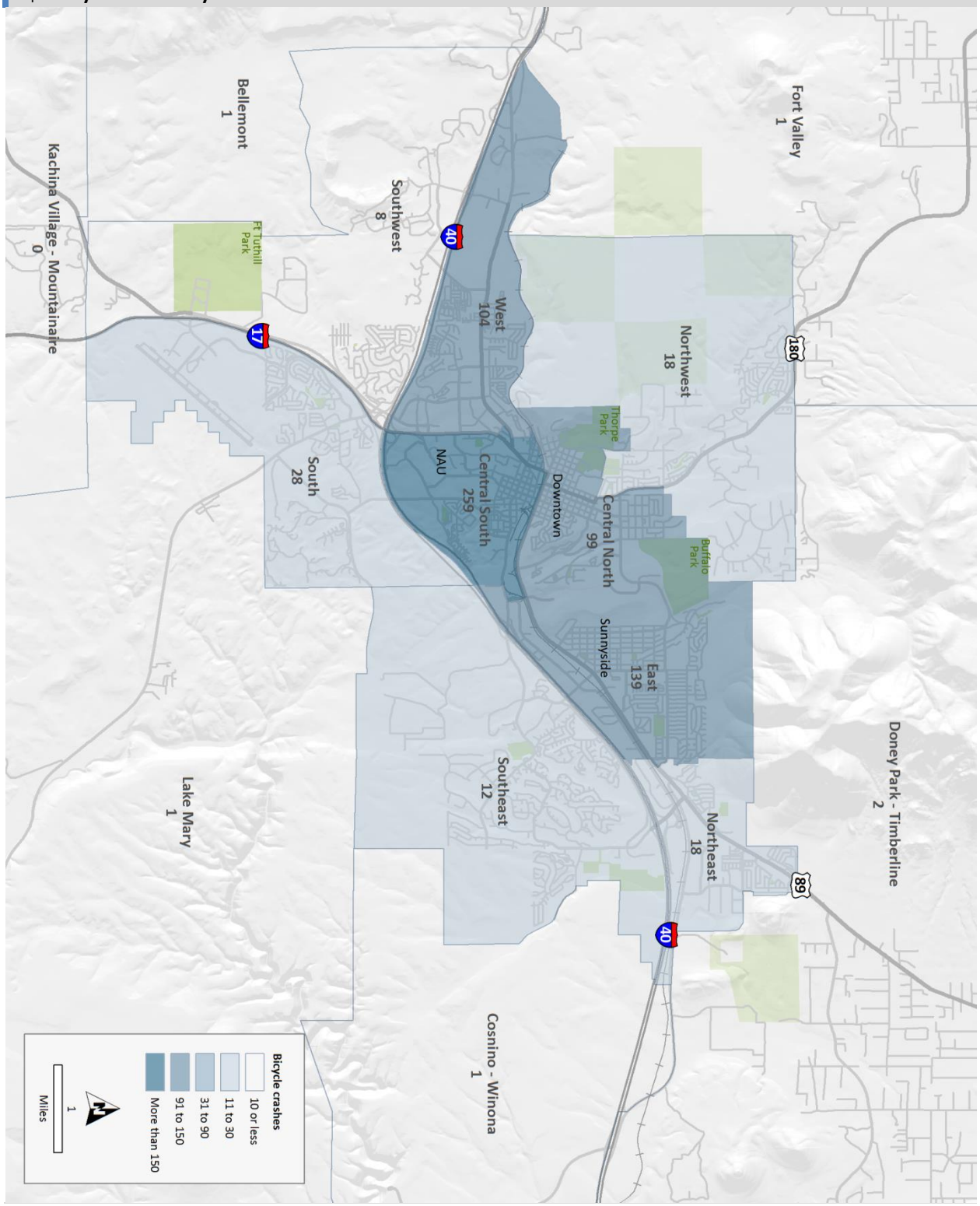
Table 16 **Crashes on the NAU campus**

	Number	*Percent of NAU crashes*	*All crashes*	*Percent of all crashes*
Pedestrian	13	1.5	350	3.7
Bicycle	17	2.0	686	2.5
Other crashes	825	96.5	18,218	4.5
Total	855	100.0	19,254	4.4

Map 3 **Pedestrian crashes by district**



Map 4 **Bicycle crashes by district**



Crash locations

Intersections with the highest number of crashes

Tables 17 and 18 list intersections with the highest number of pedestrian and bicycle crashes over the 10-year period from 2005 to 2014. All intersections with at least one pedestrian or bicycle crash are illustrated on Maps 5 and 6.

- Pedestrian crashes are somewhat evenly distributed; no single intersection had more than 6 pedestrian crashes in the 10-year period.
- Four of the intersections with the most pedestrian crashes are located along Milton Road.
- Six of the intersections with the most bicycle crashes are located along Route 66, and three are located on Milton Road.
- Three intersections are on both the pedestrian and bicycle list: Milton Road and Riordan Road, Milton Road and Butler Avenue, and Butler Avenue and San Francisco Street.

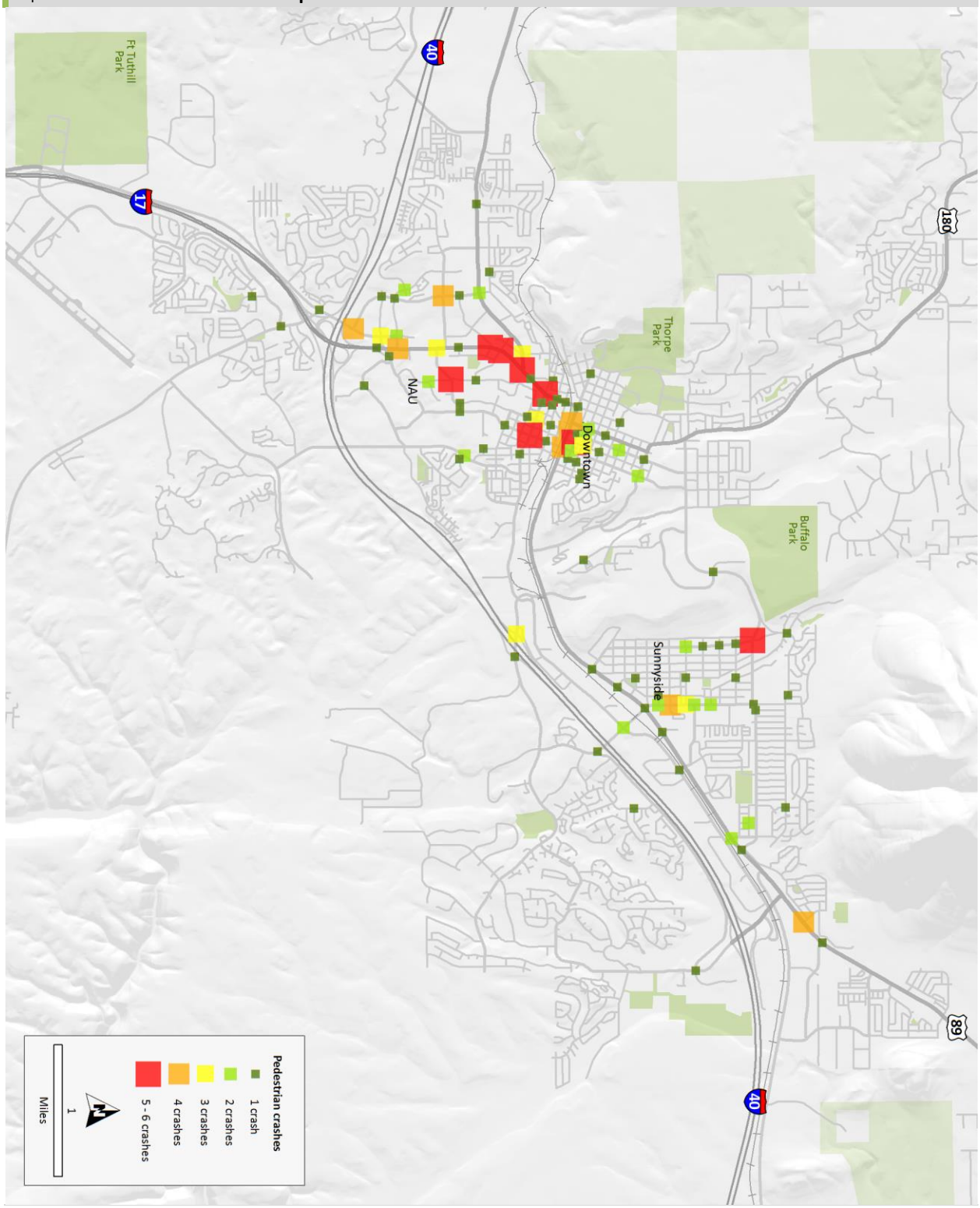
Table 17 **Intersections with most pedestrian crashes**

	Crashes
Milton Rd / Plaza Way	6
Aspen Ave /Leroux St	6
Milton Rd / Riordan Rd	5
University Dr / Knoles Dr	5
Cedar Ave / West St	5
Milton Rd / Route 66	5
Milton Rd / Butler Ave	5
Butler Ave / San Francisco St	5

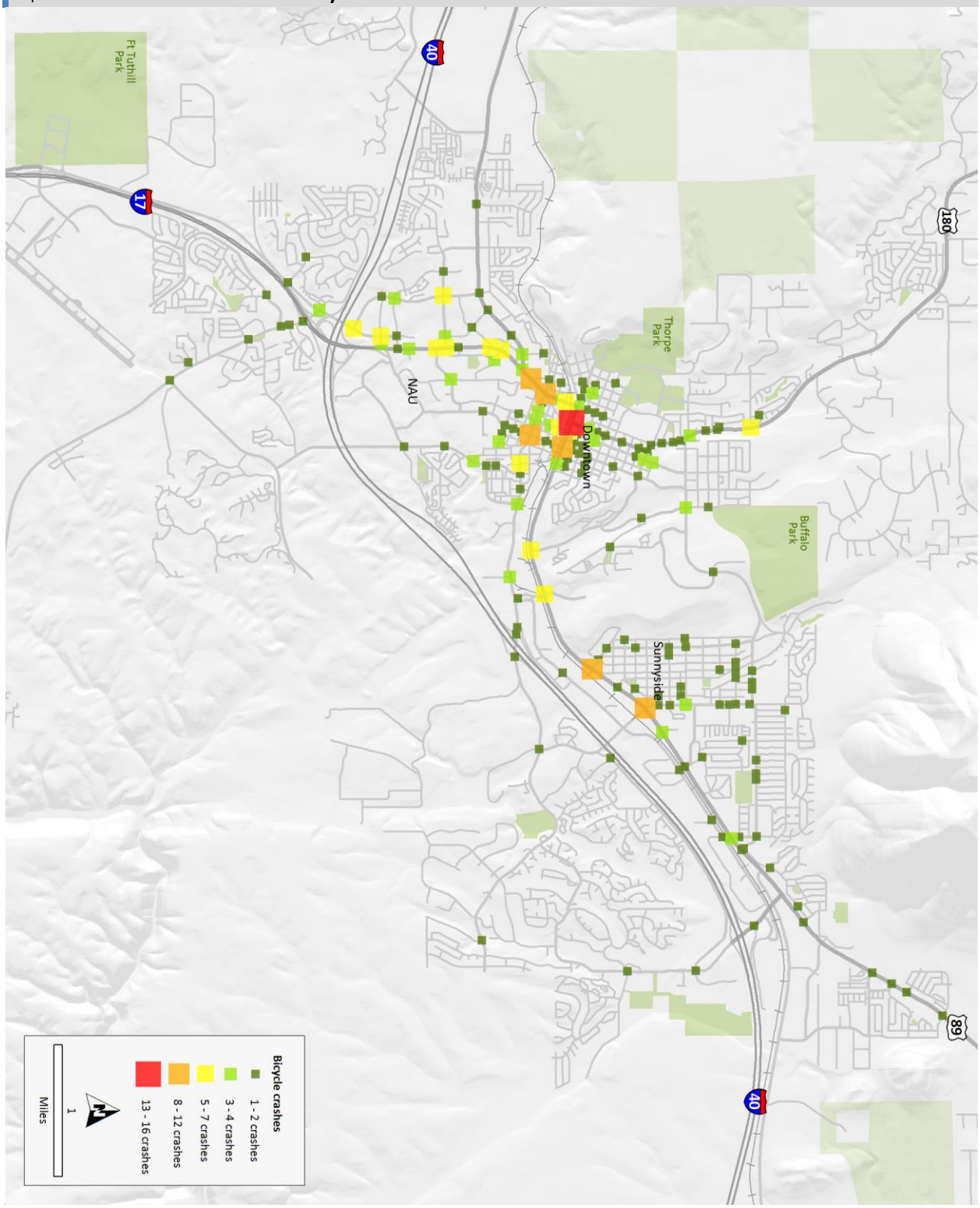
Table 18 **Intersections with most bicycle crashes**

	Crashes
Route 66 / Humphreys St	16
Milton Rd / Butler Ave	12
Butler Ave / San Francisco St	11
Route 66 / San Francisco St	10
Route 66 / Fourth St	10
Milton Rd / Malpais Ln	9
Route 66 / Arrowhead Ave	8
Beaver St / Phoenix Ave	7
Route 66 / Beaver St	7
Woodlands Village Blvd / University Ave	6
Milton Rd / Riordan Rd	6
Butler Ave / Elden St	6
Route 66 / Ponderosa Pkwy	6

Map 5 **Intersections with the most pedestrian crashes**



Map 6 **Intersections with the most bicycle crashes**



Street segments with the highest number of crashes

Tables 19 and 20 list street segments with the highest number of pedestrian and bicycle crashes over the 10-year period from 2005 to 2014. The total number of crashes listed includes crashes along the street at locations in between intersections, in addition to crashes that occurred at intersections along the street segment. All street segments with at least one pedestrian or bicycle crash are illustrated on Maps 7 and 8.

- For pedestrian crashes, Milton Road from University Drive to Route 66 stands out with a total 29 crashes in 10 years. The next highest pedestrian crash total is 16. This segment also saw the highest number of bicycle crashes (45).

- Five of the street segments with the most pedestrian crashes are on Milton Road or Route 66. Five of the segments with the most bicycle crashes are also on Milton Road or Route 66.

- Three of the 11 street segments on the pedestrian list – Fourth Street, West Street, and Sixth Avenue – are located in the Sunnyside neighborhood.

- Seven street segments are on both the pedestrian and bicycle list:

  Milton Rd - University Dr to Route 66
  Butler Ave - Route 66 to San Francisco St
  Route 66 - Milton Rd to Butler Ave
  Fourth St - Route 66 to Seventh Ave
  Route 66 - Butler Ave to Humphreys St
  Route 66 - Humphreys St to Elden St
  San Francisco St - Butler Ave to Route 66

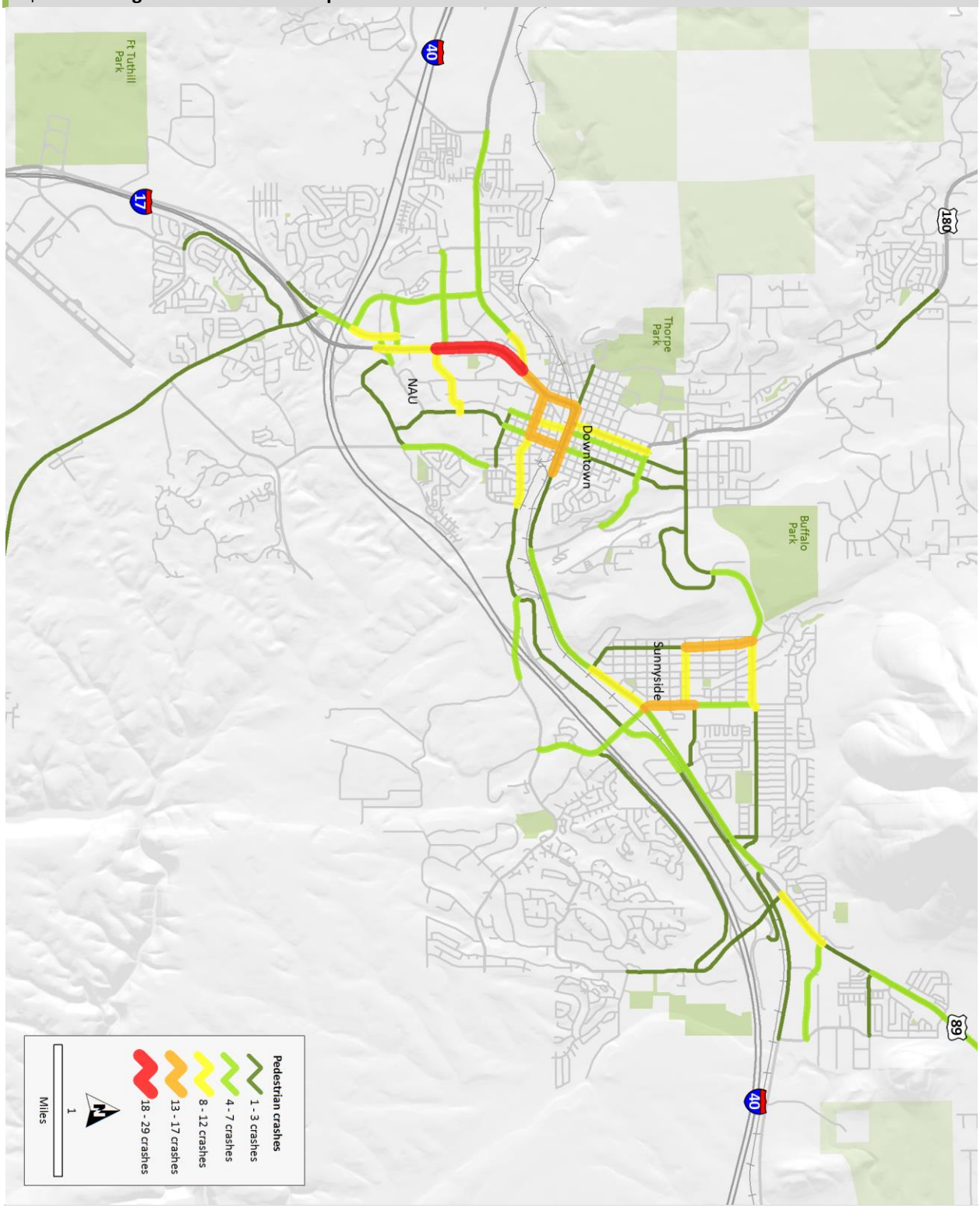
Table 19 **Streets with the most pedestrian crashes**

Street segment	*Crashes*
Milton Rd - University Dr to Route 66	29
Butler Ave - Route 66 to San Francisco St	16
Route 66 - Milton Rd to Butler Ave	16
Fourth St - Route 66 to Seventh Ave	15
Route 66 - Butler Ave to Humphreys St	14
Route 66 - Humphreys St to Elden St	14
San Francisco St - Butler Ave to Route 66	13
West St - Sixth Ave to Cedar Ave	12
Highway 89 - Country Club to Marketplace	11
Milton Rd - McConnell Dr to University Dr	11
Sixth Ave - West St to Fourth St	10

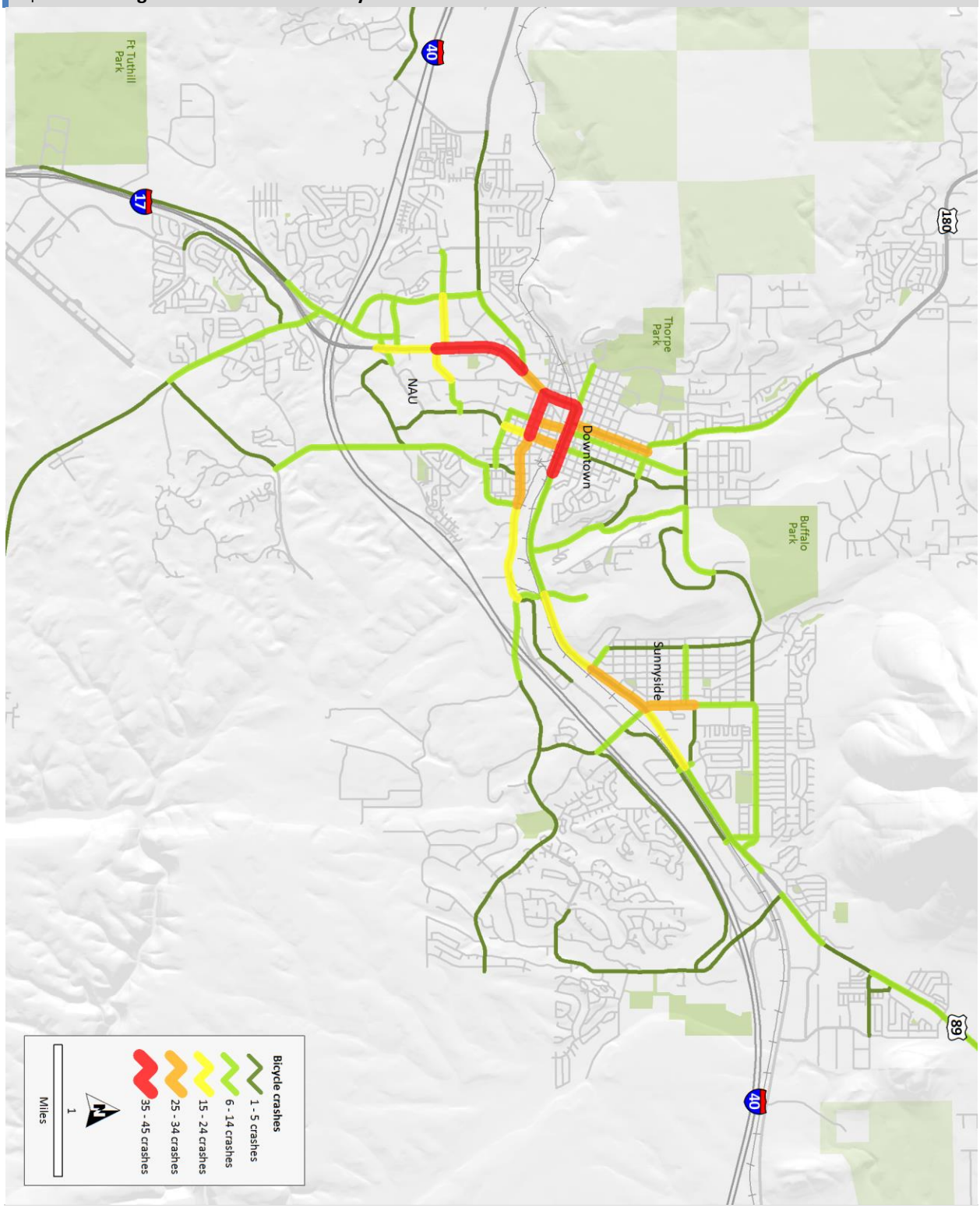
Table 20 **Streets with the most bicycle crashes**

Street segment	*Crashes*
Milton Rd - University Dr to Route 66	45
Route 66 - Butler Ave to Humphreys St	42
Route 66 - Humphreys St to Elden St	40
Butler Ave - Route 66 to San Francisco St	35
Beaver St - Route 66 to Butler Ave	32
Route 66 - Milton Rd to Butler Ave	32
San Francisco St - Butler Ave to Route 66	28
Butler Ave - San Francisco St to Sawmill Rd	28
Humphreys St - Route 66 to Fort Valley Rd	27
Route 66 - Arrowhead Ave to Fourth St	27
Fourth St - Route 66 to Seventh Ave	26

Map 7 **Street segments with the most pedestrian crashes**



Map 8 **Street segments with the most bicycle crashes**



Environmental conditions

Weather

- Four of every five pedestrian and bicycle crashes (79.3 percent of pedestrian crashes, 80.6 percent of bicycle crashes) occurred during clear weather conditions.
- Rain, snow and other inclement weather does not seem to have a significant impact on bicycle and pedestrian crashes, although it is likely that low crash totals are due to the fact that fewer pedestrians and bicyclists venture out in bad weather.

Table 21 **Pedestrian crashes by weather conditions**

	Crashes	*Percent*
Clear	284	79.3
Cloudy	50	14.0
Rain	10	2.8
Snow	11	3.1
Other	3	0.8
Total	358	100.0

Table 22 **Bicycle crashes by weather conditions**

	Crashes	*Percent*
Clear	546	80.6
Cloudy	114	16.8
Rain	12	1.8
Snow	4	0.6
Other	1	0.1
Total	677	100.0

Lighting

- Four of five (78.9 percent) of all bicycle crashes happened during the day. Less than 15 percent (14.9) were in darkness.
- For pedestrians, about half of all crashes (50.5 percent) occurred during daylight hours, and half (49.5 percent) occurred in dark conditions or at dawn and dusk. This pattern indicates that poor visibility in low light conditions may be a significant contributing factor in pedestrian crashes.

Figure 7 **Pedestrian and bicycle crashes by lighting conditions**

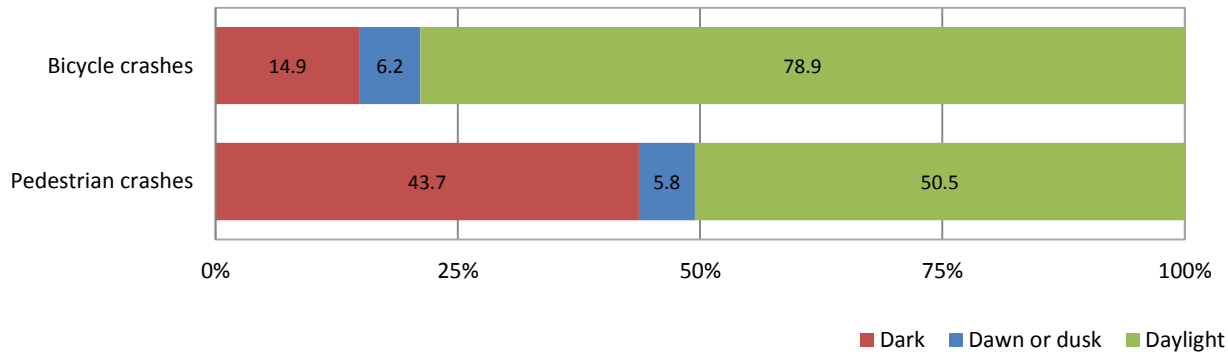


Table 23 **Pedestrian crashes by lighting conditions**

	Crashes	*Percent*
Daylight	184	50.5
Dark	159	43.7
Dawn or dusk	21	5.8
Total	364	100.0

Table 24 **Bicycle crashes by lighting conditions**

	Crashes	*Percent*
Daylight	545	78.9
Dark	103	14.9
Dawn or dusk	43	6.2
Total	691	100.0

Surface condition

- A significant number of pedestrian and bicycle crashes occur in dry conditions (86.6 percent for pedestrian crashes, 95.4 percent for bicycle crashes).

- Wet, snow, or icy conditions are present in only 13.1 percent of pedestrian crashes and 4.4 percent of bicycle crashes. The low number of pedestrian crashes, and the very low number of bicycle crashes, may again be the result of fewer pedestrians and cyclists in poor weather.

Table 25 **Pedestrian crashes by surface conditions**

	Crashes	*Percent*
Dry	318	86.6
Wet, snow, ice	48	13.1
Other	1	0.3
Total	367	100.0

Table 26 **Bicycle crashes by surface conditions**

	Crashes	*Percent*
Dry	644	95.4
Wet, snow, ice	30	4.4
Other	1	0.1
Total	675	100.0

When crashes occur

Month

- Bicycle crashes experienced a spike in August that carries through September and October. This increase is probably related to the start of the school year, and in particular the start of NAU's fall semester.
- Bicycle crashes also experienced a smaller spike in May that continued through June and July. This spike is most likely due to the onset of summer and better weather.
- Bike crashes were at their lowest during the winter months of December, January, February, and March.
- Pedestrian crashes experienced a lull during the late spring and summer months (April, May, June, July) followed by a sharp increase through August, September, October, and November. Like bicycle crashes, this pattern may be school-related.
- Pedestrian crashes remained at a fairly high level in January and February, although the reason is not clear. One potential reason is the early onset of darkness at that time of year; another contributing cause may be pedestrians walking in the street when sidewalks are not clear of snow.

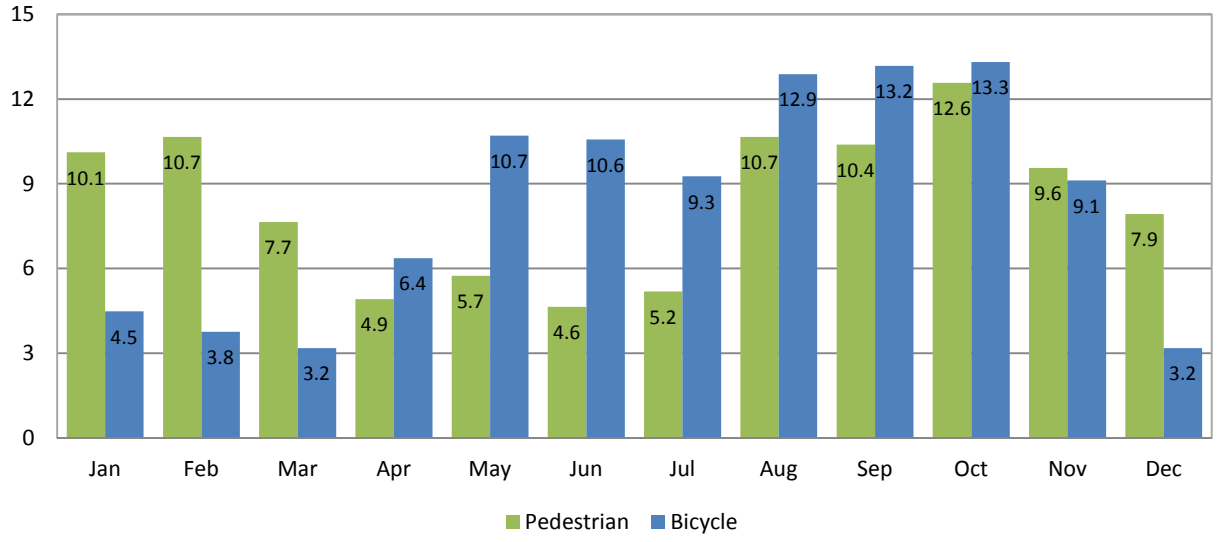
Table 27 **Pedestrian crashes by month**

	Crashes	*Percent*
January	37	10.1
February	39	10.7
March	28	7.7
April	18	4.9
May	21	5.7
June	17	4.6
July	19	5.2
August	39	10.7
September	38	10.4
October	46	12.6
November	35	9.6
December	29	7.9
Total	366	100.0

Table 28 **Bicycle crashes by month**

	Crashes	*Percent*
January	31	4.5
February	26	3.8
March	22	3.2
April	44	6.4
May	74	10.7
June	73	10.6
July	64	9.3
August	89	12.9
September	91	13.2
October	92	13.3
November	63	9.1
December	22	3.2
Total	691	100.0

Figure 8 **Pedestrian and bicycle crashes by month**



Time of day

- Peak times for pedestrian crashes were between 3:00 pm and 9:00 pm.
- A significant number of pedestrian crashes also occurred during the nighttime hours of 9:00 pm and midnight. This data corroborates information from Table 23 and Figure 7, which shows that half of all pedestrian crashes occur at dawn or dusk or in darkness.
- Peak times for bicycle crashes were between 3:00 and 6:00 pm.

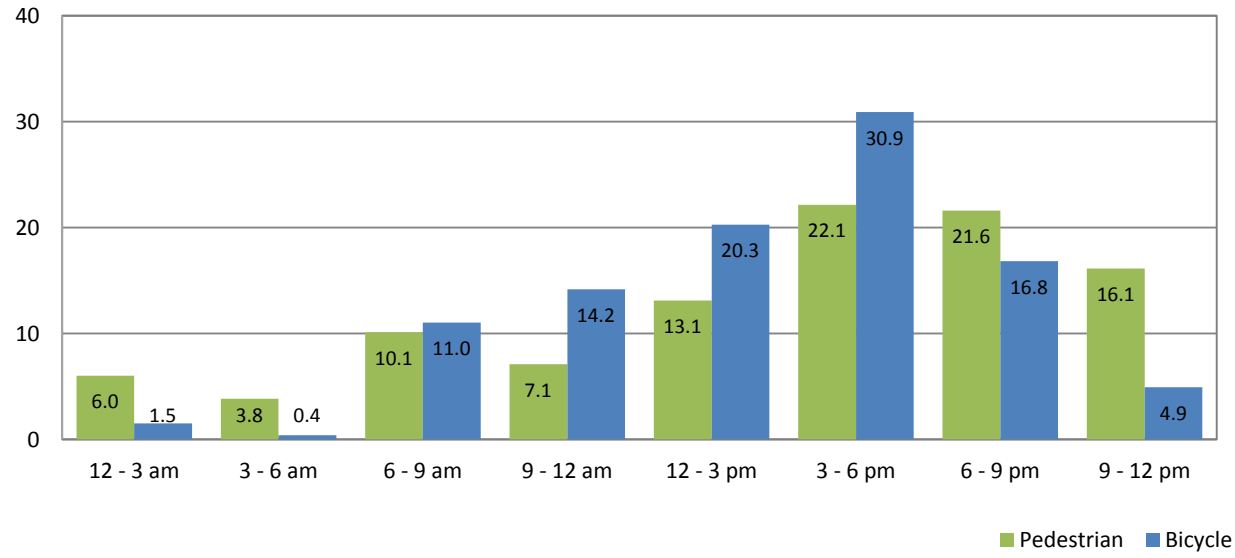
Table 29 **Pedestrian crashes by time of day**

	Crashes	*Percent*
12 am - 3 am	22	6.0
3 am - 6 am	14	3.8
6 am - 9 am	37	10.1
9 am - 12 am	26	7.1
12 pm - 3 pm	48	13.1
3 pm - 6 pm	81	22.1
6 pm - 9 pm	79	21.6
9 pm - 12 pm	59	16.1
Total	366	100.0

Table 30 **Bicycle crashes by time of day**

	Crashes	*Percent*
12 am - 3 am	12	1.5
3 am - 6 am	3	0.4
6 am - 9 am	87	11.0
9 am - 12 am	112	14.2
12 pm - 3 pm	160	20.3
3 pm - 6 pm	244	30.9
6 pm - 9 pm	133	16.8
9 pm - 12 pm	39	4.9
Total	790	100.0

Figure 9 **Pedestrian and bicycle crashes by time of day**



Day of week

- Pedestrian crashes remained fairly consistent through all days of the week, with only a small drop on Sundays.
- Bicycle crashes showed a more significant drop on weekend days.

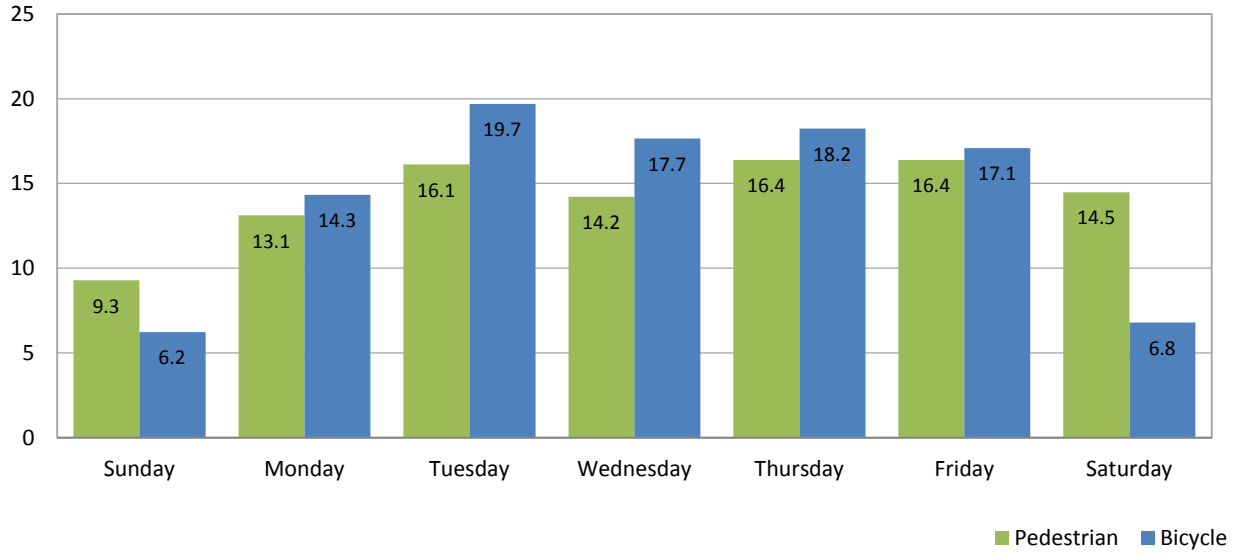
Table 31 **Pedestrian crashes by day of week**

	Crashes	*Percent*
Sunday	34	9.3
Monday	48	13.1
Tuesday	59	16.1
Wednesday	52	14.2
Thursday	60	16.4
Friday	60	16.4
Saturday	53	14.5
Total	366	100.0

Table 32 **Bicycle crashes by day of week**

	Crashes	*Percent*
Sunday	43	6.2
Monday	99	14.3
Tuesday	136	19.7
Wednesday	122	17.7
Thursday	126	18.2
Friday	118	17.1
Saturday	47	6.8
Total	691	100.0

Figure 10 **Pedestrian and bicycle crashes by day of week**



Roadway factors

Intersection relation

Information on where crashes occurred relative to an intersection, interchange, or driveway is presented in Tables 33 and 34 and Figure 11 below.

Intersection crashes include crashes that occur within an intersection of two or more roads, as well as crashes that occur in proximity to an intersection as a result of traffic movements in the intersection. For example, a rear-end collision caused by a back-up at an intersection would be counted as an intersection crash, even if the crash were located away from the intersection.

Interchange crashes are located within the area of intersection of a controlled access roadway, for example entrance and exit ramps to the interstate highways.

Driveway crashes occur at driveways and other points of access to residential, commercial, and other properties.

Crashes that are not junction related are located on segments of the roadway between intersections, driveways, and interchanges.

Table 33 **Pedestrian crashes by intersection relation**

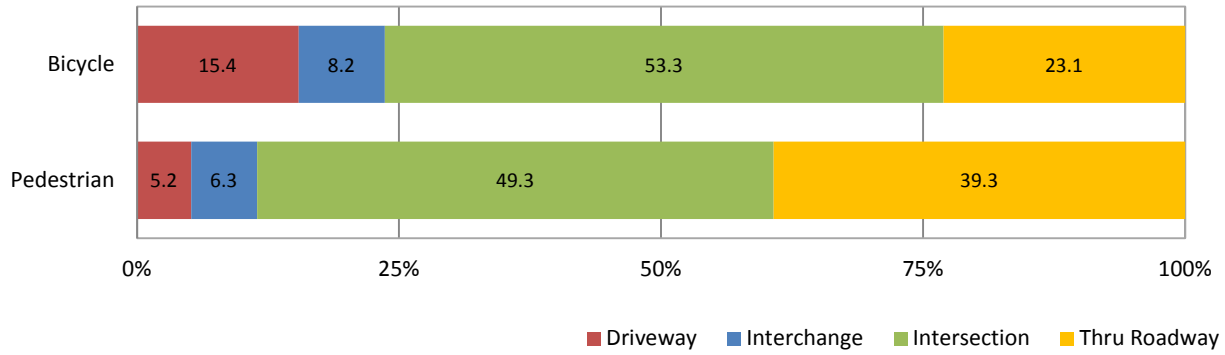
	Crashes	*Percent*
Intersection	172	49.3
Not junction related	137	39.3
Interchange	22	6.3
Driveway	18	5.2
Total	349	100.0

Table 34 **Bicycle crashes by intersection relation**

	Crashes	*Percent*
Intersection	363	53.3
Not junction related	157	23.1
Driveway	105	15.4
Interchange	56	8.2
Total	681	100.0

- For both pedestrian and bicycle crashes, about half (49.3 percent of pedestrian crashes, 53.3 percent of bicycle crashes) were located at or in proximity to an intersection.
- For bicyclists, another 15.4 percent of crashes were driveway related, and 8.2 percent were within an interchange. Less than one-quarter (23.1 percent) of bicycle crashes were not related to intersections, driveways, or interchanges. This data underscores the particular risks to bicyclists from turning vehicles and vehicles pulling into or turning out of the roadway.
- For pedestrians, a smaller percentage of crashes were at driveways (5.2 percent) or within interchanges (6.3 percent). About 2 in 5 (39.3 percent) of pedestrian crashes were not related to intersections, driveways, or interchanges.

Figure 11 **Intersection relation in pedestrian and bicycle crashes**



Trafficway type

Tables 35 and 36 and Figure 12 indicate the type of roadway where crashes occurred.

- Percentages are generally consistent between bicycle and pedestrian crashes.
- Streets with no medians saw the highest percentage of both pedestrian (42.4 percent) and bicycle (43.0 percent) crashes.
- One-way streets, streets with a raised or painted median, and streets with a two-way left turn lane had a lower percentage of crashes.

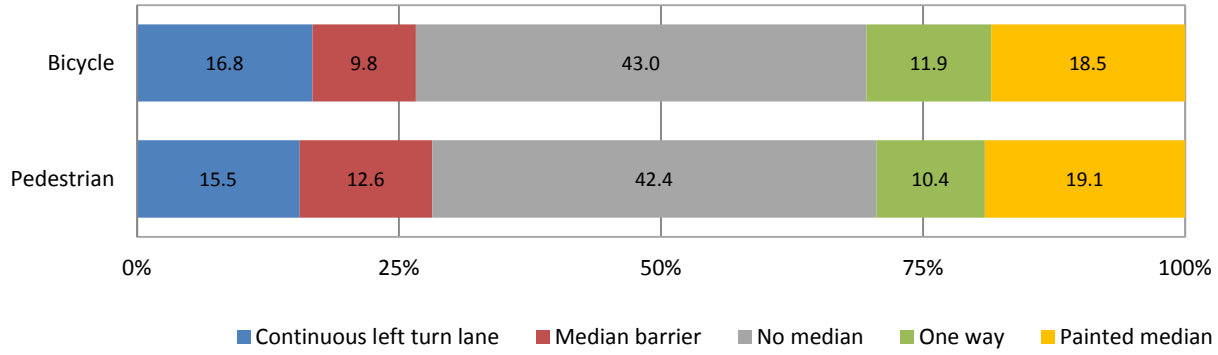
Table 35 **Trafficway type in pedestrian crashes**

	Crashes	*Percent*
No median	131	42.4
Painted median	59	19.1
Continuous left turn lane	48	15.5
Median barrier	39	12.6
One way	32	10.4
Total	309	100.0

Table 36 **Trafficway type – bicycle crashes**

	Crashes	*Percent*
No median	249	43.0
Painted median	107	18.5
Continuous left turn lane	97	16.8
One way	69	11.9
Median barrier	57	9.8
Total	579	100.0

Figure 12 **Trafficway type in pedestrian and bicycle crashes**



Traffic control

Traffic control refers to the manner in which right-of-way is assigned at the intersection of two or more roadways. Signalized intersections include a traffic control signal on all legs, and stop controlled intersections include stop signs on one or more legs. Other devices include yield signs, railroad crossing devices, flagmen, and other forms of control. Uncontrolled refers to situations where there are no traffic control devices.

Traffic control may be different for the drivers, pedestrians, and bicyclists in a crash, when they enter the intersection from different legs with different traffic control devices. For example, a driver pulling out from a side street onto a main street may have a stop sign (stop controlled), but a bicyclist traveling along the main street may have no traffic control (uncontrolled).

Table 37 **Traffic control for drivers in pedestrian crashes**

	Crashes	*Percent*
Uncontrolled	96	34.8
Signalized	81	29.3
Stop controlled	30	10.9
Other	69	25.0
Total	276	100.0

Table 38 **Traffic control for drivers in bicycle crashes**

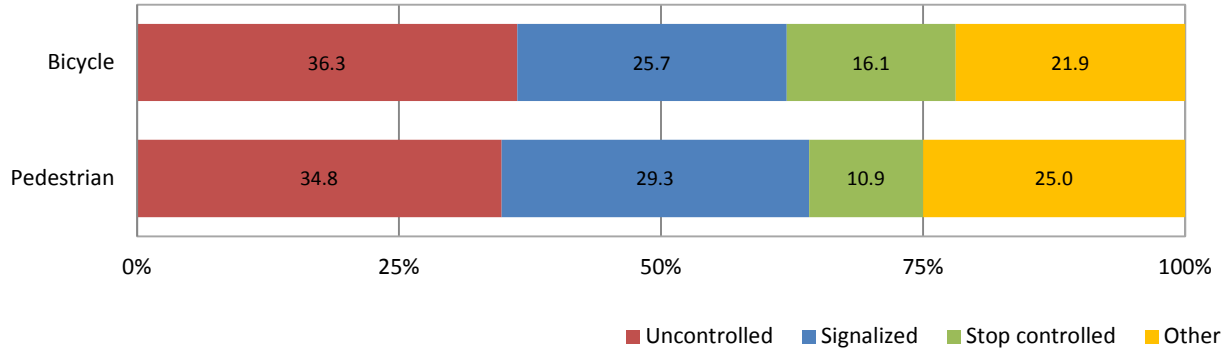
	Crashes	*Percent*
Uncontrolled	189	36.3
Signalized	134	25.7
Stop controlled	84	16.1
Other	114	21.9
Total	521	100.0

Tables 37 and 38 and Figure 13 indicate traffic control for the driver in pedestrian and bicycle crashes.

- For a little more than a third of crashes (34.8 percent of pedestrian crashes, 36.3 percent of bicycle crashes), the driver was subject to no traffic control.
- Drivers were at traffic signals for another 29.3 percent of pedestrian crashes and 25.7 percent of bicycle crashes.

- The driver was subject to stop control in 16.1 percent of bicycle crashes. This is somewhat higher than the 10.9 percent of pedestrian crashes.

Figure 13 **Traffic control for drivers in pedestrian and bicycle crashes**



Tables 39 and 40 and Figure 14 indicate traffic control for pedestrians and bicycles in crashes.

- The percentage of crashes for each type of traffic control is fairly similar between pedestrians and bicyclists.
- For almost half of all crashes (47.6 percent of pedestrians, 47.5 percent of bicyclists), the pedestrian or bicyclist was not subject to any traffic control.

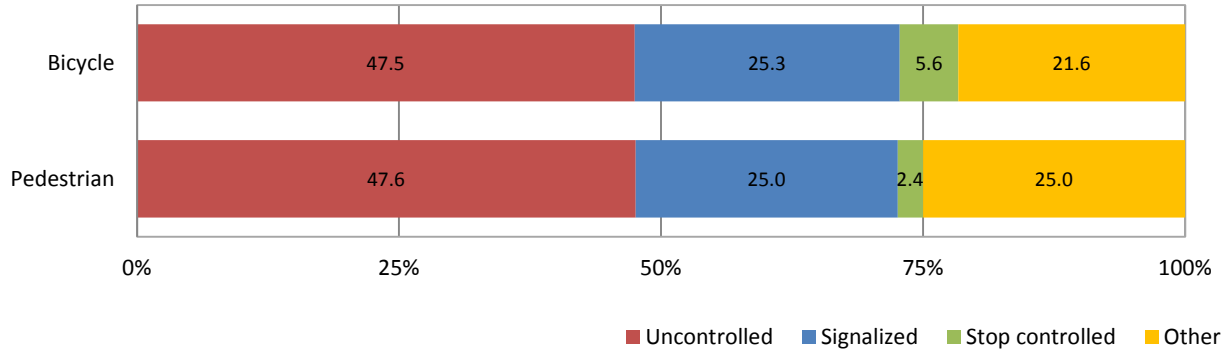
Table 39 **Traffic control for pedestrians in crashes**

	Crashes	*Percent*
Uncontrolled	118	47.6
Signalized	62	25.0
Stop controlled	6	2.4
Other	62	25.0
Total	248	100.0

Table 40 **Traffic control for bicyclists in crashes**

	Crashes	*Percent*
Uncontrolled	246	47.5
Signalized	131	25.3
Stop controlled	29	5.6
Other	112	21.6
Total	518	100.0

Figure 14 **Traffic control for pedestrians and bicyclists in crashes**



Injury severity

Injury severity

This section provides information on the severity of injuries incurred in pedestrian and bicycle crashes. Tables 41 and 42 and Figure 15 below show pedestrian and bicycle crashes categorized by injury severity. For comparison, injury severity for all crashes in Flagstaff and the FMPO region are included in Tables 43 and 44. Maps 9 and 10 illustrate the location of crashes by injury severity.

- Pedestrians and bicyclist were much more likely to incur serious and fatal injuries when involved in a crash. Among all crashes, 0.4 percent were fatal, and 2.6 percent resulted in incapacitating injuries. By comparison, 0.7 percent of bike crashes were fatal, and 8.5 percent resulted in incapacitating injuries. For pedestrians, 1 crash in 10 (9.8 percent) was fatal, and 17.2 percent resulted in incapacitating injuries.

- Pedestrian and bicyclists were much more likely to be injured when a crash occurs. For all crashes, more than three-quarters (76.9 percent) did not result in an injury (property damage only). One-fourth (27.2 percent) of bicyclists were not injured, and only 14.5 percent of pedestrians in a crash were uninjured.

- The low rate of non-injury pedestrian crashes is due in part to the definition of crashes included in the state's database. If a citation is not issued and there is no injury, damage to property must exceed $1000 in order to be included in the data.

- There have been 5 bicycle fatalities in Flagstaff in the 10-year period between 2005 and 2014. However, Flagstaff has not had a bicycle fatality in the past three years (since September of 2012).

- There have been 36 pedestrian fatalities in Flagstaff in the 10-year period between 2005 and 2014.

- Of the 36 pedestrian fatalities, 11 occurred on either I-40 or I-17. For the purposes of this data, a person is classified as a pedestrian if they pulled over on the side of the road or were broken down, left their vehicle, and were struck by another vehicle. They would be also considered pedestrians if they were walking along the roadway after exiting their vehicle. This situation was possible for at least some of the 11 pedestrian fatalities along the interstate highways.

Table 41 **Pedestrian crashes by injury severity**

	Crashes	*Percent*
Fatal	36	9.8
Incapacitating injury	63	17.2
Non-incapacitating injury	120	32.8
Possible injury	94	25.7
No injury	53	14.5
Total	366	100.0

Table 42 **Bicycle crashes by injury severity**

	Crashes	*Percent*
Fatal	5	0.7
Incapacitating injury	59	8.5
Non-incapacitating injury	272	39.4
Possible injury	167	24.2
No injury	188	27.2
Total	691	100.0

Figure 15 **Pedestrian and bicycle crashes by injury severity**

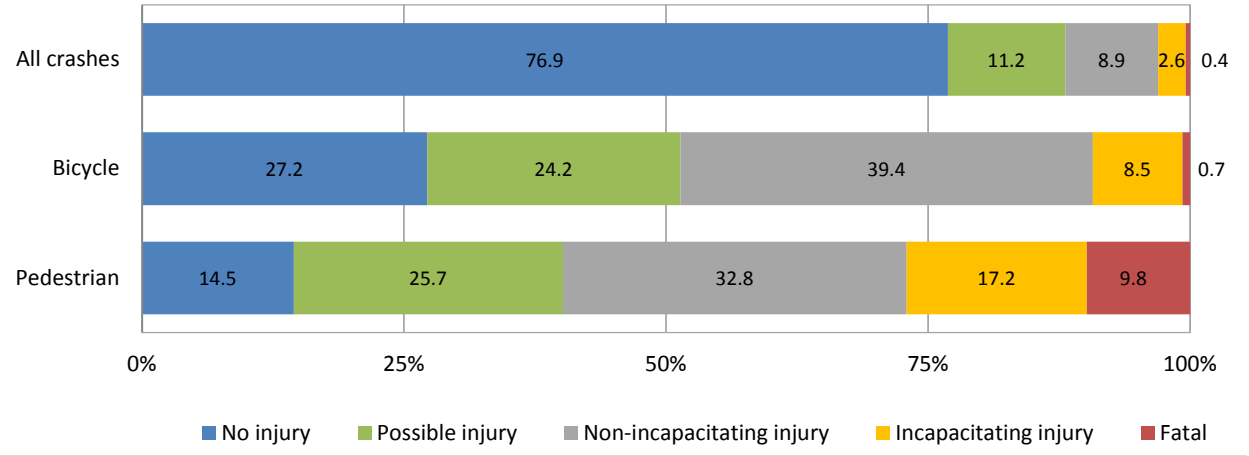


Table 43 **All crashes by injury severity (FMPO)**

	Crashes	*Percent*
Fatal	96	0.4
Incapacitating injury	601	2.6
Non-incapacitating injury	2044	8.9
Possible injury	2581	11.2
No injury	17713	76.9
Total	23035	100.0

Table 44 **All crashes by injury severity (Flagstaff)**

	Crashes	*Percent*
Fatal	55	0.3
Incapacitating injury	485	2.4
Non-incapacitating injury	1618	8.1
Possible injury	2325	11.7
No injury	15457	77.5
Total	19940	100.0

Fatalities

Fatalities by type of crash are shown below in Table 45 for the FMPO and Table 46 for crashes within the city of Flagstaff and in Figure 16 for both areas.

- Within the city, pedestrian crashes accounted for almost half (49.1 percent) of all fatal crashes. Bicycle crashes accounted for 1 in 11 fatalities (9.1 percent).

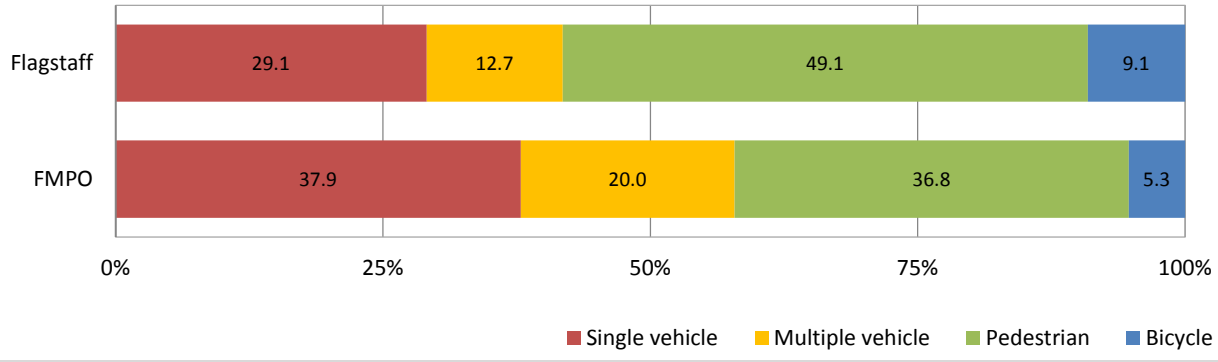
Table 45 **Fatalities by type (FMPO)**

	Crashes	*Percent*
Single vehicle	36	37.9
Multiple vehicle	19	20.0
Pedestrian	35	36.8
Bicycle	5	5.3
Total	95	100.0

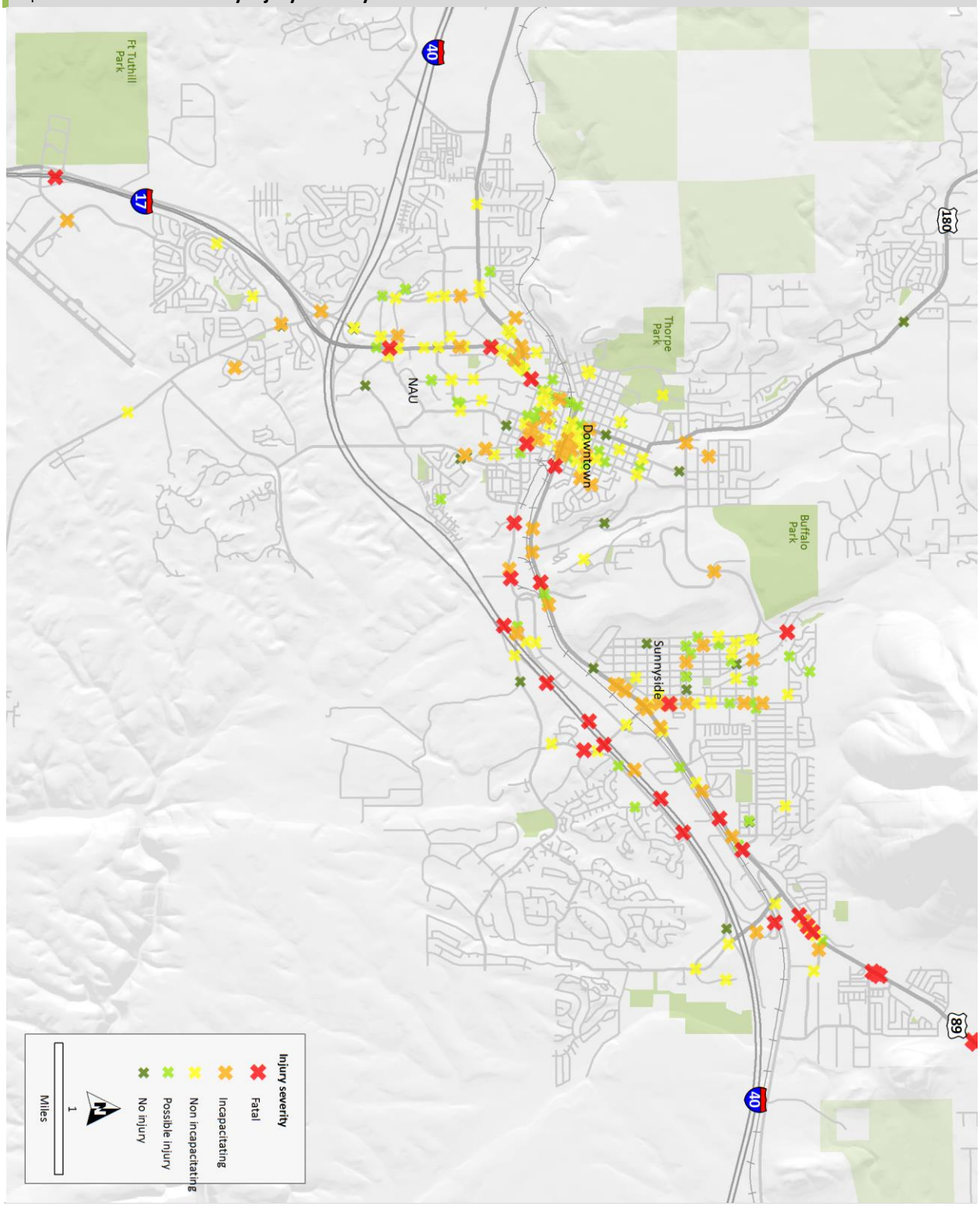
Table 46 **Fatalities by type (Flagstaff)**

	Crashes	*Percent*
Single vehicle	16	29.1
Multiple vehicle	7	12.7
Pedestrian	27	49.1
Bicycle	5	9.1
Total	55	100.0

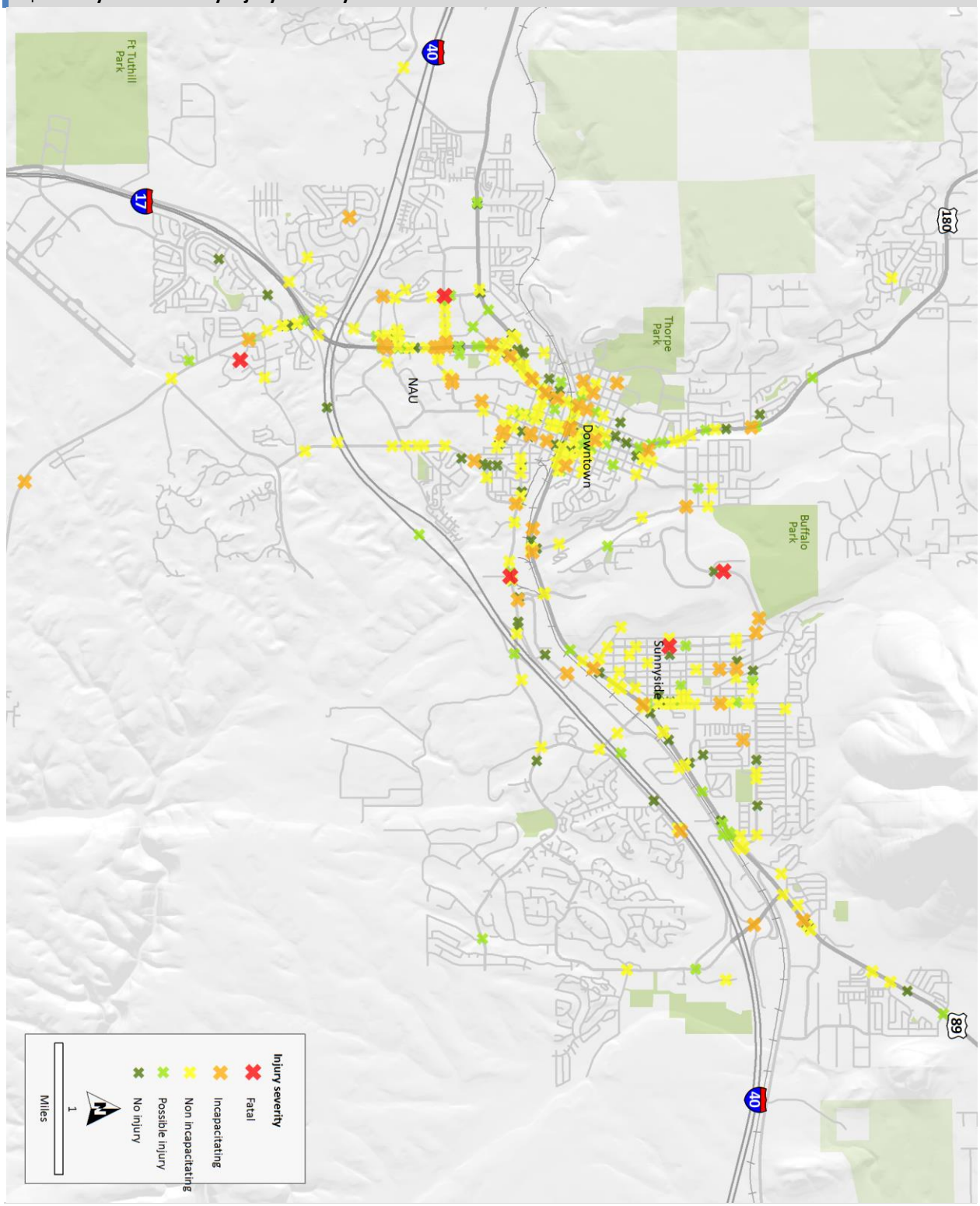
Figure 16 **Fatalities by type**



Map 9 **Pedestrian crashes by injury severity**



Map 10 **Bicycle crashes by injury severity**



Fault and violations

Fault

As part of the crash report, the investigating officer determines and indicates which party caused the crash or was most at fault. One party in the crash is always determined to be most at fault, and the parties never share fault equally. Tables 47 and 48 and Figure 17 indicate who was at fault in pedestrian and bicycle crashes.

- For pedestrian crashes, the driver was determined to be most at fault in about two-thirds (64.8 percent) of crashes, and the pedestrian was at fault in the other one-third (35.2 percent).
- For bicycle crashes, the driver was at fault in just over half (53.5 percent) of crashes, and the bicyclist was at fault in just under half (46.5 percent).

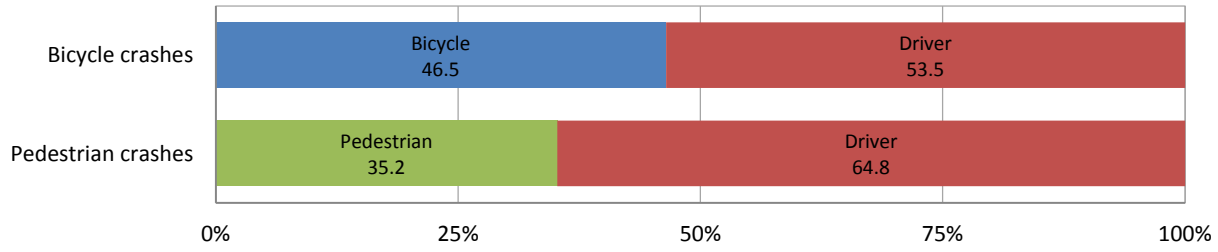
Table 47 **Most at fault in pedestrian crashes**

	Crashes	*Percent*
Pedestrian	129	35.2
Driver	237	64.8
Total	366	100.0

Table 48 **Most at fault in bicycle crashes**

	Crashes	*Percent*
Bicyclist	321	46.5
Driver	370	53.5
Total	691	100.0

Figure 17 **Most at fault in pedestrian and bicycle crashes**



Alcohol

As part of the crash investigation, the investigator lists alcohol as a factor that may be directly related to the crash if there is probable cause to believe that the driver, pedestrian, or bicyclist has violated ARS 28-1381 (driving under the influence law). Tables 49 and 50 and Figure 18 provide a summary of alcohol as an influence in pedestrian and bicycle crashes.

- Drivers were under the influence of alcohol in a small percentage of crashes – 3.0 percent of pedestrian crashes, and 1.1 percent of bicycle crashes.
- Bicyclists were under the influence of alcohol in 3.7 percent of crashes.

- Alcohol was an influence for pedestrians in a significant number of crashes – 23.2 percent.

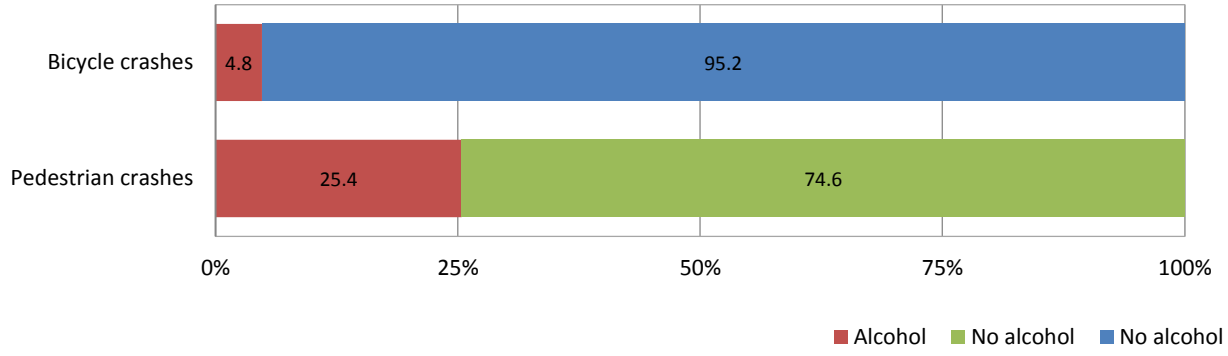
Table 49 **Alcohol as an influence in pedestrian crashes**

	Crashes	*Percent*
Pedestrian	82	22.4
Driver	8	2.2
Both	3	0.8
Neither	273	74.6
Total	366	100.0

Table 50 **Alcohol as an influence in bicycle crashes**

	Crashes	*Percent*
Bicyclist	25	3.6
Driver	7	1.0
Both	1	0.1
Neither	658	95.2
Total	691	100.0

Figure 18 **Alcohol as an influence in pedestrian and bicycle crashes**



Violations

Violations in crash reporting are not the same as citations or violations of Arizona Revised Statute; rather, they refer to actions or behavior that, in the opinion of the investigating officer, resulted in the crash. More than one violation may be checked. Tables 51 and 52 indicate the violations of drivers in pedestrian and bicycle crashes, and Tables 53 and 54 indicate pedestrian and bicyclist violations.

- For both pedestrian and bicycle crashes, the most common driver violations by far were inattention/distraction (20.2 percent of pedestrian crashes, 23.2 percent of bicycle crashes) and failure to yield the right-of-way (19.9 percent of pedestrian crashes, 22.1 percent of bicycle crashes).

- For pedestrians, the most significant violation was not using a crosswalk (19.4 percent of pedestrian crashes), which means that the pedestrian was crossing a roadway at a location other than a marked crosswalk or an unmarked crosswalk at an intersection.

- For bicyclists, violations are more evenly distributed and there are not one or two violations that stand out from the rest. The top three bicyclist violations were inattention/distraction (9.3 percent), rode in opposing traffic lane (8.5 percent), and failed to yield right-of-way (6.9 percent).

Table 51 **Violations for drivers in pedestrian crashes**

	Crashes	*Percent*
Inattention/distraction	74	20.2
Failed to yield right-of-way	73	19.9
Speed too fast for conditions	20	5.5
Ran stop sign	6	1.6
Made improper turn	5	1.4
Disregarded traffic signal	3	0.8
Other unsafe passing	3	0.8
Rode in opposing traffic lane	2	0.5
Failed to keep in proper lane	2	0.5
Exceeded lawful speed	1	0.3
Followed too closely	1	0.3
Unsafe lane change	1	0.3
Other	35	9.6
Total crashes	366	

Table 52 **Violations for drivers in bicycle crashes**

	Crashes	*Percent*
Inattention/distraction	160	23.2
Failed to yield right-of-way	153	22.1
Made improper turn	22	3.2
Speed too fast for conditions	15	2.2
Unsafe lane change	10	1.4
Ran stop sign	8	1.2
Disregarded traffic signal	4	0.6
Drove in opposing traffic lane	4	0.6
Failed to keep in proper lane	3	0.4
Other unsafe passing	3	0.4
Followed too closely	1	0.1
Disregarded pavement markings	1	0.1
Other	56	8.1
Total crashes	691	

Table 53 **Violations for pedestrians in crashes**

	Crashes	*Percent*
Did not use crosswalk	71	19.4
Inattention/distraction	28	7.7
Failed to yield right-of-way	23	6.3
Disregarded traffic signal	12	3.3
Walked on wrong side of road	11	3.0
Ran stop sign	1	0.3
Disregarded pavement markings	1	0.3
Other	81	22.1
Total crashes	366	

Table 54 **Violations for bicyclists in crashes**

	Crashes	*Percent*
Inattention/distraction	64	9.3
Rode in opposing traffic lane	59	8.5
Failed to yield right-of-way	48	6.9
Disregarded traffic signal	36	5.2
Ran stop sign	26	3.8
Faulty/missing equipment	20	2.9
Speed too fast for conditions	16	2.3
Other unsafe passing	10	1.4
Failed to keep in proper lane	7	1.0
Made improper turn	5	0.7
Did not use crosswalk	3	0.4
Unsafe lane change	2	0.3
Followed too closely	1	0.1
Passed in no passing zone	1	0.1
Disregarded pavement markings	1	0.1
Walked on wrong side of road	1	0.1
Other	143	20.7
Total crashes	691	100.0

Hit and run crashes

Tables 55 and 56 and Figure 19 list numbers and percentages of hit and run crashes, where the driver of the vehicle fled the scene of the crash.

- A significant number of pedestrian crashes (21.9 percent) were hit and run.
- A smaller, but still significant number (14.5 percent) of bicycle crashes were also hit and run.

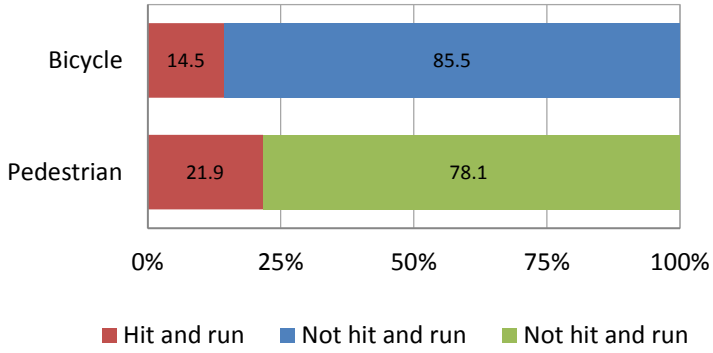
Table 55 **Hit and run in pedestrian crashes**

	Crashes	*Percent*
Hit and run	80	21.9
Not hit and run	286	78.1
Total	366	100.0

Table 56 **Hit and run in bicycle crashes**

	Crashes	*Percent*
Hit and run	100	14.5
Not hit and run	591	85.5
Total	691	100.0

Figure 19 **Hit and run in pedestrian and bicycle crashes**



Action before crash

Driver action

The following tables record the action of the driver, pedestrian, or bicyclist just before a crash occurred. Tables 57 and 58 and Figure 20 show the action of the driver just before a crash with a pedestrian or bicyclist.

- For pedestrian crashes, almost half (48.7) percent of drivers were going straight ahead.
- Another 20.6 percent of drivers in pedestrian crashes were turning left, and 18.0 percent were turning right.
- In more than 2 of every 5 bicycle crashes (42.4 percent) the driver was making a right turn.

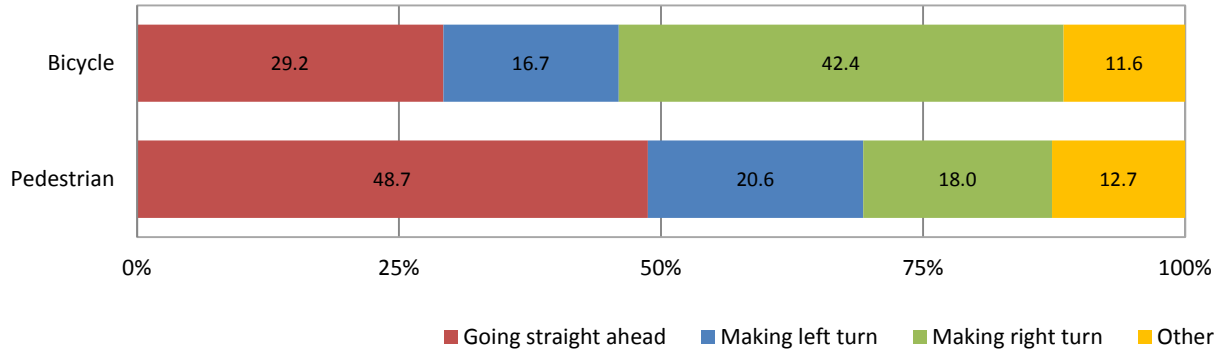
Table 57 **Driver action before pedestrian crashes**

	Crashes	*Percent*
Going straight ahead	173	48.7
Making left turn	73	20.6
Making right turn	64	18.0
Other	45	12.7
Total	355	100.0

Table 58 **Driver action before bicycle crashes**

	Crashes	*Percent*
Making right turn	289	42.4
Going straight ahead	199	29.2
Making left turn	114	16.7
Other	79	11.6
Total	681	100.0

Figure 20 **Driver action before pedestrian and bicycle crashes**



Pedestrian and bicyclist action

Tables 59 and 60 and Figures 21 and 22 provide information on the action of the pedestrian or bicyclist just before the crash.

- Most pedestrians involved in a crash (64.8 percent) were crossing the road.
- Most bicyclists in a crash (64.8 percent) were traveling straight ahead.

Table 59 **Pedestrian action before crash**

	Crashes	*Percent*
Crossing road	221	64.8
Going straight ahead	25	7.3
Walking with traffic	24	7.0
Walking against traffic	21	6.2
Other	50	14.7
Total	341	100.0

Table 60 **Bicyclist action before crash**

	Crashes	*Percent*
Going straight ahead	430	64.8
Crossing road	72	10.8
Making left turn	23	3.5
Making right turn	12	1.8
Other	127	19.1
Total	664	100.0

Figure 21 **Pedestrian action before crash**

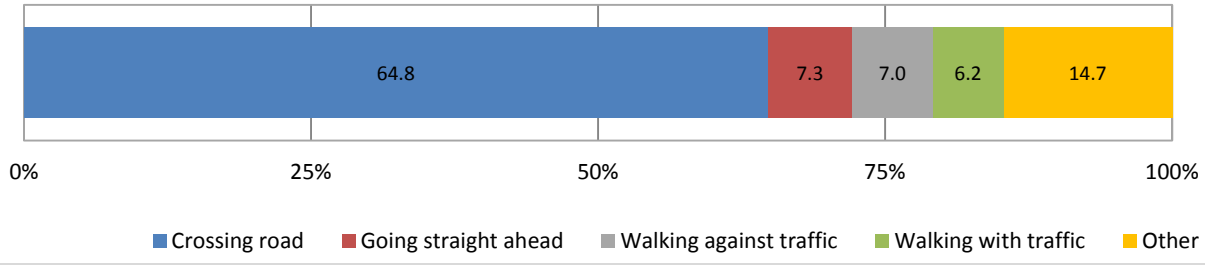
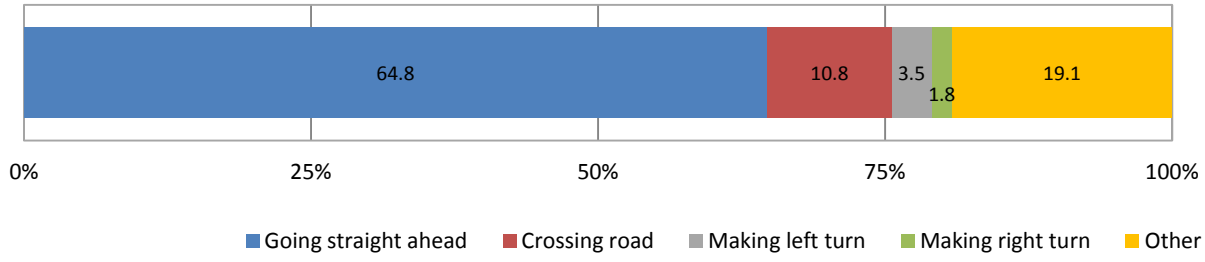


Figure 22 **Bicyclist action before crash**



Bicycle theft

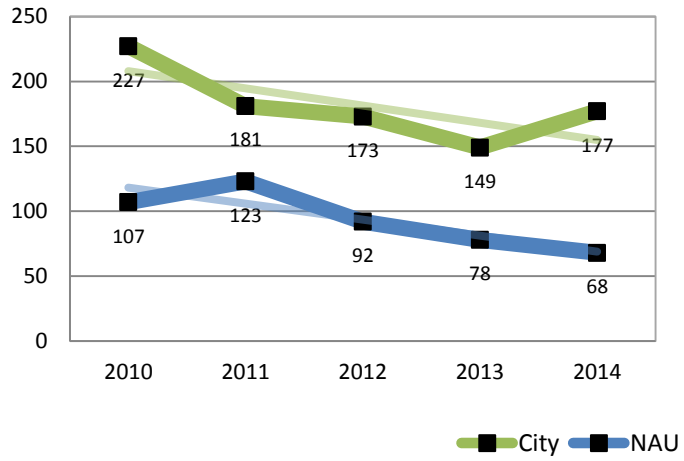
Table 61 and Figure 23 show reported bicycle thefts for the city of Flagstaff and the NAU campus by year since 2010. Thefts are reported to either the City of Flagstaff or the NAU campus police, depending on the location of the theft, so the thefts presented here are not double counted.

- There was an average of 181 reported thefts per year in the city of Flagstaff, and 94 per year on the NAU campus.
- Overall, bicycle theft trend lines are declining in both locations, although there was an uptick in thefts in the city between 2013 and 2014.

Table 61 **Bicycle theft by year**

	City	*NAU*
2010	227	107
2011	181	123
2012	173	92
2013	149	78
2014	177	68
Total	907	468
Average	181	94

Figure 23 **Bicycle theft by year**



Appendix Arizona Crash Report form

ADOT USE ONLY

ARIZONA CRASH REPORT

REPORT ID

Agency Report Number

1 ***POLICE ONLY***—FORWARD COPY TO
ADOT TRAFFIC RECORDS SECTION, 064R
206 S. 17TH AVE., PHOENIX, ARIZONA 85007-3233

YEAR	MONTH	DAY	HOUR	NCIC NO.	OFFICER ID NO.

Total Number of Sheets _____

COMPLETE THE TRUCK/BUS SUPPLEMENT IF ANY ✓ (circle) *AND* ANY ◇ (diamond) ARE CHECKED

2

Total Units	Total Injuries	Total Fatalities	Estimated Total Damage Compared To $1,000 Limit: ☐ Over ☐ Under	○ Fatal ☐ Hit/Run Unit # _____	○ Person Transported for Immediate Medical Care?	○ Tow Away of At Least One Vehicle from Scene?	District or Grid No.

3 LOCATION

On Highway/Road/Street	☐ Inside ☐ Outside City	County
Intersecting Street/Road/M.P. or R.P. ☐ At ☐ From	☐ North ☐ South ☐ East ☐ West ☐ Plus ☐ Minus Distance ☐ Measured ☐ Approximate	☐ Miles ☐ Feet

4 Is this a Secondary Collision: Yes ☐ No ☐ | Roadway Clearance Time: | Incident Clearance Time:

Safety Devices (SD)
0 - Not Applicable
1 - None Used
2 - Lap Belt
3 - Shoulder and Lap Belt
4 - Child Restraint System
5 - Helmet Used
6 - Air Bag Deployed
7– Air Bag Deployed/ Shoulder-Lap Belt
97 - Other _____
99 - Unknown

Injury Severity (IS)
1 - No Injury
2 - Possible Injury
3 - Non Incapacitating Injury
4 - Incapacitating Injury
5 - Fatal Injury
99 - Unknown/ Not Reported

Seating Position
31 21 11
32 22 12 55
33 23 13
38 28 18
18 - Front Seat - Other (Child in Lap)
28 or 38 - Additional passenger in vehicle by row
51 - In enclosed or cargo area
52 - In unenclosed passenger/cargo area
55 - Riding on Vehicle Exterior
99 - Unknown

5 TRAFFIC UNIT NO.

State	Class	End.	☐ DL # ☐No Valid License/Permit	☐ Driver ☐ Driverless ☐ Pedestrian ☐ Pedalcyclist	Name (First , Middle, Last) ☐ ejected ☐ extricated	Suffix	Sex

Restrictions	Address	City	State	Zip Code	Telephone Number

Date of Birth	☐ Same as Driver	Owner/Carrier Name	Address	City	State	Zip Code

Color	Vehicle Year	Make	Model	Body Style	Plate Number	State	Plate Mo/Yr	◇ Bus (9 or more seats)

VIN	Trailer (Other Unit) Plate No.	State	Year	GVW / GCWR (Rated) Greater Than 10k pounds? ◇ Yes ☐ No	HazMat Placard? ◇ Yes ☐ No

Safety Devices	Injury Severity	Posted Speed Limit	Ofc Est. Speed	Transported To/By

Removed to (Address/Storage Location Identifier)	☐ Disabled ☐ Not Disabled	Removed by	Orders of

Insurance Company	Telephone Number	Policy Number	Exp. Date

5 TRAFFIC UNIT NO.

State	Class	End.	☐ DL # ☐No Valid License/Permit	☐ Driver ☐ Driverless ☐ Pedestrian ☐ Pedalcyclist	Name (First , Middle, Last)) ☐ ejected ☐ extricated	Suffix	Sex

Restrictions	Address	City	State	Zip Code	Telephone Number

Date of Birth	☐ Same as Driver	Owner/Carrier Name	Address	City	State	Zip Code

Color	Vehicle Year	Make	Model	Body Style	Plate Number	State	Plate Mo/Yr	◇ Bus (9 or more seats)

VIN	Trailer (Other Unit) Plate No.	State	Year	GVW / GCWR (Rated) Greater Than 10k pounds? ◇ Yes ☐ No	HazMat Placard? ◇ Yes ☐ No

Safety Devices	Injury Severity	Posted Speed Limit	Ofc Est. Speed	Transported To/By

Removed to (Address/Storage Location Identifier)	☐ Disabled ☐ Not Disabled	Removed by	Orders of

Insurance Company	Telephone Number	Policy Number	Exp. Date

5 TRAFFIC UNIT NO.

State	Class	End.	☐ DL # ☐No Valid License/Permit	☐ Driver ☐ Driverless ☐ Pedestrian ☐ Pedalcyclist	Name (First , Middle, Last)) ☐ ejected ☐ extricated	Suffix	Sex

Restrictions	Address	City	State	Zip Code	Telephone Number

Date of Birth	☐ Same as Driver	Owner/Carrier Name	Address	City	State	Zip Code

Color	Vehicle Year	Make	Model	Body Style	Plate Number	State	Plate Mo/Yr	◇ Bus (9 or more seats)

VIN	Trailer (Other Unit) Plate No.	State	Year	GVW / GCWR (Rated) Greater Than 10k pounds? ◇ Yes ☐ No	HazMat Placard? ◇ Yes ☐ No

Safety Devices	Injury Severity	Posted Speed Limit	Ofc Est. Speed	Transported To/By

Removed to (Address/Storage Location Identifier)	☐ Disabled ☐ Not Disabled	Removed by	Orders of

Insurance Company	Telephone Number	Policy Number	Exp. Date

6 WITNESSES

Name	Address	City	State	Zip Code	Telephone Number	D.O.B / Age

7

Property Damaged (Other than Vehicles) Block 33, Event 29-49	Owner Code (OC) 1 - Private 2 - Public Utility 3 - Federal Government 4 - State of Arizona 5 - County in Arizona 6 - City in Arizona 7 - Tribal Nation 99 - Unknown	Inventory Tag No.

OC	Owner's Name	Address (or Bar Code ID Number)	City	State	Zip Code	Telephone Number

8

Photos Taken ☐ Yes ☐ No	Photographer's Name, ID Number and Agency Number	Invest. At Scene ☐ Yes ☐ No	Date Invest.	Time Invest.	Fire/EMS Incident No.

Officer's Name/ Badge #	Supervisor's Signature	Agency Name	Date Completed

ARIZONA CRASH REPORT

1 ***CONTINUED***

POLICE ONLY—FORWARD COPY TO ADOT TRAFFIC RECORDS SECTION, 064R 206 S. 17TH AVE., PHOENIX, ARIZONA 85007-3233

REPORT ID

YEAR	MONTH	DAY	HOUR	NCIC NO.	OFFICER ID NO.

Agency Report Number

BLOCKS 09 - 24: CHECK ONLY ONE OR ONE BLOCK PER UNIT UNLESS NOTED

09 —LIGHT CONDITION

☐ 1 DAYLIGHT
☐ 2 DAWN
☐ 3 DUSK
☐ 4 DARK—LIGHTED
☐ 5 DARK—NOT LIGHTED
☐ 6 DARK—UNKNOWN LIGHTING

10 —WEATHER CONDITIONS

☐ 1 CLEAR
☐ 2 CLOUDY
☐ 3 SLEET,HAIL (freezing rain/drizzle)
☐ 4 RAIN
☐ 5 SNOW
☐ 6 SEVERE CROSSWINDS
☐ 7 BLOWING SAND, SOIL, DIRT
☐ 8 FOG, SMOG, SMOKE
☐ 9 BLOWING SNOW
☐ 97 OTHER _____
☐ 99 UNKNOWN

11 —ROAD SURFACE CONDITION

UNIT #

☐☐☐ 1 DRY
☐☐☐ 2 WET
☐☐☐ 3 SNOW
☐☐☐ 4 SLUSH
☐☐☐ 5 ICE/FROST
☐☐☐ 6 WATER (standing, moving)
☐☐☐ 7 SAND
☐☐☐ 8 MUD, DIRT, GRAVEL
☐☐☐ 9 OIL
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN

12 —ROAD GRADE

UNIT #

☐☐☐ 1 LEVEL
☐☐☐ 2 DOWNHILL
☐☐☐ 3 UPHILL
☐☐☐ 4 HILLCREST
☐☐☐ 5 SAG/DIP/BOTTOM
☐☐☐ 99 UNKNOWN

13 —RELATION TO JUNCTION

☐ 0 NOT JUNCTION RELATED

NON-CONTROLLED ACCESS AREA

☐ 1 INTERSECTION (within)
☐ 2 INTERSECTION-RELATED
☐ 3 ENTRANCE/EXIT RAMP (rest areas)
☐ 4 RAILWAY GRADE CROSSING
☐ 5 MEDIAN CROSSOVER-RELATED
☐ 6 FRONTAGE ROAD
☐ 7 DRIVEWAY
☐ 8 ALLEY-ACCESS-RELATED
☐ 18 WRONG WAY DRIVING
☐ 9 UNKNOWN NON-INTERCHANGE

CONTROLLED ACCESS AREA

☐ 10 THRU ROADWAY
☐ 11 INTERSECTION (within)
☐ 12 INTERSECTION-RELATED
☐ 13 ENTRANCE/EXIT RAMP
☐ 14 FRONTAGE ROAD
☐ 15 OTHER PART OF INTERCHANGE
☐ 16 MEDIAN CROSSOVER-RELATED
☐ 17 WRONG WAY DRIVING
☐ 99 UNKNOWN

14 —TYPE OF INTERSECTION

☐ 1 FOUR– WAY INTERSECTION
☐ 2 T - INTERSECTION
☐ 3 Y - INTERSECTION
☐ 4 INTER. AS PART OF INTERCHANGE
☐ 5 TRAFFIC CIRCLE
☐ 6 ROUNDABOUT
☐ 7 FIVE POINT, OR MORE
☐ 99 UNKNOWN

15 —TRAFFIC WAY DESCRIPTION

☐ 1 ONE WAY TRAFFICWAY
☐ 2 TWO-WAY, NOT DIVIDED (no median present)
☐ 3 TWO-WAY, (NOT DIVIDED) WITH A CONTINUOUS LEFT TURN LANE
☐ 4 TWO-WAY, DIVIDED, UNPROTECTED (PAINTED> 4 FEET) MEDIAN
☐ 5 TWO-WAY, DIVIDED, POSITIVE MEDIAN BARRIER
☐ 99 UNKNOWN

16 —TRAFFIC CONTROL DEVICE

UNIT #

☐☐☐ 0 NO CONTROLS
☐☐☐ 1 SIGNAL
☐☐☐ 2 STOP SIGN
☐☐☐ 3 YIELD SIGN
☐☐☐ 4 WARNING SIGN
☐☐☐ 5 RAILROAD CROSSING SIGN
☐☐☐ 6 FLASHING TRAFFIC SIGNAL
☐☐☐ 7 PERSON (law enforcement, crossing guard, flagger, etc.)
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN

17 —MANNER OF CRASH IMPACT

☐ 1 SINGLE VEHICLE
☐ 2 ANGLE (front to side) (other than left turn)
☐ 3 LEFT TURN
☐ 4 REAR END (front-to-rear)
☐ 5 HEAD-ON (front-to-front) (other than left turn)
☐ 6 SIDESWIPE, SAME DIRECTION
☐ 7 SIDESWIPE, OPPOSITE DIRECTION
☐ 8 REAR-TO-SIDE
☐ 9 REAR-TO-REAR
☐ 97 OTHER _____
☐ 99 UNKNOWN

18 —DIRECTION OF UNIT TRAVEL (Compass)

BEFORE 1ST CRASH EVENT

UNIT #

☐☐☐ 1 NORTH
☐☐☐ 2 SOUTH
☐☐☐ 3 EAST
☐☐☐ 4 WEST
☐☐☐ 5 NORTHWEST
☐☐☐ 6 NORTHEAST
☐☐☐ 7 SOUTHWEST
☐☐☐ 8 SOUTHEAST
☐☐☐ 99 UNKNOWN

19 —CONTRIBUTING CIRCUMSTANCES

UP TO TWO CHOICES PER UNIT

UNIT #

☐☐☐ 0 NO CONTRIBUTING CIRCUMSTANCE

ENVIRONMENTAL

1 GLARE
☐☐☐ A. SUNLIGHT
☐☐☐ B. HEADLIGHTS
2 PHYSICAL OBSTRUCTION(S)
☐☐☐ A. STOPPED/PARKED VEHICLE
☐☐☐ B. MOVING VEHICLE
☐☐☐ C. LOAD ON VEHICLE
☐☐☐ D. TREE/SHRUB/BUSH

ROAD

☐☐☐ 3 ROAD SURFACE CONDITION
☐☐☐ 4 DEBRIS
5 WORK ZONE
☐☐☐ A. LANE CLOSURE
☐☐☐ B. LANE SHIFT/CLOSURE
☐☐☐ C. WORK ON SHOULDER OR MEDIAN
☐☐☐ D. INTERMITTENT OR MOVING WORK
☐☐☐ E. OTHER _____
☐☐☐ F. WORKERS PRESENT
☐☐☐ 6 OBSTRUCTION IN ROADWAY
☐☐☐ 7 CHANGING ROAD WIDTH
☐☐☐ 8 NON-HIGHWAY WORK

MOTOR VEHICLE

☐☐☐ 9 BRAKES
☐☐☐ 10 STEERING
☐☐☐ 11 SUSPENSION
☐☐☐ 12 TIRES
☐☐☐ 13 WHEELS
☐☐☐ 14 LIGHTS (head, signal, tail)
☐☐☐ 15 WINDOWS/WINDSHIELD
☐☐☐ 16 MIRRORS
☐☐☐ 17 WIPERS
☐☐☐ 18 TRUCK COUPLING/TRAILER/HITCH/SAFETY CHAINS
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN

20 —DISTRACTED DRIVING BEHAVIOR

UNIT #

☐☐☐ 0 NOT DISTRACTED
☐☐☐ 1 TALKING ON HANDS FREE DEVICE
☐☐☐ 2 TALKING ON HAND HELD DEVICE
☐☐☐ 3 PASSENGER
☐☐☐ 4 OTHER ACTIVITY, ELECTRONIC DEVICE
☐☐☐ 5 MANUALLY OPERATING AN ELECTRONIC DEVICE
☐☐☐ 6 OTHER INSIDE THE VEHICLE (eating, drinking, etc.)
☐☐☐ 7 OUTSIDE THE VEHICLE (includes unspecified distractions)
☐☐☐ 99 UNKNOWN DISTRACTIONS

21 —CONDITION INFLUENCING Driver/Ped/Cyclist

UP TO TWO CHOICES PER UNIT

UNIT #

☐☐☐ 0 NO APPARENT INFLUENCE
☐☐☐ 1 ILLNESS
☐☐☐ 2 PHYSICAL IMPAIRMENT
☐☐☐ 3 FELL ASLEEP/FATIGUED
☐☐☐ 4 ALCOHOL
☐☐☐ 5 DRUGS
☐☐☐ 6 MEDICATIONS
CHECK ONE IF BLOCKS 4, 5, OR 6 CHECKED
☐☐☐ A. NO TEST GIVEN
☐☐☐ B. TEST GIVEN
☐☐☐ C. TEST REFUSED
☐☐☐ D. TESTING UNKNOWN
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN CONDITION

22 —VIOLATIONS/BEHAVIOR

UP TO TWO CHOICES PER UNIT

UNIT #

☐☐☐ 1 NO IMPROPER ACTION
☐☐☐ 2 SPEED TOO FAST FOR CONDITIONS
☐☐☐ 3 EXCEEDED LAWFUL SPEED
☐☐☐ 4 FOLLOWED TOO CLOSELY
☐☐☐ 5 RAN STOP SIGN
☐☐☐ 6 DISREGARDED TRAFFIC SIGNAL
☐☐☐ 7 MADE IMPROPER TURN
☐☐☐ 8 DROVE/RODE IN OPPOSING TRAFFIC LANE
☐☐☐ 9 KNOWINGLY OPERATED WITH FAULTY/ MISSING EQUIPMENT
☐☐☐ 10 REQUIRED MOTORCYCLE SAFETY EQUIP- MENT NOT USED
☐☐☐ 11 PASSED IN NO PASSING ZONE
☐☐☐ 12 UNSAFE LANE CHANGE
☐☐☐ 13 FAILED TO KEEP IN PROPER LANE
☐☐☐ 14 DISREGARDED PAVEMENT MARKINGS
☐☐☐ 15 OTHER UNSAFE PASSING
16 (Moved to Box 20-Distracted Driving Behavior)
☐☐☐ 17 DID NOT USE CROSSWALK
☐☐☐ 18 WALKED ON WRONG SIDE OF ROAD
19 (Moved to Box 20-Distracted Driving Behavior)
☐☐☐ 20 FAILED TO YIELD RIGHT-OF-WAY
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN

23 —TRAFFIC UNIT MANEUVER/ACTION

UNIT #

☐☐☐ 1 GOING STRAIGHT AHEAD
☐☐☐ 2 SLOWING IN TRAFFICWAY
☐☐☐ 3 STOPPED IN TRAFFIC WAY
☐☐☐ 4 MAKING LEFT TURN
☐☐☐ 5 MAKING RIGHT TURN
☐☐☐ 6 MAKING U-TURN
☐☐☐ 7 OVERTAKING/PASSING
☐☐☐ 8 CHANGING LANES
☐☐☐ 9 NEGOTIATING A CURVE
☐☐☐ 10 BACKING
☐☐☐ 11 AVOIDING VEHICLE /OBJECT/PED/CYCLIST
☐☐☐ 12 ENTERING PARKING POSITION
☐☐☐ 13 LEAVING PARKING POSITION
☐☐☐ 14 PROPERLY PARKED
☐☐☐ 15 IMPROPERLY PARKED
☐☐☐ 16 DRIVERLESS MOVING VEHICLE
☐☐☐ 17 CROSSING ROAD
☐☐☐ 18 WALKING WITH TRAFFIC
☐☐☐ 19 WALKING AGAINST TRAFFIC
☐☐☐ 20 STANDING
☐☐☐ 21 LYING
☐☐☐ 22 GETTING ON/OFF VEHICLE
☐☐☐ 23 WORKING ON/PUSHING VEHICLE
☐☐☐ 24 WORKING ON ROAD
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN

24 —LOCATION OF PEDESTRIAN/CYCLIST

UNIT #

☐☐☐ 1 MARKED CROSSWALK at INTERSECTION
☐☐☐ 2 AT INTERSECTION BUT NO CROSSWALK
☐☐☐ 3 NON-INTERSECTION CROSSWALK
☐☐☐ 4 DRIVEWAY ACCESS CROSSWALK
☐☐☐ 5 SCHOOL CROSSWALK
☐☐☐ 6 IN ROADWAY (not in crosswalk/intersection)
☐☐☐ 7 MEDIAN (but not on shoulder)
☐☐☐ 8 ISLAND
☐☐☐ 9 SHOULDER
☐☐☐ 10 SIDEWALK
☐☐☐ 11 ROADSIDE
☐☐☐ 12 OUTSIDE OF TRAFFICWAY
☐☐☐ 13 DEDICATED BIKE LANE
☐☐☐ 14 SHARED-USE PATH
☐☐☐ 15 INSIDE BUILDING
☐☐☐ 97 OTHER _____
☐☐☐ 99 UNKNOWN

ARIZONA CRASH REPORT

REPORT ID | Agency Report Number

1 CONTINUED

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ADOT TRAFFIC RECORDS SECTION, 064R
206 S. 17TH AVE., PHOENIX, ARIZONA 85007-3233

YEAR	MONTH	DAY	HOUR	NCIC NO.	OFFICER ID NO.

25 PASSENGERS

Unit #	Seat Pos	SD	IS	Name	Address	City	State	Zip Code	Telephone No.	D.O.B. or Age	Sex
				□ transported by EMS/FIRE	□ ejected		□ extricated				
				□ transported by EMS/FIRE	□ ejected		□ extricated				
				□ transported by EMS/FIRE	□ ejected		□ extricated				
				□ transported by EMS/FIRE	□ ejected		□ extricated				
				□ transported by EMS/FIRE	□ ejected		□ extricated				

Safety Devices (SD)
0 - Not Applicable
1 - None Used
2 - Lap Belt
3 - Shoulder and Lap Belt
4 - Child Restraint System
5 - Helmet Used
6 - Air Bag Deployed
7– Air Bag Deployed/ Shoulder-Lap Belt
97 - Other _____
99 - Unknown

Injury Severity (IS)
1 - No Injury
2 - Possible Injury
3 - Non Incapacitating Injury
4 - Incapacitating Injury
5 - Fatal Injury
99 - Unknown/ Not Reported

Seating Position

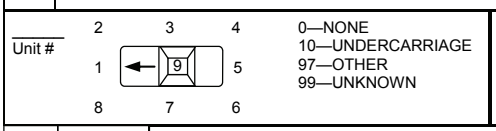
31	21	11	55
32	22	12	
33	23	13	
38	28	18	

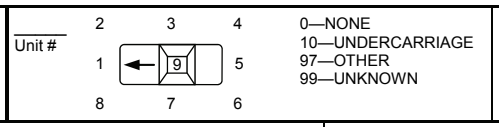
18 - Front Seat - Other (Child in Lap)
28 or 38 - Additional passenger in vehicle by row
51 - In enclosed or cargo area
52 - In unenclosed passenger/cargo area
55 - Riding on Vehicle Exterior
99 - Unknown

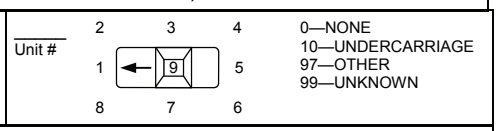
26 CITATION

UNIT #	A.R.S. NO. OR CITY CODE	UNIT #	A.R.S. NO. OR CITY CODE

27 VEHICLE DAMAGED AREA(S) - (CIRCLE UP TO THREE AREAS PER UNIT)







28 GLOBAL POSITION Latitude: Longitude:

29 —ROADWAY ALIGNMENT

UNIT #

☐☐☐ 1 - STRAIGHT
☐☐☐ 2 - CURVE LEFT
☐☐☐ 3 - CURVE RIGHT
☐☐☐ 99 - UNKNOWN

30 —LANE

Please enter unit's number and lane of travel before first crash event

UNIT ___	UNIT ___	UNIT ___

0 TWO-WAY CONTINUOUS LEFT TURN
1-9 1= FIRST LANE NEXT TO A MEDIAN THRU 9
10 CROSSWALK
L1 THRU LX - LEFT TURN ONLY LANES (L1= 1ST LEFT TURN AFTER MEDIAN/ CENTERLINE)
R1 THRU RX - RIGHT TURN LANES (R1=1ST RIGHT TURN AFTER THROUGH LANES)
SW SIDEWALK
BL DEDICATED BIKE LANE
HOV HIGH OCCUPANCY VEHICLE
97 NON-ROADWAY
99 UNKNOWN

31 —EJECTION

0 NOT APPLICABLE
1 NOT EJECTED
2 EJECTED, PARTIALLY
3 EJECTED, TOTALLY
4 UNKNOWN DEGREE
99 UNKNOWN

32 —EXTRICATION

0 NOT APPLICABLE
1 EXTRICATED
99 UNKNOWN

Unit # and Seat Position from front page.
Driver seat position = 11

Unit #	Seat Pos	Ejection	Extrication

33 —SEQUENCE OF EVENTS

UP TO FOUR CRASH EVENTS FOR EACH UNIT IN THE ORDER OF OCCURRENCE

NON-COLLISION

1 OVERTURN/ROLLOVER
2 FIRE/EXPLOSION
3 IMMERSION
4 JACKKNIFE
5 CARGO/EQUIPMENT LOSS/SHIFT
6 FELL/JUMPED FROM VEHICLE
7 THROWN OR FALLING OBJECT
8 OTHER NON-COLLISION _____
9 EQUIPMENT FAILURE (tires, brakes)
10 SEPARATION OF UNITS
11 RAN OFF ROAD RIGHT
12 RAN OFF ROAD LEFT
13 CROSS MEDIAN
14 CROSS CENTERLINE
15 DOWNHILL RUNAWAY

COLLISION WITH PERSON, MOTOR VEHICLE, OR NON-FIXED OBJECT

16 MOTOR VEHICLE IN TRANSPORT
17 PEDESTRIAN
18 PEDALCYCLE
19 RAILWAY VEHICLE (TRAIN, ENGINE)
20 LIGHT RAILWAY/RAILCAR VEHICLE
21 ANIMAL, WILD—NON GAME _____
22 ANIMAL, WILD—GAME _____
23 ANIMAL—PET_____
24 ANIMAL—LIVESTOCK _____
25 PARKED MOTOR VEHICLE
26 WORK ZONE/MAINT. EQUIP.
27 STRUCK BY FALLING, SHIFTING CARGO OR ANYTHING SET IN MOTION BY ANOTHER VEHICLE
28 OTHER NON-FIXED OBJ. _____

COLLISION WITH FIXED OBJECT

29 IMPACT ATTENUATOR/CRASH CUSHION
30 BRIDGE/OVERHEAD STRUCTURE
31 BRIDGE RAIL
32 CULVERT
33 CURB
34 DITCH
35 EMBANKMENT
36 GUARDRAIL FACE
37 GUARDRAIL END
38 CONCRETE TRAFFIC BARRIER
39 CABLE TRAFFIC BARRIER
40 OTHER TRAFFIC BARRIER
41 TREE, BUSH, STUMP (standing)
42 TRAFFIC SIGN SUPPORT
43 TRAFFIC SIGNAL SUPPORT
44 UTILITY POLE/LIGHT SUPPORT
45 OTHER POST, POLE, OR SUPPORT
46 FENCE
47 MAILBOX
48 BUILDING
49 OTHER FIXED OBJ. _____

99 UNKNOWN

FIRST HARMFUL EVENT OF THE CRASH _____

SEQUENCE OF EVENTS PER TRAFFIC UNIT

	Unit_____	Unit_____	Unit_____
FIRST EVENT			
SECOND EVENT			
THIRD EVENT			
FOURTH EVENT			

ARIZONA CRASH REPORT

1 ***CONTINUED***

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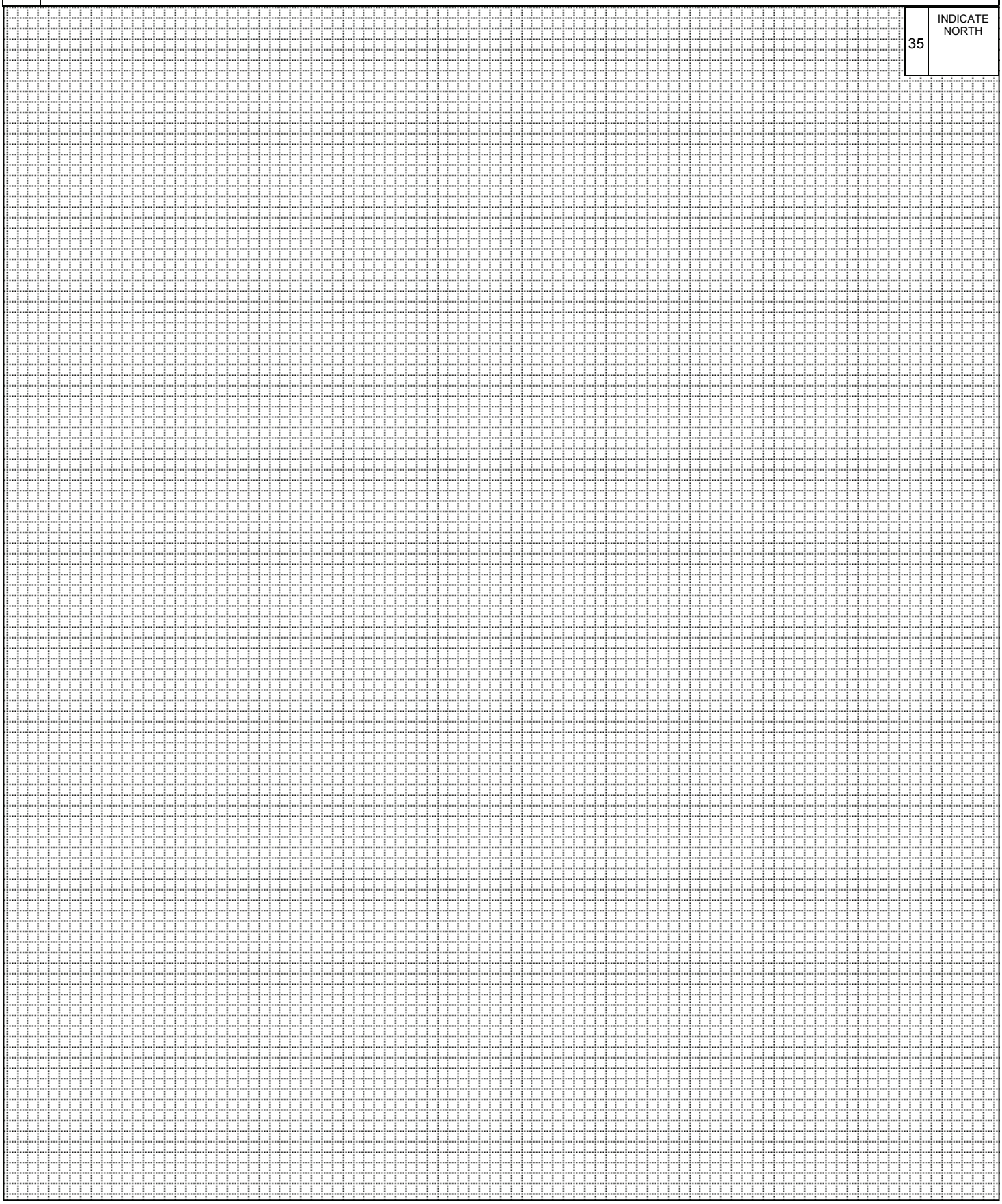
34 **CRASH DIAGRAM**

☐ MEASUREMENTS ARE APPROXIMATE AND NOT TO SCALE
☐ MEASUREMENTS ARE SCALED (SCALE = _____)

35 INDICATE NORTH



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36 NARRATIVE Describe what happened